1999 HOUSE APPROPRIATIONS
HB 1021

### 1999 HOUSE STANDING COMMITTEE MINUTES

### BILL/RESOLUTION NO. HOUSE BILL 1021

House Appropriations Committee

☐ Conference Committee

Hearing Date January 18, 1999

Tape Number	Side A	Side B	Meter #		
ONE	X	X	0.0-50. 0.0-49.9		
Committee Clerk Signature Julhleen Jones					

#### Minutes:

A BILL for an Act to provide an appropriation for defraying the expenses of the extension service, northern crops institute, upper great plains transportation institute, and the experiment centers.

<u>1A:5.4 - 7.9 Larry Isaak, University System</u>, spoke in support of HB1021. Mr. Isaak introduced Allan G. Fisher, Interim President of NDSU.

<u>1A:7.9 - 10.8 Allan G. Fisher, Interim President</u> recapped the successes of NDSU and the new State Board of Agriculture Research Authority in working with extension service, northern crops institute, and the experiment stations. Although times are difficult in the agriculture industry, innovative research, effective outreach and illuminating instruction can provide the means to overcome production obstacles and offer additional value-added products to enhance agriculture potential markets. NDSU is eager to continue the contribution to ND ag. (Note enclosed NDSU Biennial Budget for House Appropriations Committee, January 18 -19, 1999.)

1A:10.9 - 24.6 Patricia Jensen, Vice President & Dean of Agricultural, gave an overview of the biennial budget for 1999-01. The education, research, and outreach portions of the academic budget were detailed. (Note enclosed NDSU Biennial Budget for House Appropriations Committee, January 18 -19, 1999, pages 7 - 25.)

1A:24.6 - 54.2 1B:0.1 - 14.4 Jerry Doan, President of the State Board of Agricultural Research

Authority, spoke on the accomplishments and goals for the future including the gas tax research fund.

Mr. Doan asked for input on authorization to carry over funds if the money is not spend but the project is still active. The State Board of Agricultural Research Authority would like to add extension service to their Board and take the date of March out of current legislature for the budget submittal date to the University System. (Note enclosed NDSU Biennial Budget for House Appropriations Committee, January 18 -19, 1999, plus handout of State Board of Agricultural Research, State Board of Agricultural Research for Leadership for the NDSU Extension Service, The Agricultural Research Fund.)

<u>1B: 14.4 - 15.0 Chairman Dalrymple</u> inquired if a bill had been written to address the changes as recommended by the State Board of Agricultural Research Authority. Mr. Doan stated the committee had not submitted legislation but was asking for direction from the committee.

**1B: 15.0 - 34.5 Questions** pertaining to HB 1021 from several of the committee members.

<u>1B: 34.5 - 41.1 Jody Hauge, Member of the State Board of Agricultural Research Authority</u> spoke in favor of House Bill 1021. (Note Testimony.)

<u>1B:41.1 - 47.0 Ryan Brooks of Bowman , member of the State Board of Agricultural Research Board Authority</u> spoke in favor of House Bill 1021,

<u>1B:47.0- 54.0 = Tape 2A: 0.0 -.0.5 - Tim Brandt, Bowbells, member of the State Board of Agricultural Research Board of Authority</u> spoke in favor of House Bill 1021.

<u>1B: 0.8 - 1.8 - John Bollingberg, President of the North Dakota Ag Coalition</u> spoke in favor the house bill 1021 and of the accomplishments of all the ag service and research available in North Dakota.

Letter of Support from Peter Nygaard, the Chairman of the Williston Research Center, was given to committee members for review.

House Bill 1021 was referred to Education and Environment Sub Committee of the House Appropriations Committee for continuation.

### 1999 HOUSE STANDING COMMITTEE MINUTES

### BILL/RESOLUTION NO. 1021

House Appropriations Committee Education and Environment Division

☐ Conference Committee

Hearing Date January 19, 1999

Tape Number	Side A	Side B	Meter #
1	X		0-55
1		X	0-55
2	X		0-7.5
Committee Clerk Signature (asky Davis			

### Minutes:

CHAIRWOMAN WENTZ opened the hearing on HB 1021 with all members present. HB 1021 is a bill for an act to provide an appropriation for defraying the expenses of the extension service, northern crops institute, and the experiment centers.

1A: 0.3 JERRY DOEN, SBAR Chairman, testified on behalf of the Extension Service by giving an overview of their presentation for the hearing.

1A: 1.9 PATRICIA BERGLUND, Director of the Northern Crops Institute, testified on behalf of NCI. (See NDSU Biennial Budget book.)

1A: 11.2 REP. NICHOLS asked how Minnesota and South Dakota are treating the NCI budget. Ms. Berglund responded that there has been continued funding from both states.

1A: 12.3 NEAL FISHER, Director of the North Dakota Wheat Commission, testified on behalf of NCI. He discussed the growth of spring wheat and durum.

1A: 14.5 SHARON ANDERSON, Director of the NDSU Extension Service, testified on behalf of the Extension Service. She showed video statements in support of the Extension Service were given by Duane Sanden, KY-KCNN Radio in Grand Forks, and by Bonnie Selvay, food production entrepreneur from Fargo.

1A: 34.5 DOUGLAS SCHONERT, Burleigh County resident and past county commissioner, testified in support of the 4-H program and the proposed youth coordinator position for Burleigh/Morton County.

1A: 39.5 BURDELL JOHNSON, Vice Chairman of the Ag Coalition, testified in support of the bill and introduced a group in attendance who have sheep interests.

1A: 42.0 REP. CARLSON asked what has been eliminated from the sheep program. Mr. Johnson responded that there is only one sheep extension position in the state, and that it will be eliminated as of July 1, 1999, unless it is reinstated.

1A: 42.6 DR. COLE GUSTAFSON, Manager of Ag Research at NDSU and for the state, testified in favor of the bill. (See NDSU Biennial Budget book.)

1B: 5.8 PAUL NYREN, Director of the Central Grasslands RE Center, testified on behalf of his Center. (See NDSU Biennial Budget book, page 98.)

1B: 8.7 REP. LLOYD asked what stipend a graduate student receives for his or her research. Mr. Nyren said that they receive \$15,000 per year including benefits.

1B: 9.3 DR. KRIS RINGWALL, Director of the Dickinson RE Center, testified on behalf of his Center. (See NDSU Biennial Budget book, page 102, and attached testimony.)

1B: 12.8 TIM FALLER, Director of the Hettinger RE Center, testified on behalf of his Center. (See NDSU Biennial Budget book, page 106, and attached testimony.)

1B: 15.2 JIM MARSHALL, President of North Dakota Lamb and Wool Producers, testified in favor of the bill. (See attached testimony.)

1B: 18.3 JOHN LUKACH, Director of the Langdon RE Center, testified on behalf of his Center. (See NDSU Biennial Budget book, page 110.)

1B: 21.5 BLAINE SCHATZ, Director of the Carrington RE Center, testified on behalf of his Center. (See NDSU Biennial Budget book, page 94.)

1B: 26.4 TOM TEIGEN, Director of the Agronomy Seed Farm in Casselton, testified on behalf of the Ag Seed Farm. (See Biennial Budget Book, page 92.)

1B: 30.3 COLE GUSTAFSON discussed additional needs of the Experiment Stations. (See Biennial Budget Book, page 79.) He also requested that the main experiment station be given the authority to transfer funds to individual stations.

1B: 34.2 REP. CARLSON asked if the main station would prefer to allocate funds to individual stations on its own. Mr. Gustafson said that they appreciate flexibility, but would definitely follow their list of priorities.

1B: 34.8 RONALD JACOBSON, Director of the North Dakota Ag Soil Conservation Districts, testified in favor of the bill.

Page 3 House Appropriations, EE Div HB 1021, January 19, 1999

1B: 35.5 JAMES ODERMANN, Ag producer , testified in support of the bill and the Dickinson RE Center. (See attached testimony.)

1B: 41.7 CHARLES OTTEM, Ag producer and member of the ND Barley Council, testified in support of the bill.

1B: 44.4 DWIGHT INIKSON, Ag producer, testified in support of the bill.

1B: 48.6 SEN. KROEPLIN presented testimony written by Mr. Dennis Kubischta, Hope, ND, in support of the bill.

2A: 0.1 RICH LUF testified on behalf of the Dickinson RE Center.

2A: 1.5 FRANK KUBIK, retired rancher, testified on behalf of the Dickinson RE Center in support of the bill.

2A: 2.9 ALLAN LEE, Chairman of the ND Wheat Commission, testified in favor of the bill on behalf of the commission.

2A: 4.0 NATHAN HENKE, hog producer, testified on behalf of the Dickinson RE Center in support of the bill.

2A: 4.4 DAVID MERWIN, new sheep producer, testified in favor of the bill.

2A: 4.9 REP. NICHOLS asked why Mr. Merwin started sheep farming and what can be done to extend the message to the public. Mr. Merwin replied that his proximity to the Hettinger RE Center was influential.

2A: 6.6 WADE MOSER, member of the ND Stockmen's Association, testified that the association fully supports the bill.

1A 7.5 CHAIRWOMAN WENTZ adjourned the hearing for HB 1021.

### 1999 HOUSE STANDING COMMITTEE MINUTES

### BILL/RESOLUTION NO. 1021

House Appropriations Committee Education and Environment Division

☐ Conference Committee

Hearing Date January 21, 1999

Tape Number	Side A	Side B	Meter #	
1	X		0-20.0	
Committee Clerk Signature				

### Minutes:

CHAIRWOMAN WENTZ called the hearing for HB 1021 to order with all members present. HB 1021 is a bill for an act to provide an appropriation for defraying the expenses of the extension service, northern crops institute, upper great plains transportation institute, and the experiment centers.

1A: 0.1 REP. MATT KLEIN, Minot, explained the proposed amendment to HB 1021, which provides \$250,000 of other funds to be raised by the North Central RE Center for constructing its new headquarters building. (See attached proposal.)

1A: 1.2 REP. CARLSON asked if the money is already raised and in the bank. Rep. Klein said that it is. He commented that representatives for the Center would not have to come back every year if the cap were raised now.

1A: 1.8 JAY FISHER, Director of the North Central RE Center in Minot, testified in favor of the bill on behalf of the Center. (See Biennial Budget book, pages 112-114; and booklet entitled "North Central Research Extension Center, 1998 Annual Research Report No. 16".)

1A: 8.8 REP. MONSON asked how flexible they are in regard to what they can charge for their foundation seed. Mr. Fisher responded that they have a set price system which has a base of the farmers' price, and sales and commissions are added on.

1A: 9.7 REP. CARLSON asked if grants are written and requested by the individual stations or the main station. Mr. Fisher said that each station looks for grants for things that are appropriate for their respective areas, and that they do work together with the main station in these efforts.

Page 2 House Appropriations, EE Div January 21, 1999, HB 1021

1A: 14.2 REP. NICHOLS asked if the Center would be able to sell its seed at a reduced price if it would not all sell at the set price. Mr. Fisher assured the committee that they set a price and do their best to stick to it.

1A: 19.6 TIM BRYAN, State Board of Agricultural Research, testified in support of the bill. SBAR supports the Center and their budget request.

CHAIRWOMAN WENTZ adjourned the hearing on HB 1021.

### **General Discussion**

Committee on Committees
Rules Committee
Confirmation Hearings
Delayed Bills Committee
House Appropriations
Senate Appropriations
Other

Date February 4,		D 0:45	Matan #			
Tape Number	Side A	B Side	Meter #			
1	X		0-46.0			
Committee Clerk	Committee Clerk Signature Casey Davis					

Minutes:

Discussion on HB 1021

**CHAIR WENTZ** called the meeting to order for discussion on HB 1021.

1A: 27.0 REP. NICHOLS presented the NCI budget section of HB 1021. He and Rep. Lloyd had discussed their budget in depth, and recommended a Do Pass for this part of the bill.

1A: 28.9 REP. NICHOLS made a motion for a Do Pass on the NCI budget. The motion was seconded by Rep. Lloyd. A roll call vote was taken and the motion carried with 7 yeas and 0 nays.

1A: 33.0 DAN LAROY, Central Personnel, appeared before the committe for a brief discussion on salary administration.

**CHAIR WENTZ** closed the meeting.

### **General Discussion**

	Committee on Committees
	Rules Committee
	Confirmation Hearings
	Delayed Bills Committee
X	House Appropriations
	Senate Appropriations
	Other

Date February 10	, 1999				
Tape Number	Side A	B Side	Meter #		
1	X		0-37.0		
Committee Clerk S	Committee Clerk Signature assumptions of the Committee C				

Minutes:

HB 1021

CHAIR WENTZ called the meeting for discussion on HB 1021 to order with all members present.

1A: 1.3 REP. LLOYD presented the recommendation for a Do Pass of HB 1021, along with the proposed amendments. He and Rep. Nichols had discussed the budget in detail. Their amendments proposed the elimination of the Mid-Size Farms initiative and the Value Added Center initiative; the reinstatement of the sheep education position; the elimination of 2 FTEs and the addition of 1 FTE; the reduction of equipment funds to \$175,000; and changing the name of SBAR to the State Board of Agricultural Research and Education (SBARE), on which the Extension Service Director would be a voting member of the board, and the Ag Commissioner would be a non-voting member of the board. The proposed amendments also provide for Regional Dairy Diagnostic Teams that could use up to \$100,000 of the budget.

1A: 11.1 REP. LLOYD moved for the adoption of amendment 0104 to HB 1021. The motion was seconded by Rep. Monson.

1A: 11.3 REP. CARLSON questioned the terminology "control and administer" in the amendment. Alan Knudson, Legislative Council, responded that this language was used in regards to the Extension Service last session. Carlson continued by asking what the board's tie is to NDSU. Rep. Lloyd said that NDSU's Vice President of Agriculture is on the board, as are the Extension Director and the Research Director. Alan Knudson noted that the

General Discussion
Page 2
House Appropriations, EE Div
February 10, 1999

actual statutory language says that SBAR and the President of NDSU shall control and administer, which creates another tie between NDSU and SBAR.

1A: 18.4 A voice vote was taken to adopt the amendment. The motion was carried with 7 yeas and 0 nays.

1A: 18.6 REP. LLOYD began his explanation of the recommendation for the Upper Great Plains Transportation Institute budget. It is mainly a federal budget. The relationship between the university and the Institute is that the funds require matches. \$400,000 is the NDSU share, which is paid by the state. Rep. Lloyd and Rep. Nichols recommended a Do Pass with no amendments for this part of the bill.

1A: 23.3 REP. LLOYD made a motion to adopt this recommendation. The motion was seconded by Rep. Nichols. A voice vote was taken and the motion carried with 7 yeas and 0 nays.

1A: 23.6 REP. NICHOLS discussed the Agricultural Research Stations part of the bill, including the proposed changes in compensation packages; removing the Mid-Size Farms initiative and the Value Added Center initiative funding; reallocating equipment funding; and reducing general funds for Dickinson, Streeter, and Carrington centers. Changes with regard to the main center and the outlying station would be a decreased budget of \$703,161 and the reduction of 1.75 FTEs.

<u>1A: 34.1 REP. AARSVOLD</u> asked about the error which had been made in the equipment line. He asked if the stations would be buying 2 or 4 pieces of equipment. Celeste Kubasta, OMB, responded that two stations had asked for two pieces of equipment each, and that request had been granted in the governor's budget. The reallocation of funds would allow four stations to buy one piece of equipment each.

1A: 35.3 CELESTE KUBASTA, OMB, will check with Accounting regarding the issue of the Main RE Center carrying over its funds.

<u>1A: 36.7 REP. NICHOLS</u> made a motion to adopt the amendments for the Main Experiment Station and the outlying stations. The motion was seconded by Rep. Monson. A voice vote was taken and the motion carried with 7 yeas and 0 nays.

**CHAIR WENTZ** closed the meeting on HB 1021.

### **General Discussion**

Committee on Committees
Rules Committee
Confirmation Hearings
Delayed Bills Committee
House Appropriations
Senate Appropriations
Other

Date February 11,	, 1999			
Tape Number	Side A	B Side	Meter #	
1	X		0-18.9	
			,	
Committee Clerk Signature aSly Daws				

Minutes:

**HB 1021** 

**CHAIR WENTZ** called the meeting to order

<u>1A: 3.1 CELESTE KUBASTA, OMB</u>, presented information on 1021 that Rep. Carlson had requested. The spreadsheet was regarding the carrying over of funds for the Main RE Center.

<u>1A: 4.7 REP. CARLSON</u> said it is very unusual to expect turnbacks in some areas but not in others. Celeste replied that these carry overs began in the early 1980s.

<u>1A: 13.0 REP. CARLSON</u> requested an amendment to exempt the RE Centers from turnback requirements.He made a motion to change the wording on p2, section 2 of HB 1021 to match the wording on p7, section 7 of HB 1003. The motion was seconded by Rep. Boehm. A voice vote was taken and the motion carried with 7 yeas and 0 nays.

**CHAIR WENTZ** closed the meeting for discussion on HB 1021.

1A: 16.5 ACTION ON BILL Rep. Lloyd made a motion for a Do Pass as amended. The motion was seconded by Rep. Nichols. A roll call vote was taken and the motion carried with 7 yeas and 0 nays. Rep. Lloyd and Rep. Nichols will carry the bill to the full committee.

### **General Discussion**

Committee on Committees
Rules Committee
Confirmation Hearings
Delayed Bills Committee
House Appropriations
Senate Appropriations
Other

Date February 15,	1999		
Tape Number	Side A	B Side	Meter #
1	X		0-44.0
	_		

Committee Clerk Signature Casey Davis

Minutes:

HB 1021

CHAIRMAN DALRYMPLE opened discussion on HB 1021.

1A: 2.0 REP. LLOYD presented the bill recommendations along with the proposed amendments.

<u>1A: 6.6 REP. NICHOLS</u> provided an explanation of the NCI and Experiment Stations sections of the budget and the amendments relating to them.

<u>1A: 14.1 REP. LLOYD</u> continued with an explanation of the Extension Centers and the Upper Great Plains Institute budgets.

1A: 20.9 REP. LLOYD made a motion to adopt amendment 0106 to the bill. The motion was seconded by Rep. Nichols.

<u>1A: 21.2 Discussion</u> followed regarding the carrying over of extra funds at the RE Centers; adding the term "and Education" to the name of SBAR; and the reallocation of equipment between the RE Centers.

1A: 39.6 A voice vote was taken and the motion carried.

**1A: 40.1 REP. LLOYD** made a motion for a Do Pass as amended. The motion was seconded by Rep. Nichols. A roll call vote was taken and the motion carried with 17 yeas, 2 nays, and 1 absent and not voting. Rep. Lloyd will carry the bill to the House floor.

### PROPOSED AMENDMENTS TO HOUSE BILL NO. 1021

Page 2, line 31, replace "1,251,892" with "1,501,892"

Page 3, line 3, replace "10,797,725" with "11,047,725"

Page 3, line 4, replace "3,928,339" with "4,178,339"

Page 3, line 14, replace "48,876,142" with "49,126,142"

Page 3, line 15, replace "96,793,422" with "97,043,422"

Renumber accordingly

### STATEMENT OF PURPOSE OF AMENDMENT:

### DEPARTMENT 645 - NORTH CENTRAL RESEARCH EXTENSION CENTER

HOUSE - This amendment provides \$250,000 of other funds to be raised by the North Central Research Extension Center for constructing its new headquarters building. Total funding authorized for the project including this \$250,000 of special funds and previous funding authorized by the 1995 and 1997 Legislative Assemblies is \$1,100,000, \$350,000 of which is from the general fund and \$750,000 of special funds.

Date: 2-4-99

Roll Call Vote #: /

# 1999 HOUSE STANDING COMMITTEE ROLL CALL VOTES BILL/RESOLUTION NO. 6021 NCI part

House Appropriations				Comn	nittee
Subcommittee on Education an	d Envir	onment			
or Conference Committee					
Legislative Council Amendment Nun	nber _				
Action Taken Do Pass	this	par	t of bill		
Motion Made By  Nichol			conded		
Representatives	Yes	No	Representatives	Yes	No
Chairperson Janet Wentz	/				
Vice Chairman Ed Lloyd	/				
Rep. Ole Aarsvold	V		Mark 200		
Rep. James Boehm	V				
Rep. Al Carlson	V				
Rep. David Monson	V				
Rep. Ronald Nichols	/				
				-	
	-			-	
		-			$\vdash$
	-	-		+	-
	-			-	
	1			+	
Total (Yes)		No	0		
Absent O					
Floor Assignment					
If the vote is on an amendment, brief	ly indica	ite inten	t:		

Date: 2-10-99 Roll Call Vote #: /

# 1999 HOUSE STANDING COMMITTEE ROLL CALL VOTES BILL/RESOLUTION NO. /0 $\mathcal{P}/$

House Appropriations				Comn	nittee
Subcommittee on Education an	d Enviro	onment			
or Conference Committee					
Legislative Council Amendment Num	nber _	01	04		
Action Taken QDOPT 0/0	4 to	102	1 and pur D	<i>&gt;</i>	
Legislative Council Amendment Num  Action Taken  Motion Made By		Sec By	conded Nichols		
Representatives	Yes	No	Representatives	Yes	No
Chairperson Janet Wentz	V				
Vice Chairman Ed Lloyd	V				
Rep. Ole Aarsvold					
Rep. James Boehm	V				
Rep. Al Carlson					
Rep. David Monson	V				
Rep. Ronald Nichols	V				
Total (Yes)		No	0		
Absent					
Floor Assignment Land	and	LNI	ichols		

If the vote is on an amendment, briefly indicate intent:

Date: 2-15-99

Roll Call Vote #: /

# 1999 HOUSE STANDING COMMITTEE ROLL CALL VOTES BILL/RESOLUTION NO. /02/

House App	ropriations				_ Comn	nittee
Subcommittee	on				***************************************	
or Conference Co	mmittee					
Legislative Council		_	206			
Action Taken	DP as	ame	ende	d		
Motion Made By	Lloyd		Sec By	conded Nichol	8	
Represe	ntatives	Yes	No	Representatives	Yes	No
Chairman Dalrym	ple	X		Nichols	X	
Vice-Chairman By		X		Poolman	X	
Aarsvold		X.		Svedjan		
Bernstein				Timm	X	
Boehm		X		Tollefson	X	
Carlson			X	Wentz	X	
Carlisle		X				
Delzer			×			
Gulleson		X				
Hoffner		×				
Huether		X				
Kerzman						
Lloyd		X K				
Monson		×				
Total (Yes)	17		No	) <del>}</del>		
Absent						
Floor Assignment	Lloyd					
If the vote is on an	amendment, briefl	y indica	te inten	it:		

Module No: HR-31-3192 Carrier: Lloyd

Insert LC: 98021.0106 Title: .0200

### REPORT OF STANDING COMMITTEE

HB 1021: Appropriations Committee (Rep. Dalrymple, Chairman) recommends AMENDMENTS AS FOLLOWS and when so amended, recommends DO PASS (17 YEAS, 2 NAYS, 1 ABSENT AND NOT VOTING). HB 1021 was placed on the Sixth order on the calendar.

Page 1, line 3, after "centers" insert "; to provide for dairy diagnostic teams; to provide statements of legislative intent; and to amend and reenact sections 4-05.1-02, 4-05.1-04, 4-05.1-16, 4-05.1-17, 4-05.1-18, 4-05.1-19, 4-05.1-21, and 4-08-10 of the North Dakota Century Code, relating to the state board of agricultural research"

Page 1, line 14, replace "25,121,626" with "24,744,286"

Page 1, line 15, replace "3,564,436" with "3,546,836"

Page 1, line 16, replace "625,640" with "432,850"

Page 1, line 17, replace "560,000" with "580,000"

Page 1, line 18, replace "29,871,702" with "29,303,972"

Page 1, line 19, replace "16,772,588" with "16,596,765"

Page 1, line 20, replace "13,099,114" with "12,707,207"

Page 1, line 23, replace "887,945" with "878,518"

Page 2, line 2, replace "1,079,475" with "1,070,048"

Page 2, line 3, replace "411,441" with "407,957"

Page 2, line 4, replace "668,034" with "662,091"

Page 2, line 7, replace "2,876,922" with "2,850,752"

Page 2, line 11, replace "6,488,830" with "6,462,660"

Page 2, line 12, replace "6,001,444" with "5,980,240"

Page 2, line 13, replace "487,386" with "482,420"

Page 2, line 16, replace "38,630,612" with "38,080,539"

Page 2, line 17, replace "4,227,580" with "4,163,330"

Page 2, line 22, replace "47,349,738" with "46,735,415"

Page 2, line 23, replace "20,556,378" with "20,463,068"

Page 2, line 24, replace "26,793,360" with "26,272,347"

Page 2, line 27, replace "2,232,735" with "2,268,116"

Page 2, line 28, replace "1,363,529" with "1,297,963"

Page 2, line 29, replace "1,227,445" with "1,220,740"

Module No: HR-31-3192 Carrier: Llovd

Insert LC: 98021.0106 Title: .0200

Page 2, line 30, replace "1,141,330" with "1,075,049"

Page 2, line 31, replace "1,251,892" with "1,301,950"

Page 3, line 1, replace "1,130,090" with "1,123,230"

Page 3, line 2, replace "2,450,704" with "2,425,452"

Page 3, line 3, replace "10,797,725" with "10,712,500"

Page 3, line 4, replace "3,928,339" with "3,921,409"

Page 3, line 5, replace "6,869,386" with "6,791,091"

Page 3, line 8, replace "346,452" with "342,839"

Page 3, line 12, replace "1,205,952" with "1,202,339"

Page 3, line 13, replace "47,917,280" with "46,915,156"

Page 3, line 14, replace "48,876,142" with "48,571,778"

Page 3, line 15, replace "96,793,422" with "95,486,934"

Page 3, replace lines 16 through 19 with:

"SECTION 2. ADDITIONAL INCOME - APPROPRIATION. Any additional income including funds from the federal government and gifts and donations from private sources received by the North Dakota agricultural experiment station, northern crops institute, upper great plains transportation institute, and the North Dakota state university extension service, except as otherwise provided by law, is hereby appropriated for the purpose designated in the gift, grant, or donation for the biennium beginning July 1, 1999, and ending June 30, 2001.

**SECTION 3. UNEXPENDED GENERAL FUND - EXCESS INCOME.** Any unexpended general fund appropriation authority to and any excess income received by entities listed in section 1 of this Act are not subject to the provisions of section 54-44.1-11 and any unexpended funds from these appropriations or revenues are available during the biennium beginning July 1, 2001, and ending June 30, 2003, and may be expended, as directed by the state board of higher education, for capital repairs and improvements, equipment, and other one-time expenditures."

Page 4, after line 7, insert:

"SECTION 8. <u>Dairy diagnostic teams</u>. The North Dakota state university extension service shall appoint regional dairy diagnostic teams consisting of agricultural business management professionals, dairy extension specialists, and dairy industry partners such as nutrition specialists, reproductive specialists, and animal health specialists. At the request of a dairy producer, a dairy diagnostic team shall conduct a site visit, offer the dairy producer educational and technological assistance, and develop a strategic plan to enhance the producer's productivity and profitability.

SECTION 9. LEGISLATIVE INTENT - FUNDING FOR DAIRY DIAGNOSTIC TEAMS. It is the intent of the fifty-sixth legislative assembly that the North Dakota state university extension service use up to the sum of \$100,000 of its 1999-2001 biennium appropriation to develop and operate the dairy diagnostic teams for the biennium beginning July 1, 1999, and ending June 30, 2001.

Module No: HR-31-3192 Carrier: Lloyd

Insert LC: 98021.0106 Title: .0200

**SECTION 10. AMENDMENT.** Section 4-05.1-02 of the 1997 Supplement to the North Dakota Century Code is amended and reenacted as follows:

**4-05.1-02. Agricultural experiment station.** The state board of agricultural research <u>and education</u> and the president of North Dakota state university shall control and administer the North Dakota agricultural experiment station subject to the supervision of the state board of higher education. Funds appropriated to the agricultural experiment station may not be commingled with funds appropriated to North Dakota state university. Appropriation requests to defray expenses of the agricultural experiment station must be separate from appropriation requests to defray expenses of North Dakota state university.

**SECTION 11. AMENDMENT.** Section 4-05.1-04 of the 1997 Supplement to the North Dakota Century Code is amended and reenacted as follows:

4-05.1-04. Reports. Each center director shall submit an annual report to the station director as directed by the state board of agricultural research and education. Each report must set forth in detail the investigations and experiments made during the preceding year, recommendations for the welfare of the center, the financial condition of the center, how all moneys have been expended, and the results of experiments. The station director shall submit these reports, with a report of the North Dakota state university main research center, to the state board of agricultural research and education and the state board of higher education on or before the first day of September of each year. If the state board of higher education submits a biennial report to the governor and the secretary of state in accordance with section 54-06-04, the report must include a composite of the reports from the main research center and each research extension center.

**SECTION 12. AMENDMENT.** Section 4-05.1-16 of the 1997 Supplement to the North Dakota Century Code is amended and reenacted as follows:

### 4-05.1-16. State board of agricultural research $\underline{and\ education}$ - Membership - Terms.

- 1. The state board of agricultural research and education consists of:
  - a. The president of North Dakota state university:
  - b. The vice president of agricultural affairs at North Dakota state university;
  - c. The administrator of the agricultural experiment station;
  - d. The five persons appointed to the agricultural consultation board by the ag coalition and serving in that capacity on July 1, 1997;
  - e. The five persons appointed to the agricultural consultation board by the extension service's multicounty program units and serving in that capacity on July 1, 1997;
  - f. The two persons appointed to the agricultural consultation board by the president of North Dakota state university as representatives of the state's research extension centers and serving in that capacity on July 1, 1997;

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- g. The commissioner of agriculture, who serves in an ex officio nonvoting capacity; and
- h. The director of the North Dakota state university extension service, who serves in an ex officio capacity.
- 2. a. The initial five members appointed by the ag coalition shall select their terms by lot so that one member serves for one year, one member serves for two years, one member serves for three years, one member serves for four years, and one member serves for five years.
  - b. The initial five members appointed by the extension service's multicounty program units shall select their terms by lot so that one member serves for one year, one member serves for two years, one member serves for three years, one member serves for four years, and one member serves for five years.
  - c. The two persons appointed as representatives of the state's research extension centers shall serve only through June 30, 1998.
- 3. At the completion of each initial term, the term of office for each member is five years, beginning on July first. No person may be appointed to a second five-year term.
- 4. a. At least ninety days before the conclusion of the initial term of each member appointed by the ag coalition, the ag coalition shall provide to the state board of higher education a list of two or more names from which the state board of higher education shall appoint a successor. Future appointments to these five positions must be made in the same manner. The state board of higher education shall ensure that four out of the five seats are held by agricultural producers.
  - b. At least ninety days before the conclusion of the initial term of each member appointed by the extension service's multicounty program units, the units through their advisory groups shall provide to the state board of higher education a list of two or more names from which the state board of higher education shall appoint a successor. Future appointments to these five positions must be made in the same manner. The state board of higher education shall ensure that four out of the five seats are held by agricultural producers.

**SECTION 13. AMENDMENT.** Section 4-05.1-17 of the 1997 Supplement to the North Dakota Century Code is amended and reenacted as follows:

**4-05.1-17.** Compensation of board members - Expenses. Each appointed member of the state board of agricultural research <u>and education</u> is entitled to receive sixty-two dollars and fifty cents per day as compensation for the time actually spent devoted to the duties of office and is entitled to receive necessary expenses in the same manner and amounts as state officials for attending meetings and performing other functions of office.

**SECTION 14. AMENDMENT.** Section 4-05.1-18 of the 1997 Supplement to the North Dakota Century Code is amended and reenacted as follows:

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**4-05.1-18.** State board of agricultural research <u>and education</u> - Chairman - Meetings. The state board of agricultural research <u>and education</u> annually shall elect one of its members to serve as chairman. The board shall meet at the times and locations designated by the chairman in consultation with the vice president of agricultural affairs at North Dakota state university.

**SECTION 15. AMENDMENT.** Section 4-05.1-19 of the 1997 Supplement to the North Dakota Century Code is amended and reenacted as follows:

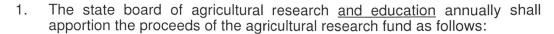
- **4-05.1-19.** State board of agricultural research <u>and education</u> Duties. Within the policies of the state board of higher education, the state board of agricultural research <u>and education</u> is responsible for the budgeting, supervision, and policymaking responsibilities associated with the supervision of the agricultural experiment station <u>and the North Dakota state university extension services</u>. The agricultural research and education board shall:
  - 1. Determine the causes of any adverse economic impacts on crops and livestock produced in this state;
  - 2. Develop ongoing strategies for the provision of research solutions to negate adverse economic impacts on crops and livestock produced in this state;
  - 3. Make available financial resources, including grants and salaries, and make available equipment and facilities to implement the strategies developed under subsection 2, subject to approval by the state board of higher education;
  - 4. Develop an annual budget for the operation of the agricultural experiment station and the North Dakota state university extension service;
  - 5. Develop a biennial budget request and submit that request to the state board of higher education on or before March first of each even-numbered year;
  - 6. Maximize the use of existing financial resources, equipment, and facilities to generate the greatest economic benefit from research <u>and extension</u> efforts and to promote efficiency;
  - 7. Annually evaluate the results of research <u>and extension</u> activities and expenditures and report the findings to the legislative council and the state board of higher education;
  - 8. Advise the administration of North Dakota state university regarding the recruitment and selection of the vice president of agricultural affairs, the extension service director, and the station director; and
  - 9. Advise the director of the extension service regarding Develop ongoing strategies for the dissemination of research information and the best practices for management of the extension service.

**SECTION 16. AMENDMENT.** Section 4-05.1-21 of the 1997 Supplement to the North Dakota Century Code is amended and reenacted as follows:

4-05.1-21. State board of agricultural research <u>and education</u> - Apportionment of research funds.

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- a. Seventy percent to research activities affecting North Dakota agricultural commodities that account for at least two percent of the gross sales of all agricultural commodities grown or produced in the state. The percentage of the dollars available for each agricultural commodity under this section may not exceed the percentage that the gross sales of the agricultural commodity bear to the North Dakota gross sales of all agricultural commodities grown or produced during the previous year, as determined by the agricultural statistics service;
- b. Eighteen percent to research activities affecting North Dakota animal agriculture; and
- c. Twelve percent to research activities affecting new and emerging crops in North Dakota.
- 2. The state board of agricultural research and education shall solicit proposals for research from the public and private sectors and shall appoint committees to review the proposals and award the agricultural research grants on a competitive basis. Each committee must consist of a majority of agricultural producers selected in consultation with the agricultural commodity groups representing commodities that are the subjects of the proposed research and may include researchers and other individuals knowledgeable about the proposed area of research. Whenever possible, the committees shall require that a grant recipient commit matching funds.
- 3. The state board of agricultural research <u>and education</u> shall develop policies regarding the award of research grants, including requirements for matching funds, cooperation with other in-state and out-of-state researchers, and coordination with other in-state and out-of-state proposed or ongoing research projects.

**SECTION 17. AMENDMENT.** Section 4-08-10 of the 1997 Supplement to the North Dakota Century Code is amended and reenacted as follows:

4-08-10. Extension agent to submit monthly account of expenditures. The extension agent shall submit monthly an accurate itemized account of all expenditures incurred by the agent in the regular conduct of duties to the North Dakota state university extension service for examination and audit. When charges are made by an extension agent for money expended in the performance of official duties, all items of one dollar or more expended and charged for must be covered by a subvoucher or receipt that must be signed by the person to whom the money was paid. The subvoucher or receipt must show at what place, on what date, and for what the money expended was paid. The extension agent shall forward the subvouchers or receipts with the bill, claim, account, or demand against the county. When charges are made for transportation expenses, they may not exceed the amounts provided by section 11-10-15, and must be in itemized form showing the mileage traveled, the days when and how traveled, and the purpose thereof, verified by affidavit. The account must be transmitted and recommended for payment by the North Dakota state university extension service which shall audit the same and which may approve or disallow any expense item therein. The state board of agricultural research and education and the president of North Dakota state university shall control and administer the North Dakota state university extension service is under the control, and subject to the supervision, of the state board of higher education. Funds appropriated

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to the North Dakota state university extension service may not be commingled with funds appropriated to North Dakota state university. An appropriation request to defray expenses of the North Dakota state university extension service must be separate from an appropriation request to defray expenses of North Dakota state university."

Renumber accordingly

### STATEMENT OF PURPOSE OF AMENDMENT:

### DEPARTMENT 627 - UPPER GREAT PLAINS TRANSPORTATION INSTITUTE

### HOUSE - This amendment makes the following changes:

	EXECUTIVE BUDGET	HOUSE CHANGES	HOUSE VERSION
Salaries and wages Operating expenses Equipment Grants	\$2,876,922 2,211,908 250,000 <u>1,150,000</u>	(\$26,170)	\$2,850,752 2,211,908 250,000 <u>1,150,000</u>
Total all funds	\$6,488,830	(\$26,170)	\$6,462,660
Less special funds	6,001,444	(21,204)	5,980,240
General fund	\$487,386	(\$4,966)	\$482,420
FTE	23.00	0.00	23.00

Detail of House changes to the executive budget includes:

	REDUCE COMPENSATION PACKAGE TO 2/2	ADJUST HEALTH INSURANCE COST	TOTAL HOUSE CHANGES
Salaries and wages Operating expenses Equipment Grants	(\$32,727)	\$6,557	(\$26,170)
Total all funds	(\$32,727)	\$6,557	(\$26,170)
Less special funds	(26,911)	5,707	(21,204)
General fund	(\$5,816)	\$850	(\$4,966)
FTE	0.00	0.00	0.00

House changes narrative:

The bill is changed to allow the Upper Great Plains Transportation Institute to retain, beyond the close of the 1999-2001 biennium, any unspent general fund moneys appropriated to or excess income received by the agency during the 1999-2001 biennium. These funds may be used for capital repairs and improvements, equipment, and other one-time expenditures.

DEPARTMENT 630 - NDSU EXTENSION SERVICE HOUSE - This amendment makes the following changes:

	EXECUTIVE BUDGET	HOUSE CHANGES	HOUSE VERSION
Salaries and wages Operating expenses Equipment Grants	\$25,121,626 3,564,436 625,640 560,000	(\$377,340) (17,600) (192,790) <u>20,000</u>	\$24,744,286 3,546,836 432,850 580,000
Total all funds	\$29,871,702	(\$567,730)	\$29,303,972
Less special funds	16,772,588	(175,823)	16,596,765
General fund	\$13,099,114	(\$391,907)	\$12,707,207
FTE	267.50	(0.70)	266.80

Detail of House changes to the executive budget includes:

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	REDUCE COMPENSATION PACKAGE TO 2/2	ADJUST HEALTH INSURANCE COST	ADD SHEEP EDUCATION POSITION	REMOVE MIDSIZED FARMS INITIATIVE 1	REMOVE FUNDING FOR VALUE-ADDED CENTER <sup>2</sup>	REMOVE FACULTY POSITION
Salaries and wages Operating expenses Equipment Grants	(\$329,995)	\$80,546	\$131,646	(\$70,309) (10,100) (5,290)	(\$31,636) (7,500) (2,500)	(\$157,592)
Total all funds	(\$329,995)	\$80,546	\$131,646	(\$85,699)	(\$41,636)	(\$167,592)
Less special funds	(118,986)	33,292				(90,129)
General fund	(\$211,009)	\$47,254	\$131,646	(\$85,699)	(\$41,636)	(\$77,463)
FTE	0.00	0.00	1.00	(0.50)	(0.20)	(1.00)
	ADD FUNDING FOR SOIL CONSERVATION TECHNICIAN GRANTS	REDUCE EQUIPMENT	TOTAL HOUSE CHANGES			
Salaries and wages Operating expenses Equipment Grants	<u>\$20,000</u> 3	(\$175,000)	(\$377,340) (17,600) (192,790) <u>20,000</u>			
Total all funds	\$20,000	(\$175,000)	(\$567,730)			
Less special funds			(175,823)			
General fund	\$20,000	(\$175,000)	(\$391,907)			
FTE	0.00	0.00	(0.70)			
Harras abanasa namati						

House changes narrative:

The bill is changed to allow the NDSU Extension Service to retain, beyond the close of the 1999-2001 biennium, any unspent general fund moneys appropriated to or excess income received by the agency during the 1999-2001 biennium. These funds may be used for capital repairs and improvements, equipment, and other one-time expenditures.

Sections are added changing the name of the State Board of Agricultural Research to the State Board of Agricultural Research and Education, providing that the board control and administer the NDSU Extension Service in addition to the Agricultural Experiment Station, and providing that the extension service director is a voting member of the board and that the Agriculture Commissioner is a nonvoting member of the board.

Sections are added providing that the NDSU Extension Service appoint regional dairy diagnostic teams to assist dairy producers in the state. The NDSU Extension Service is to use up to \$100,000 of its 1999-2001 appropriation to develop and operate this program for the 1999-2001 biennium.

DEPARTMENT 638 - NORTHERN CROPS INSTITUTE HOUSE - This amendment makes the following changes:

	EXECUTIVE BUDGET	HOUSE CHANGES	HOUSE VERSION
Salaries and wages Operating expenses Equipment	\$887,945 118,650 <u>72,880</u>	(\$9,427)	\$878,518 118,650 <u>72,880</u>
Total all funds	\$1,079,475	(\$9,427)	\$1,070,048
Less special funds	411,441	(3,484)	407,957
General fund	\$668,034	(\$5,943)	\$662,091
FTE	8.00	0.00	8.00

Detail of House changes to the executive budget includes:

REDUCE

**ADJUST** 

<sup>1</sup> Removes funding for the midsized farms initiative included in the executive budget.

<sup>&</sup>lt;sup>2</sup> Removes funding for the value-added center which was proposed in the executive budget to be established at North Dakota State University.

<sup>&</sup>lt;sup>3</sup> Adds funding for soil conservation technician grants to provide the same funding level as the 1997-99 biennium.

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	COMPENSATION PACKAGE TO 2/2	HEALTH INSURANCE COST	TOTAL HOUSE CHANGES
Salaries and wages Operating expenses Equipment	(\$11,707)	\$2,280	(\$9,427)
Total all funds	(\$11,707)	\$2,280	(\$9,427)
Less special funds	(4,554)	1,070	(3,484)
General fund	(\$7,153)	\$1,210	(\$5,943)
FTE	0.00	0.00	0.00

House changes narrative:

The bill is changed to allow the Northern Crops Institute to retain, beyond the close of the 1999-2001 biennium, any unspent general fund moneys appropriated to or excess income received by the agency during the 1999-2001 biennium. These funds may be used for capital repairs and improvements, equipment, and other one-time expenditures.

DEPARTMENT 640 - AGRICULTURAL EXPERIMENT STATION HOUSE - This amendment makes the following all funds changes:

	EXECUTIVE BUDGET	HOUSE CHANGES	HOUSE VERSION
Main Research Center Dickinson Research Extension Center	\$47,349,738 2,232,735	(\$614,323) 35,381	\$46,735,415 2,268,116
Central Grasslands Research Extension Center	1,363,529	(65,566)	1,297,963
Hettinger Research Extension Center	1,227,445	(6,705)	1,220,740
Langdon Research Extension Center	1,141,330	(66,281)	1,075,049
North Central Research Extension Center	1,251,892	50,058	1,301,950
Williston Research Extension Center	1,130,090	(6,860)	1,123,230
Carrington Research Extension Center	2,450,704	(25,252)	2,425,452
Agronomy Seed Farm	1,205,952	(3,613)	1,202,339
Total all funds	\$59,353,415	(\$703,161)	\$58,650,254
FTE	418.10	(1.75)	416.35

Detail of House all funds changes to the executive budget includes:

	REDUCE COMPENSATION PACKAGE TO 2/2	ADJUST HEALTH INSURANCE COST	REMOVE MIDSIZED FARMS INITIATIVE	REMOVE FUNDING FOR VALUE-ADDED CENTER	REALLOCATE EQUIPMENT FUNDING <sup>3</sup>	REDUCE OPERATING FUNDS <sup>4</sup>
Main Research Center Dickinson Research Extension Center	(\$493,551) (17,108)	\$107,205 4,989	(\$125,163) 1	(\$102,814)2	57,500	(10,000)
Central Grasslands Research Extension Center	(7,561)	1,995			(55,000)	(5,000)
Hettinger Research Extension Center	(9,556)	2,851				
Langdon Research Extension Center	(8,561)	2,280			(60,000)	
North Central Research Extension Center	(9,865)	2,423			57,500	
Williston Research Extension Center	(9,140)	2,280				
Carrington Research Extension Center	(19,813)	4,561				(10,000)
Agronomy Seed Farm	(4,468)	<u>855</u>			1	
Total all funds	(\$579,623)	\$129,439	(\$125,163)	(\$102,814)	\$0	(\$25,000)
FTE	0.00	0.00	(1.00)	(0.75)	0.00	0.00
	Section Control of the Control of th					

TOTAL HOUSE CHANGES

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Main Research Center Dickinson Research Extension Center	(\$614,323) 35,381
Central Grasslands Research Extension Center	(65,566)
Hettinger Research Extension Center	(6,705)
Langdon Research	(66,281)
Extension Center North Central Research Extension Center	50,058
Williston Research	(6,860)
Extension Center Carrington Research Extension Center	(25,252)
Agronomy Seed Farm	(3,613)
Total all funds	(\$703,161)
FTE	(1.75)

This amendment makes the following general fund changes:

	EXECUTIVE BUDGET	HOUSE CHANGES	HOUSE VERSION
Main Research Center Dickinson Research Extension Center	\$26,793,360 1,468,109	(\$521,013) 35,483	\$26,272,347 1,503,592
Central Grasslands Research Extension Center	841,086	(65,566)	775,520
Hettinger Research Extension Center	732,281	(5,489)	726,792
Langdon Research Extension Center	919,578	(65,593)	853,985
North Central Research Extension Center	731,532	51,184	782,716
Williston Research Extension Center	847,928	(6,702)	841,226
Carrington Research Extension Center Agronomy Seed Farm	1,328,872	(21,612)	1,307,260
Total general fund	\$33,662,746	(\$599,308)	\$33,063,438

Detail of House general fund changes to the executive budget includes:

	REDUCE COMPENSATION PACKAGE TO 2/2	ADJUST HEALTH INSURANCE COST	REMOVE MIDSIZED FARMS INITIATIVE	REMOVE FUNDING FOR VALUE-ADDED CENTER	REALLOCATE EQUIPMENT FUNDING <sup>3</sup>	REDUCE OPERATING FUNDS <sup>4</sup>
Main Research Center Dickinson Research	(\$375,408) (17,006)	\$82,372 4,989	(\$125,163) 1	(\$102,814)2	57,500	(10,000)
Extension Center Central Grasslands Research Extension	(7,561)	1,995			(55,000)	(5,000)
Center Hettinger Research	(7,485)	1,996				
Extension Center Langdon Research	(7,631)	2,038			(60,000)	
Extension Center North Central Research Extension	(8,739)	2,423			57,500	
Center Williston Research	(8,697)	1,995				
Extension Center Carrington Research Extension Center Agronomy Seed Farm	(15,176)	3,564				(10,000)
Total general fund	(\$447,703)	\$101,372	(\$125,163)	(\$102,814)	\$0	(\$25,000)
	TOTAL HOUSE CHANGES					
Main Research Center Dickinson Research Extension Center	(\$521,013) 35,483					
Central Grasslands	(65,566)					
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Research Extension Center Hettinger Research Extension Center (5,489)Langdon Research (65,593)Extension Center North Central 51,184 Research Extension Center Williston Research (6,702)**Extension Center** Carrington Research (21,612)Extension Center Agronomy Seed Farm Total general fund (\$599,308)

House changes narrative:

<sup>1</sup> Removes funding included in the executive budget for the midsized farms initiative as follows:

.5 FTE faculty position	(\$67,360)
.5 FTE technician	(43,751)
Operating expenses	(14,052)
Total	(\$125,163)

<sup>2</sup> Removes funding included in the executive budget for establishing a value-added center at North Dakota State University as follows:

.75 FTE faculty position	(\$52,616)
Operating expenses	(50,198)
Total	(\$102,814)

3 Reallocates equipment funding added in the executive budget as follows:

Removes funding provided to Central Grasslands for a swather	(\$55,000)
Removes funding provided to	(60,000)
Langdon for a field combine Adds funding to Dickinson for a tractor	57,500
Adds funding to North Central for a tractor and/or a	57,500
chemical storage building	
Total	\$0

<sup>&</sup>lt;sup>4</sup> Reduces operating expenses funding from the general fund at Dickinson, Central Grasslands, and Carrington.

The bill is changed to allow the entities of the Agricultural Experiment Station to retain, beyond the close of the 1999-2001 biennium, any unspent general fund moneys appropriated to or excess income received by the entities during the 1999-2001 biennium. These funds may be used for capital repairs and improvements, equipment, and other one-time expenditures.

Sections are added changing the name of the State Board of Agricultural Research to the State Board of Agricultural Research and Education, providing that the board control and administer the NDSU Extension Service in addition to the Agricultural Experiment Station, and providing that the extension service director is a voting member of the board and that the Agriculture Commissioner is a nonvoting member of the board.

1999 SENATE APPROPRIATIONS

HB 1021

### 1999 SENATE STANDING COMMITTEE MINUTES

#### BILL/RESOLUTION NO. ENGROSSED HB 1021

Senate Appropriations Committee

☐ Conference Committee

Hearing Date 3/4/99; 3/31/99

Tape Number	Side A	Side B	Meter #		
1	X		3200-end		
		X	0-end		
2	X		0-870		
3/31/99 1	1415-2680				
Committee Clerk Signature Claudia Anderson					

### Minutes:

**SENATOR NETHING:** Opened the hearing on engrossed HB 1021; a BILL for an Act to provide an appropriation for defraying the expenses of the extension service, northern crops institute, upper great plains transportation institute, and the experiment centers; to provide for dairy diagnostic teams; to provide statements of legislative intent; and to amend and reenact sections 4-05.1-02, 4-05.1-04, 4-05.1-16, 4-05.1-17, 4-05.1-18, 4-05.1-19, 4-05.1-21, and 4-08-10 of the North Dakota Century Code, relating to the state board of agricultural research.

**UNIVERSITY SYSTEM RESOURCE GUIDE: AGRICULTURE RESEARCH CENTER DR ALLEN FISCHER:** Interim President, NDSU, presented an overview of HB 1021, the mission of the land grant university, and the importance the experiment station and extension serve in that mission. (NDSU Agriculture tab) (tape 3200)

**DR PAT JENSEN:** Vice President of Agriculture, NDSU, thanked the legislature for its support in establishing SBAR, and encouraged support of funding this biennium. She presented an overview of the program, as presented in the two handouts which present background program information. She pointed out the positive outlook students have toward the state and agriculture as noted in the student survey results (NDSU Agriculture Tab, pages 27-35) tape 3600-4130)

JERRY DOAN: Chair, State board of Agriculture Research (SBAR), presented background of the development of the 15 member board and introduced those in attendance. He outlined the initiatives as detailed in SBAR, (Main Research Section - Handout #1) He encouraged the Legislature to give SBAR the authority to make decisions as to where the allocated money should be placed in the budget. He outlined the Agriculture Research Fund (Handout #2) (tape 1, Side A - 4133-end; tape 1, Side B 0-1145)

**SENATOR SOLBERG:** On the agriculture research fund, is this total money?

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SENATOR KRAUTER: Has SBAR looked at the decline in the gas tax fund?

**DOAN:** It is declining and we will need to look at that in the future. It is a philosophical shift in how we fund it.

**SENATOR BOWMAN:** What has research done to help market agriculture products? (tape 1460)

**DOAN:** We will be talking about his later. I wish there was something we could point to.

**SENATOR ROBINSON:** How are we communicating with others in the region?

**DOAN:** I'll defer that to Cole to give additional information. (tape 1830)

**SENATOR TOMAC:** How can we move initiative #15 (value added products) into first place?

**DOAN:** The Board thought the priorities are as they listed.

### ND AGRICULTURAL EXPERIMENT STATION

**COLE GUSTAFSON:** Associate Dean, Agriculture Experiment Station, NDSU presented the changes to the Experiment Station budget as amended by the House (ND Agricultural Experiment Station Tab - page 100) (tape 2126-2885)

SENATOR ROBINSON: Did you have a discussion with the House regarding the budget cuts?

**GUSTAFSON:** We spent a day reviewing the changes. They cut these two initiatives because we don't have a tangible outcome. (tape 2980)

**SENATOR ANDRIST:** Have you explored partnerships for the initiative?

**GUSTAFSON:** There are partnerships out in the state. Most initiatives have partnerships within the state; we're exploring partnerships with other states. Agri-business partnerships are more difficult because of different goals and philosophy (tape 3300)

### **NORTHERN CROPS INSTITUTE:**

**PAT BERGLAND:** Dean, Northern Crops Institute, NDSU, outlined the House budget cuts (NCI: Northern Crops Institute tab - page 55). She emphasized budget compensation cuts would jeopardize the organization's work which includes value added products as well as marketing within the state, region and globally. (tape 3615)

**DISCUSSION:** How has the world economy affected your program, and how effective has your program been?

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**BERGLAND:** The market has affected all of us, exports are down, buying power is less; however, we are making sales which probably would not be happening without the Institute. (tape 3825)

### **EXTENSION SERVICE**

**SHARON ANDERSON:** Director, Extension Service, NDSU, outlined changes in the budget as noted in - page 81-83; page 85 presents in chart form all budget changes. (Extension: NDSU Extension Service tab) She noted how well the Soil Conservation Service was working as part of the Extension Service. (tape 3835-5220)

**SENATOR GRINDBERG:** The individual extension center budgets vary, how do you determine that?

**ANDERSON:** I'll have to defer that to Cole Gustafson. However, people value it when we get out into their areas with programming.

**REBECCA TOKACH:** Go Getter 4-H Club, St. Anthony, testified in support of supporting the Extension Service 4-H budget (testimony attached #2 - at the end of the Extension Service tab) (tape 5536-5860)

**BURDELL JOHNSON:** Tuttle, Member of SBAR, and Vice Chair of the Agriculture Coalition, testified in support of SBAR and noted interest from others attending the National Land Grant University get together. He spoke specifically toward sheep education with many new sheep producers. (tape 5950-6150)

**BILL PIETSCH:** Chairman of the Soil Conservation Service Committee, outlined changes to the SCS budget. He noted the importance of funding SCS to help educate local SCS supervisors, locally elected officials, to deal with federal issues that relate to ND. (tape 1, side B 6190-end; tape 2, side A 0-230)

**RONALD JACOBSON:** Crosby, State President of the SCS to testify in support of the SCS \$580,000 grant program which is essential to local districts, and provide funding for education of local supervisors (tape 235-439)

**DOUG DUKART:** Chairman, Dairy Diagnostic Advisory Team, and President, Milk Producers Association of ND explained the dairy diagnostic advisory team program and asked the committee to provide funding for the upcoming biennium. (testimony attached #3) (tape 439-830)

**JOHN BOLLINGBERG:** Chairman of the Agriculture Coalition, to testify in support of HB 1021 in its original form with priorities set by SBAR. (tape 830-1003)

**MAYNARD SATROM:** Oriska, testified in support of Northern Crops Institute. (tape 1003-1100)

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**JAMES MARSHALL, JR.,** Oriska, President, ND Sheep, testified on behalf of the Sheep Producers, in support of the bill. He noted the increase in the number of sheep growers in ND. (tape 1100-1295)

**CASEY TWEETEN:** Burleigh County 4-H member, testified in support of HB 1021's Extension funding, specifically as it relates to 4-H. (testimony attached #3) (tape 1295-1472)

**CAROL GOODMAN:** Cavalier County Development Board, Langdon testified in support of research centers and extension services for the roll they play in rural development.

**KEN BURCH:** ND Farm Bureau, testified in support of the experiment station and extension programming. (tape 1758-1964)

**DALE REIMERS:** Jamestown, SBAR member, encouraged support of the SBAR initiatives and the experiment and extension service programs. (tape 1995-2150)

**JOHN JOHNSON:** ND Dairy Diagnostician, testified in support of funding to provide on-site dairy education for farmers. (tape 2150-2275)

WRITTEN TESTIMONY: Kris Ringwall, Director, Dickinson Research Extension Center

### <u>UPPER GREAT PLAINS TRANSPORTATION INSTITUTE:</u>

**DENNIS McLEOD:** Chair, Transportation Institute Advisory Board, presented the rationale for \$288,000 to fund a "Strategic Freight Analysis. (UGPTI tab - testimony attached #1). (UGPTI tab - testimony attached #1) He also read a letter of support from George Unruh, Vice President, TMI Systems Design Corporation. (attachment #2) (tape 2500)

**BERNIE VCULEK:** Crete Grain Company, to testify in support of funding for the Strategic Freight Analysis project. (testimony attached #3) (tape ending 4350) of the Sheep Producers,

**GENE GRIFFIN:** Director, Upper Great Plains Transportation Institute, noted the importance transportation will play in the next century, especially as it relates to globalization and value added commodities. (background testimony provided #4; program description #5)

**DISCUSSION:** History of the request, the cost of the program, goals of the study, and partnerships? (tape 4625-5920)

**GRIFFIN:** Over a year ago at one of the Advisory Council meetings; one of the agenda items was what should they consider as a request to the legislature. The staff was directed to come back with ideas of some of the major issues with input of several members. We created a special committee including George Unruh. We were also talking with Pres. Plough. It was felt it might be better to approach the executive branch and have them put it in their budget. There was some confusion on our part regarding that, and we never got into the governor's higher education budget. We did have discussions with the House. It has been adopted and approved by the Advisory Council.

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The staff will include .5 person years for a program director over a two-year period - 1/4 person per year. There are probably 2 people who will be considered as project directors: our most senior research scientist on staff and me. Project investigators will include 1-2 new positions. Some of it may be existing staff. The staff would come on board on staff over time. We just hired one person under some other funding to do some work. We hope to initiate the process in April sometime. We want to be able to come back to the legislature, the executive branch, and the board of higher education to show results early on in the budgeting session of the next biennium. The focus this morning has been on commodity grain transportation. It is the most immediate issue. How do we remain competitive with point demand source centers. We would look at the relationship between grain firms, large railroads, and how is that impacting the development of our grain transportation marketing systems in ND. We can't stop the building of large facilities; however, we need to look at the infrastructure in grain merchandising. We have been in contact with the Department of Transportation and they are supportive. In the House we did request 50 percent of the funds from their State Planning & Research Funds and 50 percent general funds to match.

**BRAD HOUGEBERG:** Minot Elevator and President of the ND Grain Dealers Association testified in support of the bill and for funding the Strategic Freight Analysis project. (tape 2, side A 5980-end; side B 0-77)

**NEIL FISCHER:** Commissioner, ND Wheat Commission, to testify in support of the activities of UPGTI.

WRITTEN TESTIMONY: ALLAN FISCHER: Interim President, NDSU

**SENATOR NETHING:** Announced the subcommittee, and closed the hearing on engrossed HB 2021.

3/31/99

tape 1, A, 1415-2680

**SENATOR NETHING:** Reopened the hearing on engrossed HB 2021.

**SENATOR SOLBERG:** Presented and explained the proposed amendment 98021.0205, and moved do pass.

**SENATOR NAADEN:** Seconded the motion.

**ROLL CALL:** Unanimous voice vote to do pass amendment.

**SENATOR SOLBERG:** Moved do pass engrossed HB 2021, as amended.

**SENATOR TOMAC:** Seconded the motion.

**ROLL CALL:** 14 yeas; 0 nays; 0 absent & not voting.

**CARRIER: SENATOR SOLBERG** 

**SENATOR NETHING:** Closed the hearing on engrossed HB 2021.

Date:	3-31-99
Roll Call Vote #:	/

# 1999 SENATE STANDING COMMITTEE ROLL CALL VOTES BILL/RESOLUTION NO. <u>Engrossed HB 1021</u>

Senate APPROPRIATIONS			Com	_ Committee	
Subcommittee on					
or					
Conference Committee					
Legislative Council Amendment Nu	mber	980	21.0205		
	PAS	5			
Motion Made By Senator 50/	berg	Seco By	onded Senator	PADEN	/
Senators	Yes	No	Senators	Yes	No
Senator Nething, Chairman					
Senator Naaden, Vice Chairman					
Senator Solberg					
Senator Lindaas					
Senator Tallackson					
Senator Tomac					
Senator Robinson					
Senator Krauter					
Senator St. Aubyn					
Senator Grindberg					
Senator Holmberg	1				
Senator Kringstad					
Senator Bowman					
Senator Andrist					
Total (Yes) Voice Vote-Un		OUS No			
Floor Assignment Senator		,			

If the vote is on an amendment, briefly indicate intent:

Date:	3-31-99
Roll Call Vote #:	

# 1999 SENATE STANDING COMMITTEE ROLL CALL VOTES BILL/RESOLUTION NO. Engrossed HB 102/

Senate APPROPRIATIONS					mittee
Subcommittee on					
Conference Committee					
Legislative Council Amendment Num	ıber _	980	121.0205 MENDED		
Action Taken Do PASS	5 H	75 A.	MENDED		
Motion Made By Senator So/b	ERY	See By	conded Senator	MAC	
Senators	Yes	No	Senators	Yes	No
Senator Nething, Chairman	V	<i>'</i>			
Senator Naaden, Vice Chairman	V				
Senator Solberg	V	/			
Senator Lindaas	V				
Senator Tallackson	V				
Senator Tomac	V				
Senator Robinson	V	-			
Senator Krauter	V				
Senator St. Aubyn	V				
Senator Grindberg	V	e :			
Senator Holmberg	V	_			
Senator Kringstad	V				
Senator Bowman	V				
Senator Andrist	V				
Total (Yes) / H		No	0		
Absent	, ,				
Floor Assignment Senator So.	bER	J			

If the vote is on an amendment, briefly indicate intent:

Module No: SR-58-6147 Carrier: Solberg Insert LC: 98021.0205 Title: .0300

### REPORT OF STANDING COMMITTEE

HB 1021, as engrossed: Appropriations Committee (Sen. Nething, Chairman) recommends AMENDMENTS AS FOLLOWS and when so amended, recommends DO PASS (14 YEAS, 0 NAYS, 0 ABSENT AND NOT VOTING). Engrossed HB 1021 was placed on the Sixth order on the calendar.

Page 1, line 17, replace "24,744,286" with "24,795,190"

Page 1, line 18, replace "3,546,836" with "3,656,836"

Page 1, line 19, replace "432,850" with "517,850"

Page 1, line 21, replace "29,303,972" with "29,549,876"

Page 1, line 22, replace "16,596,765" with "16,732,669"

Page 1, line 23, replace "12,707,207" with "12,817,207"

Page 2, line 10, replace "2,850,752" with "3,076,552"

Page 2, line 11, replace "2,211,908" with "2,268,108"

Page 2, line 12, replace "250,000" with "256,000"

Page 2, line 14, replace "6,462,660" with "6,750,660"

Page 2, line 15, replace "5,980,240" with "6,268,240"

Page 2, line 19, replace "38,080,539" with "37,935,339"

Page 2, line 20, replace "4,163,330" with "4,193,330"

Page 2, line 22, replace "658,800" with "748,800"

Page 2, line 25, replace "46,735,415" with "46,710,215"

Page 2, line 26, replace "20,463,068" with "20,553,068"

Page 2, line 27, replace "26,272,347" with "26,157,147"

Page 2, line 30, replace "2,268,116" with "2,314,316"

Page 2, line 31, replace "1,297,963" with "1,379,963"

Page 3, line 1, replace "1,220,740" with "1,297,740"

Page 3, line 5, replace "2,425,452" with "2,435,452"

Page 3, line 6, replace "10,712,500" with "10,927,700"

Page 3, line 8, replace "6,791,091" with "7,006,291"

Page 3, replace lines 11 through 14 with:
"Agronomy seed farm

\$1,202,339"

Page 3, line 16, replace "46,915,156" with "47,125,156"

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Page 3, line 17, replace "48,571,778" with "49,085,682"

Page 3, line 18, replace "95,486,934" with "96,210,838"

Page 3, line 28, after "available" insert "and may be expended"

Page 3, line 29, remove ", and may be expended, as directed by the"

Page 3, remove line 30

Page 3, line 31, remove "one-time expenditures"

Page 4, line 6, after "research" insert "and extension"

Page 4, after line 9, insert:

"SECTION 6. INITIATIVES - TRANSFER AUTHORITY. Upon approval of the state board of agricultural research and extension, the director of the North Dakota agricultural experiment station may transfer appropriation authority of up to \$227,335 from subdivision 4 to subdivision 1 of section 1 of this Act and shall notify the office of management and budget within ten days."

Page 4, replace lines 26 through 30 with:

"SECTION 10. ESTIMATED INCOME - MAIN RESEARCH CENTER - ENVIRONMENT AND RANGELAND PROTECTION FUND. The estimated income line item in subdivision 4 of section 1 of this Act includes the sum of \$90,000, or so much of the sum as may be necessary, from the environment and rangeland protection fund for the purpose of constructing chemical handling facilities at select research centers for the biennium beginning July 1, 1999, and ending June 30, 2001.

SECTION 11. ESTIMATED INCOME - TRANSPORTATION INSTITUTE - DEPARTMENT OF TRANSPORTATION. The estimated income line item in subdivision 3 of section 1 of this Act includes \$188,000 of federal strategic planning and research funds from the department of transportation. The director of the department of transportation may not transfer the \$188,000 of federal funds until the director of the upper great plains transportation institute has certified to the department of transportation that the institute has raised \$100,000 to supplement the federal funds available from the department of transportation for the strategic freight transportation analysis for the biennium beginning July 1, 1999, and ending June 30, 2001.

SECTION 12. LEGISLATIVE INTENT - SOIL CONSERVATION DISTRICT SUPERVISOR TRAINING. It is the intent of the fifty-sixth legislative assembly that the NDSU extension service use the funding provided for the soil conservation leadership initiative only for providing training to soil conservation district supervisors and that the training address specific issues and concerns of the local district supervisors for the biennium beginning July 1, 1999, and ending June 30, 2001.

SECTION 13. STATE BOARD OF AGRICULTURAL RESEARCH AND EXTENSION - REPORT TO LEGISLATIVE COUNCIL. The state board of agricultural research and extension shall report periodically to the legislative council or a committee designated by the council on its activities associated with researching and developing market opportunities for biotechnologically enhanced crops for the biennium beginning July 1, 1999, and ending June 30, 2001."

Page 5, line 4, replace "education" with "extension"

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Page 5, line 13, replace "education" with "extension"

Page 5, line 18, replace "education" with "extension"

Page 5, line 25, replace "education" with "extension"

Page 5, line 27, replace "education" with "extension"

Page 6, line 29, overstrike "two" and insert immediately thereafter "one"

Page 7, line 6, overstrike "two" and insert immediately thereafter "one"

Page 7, line 14, replace "education" with "extension"

Page 7, line 20, replace "education" with "extension"

Page 7, line 21, replace "education" with "extension"

Page 7, line 27, replace "education" with "extension"

Page 7, line 29, replace "education" with "extension"

Page 7, line 31, replace "services" with "service" and replace "education" with "extension"

Page 8, line 26, replace "education" with "extension"

Page 8, line 28, replace "education" with "extension"

Page 9, line 11, replace "education" with "extension"

Page 9, line 20, replace "education" with "extension"

Page 10, line 9, replace "education" with "extension"

Renumber accordingly

#### STATEMENT OF PURPOSE OF AMENDMENT:

# DEPARTMENT 627 - UPPER GREAT PLAINS TRANSPORTATION INSTITUTE

#### SENATE - This amendment makes the following changes:

	EXECUTIVE BUDGET	HOUSE VERSION	SENATE CHANGES	SENATE VERSION
Salaries and wages Operating expenses Equipment Grants	\$2,876,922 2,211,908 250,000 <u>1,150,000</u>	\$2,850,752 2,211,908 250,000 1,150,000	\$225,800 56,200 6,000	\$3,076,552 2,268,108 256,000 1,150,000
Total all funds	\$6,488,830	\$6,462,660	\$288,000	\$6,750,660
Less special funds	6,001,444	5,980,240	288,000	6,268,240
General fund	\$487,386	\$482,420	\$0	\$482,420
FTE	23.00	23.00	2.00	25.00

Detail of Senate changes to the House version includes:

ADD FUNDING FOR STRATEGIC FREIGHT ANALYSIS <sup>1</sup>

TOTAL SENATE CHANGES

Module No: SR-58-6147 Carrier: Solberg Insert LC: 98021.0205 Title: .0300

Salaries and wages Operating expenses Equipment Grants	\$225,800 56,200 6,000	\$225,800 56,200 6,000
Total all funds	\$288,000	\$288,000
Less special funds	288,000	288,000
General fund	\$0	\$0
FTE	2.00	2.00

#### Senate changes narrative:

Adds funding for conducting a strategic freight transportation analysis. Funding of \$188,000 is to be provided by the Department of Transportation from federal Strategic Planning and Research (SPR) funds and the remaining \$100,000 is to be raised by the Transportation Institute. A section is added providing that the director of the Department of Transportation may not provide the \$188,000 of federal funds until the institute has raised its \$100,000 for the analysis.

#### DEPARTMENT 630 - NDSU EXTENSION SERVICE

SENATE - This amendment makes the following changes:

	EXECUTIVE BUDGET	HOUSE VERSION	SENATE CHANGES	SENATE VERSION
Salaries and wages Operating expenses Equipment Grants	\$25,121,626 3,564,436 625,640 560,000	\$24,744,286 3,546,836 432,850 580,000	\$50,904 110,000 85,000	\$24,795,190 3,656,836 517,850 <u>580,000</u>
Total all funds	\$29,871,702	\$29,303,972	\$245,904	\$29,549,876
Less special funds	16,772,588	16,596,765	135,904	16,732,669
General fund	\$13,099,114	\$12,707,207	\$110,000	\$12,817,207
FTE	267.50	266.80	1.00	267.80

Detail of Senate changes to the House version includes:

RESTORE FACULTY POSITION <sup>1</sup>	RESTORE EQUIPMENT	RESTORE MIDSIZED FARMS INITIATIVE <sup>3</sup>	RESTORE FUNDING FOR VALUE-ADDED CENTER <sup>3</sup>	REMOVE UNDESIGNATED INITIATIVE FUNDING <sup>3</sup>	REMOVE CROP PROTECTION SPECIALIST
\$157,592		\$70,309 10,100	\$31,636 7,500	(\$101,945) (17,600)	(\$156,688) 4
10,000	75,000 2		2,500	(7,790)	
\$167,592	\$75,000	\$85,699	\$41,636	(\$127,335)	(\$156,688)
90,129					
\$77,463	\$75,000	\$85,699	\$41,636	(\$127,335)	(\$156,688)
1.00	0.00	0.50	0.20	(0.70)	(1.00)
ADD 4-H YOUTH POSITION	ADD FUNDING FOR DAIRY DIAGNOSTIC TEAMS	ADD FUNDING FOR SOIL CONSERVATION LEADERSHIP	TOTAL SENATE CHANGES		
\$50,000 5	\$50,000 6	\$60,000 7	\$50,904 110,000 85,000		
\$50,000	\$50,000	\$60,000	\$245,904		
45,775			135,904		
\$4,225	\$50,000	\$60,000	\$110,000		
	FACULTY POSITION 1 \$157,592 10,000 \$167,592 90,129 \$77,463 1.00 ADD 4-H YOUTH POSITION \$50,000 5	FACULTY POSITION 1 RESTORE EQUIPMENT  \$157,592  10,000  \$167,592  \$75,000  90,129  \$77,463  \$75,000  1.00  ADD 4-H YOUTH POSITION  \$50,000  \$50,000  45,775  RESTORE EQUIPMENT  RESTORE EQUIPMENT  RESTORE EQUIPMENT  \$75,000  475,000  \$50,000  \$50,000  \$50,000  \$50,000	RESTORE FACULTY POSITION 1 RESTORE EQUIPMENT FARMS INITIATIVE 3  \$157,592 \$70,309 10,100 2 5,290	RESTORE FACULTY POSITION 1   RESTORE EQUIPMENT   RESTORE FARMS INITIATIVE 3   FUNDING FOR VALUE-ADDED CENTER 3	RESTORE FACULTY   RESTORE FACULTY   POSITION 1   RESTORE EQUIPMENT   STORE EQUIPME

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FTE 1.00 0.00 0.00 1.00

Senate changes narrative:

- 1 Restores 1 FTE undesignated faculty position removed by the House.
- <sup>2</sup> Restores \$75,000 of the \$175,000 equipment funding reduction made by the House.
- Restores funding for the midsized farms initiative and value-added center initiative removed by the House and reduces initiative funding in undesignated areas by the same amount. The State Board of Agricultural Research may determine the specific areas to reduce within the total funding available for the initiatives.
- <sup>4</sup> Removes 1 FTE crop protection specialist position added in the executive budget.
- <sup>5</sup> Adds funding for the 4-H youth position in Burleigh and Morton Counties.
- Adds funding to develop and operate dairy diagnostic teams. The section added by the House providing that the NDSU Extension Service spend up to \$100,000 of its 1999-2001 appropriation for the dairy diagnostic teams is removed.
- Adds funding for the soil conservation leadership initiative. A section of legislative intent is added providing that this funding is to be used only for training local district supervisors and that the training address specific issues and concerns of the local district supervisors.

Section 3 of the bill is changed to allow the Agricultural Experiment Station, the NDSU Extension Service, the Upper Great Plains Transportation Institute, and the Northern Crops Institute to spend unspent general fund appropriation authority and excess income continued into the 2001-03 biennium for any types of expenditures, not only capital repairs and improvements, equipment, and one-time expenditures as provided in the House version.

A section is added authorizing the director of the Agricultural Experiment Station, upon approval of the State Board of Agricultural Research, to transfer up to \$227,335 of its appropriation to the NDSU Extension Service based on the agricultural initiatives prioritized by the State Board of Agricultural Research.

North Dakota Century Code Section 4-05.1-16 is amended to provide that the Ag Coalition and the advisory groups to the multicounty program units each submit one or more names to the Board of Higher Education for appointment of representatives to the State Board of Agricultural Research. Current law provides that each of these groups submit two or more names to the board.

Sections added by the House changing the name of the State Board of Agricultural Research to the State Board of Agricultural Research and Education are changed to provide that the name of the board be the State Board of Agricultural Research and Extension.

#### DEPARTMENT 640 - AGRICULTURAL EXPERIMENT STATION

SENATE - This amendment makes the following all funds changes:

	EXECUTIVE	HOUSE	SENATE	SENATE
	BUDGET	VERSION	CHANGES	VERSION
Main Research Center	\$47,349,738	\$46,735,415	(\$25,200)	\$46,710,215
Dickinson Research	2,232,735	2,268,116	46,200	2,314,316
Extension Center Central Grasslands	1,363,529	1,297,963	82,000	1,379,963

Module No: SR-58-6147 Carrier: Solberg Insert LC: 98021.0205 Title: .0300

Hettinger Research	
Extension Center       1,251,892       1,301,950       1,301,950         North Central Research Extension Center       1,130,090       1,123,230       1,123,230         Extension Center Carrington Research Extension Center Agronomy Seed Farm       2,450,704       2,425,452       10,000       2,435,452         Extension Center Agronomy Seed Farm       1,205,952       1,202,339       1,202,339         Total all funds       \$59,353,415       \$58,650,254       \$190,000       \$58,840,254         FTE       418.10       416.35       0.00       416.35	
North Central Research Extension Center         1,251,892         1,301,950         1,301,950           Williston Research Extension Center Carrington Research Carrington Research Extension Center Agronomy Seed Farm         2,450,704         2,425,452         10,000         2,435,452           Extension Center Agronomy Seed Farm         1,205,952         1,202,339         1,202,339           Total all funds         \$59,353,415         \$58,650,254         \$190,000         \$58,840,254           FTE         418.10         416.35         0.00         416.35	
Williston Research       1,130,090       1,123,230       1,123,230         Extension Center       2,450,704       2,425,452       10,000       2,435,452         Extension Center       2,450,704       2,425,452       10,000       2,435,452         Extension Center       1,205,952       1,202,339       1,202,339         Total all funds       \$59,353,415       \$58,650,254       \$190,000       \$58,840,254         FTE       418.10       416.35       0.00       416.35	
Carrington Research Extension Center       2,450,704       2,425,452       10,000       2,435,452         Agronomy Seed Farm       1,205,952       1,202,339       1,202,339         Total all funds       \$59,353,415       \$58,650,254       \$190,000       \$58,840,254         FTE       418.10       416.35       0.00       416.35	
Agronomy Seed Farm         1,205,952         1,202,339         1,202,339           Total all funds         \$59,353,415         \$58,650,254         \$190,000         \$58,840,254           FTE         418.10         416.35         0.00         416.35	
FTE 418.10 416.35 0.00 416.35	
Detail of Senate all funds changes to the House version includes:	
FUNDING OPERATING MIDSIZED FUNDING FOR UNDESIGNATED FUND FOR RANGE EXPENSES FARMS VALUE-ADDED INITIATIVES CHE	ADD ING FOR EMICAL EILITIES
Main Research Center (\$190,200) (\$25,000) \$125,163 <sup>3</sup> \$102,814 <sup>3</sup> (\$227,977) <sup>3</sup> Dickinson Research 36,200 10,000  Extension Center	\$90,000 4
Central Grasslands 77,000 5,000 Research Extension	
Center Hettinger Research 77,000 Extension Center Langdon Research Extension Center North Central Research Extension Center Williston Research	
Extension Center Carrington Research 10,000 Extension Center Agronomy Seed Farm	
Total all funds \$0 \$0 \$125,163 \$102,814 (\$227,977)	\$90,000
FTE 0.00 0.00 1.00 0.75 (1.75)	0.00
ADD FUNDING FOR TOTAL BIOTECH SENATE CROPS CHANGES	
Main Research Center \$100,000 <sup>5</sup> (\$25,200) Dickinson Research 46,200	
Extension Center Central Grasslands 82,000 Research Extension	
Center Hettinger Research 77,000 Extension Center Langdon Research Extension Center North Central Research Extension Center Williston Research	
Extension Center Carrington Research 10,000 Extension Center Agronomy Seed Farm	
Total all funds \$100,000 \$190,000	
FTE 0.00 0.00	

This amendment makes the following general fund changes:

	EXECUTIVE	HOUSE	SENATE	SENATE
	BUDGET	VERSION	CHANGES	VERSION
Main Research Center	\$26,793,360	\$26,272,347	(\$115,200)	\$26,157,147
Dickinson Research	1,468,109	1,503,592	46,200	1,549,792

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Extension Center Central Grasslands Research Extension	841,086	775,520	82,000	857,520		
Center Hettinger Research	732,281	726,792	77,000	803,792		
Extension Center Langdon Research Extension Center	919,578	853,985		853,985		
North Central Research Extension	731,532	782,716		782,716		
Center Williston Research	847,928	841,226		841,226		
Extension Center Carrington Research Extension Center Agronomy Seed Farm	1,328,872	1,307,260	10,000	1,317,260		
Total general fund	\$33,662,746	\$33,063,438	\$100,000	\$33,163,438		
Detail of Senate general	fund changes to the I	House version includes	s:			
	REALLOCATE FUNDING FOR RANGE INITIATIVE 1	REALLOCATE OPERATING EXPENSES REDUCTIONS <sup>2</sup>	RESTORE MIDSIZED FARMS INITIATIVE	RESTORE FUNDING FOR VALUE-ADDED CENTER	REMOVE UNDESIGNATED INITIATIVES FUNDING	ADD FUNDING FOR CHEMICAL FACILITIES <sup>4</sup>
Main Research Center Dickinson Research Extension Center	(\$190,200) 36,200	(\$25,000) 10,000	\$125,163 3	\$102,814 3	(\$227,977)3	
Central Grasslands Research Extension	77,000	5,000				
Center Hettinger Research Extension Center Langdon Research Extension Center North Central Research Extension Center Williston Research Extension Center Carrington Research	77,000	10,000				
Extension Center Agronomy Seed Farm						
Total general fund	\$0	\$0	\$125,163	\$102,814	(\$227,977)	\$0
	ADD FUNDING FOR BIOTECH CROPS	TOTAL SENATE CHANGES				
Main Research Center Dickinson Research	\$100,000 5	(\$115,200) 46,200				
Extension Center Central Grasslands Research Extension		82,000				
Center Hettinger Research Extension Center Langdon Research Extension Center North Central Research Extension Center Williston Research		77,000				
Extension Center Carrington Research Extension Center Agronomy Seed Farm		10,000				
		740 4 000000 100000				

#### Senate changes narrative:

\$100,000

\$100,000

Total general fund

Reallocates funding for the range initiative from the Main Research Center to the Dickinson, Central Grasslands, and Hettinger Extension Centers as follows:

Module No: SR-58-6147 Carrier: Solberg Insert LC: 98021.0205 Title: .0300

	MAIN RESEARCH CENTER	DICKINSON RESEARCH EXTENSION CENTER	CENTRAL GRASSLANDS RESEARCH EXTENSION CENTER	HETTINGER RESEARCH EXTENSION CENTER	TOTAL
Salaries and wages Operating expenses	(\$145,200) (45,000)	\$30,000 <u>6,200</u>	\$60,000 <u>17,000</u>	\$60,000 <u>17,000</u>	\$4,800 (4,800)
Total general fund	(\$190,200)	\$36,200	\$77,000	\$77,000	\$0

- <sup>2</sup> Reallocates operating expenses reductions made by the House to the Dickinson, Central Grasslands, and Carrington Extension Centers to the Main Research Center.
- <sup>3</sup> Restores funding for the midsized farms initiative and the value-added center initiative removed by the House and reduces initiative funding in undesignated areas by the same amount. The State Board of Agricultural Research may determine the specific areas to reduce within the total funding available for the initiatives. Detail of these changes includes:

	MIDSIZED FARMS INITIATIVE	VALUE-ADDED CENTER INITIATIVE	UNDESIGNATED INITIATIVES	INCREASE (DECREASE)
Salaries and wages Operating expenses	\$111,111 14,052	\$52,616 50,198	(\$163,727) (64,250)	\$0 <u>0</u>
Total	\$125,163	\$102,814	(\$227,977)	\$0
FTE	1.00	0.75	(1.75)	0.00

- <sup>4</sup> Adds funding from the environment and rangeland protection fund for constructing chemical handling facilities at the Main Research Center or branch research centers as selected by the State Board of Agricultural Research. It is anticipated that the funds provided will complete one facility that is partially built and will construct three additional facilities.
- <sup>5</sup> Adds operating expenses funding for an initiative to research and develop market opportunities for biotechnologically enhanced crops in North Dakota. A section is added providing that the State Board of Agricultural Research and Extension report to an interim Legislative Council committee during the 1999-2000 interim on its activities associated with this initiative.

The Agronomy Seed Farm appropriation is changed from a specific line item appropriation to a lump sum appropriation.

Section 3 of the bill is changed to allow the Agricultural Experiment Station, the NDSU Extension Service, the Upper Great Plains Transportation Institute, and the Northern Crops Institute to spend unspent general fund appropriation authority and excess income continued into the 2001-03 biennium for any types of expenditures, not only capital repairs and improvements, equipment, and one-time expenditures as provided in the House version.

A section is added authorizing the director of the Agricultural Experiment Station, upon approval of the State Board of Agricultural Research, to transfer up to \$227,335 of its appropriation to the NDSU Extension Service based on the agricultural initiatives prioritized by the State Board of Agricultural Research.

North Dakota Century Code Section 4-05.1-16 is amended to provide that the Ag Coalition and the advisory groups to the multicounty program units each submit one or more names to the Board of Higher Education for appointment of representatives to the State Board of Agricultural Research. Current law provides that each of these groups submit two or more names to the board.

Module No: SR-58-6147 Carrier: Solberg

Insert LC: 98021.0205 Title: .0300

Sections added by the House changing the name of the State Board of Agricultural Research to the State Board of Agricultural Research and Education are changed to provide that the name of the board be the State Board of Agricultural Research and Extension.

Total general fund changes - House Bill No. 1021

	EXECUTIVE BUDGET	HOUSE VERSION	INCREASE (DECREASE)	SENATE VERSION
Upper Great Plains Transportation Institute NDSU Extension Service Northern Crops Institute Agricultural Experiment Station	\$487,386 13,099,114 668,034 <u>33,662,746</u>	\$482,420 12,707,207 662,091 33,063,438	\$110,000 <u>100,000</u>	\$482,420 12,817,207 662,091 33,163,438
Total general fund	\$47,917,280	\$46,915,156	\$210,000	\$47,125,156

# 1999 HOUSE APPROPRIATIONS

CONFERENCE COMMITTEE

HB 1021

#### 1999 CONFERENCE COMMITTEE MINUTES

#### BILL/RESOLUTION NO. 1021

Appropriations Committee

☐ Conference Committee

Hearing Date April 7, 1999

Tape Number	Side A	Side B	Meter #	
1	X		0-end	
Committee Clerk Signature ask Daws				

#### Minutes:

**CHAIRMAN LLOYD** opened the conference committee meeting on HB 1021.

1A: 0.5 SEN. SOLBERG explained the Senate changes to the bill.

**1A:** 6.1 **REP. LLOYD** brought up the \$100,000 intended for Dairy Diagnostic Teams, and asked where the funds would come from. Sharon Anderson, NDSU Ext. Service, replied that the amendment says that \$100,000 will come from the state.

<u>1A: 7.0 SEN. BOWMAN</u> said that the testimony from the dairy farmers was very impressive upon the Senate. The money would be well spent. Rep. Lloyd said that the House felt the project was already in process, and the dairymen need to fund some of their own education.

<u>1A: 8.1 SEN. SOLBERG</u> said that \$25,000 a year would not cover much. Hopefully they can use it as seed money to go out and raise another \$150,000.

1A: 8.7 REP. LLOYD noted that this came in a separate bill and the House brought it over to HB 1021.

1A: 9.1 REP. NICHOLS said the \$50,000 would work well.

1A: 9.5 REP. LLOYD said he did not see the 4-H funds as a problem. He asked if that required \$4000 general funds. Sen. Solberg said yes.

**1A:** 10.1 REP. LLOYD asked about the Soil Conservation Leadership initiative. Sen. Solberg said that two years ago there was a battle when they were brough into the Extension Service. The state committee had found a lack of leadership. They had requested \$140,000, and the Senate got them down to \$60,000. The intent is that this is for leadership training with district committees.

<u>1A: 12.3 REP. LLOYD</u> asked if the Senate had considered combining training with NRCS. Sen. Solberg said this had not been considered.

1A: 13.2 REP. NICHOLS said the Soil Conservation committee did need help with leadership and organization.

1A: 13.8 SEN. BOWMAN said there is a need for supervision, and also for grant money.

1A: 14.5 REP. LLOYD said the transfer is understandable, and it would not be a problem.

<u>1A: 14.8 SEN. SOLBERG</u> brought up the issue of the name change for SBAR. The Senate wanted to keep it as Extension, not Education. Rep. Lloyd said he proposed the word education because that is what the Extension service does. The government's attitude toward this is going that direction as well. The word education imparts more of cooperation between research and education.

1A: 16.5 SEN. BOWMAN said Rep. Lloyd had a good point, but asked what it would cost to change that on all the forms and published information. Rep. Lloyd said the one word is only for SBAR, not the Extension Service.

1A: 18.4 SEN. SOLBERG asked if this would get confused with higher education, and he expressed his concern about the identity of SBAR. Rep. Lloyd said it is time to change the identity in concert with federal government views.

Appropriations Conference Committee HB 1021 April 7, 1999 Page 2

<u>1A: 20.1 REP. NICHOLS</u> asked if the number of FTEs stayed the same. Sen. Solberg said it did. The one the House took out, the Senate put back in. It amounted to \$90,000 in Federal funds.

<u>1A: 21.2 REP. LLOYD</u> said the position the House removed would not service as well now as it would out in the state. That individual works more on row crops. Those crops are very well funded with personnel. Other crops are not funded with that caliber of personnel. Sen. Solberg agreed with that.

1A: 25.0 REP. LLOYD said when he held that position himself he was the only person in plant pathology extension. There were no consultants. No there are 60. They are doing a good job of providing information to the public.

**1A: 27.0 REP. LLOYD** explained the House reasons for reducing equipment funding. Looking at the requested list, they felt they could take out \$175,000. Sen. Solberg replied that the Senate objective in restoring \$75,000 was to put equipment in the fields.

1A: 29.7 SEN. TOMAC said his concern was that if 2/3 of the request was for computers, the people in the field need state of the art equipment. By time they order the equipment there will be a whole new wave of computers. The cost will not actually go down. Rep. Lloyd replied that every year the price keeps coming down approximately 10%.

1A: 31.9 SEN. SOLBERG said that even taking that out, the Senate restoration is still in the ballpark.

1A: 33.1 REP. LLOYD brought up the Mid-Size Farms initiative and the Value-Added Center initiative. He said the House did not think they should take the money without taking the initiatives. However, this would not be a big problem. Sen. Solberg said they did not argue with the money. But the did not want to move around SBAR initiatives. The felt that since SBAR has the responsibility of setting initiatives, they should be allowed to determine their own priorities.

<u>1A: 35.5 SEN. TOMAC</u> asked for a rundown of the points where the Senate and the House still differed. Rep. Lloyd noted the following: Changing SBAR from Extension to Education, reinstating \$75,000 for equipment, the two FTEs, Upper Great Plains Transportation Institute (UGPTI), and biotechnology.

<u>1A: 37.7 REP. LLOYD</u> asked if UGPTI was supposed to find the \$100,000. Sen. Solberg said yes. They have a 37% increase in funds, much of which is federal funds.

<u>1A: 38.9 REP. LLOYD</u> asked why the study could not be done for much less. Sen. Solberg agreed with this, and asked what geographic area was involved. Rep. Lloyd replied that it was from I29 up to Hillsboro.

1A: 40.3 SEN. TOMAC asked what the House position was on that. Rep. Lloyd said they never took a position on it.

1A: 42.6 SEN. TOMAC asked what type of match is required. Celeste Kubasta, OMB, said that none is required. 1A: 45.0 REP. LLOYD asked if Sen. Solberg would check on the source of T21 funds. Sen. Solberg said he would.

1A: 47.5 REP. LLOYD said he would like further information on biotechnology.

The meeting was adjourned.

#### 1999 CONFERENCE COMMITTEE MINUTES

#### BILL/RESOLUTION NO. HB 1021

Appropriations Committee

☐ Conference Committee

Hearing Date April 8, 1999

Tape Number	Side A	Side B	Meter #
1	X		0-30.0
Committee Clerk Signa	nture (aSey Dan	ñS	

#### Minutes:

#### CHAIRMAN LLOYD called the meeting to order

- <u>0.4 SEN. SOLBERG</u> stated that the committee should be looking into biotechnologically enhanced crops, and moving forward with it.
- 1.0 REP. LLOYD said the Ag Econ department would have to work very closely with research personnel on this issue.
- **2.6 SEN. BOWMAN** said there are two parts to this. The first is the development of specialty crops. The second is the marketing of the product. The combination will eventually pay off ND producers.
- 3.5 REP. LLOYD asked if there had been discussion in the Senate regarding the involvement of major partners.
- <u>3.7 SEN. SOLBERG</u> replied that they would be working together with partners in some way. Section 13 ties in with this.
- **4.8 REP. LLOYD** asked if this was just for crops, or whether it included any livestock.
- **<u>5.0 SEN. SOLBERG</u>** replied that it is basically just for crops. The project needs to start somewhere.
- **5.3 REP. LLOYD** asked where the Senate wants to go with this.
- **5.5 SEN. TOMAC** replied that they want to leave it right where it is.
- 5.8 REP. LLOYD asked about the funding.
- **5.9 SEN. SOLBERG** replied that the funding is never adequate, but he feels \$200,000 more would be good.
- **6.0 SEN. BOWMAN** said it is best to walk slowly before getting in too deep. They must be prudent to begin with.
- **6.4 REP. LLOYD** asked Cole Gustafson, NDSU Dean of Research, to give his input.
- **6.8 COLE GUSTAFSON** said that SBAR felt that due to the fiscal situation of the state they would not pursue the issue. But this is a very positive effort. There has been a turn around in breeding programs.
- 7.9 REP. LLOYD asked how Gustafson envisioned partners in this effort.
- **8.2 GUSTAFSON** replied that they work closely with the Wheat Commission and other major agricultural companies. With respect to the private sector, he was uncertain about that. They are just starting to talk with them. They need each other's resources and information.
- 9.0 REP. LLOYD asked how the \$100,000 would be used.
- <u>9.3 GUSTAFSON</u> replied that it would be used by every department on campus. It would first go to the Ag Econ department. There will be a need for input from the plant science people to make sure they are on the right track.
- 11.2 SEN. SOLBERG asked if there was a huge future in row crops and oil crops. Mr. Gustafson replied that there is. This analysis will look primarily at crops grown in ND.
- 11.9 SEN. SOLBERG asked if this can get off base and get running. Mr. Gustafson replied that it could. This is a good start.
- **12.5 REP. LLOYD** asked if there is any additional information on the Upper Great Plains Transportation Institute. Sen. Solberg replied that there is not.

Appropriations Conference Committee April 8, 1999 HB 1021 Page 2

13.3 SEN. SOLBERG said that \$422,500 was added for 4-H. Rep. Lloyd replied that this was fine.

13.5 REP. LLOYD said he will stand firm on changing the name of SBAR to add the word Education. Sen. Solberg replied that this would not be a huge problem. Sen. Bowman added that it is a part of Extension. Maybe it is time for the change, and it may wake some people up. Sen. Tomac felt that Rep. Lloyd had a good argument.

14.5 REP. LLOYD asked if the committee would review the two positions in question. Sen. Solberg said that the individual on staff is doing an excellent job. The one added in the governor's budget was 100% general funds, whereas the new position would be at one of the stations out in the state. The factor was freeing up the \$90,000 of federal funds. He would hope that more positions will be out in the stations, but felt that the individual is doing a fine job.

17.9 SEN. BOWMAN brought up the roads and what trucks they can and cannot handle.
19.7 SEN. TOMAC and Rep. Lloyd requested more information from the DOT.

The meeting was adjourned.

#### 1999 CONFERENCE COMMITTEE MINUTES

#### BILL/RESOLUTION NO. 1021

Appropriations Committee

☐ Conference Committee

Hearing Date April 9, 1999

Tape Number	Side A	Side B	Meter #			
1	X		0-15.0			
,						
Committee Clerk Signature Casey Daw						

Minutes:

SB 1021

CHAIRMAN LLOYD opened the meeting on HB 1021.

1A: 0.5 SEN. SOLBERG: I did some checking with the DOT, and this \$188,000 is to be used only for this type of planning. It cannot be used for highway construction, bicycle paths, or whatever. That is a strategic planning and research grant. They do require a 20% match, which would be approximately \$37,500 that the Upper Great Plains Transportation Institute would have to come up with other than federal dollars. I also asked the director if they could do it for less. They feel \$100,000 would do the study.

1A: 1.5 REP. LLOYD: Is there any other discussion on UGPTI? Are we in agreement on that?

1A: 1.8 SEN. SOLBERG: If the committee would feel supportive of it, I think we could come up with \$37,500 for the match. I'll just throw that open for discussion.

1A: 2.4 SEN. BOWMAN: I have a real problem with that. How many times do they have to go to town to spend \$230,000? Where are they going to study this? Are they going to study it in New York or in Bismarck?

**1A:** 3.5 SEN. SOLBERG: I don't know a whole lot about how their studies are carried out. Whether they're in the field, railroad, highway. I've had a lot of contacts with grain elevators, some farmers, especially the ones south of 194 on east, concerned about the city.

<u>1A: 4.1 SEN. BOWMAN</u>: My concern is that if we use \$37,000 match, I'd like to ask for some kind of an accounting of what they do with this money and how they spend it. Maybe they're going to meet every day, I don't know. If you got money and you're spending it on a study, I'd like to see that it's being spent wisely. I think it's a major undertaking to coordinate the transportation needs of our commodity groups. I do support it, but I would like to ask for some kind of accounting procedure.

1A: 5.0 SEN. SOLBERG: I would like to leave the \$37,500 on the table for now. See where we're at on the rest of the budget, what kind of wiggle room we have and so forth.

1A: 5.3 SEN. TOMAC: Are we making it contingent on them raising the other \$62,500?

1A: 5.4 SEN. SOLBERG: Yes.

1A: 5.5 SEN. TOMAC: So they're raising 62.5, we're putting in 37.5, and the DOT's putting in 188?

1A: 5.6 SEN. SOLBERG: Yes, that's exactly right. They've got to have their 62.5 in place.

1A: 5.7 SEN. TOMAC: Then I think that's a fair approach to this. With respect to Sen. Bowman's concern, I'm not exactly sure what they're studying, but the other transportation studies I have read have a lot to do with logistical numbers of how many bushels go this way, how many go that way, minor use crops, containerized shipments, whether we need to start building highways, how thick. It isn't just task force meetings, it's a lot of expert consulting fees that go into this.

1A: 8.3 REP. LLOYD: The other area we were interested in looking at was the two FTEs. Is there any discussion on that?

1A: 8.9 SEN. BOWMAN: I asked for, and received from the Extension, a description of what this gentleman does down there. I agree that we should continue to move toward the field, that we should continue to get the information and the expertise out there. But we also need to keep those positions whereby the information is gathered to move it to the field.

1A: 9.6 REP. LLOYD: I might just comment that Dr. Anderson, Extension Director, shared with me some information yesterday that you may find interesting as well. Back in 1983 there were 41 Ag State Specialists at NDSU, and 7 additional out in the field, for a total of 48. Today there are 34 at NDSU, and 14 out in the state. The discrepency in the whole thing, these are all FTEs, they aren't bodies. There are more bodies than this, because of the shared responsibilities between Extension and Research. It does show the original intent of the Extension is cooperating in trying to fulfill the original intent. I think we're headed in the right direction. I was making an attempt to continue to do that.

<u>1A: 11.2 REP. NICHOLS</u>: If I understand it correctly, the position that the Senate took does provide for more use of federal funds and less input from our own general fund. Is that not correct, if we were to go back and reverse these two positions?

**1A: 11.4 SEN. SOLBERG**: Yes, that is correct. The one we removed is all general fund money, which was \$156,688. The one we restored was \$90,129 special funds, and \$77,463 general funds.

**1A: 12.3 REP. NICHOLS**: If we took the Senate's position on these FTEs we'd be saving the general fund roughly \$80,000. Is that correct?

**1A: 12.5 SEN. SOLBERG**: We already spent it. So if we reversed it we'd have to come up with the money. That was where we found the \$75,000 of \$4,225 for the Burleigh/Morton County 4-H leader.

<u>1A: 13.3 REP. LLOYD</u>: We'll jump around here a little bit, I want to do this while it's on my mind. We talked about \$90,000 EARP money going into chemical pads. Did you want to make any further comment on that?

<u>1A: 13.6 SEN. SOLBERG</u>: I don't have anything else to add. The agreement was that they'd do three and finish one. The one to be finished would be at Minot, the other three would be determined by where the greatest need was. There is no determination on that Mr. Chairman.

**1A: 13.9 REP. LLOYD**: With that in mind then we'll go back to the Upper Great Plains. I would resist the addition of general funds into Upper Great Plains. I think they have enough money and enough latitude to do this study without injecting additional funds.

1A: 14.2 SEN. SOLBERG: If this is the only point we have left on our agreement, I would forgo that.

1A: 14.3 REP. LLOYD: I would entertain any motions at this time.

1A: 14.5 SEN. SOLBERG: I would move that the House acede to the Senate amendments and further amend. How does that sound Alan?

1A: 14.6 ALLEN KNUDSON, Legislative Council: The Senate would need to recede, and then amend.

<u>1A: 14.7 SEN. SOLBERG</u>: Ok, the Senate recede and amend. In our amendments, we add education back on SBAR rather than Extension.

1A: 15.0 REP. BOEHM: Second.

1A: 15.3 A roll call vote was taken and the motion carried unanimously.

The meeting was adjourned.

Date: 4-9-99 Roll Call Vote #: /

# 1999 CONFERENCE COMMITTEE ROLL CALL VOTES BILL/RESOLUTION NO. 1021

House Appropri	iations					
Subcommittee or Conference C						
Legislative Counci	l Amendment Num	ber _				
Action Taken	Senate re	Clde	+ .	further amen	d	
Motion Made By	Solberg		Sec By	conded Bolhr	2	
Represe	entatives	Yes	No	Senators	Yes	No
Represe		Yes	No	Senators Lloyd	Yes ×	No
	Σ	Yes X	No			No
Lloyd	an	Yes  X  X	No		X	No
Lloyd Bown	an	Yes X X	No No	Lloyd Boehm Nichols	X X	No
Lloyd Bown Toma	an	Yes X X	No	Lloyd Boehm Nichols	X X	No

If the vote is on an amendment, briefly indicate intent:

**Module No: HR-67-7043** 

Insert LC: 98021.0206

#### REPORT OF CONFERENCE COMMITTEE

HB 1021, as engrossed: Your conference committee (Sens. Solberg, Bowman, Tomac and Reps. Lloyd, Boehm, Nichols) recommends that the SENATE RECEDE from the Senate amendments on HJ pages 1113-1120, adopt amendments as follows, and place HB 1021 on the Seventh order:

That the Senate recede from its amendments as printed on pages 1113-1120 of the House Journal and pages 972-979 of the Senate Journal and that Engrossed House Bill No. 1021 be amended as follows:

Page 1, line 17, replace "24,744,286" with "24,795,190"

Page 1, line 18, replace "3,546,836" with "3,656,836"

Page 1, line 19, replace "432,850" with "517,850"

Page 1, line 21, replace "29,303,972" with "29,549,876"

Page 1, line 22, replace "16,596,765" with "16,732,669"

Page 1, line 23, replace "12,707,207" with "12,817,207"

Page 2, line 10, replace "2,850,752" with "3,076,552"

Page 2, line 11, replace "2,211,908" with "2,268,108"

Page 2, line 12, replace "250,000" with "256,000"

Page 2, line 14, replace "6,462,660" with "6,750,660"

Page 2, line 15, replace "5,980,240" with "6,268,240"

Page 2, line 19, replace "38,080,539" with "37,935,339"

Page 2, line 20, replace "4,163,330" with "4,193,330"

Page 2, line 22, replace "658,800" with "748,800"

Page 2, line 25, replace "46,735,415" with "46,710,215"

Page 2, line 26, replace "20,463,068" with "20,553,068"

Page 2, line 27, replace "26,272,347" with "26,157,147"

Page 2, line 30, replace "2,268,116" with "2,314,316"

Page 2, line 31, replace "1,297,963" with "1,379,963"

Page 3, line 1, replace "1,220,740" with "1,297,740"

Page 3, line 5, replace "2,425,452" with "2,435,452"

Page 3, line 6, replace "10,712,500" with "10,927,700"

Page 3, line 8, replace "6,791,091" with "7,006,291"

Page 3, replace lines 11 through 14 with:

### REPORT OF CONFERENCE COMMITTEE (420) April 12, 1999 1:27 p.m.

Module No: HR-67-7043

Insert LC: 98021.0206

"Agronomy seed farm

\$1,202,339"

Page 3, line 16, replace "46,915,156" with "47,125,156"

Page 3, line 17, replace "48,571,778" with "49,085,682"

Page 3, line 18, replace "95,486,934" with "96,210,838"

Page 3, line 28, after "available" insert "and may be expended"

Page 3, line 29, remove ", and may be expended, as directed by the"

Page 3, remove line 30

Page 3, line 31, remove "one-time expenditures"

Page 4, line 6, after "research" insert "and education"

Page 4, after line 9, insert:

"SECTION 6. INITIATIVES - TRANSFER AUTHORITY. Upon approval of the state board of agricultural research and education, the director of the North Dakota agricultural experiment station may transfer appropriation authority of up to \$227,335 from subdivision 4 to subdivision 1 of section 1 of this Act and shall notify the office of management and budget within ten days."

Page 4, replace lines 26 through 30 with:

"SECTION 10. ESTIMATED INCOME - MAIN RESEARCH CENTER - ENVIRONMENT AND RANGELAND PROTECTION FUND. The estimated income line item in subdivision 4 of section 1 of this Act includes the sum of \$90,000, or so much of the sum as may be necessary, from the environment and rangeland protection fund for the purpose of constructing chemical handling facilities at select research centers for the biennium beginning July 1, 1999, and ending June 30, 2001.

SECTION 11. ESTIMATED INCOME - TRANSPORTATION INSTITUTE - DEPARTMENT OF TRANSPORTATION. The estimated income line item in subdivision 3 of section 1 of this Act includes \$188,000 of federal strategic planning and research funds from the department of transportation. The director of the department of transportation may not transfer the \$188,000 of federal funds until the director of the upper great plains transportation institute has certified to the department of transportation that the institute has raised \$100,000 to supplement the federal funds available from the department of transportation for the strategic freight transportation analysis for the biennium beginning July 1, 1999, and ending June 30, 2001.

SECTION 12. LEGISLATIVE INTENT - SOIL CONSERVATION DISTRICT SUPERVISOR TRAINING. It is the intent of the fifty-sixth legislative assembly that the NDSU extension service use the funding provided for the soil conservation leadership initiative only for providing training to soil conservation district supervisors and that the training address specific issues and concerns of the local district supervisors for the biennium beginning July 1, 1999, and ending June 30, 2001.

SECTION 13. STATE BOARD OF AGRICULTURAL RESEARCH AND EDUCATION - REPORT TO LEGISLATIVE COUNCIL. The state board of agricultural research and education shall report periodically to the legislative council or a committee designated by the council on its activities associated with researching and

#### REPORT OF CONFERENCE COMMITTEE (420) April 12, 1999 1:27 p.m.

Insert LC: 98021.0206

Module No: HR-67-7043

CONFERENCE

developing market opportunities for biotechnologically enhanced crops for the biennium beginning July 1, 1999, and ending June 30, 2001."

Page 6, line 29, overstrike "two" and insert immediately thereafter "one"

Page 7, line 6, overstrike "two" and insert immediately thereafter "one"

Page 7, line 31, replace "services" with "service"

Renumber accordingly

#### STATEMENT OF PURPOSE OF AMENDMENT:

DEPARTMENT 627 - UPPER GREAT PLAINS TRANSPORTATION INSTITUTE

CONFERENCE COMMITTEE - This amendment makes the following changes:

	EXECUTIVE BUDGET	HOUSE VERSION	CONFERENCE COMMITTEE CHANGES	CONFERENCE COMMITTEE VERSION	SENATE VERSION	COMPERENCE COMMITTEE COMPARISON TO SENATE VERSION
Salaries and wages Operating expenses Equipment	\$2,876,922 2,211,908 250,000	\$2,850,752 2,211,908 250,000	\$225,800 56,200 6,000	\$3,076,552 2,268,108 256,000	\$3,076,552 2,268,108 256,000	
Grants	1,150,000	<u>1,150,000</u>		1,150,000	<u>1,150,000</u>	
Total all funds	\$6,488,830	\$6,462,660	\$288,000	\$6,750,660	\$6,750,660	\$0
Less special funds	6,001,444	5,980,240	288,000	6,268,240	6,268,240	
General fund	\$487,386	\$482,420	\$0	\$482,420	\$482,420	\$0
FTE	23.00	23.00	2.00	25.00	25.00	0.00

Detail of Conference Committee changes to the House version includes:

	ADD FUNDING FOR STRATEGIC FREIGHT ANALYSIS 1	TOTAL CONFERENCE COMMITTEE CHANGES
Salaries and wages Operating expenses Equipment Grants	\$225,800 56,200 6,000	\$225,800 56,200 6,000
Total all funds	\$288,000	\$288,000
Less special funds	288,000	288,000
General fund	\$0	\$0
FTE	2.00	2.00

Conference Committee changes narrative:

**DEPARTMENT 630 - NDSU EXTENSION SERVICE** 

CONFERENCE COMMITTEE - This amendment makes the following changes:

Adds funding for conducting a strategic freight transportation analysis. Funding of \$188,000 is to be provided by the Department of Transportation from federal Strategic Planning and Research (SPR) funds and the remaining \$100,000 is to be raised by the Transportation Institute. A section is added providing that the director of the Department of Transportation may not provide the \$188,000 of federal funds until the institute has raised its \$100,000 for the analysis. The Senate also made these changes.

# REPORT OF CONFERENCE COMMITTEE (420) April 12, 1999 1:27 p.m.

Insert LC: 98021.0206

Module No: HR-67-7043

	EXECUTIVE BUDGET	HOUSE VERSION	CONFERENCE COMMITTEE CHANGES	CONFERENCE COMMITTEE VERSION	SENATE VERSION	CONFERENCE COMMITTEE COMPARISON TO SENATE VERSION
Salaries and wages Operating expenses Equipment Grants	\$25,121,626 3,564,436 625,640 560,000	\$24,744,286 3,546,836 432,850 580,000	\$50,904 110,000 85,000	\$24,795,190 3,656,836 517,850 580,000	\$24,795,190 3,656,836 517,850 580,000	
Total all funds	\$29,871,702	\$29,303,972	\$245,904	\$29,549,876	\$29,549,876	\$0
Less special funds	16,772,588	16,596,765	135,904	16,732,669	16,732,669	<u>0</u>
General fund	\$13,099,114	\$12,707,207	\$110,000	\$12,817,207	\$12,817,207	\$0
FTE	267.50	266.80	1.00	267.80	267.80	0.00

Detail of Conference Committee changes to the House version includes:

	RESTORE FACULTY POSITION 1	RESTORE EQUIPMENT	RESTORE MIDSIZED FARMS INITIATIVE <sup>3</sup>	RESTORE FUNDING FOR VALUE-ADDED CENTER <sup>3</sup>	REMOVE UNDESIGNATED INITIATIVE FUNDING <sup>3</sup>	REMOVE CROP PROTECTION SPECIALIST
Salaries and wages Operating expenses Equipment Grants	\$157,592 10,000	75,000 2	\$70,309 10,100 5,290	\$31,636 7,500 2,500	(\$101,945) (17,600) (7,790)	(\$156,688) 4
Total all funds	\$167,592	\$75,000	\$85,699	\$41,636	(\$127,335)	(\$156,688)
Less special funds	90,129					
General fund	\$77,463	\$75,000	\$85,699	\$41,636	(\$127,335)	(\$156,688)
FTE	1.00	0.00	0.50	0.20	(0.70)	(1.00)
	ADD 4-H YOUTH POSITION	ADD FUNDING FOR DAIRY DIAGNOSTIC TEAMS	ADD FUNDING FOR SOIL CONSERVATION LEADERSHIP	TOTAL CONFERENCE COMMITTEE CHANGES		
Salaries and wages Operating expenses Equipment Grants	\$50,000 5	\$50,000 6	\$60,000 7	\$50,904 110,000 85,000		
Total all funds	\$50,000	\$50,000	\$60,000	\$245,904		
Less special funds	45,775			135,904		
General fund	\$4,225	\$50,000	\$60,000	\$110,000		
FTE	1.00	0.00	0.00	1.00		

Conference Committee changes narrative:

- 1 Restores 1 FTE undesignated faculty position removed by the House. The Senate also restored this position.
- Restores \$75,000 of the \$175,000 equipment funding reduction made by the House. The Senate also restored this funding.
- <sup>3</sup> Restores funding for the midsized farms initiative and value-added center initiative removed by the House and reduces initiative funding in undesignated areas by the same amount. The State Board of Agricultural Research and Education may determine the specific areas to reduce within the total funding available for the initiatives. The Senate also made these changes.
- 4 Removes 1 FTE crop protection specialist position added in the executive budget, the same as the Senate version.

### REPORT OF CONFERENCE COMMITTEE (420) April 12, 1999 1:27 p.m.

Module No: HR-67-7043

Insert LC: 98021.0206

<sup>5</sup> Adds funding for the 4-H youth position in Burleigh and Morton Counties, the same as the Senate version.

- Adds funding to develop and operate dairy diagnostic teams. The section added by the House providing that the NDSU Extension Service spend up to \$100,000 of its 1999-2001 appropriation for the dairy diagnostic teams is removed. The Senate also made these changes.
- Adds funding for the soil conservation leadership initiative. A section of legislative intent is added providing that this funding is to be used only for training local district supervisors and that the training address specific issues and concerns of the local district supervisors. The Senate also made these changes.

Section 3 of the bill is changed to allow the Agricultural Experiment Station, the NDSU Extension Service, the Upper Great Plains Transportation Institute, and the Northern Crops Institute to spend unspent general fund appropriation authority and excess income continued into the 2001-03 biennium for any types of expenditures, not only capital repairs and improvements, equipment, and one-time expenditures as provided in the House version. The Senate also made this change.

A section is added authorizing the director of the Agricultural Experiment Station, upon approval of the State Board of Agricultural Research and Education, to transfer up to \$227,335 of its appropriation to the NDSU Extension Service based on the agricultural initiatives prioritized by the State Board of Agricultural Research and Education. The Senate also added this section.

North Dakota Century Code Section 4-05.1-16 is amended to provide that the Ag Coalition and the advisory groups to the multicounty program units each submit one or more names to the Board of Higher Education for appointment of representatives to the State Board of Agricultural Research and Education. Current law provides that each of these groups submit two or more names to the board. The Senate also made this change.

The Conference Committee did not change the sections added by the House changing the name of the State Board of Agricultural Research to the State Board of Agricultural Research and Education. The Senate had changed the name of the board to the State Board of Agricultural Research and Extension.

Module No: HR-67-7043

Insert LC: 98021.0206

#### DEPARTMENT 640 - AGRICULTURAL EXPERIMENT STATION

CONFERENCE COMMITTEE - This amendment makes the following **ALL FUNDS** changes:

	EXECUTIVE BUDGET	HOUSE VERSION	CONFERENCE COMMITTEE CHANGES	CONFERENCE COMMITTEE VERSION	SENATE VERSION	CONFERENCE COMMITTEE COMPARISON TO SENATE VERSION
Main Research Center Dickinson Research Extension Center	\$47,349,738 2,232,735	\$46,735,415 2,268,116	(\$25,200) 46,200	\$46,710,215 2,314,316	\$46,710,215 2,314,316	
Central Grasslands Research Extension Center	1,363,529	1,297,963	82,000	1,379,963	1,379,963	
Hettinger Research	1,227,445	1,220,740	77,000	1,297,740	1,297,740	
Extension Center Langdon Research Extension Center	1,141,330	1,075,049		1,075,049	1,075,049	
North Central Research Extension Center	1,251,892	1,301,950		1,301,950	1,301,950	
Williston Research Extension Center	1,130,090	1,123,230		1,123,230	1,123,230	
Carrington Research Extension Center	2,450,704	2,425,452	10,000	2,435,452	2,435,452	
Agronomy Seed Farm	1,205,952	1,202,339		1,202,339	1,202,339	
Total all funds	\$59,353,415	\$58,650,254	\$190,000	\$58,840,254	\$58,840,254	\$0
FTE	418.10	416.35	0.00	416.35	416.35	0.00

Detail of Conference Committee ALL FUNDS changes to the House version includes:

	REALLOCATE FUNDING FOR RANGE INITIATIVE <sup>1</sup>	REALLOCATE OPERATING EXPENSES REDUCTIONS <sup>2</sup>	RESTORE MIDSIZED FARMS INITIATIVE	RESTORE FUNDING FOR VALUE-ADDED CENTER	REMOVE UNDESIGNATED INITIATIVES FUNDING	ADD FUNDING FOR CHEMICAL FACILITIES
Main Research Center Dickinson Research Extension Center Central Grasslands Research Extension Center Hettinger Research Extension Center Langdon Research Extension Center North Central Research Extension Center Williston Research Extension Center Carrington Research Extension Center Agronomy Seed Farm	(\$190,200) 36,200 77,000 77,000	(\$25,000) 10,000 5,000	\$125,163 <sup>3</sup>	\$102,814 3	(\$227,977) 3	\$90,000 4
Total all funds	\$0	\$0	\$125,163	\$102,814	(\$227,977)	\$90,000
FTE	0.00	0.00	1.00	0.75	(1.75)	0.00
	ADD FUNDING FOR BIOTECH CROPS	TOTAL CONFERENCE COMMITTEE CHANGES				
Main Research Center Dickinson Research Extension Center Central Grasslands	\$100,000 5	(\$25,200) 46,200 82,000				
Research Extension Center Hettinger Research Extension Center Langdon Research Extension Center North Central Research Extension Center Williston Research Extension Center		77,000				
Carrington Research Extension Center Agronomy Seed Farm		10,000				
Total all funds	\$100,000	\$190,000				

# REPORT OF CONFERENCE COMMITTEE (420) April 12, 1999 1:27 p.m.

Module No: HR-67-7043

Insert LC: 98021.0206

FTE

0.00

0.00

This amendment makes the following **GENERAL FUND** changes:

# REPORT OF CONFERENCE COMMITTEE (420) April 12, 1999 1:27 p.m.

Module No: HR-67-7043

Insert LC: 98021.0206

	EXECUTIVE BUDGET	HOUSE VERSION	CONFERENCE COMMITTEE CHANGES	CONFERENCE COMMITTEE VERSION	SENATE VERSION	CONFERENCE COMMITTEE COMPARISON TO SENATE VERSION
Main Research Center Dickinson Research Extension Center	\$26,793,360 1,468,109	\$26,272,347 1,503,592	(\$115,200) 46,200	\$26,157,147 1,549,792	\$26,157,147 1,549,792	
Central Grasslands Research Extension Center	841,086	775,520	82,000	857,520	857,520	
Hettinger Research	732,281	726,792	77,000	803,792	803,792	
Extension Center Langdon Research	919,578	853,985		853,985	853,985	
Extension Center North Central Research	731,532	782,716		782,716	782,716	
Extension Center Williston Research Extension Center	847,928	841,226		841,226	841,226	
Carrington Research Extension Center	1,328,872	1,307,260	10,000	1,317,260	1,317,260	
Agronomy Seed Farm			-			
Total general fund	\$33,662,746	\$33,063,438	\$100,000	\$33,163,438	\$33,163,438	\$0

### Detail of Conference Committee **GENERAL FUND** changes to the House version includes:

	REALLOCATE FUNDING FOR RANGE INITIATIVE <sup>1</sup>	REALLOCATE OPERATING EXPENSES REDUCTIONS <sup>2</sup>	RESTORE MIDSIZED FARMS INITIATIVE	RESTORE FUNDING FOR VALUE-ADDED CENTER	REMOVE UNDESIGNATED INITIATIVES FUNDING	ADD FUNDING FOR CHEMICAL FACILITIES <sup>4</sup>
Main Research Center Dickinson Research Extension Center Central Grasslands Research Extension	(\$190,200) 36,200 77,000	(\$25,000) 10,000 5,000	\$125,163 <sup>3</sup>	\$102,814 <sup>3</sup>	(\$227,977) <sup>3</sup>	
Center Hettinger Research Extension Center Langdon Research Extension Center North Central Research Extension Center Williston Research Extension Center Carrington Research Extension Center Carronomy Seed Farm	77,000	10,000				
Total general fund	\$0	\$0	\$125,163	\$102,814	(\$227,977)	\$0
	ADD FUNDING FOR BIOTECH CROPS	TOTAL CONFERENCE COMMITTEE CHANGES				
Main Research Center Dickinson Research Extension Center Central Grasslands Research Extension Center	\$100,000 5	(\$115,200) 46,200 82,000				
Hettinger Research Extension Center Langdon Research Extension Center North Central Research Extension		77,000				
Center Williston Research Extension Center Carrington Research Extension Center Agronomy Seed Farm		10,000				
Total general fund	\$100,000	\$100,000				

### REPORT OF CONFERENCE COMMITTEE (420) April 12, 1999 1:27 p.m.

Insert LC: 98021.0206

Module No: HR-67-7043

<sup>1</sup> Reallocates funding for the range initiative from the Main Research Center to the Dickinson, Central Grasslands, and Hettinger Extension Centers as follows (the Senate also made this change):

	MAIN RESEARCH CENTER	DICKINSON RESEARCH EXTENSION CENTER	CENTRAL GRASSLANDS RESEARCH EXTENSION CENTER	HETTINGER RESEARCH EXTENSION CENTER	TOTAL
Salaries and wages Operating expenses	(\$145,200) (45,000)	\$30,000 <u>6,200</u>	\$60,000 <u>17,000</u>	\$60,000 17,000	\$4,800 (4,800)
Total general fund	(\$190,200)	\$36,200	\$77,000	\$77,000	\$0

- <sup>2</sup> Reallocates operating expenses reductions made by the House to the Dickinson, Central Grasslands, and Carrington Extension Centers to the Main Research Center. The Senate also made this change.
- Restores funding for the midsized farms initiative and the value-added center initiative removed by the House and reduces initiative funding in undesignated areas by the same amount. The State Board of Agricultural Research and Education may determine the specific areas to reduce within the total funding available for the initiatives. The Senate also made these changes. Detail of these changes includes:

	MIDSIZED FARMS INITIATIVE	VALUE-ADDED CENTER INITIATIVE	UNDESIGNATED INITIATIVES	INCREASE (DECREASE)
Salaries and wages Operating expenses	\$111,111 14,052	\$52,616 50,198	(\$163,727) (64,250)	\$0 <u>0</u>
Total	\$125,163	\$102,814	(\$227,977)	\$0
FTE	1.00	0.75	(1.75)	0.00

- Adds funding from the environment and rangeland protection fund for constructing chemical handling facilities at the Main Research Center or branch research centers as selected by the State Board of Agricultural Research and Education. It is anticipated that the funds provided will complete one facility that is partially built and will construct three additional facilities. The Senate also made this change.
- Adds operating expenses funding for an initiative to research and develop market opportunities for biotechnologically enhanced crops in North Dakota. A section is added providing that the State Board of Agricultural Research and Education report to an interim Legislative Council committee during the 1999-2000 interim on its activities associated with this initiative. The Senate also made these changes.

The Agronomy Seed Farm appropriation is changed from a specific line item appropriation to a lump sum appropriation, the same as the Senate version.

Section 3 of the bill is changed to allow the Agricultural Experiment Station, the NDSU Extension Service, the Upper Great Plains Transportation Institute, and the Northern Crops Institute to spend unspent general fund appropriation authority and excess income continued into the 2001-03 biennium for any types of expenditures, not only capital repairs and improvements, equipment, and one-time expenditures as provided in the House version. The Senate also made this change.

A section is added authorizing the director of the Agricultural Experiment Station, upon approval of the State Board of Agricultural Research and Education, to transfer up to \$227,335 of its appropriation to the NDSU Extension Service based on the agricultural initiatives prioritized by the State Board of Agricultural Research and Education. The Senate also added this section.

# REPORT OF CONFERENCE COMMITTEE (420) April 12, 1999 1:27 p.m.

Module No: HR-67-7043

Insert LC: 98021.0206

North Dakota Century Code Section 4-05.1-16 is amended to provide that the Ag Coalition and the advisory groups to the multicounty program units each submit one or more names to the Board of Higher Education for appointment of representatives to the State Board of Agricultural Research and Education. Current law provides that each of these groups submit two or more names to the board. The Senate also made this change.

The Conference Committee did not change the sections added by the House changing the name of the State Board of Agricultural Research to the State Board of Agricultural Research and Education. The Senate had changed the name of the board be the State Board of Agricultural Research and Extension.

Total general fund changes - House Bill No. 1021

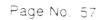
	EXECUTIVE BUDGET	HOUSE VERSION	INCREASE (DECREASE)	CONFERENCE COMMITTEE VERSION	SENATE VERSION	CONFERENCE COMMITTEE COMPARISON TO SENATE VERSION
Upper Great Plains Transportation Institute	\$487,386	\$482,420		\$482,420	\$482,420	
NDSU Extension Service Northern Crops Institute	13,099,114 668.034	12,707,207 662.091	\$110,000	12,817,207 662.091	12,817,207 662,091	
Agricultural Experiment Station	33,662,746	33,063,438	100,000	33,163,438	33,163,438	
Total general fund	\$47,917,280	\$46,915,156	\$210,000	\$47,125,156	\$47,125,156	\$0

Engrossed HB 1021 was placed on the Seventh order of business on the calendar.

1999 TESTIMONY

HB 1021

FEBRUARY 19. 1999



DIFF

# LEGISLATIVE COUNCIL ANALYSIS OF LEGISLATIVE CHANGES AS OF FEBRUARY 18, 1999

BILL #/DEPARTHENT	LINE	EXECUTIVE BUDGET	HOUSE VERSION	HOUSE DIFF TO EXEC BUDGET	SENATE VERSION	SENATE DIFF TO EXEC BUDGET	BETWEEN HOUSE & SENATE
HB1021 TRANSPORTATION INSTITUTE	SALARIES AND WAGE OPERATING EXPENSE EQUIPMENT GRANTS	2,876,922 2,211,908 250,000 1,150,000	2,850,752 2,211,908 250,000 1,150,000	26,170- 0+ 0+ 0+	0 0	0+ 0+ 9+ 0+	0+ 0+ 0+
627	TOTAL SPECIAL FUNDS GENERAL FUND	6,488,830 6,001,444 487,386	6,462,660 5,980,240 482,420	26,170- 21,204- 4,966-	0 0 0	0+ 0+ 0+	0+ 0+ 0+
HB1021 EXTENSION SERVICE	SALARIES AND WAGE OPERATING EXPENSE EQUIPMENT GRANTS	25,121,626 3,564,436 625,640 560,000	24,744,286 3,546,836 432,850 580,000	377,340- 17,600- 192,790- 20,000+	0 0 0	0+ 0+ 0+ 0+	0+ 0+ 0+ 0+
630	TOTAL SPECIAL FUNDS GENERAL FUND	29,871,702 16,772,588 13,099,114	29,303,972 16,596,765 12,707,207	567,730- 175,823- 391,907-	0 0 0	0+ 0+ 0+	9+ 0+ 0+
HB1021 NORTHERN CROPS INSTITUTE	SALARIES AND WAGE OPERATING EXPENSE EQUIPMENT	887,945 118,650 72,880	878,518 118,650 72,880	9,427- 0+ 0+	0 0 8	0+ 0+ 0+	0+ 0+ 0+
638	TOTAL SPECIAL FUNDS GENERAL FUND	1,079,475 411,441 668,034	1,070,048 407,957 662,091	9,427- 3,484- 5,943-	9 9 0	0+ 0+ 0+	0+ 0+ 0+
HB1021 MAIN RESEARCH STATION	SALARIES AND WAGE OPERATING EXPENSE EQUIPMENT MAJOR IMPROVEMENT GRANTS ANIMAL REPLACEMEN	38,630,612 4,227,580 1,532,746 658,890 2,000,000 300,000	38,080,539 4,163,330 1,532,746 558,800 2,000,000 300,000	550,073- 64,250- 0+ 0+ 0+	0 0 0 0	0+ 0+ 0+ 0+ 0+	9+ 9+ 9+ 9+ 9+
640	TOTAL SPECIAL FUNDS GENERAL FUND	47,349,738 20,556,378 26,793,360	46,735,415 20,463,968 26,272,347	614,323- 93,310- 521,013-	9 9	0+ 0+ 0+	0+ 9+ 9+



	BILL #/DEPARTMENT	LINE	EXECUTIVE BUDGET	HOUSE VERSION	HOUSE DIFF TO EXEC BUDGET	SENATE VERSION	SENATE DIFF TO EXEC BUDGET	DIFF BETWEEN HOUSE & SENATE
	HB1021	DICKINSON RESEARC	2,232,735	2,268,116	35,381+	0	9+	0+
	DICKINSON RESEARCH CENTER 641	TOTAL SPECIAL FUNDS GENERAL FUND	2,232,735 764,626 1,468,109	2,268,116 764,524 1,503,592	35,381+ 102- 35,483+	9 0 0	0+ 0+ 0+	0 + 0 + 0 +
	HB1021	CENTRAL GRASSLAND	1,363,529	1,297,963	65,566-	Θ	0+	0+
	CENTRAL GRASSLANDS RES. CTR. 642	TOTAL SPECIAL FUNDS GENERAL FUND	1,363,529 522,443 841,086	1,297,963 522,443 775,520	65,566- 0+ 65,566-	0 0 0	0+ 0+ 0+	0+ 0+ 0+
	HB1021	HETTINGER RESEARC	1,227,445	1,220,740	6,705-	Ð	0+	0+
HETTINGER RESEARCH CENTER 643	TOTAL SPECIAL FUNDS GENERAL FUND	1,227,445 495,1 <b>64</b> 732,281	1,220,740 493,948 726,792	6,705- 1,216- 5,489-	0 0 9	0+ 0+ 0+	0+ 0+ 0+	
	HB1021	LANGDON RESEARCH	1,141,330	1,075,049	66,281-	θ	9+	9+
LANGDON RESEARCH CENTER 644		TOTAL SPECIAL FUNDS GENERAL FUND	1,141,330 221,752 919,578	1,075,049 221,064 853,985	66,281- 688- 65,593-	9 9	0+ 0+	0+ 0+ 0+
	HB1921	NORTH CENTRAL RES	1,251,892	1,301,950	50,058+	θ	<del>0+</del>	9+
	NORTH CENTRAL RESEARCH CENTER 645	TOTAL SPECIAL FUNDS GENERAL FUND	1,251,892 520,360 731,532	1,301,950 519,234 782,716	50,058+ 1,126- 51,184+	9 9	0+ 0+ 0+	8÷ 9÷ 9÷
	HB1021	WILLISTON RESEARC	1,130,090	1,123,230	6,8 <del>60</del> -	θ	9+	θ+
	WILLISTON RESEARCH CENTER 646	TOTAL SPECIAL FUNDS GENERAL FUND	1,130,090 282,162 847,928	1,123,230 282,994 841,226	6,860- 158- 6,702-	9 9	8+ 8+ 8+	8+ 8+ 0+

FEBRUARY 19, 1999

# Page No. 59

### LEGISLATIVE COUNCIL ANALYSIS OF LEGISLATIVE CHANGES AS OF FEBRUARY 18, 1999

BILL #/DEPARTMENT	LINE	EXECUTIVE BUDGET	HOUSE VERS ION	HOUSE DIFF TO EXEC BUDGET	SENATE VERS ION	SENATE DIFF TO EXEC BUDGET	DIFF BETWEEN HOUSE & SENATE
HB1021 CARRINGTON RESEARCH CENTER	CARRINGTON RESEAR	2,450,704	2,425,452	25,252-	0	0+	0+
647	TOTAL SPECIAL FUNDS GENERAL FUND	2,450,704 1,121,832 1,328,872	2,425,452 1,118,192 1,307,260	25,252- 3,640- 21,612-	0 0 0	0+ 0+ 0+	0+ 0+ 0+
HB1021 AGRONOMY SEED FARM	SALARIES AND WAGE OPERATING EXPENSE EQUIPMENT MAJOR IMPROVEMENT	346,452 597,500 172,000 90,000	342,839 597,500 172,000 90,000	3,613- 0+ 0+ 0+	0 0 0	0+ 0+ 0+	0+ 0+ 0+ 0+
649	TOTAL SPECIAL FUNDS GENERAL FUND	1,205,952 1,205,952 0	1,202,339 1,202,339 0	3,613- 3,613- 0+	0 9	0+ 0+ 0+	0+ 0+ 0+
BILL TOTAL	TOTAL	96,793,422	95,486,934	1,306,488-	Θ	0+	0+
HB1021	SPECIAL FUNDS GENERAL FUND	48,876,142 47,917,280	48,571,778 46,915,156	304,364- 1,002,124-	9 9	0+ 0+	0+ 0+

#### STATEMENT OF PURPOSE OF AMENDMENT:

# DEPARTMENT 627 - UPPER GREAT PLAINS TRANSPORTATION INSTITUTE

HOUSE - This amendment makes the following changes:

	EXECUTIVE BUDGET	HOUSE CH <b>AN</b> GES	HOUSE VERSION
Salaries and wages Operating expenses Equipment Grants	\$2.876.922 2,211.908 250.000 1,150,000	(\$26.170)	\$2.850,752 2.211,908 250,000 1,150,000
Total all funds	\$6,488.830	(\$26,170)	\$6,462,660
Less special funds	6,001,444	(21,204)	5,980,240
General fund	\$487,386	(\$4.966)	\$482.420
FTE	23.00	0.00	23.00

Detail of House changes to the executive budget includes:

	REDUCE COMPENSATION PACKAGE TO 2/2	ADJUST HEALTH INSURANCE COST	TOTAL HOUSE CHANGES
Salaries and wages Operating expenses Equipment Grants	(\$32,727)	\$6,557	(\$26,170)
Total all funds	(\$32,727)	\$6,557	(\$26.170)
Less special funds	(26,911)	5,707	(21,204)
General fund	(\$5,816)	\$850	(\$4,966)
FTE	0.00	0.00	0.00

House changes narrative:

The bill is changed to allow the Upper Great Plains Transportation Institute to retain, beyond the close of the 1999-2001 biennium, any unspent general fund moneys appropriated to or excess income received by the agency during the 1999-2001 biennium. These funds may be used for capital repairs and improvements, equipment, and other one-time expenditures.

### **DEPARTMENT 630 - NDSU EXTENSION SERVICE**

HOUSE - This amendment makes the following changes:

	EXECUTIVE BUDGET	HOUSE CH <b>AN</b> GES	HOUSE VERSION
Salaries and wages Operating expenses Equipment Grants	\$25,121.626 3,564.436 625,640 560,000	(\$377.340) (17.600) (192.790) 20,000	\$24.744.286 3.546.836 432.850 580,000
Total all funds	\$29,871,702	(\$567,730)	\$29,303,972
Less special funds	16,772,588	(175,823)	16.596,765
General fund	\$13,099,114	(\$391.907)	\$12,707,207
FTE	267.50	(0.70)	266.80

#### Detail of House changes to the executive budget includes:

	REDUCE COMPENSATION PACKAGE TO 2/2	ADJUST HEALTH INSURANCE COST	ADD SHEEP EDUCATION POSITION	REMOVE MIDSIZED FARMS INITIATIVE 1	REMOVE FUNDING FOR VALUE-ADDED CENTER 2	REMOVE FACULTY POSITION
Salaries and wages Operating expenses Equipment Grants	(\$329,995)	\$80,546	\$131,646	(\$70,309) (10.100) (5.290)	(\$31,636) (7.500) (2,500)	(\$157,592) (10,000)
Total all funds	(\$329,995)	\$80,546	\$131,646	(\$85,699)	(\$41,636)	(\$167,592)
Less special funds	(118,986)	33,292				(90, 129)
General fund	(\$211,009)	\$47,254	\$131,646	(\$85,699)	(\$41,636)	(\$77,463)
FTE	0.00	0.00	1.00	(0.50)	(0.20)	(1.00)
	ADD FUNDING FOR SOIL CONSERVATION TECHNICIAN GRANTS	REDUCE EQUIPMENT	TOTAL HOUSE CHANGES			
Salaries and wages Operating expenses Equipment Grants	<u>\$20,000</u> 3	(\$175,000)	(\$377,340) (17,600) (192,790) 20,000			
Total all funds	\$20,000	(\$175,000)	(\$567,730)			
Less special funds			(175,823)			
General fund	\$20,000	(\$175,000)	(\$391,907)	•		
FTE	0.00	0.00	(0.70)			

#### House changes narrative:

- 1. Removes funding for the midsized farms initiative included in the executive budget.
- Removes funding for the value-added center which was proposed in the executive budget to be established at North Dakota State University.
- <sup>3</sup> Adds funding for soil conservation technician grants to provide the same funding level as the 1997-99 biennium.

The bill is changed to allow the NDSU Extension Service to retain, beyond the close of the 1999-2001 biennium, any unspent general fund moneys appropriated to or excess income received by the agency during the 1999-2001 biennium. These funds may be used for capital repairs and improvements, equipment, and other one-time expenditures.

Sections are added changing the name of the State Board of Agricultural Research to the State Board of Agricultural Research and Education, providing that the board control and administer the NDSU Extension Service in addition to the Agricultural Experiment Station, and providing that the extension service director is a voting member of the board and that the Agriculture Commissioner is a nonvoting member of the board.

Sections are added providing that the NDSU Extension Service appoint regional dairy diagnostic teams to assist dairy producers in the state. The NDSU Extension Service is to use up to \$100,000 of its 1999-2001 appropriation to develop and operate this program for the 1999-2001 biennium.

#### DEPARTMENT 638 - NORTHERN CROPS INSTITUTE

HOUSE - This amendment makes the following changes:

	EXECUTIVE BUDGET	HOUSE CH <b>AN</b> GES	HOUSE VERSION
Salaries and wages Operating expenses Equipment	\$887.945 118.650 72,880	(\$9,427)	\$878,518 118,650 72,880
Total all funds	\$1,079.475	(\$9,427)	\$1,070,048
Less special funds	411,441	(3.484)	407,957
General fund	\$668.034	(\$5,943)	\$662,091
FTE	8.00	0.00	8.00

#### Detail of House changes to the executive budget includes:

	REDUCE COMPENSATION PACKAGE TO 2/2	ADJUST HEALTH INSURANCE COST	TOTAL HOUSE CHANGES
Salaries and wages Operating expenses Equipment	(\$11,707)	\$2,280	(\$9,427)
Total all funds	(\$11,707)	\$2,280	(\$9,427)
Less special funds	(4,554)	1,070	(3,484)
General fund	(\$7,153)	\$1,210	(\$5,943)
FTE	0.00	0.00	0.00

#### House changes narrative:

The bill is changed to allow the Northern Crops Institute to retain, beyond the close of the 1999-2001 biennium, any unspent general fund moneys appropriated to or excess income received by the agency during the 1999-2001 biennium. These funds may be used for capital repairs and improvements, equipment, and other one-time expenditures.

### DEPARTMENT 640 - AGRICULTURAL EXPERIMENT STATION

### HOUSE - This amendment makes the following ALL FUNDS changes:

	EXECUTIVE BUDGET	HOUSE CH <b>ANGES</b>	HOUSE VERSION
Main Research Center Dickinson Research	\$47,349,738 2.232,735	(\$614.323) 35.381	\$46.735,415 2.268.116
Extension Center Central Grasslands Research Extension Center	1,363,529	(65.566)	1.297.963
Hettinger Research	1,227.445	(6.705)	1.220.740
Extension Center Langdon Research	1.141,330	(66,281)	1.075.049
Extension Center North Central Research Extension Center	1.251.892	50.058	1,301,950
Williston Research Extension Center	1,130.090	(6.860)	1,123,230
Carrington Research	2,450,704	(25, 252)	2,425.452
Extension Center Agronomy Seed Farm	1,205,952	(3,613)	1,202,339
Total all funds	\$59,353,415	(\$703,161)	\$58,650,254
FTE	418.10	(1.75)	416.35

# Detail of House ALL FUNDS changes to the executive budget includes:

	REDUCE COMPENSATION PACKAGE TO 2/2	ADJUST HEALTH INSURANCE COST	REMOVE MIDSIZED FARMS INITIATIVE	REMOVE FUNDING FOR VALUE-ADDED CENTER	REALLOCATE EQUIPMENT FUNDING 3	REDUCE OPERATING FUNDS 4
Main Research Center Dickinson Research Extension Center	(\$493,551) (17,108)	\$107,205 4,989	(\$125,163) 1	(\$102,814) 2	57,500	(10.000)
Central Grasslands Research Extension	(7.561)	1,995			(55,000)	(5,000)
Center Hettinger Research	(9,556)	2,851				
Extension Center Langdon Research	(8.561)	2,280			(60,000)	
Extension Center North Central Research Extension	(9.865)	2,423			57,500	
Center Williston Research	(9,140)	2,280				
Extension Center Carrington Research Extension Center	(19,813)	4,561				(10,000)
Agronomy Seed Farm	(4,468)	855				
Total all funds	(\$579,623)	\$129,439	(\$125,163)	(\$102,814)	\$0	(\$25,000)
FTE	0.00	0.00	(1.00)	(0.75)	0.00	0.00
	TOTAL HOUSE CHANGES					
Main Research Center	(\$614,323)					

	CHANGES
Main Research Center Dickinson Research	(\$614,323) 35,381
Extension Center Central Grasslands Research Extension Center	(65,566)
Hettinger Research	(6,705)
Extension Center Langdon Research Extension Center	(66,281)
North Central Research Extension Center	50,058
Williston Research	(6,860)
Extension Center Carrington Research Extension Center	(25,252)
Agronomy Seed Farm	(3.613)
Total all funds	(\$703,161)
FTE	(1.75)

This amendment makes the following GENERAL FUND changes:

	EXECUTIVE BUDGET	HOUSE CH <b>AN</b> GES	HOUSE VERSION
Main Research Center Dickinson Research Extension Center	\$26.793.360 1.468,109	( <b>\$</b> 521.013) 35.483	\$26,272.347 1.503.592
Central Grasslands Research Extension Center	841.086	(65.566)	775.520
Hettinger Research Extension Center	732.281	(5.489)	726.792
Langdon Research	919.578	(65.593)	853.985
Extension Center North Central Research Extension Center	731.532	51.184	782,716
Williston Research Extension Center	847,928	(6,702)	841,226
Carrington Research Extension Center Agronomy Seed Farm	1.328.872	(21.612)	1.307.260
Total general fund	\$33.662,746	(\$599.308)	\$33,063,438

# Detail of House GENERAL FUND changes to the executive budget includes:

	REDUCE COMPENSATION PACKAGE TO 2/2	ADJUST HEALTH INSURANCE COST	REMOVE MIDSIZED FARMS INITIATIVE	REMOVE FUNDING FOR VALUE-ADDED CENTER	REALLOCATE EQUIPMENT FUNDING 3	REDUCE OPERATING FUNDS 4
Main Research Center	(\$375,408)	\$82,372	(\$125,163) 1	(\$102,814)2	57,500	(10,000)
Dickinson Research	(17.006)	4,989			57.500	(10,000)
Extension Center Central Grassiands Research Extension Center	(7,561)	1,995			(55,000)	(5,000)
Hettinger Research	(7.485)	1,996				
Extension Center Langdon Research Extension Center	(7,631)	2,038			(60,000)	
North Central Research Extension Center	(8,739)	2,423			57,500	
Williston Research	(8.697)	1,995				
Extension Center Carrington Research Extension Center Agronomy Seed Farm	(15,176)	3,564				(10,000)
Total general fund	(\$447,703)	\$101,372	(\$125,163)	(\$102,814)	\$0	(\$25,000)

	TOTAL HOUSE CHANGES
Main Research Center Dickinson Research Extension Center Central Grasslands Research Extension	(\$521,013) 35,483 (65,566)
Center Hettinger Research	(5,489)
Extension Center Langdon Research	(65,593)
Extension Center North Central Research Extension Center	51,184
Williston Research Extension Center	(6,702)
Carrington Research Extension Center Agronomy Seed Farm	(21,612)
Total general fund	(\$599.308)

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#### LEGISLATIVE COUNCIL ANALYSIS OF LEGISLATIVE CHANGES AS OF FEBRUARY 18, 1999

FEBRUARY 19, 1999

House changes narrative:

<sup>1</sup> Removes funding included in the executive budget for the midsized farms initiative as follows:

.5 FTE faculty position	(\$67,360)
.5 FTE technician	(43,751)
Operating expenses	(14,052)
Total	(\$125 163)

Removes funding included in the executive budget for establishing a value-added center at North Dakota State University as follows:

.75 FTE faculty position	(\$52,616)
Operating expenses	(50,198)
Total	(\$102,814)

3 Reallocates equipment funding added in the executive budget as follows:

Removes funding provided to Central Grasslands for a swather	(\$55,000)
Removes funding provided to Langdon for a field combine	(60,000)
Adds funding to Dickinson for a tractor	57,500
Adds funding to North Central for a tractor and/or a	57,500
chemical storage building	
Total	\$0

4 Reduces operating expenses funding from the general fund at Dickinson, Central Grasslands, and Carrington.

The bill is changed to allow the entities of the Agricultural Experiment Station to retain, beyond the close of the 1999-2001 biennium, any unspent general fund moneys appropriated to or excess income received by the entities during the 1999-2001 biennium. These funds may be used for capital repairs and improvements, equipment, and other one-time expenditures.

Sections are added changing the name of the State Board of Agricultural Research to the State Board of Agricultural Research and Education, providing that the board control and administer the NDSU Extension Service in addition to the Agricultural Experiment Station, and providing that the extension service director is a voting member of the board and that the Agriculture Commissioner is a nonvoting member of the board.

**FEBRUARY 19. 1999** 

#### LEGISLATIVE COUNCIL ANALYSIS OF LEGISLATIVE CHANGES AS OF FEBRUARY 18, 1999

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BILL #/DEPARTHENT	LINE	EXECUTIVE BUDGET	HOUSE VERSION	HOUSE DIFF TO EXEC BUDGET	SENATE VERS ION	SENATE DIFF TO EXEC BUDGET	DIFF BETWEEN HOUSE & SENATE
нв1476	IRRIGATION	0	75,000	75,000+	0	0+	0+
ND STATE UNIVERSITY 235	TOTAL SPECIAL FUNDS GENERAL FUND	0 0 0	75,000 0 75,000	75,000+ 0+ 75,000+	0 0 0	0+ 0+ 0+	0+ 0+ 0+
HB1476	AGPACE	9	1,000,000	1,000,000+	0	0+	9+
BANK OF NORTH DAKOTA 471	TOTAL SPECIAL FUNDS GENERAL FUND	0 9 0	1,000,000 0 1,000,000	1,000,000+ 0+ 1,000,000+	0 0 0	0+ 0+ 0+	0+ 0+ 9+
нв1476	AG PREHIUM STANDA	0	50,000	50,000+	0	0+	0+
MAIN RESEARCH STATION 640	TOTAL SPECIAL FUNDS GENERAL FUND	0 0 0	50,000 0 50,000	50,000+ 0+ 50,000+	0 0 0	0+ 0+	0+ 0+ 0+
BILL TOTAL	TOTAL	θ	1,125,900	1,125,000+	θ	9+	Ð+
HB1476	SPECIAL FUNDS GENERAL FUND	0	1,125,000	0+ 1,125,0 <del>00+</del>	9	0+ 0+	9+ 9+

#### STATEMENT OF PURPOSE OF AMENDMENT:

#### DEPARTMENT 235 - NORTH DAKOTA STATE UNIVERSITY

HOUSE - This bill appropriates \$75,000 from the general fund to North Dakota State University for developing a strategic plan for irrigation development.

#### DEPARTMENT 471 - BANK OF NORTH DAKOTA

HOUSE - This bill provides an appropriation to the Bank of North Dakota for the purpose of making loans to first-time investors so they may extend or vertically integrate their farm enterprises beyond traditional agriculture.

#### DEPARTMENT 640 - AGRICULTURAL EXPERIMENT STATION

HOUSE - This bill appropriates \$50,000 from the general fund to the Agricultural Experiment Station to study the development and use of premium standards in the promotion of North Dakota agricultural products.

	FTE Positions	General Fund	Other Funds	Total
1999-2001 Executive Budget	418.10	\$33,662,746	\$25,690,669	\$59,353,415
1997-99 Legislative Appropriations	411.22 *	31,213,665 **	24,448,885	55,662,550
Increase (Decrease)	6.88	\$2,449,081	\$1,241,784	\$3,690,865

The 1997-99 FTE positions have been increased by 1 FTE position as a result of the State Board of Higher Education action authorizing an additional FTE position for the Agricultural Experiment Station.

	Major Items Affecting Agricultu	ıral Experiment Station	1999-2001 Budget		
			General Fund	Other Funds	Total
1.	Main Research Station Adds funding for critical salary adjustments at the Main Research States research extension centers, NDSU Extension Service, Northern Crithe Upper Great Plains Transportation Institute		\$422,400		\$422,400
2.	Removes funding based on an audit recommendation for rent paid State University (NDSU). The Agricultural Experiment Station will making this rent payment.		(700,000)		(700,000)
3.	Reduces funding for capital improvements from \$1,165,284 to \$658	8,800	(506,484)		(506,484)
4.	Increases funding from federal and other grants and from the sale of to continue current salary levels	of agricultural products		\$411,836	411,836
5.	Changes the funding source for a .5 FTE biopolymer technician		(41,134)	41,134	
6.	Changes the funding source for a .5 FTE soil testing technician		(41,010)	41,010	
7.	Adds funding for the crop protection initiative as follows:  1 FTE position Salary funding for graduate research assistants Operating expenses Equipment Total	\$79,156 145,200 20,000 10,000 \$254,356	254,356		254,356
8.	Adds funding for the range research initiative as follows: Salary funding for graduate research assistants Operating expenses Total	\$145,200 45,000 \$190,200	190,200		190,200
9.	Adds funding for the molecular marker lab initiative as follows:  1 FTE technician Other salary funding Operating expenses Equipment Total	\$85,054 6,728 60,000 120,000 \$271,782	271,782		271,782
10.	Adds funding for the coproduct utilization initiative as follows:  1 FTE position Salary funding for graduate research assistants Operating expenses Equipment Total	\$73,258 42,240 35,000 5,000 \$155,498	155,498		155,498
11.	Adds funding for the plant diseases initiative as follows:  1 FTE position Salary funding for graduate research assistants Operating expenses Total	\$73,258 79,200 30,000 \$182,458	182,458		182,458
12.	Adds funding for the midsized farms initiative as follows: .5 FTE faculty position .5 FTE technician Operating expenses Total (The House removed funding for this initiative.)	\$67,360 43,751 14,052 \$125,163	125,163		125,163
13.	Adds funding for the wheat quality initiative as follows:  1 FTE technician Salary funding for graduate research assistants Total	\$70,309 105,600 \$175,909	175,909		175,909
14.	Adds funding for the livestock production initiative as follows:  1 FTE technician Salary funding for graduate research assistants Operating expenses Equipment Total	\$67,360 92,400 20,000 10,000 \$189,760	189,760		189,760

This amount has been adjusted to include \$302,308 of State Board of Higher Education funding allocations from the \$3.2 million salary initiative.

			General Fund	Other Funds	Total
15.	Adds funding for the high-value irrigated crops initiative as follows:		116,440		116.440
	1 FTE technician	\$57,960 18,480			
	Salary funding for graduate research assistants Operating expenses	20,000			
	Equipment	20,000			
	Total	\$116,440			
16.	Adds funding for a value-added center at NDSU as follows:	\$52,616	102,814		102,814
	.75 FTE faculty Operating expenses	50,198			
	Total	\$102,814			
	(The House removed funding for this initiative.)				22.222
17.	Adds funding for graduate research assistants		38,280		38,280
18.	Reduces funding for potato development		(39,748)		(39,748)
19.	Reduces the statistics, genetics, chemistry program relating to lives	tock breeding research	(250,347)		(250,347)
	as follows:  .8 FTE vacant position	(\$61,003)			
	.9 FTE position	(140,334)			
	.8 FTE position Total	(49,010) (\$250,347)			
20		(ψ200,011)	(141,899)		(141,899)
20.	Reduces agriculture finance research positions as follows: .7 FTE position	(\$133,748)	(111,000)		(
	.5 FTE vacant position	(8,151)			
	Total	(\$141,899)	(07.700)		(27.709)
21.	Reduces funding for corn breeding including a .17 FTE position		(27,708)		(27,708)
22.	Funding for the branch research extension centers is provided in a center rather than appropriating salaries and wages, operating expe	single line item for each enses, and equipment	1		
	separately for each center as has been done in previous appropriat	ions.			
	Dickinson Research Extension Center		10,000		10,000
	Adds funding for motor pool costs	and aguinment	10,000	82,646	82,646
24.	Increases income from agricultural product sales for salaries and w	ages and equipment		02,040	02,040
25.	Central Grasslands Research Extension Center  Adds funding from the equipment pool for a new front-end loader		75,000		75,000
26.	Adds one-time funding for a self-propelled swather (The House rea funding to the Dickinson and North Central Research Extension Ce		55,000		55,000
27.	Adds funding to provide 100 percent general fund support for a ran-	ge research position	33,779		33,779
28.	Increases funding for operating expenses		7,000		7,000
29.	Increases income from agricultural product sales for operating expe	enses		54,850	54,850
	Hettinger Research Extension Center				
30.	Removes funding provided from the 1997-99 equipment pool		(40,000)		(40,000)
31.	Adds funding for motor pool and utility costs		15,000		15,000
32.	Increases income from federal grants and agricultural product sales wages and operating expenses	s for salaries and		133,786	133,786
	Langdon Research Extension Center		75.000		75,000
	Adds funding from the equipment pool for a portion of the cost of a		75,000 60,000		60,000
34.	Adds one-time funding for a portion of the cost of a new plot combi reallocated this funding to the Dickinson and North Central Resear Centers.)		60,000		00,000
35	Adds funding for the crop protection initiative as follows:		112,095		112,095
	1 FTE position	\$82,095			
	Operating expenses	20,000			
	Equipment Total	\$112,095			
36.	Increases income from gifts, grants, and contracts for operating ex	penses		39,873	39,873
	North Central Research Extension Center				
37.	Removes funding provided for capital projects during the 1997-99	biennium	(346,050)	(200,000)	(546,050)
38.	Adds funding for operating costs associated with the center's new	building	15,000		15,000
39.	Increases income from agricultural product sales for operating exp	enses		39,578	39,578
40.	Williston Research Extension Center Removes funding provided for capital projects during the 1997-99	biennium	(50,000)	(100,000)	(150,000)
			(65,000)	, , , , , , , , , , , , , , , , , , , ,	(65,000)
41.		huilding	15,000		15,000
42.	•		13,000	30,828	30,828
43		wayes		00,020	00,020
44	Carrington Research Extension Center Removes funding provided from the 1997-99 equipment pool		(45,000)		(45,000)
45			12,000		12,000

			General Fund	Other Funds	Total
46.	Adds funding for the high-value irrigated crops initiative as follows: 1 FTE position Operating expenses Total	\$111,594 20,000 \$131,594	131,594		131.594
47.	Increases income from federal grants and agricultural products sales	for salaries and wage	es	18,020	18,020
48.	Agronomy Seed Farm Removes funding provided for capital projects during the 1997-99 bit	ennium		(180,000)	(180,000)
49.	Adds funding for the following capital projects: Grain storage hopper bins Relocate and reshingle the existing storage building Total	\$60,000 30,000 \$90,000		90.000	90,000
50.	Increases income from seed production for: Continuing current salary levels Increasing part-time help for field work Total	\$7,234 20,000 \$27,234		27,234	27,234

#### Major Legislation Affecting Agricultural Experiment Station

Section 6 of House Bill No. 1021 authorizes the State Board of Higher Education to adjust or increase the FTE positions of the Agricultural Experiment Station.

Section 7 of House Bill No. 1021 authorizes the State Board of Higher Education to transfer appropriation authority of up to \$422,400 from the Main Research Center to the branch research extension centers, NDSU Extension Service, Northern Crops Institute, and Upper Great Plains Transportation Institute for critical salary adjustments.

House Bill No. 1021 changes the name of the State Board of Agricultural Research to the State Board of Agricultural Research and Education and provides that the board control and administer the NDSU Extension Service in addition to the Agricultural Experiment Station.

House Bill No. 1476 provides a \$50,000 general fund appropriation to the Agricultural Experiment Station to study the development and use of premium standards to promote North Dakota products. (See attached)

## Department 627 - Upper Great Plains Transportation Institute House Bill No. 1021

FTE Positions	General Fund	Other Funds	Total
23.00	\$487,386	\$6,001,444	\$6,488,830
19.00	455,562 *	4,403,417	4,858,979 *
4.00	\$31,824	\$1,598,027	\$1,629,851
	Positions 23.00 19.00	Positions Fund  23.00 \$487,386  19.00 455,562	Positions         Fund         Funds           23.00         \$487,386         \$6,001,444           19.00         455,562         * 4,403,417

<sup>\*</sup> The 1997-99 general fund appropriation amount has been adjusted to include \$5,057 of State Board of Higher Education funding allocations from the \$3.2 million salary initiative.

#### Major Items Affecting Upper Great Plains Transportation Institute 1999-2001 Budget

major items An	coming oppor crout riamo riamoportamen men			
	Ger	neral Fund	Other Funds	Total
Adds funding for the advanced traffic and system project as follows:     Salaries and wages:	alysis center and the truck inspection selection		\$1,500,000	\$1,500,000
1 FTE programmer	\$114,501			
1 FTE programmer	153,987			
1 FTE programmer	119,141			
1 FTE programmer	154,382			
Other	102,493			
Total	\$644,504			
Operating expenses	650,496			
Equipment	205,000			
Total	\$1,500,000			

#### Major Legislation Affecting Upper Great Plains Transportation Institute

Section 6 of House Bill No. 1021 authorizes the State Board of Higher Education to adjust or increase the FTE positions of the Upper Great Plains Transportation Institute.

Section 7 of House Bill No. 1021 authorizes the State Board of Higher Education to transfer appropriation authority of up to \$422,400 from the Main Research Station to the branch centers, Northern Crops Institute, and the Upper Great Plains Transportation Institute for making salary adjustments.

	FTE Positions	General Fund	Other Funds	Total
1999-2001 Executive Budget	267.50	\$13,099,114	\$16,772,588	\$29,871,702
1997-99 Legislative Appropriations	267.40	12,302,188 **	13,017,998 ***	25,320,186
Increase (Decrease)	0.10	\$796,926	\$3,754,590	\$4,551,516

- The 1997-99 FTE positions have been increased by 38.4 FTE positions as a result of the State Board of Higher Education action authorizing additional FTE positions for the NDSU Extension Service.
- \*\* This amount has been adjusted to include \$152,751 of State Board of Higher Education funding allocations from the \$3.2 million salary initiative.
- \*\*\* In addition, this amount has been increased by \$2,763,637 of additional income from federal grants and other sources.

#### Major Items Affecting NDSU Extension Service 1999-2001 Budget

	Major Items A	ffecting NDSU Extension Service 19	99-2001 Budget		
			General Fund	Other Funds	Total
1.	Removes .7 FTE 4-H program position		(\$53,821)		(\$53,821)
2.	Removes .5 FTE 4-H program position		(51,216)		(51,216)
3.	Removes .2 FTE sugar beet entomology position (\$ expenses (\$1,717)	22,280) and related travel	(23,997)		(23,997)
4.	Removes .25 FTE early childhood education position	n	(31,398)		(31,398)
5.	Removes .25 FTE early childhood education positio	n	(16,397)		(16,397)
6.	Removes 1 FTE sheep education position (The Hou	se restored this position.)	(131,646)		(131,646)
7.	Changes the source of funding for a .77 FTE agricul	ture communications position	(95,782)	\$95,782	
8.	Increases funding from other funds for continuing cu	ırrent salary levels		441,270	441,270
9.	Adds funding for a value-added center at North Dak .2 FTE faculty position Operating expenses Equipment Total (The House removed funding for this initiative.)	ota State University as follows: \$31,636 7,500 2,500 \$41,636	41,636		41,636
10.	Adds funding for a crop protection initiative as follow 1 FTE crop protection specialist Operating expenses Equipment Total 1 FTE crop protection technician Operating expenses Equipment	\$123,390 30,250 9,050 \$162,690 \$69,863 12,750 5,950	251,253		251,253
	Total	\$88,563			
11.	Adds funding to provide educational information rela .5 FTE position Operating expenses Equipment Total (The House removed funding for this initiative.)	\$70,309 10,100 5,290 \$85,699	85,699		85,699
12.	Adds funding for providing information on the use of as follows:  .3 FTE position Operating expenses Equipment Total	\$37,092 8,600 2,850 \$48,542	48,542		48,542
13	Soil Conservation  Adds funding for soil conservation related operating	expenses	14,000		14,000
14.		ants. A total of \$560,000 is	(20,000)		(20,000)

#### Major Legislation Affecting NDSU Extension Service

Subdivision 4 of Section 1 of House Bill No. 1021 (Main Research Center) includes \$422,400 from the general fund for critical salary adjustments at the Agricultural Experiment Station, NDSU Extension Service, Northern Crops Institute, and the Upper Great Plains Transportation Institute. Section 7 of the bill authorizes the transfer of appropriation authority from the Main Research Center to these other entities for critical salary adjustments.

Section 6 of House Bill No. 1021 authorizes the State Board of Higher Education to adjust or increase the FTE positions of the NDSU Extension Service.

House Bill No. 1021 provides that the NDSU Extension Service be controlled and administered by the State Board of Agricultural Research and Education.

### Department 638 - Northern Crops Institute House Bill No. 1021

ouse Sill No. 1921	FTE Positions	General Fund	Other Funds	Total
1999-2001 Executive Budget	8.00	\$668,034	\$411,441	\$1,079,475
1997-99 Legislative Appropriations	8.00	642,936 *	335,977	978,913
Increase (Decrease)	0.00	\$25,098	\$75,464	\$100,562

<sup>\*</sup> The 1997-99 general fund appropriation amount has been adjusted to include \$7,135 of State Board of Higher Education funding allocations from the \$3.2 million salary initiative.

#### Major Items Affecting Northern Crops Institute 1999-2001 Budget

	General Fund	Other Funds	Total
<ol> <li>Increases funding from gifts, grants, and contract income for continuing current salary levels</li> </ol>		\$58,545	\$58,545

#### Major Legislation Affecting Northern Crops Institute

Subdivision 4 of Section 1 of House Bill No. 1021 (Main Research Center) includes \$422,400 from the general fund for critical salary adjustments at the Agricultural Experiment Station, NDSU Extension Service, Northern Crops Institute, and the Upper Great Plains Transportation Institute. Section 7 of the bill authorizes the transfer of appropriation authority from the Main Research Center to these other entities for critical salary adjustments.

Section 6 of House Bill No. 1021 authorizes the State Board of Higher Education to adjust or increase the FTE positions of the Northern Crops Institute.



Department  nd Expend - Per MB4310 Report  Jennium General Fund Transfers	Fund	Object	Transport.	NDSU Extension Service	Northern Crops Institute	Main Research	Dickinson Research	Central Grasslands Research	Hettinger Research	Landgon Research	North Central Research	Williston Research	Carrington Research	
nd Expend Per MB4310 Report	001					Center	Center	Center	Center	Center	Center	Center	Center	Grand Totals
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701.231.7211 Fax 701.231.8722 www.ndsu.nodak.edu

Office of the President 102 Old Main, P.O. Box 5167 Fargo, ND 58105-5167



For more than a century, North Dakota State University has been a willing and proud partner with the backbone of North Dakota's economy, our state's agriculture community. Research conducted on this campus addresses important concerns facing our producers and opens doors to new opportunities for their success.

The new State Board of Agricultural Research has provided meaningful guidance and direction as NDSU strives to find inventive ways to assist our farmers and ranchers. The hard work of its members has made the board's first year a time of achievement.

A significant and necessary step in NDSU's ongoing support of agriculture is the establishment of the Animal Care Facility. This state-of-the-art center will create crucial benefits for North Dakota agriculture and keep NDSU personnel in the forefront of production animal research.

These are difficult times for many people in our state's major industry. Innovative research, effective outreach and illuminating instruction provides the means to overcome production obstacles and offer additional value-added products to enhance our market potential. NDSU eagerly greets our continuing charge to contribute to North Dakota's agriculture community.

Sincerely,

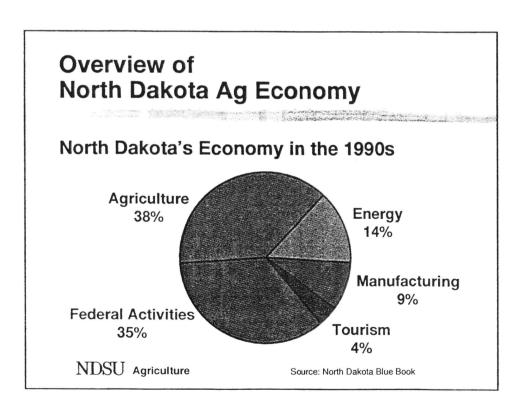
Allan G. Fischer Interim President

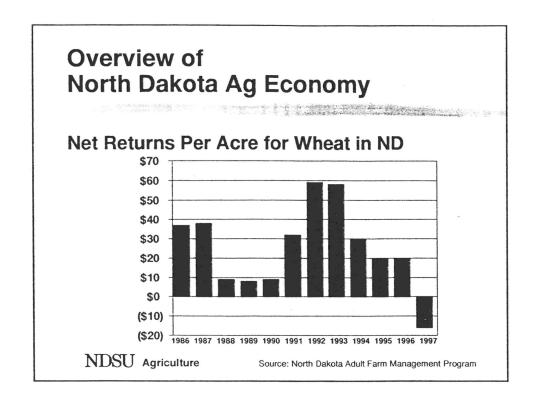
# Working Together

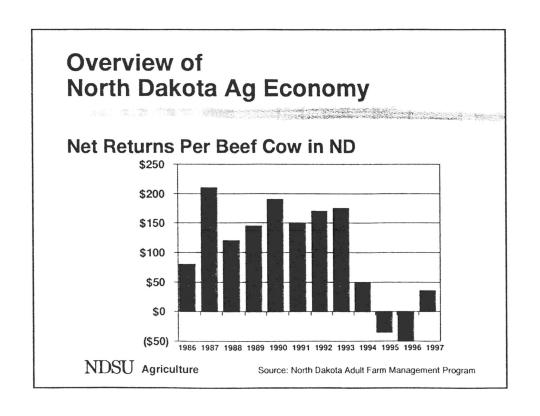
## North Dakota Agriculture

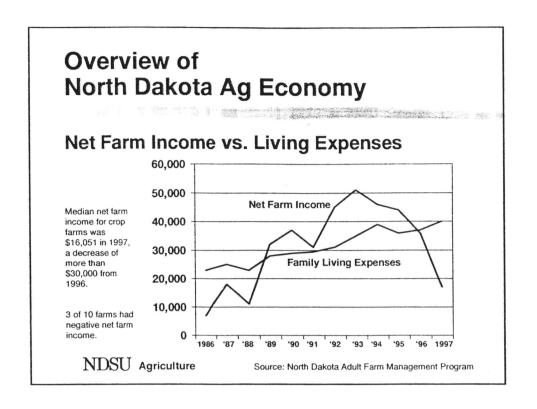
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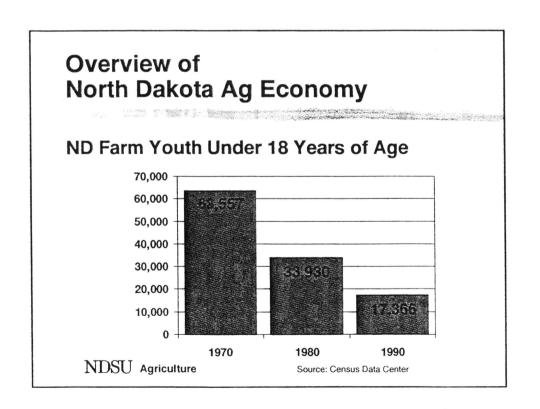
## **NDSU**

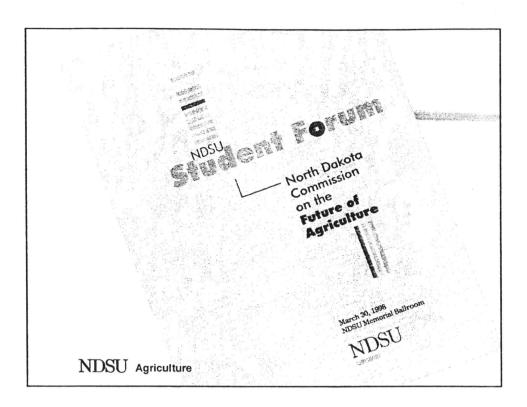












## **Summary of Student Survey**

- Keys to a brighter future for agriculture in North Dakota
  - Capital
  - **■** Education
  - Technology

### **Summary of Student Survey**

- Top priorities for development of agriculture in North Dakota
  - Attracting and creating value-added processing
  - Expanding market opportunities
  - Creating niche markets

NDSU Agriculture

## **Summary of Student Survey**

- 93% predicted agriculture would continue to be the state's largest industry
- 66% felt production agriculture would continue to be the state's leading agricultural sector
- 40% perceived larger, corporate style farms as negative
- 76% said that expanding production would be an important goal for family farms

### **Summary of Student Survey**

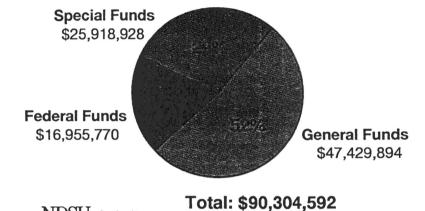
- 43% plan to farm in North Dakota after graduation
- Primary factors influencing those who do not plan to farm after graduation:
  - No start-up opportunity
  - Not enough economic return to support lifestyle
  - Instability of production

NDSU Agriculture

### **Summary of Student Survey**

- Over 50% would like to stay in North Dakota after graduation
- Primary reasons students would remain in North Dakota:
  - **■** Community support
  - Quality of life
  - **■** Family-friendly atmosphere





NDSU Agriculture

# Overview of NDSU Budget Strategies

■ Coordination of teaching, research and outreach

- Accountability
- SBAR initiatives and leadership
- Re-prioritization
- **■** Leveraged resources
- Shift from formula to competitive grants

### NDSU Ag Initiatives 1999-2001

### **Crop Production**

Initiatives will help protect crops and develop new crops that promise to boost income and support processing industries.

NDSU Agriculture

### NDSU Ag Initiatives 1999-2001

## Livestock Production and Rangeland Management

A quarter of North Dakota's farm-gate receipts come from livestock turning crops, forages and rangeland (a resource that makes up about half of the state's land) into valuable meat, milk and fiber.

### NDSU Ag Initiatives 1999-2001

### Adding Value to North Dakota Agriculture

■ Initiatives build on recent growth in new ag commodities, processing and overall economic development. Investment in value-added research and extension efforts promises to give increased producer options and returns, more consumer choices, a stronger state economy and future jobs.

NDSU Agriculture

## NDSU Ag Initiatives 1999-2001

### Building Communities, Leadership, Skills and Youth

■ Initiatives translate into healthier, more vibrant communities; stronger families; and people who are better able to make good decisions at home, at work, in their communities and on their farms.

## NDSU Ag Initiatives 1999-2001

### **Northern Crops Institute**

■ Initiatives focus on promotion of northern grown crops through education and technical assistance.

## **Initiatives** 1999-2001

### North Dakota Agricultural Experiment Station & NDSU Extension Service

North Dakota's agriculture and economy is evolving. A look at the landscape reveals as much. It's likely the state has never seen such diversity in crops grown. That diversity is matched by diversity in emerging agricultural industries and a myriad of crop and livestock disease problems and economic challenges. This set of initiatives proposes that the State of North Dakota invest in research that will support economic growth and diversity while addressing critical issues facing crop and livestock producers and value-added processors.

#### ■ 1. Crop Protection Initiative

Crops provide more than \$43 billion directly to the North Dakota economy each year. Unfortunately, those crops and that economic benefit have been under attack by diseases, insects and weeds. During the past five years, cereal grain scab has become the greatest epidemic ever to devastate crops in North America. Larger farms have resulted in greater areas of genetically similar crops — a situation that lends itself to the development and spread of disease. New crops will face disease problems similar to those of existing crops if disease resistance isn't a consideration as the crops are being developed.

This initiative would help producers find new approaches to pest, weed and disease problems and employ the best options available to achieve profitability. The initiative would focus on:

- Evaluation of pesticide application techniques so that maximum control of crop pests can be obtained with existing products.
- Improved fungicide control of scab, tanspot, Septoria and other diseases through field surveys and trials.
- Weed control and improved production practices in southeastern North Dakota. With the most rainfall in the state, this region often suffers especially severe infestations of weeds and other pests.
- Sclerotinia management in alternative crops. Many new broadleaf
  crops are emerging as alternatives to traditional cereal grains. Most
  broadleaf crops including canola, soybean, dry bean and pea are
  susceptible to Sclerotinia (white mold). Control of the disease and
  developing resistance in crops will be a key to keeping these
  alternative crops profitable.
- Sunflower pest management. Increased efforts are needed to help producers deal with growing problems from sunflower midge, white mold and other pests.
- Insect pests. Damage from insect pests like the wheat midge, sunflower midge and European corn borer has been on the increase.
   This portion of the initiative would give NDSU flexibility in responding to insect pest problems.

Added personnel: I faculty members

3 technicians

5 graduate students

Biennium total: \$613,800 Executive budget: \$600,187

#### **■** 2. Grain Quality Education

To compete in global and domestic markets, North Dakota grain must meet the criteria of millers, bakers and other processors. This program educates producers on quality differences among various grain varieties and how those qualities affect grain products for consumers. Restoration of funds for this effort would continue support for research and educational programs associated with wheat quality.

Personnel: I technician

.6 faculty

Biennium total: \$135,464

Executive budget: \$135,464

#### ■ 3. Animal Disease Prevention

Animal health problems cost livestock producers millions of dollars each year. New forms of diseases are constantly emerging and old forms are changing. With many pathogens becoming resistant to antibiotics and other treatments, concerns about the transmission of diseases from animals to humans are growing. NDSU's Veterinary Diagnostic Laboratory studies some 10,000 cases annually, testing for diseases, toxins and disorders while constantly on the lookout for new and emerging diseases. The laboratory collaborates with the state veterinarian and the North Dakota Board of Animal Health to look for trends in animal health problems and to spot potential outbreaks of livestock disease. Restoration of funds for this effort would provide a full staff of diagnosticians, especially in the serology and virology labs, and allow for the continued strengthening of animal research at NDSU.

Personnel: .9 faculty Biennium total: \$175,033 Executive budget: \$175,033



North Dakota State University

North Dakota Agricultural Experiment Station

NDSU Extension Service

#### 4. Foundation Seed

NDSU's foundation seed program serves as a pipeline for distributing genetically pure seed of new varieties across the state. Rapid distribution of foundation seed helps the state's producers use the newest varieties to stay ahead of diseases and pests and provide processors with the necessary qualities. The program also generates revenue for additional crop research. Restoration of funds for this effort would maintain the staff of technicians and part-time help required to raise and process the seed at the Langdon, North Central and Williston Research Extension Centers.

Personnel: 1.91 technicians Biennium total: \$105,801 Executive budget: \$105,801

#### ■ 5. Range Research Initiative

NDSU's system of Research Extension Centers is ideally suited to study agricultural problems that are specific to certain areas of the state. Geographic differences can be striking, especially in studies of rangeland, which can vary widely in terms of vegetation, insects, nutritional value and other factors. Understanding rangeland is becoming more important. Of the nearly 1.9 million head of cattle in North Dakota in 1997, most spent at least part of each grazing season on rangeland. As "Freedom to Farm" legislation makes some marginal land less profitable, it's likely that even more land may become rangeland or pasture.

This initiative would allow researchers at the Hettinger, Dickinson and Central Grasslands Research Extension Centers to study more thoroughly the problems facing rangeland and explore the opportunities lurking there as well. Research will focus on:

- The nutritional value of rangeland vegetation and pastureland grasses. A more detailed understanding of nutritional value will help ranchers better manage rangeland to produce more meat per acre while minimizing the impact on the environment. A major focus will be the study of the nutritional value of warm season grasses. That work will complement studies of cool-season grasses funded during the last legislative session.
- Biological control of leafy spurge. With high costs and environmental restrictions on chemical control, researchers are looking for alternatives.
- Increasing production from rangeland through manipulation of biological mechanisms. If researchers can better understand how rangeland plants grow, they might be able to boost production through management such as rotational or seasonal grazing.
- The effect of grazing management on soil's physical and chemical properties. Researchers hope to boost rangeland productivity by developing management techniques that improve soil conditions, encourage growth of native plants, and conserve water and nutrients.

Added personnel: 5 graduate students Biennium total: \$200,000

Executive budget: \$190,200

#### 6. Molecular Marker Laboratory Initiative

Molecular markers identify DNA sites on chromosome that can be used to identify plants having specific genetic characteristics including disease and insect resistance and quality factors like high or low protein. Screening plants at an early stage of development increases the efficiency of plant breeding and related research programs by eliminating lines with undesirable characteristics early. Using molecular markers, then, reduces the time and money that would be spent testing those lines in fields and greenhouses.

The establishment of a laboratory dedicated to this work would increase by four or five times the number of lines that breeders could evaluate. The laboratory could have a significant effect on progress toward developing scab resistant varieties of hard red spring wheat, durum wheat and barley. Other researchers also would use the lab to speed the process of breeding hard red spring wheat, durum wheat, hard white spring wheat, two- and six-rowed barley, flax, potato, corn, soybean, dry bean, oat and crambe varieties with good agronomic characteristics and good processing qualities.

Personnel added: 2 technicians Biennium total: \$356,000 Executive budget: \$267,558

#### **7.** Corn Breeding

The production of corn for grain has expanded rapidly in North Dakota, providing corn for livestock feeding and a raw material for value-added industries. Key to that expansion has been the development of corn varieties with good agronomic characteristics for this region and good nutrient and processing characteristics. Restoration of support for this program will ensure continued progress in the development of corn hybrids that are well-adapted to this region and have the qualities that processors want.

Personnel: 1.53 faculty and staff

Biennium total: \$198,676 Executive budget: \$172,331

#### ■ 8. Coproduct Utilization Initiative

As value-added processing has grown in North Dakota, so have the variety and amount of byproducts or coproducts available as livestock feed. Making efficient use of these coproducts locally can boost the profitability and economic viability of value-added enterprises and provide new, cost-effective feed resources for the state's livestock producers. Growth in coproduct availability and use has outpaced NDSU's ability to study these coproducts and provide information to producers. Beet pulp, wheat midds, soybean hulls, millet hulls, desugared molasses, corn gluten feed, potato byproducts, oilseed meals and food processing wastes are just some of the coproducts available in North Dakota.

This initiative would focus on determining the nutritional value of processing coproducts and how they can be used efficiently in livestock rations. Efforts at Fargo and the Dickinson, Hettinger, Central Grasslands (Streeter) and Carrington Research Extension Centers will focus on how the coproducts can be used in rations with other locally available feeds under North Dakota conditions. Special emphasis would be given to using coproducts as a means to feed livestock more economically in North Dakota.

Added personnel: I technician

1.5 graduate students

.3 faculty

Biennium Total: \$225,200 Executive budget: \$198,726

#### 9. Plant Disease Initiative

Before wheat breeders release a new wheat variety for use by the state's farmers, they try to make sure that it will yield at least 2 or 3 percent better than existing varieties. Unfortunately, much of that increase in recent years has been lost to increases in diseases like leaf rust and other leaf, head and root diseases.

NDSU researchers screen breeding lines for susceptibility to scab, stem rust, leaf rust, tan spot, root rot, septoria, viruses, ergot, smut, bacterial blights and other diseases. Developing a variety with resistance to all those diseases and good grain quality and agronomic characteristics is a monumental task.

This initiative would provide additional assistance for the screening process, allowing researchers to screen more lines and identify promising breeding material sooner. That expanded screening effort would help NDSU develop varieties with improved yield and disease resistance while staying abreast of emerging disease threats.

Personnel added: I technician

3 graduate students

Biennium total: \$198,000 Executive budget: \$178,747

## ■ 10. Economic Opportunities for Traditional Mid-Sized North Dakota Farms Initiative

Mid-sized North Dakota farms are facing considerable economic stress from low commodity prices and disease- and weather-related problems. NDSU economists say the number of producers leaving the business could exceed the levels seen during the farm financial crisis a decade ago. Large farms survive and expand by taking advantage of efficiencies afforded by size, volume buying and geographic diversification. Similarly, small farms sustain themselves through alternative and speciality crop and livestock products. Many of those options are not available to the mid-sized farms. More than 60 percent of North Dakota's farms are between 1,100 and 2,200 acres and are the largest contributor to the economic and social viability of rural communities.

This initiative would focus on finding opportunities for those mid-sized farms. Researchers would look at ideas such as the joint ownership of large farm equipment, custom and contract farming, and the optimal number and size of investments in value-added cooperatives. They also would analyze marketing, crop insurance and financial risk management strategies.

Researchers would provide an economic analysis of selected opportunities, educational materials that farmers and ranchers could use to evaluate alternatives for their operations, and ideas on how to identify production and marketing alternatives. An advisory board would help prioritize studies and assure that results are appropriately disseminated.

Added Personnel: 1.25 faculty members

.5 technician

Biennium total: \$228,100 Executive budget: \$201,416

#### ■ 11. Range Research/Central Grasslands Research Extension Center

Research is showing that rangeland health and ecology is determined by a complex blend of location, climate and use. The coteau area of North Dakota is an important rangeland and grazing region. This program provides key information on how livestock producers can make the most of rangeland resources while maintaining or enhancing the health of that rangeland. Restoration of funds for this effort would ensure that continued improvements in rangeland management recommendations could be made.

Personnel: .5 technician Biennium total: \$32,000 Executive budget: \$62,303

## ■ 12. Cropping System Support/Carrington Research Extension Center

This program helps producers assemble and interpret the many crop production research results into crop production systems. Information from studies of tillage systems, plant diseases, crop rotations, weeds, insects, fertility, agronomics, economics and other areas will be integrated into systems that optimize profitability and crop quality. The program helps producers assess their operations to make sure each component of their production and marketing system contributes fully to profitability. This effort also helps identify areas of crop systems that need additional study. Restoration of funds will support efforts to continue the integration of new research results into sound production systems.

Personnel:

.8 research specialist

Biennium total: \$56,000 Executive budget: \$56,000

#### ■ 13. Cereal Quality Initiative

Quality is a key to keeping North Dakota wheat competitive in domestic and international marketplaces. By working with customers to make sure the state's wheat meets criteria for milling and baking, NDSU can help the state's wheat growers continue to be customer-friendly competitors in the marketplace. As plant scientists strive to develop wheat varieties that are resistant to scab and other diseases, researchers must also test potential varieties for quality. Competition will not allow producers to sacrifice milling and baking qualities for improved agronomic characteristics.

In the current biennium, the cereal science department added quality specialists for both durum and hard red spring wheat. This initiative proposes adding help to process the increased number of wheat samples submitted by plant breeders and pathologists for evaluation. Some of those samples would be from varieties being developed specifically to meet the processing needs of value-added enterprises in the region. Additional laboratory personnel would also work with faculty to educate producers on the importance of various qualities and to inform customers about new uses and techniques for using North Dakota durum and hard red spring wheat.

Personnel added: I technician

4 graduate students

Biennium total: \$198,000 Executive budget: \$172,327

#### ■ 14. Livestock Production Systems Initiative

NDSU researchers have a long history of addressing specific needs and problems of livestock producers in the state. Recently, however, there has been a growing need to integrate various research results into an overall production program that optimizes product quality for consumers and profitability for producers.

This initiative would integrate information from studies of range and grazing management; forage production; animal physiology, nutrition, reproduction and growth; veterinary care; meat quality; marketing, business management and financial planning; vertical integration; waste management; and other areas. The goal is to develop profitable production systems. The initiative also would identify areas where additional research is needed. As a result of the initiative, NDSU programs would be able to help livestock producers better assess their operations from genetics to marketing so they can make sure each component of their production and marketing system contributes fully to profitability. For instance, producers may want to evaluate new feeds or feed additives to determine if they are cost effective in helping realize the growth potential offered by the genetics in the herd and helping cattle meet the criteria of the intended market.

Added personnel: I technician

3 graduate students

Biennium total: \$198,000 Executive budget: \$186,306

#### ■ 15. Value-Added Agriculture Center Initiative

NDSU has been a leader in exploring ways to add value to North Dakota-grown commodities. Much of this work has taken place in a number of departments. However there is a need to bring more focus to NDSU's value-added efforts so that successful business enterprises can be developed.

This initiative would create a "center" to bring together the business, marketing and technical expertise at NDSU and its extension offices and research extension centers. The center would coordinate access to pilot processing facilities, research laboratories and educational programs. It also would rely on an industry advisory committee to set research priorities and for direction on outreach and educational activities. The center would provide the following for emerging or expanding value-added enterprises:

- Information and assistance in business and marketing
- Technical and research support
- · Facilities for developing prototype processes and products
- Education

A center director would be selected from current administration or faculty.

Added personnel: .95 faculty Biennium total: \$159,900 Executive budget: \$140,000

## ■ 16. Swine Research/ Dickinson Research Extension Center

Alternative crops provide options for crop rotations that limit weed, disease and insect problems and make better use of farm labor. Crops like field peas and naked oats can become key components of crop production systems. To be economically viable, those crops need markets. One option is to feed them to livestock like hogs. Research in this program has focused on showing how alternative crops in southwestern North Dakota can be used in swine rations. The researcher also supports the development and expansion of pork production in the region which contributes to economic diversity and vitality. Restoration of funds for this effort will ensure that alternative crops will be evaluated for potential use in swine rations.

Personnel .63 scientist Biennium Total: \$66,500 Executive budget: \$66,500

## ■ 17. Research Extension Center Enhancement Initiative

NDSU's research extension centers must maintain a significant inventory of specialized and expensive equipment to carry out their research mission. The current budget is not adequate to add new equipment as needed and keep existing equipment in good repair. The seven centers have been using funds from the sale of commodities to help meet equipment replacement

and maintenance costs. In addition, three centers, Hettinger, Carrington and Williston, have built new facilities and one center, North Central, has broken ground for a new facility. Those facilities were built primarily with private funds, but the costs of upkeep and operation will increase.

This initiative would provide additional funds to replace and maintain equipment and to keep new facilities in good condition. The added funds should allow more flexibility in center budgets so they can be more responsive to research needs. The budget level proposed would meet 40 percent of on-going need for major equipment at the following NDSU research extension centers: Carrington, Langdon, North Central (Minot), Williston, Dickinson, Hettinger, and Central Grasslands (Streeter).

Added personnel: 0
Biennium total: \$150,000
Executive budget: \$227,280

#### ■ 18. Insecticide Evaluation

For farm chemical manufacturers, many of the crops grown in North Dakota represent a relatively small market. Often those manufacturers are reluctant to invest in the effort required to have their products labeled for such "minor use." Specialists in the insecticide evaluation proram work closely with regulatory agencies to obtain minor use approval of both chemical and biological control agents, giving producers broader options for controlling pests in their crops. The program also plays a role in NDSU's grasshopper pest management research. Restoration of funds for this program will help the state's producers protect their crops from weeds, insects and diseases.

Personnel: .9 faculty Biennium total: \$105,565 Executive budget: \$97,917

## ■ 19. Sheep research program/Hettinger Research Extension Center

Sheep in North Dakota continue to contribute to farm income. With a relatively small investment, producers can add sheep enterprises to boost farm income and make better use of labor and other farm resources. Researchers are also finding that properly managed sheep grazing systems on rangeland can reduce infestations of some weeds like leafy spurge and contributed to rangeland health. Restoration of support to the program will ensure that new and existing sheep producer will continue to receive new information on sheep and grazing management.

Personnel: .52 technician Biennium total: \$34,200 Executive budget: \$34,200

## ■ 20. Irrigated High-Value Crop Production Initiative

Irrigation and the high-value crops produced with irrigation can stabilize and increase farm income, stimulate economic development and help stem rural population loss. The number of irrigated acres is growing and North Dakota's aquifers can support more. But increased irrigation and a broader diversity of crops bring new management challenges as well as new threats from pests and diseases that thrive in irrigated conditions.

This initiative, with efforts in Carrington and Fargo, would help producers choose crops that work best under irrigation and develop management techniques that make the most of the investment in irrigation equipment. The research would help sustain the enhanced economic activity that has resulted from the growth in irrigation. The initiative will focus on:

- Identifying crops that can be grown under irrigation and determining how to maximize yield, quality and profitability while making efficient use of resources. Researchers would also identify crops that can be grown profitably in rotation with high-value crops.
- Studying crop water-use requirements, irrigation schedules, water application techniques and equipment variations. This research would update studies done at Carrington in the 1960s and complement and expand on NDSU research near Oakes that has been fully supported by grant funds from the Garrison Diversion Conservancy District.
- Studying late blight and pink rot of potatoes two problems that become more prevalent under irrigation — and educating producers on how to manage these problems.

The executive budget reflects the restoration of an extension position in water quality education. Adoption of the executive budget for this initiative may require that some research, particularly that related to identification of new high-value crops and their inclusion in crop rotations will not be accomplished.

Personnel added: I faculty

3 technicians

Biennium Total: \$372,800 Executive budget: \$356,183

#### **21. Potato Development**

Researchers develop and release disease-free, limited generation potatoes. Restoration of funds will make sure new varieties released are free from disease. Funds will also support agronomic research to solve problems facing potato producers.

Personnel:

.8 faculty

l technician

Biennium total: \$242,903 Executive budget: \$203,155

### State Board of Agricultural Research Leadership for the NDSU Extension Service

As a land grant institution, North Dakota State University is responsible for conducting agricultural research through the experiment station to address problems within the state and region and to disseminate research results through the extension service to all citizens who need and desire that information.
Currently at NDSU and at the Research Extension Centers, many faculty have joint appointments with research and extension meaning they are responsible for both a research effort and an educational program. (Examples: Rich Zollinger, Kevin Sedivec, Greg Lardy and Brian Jenks)
Faculty with a 100% extension appointment are often involved in applied research efforts that build on the research being conducted by experiment station faculty. This applied research is often conducted across the state allowing citizens to observe the results on an on-going basis. (Examples: Marcia McMullen, Duane Berglund, Kent McKay, Terry Gregoire and Harlan Hughes)
Since 1993, all departments in the College of Agriculture and two departments in the College of Human Development and Education have been fully integrated, with extension and research faculty reporting to department chairs and center directors. Therefore, the research and extension agenda are jointly shared at the department and center level.
In North Dakota, the budget for agricultural research and extension is funded through a separate bill that focuses on the land-grant mission for NDSU. Giving the SBAR authority over both research and extension would assure a consistent and thorough review of all NDSU agriculture programs.
Current advisory committees for the research extension centers and for extension multicounty units could be utilized for input into the program planning process for research and extension.
The SBAR unanimously supports the addition of the NDSU Extension Service to its duties and responsibilities.

#### HB 1021 Comments by Chancellor Larry A. Isaak

HB 1021 is an important bill to the future of North Dakota. It is important for at least two reasons. First, it is important because the decisions on HB1021 will have a long lasting impact on economic development in North Dakota. Second, it is important to North Dakotans because it is a link between the instructional component and the applied research component of NDSU.

Agricultural research and extension should always be a priority for North Dakota. Even though our economy continues to diversify (thank goodness), agriculture will always be a main component. The budget you have before you in HB 1021 continues the base for a successful research and extension service, but also provides for new endeavors. The budget is a product of cooperation between the State Board of Higher Education and the State Board for Agricultural Research. Even though, the SBAR could have identified even more spending priorities, the budget approved by the SBHE was positive and forward-looking step. The SBAR legislation passed by the 1997 Legislature is working. We recommend that you continue this legislation as is, but, perhaps consider adding the Extension Service as part of the work of the SBAR. It is very important that the linkage between research and extension continue.

Finally, the research and extension services funded in HB1021 is an important part of the NDSU community. Really, the budgets of NDSU in HB1003 and the budgets in HB1021 are intertwined because of joint faculty and research appointments resulting in an individual's salary being paid from both appropriations. Thus, I urge you to keep this in mind as you set the final legislative salary package for employees. What you do in HB1003 has an impact on HB1021 and vice-versa.

The Governor's budget reflected in HB1021 follows the priorities approved by the SBAR and subsequently by the SBHE. We urge you to also follow these priorities.

My name is Jody Hauge, my husband, Jim & I have a diversified farm & ranch 85 miles SW of Bismarck. We raise crops, cattle, hogs and have a 1200 head backgrounding feedlot.

I am a member of the State Board of Ag Research.

The past year and a half has been a learning experience for me and my fellow Board members.

After sorting through mountains of paper, hearing numerous presentations, visiting 3 of the experiment stations and the main station, cuts and prioritizing, and more prioritizing...I am confident today that we bring you a research budget that is both do-able and is reflective of what is most needed in North Dakota. The 21 initiatives in the budget are the ones that made the cuts and priority list. If unlimited Dollars were available there would be more good research to add to this list.

As a State Board of Ag Research member I have had an opportunity to find out first hand what is being done in Ag research. I have learned alot. When we were at Carrington we took a tour of their facilities. I ended up gleaning from the experience what Jim and I refer to as a \$100. idea. They were feeding wheat midds as creep feed as well as balancing them in rations for in their feedlot. Since that visit, we have used wheat midds, crambie meal, and corn glutten in our own feedlot rations.

All important by-products of crops raised in North Dakota.

They've started the research but there is much more to be done in this area. One of the problems we had with crambe meal and raw wheat midds was storage. Neither by-product flows very well.

One of the 21 initiatives - co-product utilization addresses

by-products and this research should add value to the crop grown as well as provide value added feedstuff for livestock producers.

As a member of SBAR I have tried to ask some tough questions and often I have played the devils advocate. I have been pleased with the answers. I have a much better understanding of why Dr. Pat Carr's research out at Dickinson can not be duplicated at Carrington or anywhere else in ND because these experiments are designed to identify how feed (both grain & forage) and food crops can best be integrated into crop-livestock systems in Sw North Dakota.

The State Board of Ag Research members represent a variety of crops and livestock. We've learned alot...We have more to learn.

I think with time...and remembering to ask the questions "How will this research help ND Agriculture?" How will it give ND producers an edge in the US and world market place? How will it give opportunities for the next generation of young farmers & ranchers?

The work of the board can only improve. All believe adding actions to the same that share the same of the programs intertwoment to the future of Agriculture in ND is very important to Jim & I. Filt

We have two sons that are hoping to come back to the farm. Clair is a Junior at NDSU majoring in Ag Econ. Jamie graduated from NDSU in '95 and is presently in Nebraska working in sales & marketing for a breeding stock company.

He has a good solid Ag education.

He has gotten experience through 2 summer internships during college and a job out of college.

In two years he would like to return to the family farm and ranch in ND.

I hope that you will support the work of SBAR and HB 1021.

The 21 initiatives are the priority but I hope you will also see fit that the stations, like any farm or ranch, need up keep and capitol and that you will find a place in the budget to include some capital projects.

In summary, I believe that the SBAR is working the way it was invisioned and this is due to grassroots involvement. This has enabled us to put forth initiatives that we feel are very important not only for North Dakota's future but for our's and our neighbors's operations as well.

I thank you for this opportunity to come before you.

mid gige Faran-

#### HB 1021

#### Comments by Chancellor Larry A. Isaak March 4, 1999

HB 1021 is an important bill to the future of North Dakota. It is important for at least two reasons. First, it is important because the decisions on HB1021 will have a long lasting impact on economic development in North Dakota. Second, it is important to North Dakotans because it is a link between the instructional component and the applied research component of NDSU.

Agricultural research and extension should always be a priority for North Dakota. Even though our economy continues to diversify (thank goodness), agriculture will always be a main component. The budget you have before you in HB 1021 continues the base for a successful research and extension service, but also provides for new endeavors. The budget is a product of cooperation between the State Board of Higher Education and the State Board for Agricultural Research. Even though, the SBAR could have identified even more spending priorities, the budget approved by the SBHE was positive and forward-looking step. The SBAR legislation passed by the 1997 Legislature is working. We recommend that you continue this legislation as is, but, perhaps consider adding the Extension Service as part of the work of the SBAR. It is very important that the linkage between research and extension continue.

Finally, the research and extension services funded in HB1021 is an important part of the NDSU community. Really, the budgets of NDSU in HB1003 and the budgets in HB1021 are intertwined because of joint faculty and research appointments resulting in an individual's salary being paid from both appropriations. Thus, I urge you to keep this in mind as you set the final legislative salary package for employees. What you do in HB1003 has an impact on HB1021 and vice-versa.

The Governor's budget reflected in HB1021 follows the priorities approved by the SBAR and subsequently by the SBHE. We urge you to also follow these priorities and to at a minimum fund the Governor's recommended budget.

## ND State Board of Agricultural Research

### NDSU Research and Extension Budget 1999-2001

#### Governor's Recommendation

Governor 3 Recomme		N/-:-	REC's	Total
	Ext	Main		600,187
SBAR1-Plant protection specialist	241,799	250,388	108,000/LNGDN	135,464
SBAR2-Grain quality	74,109	61,355		175,033
SBAR3-Animal disease prevention		175,033	32 000/LNGDN 31,600/N CTRL 42,201/WILLISTON	105,801
SBAR4-Foundation seed			32,000/LNGDN 31,600/N CTRL 42,201/WILLISTON	190,200
SBAR5-Range research		190,200		267,558
SBAR6-Molecular mkl lab		267,558		172,331
SBAR7-Com breeding		172,331		198,726
SBAR8-Co product utilization	46,939	151,787		178,747
SBAR9-Plant diseases		178,747		201,416
SBAR10-Mid sized traditional farms	82,116	119,300	CO 202 (CTRI CRASS	62,303
SBAR11-Range research			62,303/CTRLGRASS	56,000
SBAR12-Crop system support			56,000/CARRINGTON	172,327
SBAR13-Wheat quality		172,327		186,306
SBAR14-Livestock production		186,306		140,000
SBAR15-Value added	40,000	100,000	66,500/DKN	66,500
SBAR16-Swine research		07.017	60,300/DKN	97,917
SBAR18-Insecticide evaluation		97,917	34,200/HTGR	34,200
SBAR19-Sheep research		112 204	126,216/CARRINGTON	356,183
SBAR20-High value irrigated crops	116,573	113,394	120,210/CARRINGTON	203,155
SBAR21-Potato development		203,155		

## Restoration Requested Research

## CAPITAL PROJECTS (not included in Exec. Budget)

1. Chemical Storage and Handling Facilities (five sites)	\$117,200
Reglazing of Greenhouse Range #1 at Main Station	\$130,000
2. Regiazing of Greenhouse range at a status	\$ 12,500
3. Central Grasslands: Cattle holding pens	\$ 30,000
4. North Central: Demolition of existing office building	
5. Williston: Addition to Plot Laboratory	\$ 30,000
6. Langdon: Equipment Storage Building Addition	\$ 25,000
6. Langdon. Equipment Storage & Handling Facilities	\$ 46,000
7. Carrington: Feed Mill Storage & Handling Facilities	\$ 25,000
8. Dickinson: Agronomy Laboratory Renovation	
9. Main Station: Renovate Animal Barn west of I29	\$ 25,300
10. Main Station: Renovate Loafing Shed east of I29	\$ 4,000
10. Wall Station, Renovate Estating State Spars	\$ 55,000
11. Main Station: Addition to Swine Barn for Boars	-

#### \$500,000

#### Extension

Burleigh/Morton 4-H	\$ 50,000
Sheep Education	\$125,403
· ·	\$ 78,000
Technology & Connectivity	

\$253,403

MO 1021 3/4/99 Jerry Doan

## The Agricultural Research Fund

The Agricultural Research Fund (ARF) was created by the 1997 Legislative Assembly to encourage agricultural research responsive to identified needs in the state. ARF will support research projects that have a positive economic impact for producers of crops and livestock in North Dakota; improve the quantity and/or quality of agricultural commodities; lead to efficiencies in, or sustainability of agricultural productivity; are submitted by individuals, groups, or institutions from either the public or the private sector; are selected through a competitive process that includes review of written proposals; include funding from other sources, public or private; and include a framework for timely progress toward stated objectives.

The ARF is a special fund in the state treasury derived from checkoffs indicated on the oil tax refund of \$0.04 per gallon of gasoline. The fund is distributed among eleven different granting committees annually, based on the state's fiscal year. The eleven committees represent nine major commodities, new and emerging crops, and animal agriculture. Revenues generated in this fund for the fiscal year ending June 30, 1998 was \$606,790.30. The funds were distributed as follows

- 1. Major commodity committees receive 70% of the revenues in the fund each fiscal year. Allocation for the fiscal year ending June 30, 1998 was \$389,753.21. To qualify as a major commodity the crop had to account for at least 2% of the gross sales of all agricultural commodities. Committees formed representing major commodities were wheat (34.6%-\$192,374.62); sunflower (6.5%-\$36,139.74); soybean (5.8%-\$32,247.77); barley (5.7%-\$31,691.77); sugarbeets (5.3%-\$29,467.79); corn (3.7%-\$20,571.85); dry bean (3.1%-\$17,235.88); potatoes (3.1%-\$17,235.88); and hay (2.3%-\$12,787.91.)
- 2. Animal agriculture receives 18% of the revenues in the fund each fiscal year. Allocation for the fiscal year ending June 30, 1998 was \$100,222.25.
- 3. New & emerging crops receive 12% of the revenues in the fund each fiscal year. Allocation for the fiscal year ending June 30, 1998 was \$66,814.84.
- 4. \$50,000 was retained for administrative costs.

Grants made to major commodity projects require a minimum match of 25% for projects led by individuals in North Dakota, and a 1:1 match for projects led by individuals outside North Dakota. Matching funds are not required for animal agriculture or new and emerging crops proposals.

The granting committees were selected and approved by the State Board of Agricultural Research (SBAR.) Appointments will be made annually. These committees are primarily comprised of producers from the state of North Dakota. Further, each committee included the director of the ND Agricultural Experiment Station and an appointment of an individual who has a background in agricultural research and experience in the contemplated area.

SBAR issued a call for proposals on August 1, 1998 and received about 95 preproposals. The preproposals were distributed according to topic to the granting committees. Projects which impacted more than one area were heard by all committees standing to benefit from the research. Preproposals were reviewed by the committees and full proposals were requested based on committee input.

SBAR developed comprehensive guidelines and an application form for the program. Following the implementation of the program and based on input received, SBAR will review the guidelines this summer to see if any areas can be improved.

To-date, all of the eleven granting committees have distributed the funds available to them, awarding grants to Forty Seven projects. The minutes from the committee meetings will be placed on the NDSU WebPage under the section for the State Board of Agricultural Research.

# Animal Agriculture and Hay Granting Committee Total amount granted for Animal Agriculture: \$100,222.25 Total amount granted for Hay: \$12,787.91

Committee members:

Daryl Dukart

Dr. Cole Gustafson

Bill Johnson

Victor Mathern Dick Tokach

Bill Riebe Jim Marshall

Dr. Vern Anderson

#### Animal agriculture projects funded

#### Determination of Meat Tenderness by Fluorescence

Grantee: Dr. Martin Marchello, NDSU Department of Animal and Range Sciences
Grant Amount: \$20,000.00 Matching Funds: None required

This project is designed to provide an on-line system to determine the tenderness of beef, and thus provide a more equitable pricing system for the producer. The grant funds are needed to prove that calcium ion concentration is the key variable in predicting tenderness.

#### CNF-1 as Potential Control Target for E. Coli-Caused Calf Scours

Grantee: Dr. Lisa Nolan, NDSU Veterinary & Microbiological Sciences

Grant Amount: \$14,000.00 Matching Funds: None required

This project seeks to lay the groundwork for e. Coli scours control-based on CNF-1, a toxin produced by e. Coli isolates causing disease in North Dakota cattle. The total grant request is for supplies needed to clone and express the gene encoding CNF-1 and to make monoclonal antibodies against CNF-1. By producing CNF-1 antibodies, they will be able to assess the potential of CNF-1 based detection strategies and vaccines to control E. Coli caused calf scours.

#### Bison Nutrition Research

Grantee: Dr. Vern Anderson, Carrington Research Extension Center

Grant Amount: \$10,623.16 Matching Funds: None required

North Dakota is the center of bison production and very limited data is available on feeding bison. Currently, there is very little or no profit in bison feeding. The industry is, however, expanding. This research proposes to: 1) develop a data base from producer feeding experiences, 2) determine effects of energy level, and season, on gain, intake and efficiency for bison in separate weight categories, 3) record, analyze, summarize and publish the results, 4) conduct feeding trials under controlled conditions to improve precision of data base, 5) calculate NEm and NEg for grains used for bison, and 6) evaluate digestibility of feeds at various energy levels.

#### Beef & Dairy Replacement Heifer Development System

Grantee: Dr. J.W. Schroeder, NDSU Department of Animal & Range Sciences
Grant Amount: \$10,000.00 Matching Funds: None required

This project is proposing to evaluate a simple stair step feeding regimen that can be readily implemented by replacement heifer operations in North Dakota. In addition to cost effectiveness, this feeding system has been proven to enhance life-long lactation performance.

## Evaluation of Tempering & a Yeast/Enzyme Cocktail on the Performance & Digestion of Calves Fed Barley During Growing & Finishing

Grantee: Dr. Vern Anderson, Carrington Research Extension Center

Grant Amount: \$24,322.00 Matching Funds: None required

Barley is generally undervalued as a feedstuff for a variety of reasons. This project is a feedlot study that will evaluate methods to improve the feed value of barley. The study will compare tempering, the addition of moisture to grain several hours before feeding, the addition of a yeast/enzyme combination to complement high grain diets, and the combination of the two treatments. It is expected that these practices will make barley safer to feed, improve animal performance from barley diets and increase price and demand for feed barley.

## Mineral Concentrations & Availability of Forages for Grazing Livestock in the N. Great Plains

Grantee: Dr. Woodrow Poland, Dickinson Research Extension Center

Grant Amount: \$9,277.09 Matching Funds: None required

Armed with knowledge regarding forage mineral availability, livestock producers can then begin to approach mineral nutrition in a logical, cost-effective manner. Mineral concentration in forages, digestibility and antagonistic relationships among minerals are all known to affect specific mineral availability. This project is designed to help increase the understanding of mineral availability of forages in the Northern Great Plains and to provide information to producers regarding base mineral supply to grazing cattle.

#### Odor Sensor for Animal Agriculture

Grantees: Drs. James Lindley & Suranjan Panigrahi, NDSU Dept. of Ag Biosystems Engineering Grant Amount: \$12,000.00 Matching Funds: None required

Odor production from animal agriculture, including swine production, has become a major concern in many areas of the nation and is a growing concern in North Dakota. This project will develop an odor sensing system for agricultural field use.

#### Hay project funded

## Mineral Concentrations & Availability of Forages for Grazing Livestock in the N. Great Plains

Grantee: Dr. Woodrow Poland, NDSU Dickinson Research Extension Center Grant Amount: \$12,797.91 Matching Funds: None required

Funding for this project was shared with the animal agriculture committee. See description under the animal agriculture information.

# Barley Granting Committee Total amount granted: \$31,691.77

Committee members: Charles Ottem

Doyle Lentz

Dan Wiltse

Craig Law

Wayne Narum

Louis Arnold

Dr. Cole Gustafson

Dr. Terry Gregoire

## Barley projects funded

## Development of Six -Rowed Feed Barley Cultivars with Multiple Disease Resistance

Grantee: Dr. Rich Horsley, NDSU Department of Plant Sciences

Grant Amount: \$10,591.77 Matching Funds: ND Barley Council---\$3,908.23

The FHB epidemic and subsequent high levels of deoxynivalenol (DON) in the grain have resulted in large portions of the ND six-rowed barley crop being rejected for malting and brewing every year since 1993. Less than 40% of the 1997 crop was purchased by these industries. One way to increase yield is to develop cultivars with resistance to multiple diseases. Barley cultivars with multiple disease resistances will require fewer inputs such as fungicides and development of these cultivars can be done much quicker in a feed barley vs. malting since there are no limitations on quality. The objective is to develop high yielding six-rowed feed barley cultivars with multiple disease resistances for ND producers. High yielding is defined as a 20% yield advantage over the highest yielding six-rowed malting barley.

## Production of Doubled-haploid Barley Lines Using Isolated Microspore Culture

Grantee: Dr. Rich Horsley, NDSU Department of Plant Sciences

Grant Amount: \$9,750.00 Matching Funds: ND Barley Council--\$3,250.00

Development of new barley cultivars takes 10-12 years. At least 3 years of this time is dedicated to selfing plants so genes are fixed in a near homozygous state. A method of breeding called doubled haploid (DH) breeding allows for homozygous plants to be developed in less than one year. Thus, the time needed to develop new cultivars is reduced using the DH breeding method. Two methods are available for producing DH lines in barley, the Hordeum bulbosum (Hb) method and the isolated microspore culture method (IMC.) The NDSU six-rowed barley breeding project currently is using the Hb method for DH production. This method of breeding takes about three times the labor and twice the greenhouse space as conventional breeding methods. Because of these limitations, they are limited to producing 5-10 DH populations per year vs. nearly 100 using traditional methods. The objective is to determine if DH lines can be successfully produced using the IMC method for DH production

#### Continued Operation of 16 Western North Dakota Agricultural Weather Network Stations

Grantee: Dr. John Enz, NDSU Department of Soil Sciences

Grant Amount: \$700.00 Matching Funds: ND Barley Council--\$300.00

NDAWN was established in 1989 with 6 remote automatic weather stations and has now expanded to 50 stations. NDAWN was formed to provide timely, reliable hourly and daily air/soil temperature, rainfall, humidity, wind, solar radiation, and pressure data specifically for agriculture. They are available through the Internet and the Extension Network. The request is for one year's operations of 16 NDAWN stations located near Beach, Bowman, Columbus, Mohall, Watford City, Hazen, Turtle Lake, Bottineau, Towner, Linton, Robinson, Harvey, Baker, Rolla, Edgeley, and Dazey.

## Identification of fungicide application techniques that maximize control of FHB

Grantee: Dr. Marcia McMullen, NDSU Department of Plant Pathology

Grant Amount: \$5,250.00 Matching Funds: ND Barley Council--\$2,250.00

Use of fungicides to help control FHB has resulted in reductions in FHB severity from 40-60%. Economic return can be realized from these levels of control, but more consistent economic return and response to fungicides could be realized if 70-90% reduction in FHB severity would be achieved. The heads or spikes of wheat and barley are the site of infection by the FHB disease organism, and these grain spikes have proven difficult targets for fungicide application. Improving deposition and retention of the fungicide on the grain spikes will give a higher probability of increased control and greater economic return.

## Evaluating the effects of tempering and a yeast/enzyme cocktail on the performance and digestion of calves fed barley during growing and finishing

Grantee: Dr. Vern Anderson, Carrington Research Extension Center

Grant Amount: \$5,400.00 Matching Funds: ND Barley Council--\$1,800.00

There is strong evidence that barley is equivalent to corn on a pound per pound basis as a feed grain. Improving the performance of barley fed steers would increase the returns to feeders or the value of the grain to barley growers. The objectives of this proposal are to 1) compare performance on calves fed tempered rolled vs. dry rolled barley; 2) evaluate effects of a yeast/enzyme cocktail on performance and digestion; 3) compare experimental barley feeding methods with dry rolled corn; 4) evaluate carcasses from steers fed barley and corn diets; and 5) determine economic returns for different barley feeding methods vs. corn.

## Corn Granting Committee Total amount granted: \$20,571.85

Committee members:

John Bollingberg

Paul Langseth

Dr. Duane Berglund

Dr. Cole Gustafson

Allan Braaten

Dwight Enockson

Dennis McCoy

## Corn projects funded

Improved Integrated Pest Management for Forecasting Field Activities

Grantee: Dr. Phil Glogoza, NDSU Department of Entomology

Grant Amount: \$4,043.25

Matching Funds: ND Corn Growers Assn.--\$1,347.75

A study to model emergence of the European corn borer moths from overwintering. This will help with timing field scouting activities for eggs and larvae and aid in determining the best times to schedule treatments, when needed.

Yield Loss Relationship Study Between ECB and the Corn Plants Reproductive Growth Stage

Grantee: Dr. Phil Glogoza, NDSU Department of Entomology

Grant Amount: \$3,237.38

Matching Funds: ND Corn Growers Assn.--\$1,079.12

Evaluating the relationship of infestation levels and yield-loss between the European Corn Borer and the growth stage of corn.

Corn Breeding/Production Research

Grantee: Dr. Al Schneiter, NDSU Department of Plant Sciences

Grant Amount: \$13,291.22 Matching Funds: ND Corn Growers Assn.--\$4,430.34

This proposal is the continuation of a corn breeding project at NDSU, through its release of northern adapted germplasm, has played a major role in both increased corn acreage and in the shift toward grain production. In addition to the development of germplasm, the project at NDSU has provided unbiased information on the performance of numerous corn hybrids through the state. This information is used by industry and public agronomists as well as by the producers in the selection and recommendation of hybrids for commercial production. The project has also trained numerous corn breeders which have been hired by companies.

## Dry Bean Granting Committee Total amount granted: \$17,235.88

Committee members:

Mark Sletten

Mark Dombeck

Mark Myrdal

Tim Skjoiten

Mike Beelner

Gary Friskop

Jerome Hagemeister Dr. Kenneth Grafton

Dr. Cole Gustafson

George McDonald

Randy Carow

## Dry bean projects funded

## Elimination of "Marsh Spot" in Cranberry Bean

Grantee: Dr. J. T. Moraghan, NDSU Department of Plant Sciences

Grant Amount: \$3,000

Matching Funds: Northarvest Bean Growers Assn.--\$1,000.00

Cranberry bean is a possible export crop for North Dakota farmers. Currently, a non-pathogenic disease, which causes brown spotting of the cotyledons in the seed is a constraint to expanded production. The planned research is designed to overcome the problem. The funding will be used to pay for time-slip labor and for necessary supplies.

#### Greenhouse Research

Grantee: Dr. Kenneth F. Grafton, NDSU Department. of Plant Sciences

Grant Amount: \$6,785.88

Matching Funds: \$1,800 industry funds

This proposal is for enhanced dry bean breeding and pathology research in multiple disease resistance.

## Sclerotinia Infection and Inoculum Production as Influenced by Crop Species and Management Techniques

Grantee: Dr. Bob Henson, Carrington Research Extension Center

Grant Amount: \$3,700

Matching Funds: Northarvest Bean Growers Assn.--\$2,750

Epidemics of scab in recent years have sparked grower interest in alternatives to small grains, but most broadleaf crops are susceptible to sclerotinia (white mold). This research aims to compare common broadleaf crops (canola, dry bean, field pea, flax, soybean, and sunflower) for relative susceptibility to white mold and the production of reproductive bodies (disease inoculum for succeeding crops.) Contrasting plant types and row spacings are compared to identify the best crop and management alternatives for crop rotations.

### Resistance of Dry Beans to White Mold

Grantee: Dr. Jack B. Rasmussen, NDSU Dept. of Plant Pathology

Grant Amount: \$3,750

Matching Funds: Northarvest Bean Growers Assn.-- \$1,250

The most economically efficient and environmentally friendly way to control plant diseases is through genetic resistance, however, few good sources of white mold resistance has been identified in dry bean. Recent research has been aimed at evaluating dry bean accessions from around the world for resistance to this disease. This research aims to determine whether the resistance in the lines developed will stand up to natural epidemics which develop in the field and to determine the genetic basis resistance.

# New & Emerging Crops Granting Committee Total amount granted: \$66,814.84

Committee members: John Cook Blaine Schatz

Ray Fegley Darrel Oech
Michael Young Dr. Al Schneiter

John Gardner

## New & Emerging Crops projects funded

#### Investigative Establishment & Evaluation of the Medicinal Herb

Grantee: Dr. Ron C. Smith, NDSU Department of Plant Sciences

Amount Granted: \$8,000 Matching Funds: None Required

Echinacea is a hearty prairie flower found all over the state of North Dakota. It is used by more than 80 million Americans as an immune system enhancer. The main point of this project is to find the most accurate time to harvest Echinacea, distinguish the differences between the three types and evaluate the cost/return information on procedures and geographic location and compare with current market prices over the duration of the project. The project will take place at the Dickinson, Williston and Fargo research extension centers.

#### Open-Pollinated, Hybrid, Smart, and Transgenic Canola Performance Comparisons

Grantee: Dr. Burton Johnson, NDSU Department of Plant Sciences

Amount Granted: \$8,000 Matching Funds: None Required

Experimental objectives are to evaluate the agronomic performance of representative open-pollinated, hybrid and herbicide tolerant canola varieties with their appropriate weed control strategies and to evaluate the economic performance of the various canola types and weed control compliments to determine production cost differences associated with the different production approaches.

#### Field Peas as a Protein Source for Low Quality Forages

Grantee: Greg Lardy, NDSU Department of Animal & Range Sciences

Amounted Granted: \$10,500 Matching Funds: None Required

Research on the utilization of field peas by cattle will be conducted to determine their value as a protein supplement for wintering cows as a way to reduce wintering cost. Three major varieties of peas will be used. The research will involve characterizing the ruminal excape protein of peas and the need to process peas; as well as using them as a supplemental protein source for cows fed a low quality roughage.

#### Inoculation and Fertilization of Field Pea

Grantee: Dr. Bob Henson, Carrington Research Extension Center

Amount Granted: \$11,335 Matching Funds: None Required

There was over 100,000 acres of peas produced in 1998 in the state of North Dakota. This project will determine if nitrogen and phosphorus fertilizers increase pea yield or pea quality when applied to soils that are difficient in N and P. Some peas will be inoculants. The experiment will be located at the NDSU research extension centers at Carrington, Dickinson and Minot. Demonstation plantings will be done on a minimum of three North Dakota farms.

## Pest Management of the Crucifer Flea Beetle on Canola

Grantee: Dr. Denise Olson, NDSU Department of Entomology

Amount Granted: \$5,600 Matching Funds: None Required

This project will address some important questions on pest management of the crucifer flea beetle on canola. For example, when do flea beetles move into a field in the spring? What rates and how long are the insecticides effective? The insecticide data will support registration of new chemicals, reduced rates, and can be used for harmonization with Canada. Furthermore, a new strategy, a new biological control agent, will be evaluated for controlling flea beetles at another link in its life cycle. Overall, this project integrates multiple strategies for managing the crucifer flea beetle with minimal inputs.

## Sclerotinia Infection & Inoculum as Influence by Crop Species & Mgmt. Techniques

Grantee: Dr. Bob Henson, Carrington Research Extension Center

Amount Granted: \$2,400 Matching Funds: None Required

Funding for this project was shared by the New & Emerging Crops, Sunflower, Dry Bean and Soybean Committees. See the description under the dry bean committee information.

## Feeding Hull-less Oats to Lactating Dairy Cattle for Enhanced Milk Composition & Increased Market Value

Grantee: Dr. J.W. Schroeder, NDSU Department of Animal & Range Sciences

Amount Granted: \$9,800 Matching Funds: None Required

The level of Paul Hull-less Oats and supplementary bypass protein will be examined in the diets of high producing Holstein dairy cattle to determine their effect on milk composition and milk yield. The unique properties of hull-less oats present several limitations when fed to other species.

#### Northern Crops Network (NCN)

Grantee: American Renewable Oils Association

Amount Granted: \$11,179.84 Matching Funds: None Required

The American Renewable Oils Association is forming a coalition of commodity groups in North Dakota to work together on registering pesticides for minor use crops.

## Potato Granting Committee Amount Granted: \$17,235.88

Committee Members: Dr. Richard Novy

Justin Dagen

Paul Gray Neil Jonk

Duane Maatz Rocky Schumacher Greg Stocker

Dr. Al Schneiter

Larry Aarestad

Steven Galbraith

Greg Halverson Mike Jorde

Dave Paquin Garry Smith

Mark Thompson

Lester Amundson

Carmen Gravning Maynard Helgaas

Jerry Larson

**Duane Preston** 

Dale Stevens

Barry Vculek

## Potato projects funded

## Development of an Irrigated Potato Breeding & Production Research

Grantee: Dr. Rich Novy, NDSU Department of Plant Sciences

Amount Granted: \$14,000

Matching Funds: \$20,000 RRVPG

The rapid and continuing expansion of irrigated potato acreage in North Dakota requires the development of an irrigated site dedicated to the development of cultivars and production guidelines specific for North Dakota's irrigated potato research in the state. The funds would be used for the development of the site as well as the first year's plot research.

## Applied Research & Demonstration of Successful Irrigated Potato Production in NW ND

Grantee: Dr. Jerald Bergman, Williston Research Extension Center

Amount Granted: \$3,235.88

Matching Funds: RRVPG - \$6,400

This project proposes to demonstrate successful irrigated potato production under varying soil textures in northwest North Dakota to promote irrigation development and the potato processing industry in the region. With a cooperative team approach, Nesson Valley farmers will team up with NDSU, MSU, and USDA-ARS research and extension staff, and the J.R. Simplot Company in this potato research and demonstration project.

# Soybean Granting Committee Amount Granted: \$32,247.77

Committee Members:

Neil Jonk Greg Gebeke
Truman Thykeson Keith Smith
Mark Korsmo Terry Goerger

Chris Johnson

Dr. Ted Helms

Dr. Cole Gustafson

## Soybean Projects Funded

## Increasing Soybean Yield on Waterlogged Soils

Grantee: Dr. Theodore Helms, NDSU Department of Plant Sciences

Amount Granted: \$28,547.77 Matching Funds: \$7,486-ND Soybean Council

Soybean plants are often stunted and low yielding due to excessive soil water on poorly drained soil. This project will evaluate planting date and choice of cultivar to reduce yield loss. A greenhouse screening method to select superior cultivars for poorly drained soils will be developed.

## Sclerotinia Infection & Inoculum Production as Influenced by Crop Species & Managment Techniques

Grantee: Dr. Bob Henson Carrington Research Extension Center

Amount Granted: \$3,700 Matching Funds: \$2,750-ND Soybean Council

Funding for this project was shared by the New & Emerging Crops, Sunflower, Dry Bean and Soybean Committees. See the description under the dry bean committee information.

# Sugarbeet Granting Committee Amount Available for Grants: \$29,467.79

Committee Members: Dr. Al Schneiter

Dr. Al Schneiter Tom Anderson Mark Bredehaeft
Allan Cattenach Jim Dudley Doug Erdman
Dean Gadberry John Hought Dr. Cole Gustafson
John Jensen Tom Knudsen Keith Knudson
Philip Larsen Sheldon Melberg Dr. Darnell Lundstrom

Philip Larsen Sheldon Melberg Dr. Darnell Lun Gerald Miller Ed Moen David Mueller Duane Myran Wendall Sands Ken Schellack

Duane Myran Wendall Sands Ken Schellack Tom Schulz Alan Dexter\* Mark Weber\*

\*Denotes Ex-Officios

This committee has not met yet. They are combinting the Agricultural Research Fund granting process with their granting process used to distribute their checkoff dollars. Decisions are expected in February, 1999.

#### Response of Sugarbeet to Nitrogen Fertilizer as Affected by Small-Grain Residues

Grantee: Dr. J.T. Moraghan, Dr. Smith and Dr. A. Sims University of Crookston Project Budget: \$36,300 Matching funds: Red River Sugarbeet Growers

The research will largely involve field studies designed to determine how different types of small-grain residues influence the yield of recoverable sugar. In particular, the research will determine if these residues in sugarbeet rotations necessitate changes in nitrogen-fertilizer recommendations for sugarbeet.

Analysis of Fungicide Tolerance in Cercospora Beticola as Influenced by Sampling Date and a Survey of the Genetic Structure of C. Beticola in the United States

Grantee: Dr. John J. Weiland, USDA-ARS-Northern Crop Science Laboratory, Fargo Project Budget: \$6,700 Matching funds: Red River Sugarbeet Growers

Cercospora leaf spot causes significant damage annually to sugarbeet in Minnesota and North Dakota with unusually high levels of leaf spot occurring in the 1998 growing season. Testing in our USDA-ARS laboratory of Cercospora beticola isolated from grower fields continues to show increasing levels of fungal tolerance to fungicides. Over the last several years, questions regarding fungicide tolerance have been raised by growers, the industry, and the fungicide producers. These questions include: 1) what proportion of leaf spots found in fields at the beginning of an epidemic are fungicide tolerant and does this proportion change throughout the growing season, and 2) is there genetic diversity in C. Beticola populations in North Dakota and Minnesota and does this play a role in disease severity or fungicide tolerance. Analysis of early season sampling of leaf spot possessed fewer isolates with tolerance. Analysis of TPTH tolerance in C. Beticola sampled in North Dakota and Minnesota in 1997 suggested that early season sampling of leaf spots possessed fewer isolates with tolerance to TPTH. The research will analyze this in greater detail. Genetic characterization of C. Beticola isolates sampled at various times throughout the growing season may yield data regarding the fitness of fungicide-tolerant isolates. Knowledge of genetic changes in C. Beticola that might correlate with fungicide tolerance would be useful to fungicide producers as they develop new chemistries to complement or replace existing chemicals. This information could play a future role in pathogen race management through novel fungicide application strategies, tillage practices, and crop rotation.

Previous Crop Effects on Establishment, Yield, Quality, and Pest Development of Sugarbeet Grantee: Dr. Dwain Meyer, NDSU Plant Sciences

Project Budget: \$20,000 Matching funds: Red River Sugarbeet Growers

This four-year crop sequence trial will be initiated in the summer of 1999 at Prosper and Fargo, ND. The trial will evaluate plant establishment, beet yield and quality, and development of diseases (both root and foliar) and pest (nematode) of sugarbeet following a wide range of crop species commonly grown in the area

## Sunflower Granting Committee

Amount Granted: \$36,139.74

Committee Members: Vance Neuberger

Keith Swanson Duane Shea

Scott Nelson Greg Mueller

Lloyd Klein Doyle Burkhardt John Riley

Stan Buxa Royce Smith Andy Holm Bob Majkrzak

Paul Erickson Alan Foutz

Curt Stern Richard Jorde Paul Holmen Dr. Cole Gustafson

Dr. Jerry Fisher

## Sunflower projects funded

## Affects of Plant Desiccants on Sunflower Harvest

Grantee: Dr. Burton Johnson, NDSU Department of Plant Sciences

Amount Granted: \$12,000

Matching Funds: Nat'l. Sunflower Assoc.-- \$4,000

This study will provide sunflower producers information helpful in harvest management. Agronomic and economic crop performance will be compared with and without desiccation for traditional and stay[green hybrids. Stay-green hybrids have not been evaluated before and this accentuates the usefulness of this study to producers. Also the desiccant paraquat has recently been labeled for use in nonoilseed sunflower and growers would benefit from research regarding its use and effectiveness both agronomically and economically.

## Influence of Harvest Date on Seed Yield in Sunflower

Grantee: Dr. Burton Johnson, NDSU Department of Plant Sciences

Amount Granted: \$8,322.24

Matching Funds: Nat'l. Sunflower Assoc.-- \$2,927.76

This study will provide producers agronomic and economic information for making harvesting decisions for traditional and newer stay-green hybrids. Harvesting early will require drying of seed and equipment difficulties in the threshing operation may occur. The advantage of earlier harvesting is potentially greater yield. Prolonged exposure to weather by late harvesting can cause plant lodging and seed shattering, both reducing seed yield and often seed quality. Timing harvest maturity (10% seed moisture) is often not feasible for producers, especially when large acreages are involved and weather complications arise.

### Sunflower Date of Planting Study in Western North Dakota

Grantee: Roger Ashley, Dickinson Research Extension Center

Amount Granted: \$6,867.50

Matching Funds: Nat'l. Sunflower Assoc. -- \$2,292.50

There has been minimal date of planting research in SW North Dakota. There may be opportunities to plant sunflower earlier in the region than other parts of North Dakota. Southwest North Dakota tends to have less snow cover and the soils warm earlier in the spring. Sunflower has been planted successfully in late April in parts of Minnesota and South Dakota. Yields and quality of early planted sunflower has generally been above average. Soil moisture is usually the limiting factor for crop yields in SW North Dakota.

#### Sunflower Midge Insecticide Control

Grantee: Dr. Jawahar Jyoti, NDSU Department of Entomology

Amount Granted: \$1,500 Matching Funds: Nat'l. Sunflower Assoc. -- \$500

Tests to determine midge susceptibility to insecticides will be conducted in the field on individual sunflower heads. Trials will include a number of different insecticides, products shown to be insect repellents, and wetting agents (stickers and spreaders.) These materials will be used alone and in combination to compare control of both adult and larvae. Applications will be made at different plant stages or times. Controls will be heads bagged to prevent infestation. The degree of protection provided by the different treatments will be measured by comparing numbers of larvae in the heads following treatment and at plant maturity, and damage ratings.

Sclerotinia Infection & Inoculum Production as Influenced by Crop Species & Mgmt. Technique
Grantee: Dr. Bob Henson, Carrington Research Extension Center
Amount Granted: \$3,700
Matching Funds: Nat'l Sunflower Assoc. - \$2,750

Funding for this project was shared by the New & Emerging Crops, Sunflower, Dry Bean and Soybean Committees. See the description under the dry bean committee section.

#### Herbicide Efficacy in Sunflower

Grantee: Dr. Richard Zollinger, NDSU Department of Plant Sciences

Amount Granted: \$3,750 Matching Funds: Nat'l Sunflower Assoc. - \$1,250

A major limitation of sunflower production is lack of herbicides registered for broadleaf control. Several new experimental herbicides become available each year from basic manufacturers. These products require testing on sunflower to determine adequate sunflower tolerance and spectrum of weed control in multiple North Dakota environments. These products require application alone and in tank-mix combinations to determine affect on sunflower safety and weed control. Trials will measure visible and physical parameters to determine sunflower safety from several varieties and to determine spectrum and degree of weed control.

## Wheat Granting Committee

Amount Granted: \$192,374.62

Committee members:

Louis Arnold

Dr. Cole Gustafson

Richard Haugeberg

Alan Lee

1 1 1

Larry Lee

Dale Overton

Richard Schlosser Neal Fischer\* Dr. Bert D'Appolonia\*
Dr. Michael Peel\*

Tim Dodd\*
Mike Strobel\*

Don Paulson\*
\*Denotes Ex-Officios

### Wheat projects funded

## Spring Wheat Response to Copper Sources and Rates

Grantee: Dr. David Franzen, NDSU Department of Soil Sciences

Amount Granted: \$20,000

Matching Funds: \$6,666.67

Spring wheat responses in yield and disease reduction will be evaluated at ten sites with varying soil copper levels and soil properties. Results will better direct growers in the appropriate soils and soil test levels likely to respond to copper fertilization.

## Effect of Different Environments on Protein Factors & Breadmaking Quality of Hard Red Spring Wheat

Grantee: Dr. Khalil Khan, NDSU Department of Cereal Science

Amount Granted: \$33,800

Matching Funds: \$17,000 ND Wheat Commission

Wheat (gluten) proteins from hard red spring wheat varieties grown in different environments in North Dakota will be studied to identify protein factors that may be responsible for breadmaking quality differences. Then, wheat breeders and cereal chemists can plan strategies to address the effect of environment on breadmaking quality.

#### North Dakota Agricultural Weather Network

Grantee: Dr. John Enz, NDSU Department of Soil Sciences

Amount Granted: \$6,200

Matching Funds: U.S. Department of Transportation - \$2,000

Funding for this project was shared with the barley committee. See the description in the barley projects funded section.

#### Rapid Development of Wheat Lines by Double Haploid Production

Grantee: Dr. William Berzonsky, NDSU Department of Plant Sciences

Amount Granted: \$29,231

Matching Funds: \$1,994 - NDWC, \$7,750 NDFU

Homozygous and homogeneous wheat lines will be produced from crossing wheat and maize. This procedure will help breeders develop improved wheat varieties faster, and it will improve the efficiency of the entire breeding process.

## Inoculation & Infection: A Prelude to a FHB Forecast System

Grantee: Dr. Leonard Francl, NDSU Department of Plant Pathology

Amount Granted: \$41,960.62 Matching Funds: \$13,987 ARS

This research seeks to develop a fusarium head blight forecasting system for wheat farmers. The weather, disease-causing pathogen, and wheat growth stage will be monitored, modeled and researched experimentally. For 1999, a trial forecast system based on airborne pathogen spore counts and regional weather conditions will be implemented in eastern North Dakota and wetern Minnesota.

## Development of Molecular Marker Tags for Resistance to FHB in Durum Wheat

Grantee: Dr. Shahryar Kianian, NDSU Department of Plant Sciences

Amount Granted: \$15,000 Matching Funds: \$5,000 ND Wheat Commission

This project is aimed at developing molecular marker tags for fusarium head blight (FHB) or scab resistance. These tags can be used by durum and common wheat breeding programs to rapidly develop FHB resistant cultivars. Markers developed by this project could greatly reduce the cost associated with breeding for FHB resistance.

## Introgression of FHB Resistance Genes from Triticum Dicoccoides to HRS Wheat

Grantee: Dr. Shahryar Kianian, NDSU Department of Plant Sciences

Amount Granted: \$15,000 Matching Funds: \$5,000 ND Wheat Commission

This project is aimed at transferring fusarium head blight (FHB) or scab resistance genes from wild relatives of wheat (Triticum dicoccoides) to North Dakota adapted cultivated hard red spring wheat varieties. DNA marker technology will be used to accelerate the transfer of genes and eliminate the undesirable donor material. The FHB resistant germplasm developed as part of this project will be invaluable to the continued breeding effort at NDSU and other regional universities in developing better wheat varieties.

#### Monitoring Wheat Midge in North Central North Dakota

Grantee: Drs. Janet Knodel & Kent McKay, North Central Research Extension Center

Amount Granted: \$8,500 Matching Funds: \$2,500 ND Wheat Commission

\$2,500 Dow AgroSciences

This project will address some important questions on pest management of the wheat midge in North Dakota. For example, how do we effectively monitor for the wheat midge? Can sticky traps be used as economic threshold indicators? Can the insecticide sprays for wheat midge be effectively combined with timing for fungicide sprays for wheat scab? Are the insecticides effective at reduced rates? Overall this project provides a network for monitoring midge and integrates multiple strategies for managing the wheat midge with minimal inputs.

## Evaluation of Crop Rotations, Cultural Practices, & Herbicide Combinations to Control Canada Thistle

Grantee: Dr. Brian Jenks, North Central Research Extension Center

Amount Granted: \$7,433 Matching Funds: \$4,500 Monsanto, \$4,500 Dow AgroSciences

The researcher will evaluate the impact of eight crop rotations, cultural practices, and herbicide combinations to control Canada thistle. The study is designed to control Canada thistle with an intensive three-year management effort. The degee of Canada thistle control and the profitability associated with each rotation will be documented.

## Identification of Fungicide Application Techniques that Maximize Control of FHB

Grantee: Dr. Marcia McMullen, NDSU Department of Plant Pathology

Amount Granted: \$5,250 Matching Funds: BASF-\$2,000.00 & Bayer-\$500

Funding for this project was shared with the barley committee. See the description in the barley projects funded section.

## Durum Variety Development for the Semi-Arid Region of North Dakota & E. Montana

Grantee: Dr. Jerald Bergman, Williston Research Extension Center

Amount Granted: \$10,000 Matching Funds: \$10,000 Montana Wheat & Barley

Committee; \$10,000 MSU Eastern Ag Research Center

This project will select durum varieties adapted to dryland production for western North Dakota and eastern Montana and for irrigated production under sprinkler and flood irrigation systems.

North Dakota

# State Board of Agricultural Research

Prepared for the Senate Appropriations Committee David Nething, chairman

H.B. 1021 March 4, 1999

Presented by Jerry Doan

## State Board of Agricultural Research

- 1997 Legislature established SBAR
- Purposes

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- Determine the causes of any adverse economic impacts on N.D. crops and livestock.
- Develop ongoing strategies for research solutions to those impacts.
- Make resources available to accomplish research strategies.
- Develop an annual budget for the ND Agricultural Experiment Station.
- Maximize the use of existing resources to generate the greatest benefit from research efforts.
- Evaluate and report results of research and expenditures.
- Advise the director of the NDSU Extension Service.

## **Implementation**

- 17 members
- Geographic and commodity diversification
- Resolved many technical issues

## State Board of Agricultural Research

## **Activities**

- Conduct survey of research needs
- Critical, in-depth review of individual programs
- Prioritization of research needs
- Implement Gas Tax Research Fund

## Model for stakeholder input

- USDA, other states

A Committee of the Comm

# State Board of Agricultural Research

## 1999 Legislative initiatives

- SBAR survey of research needs
- Initiatives developed internally (\$5 million)
- Prioritized by SBAR (\$3 million)

## 95% budget development

- Followed executive request
- Prioritization:
  - advisory boards ranked options with department/center
  - initial ranking across departments/centers by SBAR
  - revised ranking based on economic impact to state
- Presented to SBHE

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## State Board of Agricultural Research

# Joint ranking of restoration monies (reductions/initiatives)

- Initiated by SBAR

CONTRACTOR AND CONTRACTOR CONTRACTOR

## **SBAR** priorities

- Adding value to North Dakota agriculture
- Livestock production and rangeland management
- Crop production
- Building communities, leadership, skills and youth

## State Board of Agricultural Research

## Gas Tax Research Fund

- Funded by Gas Tax Refund
- First monies (\$556,790) available July 1998
- Hired administrative assistant, Lori Capouch
- Developed process for receiving and prioritizing proposals
- Established grant committees/refined method of allocating funds
- Solicited proposals broadly
- 95 proposals received
- Strong involvement on part of commodity grant committee

## **Future issues**

- Recommendation to oversee Extension
- Need to develop long-term plan
- Increased funding
- Method of appointing replacements

## North Dakota Century Code State Board of Agricultural Research

# 4-05.1-16. State board of agricultural research—Membership—Terms.

- 1. The state board of agricultural research consists of:
  - a. The president of North Dakota state university;
  - b. The vice president of agricultural affairs at North Dakota state university;
  - c. The administrator of the agricultural experiment station;
  - d. The five persons appointed to the agricultural consultation board by the ag coalition and serving in that capacity on July 1, 1997;
  - e. The five persons appointed to the agricultural consultation board by the extension service's multicounty program units and serving in that capacity on July 1, 1997;
  - f. The two persons appointed to the agricultural consultation board by the president of North Dakota state university as representatives of the state's research extension centers and serving in that capacity on July 1, 1997;
  - g. The commissioner of agriculture, who serves in an ex officio capacity; and
  - h. The director of the North Dakota state university extension service, who serves in an exofficio capacity.
- 2. a. The initial five members appointed by the ag coalition shall select their terms by lot so that one member serves for one year, one member serves for two years, one member serves for three years, one member serves for four years, and one member serves for five years.
  - b. The initial five members appointed by the extension service's multicounty program units shall select their terms by lot so that one member serves for one year, one member serves for two years, one member serves for three years, one member serves for four years, and one member serves for five years.
  - c. The two persons appointed as representatives of the state's research extension centers shall serve only through June 30, 1998.
- 3. At the completion of each initial term, the term of office for each member is five years, beginning on July first. No person may be appointed to a second five-year term.

- 4. a. At least ninety days before the conclusion of the initial term of each member appointed by the ag coalition, the ag coalition shall provide to the state board of higher education a list of two or more names from which the state board of higher education shall appoint a successor. Future appointments to these five positions must be made in the same manner. The state board of higher education shall ensure that four out of the five seats are held by agricultural producers.
  - b. At least ninety days before the conclusion of the initial term of each member appointed by the extension service's multicounty program units, the units through their advisory groups shall provide to the state board of higher education a list of two or more names from which the state board of higher education shall appoint a successor. Future appointments to these five positions must be made in the same manner. The state board of higher education shall ensure that four out of the five seats are held by agricultural producers.

Source: S.L. 1997. ch. 50, § 21. Effective Date. This section became effective July 1. 1997.

## 4-05.1-17. Compensation of board members—Expenses.

Each appointed member of the state board of agricultural research is entitled to receive sixty-two dollars and fifty cents per day as compensation for the time actually spent devoted to the duties of office and is entitled to receive necessary expenses in the same manner and amounts as state officials for attending meetings and performing other functions of office.

Source: S.L. 1997, ch. 50. § 22. Effective Date. This section became effective July 1, 1997.

# 4-05.1-18. State board of agricultural research—Chairman—Meetings.

The state board of agricultural research annually shall elect one of its members to serve as chairman. The board shall meet at the times and locations designated by the chairman in consultation with the vice president of agricultural affairs at North Dakota state university.

Source: S.L. 1997, ch. 50, § 23. Effective Date. This section became effective July 1, 1997.

## 4-05.1-19. State board of agricultural research—Duties.

Within the policies of the state board of higher education, the state board of agricultural research is responsible for the budgeting, supervision, and policymaking responsibilities associated with the supervision of the agricultural experiment station. The agricultural research board shall:

- 1. Determine the causes of any adverse economic impacts on crops and livestock produced in this state;
- 2. Develop ongoing strategies for the provision of research solutions to negate adverse economic impacts on crops and livestock produced in this state
- 3. Make available financial resources, including grants and salaries, and make available equipment and facilities to implement the strategies developed under subsection 2, subject to approval by the state board of higher education;
- 4. Develop an annual budget for the operation of the agricultural experiment station;
- 5. Develop a biennial budget request and submit that request to the state board of higher education on or before March first of each even-numbered year;
- 6. Maximize the use of existing financial resources, equipment, and facilities to generate the greatest economic benefit from research efforts and to promote efficiency;
- 7. Annually evaluate the results of research activities and expenditures and report the findings to the legislative council and the state board of higher education;
- 8. Advise the administration of North Dakota state university regarding the recruitment and selection of the vice president of agricultural affairs and the station director; and
- 9. Advise the director of the extension service regarding the dissemination of research information and the best practices for management of the extension service.

Source: S.L. 1997. ch. 50. § 24. Effective Date. This section became effective July 1. 1997.

## 4-05.1-20. Agricultural research fund.

The agricultural research fund is a special fund in the state treasury. The moneys in the fund must be expended for purposes of agricultural research.

Source: S.L. 1997, ch. 50, § 25. Effective Date. This section became effective July 1, 1997.

# 4-05.1-21. State board of agricultural research—Apportionment of research funds.

- 1. The state board of agricultural research annually shall apportion the proceeds of the agricultural research fund as follows:
  - a. Seventy percent to research activities affecting North Dakota agricultural commodities that account for at least two percent of the gross sales of all agricultural commodities grown or produced in the state. The percentage of the dollars available for each agricultural commodity under this section may not exceed the percentage that the gross sales of the agricultural commodity bear to the North Dakota gross sales of all agricultural commodities grown or produced during the previous year, as determined by the agricultural statistics service;
  - b. Eighteen percent to research activities affecting North Dakota animal agriculture: and
  - c. Twelve percent to research activities affecting new and emerging crops in North Dakota.
- 2. The state board of agricultural research shall solicit proposals for research from the public and private sectors and shall appoint committees to review the proposals and award the agricultural research grants on a competitive basis. Each committee must consist of a majority of agricultural producers selected in consultation with the agricultural commodity groups representing commodities that are the subjects of the proposed research and may include researchers and other individuals knowledgeable about the proposed area of research. Whenever possible, the committees shall require that a grant recipient commit matching funds.
- 3. The state board of agricultural research shall develop policies regarding the award of research grants, including requirements for matching funds, cooperation with other in-state and out-of-state researchers, and coordination with other in-state and out-of-state proposed or ongoing research projects.

Source: S.L. 1997, ch. 50, § 26. Effective Date. This section became effective July 1, 1997.

# State Board of Agricultural Research **Members**

Sharon Anderson (ex-officio)

Fargo, ND

Tom Archbold (2000)

Fargo, ND

Ryan Brooks (2002)

Bowman, ND

Tim Bryan (2003)

Bowbells, ND

Sylvia Alme Daws (2001)

Michigan, ND

Jerry Doan (2001)

McKenzie, ND

Allan Fischer

Fargo, ND

Cole Gustafson

Fargo, ND

Jody Hauge (2003)

Leith, ND

George Heller (2002)

Mohall, ND

Pat Jensen

Fargo, ND

Burdell Johnson (2000)

Tuttle, ND

Roger Johnson (ex-officio)

Bismarck, ND

Dale Reimers (1999)

Jamestown, ND

**Mark Weber** (1999)

Fargo, ND

# NDSU Extension Service

Presented by Sharon Anderson

## **NDSU**

## **Extension Program Areas**

- **■** Crop production
- Animal production
- **■** Economics / marketing / risk management

- 4-H youth development
- Human development / leadership / community development
- Nutrition and food safety
- Natural resources

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## **1997-99 Programs**

- planned
- **■** responsive

NDSU NDSU Extension Service

# Disaster Response: Animal Disposal Effort

- Situation
  - Winter of 1996-1997 and the April 1997 blizzard caused roughly 4% loss in North Dakota cattle inventory.

- Response
  - Ag Emergency Task Force established Ag Disaster Response Center
     —ND Dept of Agriculture, lead agency; 12 others cooperating.
- Extension's responsibility
  - Animal carcass disposal site selection and landowner approval.
  - Coordination of individual county effort, publicity and status reports.
- Impact
  - 900 to 1,000 of 13,700 animal carcasses extracted from lakes, rivers or streams.
  - Minimized impact to humans and animal health, and prevented water contamination.

## Flood Recovery '97

■ Pertinent information formulated into packets

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- Grand Forks staff distributed over 10,000
- Office relocated
- Staff changed entire work focus to "flood recovery"
- Over 70 hours of live, call-in radio
- Moisture meters checked out 1,200+ times

NDSU NDSU Extension Service

## **Plant Protection (NCREC)**

### Goal

Provide leadership in implementing new crop production systems and their best pest management strategies for crops grown in north central North Dakota.

#### Audience

Agricultural industry leaders, producers, private crop consultants, agricultural field workers, extension educators.

### ■ Impact

Optimize crop production by reducing crop inputs, like pesticides, and increasing crop outputs, like yield.

## **Plant Protection (CREC)**

#### ■ Scope

- Fungicide application technology (Scab)
- Sclerotinia (crop rotations)
- Sunflower midge (planting dates, survey)
- Wheat midge (trapping, survey)
- IPM (reduced chemical rates, alternative control practices, crop rotations)

#### Audience

■ North Dakota growers, crop consultants, agriculture industry, Extension agents and specialists/researchers

#### ■ Impact

- Grower adaptation of fungicide application technology for scab suppression and improved small grain quality and yield.
- Renewed grower interest in crop rotations to combat plant disease and other pest problems.

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## Range Initiative

## **■** Program

Over 3,200 contacts made with ranchers and producers through workshops, field tours, adult range camps and publications.

- Range Management Handbook May 1999.
- New 2-day range mini-camp and 3-day adult range camp.

## **■** Impact

- 23 producers implementing twice-over rotation grazing.
- Leads to increased stocking rate, increased calf weaning weight and reduced land base required to carry a cow.

## **Nesson Valley Irrigated Potato Project**

A NW North Dakota Value Added Team Project

## ■ Description

Second year of a three- to five-year value-added project establishing northwestern North Dakota's ability to produce high quality potatoes for processing.

- Collaborative effort.
- 200 acres of Shepody and 133 acres of Russet potatoes grown.

#### ■ Goals

■ Irrigation development, irrigated high value crop production, and eventual location of a french fry potato processing plant in northwestern North Dakota.

NDSU NDSU Extension Service

## **Nesson Valley Irrigated Potato Project**

A NW North Dakota Value Added Team Project

## **■** Impact

"The Nesson Valley Irrigated Potato Project is providing dependable data that northwest North Dakota can produce some of the highest quality potatoes in North Dakota."

J.R. Simplot Co.

■ "The Shepody potatoes grown in 1998 received a premium of \$.67/cwt above contract price because of superior quality. This helped the grower to realize a profit of over \$400/acre."

Bill Sheldon, producer

## What to Grow in '98?

A major program thrust for 1997-98

### **■** Focus

- New crops and alternative crops / rotations
- Insect and disease control on wheat and barley
- Marketing and financial risk management strategies

## ■ Delivery

■ Producers reached through workshops, variety trials, field days, twilight tours, one-on-one consultation, publications and media

NDSU NDSU Extension Service

## What to Grow in '98?

A major program thrust for 1997-98

## **■** Results

- Shift to alternative and row crops
  - Corn, soybean, canola, flax, dry bean and sunflower acreage up 63%
  - Wheat and barley acreage down 17%
- Increase in gross revenue to producers
  - About \$140 million in 1998 because of crop shift

## Fungicides for Control of Scab and Leaf Diseases of Wheat and Barley

#### **■**Impact

■ 20% yield increases for spring wheat/durum producers + 1-3 lb test weight increase from using improved application techniques, timing, and having effective fungicides available in 1998.

#### ■ Scope

- 45+ fungicide trials on small grains across state.
- Demonstrated fungicide efficacy and improved application techniques.
- Submitted Section 18 for Folicur fungicide.
- Extension barley technician and fungicide application technician hired (supported in '98 by grower groups, research foundation, CSREES, USDA and industry support).

#### **■** Audience

Wheat and barley producers via meetings, demonstrations, field days and a fact sheet.

NDSU NDSU Extension Service

## **Character Counts**

- Initiated in North Dakota in 1996
  - 1,700 people trained in curriculum at 25 towns throughout the state; in turn, these people have reached 42,500 others.

#### Impacts

- Long-term positive behavior.
- **■** Williams County
  - 250 trained individuals representing 39 schools or agencies.
  - Trained individuals have reached over 6,000 students and adults by integrating the curriculum into schools, churches, civic groups and other organizations.







## **Automotive/Diesel Technician Internship**

#### ■ Goals

■ Enable students to see direct relationship between school learning and career opportunities in their community.

- Redefine the learning environment to include the work site.
- Develop both technical and social competencies in students.

#### **■** Business outcomes

- Increased business participation from three to nine businesses in one year.
- Increased trained workforce.

#### **■** Student outcome

- Increased focus on the future including post-secondary education and greater interest in the automotive industry as a career as reported by the parents.
- Increased work-relationship competencies as reported by work supervisors.
- Increased practical skills (being able to fix own and others' cars) and life skills that can be applied to all facets of life.

NDSU NDSU Extension Service

# North Dakota Dairy Diagnostic Advisory Team

- Assist dairy producers in increasing profits
  - 20 farms from 16 to 300 cow herds
  - Current attainable business goals represent \$2.1 million added revenue
- Collaborative effort
- **■** Early success stories
  - \$7,200 increased enterprise income in one month without addition of off-farm expenditures.

- 3 lb/cow/day increased milk production with addition of a TMR (total mixed ration).
- Team evaluation of forage needs changed 1999 field cropping plans.
- Unique leadership models developing.

## Food Safety (HACCP)

#### ■ Situation

■ A foodborne illness outbreak costs, on average, at least \$50,000. (National Restaurant Association)

#### ■ Audience

■Over 700 food workers in restaurants, hospitals, nursing homes, childcare centers and processing plants.

#### **■** Impacts

- **■61% modified cooling practices**
- **■**58% changed hand-washing procedures
- **■53% trained employees on HACCP practices**

NDSU NDSU Extension Service

## Leadership 1998

Governor's Initiative

#### Audience

- **■** Existing and new community leaders
- True collaboration public and private

## Delivery

■ Two IVN sessions plus a state-wide meeting and two-day conference

### ■ Impact

Reached over 5,000 older youth and adults plus documented need for future leadership development programming

## Leadership 1999

Governor's Initiative

## ■ Community strategic planning

Development and training of area resource teams to assist individual communities to strategically plan for the future

### ■ Youth summit

 Collaborative effort of North Dakota youth organizations

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# Additional Leadership Programs

## Audience

- North Dakota Leadership Consortium
- Rural Development partnerships
- Stutsman County governmental offices
- Soil Conservation District supervisors
- Youth 4-H and 4-H ambassadors

## Delivery

■ State, regional and county interactive workshop

#### ■ Impact

- 1,500+ participants
- Changes in behavior
  - Increased communications
  - Increased team work
  - Enhanced decision-making techniques

## Changing the Way You Farm in a Global Economy 1998-99

- Program designed to help producers understand:
  - Implication of changes taking place in agriculture.
  - Financial condition of their farm and family.
  - Educational programs to strengthen risk management skills.
  - Arrangements to overcome financial difficulties.
  - Strategies for a successful farm operation.
- Audiences:
  - Ag lenders through four conferences.
  - 300 producers through six state-wide workshops and many county-level meetings.

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#### **Farm Financial Crisis**

- 1999 a critical time for many North Dakota farmers and ranchers
- Farmers and ranchers fall into 3 financial groups
  - Financially sound 10%
  - Financially vulnerable 70%
  - Financially stressed 20%
- Farm financial crisis educational plan being developed

## Farm Financial Crisis Educational Plan

■ Integrate FFC programming into existing programs

- Develop "Considerations If You've Decided to Exit Farming" educational program
- Develop special professional improvement programs
- Extension agents identify families needing farm financial help
  - Develop farm checklist to start FFC educational program
- Refer category 3 producers to Mediation Service
- Develop educational program for financially vulnerable ■ Financial analyst mentors
- Agents present financial plans back to families
- Form "Financial and Production Diagnostic Teams"

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#### **Master Internet Volunteer Program**

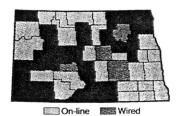
- A 30-hour educational program that trains volunteers to help others in their communities learn about and use the Internet
  - Requires 30 hours of volunteering
  - Piloted in '98; scheduled in 14 counties in '99
- Impact
  - Volunteers are extending to others what they learned about:
    - Using e-mail, web and other Internet technologies.
    - Searching for and evaluating information more effectively.
    - Designing and creating web pages.



## **Technology Expansion During FY1997-99**

■ High speed connectivity (25 offices)

- Education via computer
- Digital cameras



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#### North Dakota State Soil Conservation Committee

The state of the s

- 26 technician grants awarded (28 SCDs)
- **■** Impact
  - Additional staff for contacts with landowners
  - Mercer SCD planting 160 acres of trees and grass
  - Logan SCD 160 acre direct seeding demonstration
  - Barnes SCD Eco-Ed camps reaching 2,500 students
  - Dunn SCD Designed grazing system on 27,417 acres on Ft. Berthold Reservation
  - Foster SCD Abandoned well project

#### 95% Budget Recommendation

#### **Program Reductions**

Sheep education	\$125,403
Sugarbeet entomology education	23,034
Early childhood education	45,194
Urban 4-H program	99,698
Agriculture Communication	91,098
Grain quality education	74,109
Irrigation education	116,573
N.D. State Soil Conservation Committee	40,000
Total	\$615,109

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#### 1999-2001 SBAR Extension Initiatives

**Executive Recommendations** 

■ Plant protection	\$241,799
■ Grain quality	74,109
■ Co-product utilization	46,939
■ Mid-sized farms	82,116
■ Value-added center	40,000
■ High-value irrigated crops	116,573
Total	\$600,706

## Additional Needs for NDSU Extension Service as supported by SBAR

The second se

Burleigh / Morton 4-H \$ 50,000

Sheep education 125,403

Technology and connectivity 78,000

\$253,403

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#### 4-H Youth Development Morton / Burleigh Counties

#### ■ Program

- **■** Character education
  - respect for self and others
  - personal and civic responsibility
- After school programs
- Community service and service learning
- Youth entrepreneurship YESS Mini Society
- Leadership education

#### **Sheep Education Program**

- Increase sheep producers in North Dakota
- Multi-species production
- Optimize farm / ranch resources
- Disseminate research from NDSU
- Youth education

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#### **Technology Impacts**

- Responsiveness to clients
- Rapid analysis of local situations
- Adapting educational programs to changing conditions
- Ready access to Internet

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#### **Technology Needs**

Connectivity — field offices \$30,000
Computers / projectors 40,000
Digital cameras 8,000
Total \$78,000

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## North Dakota State Soil Conservation Committee

■ 1997-99 budget \$691,000

■ 1999-2001 request \$1,000,000

■ 1999-2001 Executive recommendation \$685,000

#### **Action by House of Representatives**

■ Reduction in equipment (\$175,000)

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#### **Action by House of Representatives**

- Reinstates extension sheep position (\$131,646)
- Removes initiatives (\$127,335)
  - **■** Mid-sized farms
  - Value-added center

#### **Action by House of Representatives**

■ Removes 1 FTE faculty member (\$167,592)

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#### **Action by House of Representatives**

- **■** Dairy Diagnostic Teams
  - Appoints regional teams
  - Funds up to \$100,000 from 1999-2001 extension appropriation

#### **Action by House of Representatives**

- North Dakota State Soil Conservation Committee
  - Reinstates grant program (\$20,000)

#### NDSU EXTENSION SERVICE HOUSE CHANGES FROM EXECUTIVE BUDGET

	Executive Budget	Reduce Compensation Package to 2/2	Adjust Health Insurance Cost	Add Sheep Education Position	Remove Midsize Farms Initiative	Remove Funding for Value Added Center	Remove Faculty Position	Add Funding for Soil Conservation Grants	Reduce Equipment	House Version
Salaries and wages	\$25,121,626	(\$329,995)	\$80,546	\$131,646	(\$70,309) (10,100)	(\$31,636) (7,500)	(\$157,592)			\$24,744,286 3,546,836
Operating expenses Equipment Grants	3,564,436 625,640 560,000				(5,290)	(2,500)	(10,000)	20,000	(175,000)	432,850 580,000
Total all funds:	\$29,871,702	(\$329,995)	\$80,546	\$131,646	(\$85,699)	(\$41,636)	(\$167,592)	\$20,000	(\$175,000)	\$29,303,972
Less special funds	16,772,588	(118,986)	33,292	and the second s	Market Market State Control of the C		(90,129)	Addition to the second of the		16,596,765
General funds	\$13,099,114	(\$211,009)	\$47,254	\$131,646	(\$85,699)	(\$41,636)	(\$77,463)	\$20,000	(\$175,000)	\$12,707,207

## NDSU EXTENSION SERVICE Summary of General Fund Change from 1997-99 Adjusted Appropriation to House Version BASED ON ENGROSSED HB 1021

#### General Fund

1997-99 Adjusted Appropriation	\$12,302,188
Engrossed HB 1021	12,707,207
Net change from 1997-99 Adj. Approp.	\$405,019
Net Change:	\$405,019
Less compensation package:	(612,685)
Net general fund change excluding compensation package:	(\$207,666)

SBAR Request not included in the Executive Budget or House Version					
Burleigh/Morton 4-H	\$50,000				
Technology & Connectivity	\$78,000				

#### 1997-1999 Initiatives/Accomplishments

## **Crop Production Systems**

Crop production comprises about two-thirds of North Dakota's farm receipts. Traditional crops dominate, but new crops developed by NDSU add millions to the state's annual economy. However, production threats, a growing processing industry and new high-tech production practices call for even greater expertise.

With funding from the State of
North Dakota, NDSU has been able
to be more responsive to that call.
The problems and challenges are
complex, but a good foundation has
been laid for the future. Here's a
progress report on initiatives after
one year of activity.

- Durum Quality Frank Manthey is working with durum millers and durum breeders to develop high quality durum lines. He is developing education programs to help producers understand the importance of quality grain to long-term markets. And he is helping buyers of North Dakota durum learn how best to use North Dakota durum in their products.
- Wheat Breeding Bill Berzonsky is expanding efforts to develop sawfly-resistant varieties of hard red spring wheat and specialty wheats like hard white spring wheat. His efforts are also being supported by the North Dakota Wheat Commission, which provided funds for equipment and a technician.
- North Dakota, producers are looking to Janet Knodel for the latest information on protecting their crops from insects and diseases. Headquartered at NDSU's North Central Research Extension Center near Minot, Knodel has addressed control of pests on canola, wheat, sunflower, barley, ornamental plants and other plants.

She's provided timely pest updates on wheat midge, crucifer flea beetle, diamondback moth, bertha armyworm and grasshoppers. She is also cooperating with NDSU researchers to conduct applied research and demonstration projects addressing pest concerns in the north central region of the state.

In central and northeastern North Dakota, it's Jim Harbour who's leading NDSU efforts to help producers protect their crops. Based at NDSU's Carrington Research Extension Center, Harbour is collaborating with others at NDSU, USDA and private industry specialists to address pest concerns. He's provided pest control expertise for sunflower, corn, soybean, dry beans, durum, hard red spring wheat, borage and other crops.

■ Weed Control – Many of North Dakota's peskiest weeds are difficult and expensive to control. Brian Jenks, a weed scientist at NDSU's North Central Research Extension Center near Minot is finding better and cheaper ways to control some of the worst weeds.

Kochia saps moisture and nutrients and makes harvest difficult. It's also becoming resistant to some herbicides. Jenks found reduced rates of herbicide combinations provide control and cut costs by up to 25 percent. He's also studying the application timing and reduced rates that provide reduced cost control of herbicide-resistant weeds in canola. He's also studying cultural and other management practices that could improve weed control in canola. Additional studies focus on Canada thistle control.

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North Dakota Agricultural Experiment Station
JANUARY 1999

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#### 1997-1999 Initiatives/Accomplishments

## Rangeland Management

About half of North Dakota's land is range. Ranchers, wildlife enthusiasts, hunters and landowners struggle to manage this resource responsibly. With funding from the State of North Dakota, NDSU continues its internationally recognized work to explore the delicate balance between rangeland economics and ecosystem. Here's an update after one year of activity.

- Central Grasslands Research Extension Center - Graduate student Chad Engles is studying the effect of grazing intensity on the hydrology of rangelands. The study should help better determine what happens to rainfall in rangelands. The information may suggest ways to modify grazing systems to improve infiltration and minimize runoff. Added state support has allowed the station to cooperate more closely with the NDSU Soil Science Department, the NDSU Animal and Range Science Department and the Hettinger Research Extension Center.
- Dickinson Research Extension Center - Range research specialist Nickole Buck is working to develop management strategies that increase forage production and improve wildlife habitat. As a result, such systems should improve livestock performance, the economic status of livestock producers and the quality and performance of rangeland ecosystems. Specific research focuses on how grazing rangeland plants affects vegetative cover and how grazing might be managed to further boost production.
- Hettinger Research Extension
  Center Initiative funding allowed researchers to study the nutrient content of grass samples collected during 1995, 1996 and 1997.
  The samples include 25 species of cool-season grasses collected at the center and at cooperators' ranches with the help of the Natural Resources Conservation Service.
  Results of the study will help producers plant grasses that work best with their grazing and haying strategies.
- Rangeland Outreach A pair of three-day rancher workshops in Watford City and Golden Valley drew 28 participants. The ranchers developed 12-month range and forage management strategies and learned about grazing management, rotational grazing, timed grazing and range improvement. more workshops and short courses are being developed on these topics. At a four-day youth camp, 50 youth received a book, "Selected Range Plants of North Dakota and Minnesota," purchased with initiative funds. The book supplemented camp lessons on how to identify range plants and the importance of range management, soil protection and nutrition.

#### NDSU

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#### 1997-1999 Initiatives/Accomplishments

# Adding Value to North Dakota Agriculture

NDSU's expertise has been invaluable as interest in new agricultural commodities, processing and overall economic development has grown. NDSU is helping give producers more options and returns; give consumers more choices; develop a stronger state economy; and develop future jobs for our youth. Most initiative funding for value-adding efforts were focused on the western side of the state. Close ties have been established with ongoing efforts in eastern and central North Dakota and with faculty on campus. Here's what's been done so far with initiative funding.

■ Williston Research Extension
Center — Research and demonstration projects promote high-value crop production, processing and marketing, as part of a regional effort of growers, economic development groups and agribusinesses. Although this is the first year of the project, production practices and irrigation technology already were demonstrated at field days and

farm tours.

- Research A newly developed research program evaluates the potential for potato, sugar-beet, carrot, onion, cabbage and pepper production under irrigation in northwestern North Dakota.
   Research sites have been established in cooperation with the USDA's Eastern Agricultural Research Center in Sidney Mont., the city of Williston, local producers, the Montana Department of Natural Resources, Simplot Company, and the Agricultural Products Utilization Commission.
- Outreach Randy Mehlhoff developed programs to help producers of high-value crops manage risk, improve marketing, improve economic analysis and identify potential new crops. His Alternative Crop Risk Management Program offers producers new insight on minimizing

financial and marketing risks associated with non-traditional crops. Mehlhoff has also worked with NDSU agricultural economists to develop irrigated crop budgets for western North Dakota. The budgets have been used heavily by producers and lenders as a basis for planning irrigated and high-value crop enterprises. In addition, Mehlhoff has worked directly with lenders, irrigation districts and producers to help them better understand the revenues, expenditures and risks associated with irrigation so they can make educated decisions about irrigation enterprises.

■ Bison Nutrition Research
Facility – Construction is underway on a bison nutrition research facility at the Carrington Research Extension Center. A half-time technician has been hired to assist with bison-related activities. Studies at the facility will focus on nutrition and feed management of bison bulls, from weaning to market. Additional studies on nutrient requirements, meat quality, animal health, drug residue, and bison care and management are also planned.

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North Dakota Agricultural Experiment Station
JANUARY 1999

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## NDSU EXTENSION SERVICE BUDGET SUMMARY

Federal Funds         \$7,620,000         \$7,736,35           Special Funds         8,161,635         9,036,22           TOTAL         \$28,083,823         \$29,871,70           LINE ITEM         \$23,420,759         \$25,121,62           Operating Expenses         3,483,064         3,564,43           Equipment         600,000         625,64			
Federal Funds         \$7,620,000         \$7,736,35           Special Funds         8,161,635         9,036,22           TOTAL         \$28,083,823         \$29,871,70           LINE ITEM         \$23,420,759         \$25,121,62           Operating Expenses         3,483,064         3,564,43           Equipment         600,000         625,64	FUNDING SOURCE		EXECUTIVE
Salaries and Wages       \$23,420,759       \$25,121,62         Operating Expenses       3,483,064       3,564,43         Equipment       600,000       625,64	Federal Funds Special Funds	\$7,620,000 8,161,635	\$13,099,114 \$7,736,359 9,036,229 \$29,871,702
Operating Expenses         3,483,064         3,564,43           Equipment         600,000         625,64	LINE ITEM		
	Operating Expenses Equipment Soil Conservation Grants	3,483,064 600,000 580,000	\$25,121,626 3,564,436 625,640 560,000 \$29,871,702

#### NDSU EXTENSION SERVICE

#### **BUDGET SUMMARY**

		1999-01	
	1997-99	EXECUTIVE	HB1021
FUNDING SOURCE	APPROPRIATION	BUDGET	HOUSE VERSION
General Fund	\$12,302,188	\$13,099,114	\$12,707,207
Other Funds	15,781,635	16,772,588	16,596,765
TOTAL	\$28,083,823	\$29,871,702	\$29,303,972
		,	
LINE ITEM			
Salaries and Wages	\$23,420,759	\$25,121,625	\$24,744,286
<b>Jperating Expenses</b>	3,483,064	3,564,436	3,546,836
Equipment	600,000	625,640	432,850
Soil Conservation Grant	580,000	560,000	580,000
TOTAL	\$28,083,823	\$29,871,701	\$29,303,972

## NDSU Extension Service

#### **Sheep Extension Program**

Sheep can be a valuable economic resource, adding value to North Dakota grown crops and providing profitable enterprise with a relatively low start-up cost. Restoration of funds for this program will support a specialist who will:

- work to increase the number of sheep producers (1,000) and sheep (110,000) in the state.
- provide information on using sheep in multi-species production systems that provide biological control of leafy spurge and increase the use and value of pastures.
- educate producers on technology through schools, seminars, newsletters and through cooperation with the North Dakota Lamb and Wool Producers Association.
- make available the latest results of NDSU sheep-related research.
- help educate youth on sheep projects, which make up the largest share of 4-H livestock projects statewide.

Added personnel: I faculty member Biennium total: \$125,403

## 4-H Youth Development in Morton/Burleigh Counties

A survey of Burleigh and Morton County residents identified a need for youth programs that focus on building character, ethics and responsibility and reduce incidences of chemical abuse, violence, depression and suicide. This program would address those needs through after-school programs, community service and service learning opportunities, and educational programs on youth entrepreneurship and leadership while partnering with existing programs. County commissioners in Burleigh and Morton Counties have already pledged matching funds needed for this effort.

Added personnel: I extension agent

Biennium total: \$50,000

#### NDSU

North Dakota State University

North Dakota Agricultural Experiment Station

NDSU Extension Service

## **Extension Connectivity** and Technology Initiative

Information access and the application of that information to family, business and agricultural decisions is fundamental to the future of North Dakota. Through the use of computer networks and partnership arrangements, county offices of the NDSU Extension Service are becoming key locations for information gathering through the use of electronic technology. At the same time, extension specialists and agents increasingly need access to information while working with clients in classrooms or in clients' homes, offices, vehicles or barns. Digital cameras help produers, extension agents and state specialists collaborate for rapid analysis of local situations such as weed or disease problems. By providing improved computer and communication technology, this initiative would:

- Improve the responsiveness of faculty and staff to the needs of clients.
- · Allow staff to prepare higher-quality educational presentations.
- · Give field staff dedicated, high-speed access to Internet resources.
- · Give extension agents and specialists greater mobility.

As a result, NDSU staff would be able to give citizens greater access to information so they can make better decisions. The improved connectivity would also give NDSU staff new opportunities to collaborate with others across the state and around the world in developing educational materials.

Added personnel: 0
Biennium total: \$78,000

#### For more information on specific programs, contact:

NDSU Extension Service Morrill Hall 315 Box 5437 Fargo, ND 58105-5437 (701) 231-8944 ext-dir@ndsuext.nodak.edu

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This information will be made available in alternative format for people with disabilities upon request 701/231-7881.

#### **TESTIMONY**

#### Prepared by Mr. Dennis Kubischta

Tuesday, January 19, 1999

I wish this committee to consider restoring funding for the NDSU Extension Service sheep specialist.

North Dakota has approximately 1200 farms and ranches that raise sheep. There is still a large core of sheep farmers left. We still have the resources in place to have a great sheep industry. If we lose further infrastructure or resources we are then in danger of losing another segment of rural North Dakota economy. The sheep specialist is a vital cog not just for information to us, but also helps the industry hold together by his participation in wool pools, state sheep organization, and other sheep groups.

I am not asking for a costly new program but to merely maintain the present level of support. If you can do this then the ability to move forward is still there when the ag economy gets better. If we retreat from this present level of support there may be one less industry in rural North Dakota. Sheep are raised in our most rural areas of North Dakota. There are not a lot of jobs or programs to help these farmers. This position is an example of a state job that really does help people and does make a difference.

Respectfully submitted by Dennis Kubischta, Hope, ND

Presented by Senator Kenneth Kroeplin

#### North Dakota Lamb and Wool Producers Association

Jim Marshall, Jr., President of North Dakota Lamb and Wool Producers, Oriska, ND

I Jim Marshall, Jr., representing the ND Lamb and Wool Industry, concerned sheep producer and North Dakotan, want to visit with you on House Bill 1021. I want to make you aware of the great need to reinstate the <u>extension sheep education position in addition</u> to HB1021. In fact, the newly formed State Board of Ag Research has made it a priority to reinstate the sheep education position in Extension.

Our current resources include excellent sheep research facilities at both Fargo and Hettinger, who have conducted various trials on multi-species grazing to control leafy spurge, and to provide an environmentally friendly alternative to pesticides. But without the education arm and technology transfer of the University sheep extension position much will be lost.

Sheep continue to be the largest youth livestock project in the state. This position has played an integral part in the development administration of this program.

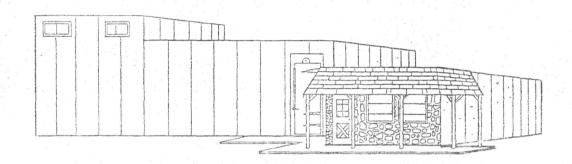
Sheep in North Dakota are the only commodity group that currently does not fulfill its demand. The sheep industry is the only commodity group that relies on imports to satisfy current demand. It is in this area that the potential exists to expand production, provide economic benefit to rural North Dakota, and provide income off of previously unusable leafy spurge infested land. The extension sheep specialist is the final link that brings together the technology and the research into a profitable enterprise for rural North Dakota.

AT NDSU FOR COPY

Agricultural Economics Report No. 384

November 1997

### FEASIBILITY OF OPERATING A LAMB SLAUGHTER PLANT IN NORTH DAKOTA



#### A Report To Valley Wool Growers

By Dan Nudell and Tim Petry

Institute of Natural Resources and Economic Development
Department of Agricultural Economics
and
Hettinger Research and Extension Center
North Dakota State University
In Cooperation With
N.D. Agricultural Products Utilization Commission

314/99 Doug Dukart

## North Dakota Dairy Diagnostic Advisory Team

#### North Dakota Dairy Diagnostic Advisory Team

Department of Animal and Range Sciences • 100 Hultz Hall • P.O. Box 5053 • North Dakota State Unive

Fargo, North Dakota 58105-5053 • Phone 701/231-7644 or 701/231-7993 • Fax 701/231-7590

email jjohnson@ndsuext.nodak.edu

A program for dairy families to increase dairy profitability through teamin





Chairman Nething and members of the Senate Appropriations Committee:

My name is Doug Dukart, I am chairman of the Dairy Strategic Planning Task Force and also president of the Milk Producers Association of North Dakota. My wife and I farm and milk cows near Manning with my son and his wife.

I am here today to briefly explain the Dairy Diagnostic Team Program and to ask for this committee's favorable consideration to fund the program for the upcoming biennium.

The dairy diagnostic concept is the result of the efforts of a Dairy Steering Committee which consists of dairy industry participants including: farmers, agricultural finance specialists, product suppliers, and dairy processors. The committee was formed in 1997 to address the decline of the dairy industry and to explore ways to restore its vigor.

The goal of the committee from the outset has centered around finding ways to help existing dairy farmers who want to continue dairying, to be more profitable and have a more family oriented lifestyle.

The pilot program that has been created uses a personalized team approach utilizing local experts competent in: animal health, dairy equipment, nutrition, reproduction, labor management and finance. These stakeholder specialists work together with the farmer to improve the production and profitability of the dairy farm.

The coordination and the administration of the voluntary dairy advisory teams does cost money. There has been generous participation contributions from extension, milk processors, farm credit, REC's, and charitable organizations to help foster the development of this program. In June, the dairy steering committee applied for and received a grant from the Ag Products Utilization Commission for administration of a pilot project.

The current pilot project involves 20 farms using a team approach to improve dairy productivity, farm profitability, reach family goals and to plan for the future. The goal of this program is <u>not</u> to create mega-dairies, or even to necessarily expand the existing dairies. It is to help the farm businesses reach profit and production goals that will keep them in business.

The program has been extremely successful. In fact, assuming the participating farms reach their respective goals by the end of the program's first year- this June, the 20 dairy farms involved in the pilot project will have made an additional \$2.1 million in gross revenues collectively. That is over \$100,000 per farm. These are all dollars that are earned and spent in these farmers' rural communities.

Mr. Chairman, we are coming to you today to request an additional appropriation of \$200,000 to be added to the Extension budget for the operation of the Dairy Diagnostic Program.

This additional appropriation would allow the Extension Service to provide the individualized education and assistance, that this approach requires.

Dairying is the most basic form of adding value to our state's grains and feedstuffs. The dollars generated on dairy farms revolve through their communities an estimated seven times. Dairy farms are employers both directly and through the valued added stream with: truck drivers, processors, suppliers, and retailers all benefiting from the business.

What is good for dairying is good for rural North Dakota, good for agriculture and ultimately good for the entire State. No other sector has the magnitude of an economic multiplier coefficient that dairying has. For example, if the \$2.1 million of pilot farm income that will be generated by the attainable goals creates \$14 million in new taxable wealth (using a 7 economic multiplier and a conservative \$12/cwt for milk), why wouldn't we want to grow our industry? If we don't, other states will surely oblige by trucking their milk here and selling it.

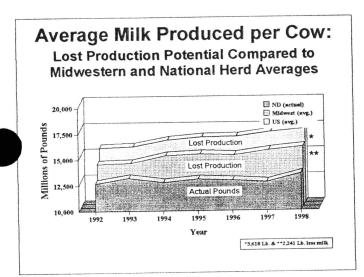
The money provided by the APUC grant allowed the program to serve 20 farmers across the state; an additional \$200,000 appropriation in the Extension Service budget (HB 1021) will impact 74 farms and no doubt an equal number of communities.

Thank you Mr. Chairman and I recognize your limited available time to address this topic, I would be happy to respond to any questions or direct them to someone in the room who might be able to do so.

# Projected Milk Revenue Losses: ND Production Compared to Midwestern and National Averages S140 Lost Revenue S120 Lost Revenue S120 Actual Revenue S140 Year 1992 1993 1994 1995 1996 1997 1998 Year

By not attaining production comparable to that of surrounding Midwestern states (or national average), North Dakota *lost nearly \$16 million dollars* of potential annual revenue from milk sales alone in 1998, (and over \$25.6 million as compared to the national average). Historically, these numbers have ranged from \$9.4 to 18.7 million per year since 1992 (Midwest) and \$19.9 to 29.7 million (nationally), because they have settled for less than average.

By delivering technology to the field and assisting farmers in a one-on-one environment, all participants in this program can easily attain an *increased income* comparable to our regional neighbors.



In terms of actual milk produced, the most recent release from ND Ag Statistics for ND for 1998 reveal that ND cows averaged 13,580 Lb. of milk compared to 15,821 Lb. (Midwest average) and 17,198 Lb. (national average). When compared on a per cow basis, production of the average ND producer lagged behind comparable Midwestern states and nationally by 2,241 and 3,618 Lb., respectively.

Current pilot program participants are demonstrating that with the assistance of these unique advisory teams, they can attain and **exceed** these levels, when provided the assistance necessary to determine which technologies are right for them.

#### Lost Economic Opportunity for North Dakota 1998

If changes were comparable to the average Midwestern State

Excess milk loss per cow \$16 million

Excess loss of cow numbers +32 million

Lost dairy income to ND =48 million

Potential Economic Impact \$336
[using a 7 multiplier coefficient]

\$336 million

North Dakota producers have foregone potential economic benefits by lagging behind the producers from other Midwestern states. If ND had merely followed the regional trends and averages for milk and cow numbers, they could have earned another \$16 million from greater milk production per cow plus \$32 million from the milk produced by those cows that left the state, equating to another \$48 million more income.

According to University of Minnesota research, for every dollar earned in dairying, it turns over as many as **7 times** in those communities that service dairy needs. In other words, that's a potential economic impact of **\$336 million** that would have been generated in our Ag economy.

The **benefits** derived from this program are huge in terms of the potential return to the rural communities for such a **small investment**.

#### North Dakota Dairy Diagnostic Advisory Team Program

Statewide Economic Growth by Enhancing the Dairy Industry



The current North Dakota Dairy Diagnostic Advisory team program is a pilot project to help dairy farmers establish their own team of advisors to assist in setting enterprise goals, guide decision-making, and analyze business opportunities. This program is the primary effort of the ND Dairy Strategic Planning Task Force, a volunteer group of representatives from the dairy industry including: processors, equipment dealers, Ag lenders, service providers and North Dakota State University.

#### Value of Dairy Farms to North Dakota

- ► Generates \$87 million from milk and \$122 million from cattle & calf sales. [NDASS 1997]
- ► Offers expanded markets for state grown grain and forage. [Ag product consumption]
- ► Can provide added milk volume to allow processors to increase efficiency and reduce dependence on imported milk.

Dairying generates significant *revenue* to this state, but like all of agriculture, the number of farms are declining. Enhancing the livestock industry is key to the *future sustainability* of the state's agriculture. Dairying, of all livestock enterprises, has the *greatest impact* on the communities in which it supports. The need to deliver technology to the farm is necessary to stem the decline in herd numbers and bring *economic stability* to North Dakota's livestock industry.

#### Dairy Diagnostic Team Program Goals

- ► Enhance long-term sustainability and growth of dairy farms
- ► Implement an individualized program tailored to the goals of each farm
- ► Improve the viability of rural communities:
  - Current goals of these 20 farms alone, when attained, would generate \$2.1 million of additional gross revenue for the state
    - With a multiplier coefficient of 7 = up to \$14.7 million of additional taxable revenue could be generated

Preliminary results of this program indicate that we can improve the **profitability** and **quality of life** for dairy farm families, making the industry attractive to young people, increase retention of existing farms, and generate greater wealth in their local communities.

Through the development of advisory teams, people with a <u>vested interest</u> in the success of the business have become involved in this integrated process.

Each participant chooses a team membership that is 'customized' to the farms individual needs.

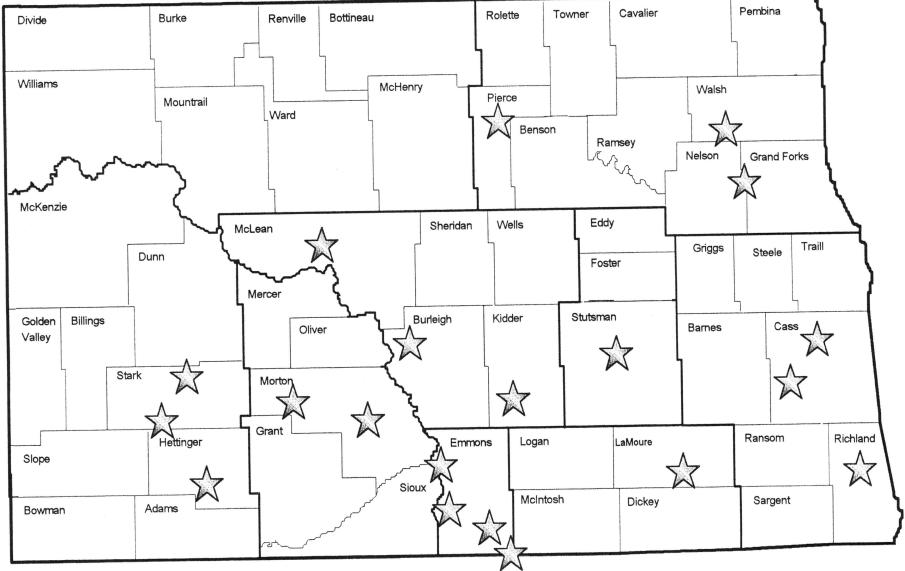
At the same time, our method of delivery is developing an **educational infrastructure** that will continue to support this industry in the long-term and provide a model for other Ag industries to follow.



# 1998-99 NORTH DAKOTA Dairy Diagnostic Advisory Team Pilot Project



— Participants —



#### **ECONOMIC IMPACT ASSESSMENT NORTH DAKOTA**

Dairy Sector 1997

\$84,940,000 direct impact

Economic Sector	Business Activity (\$000)
Ag Livestock	\$102,540 (includes direct impact)
Ag Crops	\$ 33,449
Nonmetal Mining	\$ 705
Construction	\$ 6,133
Transportation	\$ 1,283
Communications & Public Utilities	\$ 7,823
Ag Processing & Misc. Manufacturing	\$ 48,671
Retail Trade	\$ 60,061
Financial, Insurance & Real Estate	\$ 12,962
Business & Personal Service	\$ 4,774
Professional & Social Service	\$ 6,031
Households	\$ 88,384
Government	\$ 8,384
TOTAL	\$ 381,644
secondary employment	\$ 3,909

Source: F. Larry Leistritz, Professor, Agricultural Economics, North Dakota State University, Fargo, ND

Sectors that receive substantial direct expenditures include agriculture—livestock (for replacements), agriculture—crops (for roughage and feed grains), retail trade (concentrate feeds, supplies and repairs), finance insurance and real estate (interest payments and insurance premiums) and households (hired labor and returns to operator labor and management).

Estimated Total (dire	ct plus secondary) Impac	t From				
Expanded Dairy Pro	oduction in North Dakota,	1993				
Gross Business Volume						
SECTOR	Per Herd (based on 500 cows)	Statewide				
	thousand dollars					
Ag Livestock	262	5,240				
Ag Crops	192	3,840				
Nonmetal Mining	5	100				
Construction	84	1,680				
Transportation	26	520				
Communications & Public Utilities	98	1,960				
Ag Processing & Misc. Manufacturing	142	2,840				
Retail Trade	656	13,120				
Financial, Insurance & Real Estate	176	3,520				
Business & Personal Service	89	1,780				
Professional & Social Service	97	1,940				
Households	088	17,600				
Government	89	1,780				
TOTAL Source: "Economic Impact of Expanded Dairring in North Delector	2,796	55,920				

"Economic Impact of Expanded Dairying in North Dakota; AE 93010; F. Larry Leistritz, NDSU Department of Agricultural Economics; June 1993

#### North Dakota Dairy Trends

1992-19981

	1992	1993	1994	1995	1996	1997²	1998	6-yr chg	1-yr chg
Total Milk Production (million pounds)	989	938	869	838	804	702	670	-32.3%	-4.6%
Number of Dairy Cows	78,000	71,000	68,000	64,000	62,000	55,000	50,000	-35.9%	-9.1%
Number of Dairy Farms	2,000	1,900	1,700	1,500	1,300	843	784	-60.8%	-7.0%
Average No. of cows / farm	39	37	40	43	48	65	64	63.5%	-2.3%
Average milk /cow/yr. (Lb)	12,679	13,211	12,779	13,094	12,968	12,764	13,400	5.7%	5.0%
National Average	15,423	15,554	16,175	16,433	16,466	16,916	NA		
Difference	2,744	2,343	3,396	3,339	3,498	4,152	NA		

North Dakota Ag Statistics Service.

#### Milk Production Counts!

A North Dakota dairy cow produces 4,152 pounds *less* milk per year than the national average (1997). Using a base price of \$13.50 per hundredweight (cwt.), that's \$560 per cow lost income. *Multiply that by 55,000 cows, North Dakota lost \$30,800,000*.

That's \$36,536 in lost income for every North Dakota dairy producer!

Filename: ND Dairy Trends.wpd revised: January 19, 1999

<sup>&</sup>lt;sup>2</sup> North Dakota Department of Agriculture, 5/1/98.

#### Intent of Dairy Diagnostic Program Request.

To establish a state-wide coordinator for program management, oversee the establishment of the multiple advisory teams, and allocate the resources as outlined below.

#### Proposed Budget.

Input	Per Farm (annual)	Program (biennial)
Expenditures <sup>2</sup>		
Administration costs	\$ 700	\$ 103,600
Educational materials	500	74,000
Specialized individual farm resources	400	59,200
Business roanagement costs	200	29,600
Total	\$ 1800	\$ 266,400

#### Income

Appropriated funds	\$ 1350	\$ 200,000
Industry and user sources	450	66,400
Total	\$ 1800	\$ 266,400

<sup>&</sup>lt;sup>1</sup>Estimated cost to conduct this program is for a minimum of 74 farms in the first year and through efficiencies in the second year, this number could be increased to around 90 farms. <sup>2</sup>Calculations based on the costs associated with the pilot project farms

Fifty-sixth Legislative Assembly of North Dakota

#### HOUSE BILL NO. 1425

Defeated by the House, after Section 3 was added to HB 1021

Introduced by

Representatives Boehm, Huether, Nicholas

Senators Krauter, Tallackson, Wanzek

- 1 A BILL for an Act to provide for a state dairy board and regional dairy diagnostic teams; and to
- 2 provide an appropriation.

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#### BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

#### SECTION 1. State dairy board - Members - Terms.

- 1. The state dairy board consists of seven members. The governor shall appoint one dairy producer; the agriculture commissioner shall appoint one dairy producer and one processor of milk and milk products; the board of animal health shall appoint one dairy producer; the milk producers association of North Dakota shall appoint one individual; the American dairy association of North Dakota shall appoint one individual; and the agricultural extension service shall appoint one individual.
- 2. The terms of the members must be staggered by lot so that two terms expire on June 30, 2000, two terms expire on June 30, 2001, and three terms expire on June 30, 2002. Thereafter, the terms of all appointed members must be for three years. No member other than the appointee of the agricultural extension service may serve for more than two consecutive three-year terms. If a vacancy occurs, the position must be filled for the duration of the term in the same manner as the original appointment.
- 3. The agriculture commissioner shall call the initial meeting of the board. At that initial meeting and annually, the board shall select a chairman, a vice chairman, and a secretary from among its members. The board shall meet at least twice each year, at the call of the chairman.

**SECTION 2.** State dairy board - Duties. The state dairy board shall advise the agriculture commissioner on all matters regarding the dairy industry in this state, including the development and implementation of any rules relating to the dairy industry.

SECTION 3. Dairy diagnostic teams. The state dairy board shall appoint regional
dairy diagnostic teams consisting of agricultural business management professionals, dairy
extension specialists, and dairy industry partners such as nutrition specialists, reproductive
specialists, and animal health specialists. At the request of a dairy producer, a dairy diagnostic
team shall conduct a site visit, offer the dairy producer educational and technological
assistance, and develop a strategic plan to enhance the producer's productivity and profitability
SECTION 4. Grants and contributions - Acceptance. The agriculture commissioner
on behalf of the state dairy board, may accept and expend moneys from any public or private
source for the purposes of this Act.
SECTION 5. APPROPRIATION. There is hereby appropriated out of any moneys in
the general fund in the state treasury, not otherwise appropriated, the sum of \$200,000, or so
much of the sum as may be necessary, to the agriculture commissioner for the purpose of
defraying the expenses of dairy diagnostic teams, for the biennium beginning July 1, 1999, and
ending June 30, 2001.



By: Douglas R. Schonert Date: January 19, 1999

Before: Appropriations Committee/ND State University Extension

Service

Chairperson and Committee Members, I'm here to ask for your continued support and funding for the Youth programs that are now in place and funded by the North Dakota State University Extension Service with participation by local and county governments.

My background regarding youth programs stems from my involvement as 4-H member and a 4-H leader when my children were involved in 4-H. Also, during the past eight years as a Burleigh County Commissioner, I held the Extension Service portfolio and became involved with the funding aspect of the youth programs.

As a life-long advocate of 4-H, I believe there is no other organization as beneficial to our youth. 4-H youth (from ages 8 through 18) acquire many skills by their involvement in the 4-H program. A few of these skills are: 1) Responsibility: Each member is responsible to complete a yearly project and, if that project is an animal, to care for the animal throughout the year. 2) Completion: --A member learns how to complete the project in a timely and thorough manner, which results in the pride and joy of winning a red, blue, or purple ribbon. The end result giving the youth the incentive to strive to do better the up-coming year and knowledge that completion gives its just rewards. 3) Public speaking: -- A member learns the art of public speaking by giving reasons at livestock judging competition, consumer choice competition, being questioned by judges as to why they chose their individual projects and how they completed it, and through more formal speech contests. These youth learn the self-confidence and aggressiveness that it takes to stand in front of

#### 1999 NORTH DAKOTA LEGISLATIVE ASSEMBLY TESTIMONY ON HOUSE BILL NO. 1021

a group and speak on a given issue.

As a past Burleigh County commissioner, I have seen the development of youth projects in the Bismarck/Mandan --Burleigh/Morton County areas. I believe there needs to be even more steps taken to assure youth guidance. I cannot praise the local extension offices enough for the excellent cooperation in promoting these youth programs. I believe the skills these young people learn from these programs are priceless as the youth gain a good foundation and become stronger, more independent, confident, and successful citizens when they become mature adults. By growing up with an appreciation of these skills, they will pass them on to their children and others.

In summary, I feel that funding for these youth programs is an investment in the future of North Dakota and should be looked at as one of the best investments we can make. Every dollar invested in youth programs returns great rewards.

The alternative is to do nothing to help our youth. As governments react to problems caused, we pay a high price not only in policing, court systems, and jails and prisons but also the biggest waste of all in the lives of some fine, young people. By giving our youth opportunities through the 4-H program, we can take one more step to ensure a better community and a greater North Dakota for us all.

Thank you for your time. Do you have any questions?

Respectfully submitted,

Douglas R. Schonert

Good morning Mr. Chairman and members of the committee. My name is Kacey Tweeten and I'm a resident of Burleigh County, I support this bill because I am a 10 yr. alumni of 4-H and know how important it is. Everyone, especially my parents told me how beneficial 4-H would be to my life, I had yet to realize just how much until lately, who would have known they'd be right? I only have two minutes so I'll just touch on two aspects of 4-H that have recently impacted my life, communication arts and wildlife management.

Communication arts has given me the confidence and the ability to speak. I am currently enrolled in a college speech class and my instructor was blown away by how easily I was able to present my first speech.

Because of my 4-H speaking experiences, this class is a cakewalk.

Communication is really important, I was listening to the radio the other day and studies have shown that the ability to communicate is the number one skill big companies look for in a future employee. I know this firsthand because I have received 100% of the jobs I have interviewed for. Granted, that's only three, but still, 100% nonetheless.

In my last interview both my speaking abilities and my wildlife management background helped me get the job. I know this because my interviewer told me that my 10 years of speaking in 4-H prepared me for the safety lectures that I'll be required to give, and my wildlife background will be needed for the nature trail guiding I will do.

For me, 4-H has had a greater impact in my life now that I am out of it, than when I was a member. 4-H is not just the fair. It helps youth to develop the confidence they need to set goals and the skills to achieve them.

Thank you

Mr. Chairman and members of the committee:

Good MORNING.

I am Rebecca Tokach, I'm 12 years old and

I've been a member of the Go-Getters 4-H club in St. Anthony for 4 years.
I am here today to encourage you to vote for House Bill 1021.

I participate in alot of different areas that 4-H has to offer.

I have fed, halter broke and shown my calf, a yearling heifer and a steer for 4 years.

I have participated in 4-H livestock judging for 3 years. I have attended 5 contests this year and our state contest is Saturday at the North Dakota Winter Show.

I have attended Livestock Camp that is held in June at the Western 4-H camp in hear Washburn for 2 years. Each year I learn more about beef, dairy, swine and sheep.

I also participate in the Communication Arts Contest.

This event allows me to give a demonstration, do a dramatic reading or give a speech. Our next contest is April 10.

I have participated in Consumer Choices Judging where last year we judged baseball cards.

I placed first in this contest the past two years.

On that same day I participated in a sewing contest.

Here, my sewing project was judged on workmanship,

then I spoke with 2 judges as they asked me questions about my project.

We finished the afternoon with a style show at the Gateway Mall.

I was chosen to go to the North Dakota State Fair with my project to represent Morton County in the Pre-teen sewing division. I also participate in cooking, photography, and childcare projects to name a couple other areas that I am interested in.

This year our 4-H club is excited about a group project that we will be doing. The Go-Getters club is going to be planting and tending to flower beds around our church.

We have chosen to do this to help with beautifying our hometown.

As you can see, 4-H has allowed me to be involved with alot of different areas of interests.

4-H is also the reason I'm here today and able to stand before you and give this speech.

I again encourage you to support the Extension Services that allows the 4-Hers' of today to become the leaders of North Dakota's tomorrows.

Thank-you.

## Summary of North Dakota Agriculture Student Survey on the Future of North Dakota Agriculture

North Dakota agriculture students said that access to capital, education, and technology will be keys to a brighter future for agriculture in the state.

Of the 600 agriculture students surveyed at North Dakota State University, Bismarck State, the University of North Dakota-Lake Region, Dickinson State and North Dakota State College of Science at Wahpeton, more than two-thirds said capital and education are needed to improve the future of North Dakota agriculture and rural communities.

Forty-seven percent said availability of financial capital and resources will most affect the growth of the agriculture industry in North Dakota while 13 percent said an educated workforce was key. Another 18 percent said technological advances would most affect the growth of agriculture.

To improve the future of agriculture, one student said, "Create opportunities to keep young people in North Dakota; provide low rate start-up funds to attract business and new farms; develop processing industry to add jobs; and keep North Dakota production in North Dakota."

The students were convinced that agriculture would remain a mainstay in North Dakota, with 93 percent predicting that agriculture will continue to be the state's largest industry. Despite growth in agricultural processing in the state, only 15 percent felt food processing would become the state's leading agricultural sector. Two-thirds of the students said production agriculture will continue to eclipse manufacturing, food processing and sales and marketing as the state's leading agricultural sector.

Still, the students said attracting and creating value-added processing (29 percent), expanding market opportunities (24 percent) and creating niche markets (8 percent) should be top priorities for development of agriculture in North Dakota. "Bring education and awareness to youth who are looking for broad-based careers. Agriculture is more than just farming," a student wrote.

"Capturing more of the retail value of production through processing of raw materials—a value-added philosophy will be the foundation for North Dakota agriculture by producing specific raw materials for specific value-added ventures."



Of the students surveyed, 51 percent said they would like to stay in North Dakota after graduation. Only 43 percent said they actually plan to stay in the state. Similarly, 63 percent said they'd like to farm after graduation and only 43 percent said they're planning to farm.

Of those who don't plan to farm, 35 percent said the primary reason was no start-up opportunity, 19 percent said there's not enough economic return in farming to support their needed lifestyle and 16 percent said they're concerned with the stability of production. Those factors have influenced students to identify a need for financial resources as a top concern.

"Large corporate farms will become much more abundant due to the lack of capital available to small operators—many will be forced out and it will be very difficult for young farmers to get established," a student wrote. On the survey, 40 percent of students perceived larger, corporate or cooperative-style farms as negative, but 76 percent said an important goal for family farms is to expand production.

The students also reinforced that traditional strengths in North Dakota are still important. They cited community support as the greatest benefit of living in rural North Dakota. The 28 percent of students who plan to leave the state said quality of life and the state's family-friendly atmosphere would be key in a decision to return to the state.

The survey was directed the Ag Ambassadors, an NDSU student group. Results of the survey were submitted at a public forum before the North Dakota Commission on the Future of Agriculture appointed by N.D. Agriculture Commissioner Roger Johnson.



## STUGET FORUM

North Dakota Commission on the Future of Agriculture

March 30, 1998 NDSU Memorial Ballroom



## Program

Welcome

Presentation

North Dakota Commission on the

Future of Agriculture

Purpose of Student Survey

Introduction of Ag Ambassadors

Survey Findings

**Student Perspectives** 

Recommendations to the Commission

Recommendations to the Commission

Dr. Thomas Plough

NDSU President

Roger Johnson

Agriculture Commissioner

Pat Jensen

NDSU Vice President and

Dean for Agricultural Affairs

NDSU Ag Ambassadors

NDSU Ag Ambassadors

NDSU Students

General Public



## ND Commission on the Future of Agriculture Working Group

John Bollingberg, Ag Coalition
Representative Jack Dalrymple, ND Legislature
Jerry Effertz, Purebred Council
Neal Fisher, ND Wheat Commission
John Gardner, AgGrow Oils
Pat Jensen, NDSU College of Agriculture
Roger Johnson, ND Department of Agriculture
Fred Kirshenman, Farm Verified Organization
Ron LeClerc, Economic Development
Wade Moser, ND Stockmen's Association
Bill Patrie, ND Rural Electric Cooperative
Richard Schlosser, ND Farmers Union
Howard Schmid, ND Farm Bureau
Bob Sorenson, Independent Bankers

Senator Steve Tomac, ND Legislature

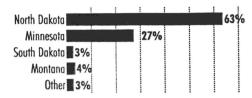
## NDSU Ag Ambassadors

Yvette Anez Kimberly Bitz Erin Brown Amy Erickson Greg Goodman Rhonda Graff Chris Hoffman Mark Jirik Laura Klein Jeff Knott Lorri Loh Corey Martin Ryan O'Flanagan Krysta Olson Ryan Pederson Randy Uglem Russell Voigt

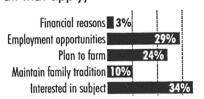
## NDSU Agriculture Ambassadors Student

## "The Future of North Dakota Agriculture"

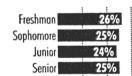
#### 1. Where are you from?



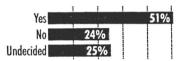
#### 6. Why are you studying agriculture? (Choose all that apply)



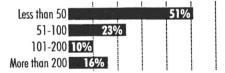
#### 2. Rank in school?



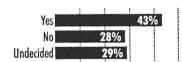
## 7. Would you like to stay in North Dakota after you graduate?



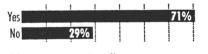
#### 3. Which one of the following best describes the size of your high school graduating class?



## 8. Do you plan to stay in North Dakota after you graduate?

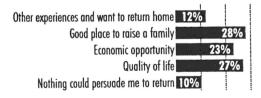


#### 4. Do your parents farm or ranch?

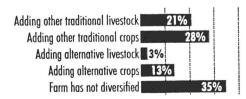


(if no, go to question 6)

## 9. What would persuade you to return in the future? (Choose all that apply)

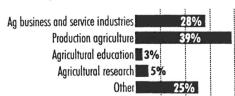


#### 5. If yes, has your family farm diversified?



(alternative livestock: i.e. bison, emus, ostrich, llamas, etc. alterntive crops: i.e. canola, buckwheat, carrots, etc.)

#### 10. Where do you see yourself in twenty years?



## 11. If you had the opportunity to farm after graduation, would you?

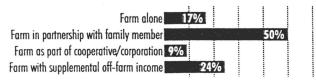


## 12. Are you planning to farm/ranch after graduation?

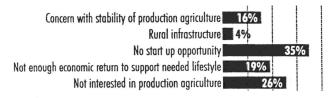


(if yes, go to question 13; if no, go to question 14)

#### 13. If yes, what are your plans?

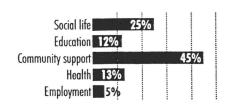


#### 14. If no, why not?

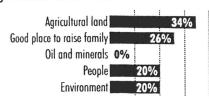


(rural infrastructure: i.e. traveling long distances, hospitals, roads, etc.)

## 15. What is the greatest benefit of living in rural North Dakota?



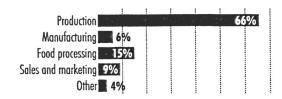
## 16. What would you consider to be North Dakota's greatest resource?



## 17. Do you feel agriculture will continue to be North Dakota's largest industry?



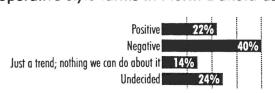
## 18. In your opinion, what is going to become the leading agricultural sector in North Dakota?



## 19. What do you consider to be the top priority in the development of North Dakota agriculture?



## 20.Do you perceive larger, corporate, or cooperative style farms in North Dakota as



21. Do you think it is an important goal for a family farm to expand production (more acres, more output)?



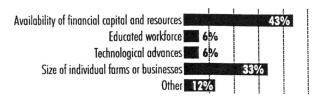
22. What is needed to improve the future of North Dakota agriculture and rural communities?



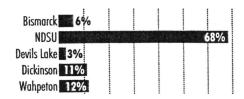
23. What factor do you think will most affect the growth of the agriculture industry in North Dakota?



24. What factor do you think will most affect the depletion of the agricultural industry in North Dakota?



25. What college or university do you attend?



# From Essay Questions

#### 1. What do you see the future of agriculture to be?

"The ag industry will become more diversified. Large farms will produce the traditional crops and the smaller farms will switch to alternative crops. There will probably be less overall jobs but there will be more jobs in service ag and in specialized areas of ag. I think ag will become more of a business than it is now."

"Capturing more of the retail value of production through processing of raw materials—value-added philosophy will be the foundation for North Dakota agriculture by producing specific raw materials for specific value-added ventures."

"Large corporate farms will become much more abundant due to the lack of capital available to small operators—many will be forced out and it will be very difficult for young farmers to get established."

"The future of agriculture in North Dakota appears to be a picture with two parts. For some it will continue to be a profitable enterprise for both farms and other agri-businessmen. However, there will continue to be difficulties for many as well. Bankruptcies and foreclosures will remain a part of recent agricultural tradition until producers reach an economy of scale when profit is possible. Right now it appears that there are far too many producers who simply don't have the means to be profitable; however, they remain on the farm for the lifestyle. Off the farm I see banks and business doing extremely well with both expansion of existing firms and the appearance of new ones."

"Agriculture is becoming less a way of life and I look for the demise of the family farm. Loss of family farms mean the loss of rural infrastructure, loss of rural lifestyle, and loss of traditional way of life."

#### 2. What can be done to improve the future of agriculture?

"Create opportunities to keep young people in North Dakota; provide low rate start-up funds to attract business and new farms; develop processing industry to add jobs; and keep North Dakota production in North Dakota."

"Bring education and awareness to youth who are looking for a broad-based career. Agriculture is more than just farming."

"Education of the public. We must do a better job of telling our story—people need to understand the importance of agriculture."

"The ag industry is going to need leadership and education to overcome many barriers such as environmental interest groups, government regulations, hikes in grazing fees, etc."

"Less government—less regulations."

"All markets should be free markets with no government subsidies or price floors/ceilings."

"People have to get with the trends to compete. We must find a market for our product. We must work within ourselves to get past biases to see the agriculture industry as it is. Need to tell people that it is ok to change."

"Working together—producers, manufacturers, handlers, marketers."

# North Dakota State University **Animal Care Facility**

**Project location:** 18th Street and 15th Avenue on the northwest edge of the NDSU campus

**Project description:** The project will renovate about 20,000 square feet in the existing Livestock Research

Unit and add an additional 33,400 square feet. The project also includes an incinerator for

the NDSU Veterinary Diagnostic Laboratory.

Project cost:

\$4,415,000

Source of funds:

State bonding \$2,207,500

Federal funding \$2,207,500\*

\* Includes \$347,040 of \$727,500 redirected through the cooperation of the Northern Crops Institute.

#### A new era for livestock research at NDSU

The renovation and expansion will:

- Facilitate a new range of experiments in reproductive physiology and large animal nutrition.
- Update existing surgery units.
- Improve and modernize air handling and climate control systems.
- Provide improved and automated waste management including self-cleaning stalls and pens, slatted floors and flush systems.
- Incorporate improved principles of livestock handling and behavior to improve the safety of workers and animals.
- Provide expanded and improved storage.

### Added efficiency

Improvements in animal handling and waste management will facilitate livestock care and facility cleaning without adding personnel. Student workers will be hired to assist with the more intensive research needs. No additional offices will be added, so office custodial support is adequate. Added utility costs should be minimal because renovation of the existing building will include steps to make it more energy efficient and new animal holding barns will require minimal heat. The remaining portion of the added operating costs should be provided by grant funds obtained by facility users.

### Why is the NDSU Animal Care Facility needed?

- NDSU is committed to proper care and humane treatment of all animals on campus. Space, sanitation, ventilation and climate control are key concerns.
- Much of North Dakota's new agricultural diversification into value-added processing requires research related to the livestock industry.
- NDSU must remain competitive in attracting research funds from federal and private sources to help solve problems for North Dakota industries.
- Controlled laboratory testing enhances field livestock studies and can speed the process of answering North Dakotans' questions.
- · Central facilities for animal care and biotechnology improve efficiency.
- To attract and retain faculty interested in animal research.
- To provide enhanced educational opportunities for students.

#### A competitive footing

Some NDSU animal facilities do not meet current federal regulations for animal care facilities. As a result, some researchers cannot compete for federal and private grant funds. There is also some risk that failing to comply with research animal care guidelines could jeopardize other federal grant money coming to NDSU - more than \$2.6 million in 1998.



#### Key Research for North Dakota's Future

The NDSU Animal Care Facility will be used by NDSU researchers and other public and private scientists. Key research areas include:

**Expanded research in reproductive technologies,** including in-vitro fertilization, artificial insemination, transgenics, estrous synchronization, determination of ovulation time and synchronized rebreeding. Providing access to the new technologies will help North Dakota producers improve the performance of their herds and flocks and open markets for offspring and products around the world.

**Expanded nutrition research,** including forage evaluation, metabolism, nutrient requirements of pregnant animals, requirements during growth and the role of digestive enzymes and growth promotants. The diversification of North Dakota's agricultural economy has made a wide variety of new crops and byproducts available as feed. In addition researchers are studying how to improve the efficiency of livestock production through improved nutrition.

The new facilities will also:

- Allow hands-on animal health and care training for the Veterinary Technology program.
- Enhance the services that the Veterinary Diagnostic Laboratory provides to North Dakota producers and veterinarians.
- Allow researchers to test treatments and materials for use in both human and animal surgery.

## Construction of the Animal Care Facility is supported by:

North Dakota State Board of Agricultural Research Ag Coalition North Dakota Stockmen's Association North Dakota Pork Producers Fargo Chamber of Commerce

The project tops the list of capital improvements recommended by the North Dakota State Board of Higher Education.

Shaded areas indicate proposed additions.

# Animal Care Facility

#### Time to update

The technology involved in conducting livestock research has changed significantly in the 40 years since the existing Livestock Research Unit was built. In 1960:

- Estrous synchronization research was in its infancy.
- Artificial insemination was just being adopted by cattle producers.
   AI research with hogs and sheep was just beginning.
- In-vitro fertilization, embryo transfer and transgenics were all futuristic concepts.

## NDSU

North Dakota State University ND Agricultural Experiment Station

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2/99

## North Dakota Agricultural Experiment Station

Presented by Cole Gustafson

## **NDSU**

## Overview of ND Agricultural Experiment Station

- Where does Experiment Station rank with other NDUS budgets?
- How many acres comprise ND Experiment Station?

The second secon

- What is benefit/cost ratio of agricultural research?
- What percentage of budget comes from general funds?
- Name one commodity not improved by NDSU agricultural research.
- Sector with greatest potential for economic development?

## Overview of ND Agricultural Experiment Station

- Where does Experiment Station rank with other NDUS budgets? Third behind UND and NDSU
- How many acres comprise ND Experiment Station?
  More than 18,000 acres
- What is benefit/cost ratio of agricultural research? 12 to 1
- What percentage of budget comes from general funds? 57%
- Name one North Dakota agricultural commodity not improved by NDSU research. Every North Dakota commodity benefits from NDSU research
- Sector with greatest potential for economic development?
  Agriculture

NDSU North Dakota Agricultural Experiment Station

## Overview of ND Agricultural Economy

- Production problems
- Low prices, rising costs
- Rapid technological change
- Some farmers are doing well 10 of 100 top U.S. farms

## Ag Research is Key to Rural and Urban Economic Development in N.D.

- **■** Lead from strength
- 38% of economic activity in N.D.
- Agribusiness impacts urban centers

NDSU North Dakota Agricultural Experiment Station

## Ag Research is Key to Rural and Urban Economic Development in N.D.

- Ag research assisted farmers in 1960-70s
  - hybrid seed
  - chemicals
  - fertilizers
  - machinery

## Ag Research is Key to Rural and Urban Economic Development in ND

- Need to re-invest today, especially in biotechnology
  - Compete with other regions/countries
  - Intense interest in alternative crops/production systems
  - Producers desire impartial, objective information
  - Shift to customer services, wholesale education
  - Crop/livestock disease pressure

NDSU North Dakota Agricultural Experiment Station

## Ag Research is Key to Rural and Urban Economic Development in N.D.

■ Partnerships leverage state funding

## Vision for North Dakota's Agricultural Research

- Premier ag research institute in Upper Great Plains
  - Partnerships with chemical/seed companies
  - Exclusive varieties
  - Irrigation priorities
  - Quality, niche markets

NDSU North Dakota Agricultural Experiment Station

## Review of 1997 Legislative Session

- **■** Core programs
- **Initiatives**
- **SBAR**
- **■** Gas Tax Research Fund

## 1999 Legislative Initiatives

- **■** SBAR survey of research needs
- **Initiatives developed internally**
- Prioritized by SBAR

NDSU North Dakota Agricultural Experiment Station

## 1999 Legislative Initiatives

- 95% budget development
- Joint ranking of restoration monies
- **■** Overview of SBAR priorities
- **■** Executive budget

## 1999 Legislative Initiatives

- Joint ranking of restoration monies (reductions/initiatives)
  - Initiated by SBAR

 $N\!D\!S\!U$  North Dakota Agricultural Experiment Station

## 1999 Legislative Initiatives

**■** Overview of SBAR priorities

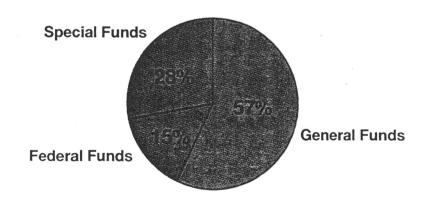
## Additional Needs for ND Agricultural Experiment Station

- Range initiative to Dickinson, Hettinger, Streeter not Main Station
- Equipment to Dickinson and Minot not Langdon and Streeter
- Increased authorization for Gas Tax Research funding
- Capital budget (\$500,000) not included in SBHE

NDSU North Dakota Agricultural Experiment Station

## ND Agricultural Experiment Station Sources of Funds

Executive Recommendations FY 1999-2001



## Additional Needs for ND Agricultural Experiment Station

■ Equipment to Dickinson and Minot—
not Langdon and Streeter

Carryover Language (Sec. 3)

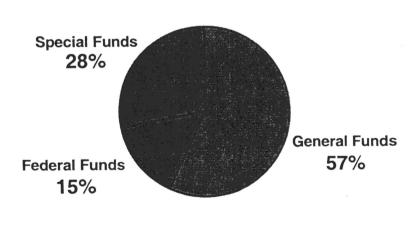
Range initiative to Dickinson,
Hettinger, Streeter — not Main Station

Capital budget (\$500,000) not included in SBHE

## ND Agricultural Experiment Station Sources of Funds

NDSU North Dakota Agricultural Experiment Station

Executive Recommendations FY 1999-2001



- Building better crops. Plant breeders continually strive to produce new varieties that are resistant to pests and diseases, have improved yield and provide the processing qualities that buyers demand. In yield alone, new variety releases from NDSU in 1997 and 1998 are estimated to have added more than \$25 million in farm revenue. Releases include Belzer, Maier and Mountrail durum; Frontier pinto bean; Traill, Jim, Daksoy and Norpro soybean; Jud oat; Pembina and Cathay flax; Argent hard white wheat; and Ransom hard Red Winter Wheat.
- New feeds. Researchers studied the use of field peas in diets for finishing lambs. They found that the peas have 24 percent more energy than corn. They also studied the use of sugarbeet pulp in growing and finishing rations for beef steers. They found pulp has an energy value that is 94 percent of corn's in growing diets and 81.5 percent of corn's in finishing diets. Related research was done with crambe and wheat midds at Carrington Research Extension Center and with field peas in swine diets at the Dickinson. The research allows producers to formulate cost effective diets that use alternative crops and co-products of agricultural processing. Providing local markets for co-products also adds value to North Dakota-grown commodities.
- Leafy spurge stoppers. Researchers are studying if grazing cattle and sheep together can reduce leafy spurge infestations while improving grazing efficiency in pastures. Early results indicate that adding sheep to pastures with beef can significantly reduce leafy spurge infestations. Sheep performance didn't drop when they were grazed with beef cattle and beef performance improved. Researchers also are studying if twice-over rotational grazing systems with beef and

- sheep are as effective in reducing leafy spurge infestations while boosting rangeland health. Researchers estimate that leafy spurge costs North Dakota more than \$24 million annually.
- Wheat disease control. In cooperation with six other states, NDSU conducted fungicide trials for scab control. In North Dakota trials, fungicides reduced scab on the average by 42 to 55 percent and leaf diseases by more than 60 percent. Yield increases averages 12 to 22 percent, but were as high as 48 percent. In additional trials, spray technologies were evaluated for improved scab control. Recommendations were released to producers based on the trials.
- web-based bean buying. A prototype system has been developed that uses digital imaging, computer analysis of those images and internet communications to promote exports of edible beans. With the system, a seller can place quality information and images of representative samples on the World Wide Web, making that information available to buyers worldwide. The technology has the potential to make the trading process more efficient, objective and costeffective.
- Market intelligence. Agricultural economists studied markets for value-added wheat products. Their results identified potential markets and competitors, and will help guide international and domestic market development programs for wheat products.
- Crop impact. Agricultural economists studied the economic impacts of the sugarbeet and barley industries to the region. The totals were \$2.3 billion for sugarbeet and \$1.5 billion for barley. Though the impact of those industries are vast and well-known locally, their importance may not be recognized outside the area. The studies provide information to policy makers and decision makers.

- Getting EPA's O.K. Researchers worked with producer groups, crop protection companies and the North Dakota Department of Agriculture to obtain emergency use registrations from the EPA for pesticides for use on durum wheat and canola in 1998. As a result producers avoided an estimated \$4.9 million in harvest and yield losses in those two crops.
- Sunflower protection. Although a major crop in North Dakota, sunflower is a minor market for agricultural chemical companies. Consequently, few companies register their chemicals for use on sunflowers. NDSU is working to gain minor-use registration for a new herbicide (Authority) from the EPA. This herbicide would be especially useful in reduced tillage, no-tillage and solid-seeded systems and is expected to increase yields equivalent to \$7.2 million annually.
- Livestock improvement. Animal scientists are studying the possibility of using in vitro fertilization to increase the rate of genetic gain in livestock a process called assisted reproductive technology. Advances in this technology would give producers the opportunity to improve their herds through faster and better access to superior animals. Experiments hold promise for marketing the most genetically superior animals available nationally and internationally. The research may also have applications in transgenics and transgenic procedures to improve livestock.
- New salmonella threat. A form of salmonella that is threatening livestock and human health in Europe has been found in North Dakota by NDSU researchers. Salmonella typhimurium, DT104, was discovered in healthy N.D. pigs in 1995 (one of the earliest reports in the United States) and from fatal cases of calf salmonellosis this year. Elsewhere, this strain has been isolated from cattle, sheep, pigs, goats, poultry, rabbits, horses, animal feed and humans. DT104 accounts for more than 80 percent of human

- salmonellosis cases in Britain. DT104 is harder to treat because it is resistant to many antibiotics and it causes more severe disease. NDSU researchers are monitoring occurrences of the disease in the state and documenting what treatments they are resistant to, so that health officials will know how best to treat outbreaks.
- Spray additives add dollars. NDSU has a long history of developing and testing adjuvants, compounds that are added to spray mixtures, to increase the efficacy of herbicides and reduce the amount required. Adjuvants developed at NDSU are essential for micro-rate herbicide technology in sugarbeets and saved at least \$3.1 million in herbicide costs in North Dakota in 1998 (\$9 million for the ND/MN sugarbeet region). Adoption of the micro-rate technology is expected to increase in the coming years. In addition, the cost savings from methylated seed oil use in corn equals \$1 million per year.
- Top beans. The Norstar navy bean cultivar is grown on 50 percent of North Dakota's navy bean acreage. The Maverick pinto bean cultivar, only in its second year of production, was grown on 40 percent of pinto bean acreage in 1998. Both cultivars were developed at NDSU. Based on USDA and industry yield and acreage estimates, total value of production from the cultivars is more than \$56 million in North Dakota and \$11 million in Minnesota.
- Beefing up. NDSU researchers developed a stair-step nutrition and feeding regimen for growing heifers that increases energy when the heifers are most likely to use it and reduces energy levels when the animal is not likely to use it. The regimen is cost effective and improves udder development and lifelong lactation performance with a resulting improvement in calf weaning weights. A 10 percent increase in lactation performance results in a calf that is 20 pounds heavier at weaning, adding about \$15 per calf in revenue.

- Better feeding with grass. Researchers studied the nutrient content and mineral composition of cool-season grasses in North Dakota. They are developing planting recommendations for livestock producers and forage growers that maximize production and quality. Recommendations will be developed for spring, summer and early winter grazing. The mineral analysis will highlight deficiencies and toxicities. The study indicated deficiencies in key trace minerals in all grasses which could lead to reproductive problems, suppressed immune systems and hoof problems. The analysis will help N.D. producers develop supplementation programs to avoid those problems.
- Testing tests. Barley can be subject to price discounts or rejection for use as malting barley based on deoxynivalenol (vomitoxin) content. Producers are concerned about variation among sampling and testing methods. NDSU researchers are cooperating with the USDA and the Packers and Stockyards Administration to examine current sampling and testing methods to refine and standardize them. Results indicate the largest variation lies in the technology of the tests themselves and point to the need for improved tests. Averaging the results of multiple tests would improve accuracy, but increase costs.
- Keeping tabs on vomitoxin. Researchers evaluate the vomitoxin content of barley samples from the annual regional barley crop quality survey. Results help policy makers and producer groups monitor the extent of the problem and formulate plans to address scab and vomitoxin concerns.
- Buyer's guides. In the Hard Red Spring Wheat Quality Survey, specialists collect more than 1,000 samples from the Dakotas, Montana and Minnesota and analyze them for

- protein, test weight, falling number and grading factors and evaluate them for milling and baking characteristics. Results are used to promote the sale of North Dakota hard red spring wheat in domestic and export markets. The Durum Wheat Quality and Pasta Processing program evaluates more than 1,000 durum wheat samples to assess the quality of the region's durum crop. International durum buyers and domestic millers use the information in making buying decisions.
- Keeping quality up. Researchers tested about 700 hard red spring wheat samples from nursery experiment lines and 260 samples from field plot variety trials for milling and baking quality. Results are used to help crop breeders develop high yielding, disease resistant varieties that also have excellent qualities for milling and baking. Similarly, more than 800 durum wheat samples from test lines were evaluated for milling, semolina and pasta qualities.
- Pig booster. Sows typically suffer depressed fertility especially after their first litter. Researchers are looking at compounds that may help them more strictly control fertility cycles in pigs during those known periods of reduced fertility. There is potential to add one piglet per sow per year. With North Dakota's estimated 20,000 sows, that's an \$400,000 increase in revenue given a return to more normal hog prices.
- Getting precise. There are about 20 commercial and several personal variable-rate applicators (farm chemical applicators that can vary application rates according to location and soil fertility) across the state today. There were none as recently as 1994. Use of precision agriculture techniques has improved crop yield and quality and reduced the amount of excess nutrients especially nitrogen applied. Additionally, farmers use the techniques to hone in on problem areas in fields and to compare management techniques.

- Perfect planters. About 200 North Dakota sugarbeet growers participated in the NDSU planter-testing program. About one in six planter units needed adjustment to improve seeding percentage and performance with a resulting yield increase of one ton per acre—a \$2.8 million impact on the sugarbeet industry.
- Midge resistance. Entomologists helped identify wheat and durum lines with resistance to the orange wheat blossom midge. As this resistance is incorporated into adapted varieties, the varieties will help improve yields and reduce pest control costs.
- Vet detectives. NDSU's Veterinary Diagnostic Laboratory provides rapid diagnostic information for the those involved with livestock, companion animals and wildlife. Last year, the laboratory handled more than 10,000 cases. The laboratory provides regulatory testing for brucellosis, tuberculosis, scapie and Johne's disease and monitors animal diseases such as rabies, colibacillosis, salmonellosis, anthrax and plague that pose threats to public health. Because the laboratory is located near an international border, it also monitors the state for exotic or emerging threats like mad cow disease, porcine circovirus, foot and mouth disease, and hog cholera.
- Pest patrol. The insect systematics lab is sorting and cataloging the tortrucid moths of the region. Some members of this family are important pests of fruit trees. To date, more than 300 species have been identified in the state. The information will help researchers identify potential pest problems. The lab also provides insect identifications for professionals and the public more than 300 annually. Medical and veterinary workers commonly send ticks and other insects for identification.

- evaluated a total of 3,000 rows of durum and 6,000 rows of spring wheat for scab resistance. The best advanced lines showed a 10-fold reduction in kernal damage and vomitoxin level. New to the evaluation program were wheats from Brazil gained through cooperative work with researchers there.
- Disease forecasting. Researchers improved the accuracy of computerized disease prediction models through the addition of computer self-learning systems (artificial neural networks). With more accurate prediction systems, specialists should be able to make more accurate recommendations for fungicide applications. A disease forecasting system for scab, tan spot and Septoria blotch of wheat will be operating in 1999.
- Blight fight. A new form of potato late blight that is more aggressive and resistant to the commonly used fungicide has significantly increased the cost of producing potatoes in North Dakota. Recommendations provided by NDSU on a Late Blight Hotline have allowed producers to reduce or delay spray applications. Researchers are also studying improved chemistry and cost effective methods of application.
- Potato protection. Plant pathologists developed management recommendations to control pink rot and leak, potato diseases that are common in wet conditions. When implemented on 14,000 acres in 1994, the recommendations eliminated any substantial losses. Most growers throughout the U.S. have since adopted the pink rot management practices.
- Examples a soybean pest at bay. Soybean cyst nematode, the most economically devastating soybean disease in the United States has been detected in the northern tier of counties in South Dakota. Soybean cyst nematode can also attack dry edible bean. Soil samples from southern North Dakota are being evaluated for the pest so that producers can implement management techniques if it is detected.

- New solution to white mold. White mold is one of the most serious diseases of dry beans. In surveys, 77 percent of growers say the disease is their worst disease and that it affects 68 percent of their acreage. NDSU researchers found that combinations of fungicide and inexpensive calcium compounds increased yields and quality of the harvest. Based on this preliminary data, growers applied this mix to more than 20,000 acres in 1998 for a savings in chemical costs of \$280,000.
- BVD test. NDSU scientists developed a new test for BVD (bovine viral diarrhea) that looks for distinct portions of DNA within the virus' genetic material. The test shortens the time to test for BVD from three weeks to a few days. For producers with infected herds, a more rapid diagnosis means faster treatment and reduced losses.
- Focus on a calf threat. Researchers found calf-scour-causing *E. coli* bacteria in North Dakota that are resistant to all but one class of antibiotic available on the market. They have also found bacteria that are not affected by common vaccines and treatments. In cooperation with NDSU's Veterinary Diagnostic Laboratory, researchers are monitoring the bacteria to advise producers and veterinarians on treatments. A team of researchers is also studying possibilities for new ways to control *E. coli* scours. More than 30 percent of calf deaths in the state are caused by scours.
- Extraction action. Agricultural engineers are studying technology that might be used to purify beet sugar extract. If successful, the new technology could reduce energy needs and solid wastes while capturing proteins and other byproducts that could be sold.
- Hunting big bucks. Researchers found that \$594 million is spent annually on hunting and fishing in North Dakota with nearly \$144 million spent in rural areas. The industry supports more than 21,000 jobs. The results confirm the importance of wildlife-related recreation in the state and provide key information for policy making.

## NDSU RESEARCH CENTERS HOUSE CHANGES FROM EXECUTIVE BUDGET

	SBAR								
	Capital Projects		Reduce	Adjust	Remove	Remove			
	Restoration		Compensation	Health	Midsize	Funding for	Reallocate	Reduce	
	Requests not in	Executive	Package	Insurance	Farms	Value Added	Equipment	Operating	House
	Executive Budget	Budget	to 2/2	Cost	Initiative	Center	Funding	Funds	Version
Main Station	\$238,040	\$47,349,738	(\$493,551)	\$107,205	(\$125,163)	(\$102,814)			\$46,735,415
Dickinson	48,340	2,232,735	(17,108)	4,989			57,500	(10,000)	2,268,116
Central Grasslands	12,500	1,363,529	(7,561)	1,995			(55,000)	(5,000)	1,297,963
Hettinger	23,340	1,227,445	(9,556)	2,851					1,220,740
Langdon	48,440	1,141,330	(8,561)	2,280			(60,000)		1,075,049
North Central	30,000	1,251,892	(9,865)	2,423			57,500		1,301,950
Williston	53,340	1,130,090	(9,140)	2,280					1,123,230
Carrington	46,000	2,450,704	(19,813)	4,561				(10,000)	2,425,452
Agronomy Seed Farm	0	1,205,952	(4,468)	855					1,202,339
Total all funds:	\$500,000	\$59,353,415	(\$579,623)	\$129,439	(\$125,163)	(\$102,814)	\$0	(\$25,000)	\$58,650,254
Less special funds	0	25,690,669	(131,920)	28,067	0	0	0	0	25,586,816
General funds	\$500,000	\$33,662,746	· (\$447,703)	\$101,372	(\$125,163)	(\$102,814)	\$0	(\$25,000)	\$33,063,438

#### Summary of General Fund Change From 1997-99 Adjusted Appropriation to House Version

1997-99 Adjusted Appropriation Excluding Major Capita	\$30,683,147		
Major Capital Projects:	North Ctr.	\$346,050	
,	Williston	50,000	
	Various Proj	500,000	896,050
Total 97-99 Adj. Appropriation	_		\$31,579,197
Total per Engrossed HB 1021:			\$33,063,438
Net change:			\$1,484,241
Less compensation package:			(1,284,640)
Net general fund change excluding compensation	package:		\$199,601

## CAPITAL IMPROVEMENT BUDGET REQUEST 1999-01

## North Dakota Agricultural Experiment Station

1997-99 Capital Improvement Appropriation	\$ 1,165,284
1999-01 Capital Improvement Budget Request	1,158,800
1999-01 Capital Improvement Budget Approved by SBHE	658,000
1999-01 Capital Improvement Budget Recommended in Executive Budget	658,000

#### EXTRAORDINARY REPAIRS

1 A	11 Sites:	General	renairs	and	maintenance	<b>\$</b> 447,800
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a.	Main Research Station	\$	199,800
b.	Seven Research Centers		100,000
c.	Greenhouses		20,000
d.	Water Softners & Stills		8,000
e.	Misc. Main Station Projects		20,000
f.	Misc. Res. Centers Projects		20,000
g.	Landscaping & Beautification	1	15,000
ĥ.	Farm Mach. Repair & Modif.		25,000
i.	Part time student wages		28,000
j.	Pilot Plant setup assistance		12,000
-	-	\$	447,800

\$ 658,800 (included in Exec. Budget)

#### **CAPITAL PROJECTS**

1.	Chemical Storage and Handling Facilities (five sites)	\$ 117,200
2.	Reglazing of Greenhouse Range #1 at Main Station	\$ 130,000
3.	Central Grasslands: Cattle holding pens	\$ 12,500
4.	North Central: Demolition of existing office building	
5.	Williston: Addition to Plot Laboratory	30,000
	Langdon: Equipment Storage Building Addition	25,000
7.	Carrington: Feed Mill Storage & Handling Facilities	\$ 46,000
	Dickinson: Agronomy Laboratory Renovation	\$ 25,000
9.	Main Station: Renovate Animal Barn west of 129	\$ 25,300
10	Main Station: Renovate Loafing Shed east of 129	\$ 4,000
11.	Main Station: Addition to Swine Barn for Boars	\$ 55,000

\$ 500,000 (not included in Exec. Budget)

Funded from income:

Agronomy Seed Farm: Bulk Storage Bins

\$ 90,000 (included in Exec. Budget)

## DESCRIPTION OF CAPITAL PROJECTS NOT INCLUDED IN EXECUTIVE BUDGET

#### PRIORITY

#### **ITEM DESCRIPTION**

- Pesticide Handling Facilities: Construct a pesticide storage building and concrete pad at the Main Station and four Research Centers. Storage building to be constructed to hold farm chemicals and to contain chemicals if spillage occurs. Concrete pad is for flushing sprayer and collecting residue for storage, dilution and disposal. Each facility estimated to cost approximately \$23,440.
- Reglaze Range 1 Greenhouse: Range 1 of Main Station greenhouse complex is the last of twelve ranges to be reglazed and renovated. Present glazing consists of a single thickness fiberglass panels, which is deterioring from ultra violet rays over the many years that it has been in place. This renovation will include reglazing with double wall (insulated) Exolite panels to match other ranges and to upgrade mechanical and electrical systems. This work will reduce operating costs.
- 3 Central Grasslands Research Center-Cattle Holding Pens: Increased size of cattle herd for research requires additional holding pens.
- North Central Research Extension Center-Demolition of Existing Office Building: With the completion of a new Headquarters Building during the 1999-2000 biennium, the existing 84 year old Office Building should be demolished as the cost of renovation for other uses will be prohibitive.
- Williston Research Extension Center-Addition to Plot Laboratory: Present Plot Laboratory is too small for present research activities. This will be an addition to a 30 year old building.
- 6 Langdon Research Extension Center-Equipment Storage Building Addition: Farm machinery needs to be stored inside to lengthen it useful life. This addition will extend the life cycle for farm equipment.
- 7 Carrington Research Extension Center Feed Mill Storage & Handling Facilities: Increase capacity of storage and handling of animal feed.
- 8 Dickinson Research Extension Center Agronomy Laboratory Addition: Present Grass Laboratory is approx. 40 years old. This addition will expand its use for all agronomic crops.
- 9 Main Station: Renovate Animal Barn west of I29: Construct 50 pen multi-use research facility, including feed preparation and storage. Facility will be used to

conduct application based research in multiple aspects of cattle production systems. Including: cow/calf backgrounding and finishing; dairy heifer development; herd health; pathogen reduction pertaining to meat safety issues; nutrition, reproductive biology, production economies and by-product utilization.

- 10 Main Station Renovate Loafing Shed east of I29: Renovate walls and doors of existing cattle loafing shed.
- 11 Main Station Addition to Swine Barn for Boars: Addition to existing swine confinement barn to house boars and a semen collection area. The existing swine barn houses boars in the same large room as females to be mated. Improving breeding/rebreeding efficiency by separating the boars from the females will result in improved breeding efficiency, reduce the spread in breeding dates and thereby provide more uniform groups of animals for research and teaching purposes. Protecting workers by creating a safe area for collecting semen is a critical facet because boars may be the most unpredictable males used in livestock breeding.



## **Main Station**

## North Dakota Agricultural Experiment Station

#### **Mission and purpose**

The North Dakota Agricultural Experiment Station is a research nucleus concentrating on state, regional and national needs in agricultural research. The offices, laboratories, greenhouses, field plots, barns, pastures and feedlots are the workplace of about 500 employees in the NDSU's College of Agriculture and the College of Human Development and Education. Nearby are the Northern Crops Institute, the N.D. State Seed Department, the N.D. Agricultural Statistics Service, and the USDA's Northern Crop Science and Bioscience Research Laboratories, homes to day-to-day collaborators and partners in the research effort.

Research focuses on crop and livestock production and management, soil management, value added processing, food safety, disease resistance biotechnology, natural resource management trade and policy analysis, food processing and the use of agricultural products. Special emphasis is given to several aspects of rural life and North Dakota population changes.

#### **Facilities**

The Main Station includes nearly 2,300 acres. About 400 acres are intensely cultivated and maintained in research plots designed and replicated to simulate large-scale farming enterprises to test new varieties of plants and experimental ways of raising them more efficiently and effectively. The main station plots and fields are used to test and adopt agricultural practices for the local conditions of southeastern North Dakota.

Livestock research is conducted in several groups of buildings on the northwest side of campus, including dairy, beef, swine and sheep barns.

#### **Future plans**

In partnership with the North Dakota State Board of Agricultural Research, the North Dakota Experiment Station will strengthen its commitment to the people of North Dakota and design research programs that will overcome the challenges and make the most of opportunities facing the region's agriculture. The North Dakota Agricultural Experiment Station is poised to become the premier agricultural research institution in the Upper Great Plains.

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## **NDSU MAIN RESEARCH STATION**

## **BUDGET SUMMARY**

		1999-01	
	1997-99	EXECUTIVE	HB1021
FUNDING SOURCE	APPROPRIATION	BUDGET	HOUSE VERSION
General Fund	\$25,097,563	\$26,793,360	\$26,272,347
Special Funds	19,552,580	20,556,378	20,463,068
TOTAL	\$44,650,143	\$47,349,738	\$46,735,415
LINE ITEM			
alaries and Wages	\$35,178,633	\$38,630,612	\$38,080,539
Operating Expenses	4,638,480	4,227,580	4,163,330
Equipment	1,367,746	1,532,746	1,532,746
Capital Improvements	1,165,284	658,800	658,800
Ag Research Grants	2,000,000	2,000,000	2,000,000
Animal Replacement	300,000	300,000	300,000
TOTAL	\$44,650,143	\$47,349,738	\$46,735,415

## NDSU MAIN RESEARCH STATION BUDGET SUMMARY

FUNDING SOURCE	1997-99 APPROPRIATION	1999-01 EXECUTIVE RECOMMENDATION
General Fund	\$25,097,563	\$26,793,360
Federal Funds	\$8,561,852	\$8,770,838
Special Funds	10,990,728	11,785,540
TOTAL	\$44,650,143	\$47,349,738
LINE ITEM		
Salaries and Wages	\$35,178,633	\$38,630,612
Operating Expenses	4,638,480	4,227,580
Equipment	1,367,746	1,532,746
Animal Replacement	300,000	300,000
Capital Improvements	1,165,284	658,800
Ag Research Grants	2,000,000	2,000,000
TOTAL	\$44,650,143	\$47,349,738



## Dickinson Research Extension Center

#### Mission and purpose

Work at the Dickinson Research Extension Center focuses on grass production; rangeland management and increasing grazing capacity; weather influences on dryland agriculture in western North Dakota; rangeland conservation and preservation; beef and swine genetics, nutrition, management and disease control; crop variety testing and development of profitable cropping systems for the region; balancing livestock production and natural resource concerns, and some testing and demonstration of lawn, garden and tree crops suitable to the region.

#### **Facilities**

The center includes more than 4,900 acres in Stark, Billings and Dunn counties as well as leased land in Stark, Mercer, Morton and Oliver counties. More than 3,200 acres are at the ranch unit near Manning where range, beef and swine research is conducted. The center involves private producers throughout the 13-county area south and west of the Missouri River in cooperative research projects. Center scientists teach and advise students at Dickinson State University.

#### **Recent accomplishments**

- Initiated demonstrations to help crop producers evaluate the effectiveness of their current crop rotation for control of root and crown disease in wheat.
- Conducted an alfalfa variety demonstration in southwestern North Dakota, and also demonstrated annual forages in Slope County. The demonstration showed an increase of \$136 in gross revenue per acre for high yielding alfalfa varieties over low-yielding varieties.
- Serves as a principle research location for malt barley cultivar selection, and is an important center for selection of spring wheat cultivars adapted to dry, cool regions of the Great Plains.
- Expanded crop rotation experiments, focusing on the effects of cultural practices, tillage, and crop sequence on wheat yields.
- Demonstrated the superiority of selected small grain varieties developed for forage production to those developed for grain production when both types are grown for forage.
- Conducted feeding trials using alternative crops in swine production, including naked oats, field peas, full-fat canola seed, pigeon grass screenings, and various protein and lactose sources.
- Collaborated with NDSU range scientists to determine the impact defoliation by grazing has on grassland plant species and to determine optimum season of use of domesticated grass pastures and native range. Initial results show a more than 70 percent drop in grasshopper populations and improved livestock return of up to \$17 per acre.
- Continued a study to determine the effects range management practices have on grasshopper populations.



- Fed alternative crops to heifer calves, pigs and lambs with data presented in county, state and national meetings.
- Developed a new project to evaluate the economic and biological implications of extended grazing seasons, with stockpiled native range and unharvested corn as late season grazing extenders. The system could save the North Dakota beef industry \$7 million per month of extended grazing.
- Continued development of the Cow Herd Appraisal Performance Software (CHAPS) and DATALINE programs to integrate record keeping analysis from conception to consumption. Adjusted feedlot net return per calf from individual sires used in CHAPS beef herds ranged from \$58 to a loss of \$21, indicating that producers could improve returns by up to \$79 through sire selection.
- Conducted a heifer development project for CHAPS producers interested in developing high quality replacement heifers for their operation or for sale.
- Studied alternative crops and cropping systems, documenting gross returns to Garbanzo beans of \$144 per acre and field peas of \$90 per acre.

#### **Future plans**

The Dickinson Research Extension Center will embrace a broader, more integrated approach to help producers generate profit and sustain individual and family lifestyles within rural communities. Challenges include solving forage and crop rotation problems in southwestern North Dakota; finding ways to lower costs of swine production; continuing investigations with alternative feeds, and studying ways to reduce the cost of weaning a calf while maintaining or enhancing efficiency.

Kris Ringwall, Director
Dickinson Research Extension Center
1089 State Avenue
Dickinson, ND 58601-4642
(701) 227-2348 fax: (701) 227-2005
E-mail: drec@ndsuext.nodak.edu

## DICKINSON BUDGET SUMMARY

FUNDING SOURCE	1997-99 APPROPRIATION	1999-01 EXECUTIVE RECOMMENDATION
General Fund	\$1,384,044	\$1,468,109
Federal Funds	\$92,700	\$93,004
Special Funds	588,976	671,622
TOTAL	\$2,065,720	\$2,232,735
LINE ITEM		
Salaries and Wages	\$1,263,141	
Operating Expenses	613,503	·
Equipment	54,076	
Animal Replacement	100,000	
Capital Improvements	35,000	
Dickinson Res Ctr		2,232,735
TOTAL	\$2,065,720	\$2,232,735

# **DICKINSON**

### **BUDGET SUMMARY**

		1999-01	
	1997-99	EXECUTIVE	HB1021
FUNDING SOURCE	APPROPRIATION	BUDGET	HOUSE VERSION
General Fund	\$1,384,044	\$1,468,109	\$1,503,592
Special Funds	681,676	764,626	764,524
TOTAL	\$2,065,720	\$2,232,735	\$2,268,116
LINE ITEM			
Salaries and Wages	\$1,263,141		
Operating Expenses	613,503		
Equipment	54,076		
Capital Improvements	35,000		
Animal Replacement	100,000		
Dickinson Res. Ctr.		2,232,735	2,268,116
TOTAL	\$2,065,720	\$2,232,735	\$2,268,116



ompany

Organically Certified Quality Cereal Grains, Hay & Beefalo

2767 129th Ave. SW Belfield, ND 58622-9330 701-575-4767

Fax: 701-575-8428

January 19, 1999

To: House Appropriations Committee

From: James A. Odermann, ag producer

Billings County

RE: 1999-2001 Biennium Budget, Dickinson Research Extension Center

Hello, my name is James Odermann. I am an agricultural producer from Billings County. I am here today to speak in support of the proposed budget for North Dakota State University, specifically for the Dickinson Research Extension Center.

For those of us who choose to live in North Dakota, agriculture is a focal point of discussion because economically it affects our comfort zone on a professional and personal level. As a producer, I have heard the gloom and doom about North Dakota. I choose not to believe all of this. Rather, it is my firm belief the vision for the future of North Dakota agriculture is one of optimism. I believe this because there are opportunities for producers today, but we need to be resourceful and we need to be willing to network with partners.

For the past five bienniums, you have challenged the DREC to generate sufficient revenue to sustain the mission of the Center. The staff at the DREC live the life and walk the walk like we as producers do. Their dependency on things outside of their control mirrors those of producers across the state. In fact, we are in this together and I must say I feel I have a partner in my agricultural enterprise.

Despite the negative rhetoric surrounding the agricultural economy today, I believe there is a bright future for production agriculture. I believe this because of things I see in my working relationship with the Dickinson Research Extension Center, things I rely on like:

- •• CHAPS III and Dataline™ (a new Windows computer version will soon to be released)
  - · Special Crop Production and Forage Alternatives
- Development of Cropping Systems To Reduce Disease, Pest and Weed Problems

These examples illustrate my point: we in agriculture need to change, we need to be innovative, we need to be resourceful; we need to be better business managers.

Our vision needs to challenge us all across all industries mobilizing every piece of energy and talent we have. The Dickinson Research Extension Center, as part of the larger network of Ag Research and Extension, is working to help us create that new vision. In particular, I admire and appreciate their leadership in:

- · assisting with producer self-education
- •• forming alliances with Dickinson State University to train our youth and producers
- •• in helping establish a network with grower groups and consumer groups to help me find potential direct markets

Education is a never ending process and the research/extension combination serves us very well. As producers, we need to realize success in the agricultural world will come from working together with other producers, other industries and educational facilities like the DREC.

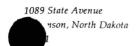
I am here to ask you to continue to be supportive of the research and educational programs offered through the North Dakota Ag Experiment Station and NDSU Extension.

Thank you for what you have done, but please do not stop there. I know there are many demands on you for money and I respectfully ask that you keep the interests of ag research/extension front and center in your deliberations and decision making. It is my opinion that we will all benefit from such action.

547 words

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drec@ndsuext.nodak.edu

January 19, 1999

To:

House Appropriations Committee

From:

Kris Ringwall, Ph. D, Director

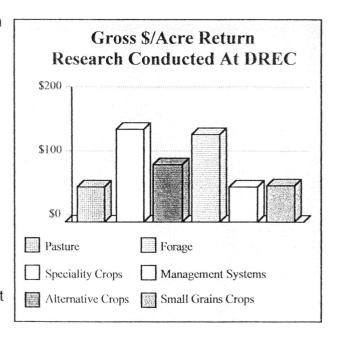
Dickinson Research Extension Center

RE:

1999-2001 Biennium Budget

Despite what you may have heard about the demise of agriculture, North Dakota producers are still filling grocery shelves across the world. At the Dickinson Research Extension Center, we are continuing to work with our producers to offer them options and opportunities to survive in a difficult agricultural climate. We are able to accomplish this because of what legislative leaders, such as yourselves, have done in the past.

Allow me to recall the 1997 session when the Legislature funded the Rangeland Management Initiative. The outcome was development of a management system that increases calf weaning weights and stocking rates thereby cutting pasture/forage costs and increasing per acre returns. We also are documenting fall/winter grass management strategy that could save producers nearly \$7 million per month. The legislative vision for the Dickinson Research Extension Center also funded research which has positive economic outcomes for producers of forage, alternative and speciality crops and various management systems. (See schematic at right.) Thank you for your vision on these programs



and for your strong support of agricultural research and extension.

The network between the Dickinson Research Extension Center and area producers continues to be strengthened. We are actively working on over 53 research projects and extension programs designed to assist producers in their management decisions. (See attached list.) We continually look to find new areas for research and extension and work hard to establish and sustain alliances with industry representatives as a source of funding.

One major focus at the Center has been to examine our own financial health. (See accompanying page of graphs previously presented to the Budget Committee on Government Services on September 15, 1998.) High quality service is a priority, along with balancing the budget. Self generated funds cover the cost of operating, but we are not meeting depreciation and capital adjustments. Any assistance or guidance in these areas would be welcome.

Our vision for the future, specifically for the DREC as presented in Governor Schafer's budget, includes restoration of the swine program, the addition of a graduate assistant in the range program and other operating budget enhancements. These programs will make it possible for us to continue our mission as a full service research and extension facility. I would also like to see a reinstatement of \$500,000 for capital improvements across the entire research and extension system. This pool allows us to address general building repair and minor facilities expansion as needed.

Support through Governor Schafer's budget and the State Board of Agricultural Research have been important components of our vision for the future. We need to continue to network ideas, talents and funds as we work to identify strong research/extension programs through NDSU. I strongly encourage your support of these endeavors.

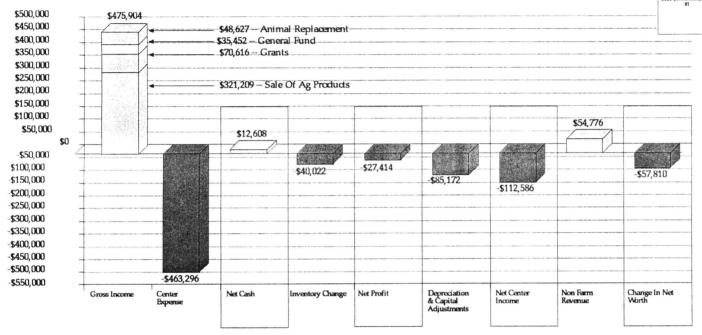
At the Center, we remain committed to the vision of the mission statement and agricultural leaders. Open dialogue between producers and legislative leaders can revitalize the agriculture industry. It is good for us. It is good for the producer. It is good for the state.

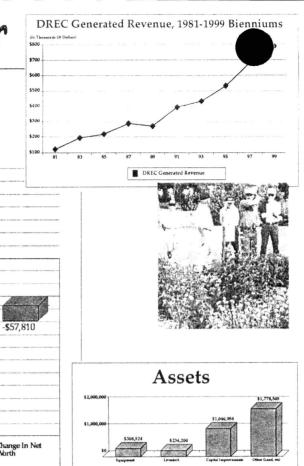
CC: District 35, 36, 37, 39 Legislators

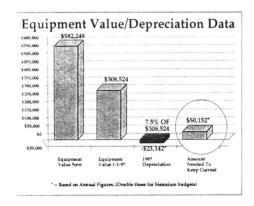
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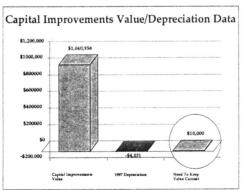
# The News & Bolts Of Running A Research Center

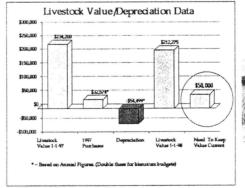
# 1997 Annual Operating Expenses 1997 DREC Income Statement





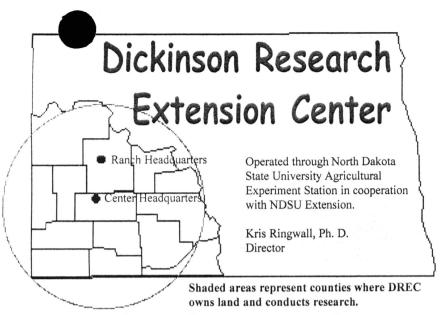








DICKINSON RESEARCH EXTENSION CENTER
TOTAL PROPERTY VALUE OF AS OF 1-1-97
\$3,362,187



# Research & Extension Programs

The DREC includes 4,916 acres of deeded land in Stark, Billings and Dunn counties as well as leased land in Oliver, Morton, and Mercer counties.

The DREC has integrated scientists from different disciplines and initiated system-oriented, value added research projects requested by producers.

A consortium between the NDSU Agricultural Experiment Station, NDSU Extension Service and Dickinson State University has contributed positively to the economy of the region and the state.

The DREC has been a leader in work in no-till cropping systems and innovative livestock research programs.

#### **GRASSLAND RESEARCH:**

Defoliation Effects on the Structure and Dynamics of Grassland Ecosystems

Effects of Environmental Factors on Range Plants

Cultural Management Practices as Tools to F Peduce Grasshopper Population Animal Unit Equivalent for Beef Cattle Based on Metabolic Weight Winter Grazing vs. Feeding Harvested Forage

#### BEEF CATTLE RESEARCH

Grazing Value and Management of CRP Lands

Protein Supplementation of Grazing Livestock

Source Verification of Beef Cattle - the DATALINE program

This Bull Lost Money

1997 NCBA-IRM-SPA Cow-calf Enterprise Summary of Reproduction And Production Performance Measures For CHAPS Cow-calf Producers

Artificial Insemination of Postpartum Beef Cows Utilizing Single Insemination Versus Double Insemination

Effect of Reduced Gain Prior to Breeding Replacement Heifers

Production and Associated Costs of Heifer Development--The Benchmark Values 1-less Oats as a Feedstuff for Ruminants

Utilization of Extended Grazing Periods to Increase the Net Value of Cow/Calf Enterprises

Integrating Crop and Livestock Systems with Pulses and Cereal-Pulse Intercrops

#### SWINE RESEARCH

Effects of Differing Energy Sources on Performance of Lactating Sows

Supplementing Grain Energy Sources With Field Peas and Full-Fat Canola Seed in Swine Growing-Finishing Diets

An Evaluation of Starter Pig Growth Response and Utilization Economics when Highly Purified Protein and Lactose Sources of Varying Costs are Blended in Corn, Wheat, Naked Oat and Hull-less Waxy Barley Bases

Effect of Winter Gestation Energy Level on Sow Productivity

#### AGRONOMY RESEARCH:

Diagnosis and Management of Root Disease in Dryland Wheat in Southwest North Dakota

Restoring Productivity of Eroded Soils with Manure Applications

Alfalfa Variety Performance

Wheat Production Systems For SW North Dakota

Small Grain Crops in SW North Dakota

Alternative Crops and Cropping Systems in SW North Dakota

#### HORTICULTURE RESEARCH:

Garden Mulch Evaluation Study Turfgrass Evaluations

Species-Site Adaptation Study Of Woody Plants For North Dakota

Tree & Shrub Survival in Shelterbelt Renovation

Sustainability Through Xeriscaping

# LIVESTOCK AND GRAS

Efficient Nutrient Utilization of Forages

Integrated Beef Systems
Value Based Beef Production
Expanded Cattle Feeding in North
Dakota

Enhanced Lean Tissue Deposition in Swine

Profit Center Economics
Beef Cattle Performance Programs
(CHAPS)

DATALINE<sup>TM</sup>— Live/Carcass Data Retrieval System

## AGRONOMY EXTENSION PROGRAMS

Small Grain Production Row Crop Production Specialty Crops and Forages Sustainable Agriculture Water Quality

# HORTICULTURE EXTENSION PROGRAMS

Shelter Belt Renovation Douglas Fir Variety Study On Tree Hardiness

Potato Variety Study Floral Study Learning Center for Southwest North Dakota

Arboretum Study Wildlife Habitat

# REVENUE GENERATING ENTERPRISES:

Management and maintenance of 300 cow herd

Management and maintenance of 85 sow farrowing herd





Tel. 701.227.2348 Fax 701.227.2005 drec@ndsuext.nodak.edu

March 4, 1999

To:

Senate Appropriations Committee

From:

Kris Ringwall, Ph. D, Director

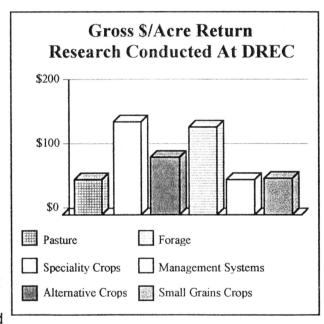
Dickinson Research Extension Center

RE.

1999-2001 Biennium Budget

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Support through the legislative process and the State Board of Agricultural Research have been important components of our vision for the future. We need to continue to network ideas, talents and funds as we work to identify strong research/extension programs through NDSU. I strongly encourage your support of these endeavors.

At the Center, we remain committed to the vision of the mission statement and agricultural leaders. Open dialogue between producers and legislative leaders can revitalize the agriculture industry. It is good for us. It is good for the producer. It is good for the state.

LEGISLATIVE N	OTES:			
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# Central Grasslands Research Extension Center

### Mission and purpose

The Central Grasslands Research Extension Center studies grassland ecosystems as they related to livestock production systems in the Coteau region of North Dakota. This unique area stretches from Divide county in the northwest to Dickey county in south central North Dakota. It contains five million acres (40 percent) of the state's rangeland where 42 percent of the state's livestock is raised on 38 percent of the state's farms. The center's mission is to increase the carrying capacity of the native range while conserving and preserving it; to stabilize grass production from year to year and to compensate for the vagaries of the weather; to identify the impact of different management systems on the incidence of calf scours and other disease problems; to explore the use of crop residues and by-products for cow herd maintenance; and to demonstrate management techniques and advise producers of results.

#### **Facilities**

The Central Grasslands Research Extension Center is located in Kidder and Stutsman counties near Streeter. It operates on about 5,300 acres, of which all but about 1,500 acres is in native and introduced grasses. The center's location in the Coteau region makes it valuable as an outdoor laboratory for graduate and undergraduate students from NDSU, other North Dakota institutions, and throughout the U.S. and beyond. Whether students come to conduct research or to assist in ongoing research projects, their experience gives them a better understanding of range ecosystems and the livestock that graze them.

### **Recent accomplishments**

- Conducted side-by-side grazing systems research that has helped producers understand rotational grazing and the need for multiple pastures.
- Long-term studies on the nesting habits of waterfowl and upland game birds showed that properly managed rangelands produce as many successful nests as idle lands. This information has been used to formulate policy such s the North American Waterfowl Management Plan and other agency policies.
- Established a fall calving herd to evaluate management practices to maximize returns for this type of enterprise, including an economic analysis of market potential, running spring-weaned animals on grass for the summer, and supplementation of cows at various times of the year.
- Data from a grazing intensity study indicated that the elimination of grazing on Coteau area grasslands significantly decreases the production of native range, as does overgrazing.
- Supported by a grant from the Stutsman County Soil Conservation District, studied grazing and haying Conservation Reserve Program (CRP) acres, including an economic evaluation showing that properly managed CRP acreage can sustain long-term grazing and return a net profit greater than cropping marginal land.
- Cooperated with the Hettinger Research extension Center to evaluate the effect of multi-species grazing on leafy spurge.
- In cooperation with the Natural Resource Conservation Service and Texas A&M University, evaluated the feasibility of using fecal samples to determine forage quality and predict animal performance on rangeland.



- In cooperation with USDA scientists, conducted variety trials to show producers the potential of new alfalfa and grass varieties in the Coteau area.
- Cooperated with the NRCS Plant Materials Center to evaluate new grass varieties under grazing.
- Worked with local producers to establish the North Dakota Steer Classic, the first retained ownership experience in North Dakota. Producers' weaned animals were backgrounded at the center and shipped to a Kansas feed yard to be finished. Producers throughout the state were given the opportunity to follow their animal's performance from birth to finish.

### **Future plans**

Reduction of government payments for farming marginal land in the Northern Great Plains will encourage shifting the most marginal cropland back to perennial plant cover that will provide forage for livestock and wildlife. The Central Grasslands Research Extension Center will seek information on production techniques and best management practices for converting cropland to perennial plant cover and then maintaining that cover. New research will study the effects of periodic and prolonged drought, and to evaluate the effect of slope and soil type on range plant communities and soil water movement. Studies to evaluate wildlife habitat management compatible with and complementary to livestock production is also needed.

Paul Nyren, Director Central Grasslands Research Extension Center Route 1, Box 19 Streeter, ND 58483 (701) 424-3606

fax: (701) 424-3616

E-mail: grasland@ndsuext.nodak.edu

# CENTRAL GRASSLANDS

## **BUDGET SUMMARY**

FUNDING SOURCE	1997-99 APPROPRIATION	1999-01 EXECUTIVE RECOMMENDATION
General Fund	\$644,925	\$841,086
Federal Funds	407 500	500 440
Special Funds	467,593	522,443
TOTAL	\$1,112,518	\$1,363,529
LINE ITEM		
Salaries and Wages	\$538,782	
Operating Expenses	388,543	
Equipment	85,193	
Animal Replacement	100,000	
Capital Improvements		
Central Grasslands		1,363,529
TOTAL	\$1,112,518	\$1,363,529

# **CENTRAL GRASSLANDS**

### **BUDGET SUMMARY**

		1999-01	
	1997-99	EXECUTIVE	HB1021
FUNDING SOURCE	APPROPRIATION	BUDGET	HOUSE VERSION
General Fund	\$644,925	\$841,086	\$775,520
Special Funds	467,593	522,443	522,443
TOTAL	\$1,112,518	\$1,363,529	\$1,297,963
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LINE ITEM			
,			
alaries and Wages	\$538,782		
<b>Jperating Expenses</b>	388,543		
Equipment	85,193	,	
Capital Improvements			
Animal Replacement	100,000		
Central Grasslands		1,363,529	1,297,963
TOTAL	\$1,112,518	\$1,363,529	\$1,297,963

STATE LIBRARY HAS COPY OR CONTACT GRASSLANDS OFFICE

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# NORTH DAKOTA STATE UNIVERSITY

# CGREC

Central Grasslands Research Extension Center

"Research and Technology for the Extraordinary Producer"

# 1998 Grass & Beef Research Review



razing and haying marginal land seeded to alfalfa and cool season grasses. (Grazing and haying ... page 23)

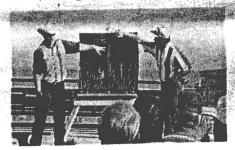


The use of "Paul" hulless oats for forage.

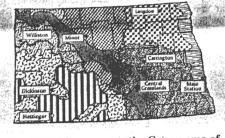


The economics of fall calving (page 7).

SELECTION OF SHIP



Dr. Kevin Sedivec and Mr. Jeff Printz discuss range condition at the summer field day 1998. (Public opinion survey on center activities page 3)

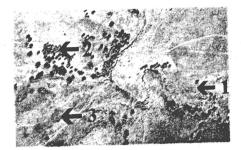


The CGREC represents the Coteau area of North Dakota highlighted in red. This area contains 5 million acres (40%) of the state's rangeland where 42% of the state's livestock is raised on 38% of the state's farms. (For the land ... page 4)



Local students are hired to assist in measuring the production and species composition on the grazing intensity and other research trials.

(Grazing intensity ... page 14)



Geographical information systems (GIS) is used to identify plant communities and measure productivity. Leafy spurge shows up as reddish-pink patches (1) easily distinguished from the trees (2) and buckbrush (3).

(Using remote sensing ... page 12)



"Grass is the rancher's crop." Livestock on native grass is the ultimate sustainable agriculture. (... forage quality page 10)



Rolling topography and internal drainage typifies the Coteau area of North Dakota. (Conserving soil water ... page 19)

E01 9



# **Hettinger Research Extension Center**

### **Mission and purpose**

The Hettinger Research Extension Center provides applied research and education in agriculture and environmental science that will enrich the lives of North Dakotans and support economic development. Areas of research include development of technology in sheep production, including breeding, feeding, management and disease control, and incorporating sheep production into best management natural resource preservation systems. The center is located at the center of 25 percent of the nation's sheep industry, putting it in a unique position to help the industry deal with the issues and challenges. The center also conducts research to increase agricultural productivity while maintaining or improving soil by identifying adapted crop species and superior cultivars; propagating and distributing selected seed stocks, and developing profitable cropping systems that achieve profitability and conservation of natural resources.

The Hettinger Research Extension Center expanded its programming to include research in crop and livestock production economics, natural resource use economics, farm management economics and economic impact research. This work complements existing work in crop and livestock production and systems research and expands into new areas that are not served in the southwest.

### **Facilities**

The Hettinger Research Extension Center headquarters and sheep production facilities are located at Hettinger. The center includes about 1,100 acres and uses 3,400 acres of additional land owned by cooperators. This includes crop variety trial sites at Scranton, Reeder, Regent, New Leipzig, Selfridge and Mandan, and a multi-species grazing research site at Sentinel Butte.

### **Recent accomplishments**

- Developed and distributes the new SHEEPBUD computer program that helps producers analyze their whole enterprise.
- Conducted sheep production research including reducing lamb mortality, off-season breeding in sheep, accelerated lambing programs for increased profits, and feeding sheep North Dakota's new and emerging crops.
- Developed rangeland research dealing with multi-species grazing, aimed at improving financial returns from range use and solving problems of invasive weeds such as leafy spurge. Addition of sheep to grazing systems in leafy spurge infested areas is resulting in a reduction in weed density.
- Focused economics work on optimal production and the interaction between crop and livestock enterprises.
- Conducted crop research adapted to the region, including crop variety testing and grain seedstock production, herbicide response and weed control in southwestern North Dakota, reduced tillage systems and cooperative soils studies, winter wheat production, and alternative crop opportunities.



■ Initiated a study to evaluate the impact of row spacing plant population and other factors on corn production in southwestern North Dakota.

### **Future plans**

The Hettinger Research Extension Center will expand no-till cropping research, coordination of hard red winter wheat research, new genetic research involving the seasonal barriers encountered by sheep producers. It will conduct further study of multi-species co-grazing of sheep and cattle to control leafy spurge and enrich the plant community. In addition the center will develop management for low-input pasture lambing under North Dakota conditions, and develop a project focusing on croplivestock interactions and resource use in southwestern North Dakota.

Timothy C. Faller, Director Hettinger Research Extension Center P.O. Box 1377 Hettinger, ND 58639 (701) 567-4323

fax: (701) 567-4327

E-mail: exphett@ndsuext.nodak.edu

### HETTINGER BUDGET SUMMARY

		1999-01
	4007.00	
5. W. D. W. G. G. G. V. D. G.	1997-99	EXECUTIVE
FUNDING SOURCE	APPROPRIATION	RECOMMENDATION
General Fund	\$728,736	\$732,281
Federal Funds	\$51,465	\$121,581
Special Funds	285,068	373,583
TOTAL	\$1,065,269	\$1,227,445
LINE ITEM		
Salaries and Wages	\$640,642	
Operating Expenses	228,027	
Equipment	96,600	
Animal Replacement	100,000	
Capital Improvements		
Hettinger Res Ctr		1,227,445
TOTAL	\$1,065,269	\$1,227,445

# **HETTINGER**

### **BUDGET SUMMARY**

		1999-01	
	1997-99	EXECUTIVE	HB1021
FUNDING SOURCE	APPROPRIATION	BUDGET	HOUSE VERSION
General Fund	\$728,736	\$732,281	\$726,792
Special Funds	336,533	495,164	493,948
TOTAL	\$1,065,269	\$1,227,445	\$1,220,740
			·
	,		
LINE ITEM			
Salaries and Wages	\$640,642		
<b>Operating Expenses</b>	228,027		
Equipment	96,600		
Capital Improvements			
Animal Replacement	100,000		
Hettinger Res. Ctr.		1,227,445	1,220,740
TOTAL	\$1,065,269	\$1,227,445	\$1,220,740

### BUDGET # 643

### <u>HETTINGER RESEARCH EXTENSION CENTER FACT SHEET</u> INTENDED FOR LEGISLATORS USE FOR THE 1999-2001 SESSION

MISSION STATEMENT: To serve the people of North Dakota with applied research and education in

agriculture and environmental science that will enrich their lives and support

economic development.

DISCIPLINES: Animal and Range Research, Agronomic Research, and Ag. Economic/ Farm

Management Research. The HREC program of research includes many other disciplines. These research programs are built on a collegial team structure that

includes private and public cooperators to fulfill our mission.

STAFF SIZE: 8 FTE core staff and 2 FTE grant supported staff.

LAND MASS: 1130 acres of state owned land and 3300 acres of cooperator owned land.

**GOVERNANCE:** 15 member lay advisory board representing 28 areas of key concern to SW ND.

ANNUAL USERS: 150-300 producers attend the Annual February Sheep Day event.

200-350 producers attend the Annual December Crops Day Event.\* 600-800 producers attend the (7) July summer evening crop tours.

200-400 producers attend specialty tours (Leafy Spurge, Herbicide, etc) annually.

4000-7000 area users of Research Extension Center facilities.

\*Crops Day is a cooperative event with Dickinson Research Extension Center.

**RECENT PRODUCTS:** Sheep Day Report No. 39.

Crops Day Report No. 14.

Preliminary Feasibility For Establishing A Multi-Species Meat Processing Plant in

- SW ND, Institute of Natural Resources and Economic Development.

Critical Control Points For Profitable Sheep Production, ND Farm Research Fall 98. Feasibility of Operating A Lamb Slaughter Plant in ND, Ag. Econ. Report No. 384. Cool Season Grasses Production and Nutrient values (Bulletin available by Jan 15). Ranch operators Perceptions of Leafy Spurge. Ag. Econ. Reports Nos. 400 and 400-s. Perceptions of Leafy Spurge by Public Land Managers, Local Decision Makers and

-Ranch operators. Ag Econ Report No. 406-s.

Plotting A Course, January 1997 and 1998, Extension Bulleting EC-1090. "Sheep on Shares" (Presently being peer reviewed for immediate release).

### **NEW PROJECT FOCUSES BEGINNING IN 1999-2001 BIENNIUM**

Warm Season Grasses - Production and Nutrient Values

Living with Uncertainty Northern Great Plains Agroecosystems in the 21st Century -(Grant)

Large Scale Sheep Production Coops - A feasibility Study ("Team Leafy Spurge"

- Grant)

Whole Safflower Seed for Pre-parturient Cows and Ewes (SBAR- Grant)

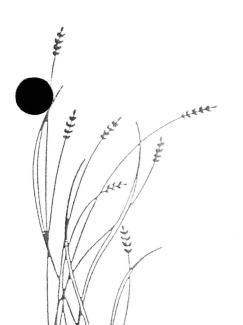
Canola Production Parameters (SBAR- Grant)

Micro an Macro Economic Effects of changes in Agricultural Production Practices

- In Southwestern North Dakota

**NOTE!** The products and projects mentioned above represent major contributions by HREC but in many cases there are collegial commitments of resources to these important end products which deserve major recognition.

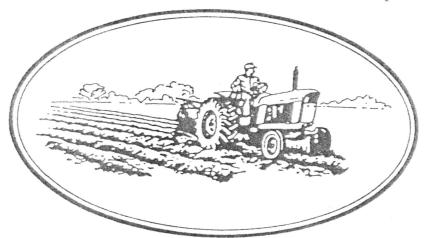
STATE LIBRARY HAS A COPY OR CONTACT



CENTER LISELF FIFTEENTH ANNUAL

# WESTERN DAKOGA

CROPS DAY 9:00 AM (MST)



HETTINGER ARMORY DECEMBER 17, 1998

Pat Carr, Agronomist

Glenn Martin, Research Specialist II

Burt Melchoir, Ag. Technician II

Lee Tisor, Research Specialist I

Dickinson Research

and Extension Center

Arth Dakota State University

Dickinson, ND 58601



Eric Eriksmoen, Agronomist Rick Olson, Ag. Technician III Hettinger Research and Extension Center North Dakota State University Hettinger, ND 58639



# Langdon Research Extension Center

### Mission and purpose

The Langdon Research Extension Center conducts research designed to maintain and improve northeastern North Dakota's agricultural economy. The focus is on crop variety development, cropping systems and seed production. Langdon's location between the northern Red River Valley, the Devils Lake Basin, and the north border region is characterized by extreme environmental differences. The region has the tradition of being a high yield environment, but also has also suffered a high incidence of plant disease.

### **Facilities**

The Langdon center has 389 acres, rents one adjoining quarter, and rents additional land on an annual basis. The site includes a seed cleaning plant and storage facilities.

### **Recent accomplishments**

- Played a vital role in NDSU's durum breeding program—all durum varieties released by NDSU have come from Langdon nurseries.
- Participated in development of new potato varieties—all potato varieties released by NDSU since the early 1950s were selected from Langdon nurseries.
- Placed a major emphasis on studying plant diseases to enhance understanding of major plant diseases in northeastern North Dakota and evaluate management strategies to optimize grain yield and quality, including rating wheat varieties for natural resistance, evaluation of fungicide retention on the grain head, and actual scab ratings.

- Studied date and rate of planting small grains, row crops and speciality crops to answer questions about late planting seasons.
- Conducted canola production trials, including seed treatment, foliar fungicide and harvest management to maximize seed quality.
- Coordinated canola variety testing for states in the region.
- Conducted research on adapting precision farming technology to areas of northeastern North Dakota outside of the Red River Valley.
- Monitored two upper Devils Lake Basin water storage sites for potential salinization of nearby soils.
- Conducted off-station crop variety trials in neighboring counties to allow producers to see varieties under local conditions.

### **Future plans**

The Langdon Research Extension Center will serve as NDSU's outreach center for northeastern North Dakota. The planning and fund drive process to build an extension and research facility has begun. Langdon's location provides crop research challenges related to Devils Lake flooding problems and possible extensive salinity problems in the region. The challenge is to manage crop production to use 20 inches of annual precipitation when it occurs, but also to do well when only the normal 14 inches of precipitation is received.

John Lukach, Director Langdon Research Extension Center Box 310, Hwy 5 E. Langdon, ND 58249 (701) 256-2582 fax: (701) 256-2580

E-mail: explang@ndsuext.nodak.edu

# LANGDON BUDGET SUMMARY

FUNDING SOURCE	1997-99 APPROPRIATION	1999-01 EXECUTIVE RECOMMENDATION
General Fund	\$647,467	\$919,578
Federal Funds	u .	
Special Funds	178,350	221,752
TOTAL	\$825,817	\$1,141,330
LINE ITEM		
Salaries and Wages Operating Expenses Equipment Animal Replacement	\$610,015 173,002 42,800	
Capital Improvements		
Langdon Res Ctr		1,141,330
TOTAL	\$825,817	\$1,141,330

# **LANGDON**

## **BUDGET SUMMARY**

		1999-01	
	1997-99	EXECUTIVE	HB1021
FUNDING SOURCE	APPROPRIATION	BUDGET	HOUSE VERSION
General Fund	\$647,467	\$919,578	\$853,985
Special Funds	178,350	221,752	221,064
TOTAL	\$825,817	\$1,141,330	\$1,075,049
		41,111,000	Ψ1,073,049
LINE ITEM			
		,	
Salaries and Wages	\$610,015		
Operating Expenses	173,002		
Equipment	42,800		
Capital Improvements			
Animal Replacement			
Langdon Res. Ctr.		1,141,330	1,075,049
TOTAL	\$825,817	\$1,141,330	\$1,075,049



# North Central Research Extension Center

#### **Mission**

The North Central Research Extension Center conducts research to increase agricultural productivity in north central North Dakota. The center serves agricultural producers in a 12-county region surrounding Minot through crop research, foundation seed production, and extension programs in crop and livestock production. Main research efforts involve grain variety evaluation, weed control, tillage and fertilizer tests. Research is done on small grains, oilseeds, row crops, legumes, forages and some speciality crops.

#### **Facilities**

The North Central Research Extension Center, located a mile south of Minot, includes 900-acres for crop research and extension education activities, and foundation seed production. More than 1,500 owned, rented and contracted acres are planted for foundation seed production.

### **Recent accomplishments**

- Found that sunflowers planted in 12 inch rows instead of 30 inch rows had an average yield increase of 17 percent, representing an increase of \$29 per acre in income.
- Showed that early seeding in canola increases yields. Canola seeded in early May yielded 226 pounds per acre more than canola seeded in mid May and 877 pounds per acre more than canola seeded in early June
- Evaluated released and soon-to-be-released varieties of small grains under three regimes, fallow, conventional tillage recrop, and notillage recrop.
- Conducted studies to determine the response of various malting barley varieties to varying nitrogen fertility levels.
- Developed studies to determine the effect of root rot on hard red spring wheat as influenced by seed treatment.
- Continued a trial to determine the influence of differing tillage systems on hard red spring wheat production.
- Initiated a new study to determine the influence of plant populations of durum and hard red spring wheat when seeded in 6 and 12-inch rows. Similar studies are being conducted with field peas and canola.
- Studied varietal adaptation, fertility, weed control and management options of field peas, lentils, dry beans and other legumes in response to the need for alternative crops to provide diversity in crop rotations and to break pest cycles.
- Developed management information on oilseed crops such as sunflower, canola, crambe, safflower, camelina and borage which can provide another alternative to cereal grains.



- Conducted short-term and long-term studies on controlling Canada thistle.
- Developed studies to determine if kochia resistant to sulfonylurea herbicides is present and what alternatives producers have to control it.
- Conducted research and field demonstrations at off-station sites in cooperation with producers, county crop or agricultural improvement associations, and maximum economic yield (MEY) clubs.
- Presented educational information at producer meetings, at crop clinics, through the news media, in newsletters, and at demonstration plots and field days.

### **Future plans**

Research, extension and foundation seed programs at the center are all expanding. A challenge to the center is providing the facilities needed to conduct these programs, and securing and maintaining an adequate land base for expanding research and seed production needs.

Jay Fisher, Director North Central Research Extension Center 5600 Highway 83 S Minot, ND 58701-7645 (701) 857-7679

fax: (701) 857-7676

E-mail: nwdist@ndsuext.nodak.edu

# NORTH CENTRAL BUDGET SUMMARY

	T	
		1999-01
	1997-99	EXECUTIVE
FUNDING SOURCE		
FUNDING SOURCE	APPROPRIATION	RECOMMENDATION
General Fund	\$981,399	\$731,532
Federal Funds		
Special Funds	677,426	520,360
TOTAL	\$1,658,825	\$1,251,892
LINE ITEM		
Salaries and Wages	\$683,072	
Operating Expenses	323,503	
Equipment	106,200	
Animal Replacement		
Capital Improvements	546,050	
North Central Res Ctr		1,251,892
TOTAL	\$1,658,825	\$1,251,892

# **NORTH CENTRAL**

### **BUDGET SUMMARY**

	1999-01	
1997-99	EXECUTIVE	HB1021
APPROPRIATION	BUDGET	HOUSE VERSION
\$981,399	\$731,532	\$782,716
677,426	520,360	519,234
\$1,658,825	\$1,251,892	\$1,301,950
\$683,072		
323,503		
106,200		
546,050		
	1,251,892	1,301,950
\$1,658,825	\$1,251,892	\$1,301,950
	\$981,399 677,426 \$1,658,825 \$683,072 323,503 106,200 546,050	1997-99 APPROPRIATION  \$981,399 677,426 520,360 \$1,658,825 \$1,251,892  \$683,072 323,503 106,200 546,050  1,251,892

# NORTH CENTRAL RESEARCH EXTENSION CENTER

Minot, North Dakota

1998 Annual Research Report No. 16

North Dakota State University of Agriculture and Applied Science

www.ag.ndsu.nodak.edu/minot/

This publication will be made available in alternative formats upon request. North Dakota State University is an equal opportunity institution.



# Williston Research Extension Center

### Mission and purpose

The Williston Research Extension Center conducts research to increase agricultural productivity in the semi-arid region of northwestern North Dakota while achieving a necessary balance between profitability and conservation of natural resources. Studies at the center focus on crop variety evaluation. cultural practices, cropping systems, and soil and water conservation practices that will support more intensive cropping. Research on soil and crop management systems for sprinkler irrigation and alternative irrigated high value/value added crop production are also conducted in cooperation with the Montana State University Eastern Agricultural Research Center at Sidney, Mont..

### **Facilities**

The Williston center is a 720-acre dryland farm located near the city of Williston. A private capital fund drive raised more than \$650,000 for an agriculture-based regional facility named the Ernie French Center in memory of Ernie French, director of the center from 1960 to 1992.

### **Recent accomplishments**

- Identified superior small grain and safflower varieties and propagated selected varieties through the Foundation Seed Increase Program.
- Identified herbicides that will control broadleaf and grassy weeds in safflower.
- Initiated a durum selection program with NDSU and Montana researchers to evaluate semi-dwarf durum cultivars for performance under sprinkler irrigation and to enhance dryland durum production in the region.
- Initiated cooperative research with Montana State University to release varieties of hard red winter wheat adapted to North Dakota as well as Montana.
- Identified crop rotations that provide superior hard red spring wheat performance.
- Partnered in a Nesson Valley potato research project requested by a large food processor. Potatoes were tested for quality and yield upon delivery, and the grower captured a large premium in price for high quality.
- Evaluated herbicides and herbicide combinations for wild oat and broadleaf weed control in small grains.
- Studied replacing summer fallow with an annual legume.
- Identified alternative crops adapted to this semi-arid region.
- Conducted off-station testing at Furtuna, Flaxton, Stanley, New Town and Arnegard.



### **Future plans**

The Williston Research Extension Center plans to use the recently completed Ernie French Center as a regional outreach hub to serve farmers, ranchers and agribusiness, to centralize agricultural research-based information, to transfer agricultural technology in the region, and to help deliver the combined services of the Williston and Sidney research centers. The center will expand weed control research for alternative crops, fertility research for dryland farming, cereal crop disease research in a notill cropping system, and high value/value added irrigated crop research in partnership with MSU's Eastern Agricultural Research Center, the USDA-ARS's Northern Plains Agricultural Research Laboratory, both located at Sidney, Mont., and other North Dakota Research Extension Centers and the NDSU Main Station.

> Jerry Bergman, Director Williston Research Extension Center 14120 Hwy 2 Williston, ND 58801-8629 voice: (701) 774-4315

fax: (701) 572-0544

E-mail: expwill@ndsuext.nodak.edu

## WILLISTON BUDGET SUMMARY

FUNDING SOURCE	1997-99 APPROPRIATION	1999-01 EXECUTIVE RECOMMENDATION
General Fund	\$915,773	\$847,928
Federal Funds Special Funds	349,123	282,162
TOTAL	\$1,264,896	\$1,130,090
LINE ITEM		
Salaries and Wages Operating Expenses	\$654,364 300,632	
Equipment	159,900	
Animal Replacement	,	
Capital Improvements	150,000	
Williston Res Ctr		1,130,090
TOTAL	\$1,264,896	\$1,130,090

# ILLISTON IDGET SUMMARY

		1999-01	
	1997-99	EXECUTIVE	HB1021
FUNDING SOURCE	APPROPRIATION	BUDGET	HOUSE VERSION
General Fund	\$915,773	\$847,928	\$841,226
Special Funds	349,123	282,162	282,004
TOTAL	\$1,264,896	\$1,130,090	\$1,123,230
LINE ITEM			
Salaries and Wages	\$654,364		
<b>Operating Expenses</b>	300,632		
Equipment	159,900		
Capital Improvements	150,000		
Animal Replacement			
Williston Res. Ctr.		1,130,090	1,123,230
TOTAL	\$1,264,896	\$1,130,090	\$1,123,230



# Carrington Research Extension Center

### **Mission and purpose**

The Carrington REC conducts research to enhance the productivity, competitiveness and diversity of agriculture in central North Dakota. Research areas include dryland and irrigated crop production methods and systems, identification of adapted crop species and superior cultivars, intensified cow/calf production techniques, beef cattle rations, bison nutrition, sustainable agricultural production, integrated crop and livestock systems, aquaculture and propagation and distribution of foundation seedstocks.

#### **Facilities**

The Center operates on 820 acres of land, about 250 acres irrigated by center-pivot systems and 150 acres by surface methods. The remaining acreage is managed as dryland, primarily for research activities. An additional 320 acres is leased or rented for supplemental seed and forage production. Off-station field trials to enhance crop variety data are conducted near Dazey and Wishek, and the center conducts a research program on high-value irrigated crops at the Oakes Irrigation Research Site. The livestock unit research facilities can accommodate about 500 head of cattle and includes feed and forage storage, a feed mill, pole barns, pens and feedlots. Bison nutrition research has been conducted on producers' operations, but a new bison research facility is under construction at the livestock unit.

### **Recent accomplishments**

- Contributed to evaluation and development of new crop varieties by providing data obtained under central North Dakota growing conditions.
- Evaluated fungicides and application techniques to identify the most effective procedures to control or suppress fusarium head blight (scab) in spring wheat, durum and barley.
- Conducted a comprehensive series of field pea studies to support the state's developing field pea industry.
- Identified grain and forage legumes that offer the greatest contributions of nitrogen to subsequent spring wheat plantings in crop rotations.
- Completed the 12th year of a long-term cropping systems research project that has been identified as a leader among cropping systems research efforts in the Northern Great Plains.
- Conducted research utilizing wheat midds, a co-product of agricultural processing, in beef diets, resulting in improved efficiencies in feedlot rations and increased value of this co-product.
- Documented the usefulness of vomitoxin (DON) infected barley for cattle and helped eliminate the price discounts for feed barley infected with scab.
- Evaluated crambe meal and proved it to be an economical and useful protein source for feedlot cattle, creep fed calves and beef cows.
- Conducted a series of feeder calf meetings that resulted in more cattle producers planning to feed their calves to improve profits and add value to their feeds.



Analyzed bison production records and concluded that producers need to control escalating prices for breeding bison in order to maintain satisfactory profits.

### **Future plans**

Expanded research will focus on the plant disease sclerotinia that threatens crop rotations and cash crop options in central and eastern North Dakota; crop nutrition, especially in areas related to micronutrients, secondary nutrients and fertilizer placement; crop rotation studies looking at crop-pest interactions, fertility requirements and sustainable productivity; alternative crop production, and high-value irrigated crops and management practices to sustain irrigated agriculture. Beef cattle studies will focus on the use of co-products from value-added processing and cropping systems for feedlot and cow-calf enterprises. Nutrition studies in bison will address basic nutrient requirements and practical feeding methods for optimum animal performance.

Blaine Schatz, Director Carrington Research Extension Center Box 219 Carrington, ND 58421-0219 (701) 652-2951

fax: (701) 652-2055

E-mail: recenter@ndsuext.nodak.edu

## CARRINGTON BUDGET SUMMARY

FUNDING SOURCE	1997-99 APPROPRIATION	1999-01 EXECUTIVE RECOMMENDATION
General Fund	\$1,179,290	\$1,328,872
Federal Funds	\$224,366	\$233,988
Special Funds	862,507	887,844
TOTAL	\$2,266,163	\$2,450,704
LINE ITEM		
Salaries and Wages	\$1,349,201	
Operating Expenses	649,712	
Equipment	167,250	
Animal Replacement	100,000	
Capital Improvements		
Carrington Res Ctr		2,450,704
TOTAL	\$2,266,163	\$2,450,704

# **CARRINGTON**

### **BUDGET SUMMARY**

		1999-01	
	1997-99	EXECUTIVE	HB1021
FUNDING SOURCE	APPROPRIATION	BUDGET	HOUSE VERSION
General Fund	\$1,179,290	\$1,328,872	\$1,307,260
Special Funds	1,086,873	1,121,832	1,118,192
TOTAL	\$2,266,163	\$2,450,704	\$2,425,452
LINE ITEM			
Salaries and Wages	\$1,349,201		
<b>Operating Expenses</b>	649,712		
Equipment	167,250		
Capital Improvements			
Animal Replacement	100,000		
Carrington Res. Ctr.	*	2,450,704	2,425,452
TOTAL	\$2,266,163	\$2,450,704	\$2,425,452



## **Agronomy Seed Farm**

#### Mission and purpose

The Agronomy Seed Farm produces Foundation Seed for the seedsmen of North Dakota and cooperates in the research efforts of main station scientists. The farm is financed entirely through the sale of seed it produces.

#### **Facilities**

Located a mile southwest of Casselton, the Agronomy Seed Farm is 590 acres of cultivated farmland and includes a headquarters building, a seed cleaning plant and other equipment and buildings associated with agronomic research and seed production.

#### Recent accomplishments

- Contributed to evaluation and development of new crop varieties by providing data obtained under eastern North Dakota growing conditions.
- Produced 79,899 bushels of foundation seed in the past two years. With a normal yield of 35 bushels per acre, that's enough seed to produce 1.8 million bushels of registered seed.
- Provided information about plant varieties to the public through publications, annual field days, a soybean tour, county tours, seed trade tours and other events.

#### **Future plans**

As the number of protected varieties are released by the North Dakota Agricultural Experiment Station, demand for seed is expected to increase. The Agronomy Seed farm will need to expand it's operations and facilities to meet this need. The ability to produce adequate foundation seed is an imperative step in bringing improved varieties from the NDSU plant breeding programs to producers.

Tom Teigen, Director Agronomy Seed Farm - Casselton 15449 37th St. SE Casselton, ND 58012 (701) 347-4743 fax: (701) 347-4743

expasf@ndsuext.nodak.edu



## AGRONOMY SEED FARM BUDGET SUMMARY

FUNDING SOURCE	1997-99 APPROPRIATION	1999-01 EXECUTIVE RECOMMENDATION
General Fund		
Federal Funds		
Special Funds	1,252,731	1,205,952
TOTAL	\$1,252,731	\$1,205,952
LINE ITEM		
Salaries and Wages	\$303,231	
Operating Expenses	597,500	
Equipment	172,000	
Animal Replacement		
Capital Improvements	180,000	
Agronomy Seed Farm		1,205,952
TOTAL	\$1,252,731	\$1,205,952

## **AGRONOMY SEED FARM**

## **BUDGET SUMMARY**

		1999-01	
	1997-99	EXECUTIVE	HB1021
FUNDING SOURCE	APPROPRIATION	BUDGET	HOUSE VERSION
General Fund	*		
Special Funds	1,252,731	1,205,952	1,202,339
TOTAL	\$1,252,731	\$1,205,952	\$1,202,339
·			
LINE ITEM			
Salaries and Wages	\$303,231	\$346,452	\$342,839
Operating Expenses	597,500	597,500	597,500
Equipment	172,000	172,000	172,000
Capital Improvements	180,000	90,000	90,000
Ag Research Grants			
Animal Replacement			
TOTAL	\$1,252,731	\$1,205,952	\$1,202,339



HB #1021 BUDGET NO. 638

Testimony Before House Appropriations Committee

Capitol Building Bismarck, ND January 18-19, 1999



#### Mission

- NCI created in 1981 by the ND Legislature (SB 2372) to provide educational and technical service programs in support of promotion and market development efforts for northern grown crops into domestic and export markets.
- NCI cooperates with commodity check-off groups in the region and provides technical assistance with their market development efforts.
- NCI is a sophisticated technical support organization that assists existing and potential buyers in gaining a better understanding of the marketing, grading, quality, utilization, and processing of northern grown crops.
- NCI does not provide technical information or programs related to crop production practices.

### **Mission Carried Out By:**

- Presenting short courses to international and U.S. buyers and processors (see accomplishments)
- Hosting visiting foreign trade delegations (see accomplishments)
- Providing technical assistance (Domestic/overseas)
- · Providing orientation to regional agriculture on a regular basis

Competing nations, namely Canada and Australia, consider technical service for customer and potential customers an integral component of marketing their commodities.

#### Cooperation

The broad spectrum of short courses presented by NCI requires input from outside expertise. Guest speakers participating in NCI programs contribute to the success of its activities. The following represent contributing resources:

NDSU: Department of Cereal Science

Department of Agricultural Economics

Department of Plant Sciences

Department of Animal and Range Sciences

College of Business

**Extension Service** 

- South Dakota State University
- University of Minnesota
- Montana State University
- USDA Federal Grain Inspection Service and Foreign Ag Service

· Regional commodity check-off organizations

- · Grain trade
- Financial institutions

- Grain/feed processors
- Food industry
- North Dakota Mill & Elevator
- Port of Duluth
- Minneapolis Grain Exchange
- Individual producers
- · Country and terminal elevators

#### **Facilities**

NCI is a \$1.4 million facility containing:

- auditorium (simultaneous language translation) with state-of-the-art technology
- pasta extrusion/drying lab
- food processing/twin screw extrusion lab
- analytical lab
- commodity grading lab
- baking lab
- conference room

NCI in the past 8 years completed new additions namely:

Durum Pilot Mill

\$1.4 million

Feed Mill

\$1.4 million

Feed Mill Classroom

\$50,000

Feed Mill Quality Control Lab

\$45,500

Meeting Room and Lobby

New facilities have allowed expansion of NCI program base to include feed grains processing and utilization, and durum wheat milling/semolina production technology.

It is important to note that commodity check-off groups in the region provided major funding towards the completion of these facilities.

## Regional Funding (1997-99)

NCI budget comprised of a mix of funds from the four state region.

	<b>FY98</b>	<b>FY99</b>	Biennium
ND General Fund	\$317,754	\$325,182	\$642,936
MN General Fund	70,000	70,000	140,000
SD General Fund	25,000	25,000	50,000
Total General Fund	\$412,754	\$420,182	\$832,936
Commodity Check-off Contributions			
ND Wheat Commission	\$25,000	\$25,000	\$50,000
ND Soybean Council	5,000	8,000	13,000
ND Barley Council	11,500	pending	11,500
ND Corn Utilization Council	15,000	pending	15,000
MN Wheat Council	5,000	2,500	7,500
MN Barley Council	5,000	4,000	9,000
SD Wheat Commission	25,000	25,000	50,000
SD Corn Utilization Council	10,000	pending	10,000
MT Wheat and Barley Commission	66,000	50,000	116,000
Northarvest Bean Growers	1,500	1,500	3,000
<b>Total Contributions</b>	\$169,000	\$116,000	\$285,000
<b>Total Revenues</b>			\$1,117,936

#### **Federal Funding**

- NCI does not receive ongoing federal funding support directly.
- Federal funds to build durum mill, feed mill, and food processing pilot plant are one time contributions (grants) for these projects only.
- Foreign Agricultural Service/USDA indirectly funds NCI educational programs by providing matching funds for check-off dollars to support overseas market development activities to:

U.S. Wheat Associates

U.S. Grains Council

American Soybean Association

Others

### 1997 and 1998 Accomplishments

#### **Strategic Plan**

- Developed 1997 Strategic Plan after reviewing 1995 Strategic Plan with Northern Crops Council, NCI staff with input from NCI cooperators, commodity groups, and users
- Implementing new priorities from 1997 Strategic Plan

#### **Educational Programs**

#### 1997 and 1998 Short Courses:

NCI short courses educated over 200 participants plus representatives of their regions and interpreters. NCI is offering short courses in partnership with U.S. Wheat Associates, American Society for Brewing Chemists, Association of Operative Millers, American Association of Cereal Chemists, U.S. Grains Council, and National Pasta Association.

#### 1997

#### Pasta & Noodles: Raw Materials & Processing

(32, USA), April 8-10. Durum millers and pasta processors.

#### **Advanced Wheat Procurement Strategies**

(18, Finland, Venezuela, South Africa, Dominican Republic, Norway, Ecuador, Poland, Mexico, Colombia, Netherlands, Italy, El Salvador), April 21-25. First offering.

#### Flour Mill Management

(10, Vietnam), May 12-23, Representatives of the Vietnam flour mill that recently made its first purchase of U.S. Hard Red Spring wheat attended this course.

#### **Durum Wheat Milling**

(18, Canada, Mexico, USA), June 24-27.

#### Pasta: Raw Materials & Processing Technology

(15, Korea, Japan, USA), July 14-25.

#### **Grain Procurement Management for Importers**

(12, Colombia, Israel, Japan, Korea, Morocco, South Africa, Taiwan), Sept. 22-Oct 3.

#### 1998

#### NCI/AACC Pasta and Noodles: Raw Materials and Processing

(21, USA and Brazil) April 21-23, Durum millers and pasta manufacturers.

#### **Durum Wheat Milling**

(9, USA) May 12-15.

#### **USFGC Feed Mill Management**

(23, China) June 14-16.

#### **Durum Milling Workshop**

(5, ND) July 27-31.

#### **Durum Wheat Pasta Conference and North Dakota Durum Tour**

(9, Japan, Mexico, USA) Aug. 3-7, Co-sponsored by National Pasta Association.

#### **Grain Procurement Management for Importers**

(26, Japan, Colombia, Venezuela, China, El Salvador, Israel, Turkey, Senegal, Cyprus, Egypt, USA, Switzerland) Sept. 21-Oct. 2.

#### **Barley Malt Quality Evaluation**

(12, USA and Canada) October 26-29.

#### Marketing Opportunities for Food Quality Soybeans

(20 ND and MN producers) Nov. 3.

#### Specialized Workshops/Courses (five)

Developing, conducting, and promoting specialized courses for milling and processing companies that are potential buyers and users of regional commodities.

#### NCI assisted in hosting the following Trade Team Delegations:

#### • In 1997:

Mexican Dry Edible Bean Processors, May 29 St. Petersburg Millers Team, July 21-22 Japanese Millers Trade Team, Aug. 2-5 Japanese Crop Survey Team, Sept. 8 South Africa Wheat Millers Team, Sept. 13 Korean Flour Millers Team, Oct. 6-7 Italian Durum Milling Team, Oct. 8

#### • In 1998:

Algerian Trade Team, April 15-21
Tunisian Wheat Team, May 6-9
Jordanian Wheat Team, June 22-29
Philippine Trade Team, July 27
Korean Trade Team, August 14
Turkish Trade Team, August 26-27
Polish Trade Team, September 9-10
Philippine Trade Team, September 29
Hong Kong Grain Industry Team, October 5-6
Chinese Trade Team, October 30
Taiwan Tobacco and Wine Bureau, November 6
Nippon Flour Millers, November 23-24

#### **Technical Assistance**

NCI conducted technical work for numerous food processing companies who use northern grown commodities.

- NCI conducted technical processing for users of regional commodities. Approximately 340 days of staff time were devoted to processing for food companies who use northern grown commodities.
- Staff members provided technical service to users of regional commodities in the U.S., Russia, China, Venezuela, Guatemala, Japan, Mexico, Macedonia, Bolivia, and India.
- NCI feedmill produced 15,000 tons of feed for research animals since 1991. 60% production feed, 40% research diets
- · Durum Mill is used for many research and private projects.
- NCI staff provided leadership for American Association of Cereal Chemists at 1997 Annual Meeting.

#### **NCI Feed Mill Production and Research**

Northern Crops Institute Feed Milling facility produced 15,000 tons of feed from 1991-1998. Support (maintenance) diets makeup 60% of production and research diets account for 40%. Some of the research highlights include diets that explored the synergistic effect of nakedoats and barley when combined in diets fed to weaning and growing swine, barley used in swine gestation diets, diets comparing corn to naked-oats in feeder cattle, sunflower meal in feeder cattle, crambe meal in feeder cattle, and naked-oats in dairy cows. NCI aquaculture research with rainbow trout has shown potential for soy protein as an alternative feed protein in diets for carnivorous fish.

#### **Durum Mill Research and Education**

Northern Crops Institute Durum Mill was installed approximately 7 years ago and was modified in 1997. Modifications include installation of a wheat tempering system, spouting for semolina and flour streams and a feed mechanism to the first break system. The pilot mill was used to produce samples and demonstrate various aspects of durum milling during the Durum Wheat Milling Short Course.

Recent uses of the durum mill include:

- Teaching four durum milling courses during the biennium.
- Evaluating the interaction effects of five milling variables on durum wheat in the first break system.
- Determination of the mill balance, a measure of uniformity of mill operation over an extended period of time.
- Determining roll speed differential on semolina and flour yield and quality using the entire mill.
- Milling of approximately 100 samples of durum, supplied by commercial elevators and terminals to develop NIR equations for predicting semolina and flour yield, semolina speck count, and semolina color on durum wheat for export.
- Milling durum samples for the Wheat Quality Council Durum wheat quality study.
- Proprietary milling projects for durum millers and other regional processors.

## Promotion of regional agriculture and northern grown crops

 NCI hosted over 1650 visitors, short course participants and lecturers from 44 countries:

Algeria	Argentina	Australia	Belgium
Brazil	Canada	China	Colombia
Cyprus	Czechoslovakia	Dominican Republic	Ecuador
Egypt	El Salvador	England	Finland
France	Georgia	Germany	Hong Kong
Israel	Italy	Japan	Kazakstan
Korea	Krygyzstan	Malta	Mexico
Morocco	Netherlands	Norway	Philippines
Poland	Russia	Senegal	South Africa
Switzerland	Taiwan	Tunisia	Turkey
Turkmenistan	U.S.A.	Venezuela	Vietnam

 NCI Staff speak and promote northern grown crops at the international, national, regional, and state levels.

NCI staff participated in 34 regional commodity group and growers meetings in MT, SD, ND, and MN during the biennium.

NCI staff spoke at numerous regional and national meetings in Fargo, ND; Alexandria, MN; Great Falls, MT; Rapid City, SD; Britton, SD; Seattle, WA; San Diego, CA; Washington, D.C.; Wisconsin Dells, WI; Nashville, TN; Kalispell, MT.

NCI staff spoke at international meetings and educational programs in Japan, Venezuela, Macedonia, Canada, India, China, and a number of cities in Mexico.

- NCI direct-markets courses, technical services and other programs globally.
- NCI promotes northern grown crops and services through its website: <a href="https://www.northern-crops.com">www.northern-crops.com</a>, direct mailings, convention booths, presentations and other media.

### **Impact / Measures of Success**

The Northern Crops Institute (NCI) does not buy or sell crops. So how can we measure success? NCI programs, educational and technical, continue to focus on issues that assist in developing and maintaining markets for agricultural producers in N.D. and the region. It provides technical information on crop utilization by means of educational programs, technical processing and consulting, and special services.

Results from educational programs are long-term. One must look at what the NCI does in the same way as one looks at education. Information provided on marketing and technical utilization of northern grown commodities for both domestic and export markets increases the possibilities of these buyers using northern grown commodities in the future. Often purchases occur several years after educational efforts when conditions become optimal for the buyers.

Given that, the NCI is involved in cooperative activities with market development commodity groups that subsequently lead to sales. One of the effects of privatization of grain procurement that occurred during the 1990's is a greater demand for quality specifications and requirements. Thus, the NCI programs that demonstrate the quality attributes of the region's crops and teach buyers how to purchase from the U.S. system have made an impact. The Institute can now provide technical assistance and training to private buyers instead of governmental agencies. As a result, exports of U.S. HRS and durum wheat, in particular, have increased to a greater number of countries. A recent success story is the first sale of U.S. wheat to Vietnam. In the fall of 1996, the first two Vietnamese participants attended the NCI Grain Procurement for Importers short course. In May 1997, eight Vietnamese attended the Flour Mill Management short course, including the assistant manager of the mill that made the wheat purchase. Many organizations were involved in this sale and NCI does not take sole credit for it. However, it is probable that the participation of these Vietnamese at NCI short courses and interaction with people from this region may have had a positive influence on the purchase of U.S. wheat.

Customers look for the best value (price, quality, consistency, and reliability) when making crop purchases. Suppliers need to meet their customers' demands in order to make a sale, especially a repeat sale. Continued education and market development activities are required to maintain markets in addition to expanding them.

The NCI is the prime source of educational and technical programs for northern grown crops. Demand continues to increase for its programs and services. Such demand is also a reflection of the success of its activities to date and the credibility of the information provided through its programs.

#### Conclusion

In the past three years, the NCI has expanded its program base to better serve the promotion and market development efforts for food and feed grains produced in this region. Two factors affecting this expanded programming are the recent strategic plans which provide guidance and focus for enhanced programming and new processing capabilities at the feed and durum mills, acquisition of new processing equipment, and remodeling of several processing laboratories.

The future continues to look bright as demand for NCI's sophisticated technical service programs continue. Demand for technical assistance continued to increase in 1997-1998 and regional and U.S. targeted programming is expanding. Expansion of programs offered as partnerships with nationally recognized organizations and private companies has been marginally tapped and focus will continue in that area. Demand for and interest in international programming continues. By working together with agricultural commodity check-off groups in the state and region and resources at NDSU and elsewhere, the NCI will continue to provide assistance in helping maintain and enhance markets for producers' crops.

On behalf of the Northern Crops Council and our staff, I would like to express my most sincere thanks for the financial support and leadership provided by the North Dakota Legislature. This support is greatly leveraged by contributions from the other three states and commodity check-off organizations in the region for the benefit of our producers.

I conclude by thanking you for previous and continued support and hope the NCI budget before you is one you will support.

Thank you

#### 40

SHORT REPORT

On participating NCI short course called grain procurement for importer

First of all, let me allow to show my many thanks for US Grain Council and NCI for having given me the opportunity of attending the special course, named "Short Course of Grain Procurement for Importer". Before participating the course, staying two weeks in Fargo seemed to be bit long. However I realized it was not after all once time goes by.

Looking back the course, I suppose, the two weeks program seems to be well organized and should give good knowledge for someone those who have less experiences such as foreign buyers for importing/processing US grains. With regard to the lectures, conducted in front half of the course, I enjoyed very much as presented by various types of speakers. This is good as each lecture tend to be very stimulated one, yet still kept solid one by having core lecture conducted by skillful teacher such as Dr William Wilson. I was able to brush up my skill as well as be up-dated what happening in the US Grain system through the lectures. Outside activities, conducted in rest of the half course was also enjoyable and constructive ones. Starting with a visit to farmland and primary elevator and ending up river-side elevator, including a visit to export site in Duluth, it was very good to visualize what I've learned through the lectures and as expected it was meaningful experiences by exchanging opinions with people working in front side.

Closing up my report, I am not sure to say that US grain handling system is the best among the existing system in the world, however, it is for sure said US gain system is and will stay the most influential one on any grain related societies, parties in the world. I am glad to have a opportunity of attending the NCI course and able to enhance the necessary knowledge with related to US Grain Handling from the point of view of importer/processor.

Special Thanks to Ph.D. Patricia Berglund and John Crabtree

It was very glad to see Ph.D. Patricia Berglund in Fargo since last spring when she visited in Japan. I enjoyed staying in Fargo and it will be one of my pleasant memories in my life.

October 14, 1998

Hidehiko NAGAKURA

NAGAKURA BARLEY MILLING CO., LTD.

50-18 HIGASHINO NAGAIZUMI SHIZUOKA-Pre JAPAN 411-0961

## KADIOĞLU

DEĞİRMENCİLİK TİCARET VE SANAYI A.Ş.

98/1 SOK. NO:7 PINARBAŞI 35060 IZMİR, TURKEY TEL: (232) 479 13 63 - 73 FAX: (232) 479 03 75

E-Mail: kadioglu@artemis.efes.net



00-701-231-7235

DATE: October 9, 1998

TO :NORTHERN CROPS INSTITUTE

MONTANA WHEAT AND BARLEY COMMITTEE

For the Attention of Mrs. PATRICIA T.BERGLUND

Director to NCI

FROM: FATİH ÇAKMAKOĞLU

PAGE:1

Dear Mrs. P.T. Berglund,

I would like to convey my appreciations for your kind welcome and attention, that you have shown during my attendence to the Grain Procurement Management for Importers short course which was held in NCI between 21st September - 2nd October 1998.

I would like to emphasize that, it was a very extensive course and I have throughly enjoyed the wide coverage of subjects illustrated in the field of importing US grain products. I am sure I will soon be using the techiques I have learned during the course in my grain purchases from U.S.A. Please also note that, the inclusion of field trips and the visit to the Minneapolis Grain Exchange has added great value to the Course. I would like to thank you and Mr.J.A.Crabtree for the effords you have both shown for the success of the course and for the friendship you have initiated with ourselves.

I convey my sincere welcome for you and Mr. Crabtree for visiting me in Turkey.

My very best regards.

EATH CAKMAKOĞLU

Managing Director

## NORTHERN CROPS INSTITUTE

## **BUDGET SUMMARY**

			1999-01
	1995-97	1997-99	EXECUTIVE
FUNDING SOURCE	APPROPRIATION	APPROPRIATION	BUDGET
General Fund	\$603,374	\$642,936	\$668,034
Other Funds	1,817,557	335,977	411,441
TOTAL	\$2,420,931	\$978,913	\$1,079,475
General fund - % change		6.56%	3.90%
LINE ITEM			
Salaries and Wages	\$732,131	\$787,813	\$887,945
Operating Expenses	116,350	118,650	118,650
Equipment	72,450	72,450	72,880
Capital Improvements	1,500,000	0	0
TOTAL	\$2,420,931	\$978,913	\$1,079,475

Presented by Patricia Berglund

## **NDSU**

## **Mission**

■ Provide educational and technical service programs in support of promotion and market development efforts for northern grown crops into domestic and export markets.

- **■** Administration
  - North Dakota State University
- Governance
  - Northern Crops Council
- Regional Cooperation

NDSU Northern Crops Institute

## **Federal Funding**

- No direct, ongoing federal funding support
- One time grants to build durum mill, feed mill, and food processing plant
- Foreign Agricultural Services/USDA supports:
  - U.S. Wheat Associates
  - U.S. Grains Council
  - American Soybean Association
  - Others

## 1997 and 1998 Accomplishments

- **■** Educational programs
- **Trade teams**
- **■** Technical assistance
- Promotion of regional agriculture

NDSU Northern Crops Institute

## 1997 and 1998 Accomplishments

## **Educational programs**

- 1. Short courses trained 200
- 2. 1650 visitors from 44 countries
- 3. 19 trade teams
- 4. Advanced level courses
- 5. Specialized training programs
- 6. Over 110 countries since 1981

## 1997 and 1998 Accomplishments

#### Technical assistance

- 1. Technical processing 340 staff days
- 2. Technical assistance in U.S., Russia, China, Venezuela, Guatemala, Japan, Mexico, Macedonia and India
- 3. NCI feedmill 15,000 ton production
- 4. Durum mill

NDSU Northern Crops Institute

## 1997 and 1998 Accomplishments

## **Regional promotion**

- 1. Speakers
- 2. Direct marketing services
- 3. Website: www.northern-crops.com

## Regional Funding FY97-99 (Comprised of funding mix from the four-state region.)

ND General Fund	\$642,936
MN General Fund	140,000
SD General Fund	50,000
Total General Fund	\$832,936
<b>Commodity Check-Off Contributions</b>	
ND Wheat Commission	\$50,000
ND Soybean Council	13,000
ND Barley Council	11,500
ND Corn Utilization Council	15,000
MN Wheat Council	7,500
MN Barley Council	9,000
SD Wheat Commission	50,000
SD Corn Utilization Council	10,000
MT Wheat and Barley Commission	116,000
Northarvest Bean Growers	3,000
Total Special Funds	\$285,000

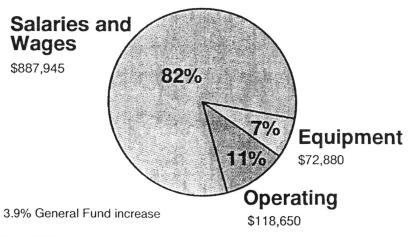
\$1,117,936

Carried State

NDSU Northern Crops Institute

**Total Revenue** 

### 1999-2001 Budget Request by **Expense Category** The second secon



### 1999-2001 Goal

■ Continue and expand efforts to increase and maintain markets for crop producers.

NDSU Northern Crops Institute

### 1999-2001 Plans

- Increase programming in value-added crop usage
- **■** Offer advanced level courses
- Offer more specialized courses

■ Increase direct marketing of programs and services



HB #1021 BUDGET NO. 638

Testimony Before **Senate Appropriations Committee** 

Presented by Patricia Berglund

Capitol Building Bismarck, ND

March 4, 1999

#### **Administration**

- Located on campus of North Dakota State University at Fargo. Not part of NDSU academic programs.
- Administrative responsibility to:

Dr. Patricia T. Berglund

Director

Northern Crops Institute

North Dakota State University

Vice President Patricia Jensen

Vice President and Dean of Agriculture

North Dakota State University

Dr. Allan Fischer

Interim President

North Dakota State University

## Governance: Northern Crops Council 1998-1999

ND Commissioner of Agriculture

**NDSU President** 

MN Barley Research/Promotion Council

ND Wheat Commission

Roman Meal Milling Co.

ND Oilseed Council

ND Barley Council

ND Soybean Council

SD Wheat Commission

MT Wheat & Barley Committee

SD Corn Utilization Council

MN Soybean Growers Association

American Crystal Sugar Company

Roger Johnson

Dr. Allan Fischer

Chuck Gunnerson, Chair

Maynard Satrom, Vice-Chair

Dr. Joel Dick, Past Chair

Scott Nelson

Charles Ottem

Homer Martinson

Richard Kuecker

Duane Arneklev

Mark Lounsbery

**Sherwood Peterson** 

David Malmskog

## **NORTHERN CROPS INSTITUTE**

### **BUDGET SUMMARY**

		1999-01	
	1997-99	EXECUTIVE	HB1021
FUNDING SOURCE	APPROPRIATION	BUDGET	HOUSE VERSION
General Fund	\$642,936	\$668,034	\$662,091
Other Funds	335,977	411,441	407,957
TOTAL	\$978,913	\$1,079,475	\$1,070,048
LINE ITEM			
Salaries and Wages	\$787,813	\$887,945	\$878,518
Operating Expenses	118,650	118,650	118,650
Equipment	72,450	72,880	72,880
Capital Improvements	0	0	0
TOTAL	\$978,913	\$1,079,475	\$1,070,048
Authorized FTE	8.00	8.00	8.00



Agricultural and Biosystems Engineering Department

Box 2120, SDSU Brookings, SD 57007-1496 Phone 605-688-5141

December 15, 1998

Pat Berglund, Director Northern Crops Institute North Dakota State University Box 5183 Fargo ND 58105-5153

Dear Director Berglund:

I'd like to express my appreciation for the use of your pilot plant extrusion facility. The extruded corn flour-polystyrene packaging material, both "loose-fill" and sheet products, was both a success. To my knowledge, the extruded sheet product is the first ever corn based product successfully extruded in a sheet form.

The availability of a commercial scale extruder was invaluable for this research. I have only a small lab scale extruder in my laboratory. It has limitations in terms of scaling up the extruder operating parameters for commercial application.

The availability of your pilot plant extruder allowed me to determine the scale up parameters for a commercial scale extruder. We also found the end properties of the extruded product improved dramatically when extruded through your commercial scale extruder.

The technical support of your staff in designing the screw and die configuration as well as optimizing the extruder operating parameters was invaluable. Without their help the successfulness of this project would not be what it is.

Thanks again for all your help. The availability of the facility and technical support like the Northern Crops Institute has been paramount to my research in extrusion processing. The NCI, available to faculty from South Dakota, North Dakota, Minnesota and Montana, is a valuable asset supporting continued utilization of this regions crops.

Sincerely.

James L. Julson

Associate Professor

Agricultural and Biosystems Engineering

JLJ/vc

# Canada links technical programs, market development

■ By CHARLES HOUSE Feedstuffs Staff Editor

WINNIPEG, MAN. — Every year, dozens of grain-industry professionals from around the world arrive in downtown Winnipeg — the center of Canada's tightly knit grain marketing system.

With travel and other expenses paid by the Canadian International Grains Institute (CIGI), the professionals make their way from countries such as Vietnam, China, the Philippines, India, Pakistan, Iran, Cuba and Ecuador. Then, at technical programs that CIGI provides free of charge, the foreign guests learn the latest in wheat milling, noodle making, least-cost feed formulation and so on.

They're also apt to learn about the virtues of Canadian grain — and maybe even how to buy it — because CIGI is institutionally linked to the Canadian Wheat Board (CWB), located just down the street. CWB, in charge of exporting Canadian wheat and barley, pays 40% of CIGI's budget. The rest of the money — \$4 million (Canadian) this year — comes from Canada's federal government.

"The idea is to maintain and develop markets for grains, oilseeds and pulses," said Linda J. Malcolmson, director of CIGI's agri-food products sector.

Located in a downtown office tower also occupied by the Canadian Grain Council — a government bureau that focuses on grain quality — CIGI interacts closely with a variety of similar bureaus, agencies, groups and businesses all pulling together for the same purpose.

For example, some of CIGI's educational programs are put together at the behest of organizations such as the Canola Council of Canada, the Canadian National Millers Assn., the Canadian Feed Industry Assn., the Grain Council or the Winnipeg Commodity Exchange, Malcolmson said.

However, most are held at the request of CWB — a \$6-billion, non-profit organization that conducts virtually all of Canada's grain business abroad. Essentially, CWB uses CIGI's programs to woo potential customers. With all



Paul Brennan adjusts equipment at the Canadian International Grains Institute in Winnipeg, Man. The institute offers top-of-the-line technical training but also has close links with the Canadian Wheat Board, the single exporter of Canadian wheat and barley.

expenses paid, they're brought to Winnipeg—the heart of Canada's grain industry and right to the edge of its national sales desk.

CIGI offers about 30 different programs annually, each tailored for specific objectives, Malcolmson said.

For example, one might be designed for feed-manufacturing technicians in the Philippines. "We might have sellers of feed in the country already," she said.

Another program also might bring in millers from Latin America who appear to be potential customers for Canadian grain.

CIGI's International Grain Industry Program, held each June, attracts people in senior management positions from as many as 20 countries. The program covers a wide variety of topics and lasts two or three weeks.

ClGI also regularly offers programs geared to specific topics. For example, individual "specialty" programs focus on wheat products, oilseeds, feed and malting and brewing technology.

Educational tours are often part of the package. CIGI escorts guests to various facilities around Winnipeg and beyond. Many of the tours end at grain termi-

nals in Vancouver, B.C., Malcolmson said. Again, CIGI foots the bill.

While sales of grain and oilseeds are the ultimate objective in Canada's intertwined system, CIGI's education programs are not shell games. Train by industry professionals comes state-of-the-art equipment. For example, CIGI's office-tower site includes Buhler flour mill (with capacity of 9 tons per day), a noodle plant, a pilot bakery, a quality-control laboratory and a resource library shared by the Canadian Grain Council. CIGI is also establishing a pasta plant, Malcolmson said.

The equipment — and instruction — is designed or adapted to be useful commercially in selected markets. For example, CIGI can cater to the needs of bakers who might sell certain types of Asian noodles or steamed buns, Malcolmson said.

Lecturers may come from CIGI (which has a staff of 26 people), CWB, provincial governments, grain-handling companies, universities and banks, she said.

Simultaneous translation is available in nearly any language. In its 27 years of operation, Malcolmson said, CIGI has brought in participants from 104 or 105 different nations.

While most of CIGI's work is conducted in Winnipeg, it also extends overseas, where staff members sometimes provide follow-up technical assistance after grain sales are made.

This story is based on informal presented during a fact-finding mission sponsored by the U.S. Grains Courcil and Pioneer Hi-Bred International

## U.S. has two similar agencies, but budgets, staffs are smaller

By a Feedstuffs Staff Editor

The U.S. has two agencies similar to the Canadian International Grains Institute (CIGI).

Like CIGI, the Northern Crops Institute, Fargo, N.D., and the International Grains Program, Manhattan, Kan., offer technical training and educational seminars to promote domestic grain and other agricultural products in foreign markets.

However, their budgets and staffing levels are significantly smaller than those of their Canadian counterpart.

CIGI's annual budget is about \$2.58 million (U.S.), while NCI's is \$500,000. IGP's budget varies but is often "about the same," according to administrator John Howard.

CIGI has 26 people on its staff. NCI has a staff of eight and IGP fewer still. All three organizations also draw on professional and academic expertise. NCI is located on the campus of North Dakota State University and IGP at Kansas State University.

NCI's money comes from four states — North and South Dakota, Minnesota and Montana — and it focuses on crops grown in the region, director Pat Berglund said. There is no direct federal funding, but NCI does get support for specific projects from organizations such as the U.S. Grains Council and the U.S. Wheat Associates, which are financed partly by federal dollars.

NCI has the only pilot scale durum-wheat mill in the U.S.,

and offers a variety of short courses and workshops. Some are technically oriented, while others deal with topics such as grain procurement, Berglund said. One recent course — sponsored by commodity groups — included participants from 11 countries, including China, Japan, Switzerland, Turkey, Egypt, Senegal and Israel.

IGP receives financing from state and national commodity groups, including U.S. Wheat Associates and the American Soybean Assn., Howard said. The state of Kansas pays for office space, while Kansas State University's department of Grain Science & Industry offers broad access to university facilities, including milling, baking and extrusion equipment. Programs often focus on flour milling and feed manufacturing, but IGP has also offered classes on how to transfer risk, human consumption of sorghum and high-oil corn.

The program receives no direct federal funding.

Unlike CIGI, IGP doesn't cover participants' travel expenses or tuition. Howard said two-week course fees total about \$1,250, while room and board runs about \$800 per week. A program this week involved grain-industry professionals from 17 countries, including Singapore, Indonesia, Guatemala and India, Howard said.

IGP also offers programs abroad. For example, it recently offered a short course for U.S. Wheat Associates in Cairo, Egypt.

#### House Bill 1021 Subdivision 3

Upper Great Plains Transportation Institute North Dakota State University

## Allan Fischer, President NDSU

- Ms. Chairperson and committee members, for the record I am Allan Fischer, Interim President of North Dakota State University. It is a pleasure to be here today. I would like to make three brief points concerning the Transportation Institute.
  - 1. The UGPTI is one of **NDSU's centers of excellence** that we are very proud of. The Institute provides the knowledge and assistance necessary for North Dakota to advance in a competitive domestic and global economy. Agriculture and other industries, cities, counties, and the state benefit from the research and service provided at the Institute. The program has succeeded through an advanced interdisciplinary program which employs engineers, agricultural economists, economists, planners, business logisticians, statisticians, and computer scientists. I would like to emphasize that it has achieved this excellence with only a small amount of General Funds. Approximately 90% of its funds come from grants and contracts and less than 10% from General Funds. NDSU supports the Institute through the commitment of space, administrative support, and the overall university environment.
  - 2. The Institute has developed an advanced interdisciplinary graduate program in transportation, as mandated by the U.S. DOT, that mirrors the academic diversity of their research faculty. This educational program will integrate five different departments from four colleges. It has been recognized by the DOT as a *best practices* program.
  - 3. NDSU supports the Executive Budget recommendation and I encourage your approval and successful passage of Subdivision 3. The General Fund is absolutely critical to the survival of the Institute. It provides base funding necessary for management and maintenance of effort requirements. We hope the Institute will continue to grow and succeed with your support.
- A number of people will provide much more detail including Dennis McLeod, who I would like to introduce to you at this time as the Chairman of the Institute's Advisory Council which was created by the North Dakota Legislature in 1967.



#### House Bill 1021 Subdivision 3

Upper Great Plains Transportation Institute North Dakota State University

Dennis McLeod, Chairman UGPTI Advisory Council

- Ms. Chairperson and committee members, for the record I am Dennis McLeod, Chairman of the Transportation Institute's Advisory Council. I'm also president of the Red River Valley and Western Railroad Company. The statutory organizations represented on the Advisory Council are listed below along with other selected organizations that have been invited to participate in the Council. I would like to outline to the committee today several points concerning the past accomplishments and the importance of the Institute to North Dakota.
- 1. The first point I would like to make is that the Advisory Council believes that the Transportation Institute is an invaluable asset to North Dakota. The Advisory Council plays an active role in advising the Institute on general matters of policy regarding the overall development of the Institute and its' programs. It meets periodically with Institute staff to provide guidance and support. The Advisory Council is very pleased with the direction and development of the Institute's program of transportation research, outreach and education. As a Council, we believe the Institute has become increasingly important to the state. The Transportation Institute continually provides valuable information and analysis to production agriculture, agricultural processors, country elevators, manufacturers, transportation operators, state agencies, counties, and other rural transportation interests. The Council believes the research the Institute has conducted will continue to help North Dakota grow and prosper in succeeding years.
- 2. The importance of the Institute to the state will be magnified in the future for several reasons. North Dakota faces an uncertain transportation future as never before in the history of the state. This uncertain future is driven by several factors including mergers of railroads, processors, multi-national grain companies, smaller railroads serving the distant rural areas, a changing global economy, the logistical disadvantage of our state, and a rapidly changing business environment; e.g. internet marketing. The merger of Class I railroads into four large systems and the same phenomena taking place in the multi-national grain business and agricultural processing industry have enormous implications for North Dakota. As the global economy becomes more complex and intertwined in nature, the importance of the data, information, and analysis developed at the Institute will continue to grow in an importance if North Dakota is going to maintain its competitive position. It is my experience that large companies listen to the insatiable demands for higher earnings from their stockholders at the expense of smaller shippers.

Specific issues which will likely impact our state include:

- a. 110-Car shuttle trains
- b. Heavier rail cars
- c. Continued rationalization of the railroad network
- d. Lack of intermodal facilities
- e. Adoption of business logistics as a competitive tool
- f. Donor states wanting a larger portion of their taxes back for highway construction

I can assure you additional issues will furface as well. These and the above issues will have a significant impact on North Dakota's economy. The Advisory Council believes that the Institute must not only continue its current program but address these cutting edge issues, to the extent that funding is available, to meet the challenges that are envisioned in the future.

- ☐ I want to **thank you** for the opportunity to appear before you today and the Council endorses the Executive Budget Recommendation and encourages your approval of this request for funding. We feel that it is extremely important to North Dakota's economic future.
- Organizations Represented on the Transportation Institute Advisory Council<sup>1</sup>

GNDA\*

ND Aeronautics Comm.\*

ND Barley Council

ND Dept. of Agriculture

ND Dept. of ED&F\*

ND Dept. of Transp.

ND Grain Dealers Assoc.\*

ND Farm Bureau\*

ND Farmers Union\*

ND Motor Carriers Assoc.\*

ND Public Service Comm.\*

ND Rail Lines\*

ND Soybean Assoc.

ND Stockman's Assoc.\*

ND Oilseeds Council

ND Wheat Commission\*

Potato Growers Assoc.

<sup>1\*</sup> Designates statutory members of the Advisory Council

## House Bill 1021 Subdivision 3

#### Upper Great Plains Transportation Institute North Dakota State University

## Gene Griffin, Director UGPTI

- Ms. Chairperson and committee members, for the record I am Gene Griffin, Director of the Upper Great Plains Transportation Institute, North Dakota State University. It is a pleasure to be here today to visit with you about the Institute and to make **three points**.
  - 1. The role and importance of General Fund
  - 2. Highlight two projects from this past year
  - 3. Brief discussion of transportation challenges facing North Dakota in the 21<sup>st</sup> Century
- The first point is the **vital nature of the General Fund** appropriation. It is critical to the continued success and very existence of the Transportation Institute for three fundamental reasons:
  - 1. First, it provides the majority of the funds necessary to meet the federally mandated maintenance of effort requirement of \$474,000 per biennium. This is required to qualify for the *University Transportation Centers Program* sponsored by the US Department of Transportation. This program provides the Institute with \$950,000 of program funds per biennium used in North Dakota.
  - 2. Second, it serves as a partial source of matching funds necessary to qualify for the funding.
  - 3. Finally, it provides the **critical funding (core) to cover some of the program leadership and development** that is simply not available through grants and contracts.

In summary, the General Fund provides the minimal seed money necessary to attract and maintain the level of grant and contract money essential to a quality program. I personally believe that the level of General Fund is too low and restricts the contribution that the Institute needs to make for North Dakota. However, without the current level of General Fund money the Transportation Institute could not exist.

The Institute's program has been very successful over the past two years since we last reported to you. The Institute's **theme of** Rural and Small Urban Transportation and Logistics has proved to be very appropriate for the state of North Dakota. The research program has continued to add value to North Dakota business and public sector decision makers by providing them with information and analysis not available from any other

source on a reliable basis. This has been true in all of the eight focus areas: Agricultural Transportation, Low Volume Roads and Rural Transit, Logistics and Rural Economic Development, Railroad Operations, Statewide and Regional Planning, Motor Carrier Economics/Management and Safety, Rural Aviation, and Intelligent Transportation Systems. I would like to highlight two projects as examples of the Institute's contribution to the state.

- 1. Surface Transportation Board (STB) ruling on market dominance. — The STB recently conducted a review of the criteria for market dominance, which is a threshold test to determine if a shipper has standing to bring a suit against railroads in rate cases. The STB ruled that geographic and product competition can no longer be considered when showing market dominance. (The fact that this decision rated a major headline in the December 23 issue of the Journal of Commerce exemplifies its importance.) The previous system, for all practical purposes, prevented a shipper in North Dakota from filing a complaint case. The Institute's expert witnesses provided key testimony in this case through the Public Service Commission and Wheat Commission. The quality and weight of this evidence has been cited by some in Washington, DC as one important underpinning reason for this change. This ruling could have significant implications for North Dakota shippers. A recent Class I rail rate increase, both eastbound and westbound, exemplify the significance of this decision. These increases have the net effect of lowering farm income thereby negating the disaster relief provided by the federal government. Indeed, discussion has already begun between the Public Service Commission and the Wheat Commission about bringing a test case before the STB.
- 2. Establishment of the Advanced Traffic Analysis Center (ATAC). Two years ago during the previous legislative session the Institute proposed the development of an Advanced Traffic Analysis Center, funded by grant money, to assist second tier cities in adopting state-of-the-art traffic management systems. I am pleased to report to you today that the ATAC program was initiated this past fall. The Center will begin training people in second tier cities on a national level sometime in mid to late 1999. If interested, North Dakota cities such as Bismarck, Minot, Grand Forks, and Fargo will receive individual attention. Additionally, we hope the research and training conducted at the Center will spill over and benefit the smaller cities as well. The ATAC will be one of two national training centers designated by the Federal Highway Administration, the other center is located at Texas A&M. This program will definitely put NDSU, North Dakota, and it's cities on the map of states, cities, and universities that are adopting the latest technology in transportation.
- The final point I would like to make concerns important transportation issues that the state will face in the early part of the 21<sup>st</sup> Century. North Dakota is at a crossroads in its transportation system. If North Dakota businesses are going to remain competitive and if

the state is going to attract new business it is imperative that the state does not become more disadvantaged by transportation and logistics than our location has made us. How North Dakota responds to these future challenges will determine how competitive the state is in production agriculture, agricultural marketing, agricultural processing, and manufacturing. The less logistically competitive the state is the greater the loss of income and a resulting transfer of wealth out of the state. Other transportation related interests are at risk as well including, but not limited to, short line railroads, North Dakota's highway and road infrastructure, tourism, and public transportation for rural and low income residents.

This risk is a result of changes in the evolving transportation system and economic environment. Deregulation of the transportation industries, concentration of all industries including grain marketing, globalization of the economy, changes in the regulation of production agriculture, drastically improved communications processes, the relentless growth in computer chip technology, and population shifts are all contributing factors. Several challenges have been identified for North Dakota transportation and are listed immediately below. (A more detailed explanation of each is provided in a separate attachment in your packet.) It is critical for the state to be able to meet these challenges if we are to be the master of our own destiny to the extent possible.

- ✓ Concentration in the Class I railroad industry
- ✓ Long run viability of short line railroads
- ✓ Availability of competitive intermodal transportation services
- ✓ North Dakota's logistical competitiveness
- ✓ Integration of logistics into manufacturer's, processor's, and trucking firms
- ✓ Price and service competitive air service
- ✓ Maintaining a viable network of local airports
- ✓ Maintenance and improvement of the state highway system
- ✓ Maintaining an adequate rural road system
- ✓ Implementing Intelligent Transportation Systems (ITS) technologies
- ✓ Rural public transportation services
- ✓ Development of properly trained human capital
- ✓ Understanding and appreciation for these issues by the body politic

<sup>&</sup>lt;sup>1</sup>I'm personally sure that Congress did not envision a railroad industry dominated by four railroads when they deregulated the industry in 1980.

In conclusion, I would like to thank the legislative branch for its past support. Your assistance has been the fundamental underpinning of a program that the Advisory Council, NDSU administration, and the staff of the Institute believes has been a valuable program for North Dakota. I ask that this support continues at a commensurate level with the transportation challenges that face North Dakota in the 21<sup>st</sup> Century.

Thank you.

#### H.B. 1021

Presented by: Jon Mielke, Executive Secretary

**Public Service Commission** 

**Before:** House Committee on Appropriations

**Education and Environment Division Representative Janet Wentz, Chairman** 

Date: January 12, 1999

#### **TESTIMONY**

Chairman Wentz and committee members, my name is Jon Mielke. I am the executive secretary of the Public Service Commission and serve as the director of the Commission's Licensing Division. I am also the Commission's primary staff person on railroad matters.

State law designates the Commission as the agency that is responsible for representing state shipping interests in proceedings before Congress and federal agencies (N.D.C.C. 49-10.1-01). A lack of resources forces the Commission to fulfill this mandate by working closely with other entities that have an interest in transportation. The Transportation Institute is a vital member of this team. Other participants traditionally include the Grain Dealers Association, the Wheat Commission, and the Barley Council.

Recent mega-mergers in the rail industry and extreme service disruptions have made this a very busy time in terms of related federal proceedings. North Dakota has been active in these cases because we are heavily dependent on railroads to move grain to market

The Transportation Institute has been a major resource in this effort. Their involvement is especially critical since most federal proceedings require the involvement of transportation experts with an economics background. The Institute is nationally recognized for its expertise in this area.

One of the major cases that we were involved with during the past year involved a federal Surface Transportation Board rulemaking on rail rate complaints. Rail rate levels are important to North Dakota because it costs an estimated \$300 million per year to ship our grain to market. A one cent per bushel increase in rates costs our farmers and elevators over \$5 million.

In this particular proceeding the STB proposed the repeal of a seventeen year old provision that made it virtually impossible for rail shippers to even "get their foot in the door" in rate complaint proceedings.

North Dakota's submittal in this case centered around a technical verified statement drafted by staff members from the Transportation Institute. The arguments presented in this statement were reportedly the basis for the Board's decision to modify existing rules and to thereby make it easier for captive shippers to pursue rate complaint cases.

The PSC estimates that North Dakota grain shippers and farmers pay over \$100 million per year in excess rail rates. This case may have a profound impact if it eventually leads to lower freight bills. The Institute deserves a great deal of the credit for this change.

Madam Chairman, the Transportation Institute is tremendous resource. Its very existence is reflective of North Dakota's extreme dependence on transportation. Without transportation, our crops would be virtually worthless. The Institute's budget request deserves your committee's full support.

#### Transportation Challenges for North Dakota in the 21st Century

Several transportation issues have been identified in this paper. The issues are not listed in any order of importance since all of them are considered very important to the respective client groups that are affected by them. Also, the list of issues is not intended to cover all possible challenges that lie ahead for North Dakota. There are a number of issues that exist or remain to be identified. However, issues identified herein are intended to increase the dialogue about transportation which will hopefully lead to better issue identification, definition, and solution.

Concentration in the Class I railroad industry. — The number of class one railroads has shrunk from 30 to four major systems in the past 30 years. This decrease in the number of firms has important implications for a state logistically disadvantaged such as North Dakota. The resulting loss of a competitive environment poses significant questions about North Dakota's ability to effectively compete in commodity, processing, and manufacturing markets that require rail service. Although the decline in the number of firms is critical it is probably not as important as the network size and spatial economic effects that result from these large networks. The increase in network size has resulted an exponential increase in origin/destination network combinations. This in turn has made North Dakota a residual supplier in some markets resulting in lower prices for North Dakota producers and/or increased inventory costs. The end result is a diminished short run viability of production agriculture and the long run transfer of wealth from North Dakota to share holders and employees of these large systems.

The long run economic viability of short line railroads. — Short line railroads present an important alternative to abandonment of rail lines with low traffic density. Maintaining a viable short line system extremely important for North Dakota in several ways. Short lines stem the diversion of traffic from rail to truck on local and state highways associated with abandonment. This in turn reduces the costs of maintenance and investment in the rural highway and road infrastructure. It also reduces the costs of initial grain collection by reducing the distances farmers have to haul grain and a corresponding reduction in farm truck equipment. Short lines also provide rail transportation to manufacturing plants located in rural areas. As important as they are, short lines are not guaranteed in the future. Class I railroads will have a profound effect on the future of the short line industry. The development of marketing schemes such as the shuttle trains threaten their existence. Additionally, heavier cars will make it difficult if not impossible for some lines continue to operate. North Dakota must make an effort to retain as much viable short line track as is economically feasible.

The availability of competitive intermodal transportation services. — There has been a strong movement towards increasing size and efficiency of rail shipments of grain since 1980 when the first multi-car rates were introduced in North Dakota. This movement has recently culminated in the establishment of 110 car shuttle trains which increase efficiency significantly for the Class I railroads. At the same time, there appears to be an increase in market segmentation and product differentiation for agricultural commodities and an associated increase in customer defined commodity specification. Intermodal service provides one alterative to ensuring identity

preservation from the initial origin to the final destination. Yet the current intermodal hubs appear threatened because of the desire of railroads for increased efficiency in this area by developing only high traffic hubs in major metropolitan areas. This has significant implications for manufacturers that use intermodal as well.

Enhancing North Dakota's logistical competitiveness. — North Dakota is located in the center of the North American continent. This poses a real challenge for manufacturing a well agricultural processors in both domestic and global markets. Processors and manufacturers must adopt supply chain management in their market channels in an effort to capitalize on their advantages and/or minimize their locational disadvantages. This will require those business to be on the cutting edge of a relatively new functional area of business that is being used by innovative companies to create a competitive advantage. They must learn how to manage the supply chain from customer back to the vendor of raw materials in a way which improves their economic viability. However, the manufacturing and processing industries operate in a relatively low concentration environment where the term logistics is a new word. These firms must be open to new methods of doing business that will enhance their position in the domestic and world economy.

Integration of logistics as a toll for supply chain management in the trucking industry. — The trucking industry has typically operated independent of the various elements in the supply chain. However, manufacturers, processors, and producers to a lesser extent, have become aware that they need to manage the entire supply chain in order to retain or improve their competitive situation. Such business issues as raw material procurement, inventory control, plant and warehouse location, materials handling, and industrial packaging must all be coordinated with transportation to achieve overall efficiency in the supply chain. Transportation is the glue that holds this supply chain together. Nationally, many trucking firms are expanding their business by making certain logistics services available to their customers as part of their company strategy. North Dakota firms that are providing service to complex supply chains must be able to adapt to this evolving trend in order to compete in the long term. Additionally, it is important for the state to ensure that the trucking industry has a viable presence in a state with a location disadvantage.

Competitive air service that enhances economic development. — It is generally accepted that commercial air service is a necessary condition for any degree of economic development. If this is true, and it does not appear that credible counter arguments have been developed, then North Dakota is disadvantaged because its low density markets and the evolvement of fortress hubs. Low density markets make it less profitable to serve such markets or in some cases unprofitable. Additionally, fortress hubs which are dominated by one carrier control a large part of the market beyond the hub. This results in a lack of competitive rates and service for those origins on the spoke that are tied to such a hub. This results in high airfares for low density origins located on the spoke of the commercial airline networks. Service and price problems will continue to plague states such as North Dakota until these economic policy problems are resolved or new technology makes them a moot point or at least mitigates them.

Maintaining a local airport network that provides adequate service to rural areas. — Local airports provide a much needed and sometimes critical service to rural residents and business.

They fill the gap between airports with regularly scheduled service and those without easy access to those airports. Local airports in rural areas are an asset to economic development (even airports without scheduled air service). Firms considering to locate in rural communities, place access to airports as one of the criteria for selecting a location. Many experts believe we do not need to build new but rather improve existing airports (lights, navigation, hangar facilities etc.) Additionally, they provide air ambulance capability as well as service to crop sprayers and other local business entities. Innovation in aircraft design is expected to bring technologically advanced aircraft to the General Aviation market at a cost lower than today's aircraft. New design is expected to increase aircraft speed by four times the speed of highways while reducing the training demands for certifying new pilots. A government initiative in cooperation with private industry has set a goal to deliver the new aircraft and the infrastructure needed to support its use to 25% of the Nation's suburban, rural, and remote communities in 10 years, and over 90% of those communities in 25 years. North Dakota must be able to meet the air transportation needs of the more rural citizens with a viable local airport network and be able to adopt the new technologies to strengthen that network.

Maintenance and improvement of the state highway system. — The state highway system has been the beneficiary of a federal highway program that contributes up to three dollars back for every dollar that North Dakotan's pay in federal gas tax. This has allowed the state of North Dakota to develop and maintain a quality highway system that reaches most of its citizens. However, there is a move at the national level to eliminate or at least minimize the donor/donee system. The impact on North Dakota will be devastating if these efforts are successful. North Dakota already has imposed a state tax that is reasonable within the context of what other states have imposed. A complete elimination of the aid would result in approximately a tripling of the current state gas tax to maintain the revenue stream. This does not take into account that the highway system is depreciating faster than it is being maintained and reinvested in.

Maintaining an adequate rural road system. — North Dakota has more roads per capita than any other state. This is reflective of the rural-agrarian nature of state coupled with size of the state and the type of agriculture. Yet these rural areas are experiencing a trend of declining population and economic base. This trend that began several decades ago may be accelerating. Regardless, few if any expect it to reverse itself. However, a road system of some network configuration must be maintained at an adequate level to provide production agriculture, business that serve production agriculture, tourists, recreationists, and the rural citizens with the required mobility to succeed. This poses a substantial problem for rural counties, rural communities, and the state. A road system that serves the business and community interests is an obvious necessity. How to pay for such a system will be a challenge. Furthermore, how to rationalize the system relative to real or relative declining funds will also be struggle.

Utilizing Intelligent Transportation Systems (ITS) Technologies. — ITS has evolved as an important element in the future of transportation. Advanced communication, radar, satellite, and other technologies that are largely chip based are beginning to transform transportation into a "gee whiz" environment. However, ITS, in its best form, is using advanced technology to develop down-to-earth solutions for real transportation problems and issues. Some applications

include computer enhanced vision such as in snow storms, improved traffic management in North Dakota's growing urban areas advanced computer modeling, improved rural travel safety through run off the road warning systems, electronic commercial vehicle clearance and safety system, improved rural public transportation that is more demand responsive through computer based routing and scheduling programs, and increased rural tourism through advanced communications devices that provide information to tourists in a real time environment. Many of these technologies are focused on large metropolitan areas, yet they have applications in rural states as well. Implementing these technologies to keep pace with the more populous states will require those involved to be innovative, creative, and efficient. North Dakota must become more aggressive in adopting these new technologies and learn to adapt them to a low population density environment.

Rural public transportation services that adequately serve a limited clientele base. — North Dakota has one of the highest percentages of residents over 65 (14.2% compared to 12% nationally). Many of these residents still live on farms in rural areas. Additionally, there are a number of rural residents that are low income and live in areas with higher than average unemployment and significant underemployment. Providing transportation that furnishes the mobility that makes training and jobs accessible to those who are under or unemployed and the health care and other life enhancing activities for the older generations is a real challenge in a low density market environment. Innovative use of funding sources and ITS and other technologies will need to be implemented to make the systems more service responsive to customers, more efficient for operators, and safer. Cooperation among various branches of government and coordination among transportation entities at the local level will be necessary. Also, the development of transit districts may have to be considered to address this problem.

Development of human capital to solve transportation and logistics problems. — Most, if not all, of the transportation and logistics challenges of the next century will require a new interdisciplinary approach, the latest knowledge, cutting edge skills, and enhanced communications. The human capital that fits this criteria is just beginning to be developed throughout a select few universities located throughout the United States. It is important that North Dakota play a role in the development of human capital that emphasizes rural, small urban and freight transportation issues. The development of human capital that will be interested in North Dakota's challenges and be willing to live and work in a rural and small urban state to help solve those challenges is critical to addressing the transportation issues of the 21<sup>st</sup> Century.

A body politic that is informed of the transportation challenges of the 21<sup>st</sup> Century. — Otto Von Bismarck is quoted as saying that "politics is the art of the possible." Nothing is possible on a sustainable basis without the support of the public will of the people in an advanced democracy. Thus it is imperative that North Dakotan's understand and appreciate the transportation challenges of the next century. If they do not, the lack of public support for solutions to these challenges will translate into business as usual at best. Under this scenario North Dakota will not be able to socially or economically keep pace with other states and nations in this type of environment.

#### **EDUCATION**

The UGPTI coordinates an interdisciplinary graduate transportation program with Civil Engineering and Ag Economics, focusing on multimodal/intermodal transportation and logistics.

NDSU is currently participating in a three-year distance education demonstration program with Colorado State University, Utah State University, and the University of Wyoming. In this demonstration program, each university is offering at least one course per year over the TEL8 system. These TEL8 courses are open to enrollment by graduate students from all four institutions (including off-campus students at the North Dakota, Wyoming, Colorado, and Utah departments of transportation.)

#### Contact:

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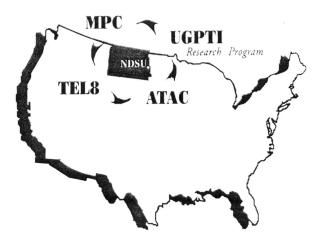
Denver Tolliver (701) 231-7190 tolliver@badlands.nodak.edu



"Rural, Small Urban, Freight Transportation and Logistics"



NORTH DAKOTA STATE UNIVERSIT



Upper Great Plains Transportation Institute P.O. Box 5074, 430 IACC Building North Dakota State University Fargo, ND 58105-5074 Phone: (701) 231-7767 Fax: (701) 231-1945

www.ugpti.org

Working to:

build human capital

advance knowledge

promote community progress

in N.D., the Region and the U.S.

## MESIN

rural, small urban, freight transportation and logistics through interdisciplinary university education, research, and service

#### GONLS

- Identify and research relevant and cutting edge transportation issues
- Provide alternatives and solutions to transportation problems
- Provide technical assistance to organizations, businesses and agencies
- Develop students for future transportation challenges
- Train transportation professionals and practitioners for emerging issues

#### ADVISORY COUNCIL

Department of Economic Development & Finance

Greater North Dakota Association

North Dakota Aeronautics Commission

North Dakota Barley Council

North Dakota Department of Agriculture

North Dakota Department of Transportation

North Dakota Farm Bureau

North Dakota Farmers Union

North Dakota Grain Dealers Association

North Dakota Motor Carriers Association

North Dakota Oilseed Council

North Dakota Public Service Commission

North Dakota Soybean Council

North Dakota Stockmen's Association

North Dakota Wheat Commission

Potato Growers Association

Red River Valley and Western Railroad

Red River Valley Sugarbeet Growers Association

Zuger, Kirmis, Bolinski & Smith

#### VISION

 to be recognized as one of the top university transportation centers in the United States

## UGPTI RESEARCE

Major areas of research and expertise of the Transportation Institute are centered around the theme of "Rural, Small Urban, Freight Transportation and Logistics:"

- Statewide and regional transportation planning
- Intelligent Transportation Systems
- · Low volume roads and rural transit
- · Railroad economics and management
- Agricultural transportation
- Motor carrier economics, management and safety
- Logistics and rural economic development
- · Rural aviation

#### Director:

Gene Griffin (701) 231-7767 ggriffin@plains.nodak.edu

## ADVANCED TRAFFIC ANALYSIS CENTER (ATAC)

A state-of-the-art national research, outreach, and training center that adds value to transportation systems in second-tier cities through effective evaluation of existing and proposed traffic control plans, with emphasis on ITS strategies.

#### Focus Areas:

- Advanced signal control systems
- Advanced travel information systems
- Incident management systems
- Rail-highway crossing systems

#### Director:

Ayman Smadi (701) 231-8101 smadi@badlands.nodak.edu

# MOUNTAIN-PLAINS CORRIGION

A center of excellence for rural and intermodal transportation. Participating members are Colorado State University, North Dakota State University, Utah State University, and the University of Wyoming.

#### Focus Areas:

- Rural transit
- Low volume roads and bridges
- Intermodal freight and logistics
- Environmental impacts
- Tourism
- International Cross-Border Traffic

#### Director:

Denver Tolliver (701) 231-7190 tolliver@badlands.nodak.edu

## TEL8 - TRANSPORTATION TELECOMMUNICATION NETWORK

Provide quality transportation in Region VIII through a distance learning and teleconferencing network that serves the participating DOT's and universities by enhancing communications, education, technology transfer, and research.

#### TEL8 DOT and Member States:

- Colorado
- South Dakota
- Montana

  Namb Dal
- Utah
- North Dakota
- Wyoming

#### Director:

Doug Benson (701) 231-8388 benson@plains.nodak.edu

## House Bill 1021 Subdivision 3

Upper Great Plains Transportation Institute North Dakota State University

#### Gene Griffin, Director UGPTI

- Mr. Chairman and committee members, for the record I am Gene Griffin, Director of the Upper Great Plains Transportation Institute, North Dakota State University. It is a pleasure to be here today to visit with you about the Institute and to make **three points**.
  - 1. The role and importance of General Fund
  - 2. Highlight two projects from this past year
  - 3. Explain the proposed Strategic Freight Analysis Program
- The first point is the **vital nature of the General Fund** appropriation. It is critical to the continued success and very existence of the Transportation Institute for three fundamental reasons:
  - 1. First, it provides the majority of the **funds necessary to meet the federally mandated maintenance of effort** requirements of \$474,000 per biennium. This is required to qualify for the *University Transportation Centers Program* sponsored by the US Department of Transportation. This program provides the Institute with \$950,000 of program funds per biennium on a 50/50 basis.
  - 2. Second, it serves as a **partial source of matching funds** necessary to qualify for the funding.
  - 3. Finally, it provides the **critical funding (core) to cover some of the program leadership and development** that is simply not available through grants and contracts.

In summary, the General Fund provides the minimal seed money necessary to attract and maintain the level of grant and contract money essential to a quality program. I personally believe that the level of general fund is too low and restricts the contribution that the Institute can make to North Dakota. However, without the current level of General Fund money the Transportation Institute could not exist.

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Agricultural Transportation, Low Volume Roads and Rural Transit, Logistics and Rural Economic Development, Railroad Operations, Statewide and Regional Planning, Motor Carrier Economics/Management and Safety, Rural Aviation, and Intelligent Transportation Systems. I would like to highlight two projects as examples of the Institute's contribution to the state.

- 1. Surface Transportation Board (STB) ruling on market dominance. — The STB recently conducted a review of the criteria for market dominance which is a threshold test to determine if a shipper has standing to bring a suit against railroads in rate cases. The STB ruled that geographic and product competition can no longer be considered when showing market dominance (the fact that this decision rated a major headline in the December 23 issue of the Journal of Commerce exemplifies its importance). The previous system, for all practical purposes, prevented a shipper in North Dakota from filing a complaint case. The Institute's expert witnesses provided key testimony in this case through the Public Service Commission and the Wheat Commission. The quality and weight of this evidence has been cited by some in Washington, DC as one important underpinning reason for this change. This ruling could have significant implications for North Dakota shippers. Indeed, discussion has already begun between the Public Service Commission and the Wheat Commission about bringing a test case before the STB.
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- The final point I would like to make concerns the proposed development of the *North Dakota Biennial Strategic Freight Transportation Analysis*. North Dakota is at a crossroad in its transportation system. How North Dakota responds to these future challenges will determine how competitive the state is in production agriculture, agricultural marketing, agricultural processing, and manufacturing. The less logistically competitive the state is the greater the loss of income and a resulting transfer in wealth out of the state to stockholders and others. Other transportation related interests

are at risk as well including, but not limited to, short line railroads, North Dakota's highway and road infrastructure, tourism, and public transportation for rural and low income residents.

This risk is a result of changes in the evolving transportation system and economic environment. Deregulation of the transportation industry, concentration of all industries including grain marketing, globalization of the economy, changes in the regulation of production agriculture, drastically improved communications processes, the relentless growth in computer chip technology, and population shifts are all contributing factors. Several challenges have been identified for North Dakota transportation as part of the North Dakota Blue Book and are listed immediately below. Many of these challenges involve freight transportation either directly or indirectly. It is critical for the state to be able to meet these challenges if we are to be the master of our own destiny to the extent possible.

- ✓ Concentration in the Class I railroad industry
- ✓ Long run viability of short line railroads
- ✓ Availability of competitive intermodal transportation services
- ✓ North Dakota's logistical competitiveness
- ✓ Integration of logistics by manufacturers, processors, and trucking firms
- ✓ Price and service competitive air service
- ✓ Maintaining a viable network of local airports
- ✓ Maintaining and improving the state highway system
- ✓ Maintaining an adequate rural road system
- ✓ Implementing Intelligent Transportation Systems (ITS) technologies
- ✓ Rural public transportation services
- ✓ Developing properly trained human capital
- ✓ Understanding and appreciation for these issues by the body politic

The goal of this effort is to develop a set of information and corresponding analyses related to the state's transportation system and recommended strategies for several classes of users. These users include the executive and legislative branches for developing transportation and transportation-related policy; application by state transportation agencies for developing agency policy and operational plans; agriculture, manufacturing, and other businesses that rely on transportation, as well as transportation operators for adjusting to a changing technological and competitive environment; and finally, the effort will provide cities and counties the information necessary to deal with this change as intelligently as possible.

Specific **objectives** include, but are not necessarily limited to:

1. Development of a comprehensive **freight database** that complements existing information; e.g., rail rates by service level, comparative rail and truck rates from competing regions, etc.

- 2. Identification of **North Dakota's broad transportation goals** in concert with the private sector, legislative and executive branches of government, and state agencies.
- 3. Documentation of **changes in the economy, trade, and transportation** that will impact North Dakota's transportation system on a state, national, and global scale.
- 4. Determine how the changing trends will influence North Dakota's transportation system, the state's industries and their competitiveness, and the citizens' mobility.
- 5. Develop a **biennial report** suggesting strategies the state might adopt to deal with important emerging transportation issues.
- 6. **Disseminate the results of the plan to transportation stakeholders**: legislators, the executive branch, agencies, businesses, and citizen groups at a biennial conference.

This effort also could lead to an avenue for better coordination of transportation planning, strategies, and investments among the various political sub-divisions and private sector entities responsible for transportation.

This program will benefit and add value to North Dakota and its businesses in a variety of ways. The benefits range from broad to precise in specific instances. Some of the broader ways in which this program will add value to the state's economy are:

- ✓ A more **cost effective investment** in North Dakota's transportation infrastructure.
- ✓ An improved transportation and logistics environment for the state's businesses, including transportation rates and service.
- ✓ Improved transportation policies promulgated by the executive and legislative branches of government.
- ✓ An overall improvement in the understanding by North Dakota businesses and citizens of the true and significant importance of transportation and logistics to their future.

More specific instances of benefits arising from the freight transportation data, information and analysis resulting from this program would include:

✓ Use by North Dakota grain dealers in siting and investing in new facilities and negotiating service and rates with railroads.

- ✓ A better understanding by manufacturers of all types of the **importance of the ever-increasing role of logistics** in surviving in a global economy and creating a competitive advantage.
- An increased **capability of North Dakota motor carrier firms to adjust** to a changing and increasingly competitive business environment emphasizing logistics.
- ✓ Improved long range strategic freight transportation planning for North Dakota highways by the North Dakota DOT.
- ✓ Increased understanding of the economic impact of transportation for county elected officials and county transportation staff and the influence of transportation on economic development.
- Providing the Public Service Commission with information that may be used in managing the transportation functions it is responsible for, including defending North Dakota grain transportation/marketing issues.
- ✓ Better investment planning and market development efforts by short line railroads serving the state.
- ✓ Better understanding and corresponding improvement in transportation and logistics decision-making by natural resource firms.
- In conclusion, I would like to thank the legislative branch for its past support. Your assistance has been the fundamental underpinning of a program that the Advisory Council, NDSU administration, and the staff of the Institute believes has been a valuable program for North Dakota. I ask that this support continues at a commensurate level with the transportation challenges which face North Dakota in the 21<sup>st</sup> Century.

Thank you.

## House Bill 1021 Subdivision 3

Upper Great Plains Transportation Institute North Dakota State University

Dennis W. McLeod, Chairman UGPTI Advisory Council

Mr. Chairman and committee members, my name is Dennis McLeod, and I am here as Chairman of the Transportation Institute's Advisory Council. The statutory organizations represented on the Advisory Council are listed on an attached sheet along with other selected organizations that have been invited to participate in the Council. I also serve as President of the Red River Valley & Western Railroad, a short line railroad based in Wahpeton that serves central and southeastern North Dakota.

First I will address the general budget request for the Transportation Institute. This committee has in past years recognized the invaluable contribution the Transportation Institute makes to North Dakota. The Institute's contribution is only becoming more important as changes are occurring more rapidly. The General Fund dollars of \$474,000 are needed to fund the core organization. This in turn generates another \$6 million which is funneled through the Institute. Much of this directly benefits North Dakota, and the remainder has indirect benefits to the state, not the least of which is having a broad professional research group which understands North Dakota and is available at a moment's notice to do objective research on behalf of the state. Gene will speak in more detail to the general budget request.

Most importantly, I am here to request an additional \$288,250 to conduct a *Strategic Freight Analysis* which will provide information that North Dakota desperately needs. The Advisory Council decided over a year ago that if North Dakota was to maximize economic development within the state and minimize the transfer out of state, the rewards of this development, this study was a must. Unfortunately the budgeting process and the changing economic conditions within the state have prevented its inclusion in our budget up until now. While we have received verbal support from both the executive and house legislative leadership that this project is important for the state and should be funded, the process has yet to result in an amendment for the additional funding.

This project must be conducted and it must begin now. For this project to be considered two years from now during the next session may be too late.

This project will provide direction and help determine the future for our state's transportation network. Today there are a number of companies outside our state which are evaluating their economic opportunities within North Dakota. These companies could

create radical changes to the transportation infrastructure necessitating ND to spend huge sums of dollars to accommodate their decisions. Some of these changes may be inevitable and may be good for the state. But North Dakota needs to be in a position with good empirical and economic data to help drive these decisions in such a manner as to maximize returns to North Dakota companies and to minimize the cost to our taxpayers.

Several things are changing in transportation as we speak which create the immediate need for this analysis.

The first issue is the construction of 110 car shuttle train facilities. A shuttle train is a unit train of 110 extra large cars which normally loads at one station within 15 hours and unloads similarly. It is common knowledge that at least 10 sites have tentatively been identified in North Dakota as possible 110 car shuttle train facilities. Most any elevator manager can recite the locations to you. These facilities are designed to be high volume operations and cost \$6-8 million to construct. In order for them to be viable, they must handle 15-20 million bushels of grain each year, and they certainly intend to be viable. The implications for North Dakota's transportation system, especially our road system, branch lines, and short lines are tremendous. It is probable these proposed facilities will be built by multi-national grain companies because of the extremely high cost, and the risks of owning a shuttle train are minimized when the shipper and receiver are the same company.

In the last two years, we estimate that 20-25 of these facilities have been built, are under construction or under consideration in eastern SD and southwest MN. If a similar pattern develops in North Dakota, before the next legislature meets, a few facilities may be in existence here. This will mean a radical change for the existing grain handling elevators, and also a huge increase in the distance of truck travel and truck sizes on ND roads. Fewer companies will be competing in the grain business. Each of these results is a critical policy issue for North Dakota and each needs to be analyzed to determine their impact on our state.

A second critical issue on the horizon is the advent of the 286,000 lb grain hopper car. These larger cars are quickly becoming the standard for grain hauling by rail. Virtually every new car built today for grain hauling is this larger heavier loading car. Some are even proposing grain cars that can carry 315,000 pounds compared to today's 268,000 lb. While this may seem like just a railroad issue, it will have far-reaching impacts on North Dakota's rail network. All railroad main lines are equipped with heavy rail and can withstand these heavier loading cars. But there are numerous branch lines in North Dakota that are not equipped with rail that is heavy enough to carry these 286,000 lb. cars, and I dare say none can handle 315,000 lb. cars. Also, North Dakota's short line railroads, which have been able to operate many branch lines in areas that were not economical for the larger railroads, could be economically injured if the large railroads price their transportation service to promote the use of these large cars. The Red River Valley & Western Railroad would have to spend an estimated \$36 million to upgrade its

rail to accommodate the heavier cars on our entire network, money we do not have. The other two short line railroads in ND would also have similar costs to upgrade their rail. The Dakota, Missouri Valley & Western Railroad here in Bismarck estimates it would cost \$25 million, and the Northern Plains RR in Devils Lake estimates \$40 million to upgrade its rail. Realistically, many branch lines may cease to exist when these heavy loading cars replace the current fleet.

These two factors alone, (the shuttle facilities and the heavier loading grain cars) have the potential to dramatically change the transportation landscape in ND. If grain is to be concentrated through 15 or 20 facilities in ND, most located on rail main lines, it will be done without the benefit of any input from ND if this study is not conducted. If these 20 facilities handle most of the grain in ND, then local truck hauls will increase to an estimated 40-50 miles. For each of these locations, it is conceivable that an average 60 miles of road may have to be constructed to superhighway status to accommodate the increased and heavier truck traffic. At half a million dollars per mile, this is an incredible \$600 million cost which will be borne by the public sector! We simply cannot stand by and watch this magnitude of impact take place without the information we need to be proactive and determine good public policy. North Dakota needs a plan so we can have input into this type of decision-making. The state has to be involved in the site planning of these facilities to avoid unnecessary public expenditures. Two years from now some of you who may have a facility in your district will be asking for highway funds to be spent to support it, others of you may only see the reduced business level in your district and feel otherwise. Funding this project to develop information needed to make intelligent decisions is a wise investment for \$288,250 given the monumental costs that may result from these changes in our transportation network.

A third critical issue that will affect North Dakota is the continued growth in intermodal traffic in the U.S. Intermodal shipments include trailers on flatcars and containers on flatcars, the fastest growing method to move products in the U.S. and around the world. Intermodal traffic has grown by an average 5 percent per year over the past 10 years.

North Dakota currently does not have a single intermodal facility within its borders. The closest facilities are located at Billings, MT, Dilworth and Thief River Falls, MN. The long-term future of both Dilworth and Thief River Falls are not good. The economics of intermodal transportation as viewed by large railroads do not lend themselves to expansion of these facilities or development of new facilities in the state. Without an effort by ND to promote intermodal transportation in the state, business development will be reduced since many businesses would not consider locating in an area that does not have ready access to intermodal facilities. This study will address issues pertinent to developing the necessary infrastructure which would allow ND companies to take advantage of this growing transportation mode.

This program will address all facets of logistics related to merchandising North Dakota products. If time permits, Gene may want to touch on the more technical aspects of the program.

I cannot impress upon you enough how badly this information is needed and needed now. Two years from now may be too late. North Dakota is highly dependent on transportation for its economic well being, much of which we can control. With the information provided by this research project, we can influence developing trends, and to the greatest extent possible be the master of our own destiny. We must leverage our knowledge base to arm ourselves with as much information as possible to plan for our successful economic futures.

An investment of \$288,250 to fund this project is a very wise investment indeed when considering the potential impacts of these changes.

Mr. Chairman and committee members, thank you for your attention and I would be glad to answer any questions.

# North Dakota Biennial Strategic Freight Transportation Analysis

#### **Importance of Transportation in the 21<sup>st</sup> Century**

As important as transportation was to North Dakota in the last century, it will be more important in the 21st Century. There are three reasons for this: (1) The trend towards a worldwide economy — this has resulted in greater competition, especially for commodities and durable goods; (2) A shift from commodity and durable goods to a consumer goods and service economy — these businesses are more sensitive to transportation and require logistical excellence; and (3) the necessity of mobility of people to successfully participate in the U.S. socioeconomic system — transportation is the great facilitator. Two out of three of these factors relate to freight transportation, and the third is a necessary condition for the manifestation of the demand for freight transportation.

#### Mission

The purpose of this program is to provide North Dakota business interests with a competitive advantage through transportation and logistics. It will achieve this by providing the necessary data, information, and knowledge to business firms and all levels of government to manage the North Dakota transportation and logistics environment to the best of their ability.

#### Goals

The goal of this program is to improve the competitiveness of orth Dakota businesses and agriculture by improving the orth Dakota transportation and logistics environment. Specific goals include: (1) Provide manufacturing and processing businesses with an understanding of how logistics affects their competitiveness and how to gain a market advantage; (2) Provide production agriculture with the transportation and logistics strategies that will allow them to compete effectively in all markets; (3) Develop a complete understanding of how the mobility of people impact commercial business enterprises.

#### **Participants**

This program will assist any industry or firm whose enterprise relies on transportation or any level of government responsible for managing the transportation environment and infrastructure. This would include business executives as well as front line workers, elected public officials, and public sector employees. The program would be guided by the counsel of an advisory committee.

#### **Program Value**

The program would add value to North Dakota businesses by assisting them in achieving a competitive advantage thereby improving their economic viability. Additionally, it would "ve as an inducement for existing firms to expand and new ms to locate in North Dakota.

#### Issues

- ✓ 110-Car Shuttle Trains
- ✓ 286,000 lb. and heavier grain cars
- ✓ Application of logistics in trucking and manufacturing
- ✓ Rationalization of the state's rail & highway network
- ✓ Deployment of ITS technologies
- ✓ Advancing truck technologies and configurations
- Managing the wheat supply chain

#### **Objectives**

- ✓ Develop a ND freight database
- ✓ Identify how changes in the economy, trade, transportation, and logistics impact business
- Develop business logistics strategies to cope with and take advantage of these changes
- ✓ Assist in identifying ND transportation goals
- ✓ Identify the infrastructure and mobility needs that allow business to prosper
- Transfer knowledge/strategies to businesses and government
- ✓ Develop report and host seminar outlining strategies

#### **Stakeholders**

- ✓ Production agriculture and marketing
- ✓ Manufacturing and agricultural processing
- ✓ Shortline and Class I railroads
- ✓ Trucking industry, especially truckload carriers
- ✓ Legislators, county commissioners, and city officials
- ✓ Executive branch and state agencies

#### **Benefits**

- ✓ Improved competitiveness of agricultural processors
- ✓ Integration of business logistics by manufacturers
- ✓ Integration of logistics into management of truck firms
- ✓ Better investment planning & market development by shortline railroads
- ✓ Better state transportation policies
- ✓ More cost effective investment in infrastructure

(UGPTI North Dakola State University

# North Dakota Biennial Strategic Freight Transportation Analysis

#### Transportation Challenges for North Dakota in the 21st Century

Several transportation and logistics issues will challenge North Dakota's very economic existence in the 21st Century. Some of these issues are listed below. The issues are not listed in any order of importance since all are considered important to the respective client groups that they impact. Also, the list is not comprehensive; it does not cover all possible challenges that lie ahead for North Dakota. Issues will be prioritized and other challenges identified as the program develops.

✓	Concentration in the Class I railroad industry
✓	Long-run economic viability of shortline railroads
1	Availability of competitive intermodal transportation services
1	Enhancing North Dakota's logistical competitiveness
1	Integration of logistics into the management of truckload carriers
1	Competitive air service that enhances economic development
1	A local airport network that provides adequate service for rural areas
1	Meeting the highway infrastructure needs of businesses and citizens
1	Maintaining an adequate rural road system
1	Utilizing Intelligent Transportation Systems (ITS) technologies
1	Public transportation systems that serve a limited rural client base
1	Create human capital to solve ND transportation and logistics challenges
✓	A body politic that appreciates and understands these challenges

Proposed Biennial Budget				
Personnel				
Program Director — 0.50 person years	\$	30,000		
Project Investigators — 3.00 Person Years		105,000		
Support Staff — 0.50 Person Years		11,000		
Graduate Research Assistants — 2.00 Person Years		24,000		
Undergraduate Research Assistants		12,000		
Fringe Benefits		43,800		
Subtotal		225,800		
Operating				
Communications, Travel, Printing, etc.		56,450		
Equipment				
Personal Computers and Office Equipment		6,000		
Total Biennial Program Costs		288,250		





### Memorandum

TO: Members of the North Dakota Senate Appropriations Committee

FM: George M. Unruh, Jr. Vice President, TMI Systems Design Corporation

Date: 03/03/99

Re: Senate Bill 1021

Thank you for consideration of SB 1021, especially as it relates to the support of the Strategic Freight Transportation Initiative for the State of North Dakota. Those of us dealing with freight and logistics on a daily basis are vitally concerned about the future of freight in our state, and believe that a proactive approach to future freight problems and challenges is appropriate at this time. The challenge here is to establish a united and focused effort that can address the diverse interests of our state. We believe that the Strategic Freight Transportation Initiative is one way to accomplish this goal, and I respectfully request that you support this effort in the amount of \$288,000.

Thank you for your consideration and I look forward to discussing this issue with you in the future.

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## House Bill 1021 Subdivision 3

Upper Great Plains Transportation Institute North Dakota State University

> Bernie Vculek Crete Grain Company Crete, North Dakota

Mr. Chairman and committee members, for the record my name is Bernie Vculek and our family owns Crete Grain Company, a country elevator in Crete, North Dakota. I am here to give my wholehearted support for the request by the Upper Great Plains Transportation Institute for funds to conduct the research project on the future of our transportation network.

In 1978 our family bought a dilapidated country elevator in Crete, North Dakota and have since made it into a modern facility which is capable of shipping 54 car unit-trains, but not "shuttle" trains. While the grain business is up and down as you know, adding a new element such as shuttle trains increases the risk to grain elevator operators like us. While shuttle trains may work well in areas like southern Minnesota with its high yields of corn and beans and where most land is cropped, this is not the case in North Dakota. Therefore to recover your costs of building one of these facilities in North Dakota, you would need to draw grain from another 30 to 40 miles farther than we do today. This would mean some farmers would haul grain 30 miles farther and pass by 2 or 3 smaller country elevators to get to a shuttle facility.

The word on the street is that the big four grain companies, along with railroads, are promoting shuttle train facilities in North Dakota. This would give them control over both the origin and destination facilities for North Dakota grain. As an independent elevator with no ownership ties to any of these big four grain companies, I have to ask "What happens to our family grain elevator?" By all accounts it appears that a good portion of the grain that I once marketed for my farmer customers could now be trucked to a main line station for shipment by one of these 110 car shuttle train stations that are being talked about.

My concern is not just for our own grain elevator facility but for the longer-term effects on our roads, our branch lines, and especially farmers. I also have family members who are in farming. We are concerned about our roads since we pay for them with tax dollars. If shuttle facilities become a reality, there will be little grain left for independent elevators and farmer cooperatives. What happens to the competitiveness in the grain business? These companies may not have to compete as aggressively for grain like the country elevators do today. If only one of these companies is bidding for grain because it made

an export sale, will they need to bid as aggressively for grain compared to smaller elevators? My experience and my common sense tells me that farmers will bear the cost of this loss in competitiveness. If farmers are paid less by even a nickel a bushel, North Dakota farmers, who sell over 500 million bushels of grain per year, will be worse off to the tune of about \$25,000,000 per year.

So from my point-of-view, the economic impact on our state to farmers, elevators, and roads would be very substantial. We need to know what the future may bring and its economic impact. So it seems that \$288,000 will be a small price for North Dakota to pay to ensure that to the greatest extent possible we understand these changes, minimize the negative impacts, and influence the changes to maximize the benefit to our state.

This analysis by the Upper Great Plains Transportation Institute will provide that information and, again I urge you to support this project.

Mr. Chairman and committee members, thank you for your time, and I will answer any questions that I can.



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