

To: North Dakota House Appropriations- Education and Environment Division

Topic: Support SB 2020

From: Sarah Lovas, Hillsboro, ND

Chairman Monson, and Members of the House Appropriations Committee. My name is Sarah Lovas. I am a farmer and an agronomist from Hillsboro, ND. I come before you today in support of SB2020. In past years, I have testified before this committee as a concerned agriculturist and have explained all the different ways NDSU Extension and ND Agriculture Experiment Station (ND AES) has affected me and North Dakota. Today, I would like to be a little more focused and give a specific example. I hope this testimony will show just one example of cutting-edge research that the ND AES is currently conducting and show the innovative way that Extension delivers important educational information.

Waterhemp and Palmer Amaranth are both weeds from the pigweed family and are quickly becoming a major weed issue throughout North Dakota. These pigweeds can be resistant to eight herbicide modes of action and can routinely produce over 100,000 seeds per plant. Therefore, it is quite easy for these weeds to take over an entire field. Dr. Christoffers is a ND AES genetic weed scientist who is currently working on genetically modifying herbicide resistant pigweed species that will be susceptible to herbicides again. The idea is to genetically modify these pigweeds and then through a gene drive, release them into the wild so that these weeds would be susceptible to herbicide applications again. This cutting-edge research is being done right here in North Dakota at the ND AES.

Every year in January, I attend NDSU Extension's Wild World of Weeds program. This is an important agronomy meeting that many agronomy professionals from North Dakota, Minnesota, South Dakota, and Canada attend annually. The agronomy industry depends on this meeting every year for up-to-date weeds information. Due to COVID, an in-person meeting was not possible. However, NDSU Extension was able to adapt and deliver the message virtually which also opened new possibilities. This year, 269 people attended this event live and an additional 346 people have watched the recorded videos.

The attached picture is Dr. Christoffers delivering his Wild World of Weeds presentation about his genetic weeds research. Because this meeting was held virtually, Dr. Christoffers was able to set up his presentation from his lab and show his cutting-edge research procedures. Further, this meeting was interactive, and we were able to ask him questions about his research at the end of his presentation. In this picture, Dr. Christoffers is holding a flask which contains a culture of waterhemp cells that have been gene edited so they are susceptible to herbicides. This meeting was the first time that I had the opportunity to really see what Dr. Christoffers is working on. This presentation really brought high level research to life.

If you are interested in viewing Dr. Christoffers presentation, here is the link to the recording: [WWW 2021 Mike Christoffers - YouTube](#)

In closing, I hope that this helps you see just one example of how ND AES is working on high level agriculture research and NDSU Extension is delivering important programming for agriculture. Chairman Monson and Members of the Appropriations Committee: We would ask for you to build on the Senate's work by restoring our budgets and carefully considering the programmatic priorities and capital improvements projects. Thank you for your time.

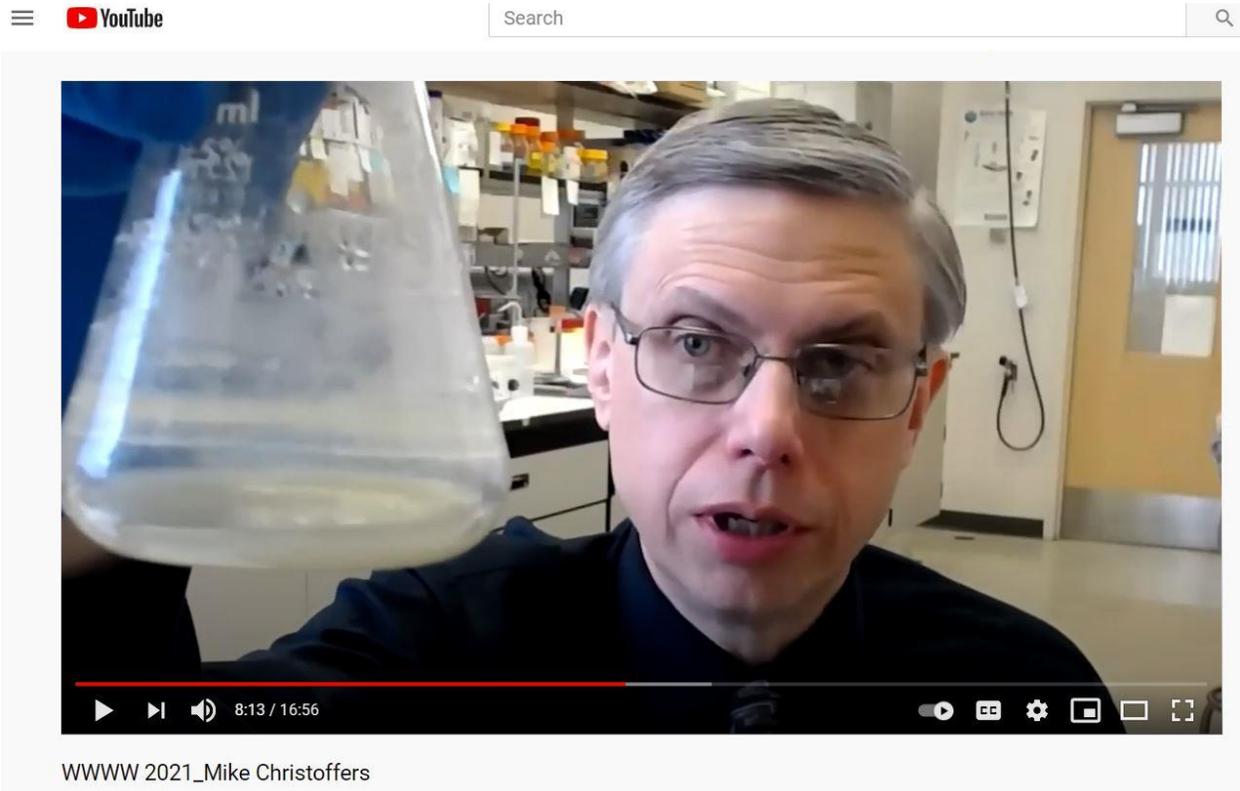


Figure 1. Dr. Christoffers in the middle of his Wild World of Weeds presentation showing a culture of waterhemp cells that have been genetically modified to be susceptible to herbicides again.