

**FISCAL NOTE**  
**Requested by Legislative Council**  
**01/16/2015**

Bill/Resolution No.: SB 2228

- 1 A. **State fiscal effect:** *Identify the state fiscal effect and the fiscal effect on agency appropriations compared to funding levels and appropriations anticipated under current law.*

	2013-2015 Biennium		2015-2017 Biennium		2017-2019 Biennium	
	General Fund	Other Funds	General Fund	Other Funds	General Fund	Other Funds
Revenues	\$0	\$0	\$44,496	\$0	\$44,496	\$0
Expenditures	\$0	\$0	\$44,496	\$0	\$44,496	\$0
Appropriations	\$0	\$0	\$44,496	\$0	\$44,496	\$0

- 1 B. **County, city, school district and township fiscal effect:** *Identify the fiscal effect on the appropriate political subdivision.*

	2013-2015 Biennium	2015-2017 Biennium	2017-2019 Biennium
Counties	\$0	\$0	\$0
Cities	\$0	\$0	\$0
School Districts	\$0	\$0	\$0
Townships	\$0	\$0	\$0

- 2 A. **Bill and fiscal impact summary:** *Provide a brief summary of the measure, including description of the provisions having fiscal impact (limited to 300 characters).*

This bill requires the Department of Agriculture to assist with confining or relocating bees if a pesticide applicator is spraying within two miles of an apiary location.

- B. **Fiscal impact sections:** *Identify and provide a brief description of the sections of the measure which have fiscal impact. Include any assumptions and comments relevant to the analysis.*

We estimate the following: Salary and operating costs consisting of full-time and temporary salaries to facilitate bee confinement or relocation and other operating costs, including contractual, or other necessary expenditures for bee confinement or relocation.

3. **State fiscal effect detail:** *For information shown under state fiscal effect in 1A, please:*

- A. **Revenues:** *Explain the revenue amounts. Provide detail, when appropriate, for each revenue type and fund affected and any amounts included in the executive budget.*

The law change provides a provision for the department to bill the beekeeper for move and confinement costs; however, the department is not provided the budget authority to retain these fees. All fees associated with this law change must be deposited into the general fund.

- B. **Expenditures:** *Explain the expenditure amounts. Provide detail, when appropriate, for each agency, line item, and fund affected and the number of FTE positions affected.*

We estimate the department will have to relocate 10 apiary locations per biennium at a cost of \$1,000 per move. We also estimate that there will be 20 site visits per biennium to confine bees at a cost of \$300 per trip. We are also estimating the cost of netting to be \$5,000. The expenditure estimate also includes temporary salaries of \$23,496 to assist with relocation and confinement duties.

- C. **Appropriations:** *Explain the appropriation amounts. Provide detail, when appropriate, for each agency and fund affected. Explain the relationship between the amounts shown for expenditures and appropriations. Indicate whether the appropriation or a part of the appropriation is included in the executive budget or relates to a continuing appropriation.*

The appropriation impact is \$44,496. This amount is not included in the department's base budget(SB 2009) and no appropriation is provided in this bill.

**Name:** Junkert/Baumiller

**Agency:** Agriculture

**Telephone:** 328-4756/328-1960

**Date Prepared:** 01/20/2015

**2015 SENATE AGRICULTURE**

**SB 2228**

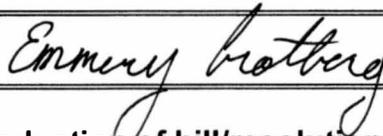
# 2015 SENATE STANDING COMMITTEE MINUTES

**Agriculture Committee**  
Roosevelt Park Room, State Capitol

SB 2228  
1/29/2015  
Job # 22788

- Subcommittee  
 Conference Committee

Committee Clerk Signature



## Explanation or reason for introduction of bill/resolution:

Relating to the required movement or confinement of bees if pesticide is being applied in the area; and to provide for the applicability of a penalty

## Minutes:

Attachments: #1-8

**Vice Chairman Luick** opened hearing on SB 2228

**Chairman Miller** Introduced SB 2228. Explained that the reason why he introduced this bill was because he had a constituent who was going to spray for aphids and the beekeeper came out and told the beekeeper he didn't need to spray for aphids. Stated that a beekeeper shouldn't be telling a farmer when to or not to spray his crop; they need work together. Senator Miller expressed his hope that the committee could have a conversation amongst themselves and those who came to testify regarding this issue of pesticides and beekeeping relations.

**Senator Warner:** This is quite broad when it says pesticide applicator, should it be more narrowly defined as insecticide applicator?

**Chairman Miller:** That might be the way to go; if we decide to change the language I would talk with someone who understands the laws on how that should be worded. Also 24 hours and 2 miles are starting numbers.

**Senator Larsen:** Could you give me an update of what it is that is harmful for the bees?

**Chairman Miller:** I don't have a lot of bees in my area where I farm. I think the major issue that's taking place is that some of the chemicals that are being used and are generally used for crop seed treatments that can also be sprayed, what's been happening is people spray it to control for insects and then the bees will sit on the plant and carry it back to the hive and it doesn't kill them right away but it affects the entire hive. That happens in California but it doesn't happen in ND often.

**Senator Klein:** You've heard this from one area? Generally we have bees all across the state. Is this just one incidence or are we having a lot of problems?

**Chairman Miller:** I think if you do talk to pesticide applicators, cooperative, aerial applicators; you'll probably hear some other stories. The reason why is because they are federally protected by the label. If I did kill some bees, nobody wants to talk about it because you can have a federal agent knocking on your door.

**Senator Klein:** The 24 hour time window, is that going to work?

**Chairman Miller:** It probably won't for some; I'm more for not continuing this bill and taking components and incorporating them into SB 2025 so we have one platform to work off of.

**Gary Knutson, ND Agriculture Association:** As we've referenced, in the original agency bill a few weeks ago, let's incorporate some of this thinking into this. We do have a difficult issue we are dealing with here. Farmer calls up and he wants some insecticide or fungicide applied and the aerial applicator says that there is a bee colony registered on that land, we can't do anything until you get release permission. It all boils down to putting some teeth into registration and compliance with the law.

**Senator Larsen:** What kills the bee? Fungicide kills the bee as well?

**Gary Knutson:** I would defer to Mr. Gray, but I think our concern with fungicide is dust but that is a better seed treatment. In our case, the bees aren't pollinating yet when we're planting our crop.

**Kayla Pulvermacher, ND Farmers Union:** I want to echo those comments. The ND Farmers Union our members policy this last convention talked about this issue thoroughly and we're looking for more communication between the two. Many of the comments by Mr. Knutson, I would echo.

## **Opposition**

**Samantha Brunner, State Apiary Inspector, ND Department of Agriculture:** (see attachment #1, #2a, #2b) (11:40)

**Chairman Miller:** (15:48) What do you think we could do to make something work in this regard, so that a farmer or professional applicator could have some sort of avenue to get his crops sprayed

**Samantha Brunner:** It's difficult to find common ground that wouldn't hurt the beekeepers that are working along with the applicators. Some of the issues that Mr. Knutson brought up were communication in general; I think that kind of thing we're working on. We've been doing a lot of outreach with both beekeepers and applicators on increasing communication. As far as communication goes, we're on the right track but it's not an overnight fix. As far as

an uncooperative beekeeper, that is another issue. I haven't heard of any, but I'm not sure what we could do off the top of my head to solve that issue.

**Senator Klein:** (17:46 ) Have you been working with the industry to make some changes to 2025, what are these changes?

**Samantha Brunner:** Yes we have talked with a couple members of the industry, and they are wondering if maybe an easier notification system would improve communication. Increased technology, some sort of online system where an applicator could go on and indicate which field he is spraying and an electronic message would be sent out within two miles notifying them of application. It would increase communication and makes things easier for the applicator to contact beekeepers. Hopefully the beekeepers are paying attention and respond. Even with a system like that, it doesn't get the applicator out of that responsibility of following that label.

**Chairman Miller:** I did come up with some amendments that had some language conditions of licensure and it had some of this in it and some new language as well. I don't have them with me, but that might be a better starting point for SB 2025.

**Jesse Gifford, Beekeeper:** (19:30) The 24 hours to move hives is unreasonable, the logistics of beekeeping make that impossible. If the state moves my bees, how do I know that they aren't going to do more damage than the aerial applicator?

**Chairman Miller:** Do fungicides affect your bees?

**Jesse Gifford:** Sometimes it affects the larva.

**Chairman Miller:** If we have a situation where a beekeeper is unwilling to work with a farmer, would you be ok with him being denied license?

**Jesse Gifford:** When someone calls a beekeeper telling him that he has to spray, he has to move. If someone is going to be that bull-headed, if he doesn't want to move his bees, perhaps the bee yard should not be approved.

**Senator Klein:** One of the best management practices was the 48 hour thing, is that workable?

**Jesse Gifford:** It's a little tight--I would prefer 96 hours.

**Senator Klein:** I sense it works both ways--sometimes we give notification of spray but then the weather prohibits spraying.

**Senator Klein:** It is difficult--most beekeepers try and work with the farmers when they are spraying.

**Vice Chairman Luick:** Is it the process of the spray actually physically getting onto the bee itself or is the process of it being applicate and then the bee ingests it as it's sitting on a leaf?

**Jesse Gifford:** Most of the chemical lasts longer, so it's best that the bee doesn't get it physically on them. If the bee ingests it is not quite as bad.

**Cynthia Browning, Browning's Honey Co., Inc., Jamestown, ND:** (see attachment #3)

**Senator Klein:** (33:03) As the secretary, you've had great opportunity to work with the landowners, you haven't had people calling?

**Cynthia Browning:** Not that I'm aware of, I know they discuss what's going to be sprayed and what they're spraying. There hasn't been a problem in my area.

**Senator Klein:** When we had the original rewrite of the bee law, we had a lot of individuals who were concerned. It wasn't so much the spraying but they had bee nuisance complaints. Do you get a lot of those nuisance calls?

**Cynthia Browning:** We do get the occasional nuisance calls, but not many. We do send people out there. A lot of times the bees are wasps or yellow jackets, not a lot we can do. If it is a honey bee, we try to resolve the situation quickly--move the location, take water, whatever is necessary.

**Chairman Miller:** The bill doesn't require that the bees have to be moved, but that they "may" have to be moved.

**Jakob Browning, Browning's Honey Co., Inc., Jamestown, ND:** (see testimony #4)  
(35:05)

**Senator Larsen:** Where do you keep your bees in the winter time?

**Jakob Browning:** We have potato bins in Idaho that we move them too, they are temperature controlled. We keep them there until springtime when we go pollinate in California and then we come back here.

**Ryan Lamb, Lamb's Honey Farm:** (38:00) Testified in opposition to the bill, expressed desire to keep relations with landowners. His main concern had to do with moving the bees. The spray law is a little obsolete; the residual spray is the harmful spray so there's no place to move my bees where they won't be affected by the spray.

**Chairman Miller:** Have you ever had to tell someone they can't spray?

**Ryan Lamb:** No, I don't put any restrictions on my landowners. I am on their land--if I can't take it I will move. Our concern is that we won't be in compliance with the law if the best decision happens to be staying within two miles of the spray area. If it's fine with the

sprayer, fine with the farmer, find with me but it's against the law, that's not a good spot for us to be in.

**Jim Gray, Department of the Pesticide and Insecticide at the Agriculture Department:** The term pesticide is a very broad term. In the ND Century Code includes any substance or mixture of substances intended to mitigate a pest. It includes insecticides and herbicides and also includes things like hard surface disinfectants and pool chlorinators. The vast majority of pesticides do not pose a significant risk to bees. Many insecticides do and most insecticide labels have restrictions on them that would prohibit application when bees are foraging or visiting that treatment site. Those types of restrictions are not found on herbicide or fungicide labels and I've reviewed thousands of labels. We have a state pollinator plan which was developed with broad stakeholder input. The purpose of that plan is to encourage communication and cooperation among those stakeholders. It was launched last year, we have one growing season under our belt. Our experience has shown that that communication and cooperation is taking place for the most part out on the country side. For the last couple of years, we have been reminding pesticide applicators as part of the commercial and private certification trainings, of those restrictions on insecticide labels, so they are aware of them. As a result of doing outreach on the plan, we have been advising them to implement those BMPs, one of which is to look for and contact beekeepers within two miles of that site to be treated, 48 hours prior to application to see if those parties can reach a solution. We've heard many stories in that regard. The vast majority of those stories are positive; the applicator calls the beekeeper and communicates. There are very rare cases when a beekeeper cannot or is unwilling to move the bees in the case of application. My advice would be to give the pollinator plan time to work (see attachment #2a and #2b).

**Chairman Miller:** (48:57) What do you do when the beekeepers have bought up all these missile sights and they own the land?

**Jim Gray:** It would depend upon if the applicator intends to use a product that has enforceable restrictions related to bees. The purpose of the 48 hour contact in the plan is there as a strategy to help the applicator comply with the label. If they can contact the beekeeper and reach an amiable strategy and those bees can be moved or netted, there are odds that bees will not be foraging in that treatment area and that applicator can comply with the label and spray that product during daylight hours. If they can't, then the advice we give is to apply early morning or in the evening because the chances of those bees foraging at that time is very small. One caveat to be cognizant of is those labels when they say do not apply when bees are foraging, that means all bees. That includes wild bees and honey bees as well. Just so we understand, if that applicator calls that beekeeper and that beekeeper moves their hives, that's no guarantee that there aren't going to be bees foraging in that treatment area.

**Vice Chairman Luick:** If we can push through on the other bee bill and get the identification of the hives and information out there so that the communication can take place between the landowners surrounding those colonies, so that there is a little bit of give and take and see what we can do to fix the problem is huge. What about Neem and diatomaceous syrup? Are they problematic for bees also?

**Jim Gray:** I am familiar with both products but I am not familiar with any restrictions on labels containing those ingredients in relation to bees. One of the best management practices in the plan is also to use products with lower toxicity and risk to bees. And we are working with NDSU Extension to provide advice to growers in making those types of product choices and still being able to manage pests.

**Chairman Miller:** You have a beekeeper who is not asking permission to be on land, what do you do if the bee hives are there and you can't contact the beekeeper but you need to spray? What's the remedy?

**Jim Gray:** I'm not an expert on the state Apiary law, the first question I would ask is whether that beekeepers who's putting their hives on properties without permission is in compliance with the apiary law. What we are telling applicators is to look for beekeepers in the area. We are looking for registered hives. The fact that the hive is not registered does not negate the need for the applicator to comply with those restrictions. If there is a drift effect, that is different than the application happening where the bees are foraging. The first question we're going to ask from a regulatory view is was that hive registered?

**Chairman Miller:** That's really the main point of this bill is that I don't want to see a farmer get into a situation where he didn't intend to be in and is put at some sort of criminal or civil problem.

**Senator Klein:** Some years ago in my county, there was a lot of aerial application that created a lot of angst amongst the neighbors because there was a lot of drift. Do the bee folks have as much opportunity to come back and suggest that there's been an issue here as do the neighbors whose flax is now dead?

**Jim Gray:** Yes, beekeepers can file pesticide complaint such as a drift complaint just like anybody else. We have investigated two pesticide complaints in the 2014 growing season involving alleged misapplication of pesticides on or near beehives.

**Bonnie Woodworth:** (55:25) (see attached #5)

**Senator Klein:** I heard Samantha talk about looking for amendments to take something from here and incorporate it into SB 2025. You've been working with her on other issues on the rewrite. Have you visited about any of SB 2228?

**Bonnie Woodworth:** Yes, we actually sat down with Samantha and Tom Bodine and we discussed a lot of these issues. That's why we were talking about the notification ideas, the mapping ideas. There is software out there available these days that given enough money you can probably sell to anything. Yes, we are certainly working hard to resolve this issue. I know there are some people we are never going to please.

(57:50) Also noted that there was other submitted testimony by **Dana Evans, Beekeeper; Kerstin Cochran, District 24; Dusty and Pat Backer, Backer Bees of Center, ND** (See attachments #6-8)

**Chairman Miller** closed the hearing on SB 2228.

**Senator Klein** moved for Do Not Pass.

**Senator Warner** seconded the motion.

**Senator Klein:** There may be some things we can incorporate into the bee bill, but SB 2025 is the direction we need to take a look at. I'm happy that I'm hearing that the industry is working with the department.

**Chairman Miller** reminded the committee that they encouraged him to introduce the bill.

**Senator Oban** asked to be exempted from the previous comment.

**A Roll Call vote was taken. Yea: 6; Nay: 0; Absent: 0.**

Do Not Pass carries.

**Chairman Miller** will carry the bill.



**REPORT OF STANDING COMMITTEE**

**SB 2228: Agriculture Committee (Sen. Miller, Chairman) recommends DO NOT PASS**  
(6 YEAS, 0 NAYS, 0 ABSENT AND NOT VOTING). SB 2228 was placed on the  
Eleventh order on the calendar.

**2015 TESTIMONY**

**SB 2228**

COMMISSIONER  
DOUG GOEHRING



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**NORTH DAKOTA  
DEPARTMENT OF AGRICULTURE**  
STATE CAPITOL  
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**Testimony of Samantha Brunner  
State Apiary Inspector  
Senate Bill 2228  
Senate Agriculture Committee  
Roosevelt Park Room  
January 29, 2015**

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Chairman Miller and members of the Senate Agriculture Committee, I am Samantha Brunner, State Apiary Inspector for the North Dakota Department of Agriculture (NDDA) here representing Agriculture Commissioner Doug Goehring. I am here today in opposition of SB 2228, which will require beekeepers to move hives in the case of pesticide applications.

The NDDA regulates all beekeepers in the state through licensing and registration of beekeepers and apiary (hive) locations.

NDDA believes the current language presents several challenges. The term pesticide is a general term that includes herbicides, insecticides, fungicides, etc. Not all pesticides pose a significant risk to bees nor do they all have label restrictions regarding impacting bees. In light of this, the current bill would require the beekeeper to move hives in a very short time period even if the product being used has no impact on bees. If the beekeeper fails to take action, the responsibility falls to the department to move hives for a product that may not impact bees. This could result in beekeepers incurring unnecessary costs to move or cover hives, or from paying costs incurred by the department.

To meet the requirements of this bill, the department would need to add additional staff to answer phones and move hives after regular office hours. Estimating the number of calls and moves this bill would require is difficult, creating uncertainty around the amount of time and resources the department would need.

This bill does not specify a timeline for the spraying to occur. It requires the beekeeper to move the hives within 24 hours of receiving a call but does not detail if the spraying will occur in 30 hours or 3 weeks. If the beekeeper decides to simply cover the hives, essentially locking the bees in the hive, and the spraying is not done in a timely manner, it can have a huge impact on the colony's health and honey production by not allowing them to forage for food and water.

The passing of this bill would not impact the applicators' responsibility to follow label restrictions in regards to bees. They still need to make sure that there are no bees in the treatment area, if that is what the label specifies.

We understand the intent behind introducing this bill. However, we feel that this bill would create unnecessary stress for the industry, and that some amendments to SB 2025 could address this issue without the same unintended consequences.

NDDA has been working with applicators, beekeepers and landowners on this issue for a couple of years. A little over a year ago we officially launched the North Dakota Pollinator Plan. In the pollinator plan, the department outlines Best Management Practices (BMPs) for Beekeepers, Landowners/Growers and Pesticide users. A main goal of this document is to increase communication between all parties involved and to reduce bee exposure to pesticides. These BMPs were developed following a meeting where we gathered people from all areas involved, discussed the issues and worked to find solutions that were acceptable to all sides. Many of

these BMPs are voluntary—including contacting beekeepers within two miles 48 hours prior to application. Other BMPs reinforce existing laws, such as applying pesticides according to label instructions. We urge beekeepers to communicate with renters and landowners about hive placement and communicate with the department about the location of their hives. We also urge them to work with applicators to find a mutually agreeable outcome in the case of insecticide applications. Our registration numbers have increased and we hope this is an indication of the effectiveness of the plan.

Chairman Miller and committee members, thank you for your time, I urge a do not pass on SB 2228. I would be happy to answer any questions you may have.

SB 2228  
V29/15

#2a



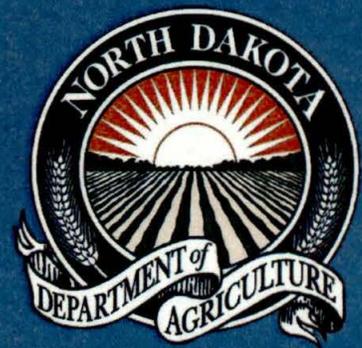
# NORTH DAKOTA POLLINATOR PLAN

*A North Dakota Department of Agriculture Publication*

*Doug Goehring  
Agriculture Commissioner*



Prepared by:  
Jerry Sauter, Pesticide & Fertilizer Division  
Samantha Brunner, Plant Industries Division  
Jim Gray, Pesticide & Fertilizer Division  
Carrie Larson, Plant Industries Division



1/29/15

North Dakota is a giant in production agriculture. Our state leads the nation in the production of many grains, oilseeds, legumes and other crops. To the surprise of some, North Dakota is also the national leader in honey production. Relations between our farmers and beekeepers have traditionally been cordial, even friendly, but in recent years some tensions have arisen over unexplained increases in honey bee mortality, a phenomenon some have blamed on agriculture.

The North Dakota Pollinator Plan was developed in response to a growing need for a balanced public policy that mitigates risk to honey bees, while minimizing the impact of that mitigation on production agriculture.

Reducing honey bee exposure to pesticides is ideal. Our hope is to achieve this while continuing to provide access to habitat that supports bee health and derived benefits to agriculture.

This pollinator plan is not a static document, but a work in progress. We intend to revisit this document annually and update as needed. Far too little is known about the factors that may affect honey bee health. Research focusing on nutrition, bee repellants and the effects of pesticides is important. Other research into honey bee health, disease and parasite resistance and genetic diversity is also urgently needed so that more effective and comprehensive strategies can be put in place. We believe research can provide new answers and better solutions to the current dilemma.

Finally, effective communication among all parties is essential to the success of this plan. Unless we communicate freely and openly with one another, the rest of our goals cannot be reached.

Working together – farmers, beekeepers, pesticide applicators, scientists – North Dakota can protect its honey bees, while maintaining its position as a leading supplier of food, feed, fiber, and fuel for our nation and the world.

Sincerely,



Doug Goehring  
Agriculture Commissioner

## Introduction

North Dakota leads the nation in the production of over a dozen commodities including flax, sunflower, dry beans, canola, spring wheat, etc. North Dakota is also the top honey producing state in the nation. Beekeepers bring approximately half a million hives into North Dakota each year. With such a large number of hives in the state, and with over 90 percent of North Dakota acreage being used for agriculture, it is inevitable that hives will be placed in close proximity to areas where a variety of crops are grown and pesticides are commonly used.

Managed bees and wild pollinators are important to U.S. agriculture. Over 90 crops in the U.S., including almonds, tree fruits, cotton, berries, and many vegetables, are dependent on insect pollinators, such as the honey bee, for reproduction (USDA 2013). Bee-pollinated crops account for 15 to 30 percent of the food we eat (USDA 2013). Although not completely dependent on insect pollination, crops such as canola, dry edible beans, buckwheat, and sunflowers have been shown to greatly benefit from bee pollination. Almost all of the honey bees found in ND spend their winters in warmer climates contributing to the success of agriculture nationwide. North Dakota has been referred to as the “last frontier” where beekeepers can bring their bees to recover from the stress of pollination services and have adequate forage to produce high quality honey. This resting period is an important factor contributing to their winter survival.

A common misconception about ND beekeepers is that none of them are ND residents. This is not true; many of our 205 beekeepers consider ND their home and only follow their bees out of state for a few months each year.

Beekeepers have suffered significant colony losses over the past decade, raising questions about the sustainability of managed colonies in the U.S. This issue has gained national attention, and in response the U.S. Department of Agriculture (USDA) created the Colony Collapse Disorder (CCD) Steering Committee in 2007. Made up of personnel from USDA’s Office of Pest Management Policy, National Institute of Food and Agriculture, Agricultural Research Service, Animal and Plant Health and Inspection Service, and the Natural Resources Conservation Service, as well as staff from the U.S. Environmental Protection Agency (EPA), and public and private partners, the CCD Steering Committee was formed to look at factors contributing to bee decline.

The CCD Steering Committee hosted the National Honey Bee Health Stakeholder Conference in October 2012 to discuss multiple factors influencing honey bee health. The committee concluded that there are multiple factors impacting the decline of the honey bee in the United States and that no one factor can be blamed for the declines. These factors include pests, parasites, diseases, low genetic diversity and poor nutrition. The Steering Committee also concluded that additional research is needed to determine to what extent pesticides are contributing to the declines.

Even with significant losses by some beekeepers each year, North Dakota produced over 34 million pounds of honey in 2012, which made up over 23 percent of the honey produced nationally (USDA 2013). In addition to honey, the wax, pollen and propolis is also collected and sold in a variety of products including soaps, lotions, and vitamins.

## **Challenges Faced by Beekeepers**

Beekeepers face a challenging task of keeping colonies alive with the threat of Colony Collapse Disorder, Varroa mites, Tracheal mites, small hive beetles, bacterial, fungal and viral diseases, declining quality forage, and pesticide exposure. Nationally, year to year colony survival is variable with some beekeepers reporting losses as high as 30%.

Growers and pesticide users cannot help beekeepers manage threats from mites, beetles and the microbes that weaken their hives. They can, however, help with reducing their exposure to pesticides and improving the quality of forage available. Even though Varroa is considered the greatest threat to honey bee colonies, a strong colony can handle the pressures of this tiny creature better than one exposed to various pesticides and poor forage that weaken the hive.

Honey bees feed on pollen for their protein source, and utilize nectar for carbohydrates. They must obtain these nutrients from a variety of plants in order to obtain all the essential amino acids and nutrients required to build and maintain a strong hive. Bees can become easy targets for pests, predators and pathogens when they do not obtain the proper balance of nutrients. Bees provided with high quality forage are better able to handle stressors from all directions including pesticides.

Honey bees are commonly exposed to pesticides either intended for use in agricultural production or in an attempt to rid them of the Varroa mite. Agriculturally-applied pesticides can impact bees from direct contact with the insect or by contaminating forage. Beekeepers worry not only about immediate lethal effects from exposure but also the more subtle sub-lethal impacts such as increased brood mortality and reduced adult longevity.

## **Challenges Faced by Growers**

Growers face many challenges in an attempt to obtain acceptable yields. Growers contend with insect pests, diseases, weeds, drought, overland flooding and other factors that impact crop production and quality. They have a variety of pest management tools and strategies to choose from. While growers do not have to try to kill a mite on an insect, they often need to eliminate pests and competing plants without impacting yields. They also must consider the timing of pesticide applications with respect to harvest and rotational intervals. Even with integrated pest management systems, pests often are able to adapt quickly to different methods, rotations, or pesticides, or reproduce so quickly that they seem to explode within a short amount of time. Because of the nature of such pests, making timely chemical applications as part of an IPM plan are often essential to manage pests effectively.

Beekeepers can have difficulty finding land that will not be exposed to pesticides. Growers face difficult decisions when managing pests and minimizing impacts to pollinators. This plan should demonstrate how they can do both. Following the Best Management Practices (BMPs) within this document will help ensure abundant, affordable, safe, and nutritious food for years to come.

## **Challenges Faced by Pesticide Users**

Pesticide users face many challenges in North Dakota. There are over 12,000 registered pesticides in North Dakota that are used to manage agricultural and non-agricultural pests. In many cases, pesticide applicators have a limited time window to make an application. Factors such as pest infestation levels, temperature, precipitation, wind speed, water levels, use buffers,

and presence of pollinators all affect pesticide choices and decisions on when, where, and how to apply pesticides. Applicators also must pay attention to the location of sensitive sites adjacent to treatment sites, such as surface water, endangered species, organic fields, vineyards, and beehives. The ideal time to apply many of these chemicals is likely to coincide with when the pollinators are most active, putting pesticide applicators in a difficult position of balancing pest management needs and protecting pollinators.

## The Plan

The goal of this plan is not to eliminate pesticide use or to ban pesticides in hives or in close proximity to hives. Instead, the goal is to bring awareness to the issues faced by all parties and find a way for everyone to be part of a solution. The following Best Management Practices (BMPs) were developed with this in mind.

The North Dakota Department of Agriculture (NDDA) hosted two multi-stakeholder discussions in the past year focused on pollinator issues. These provided an opportunity for landowners, beekeepers, pesticide users, government officials, and other stakeholders to discuss pollinator/pesticide issues and offer input on reasonable practices that beekeepers, landowners, and pesticide applicators could do to protect pollinators and minimize impacts to livestock and crop producers.

The Pollinator Plan contains voluntary BMPs for pesticide users, landowners/growers, and beekeepers in hopes of creating the following positive outcomes:

- Ensuring positive relationships and peaceful co-existence among beekeepers, landowners, and pesticide applicators,
- Reducing pesticide exposure and subsequent risk of pesticides to pollinators,
- Ensuring both a robust apiary industry and agriculture economy, and
- Continued high compliance with state pesticide and apiary requirements.

## Beekeeper BMPs

- **Work with landowners to choose hive locations.** Ideal hive locations will have minimal impact on agricultural activities but will still have adequate access to forage and water. Avoid low spots to minimize impacts from drift or temperature inversions on hives. Give consideration to timing after rain events when determining which roads to travel. Discuss with landowners preferred roads/trails to use. Beekeepers should also request contact information for applicators, renters, and neighbors (if applicable).
- **Be cognizant of neighboring landowners when placing and moving hives.** Neighboring landowners often use the same roads, trails, and section lines. Do not block these right-of-ways or place hives so close they may cause problems for other land-users. Take appropriate steps to ensure that bees do not negatively affect operations of neighboring landowners, such as considering the proximity of hives to neighbor's yard, bins, equipment, or storage sites.
- **Work constructively with applicators when notified of upcoming pesticide applications.** One of the recommended BMPs for pesticide applicators is to contact nearby beekeepers prior to making pesticide applications. Block, move, or net hives when

applicators inform you they are going to apply pesticides, or find other strategies to allow pesticide applicators to manage pests while minimizing pesticide exposure by bees.

- **Notify landowners and applicators when arriving and when moving hives.** If possible, notify nearby pesticide applicators and landowners when you place or move beehives. This will ensure they are aware of current hive locations and can notify you before making pesticide applications. Contact information for nearby pesticide applicators can usually be obtained from landowners.
- **Obtain landowner permission for hive placement every year and keep in contact.** As landowner information changes, it is important to ensure everybody is aware and bees are not placed without permission. This step is imperative to ensure hives to do not become a nuisance.

*\*During the 2015 legislative session we will seek changes in our beekeeping law that would eliminate the submission of signed landowner forms. If passed, beekeepers will need to obtain permission for hive placement every year, but will not need to submit forms to NDDA.*

- **Report all suspected pesticide-related bee kills to the NDDA pesticide program immediately.** Inspect bee behavior regularly. The NDDA is the lead pesticide regulatory agency in the state. The NDDA will respond to complaints, including collecting and analyzing the location for pesticide residues. Some pesticides degrade rapidly, and timely reporting will aid the pesticide investigation. Beekeepers can report suspected pesticide incidents by calling 1-800-242-7535 or 701-328-2231 and asking to speak to a representative from the pesticide program.
- **Use registered pesticides according to the label.** When pesticide use is necessary to manage pests within hives, use registered pesticides and comply with all restrictions, precautions, and directions found on the pesticide label. Failure to comply with label directions may decrease the effectiveness of pesticides, increase the risk of adverse effects to bees, cause unsafe pesticide residues in honey and other products, and potentially lead to pesticide resistance. Contact the NDDA pesticide program with any questions on pesticide labeling or to determine whether a pesticide is registered in the state.
- **Comply with all requirements of ND beekeeping law.**
  - Obtain Beekeeper's License each year
  - Register all apiary (hive) locations
  - Clearly post contact information at all hive locations

Continue to provide up to date hive locations throughout the season. This ensures that all locations are accurate when applicators attempt to locate them.

- **Ensure hives are easily visible to applicators.** Hives must be visible so applicators can locate them before spraying. It is strongly suggested that hives are painted white, or a color that stands out from the surrounding area.

## Landowner/Grower BMPs

- **Work with beekeepers to choose hive locations.** Ideal locations for hives will have minimal impact on farming/ranching operations, but will still allow bees to access forage and water. Communicate with beekeepers which roads/trails can be problematic when wet and any preferred traffic routes. Landowners may also want to provide contact information for applicators, renters, and neighbors (if applicable).
- **Communicate with renters about bee issues.** Renting land for agricultural production is a common practice. Landowners and renters should discuss bee issues, such as who has authority to allow bees, how long they will be allowed, and hive placement. These issues should be addressed and included when rental agreements are negotiated.
- **Communicate with pesticide applicators whose responsibility it is to look for hives, notify neighbors, etc.** When contracting with commercial pesticide applicators, make sure that there is a clear understanding of who has the responsibility to identify hive locations and communicate with beekeepers. Applicators may do this as part of their standard procedures, but some landowners may prefer to make beekeeper contacts themselves.
- **Agronomists should consider pollinator impacts when making pesticide recommendations.** Ensure that agronomists and crop consultants consider pollinator issues when making pesticide recommendations, including product choices and pesticide timing decisions.
- **Plant bee forage.** Plant flowering plants, trees, and shrubs to improve bee forage, especially in non-farmable or non-crop areas. Doing so provides forage and it may also concentrate bees away from fields to be treated with pesticides, thereby minimizing impacts to pollinators.
  - Many pesticide labels require untreated **vegetative buffer strips** around sensitive sites. Plant flowering plants in those buffer strips to provide additional bee forage.
  - If planting **cover crops**, add flowering plants into the mix. Even a small percentage of flowering plants can provide a considerable amount of forage for pollinators.
- **Utilize alternatives to talc/graphite in planters.** When planting seeds treated with insecticides, utilize alternatives to talc/graphite as they become available. The talc and graphite can abrade the insecticide treatment off of the seeds, thereby creating insecticide-containing dust that can drift onto hives and flowering plants.

## Pesticide User BMPs

- **Use Integrated Pest Management (IPM).** Utilize economic thresholds and integrated pest management (IPM) to determine if insecticides are required to manage pests. When insecticides are required, try to choose insecticides with low toxicity to bees, short residual toxicity, or repellent properties towards bees.
- **Use registered pesticides according to the label.** Pesticide label language is developed to ensure that pesticides will not pose a risk of unreasonable adverse effects to human health or the environment. Failure to comply with the label not only puts humans and the environment

at risk, it is also illegal. Many pesticides, especially insecticides, have use restrictions prohibiting applications when bees are foraging in the treatment area. Some labels prohibit applications when crops are blooming and require that the applicator notify beekeepers in the area prior to application. Always comply with these and other label restrictions to reduce risks. Applicators are bound by all directions, precautions, and restrictions on pesticide labeling, even when following other BMPs. Contact the NDDA with any questions on pesticide label language.

- **When possible, apply pesticides early morning or in the evening.** Pollinators are most active during daylight hours and when the temperature is over 55 degrees Fahrenheit. Apply pesticides early in the morning or in the evening when bees are less active to reduce the chances that bees will be foraging in or near the treatment site.

- Be cognizant of temperature restrictions on pesticides. The efficacy of some pesticides is reduced at certain temperatures.
- Be aware of temperature inversions when choosing the best time for applications.

- **Avoid drift.** Pesticide drift involves the off-site movement of pesticides through the air from the treatment site to adjacent areas, either in the form of mist, particles, or vapor. Drift reduces the effectiveness of the chemical applied since only part of the applied amount reaches the target. Drifting chemicals also pose a risk to non-target organisms that come in contact with the off-target residues. These insecticides can negatively affect bees and other beneficial insects by direct contact or by contaminating their forage and habitat. Drifting herbicides have the potential to further reduce quality forage available to pollinators. Contact NDSU Extension Service for more information on how to reduce pesticide drift.

- **Identify and notify beekeepers in the area prior to pesticide applications.** Bees will fly several miles to find quality forage. Therefore, pesticide applicators should identify and notify beekeepers within two miles of a site to be treated at least 48 hours prior to application or as soon as possible. Timely notification will help ensure ample time for the beekeeper and applicator to develop a mutually acceptable strategy to manage pests while mitigating risk to honey bees. This may include covering hives, moving hives, or choosing the time of day to apply. *\*Notifying beekeepers does not exempt applicators from complying with pesticide label restrictions. Many insecticide labels prohibit use if pollinators (bees) are present in the treatment area.*

The NDDA has created an interactive searchable map where pesticide applicators can identify registered bee yards and other pesticide-sensitive sites. The GIS Map for Applicators also contains beekeeper contact information and can be found on the NDDA homepage (<http://www.nd.gov/ndda/>).

- **Choose products with lower risk to bees.** Avoid dusts and wettable powder insecticide formulations. Dust and wettable powder pesticide formulations can leave a powdery residue which sticks to hairs on bees. Bees then bring the pesticide back to the hive and potentially expose the entire hive to the pesticide for an unknown amount of time. Granular and liquid formulations are safer for pollinators since granules are not typically picked up by bees, and liquids dry onto plant surfaces. Also choose products with lower residual toxicity to bees.

Note that the NDDA will be working with NDSU to develop guidance on product choices to reduce risk to bees.

## Supporting Pollinator Forage & Habitat

- **Bee Forage.** Everyone can plant forage for bees. Plants that support pollinators are also beneficial for other wildlife, are often visually attractive, and can help improve soil health. Flowers often come to mind when thinking about bees, but bees also utilize trees, shrubs, and other less-noticeable plants for pollen and nectar sources. It is important to consider diversity when choosing plants to ensure adequate forage for the entire growing season. Diversity will also ensure pollinators have access to all of the nutrients they require to be healthy. Here are some easy, efficient ways to improve pollinator forage.

- **Municipalities** can plant trees, shrubs and flowers that provide good forage for all types of pollinators. Diversity is important, the pollen and nectar of each species carries a different nutrient load for the pollinators. This can be worked into new plantings, every time a plant is added/replaced choose a variety that will contribute to pollinator forage. Foraging honey bees are typically not aggressive.
- **Counties** can create bee forage along secondary roads. Secondary road ditches often contain several species of plants that provide forage for pollinators. It is a common practice to mow ditches for the safety of motorists and to prevent drifting snow. Consider spot spraying noxious weeds and mowing ditches later in the year to ensure that bee forage is available. Incorporate short forbs into secondary road ditches to minimize attracting large wildlife.
- **Homeowners** can put out flower pots, create flowerbeds, plant trees or shrubs, or establish gardens to provide forage. Homeowners should also take special precaution when applying pesticides. The pesticide user BMPs apply to anyone using pesticides. Remember, the pesticide label is the law and it is in place to minimize risk to the environment and human health.

- **Create habitat for beneficial, wild pollinators.** Roughly 70 percent of native bees nest in the ground. They burrow into areas of well-drained, bare, or partially vegetated soil. Other bees nest in abandoned beetle houses in snags or in soft centered, hollow twigs and plant stems. Bees will also utilize dead trees and branches. Habitats can be created by leaving deadfalls and brush piles as nesting habitat. Consider the type of habitat you wish to create and pollinators you want to attract. Be cognizant that certain structures might attract other animals such as fox, coyote, skunks, and porcupines.

- **Public land access.** Public land typically does not incorporate crop production and large scale insecticide use. There are some agencies that allow beekeepers to place honey bees on state and federal lands. Contact NDDA for more information. Permission must be obtained and locations placed on state or federal lands also need to be registered with the NDDA.

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**Testimony of Cynthia Browning  
In Opposition to SB 2228  
01/29/2015**

Chairman Miller and Ag Committee members, my name is Cynthia Browning. Thank you for the opportunity to speak in opposition to SB 2228.

I come before you today representing my family's beekeeping business, Browning's Honey Company Inc. in Jamestown. I have been involved in beekeeping with my husband, Zac Browning for over 20 years. Browning's Honey was founded in 1921 by Zac's great-grandfather. Our business employs over 30 people in North Dakota. Our bees are located on some 450 plus farms each year for honey production, while some hives are also rented to farmers and seed companies for pollination here in North Dakota.

I handle calls from farmers and aerial applicators on a regular basis. I find out the details of the spray application. We then make a decision if the bees need to be moved. We work closely with farmers and aerial applicators to protect all parties involved. According to the NDDA, in 2014 there were 2 reported bee kills state wide. No fines were issued. With over 11,000 legal, registered bee locations and 600,000 hives of bees in North Dakota in the summer, you can see this isn't a problem.

If this bill is passed, it raises a number of questions. Who will decide which pesticide applications require movement? What are the criteria of toxicity/risk that will require movement? What mechanism will be or is established to contact, and then move thousands of hives from thousands of locations? Where will the hives be moved? Who will be responsible for damage to hives, including loss of crop? What about farmers who have contracted with beekeepers for pollination services? These hives cannot be moved without detriment to the crop being pollinated.

No state now requires mandatory movement of beehives as a result of pesticide application. North Dakota does however, have a State Pollinator Plan, which has been sent to all farmers and applicators in the state. This is voluntary and should not be

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**Testimony of Cynthia Browning  
In Opposition to SB 2228  
01/29/2015**

confused with rule or statute. Farmers are not held liable for damages to beehives. Our livelihood depends on landowners allowing us to place hives on their land – beekeepers are not interested in litigating with farmers. The State Pollinator Plan was developed to inform all parties of steps to avoid conflicts.

Please do not pass SB 2228. Thank you Chairman Miller and Committee members.

**Testimony  
In Opposition to SB 2228  
Jakob Browning  
01/29/2015**

Chairman Miller and Ag committee members: My name is Jakob Browning. Thank you for the opportunity to speak in opposition to SB 2228.

I am here today representing my family business, Browning's Honey Co., Inc. in Jamestown. I am currently a junior at Jamestown High School. I've worked the last four summers full time with my Dad, however he's been taking me to bee yards as long as I can remember. I plan to follow in my father's footsteps after graduation in 2016, joining the fifth generation of Browning beekeepers.

Even though I'm relatively new to beekeeping, I can tell you that this bill is not necessary, nor is it feasible. We get calls from farmers and applicators all the time. It is decided on a case by case basis if the bees will need to be moved. If every call required moving the hives, we would spend all of our time moving bees. This would cause immense strain in a time when beekeepers are already struggling to overcome losses from drought, diseases, pests, and habitat loss.

Please do not pass SB 2228.

**Testimony of Bonnie Woodworth**  
**In Opposition of SB 2228**  
**January 29, 2015**

Chairman Miller and members of the Senate Ag Committee, my name is Bonnie Woodworth. My husband, Brent and I manage 3600 colonies of honey bees in the Halliday, North Dakota area. I am the past president of the North Dakota Beekeeper's Association and currently serve as Director-at-Large for the organization.

I am here today to oppose SB 2228. With all due respect to the sponsors of this proposed legislation, it may have been well meaning, but it is totally unreasonable. The language is too broad.

If a pesticide applicator is spraying a field of wheat two miles away, why would it be necessary to move or cover the hives? It's not a blooming crop.

Different situations require different responses. If an aerial applicator is spraying sunflowers with the insecticide Warrior, which is less toxic to bees, we usually do not move the hives unless the application will be close enough to drift on to the hives. We see very little spray damage in these instances.

What we do want is notification from the applicators and a reasonable amount of time to respond. We then make the decision based on what is being sprayed and how far away it is from the bees. If we get a call that 10 fields of sunflowers would be sprayed in one day, it would be difficult to move all locations with 24 or even 48 hours' notice.

The North Dakota Department of Agriculture has drafted a Pollinator Plan to develop best management practices for both farmers and beekeepers. Ultimately, the label is the law, EPA writes the laws for pesticide use.

I believe the Department of Agriculture is making a supreme effort to work with all sides involved. Providing information using mapping online can be an answer to the notification issue. Technology is amazing, with a cell phone in every pocket, notification is the easy part.

There are close to 12,000 bee locations in North Dakota in the summer that is 600,000 colonies of bees. If beekeepers are losing bees to crop spraying, they are not reporting those losses. Beekeepers must work with pesticide applicators. Farmers need to protect their crops, and beekeepers need to protect their bees.

We are guests on the land in most cases, and we understand that. This is a mutually beneficial arrangement. We are all benefiting from the bees, love them or hate them.

The goal is communication, education, compliance, and bee-ing good neighbors. That is the spirit of living in North Dakota. I urge you to defeat SB 2228.

**Testimony of Dana Evans**

**In Opposition to SB 2228**

**January 29, 2015**

Chairman Miller and Ag Committee members, my name is Dana Evans. I am writing to you today as a beekeeper in North Dakota who is concerned about SB 2228 being heard today.

Beekeeping in North Dakota is a major industry. For the past decade, we've been the top honey producer in the country, with our yields accounting for more than a fifth of the nation's honey. SB 2228 threatens North Dakota apiaries and farmers.

SB 2228 would require farmers to provide beekeepers within two miles of their fields 24 hour notice before spraying pesticides. It would also require beekeepers to confine or move their bees during that 24 hour window. As a beekeeper that has needed to both confine bees and move them, I can attest to the fact that this is no small chore. It has to be done between dusk and dawn or you will lock bees out of the hive or lose them in the case of moving a hive. A summer hive is heavy and, at least for the hobbyists like me who don't have machinery to rely on, very difficult to move.

Locking bees up for a day in the summer also cuts down on production. If the bees can't get out to gather nectar, they can't make honey. If it's a particularly hot day, locking bees in a hive can cause losses in population as it will restrict airflow through the hive as well as force all of the bees to be inside, trapping in their own heat. If a colony gets too hot and doesn't have adequate air circulation, bees start dying. Often in the summer, even at night, bees will hang out on the front and sides of hives to help keep it from getting too hot. This practice, called bearding, would make evening lock-ups of bees even more cumbersome.

What am I to do if I go to the lake for a weekend and the farmer who works the land near my hive decides to spray? Do I need to find someone to come and close my hives for me at a moment's notice? That seems a bit unreasonable. Commercial keepers may

**Testimony of Dana Evans**

**In Opposition to SB 2228**

**January 29, 2015**

have protocol to deal with confining and moving bees, but even so, it would take manpower and time, which would cut into their profits.

I understand that this bill was brought forth with good intention. We don't want bees getting sprayed with pesticides. The problem with this bill is that the proposed solutions will only bring more problems and undue hardship. Asking farmers to predict with enough notice when the weather and wind will cooperate for spraying, and then expecting beekeepers to be able to confine or move their hives is just unreasonable. It's not a realistic situation. I can't see that kind of regulation working to the benefit of farmers, beekeepers, or even the government in charge of regulating them. Please, consider the broader impact of these bills. Don't regulate all of the beekeepers out of the state. Vote against SB 2228.

Respectfully submitted,

Dana Evans

Kindred, ND

Testimony of Kerstin Cochran

In Opposition to SB 2228

January 29, 2015

Dear Chairman Miller and Ag Committee members,

I STRONGLY urge you to vote a DO NOT PASS on SB 2228!

Reasons for DO NOT PASS vote:

1. It places no burden of proof on the sprayer that they actually tried to contact beekeeper (i.e. certified letter, copy of letter sent, etc.), which would lead to extra work for the Ag Commission, and undue cost to the beekeeper, based on here-say, without appeal.
2. It only allows for a 24 hour notice, so even if contact was attempted, it is highly improbable that any beekeeper that lived across state, out of state, or were out of contact (vacation, work trip, family emergency, etc.) could actually be there in time to comply. Who is to pay for the beekeepers time off work, extra child care expenses, mileage, etc.?
3. It is extremely disorientating to bees to change location at any time! This will lead to LOWER HONEY PRODUCTION, due to days lost on thousands of hives statewide, multiple times a year!

Thank you for your consideration,

Kerstin Cochran

District 24

**Testimony of Dusty and Pat Backer**  
**In Opposition of SB 2228**  
**January 29, 2015**

Chairman Miller and members of the Senate Ag Committee, we are Dusty and Pat Backer. We own and operate Backer Bees of Center, North Dakota which is 35 miles northwest of Bismarck. We run approximately 1,600 hives in the Center area and also participate in the almond pollination process in California during the winter months.

We are honored to work with around 50 landowners in the area and in the past 5 years have focused on educating the public with presentations to schools and special interest groups about the Bee Industry. We are quite proud that North Dakota is the top honey producing state and have high hopes that future regulations will allow the state to retain this title even though bee populations continue to decline.

We appreciate the calls about the spraying of vegetation and encourage the land owners we work with to keep us updated on such actions. The concern we have with this bill is the time frame. Hives can be relocated/moved when temperatures are 50 degrees or cooler or after sunset. This assures that the bees have returned to the hive and we are not leaving the vital occupants behind. The hives must be relocated at least a mile away so that they bees are not confused and return to their original setting.

The time factor is concerning. In the spring and summer months, we have a time frame of 10:30 pm to 5:00 am to relocate hives. Depending on the contact time of the potential spraying, this limited time could become a problem for the bee keeper, landowner, and spraying company. A new location for the hives would have to be arranged. This may take substantial time to contact an additional landowner, as well as planning the move. For example, if the beekeeper happens to be out of the area, or has difficulty retrieving another location to place the hive, and gets a call regarding spraying late in the day, staying in compliance would be virtually impossible. Basically, more time would be needed to relocate the hives. Add to the formula that a bee keeper could receive several calls regarding spraying which is common due to application time frames. That would require more contacts to landowners and with limited time to get into action. A minimum of 72 hours would be practical, that being said, we urge you to defeat SB 2228.