

## NORTH DAKOTA LEGISLATIVE MANAGEMENT

Minutes of the

**AGRICULTURE COMMITTEE**

Monday, September 18, 2017  
Roughrider Room, State Capitol  
Bismarck, North Dakota

Representative Dennis Johnson, Chairman, called the meeting to order at 10:00 a.m.

**Members present:** Representatives Dennis Johnson, Kathy Hogan, Craig A. Johnson, Dwight Kiefert, Kathy Skroch; Senators Bill L. Bowman, Jim Dotzenrod, Joan Heckaman, Larry Luick, Janne Myrdal

**Member absent:** Representative Michael Howe

**Others present:** Representative Corey Mock, Grand Forks, member of the Legislative Management  
See [Appendix A](#) for additional persons present.

**SUPPLEMENTARY RULES OF OPERATION AND PROCEDURE  
OF THE NORTH DAKOTA LEGISLATIVE MANAGEMENT**

At the request of Chairman Johnson, the Legislative Council staff reviewed the [Supplementary Rules of Operation and Procedure of the North Dakota Legislative Management](#).

**NUTRIENT MANAGEMENT PLANS DEVELOPED  
BY THE STATE DEPARTMENT OF HEALTH**

At the request of Chairman Johnson, the Legislative Council staff presented a background memorandum entitled [Agriculture Committee - Nutrient Management Plan Background Memorandum](#).

In response to a question from Representative Hogan, the Legislative Council staff said the Hypoxia Task Force aims to reduce the excessive amount of nutrient pollution from states into the Gulf of Mexico. He said North Dakota is not a part of that task force and it may be because that task force was created to specifically address nutrient pollution from the Mississippi River into the Gulf of Mexico, and not the Missouri River which runs through the state.

**State Department of Health**

Chairman Johnson called on Mr. Karl Rockeman, Director, Division of Water Quality, State Department of Health, for a presentation ([Appendix B](#)) regarding the nutrient management plans developed by the department for agricultural processors and confined animal feeding operations. Mr. Rockeman said the State Department of Health's oversight of nutrients from agricultural processors and confined animal feeding operations includes asking those entities to prepare nutrient management plans to detail how they will utilize nutrient rich materials in a beneficial manner on the land. He said the department tests the nutrient content of the material being applied, the nutrient content of the soil, and appropriate methods of application. He said the department is working on developing a statewide nutrient reduction strategy. He said the department is developing a draft outline with feedback and assistance from stakeholders. He said all the information the department has gathered in developing a nutrient reduction strategy can be found on the department's website at [www.ndhealth.gov](http://www.ndhealth.gov).

In response to a question from Senator Bowman, Mr. Rockeman said part of the nutrient reduction strategy will be education and outreach to try ensure the state is working with the federal government to maintain safe water for use by people and agricultural and livestock uses.

In response to questions from Senator Luick, Mr. Rockeman said there are examples of waterways in the state both improving in water quality and getting worse over the past 5 to 10 years. He said it is difficult to generalize across the state. He said he may be able to gather more historical trend data for the committee. He said the department has a process to look at the "total maximum daily load," which is a process to determine the level of nutrients an individual body of water can sustain. He said the department looks at the sources of nutrients into a particular body of water to determine the percentage of the maximum load coming from both point and nonpoint sources.

In response to questions from Representative Kiefert, Mr. Rockeman said the impact of wet versus dry conditions on nutrient pollution can vary depending on the individual body of water. He said in some situations, runoff during wet conditions can help dilute the amount of nutrients in a body of water and reduce pollution, while dry conditions can exacerbate the problem.

In response to a question from Senator Luick, Mr. Rockeman said the department has partnered with the North Dakota State University Extension Service to study the effect of tile outlet flows on nitrates and nutrient pollution.

In response to questions from Representative Skroch, Mr. Rockeman said the issue relating to historical data regarding algae blooms is that the majority of the data is anecdotal. He said prior to approximately the last 10 years, there was not a good analytical method in place to analyze the severity of algae blooms. He said natural causes play a role in the occurrence of blooms, but it is difficult to determine the impact of natural causes with any degree of certainty.

In response to a question from Representative Hogan, Mr. Rockeman said representatives of the department would be willing to return at a future meeting with historical data and trends over the past 10 years relating to nutrient pollution. He said the department will be going public with the full outline of the nutrient reduction strategy for the state before the end of the 2017 calendar year.

In response to a question from Senator Heckaman, Mr. Rockeman said the department is tasked with regulating the environmental aspects of nutrient pollution, such as water quality and air emissions. He said typically local entities, such as cities and counties, are responsible for land use regulation. He said the local entities address setback rules and property values. He said the department has authority to address setbacks for animal feeding operations if there is no local zoning in place and also has the authority to regulate setbacks from bodies of water, typically to regulate the application of manure on the land.

In response to questions from Representative Hogan, Mr. Rockeman said the standards for animal feeding operations were adopted in 2005 through administrative rules. He said the rules were adopted pursuant to federal rules the state is required to follow. He said many of the rules adopted in North Dakota are similar to the rules adopted in other states. He said the setback rules are unique to North Dakota and most states do not have state required setbacks for animal feeding operations. He said other states primarily leave the issue to local zoning authorities.

## VOMITOXIN

At the request of Chairman Johnson, the Legislative Council staff presented a background memorandum entitled [Agriculture Committee - Vomitoxin Background Memorandum](#).

### North Dakota Grain Growers Association

Chairman Johnson called on Mr. Dan Wogsland, Executive Director, North Dakota Grain Growers Association, for a presentation ([Appendix C](#)) regarding practices and procedures involved in the testing of vomitoxin and methods to improve consistency and reduce variability in vomitoxin testing.

In response to questions from Senator Bowman, Mr. Wogsland said vomitoxin started becoming an issue in the 1980s and 1990s. He said the economic impact of vomitoxin on the production levels of grains has been substantial for the state. He said vomitoxin affects everyone from the producers to the grain elevators to the end users. He said more research into combating vomitoxin is always a good thing. He said the state has done a good job of developing strains of grain that are better suited to growing in the conditions of the state and are resistant to certain diseases, but the battle continues.

In response to a question from Representative Hogan, Mr. Wogsland said North Dakota does as good a job as any other state regarding the testing for vomitoxin and battling the issue. He said it is in the best interest of everyone that the testing of vomitoxin be as accurate as possible. He said no one wants a shipment of tainted wheat.

In response to a question from Senator Myrdal, Mr. Wogsland said farmers have become much better educated on the proper application of pesticides and fungicides since the 1980s and 1990s.

In response to a question from Representative Skroch, Mr. Wogsland said grain elevators employ cleaning systems that help to filter out grains affected by vomitoxin. He said unfortunately the cleaning of grain is not easy and it is not 100 percent effective. He said vomitoxin can remain after cleaning.

In response to a question from Representative C. Johnson, Mr. Wogsland said the United States Food and Drug Administration guidelines indicate one part per million is the maximum level of vomitoxin advised. He said that is the equivalent of one infected grain in 70 pounds, and an individual would not be able to eat enough grain before getting sick from vomitoxin. He said the standards may have been developed slightly arbitrarily. He said the standards could potentially be reassessed, but it may not be well received by members of the public.

In response to questions from Chairman Johnson, Mr. Wogsland said the world market often sets certain health standards. He said part of the reason the standard for vomitoxin is so high is because that is what the world market demands. He said revising the standards regarding vomitoxin levels may have a negative impact on the ability of the state to sell grain to foreign markets. He said 50 percent of North Dakota wheat is sold overseas.

### **Department of Agriculture**

Chairman Johnson called on Mr. Doug Goehring, Agriculture Commissioner, for a presentation ([Appendix D](#)) regarding concerns associated with the testing, variability, consistency, falling numbers, and protein of grains associated with vomitoxin.

In response to questions from Senator Bowman, Mr. Goehring said the companies developing testing equipment are not at fault for inconsistent results. Although the grain trade struggles with speed and accuracy of the tests, he said, it ultimately comes down to the level of technology available for testing and what technologies the federal grain inspectors are pursuing to improve in those areas. He said there must be better communication with the United States Department of Agriculture regarding the needs and concerns of producers and consumers of grains. He said there must be technology developed to allow the accurate testing of larger sample sizes of grain. He said a single kernel of grain infected with vomitoxin may inaccurately skew the results of a test in a small sample size. He said it is concerning when a single sample can be tested multiple times and return different results each time.

In response to a question from Representative Skroch, Mr. Goehring said he is not certain whether other countries such as Canada have similar issues regarding vomitoxin testing and equipment, but they probably do. He said the issue with vomitoxin testing has less to do with the technology, and more to do with the methodology.

In response to a question from Representative Hogan, Mr. Goehring said if a producer disagrees with a test sample result from the grain elevator, the producer can request the sample be tested again by the federal grain inspectors. He said the second test from the federal grain inspectors generally is the last appeal mechanism available.

In response to questions from Senator Heckaman, Mr. Goehring said most of the complaints received by the department this year regarding vomitoxin testing have come from the northern part of the state. He said that is a geographical area of the state that has been more indicative of pathogens and issues based on the fact that conditions are right to promote fungal development. He said it seems all grain elevators in the state have a level of inconsistency when it comes to the testing of grains, but there are several that seem to have more issues than others. He said this may suggest human error as the main culprit.

In response to a question from Senator Luick, Mr. Goehring said he is aware that falling numbers is an issue that has been raised in the past in addition to vomitoxin. He said it is possible there could be some human error involved in the falling numbers test.

### **United States Department of Agriculture Federal Grain Inspection Service**

Chairman Johnson called on Dr. Tim Norden, Chief Scientist, Federal Grain Inspection Program, Federal Grain Inspection Service, United States Department of Agriculture, for a presentation (Appendices [E](#) and [E](#)) regarding the practices and procedures of vomitoxin testing. Dr. Norden said he is thankful to have the opportunity to speak to stakeholders regarding the procedures involved in the testing of vomitoxin. He said each step in the process of analyzing grain for vomitoxin is a place where variability can occur. He said if a manufacturer develops a test kit that meets the Federal Grain Inspection Service (FGIS) requirements, that test kit is given a certificate of compliance that is good for 3 years for official grain inspections. He said FGIS does not care who manufactures the equipment, as long as the equipment meets the performance criteria in place.

Dr. Norden said the PowerPoint slide regarding accuracy and precision is very important for the testing of vomitoxin. He said "ppm" stands for "parts per million." He said "RSD" stands for "relative standard deviation," and that RSD goes up as ppm decreases. He said at one ppm, they expect a standard deviation of the vomitoxin in the test sample to be 0.16. He said this means they can calculate with 95 percent probability, or confidence, that the level of vomitoxin is between 0.68 and 1.3 ppm, or two standard deviations either way. He said at the current level of technology, this is the most accurate testing for vomitoxin can be. He said the colored bars on the slide labeled "DON Measurement Variability" represent the variation in each step of the process of testing grain for vomitoxin.

from sampling, sample preparation, and analysis. He said the smaller the sample size, the greater the variation in each step of the process.

In response to a question from Senator Luick, Dr. Norden said a 95 percent probability range of 0.68 to 1.3 is a 50 percent variation. He said that is the best probability current technology can offer.

In response to questions from Representative Kiefert, Dr. Norden said he is not sure if other parts of the world use similar testing methods. He said in his experience visiting testing facilities in other parts of the world, those facilities like to use expensive technology, but he is not sure exactly how they implement the technology or the methodology they use. He said the United States is unique in the use of rapid testing techniques and methods. He said he cannot say the United States is necessarily held to a higher standard than other countries, but our grains are scrutinized to a certain degree simply because we are one of the world's major exporters of grains.

In response to a question from Chairman Johnson, Dr. Norden said he believes the majority of countries buying grain exported from the United States have their own equipment, testing, and methodology. He said the European Union does not accept FGIS mycotoxin result certificates as the official grade of the grain they are purchasing. He said they test the grain themselves. He said other countries give much more significance to the certificates and do less of their own testing.

In response to questions from Senator Myrdal, Dr. Norden said it is difficult to know for sure if the level of variance reported from field tests at grain elevators is normal because all the details regarding what was done to take the sample may not be known. He said FGIS does not have any authority or control over what grain elevators do. He said grain elevators are not always willing to share their practices with FGIS.

In response to questions from Senator Luick, Dr. Norden said he does not know how often unofficial testing by grain elevators use the recommended testing procedures issued by FGIS. He said standardizing testing procedures across the country likely would be a very beneficial step in reducing variability between grain elevators and ensuring the variance is uniform. He said FGIS requires test kit manufacturers to comply with FGIS recommended grain sample sizes to participate in the program and be certified as an FGIS test kit. The test kit manufacturers cannot recommend a larger or smaller sample size be used to test grains if they want to participate in the program. He said variance can increase exponentially if elevators are using different testing procedures. He said another way to reduce variation would be to conduct multiple tests. However, he said, multiple tests cost both time and money, and during harvest season many producers and elevators do not want to spend additional money or take the extra time to run multiple tests. He said the ranges of variance narrow drastically with multiple tests. He said ultimately there will always be a certain level of variability expected with current technological advancements.

In response to questions from Representative Skroch, Dr. Norden said FGIS procedures require testing equipment be cleaned between tests to ensure a sample has not been contaminated by a previous test sample. He said FGIS cleans equipment between tests, but cannot ensure a grain elevator does.

### **Public Service Commission**

Chairman Johnson called on Mr. Konrad Crockford, Director of Compliance, Public Service Commission, for a presentation ([Appendix G](#)) regarding the state's role in the testing and regulation of vomitoxin and the interaction between state and federal laws regarding vomitoxin and the enforcement of those laws. Mr. Crockford said the portion of his testimony after the title "Methods of Regulation" are all suggestions to potentially improve the testing process.

In response to questions from Senator Myrdal, Mr. Crockford said the Public Service Commission is able to effectively manage licensees with the 1.75 full-time equivalent employee licensing inspectors, but that is limited to the scope of the inspector's field duties. He said the Public Service Commission would need to reevaluate the number of employees if the Legislative Assembly were to take action to add additional responsibilities. He said the Public Service Commission has not analyzed the costs associated with the implementation of the suggestions presented.

In response to a question from Senator Bowman, Mr. Crockford said the Public Service Commission does not oversee the testing of grains in the state, but the commission is responsible for the dispute resolution process if the buyer and seller do not agree on the test results.

In response to a question from Representative Hogan, Mr. Crockford said regarding the suggested methods of improvement, other states utilize an educational approach to help producers better understand modern practices related to planting techniques and ways to mitigate the vomitoxin issue. He said he is unaware if any other states have implemented other methods of improvement similar to those suggested at this meeting.

### **North Dakota Grain Dealers Association**

Chairman Johnson called on Mr. Stu Letcher, Executive Vice President, North Dakota Grain Dealers Association, for a presentation ([Appendix H](#)) regarding methods to improve consistency and reduce variability in vomitoxin testing.

In response to questions from Senator Luick, Mr. Letcher said most elevators test for protein using near infrared technology machines. He said the grain is analyzed in a whole grain fashion. He said generally testing grains for protein utilizes the average of 10 samples. He said the machines used for testing protein are calibrated by using the same software in each machine. He said elevators are not able to make adjustments. He said variability may come from machines at certain elevators not being up to date on the software utilized.

In response to questions from Representative Skroch, Mr. Letcher said a grain dealer will combine grains from multiple grain elevators before selling the grain to a buyer that may use it domestically or internationally. He said if test results indicate an unfavorable level of vomitoxin, the loss is suffered by the originating elevator or producer. He said the economic loss can get very expensive when discussing trainloads worth of grain that have unacceptable levels of vomitoxin.

In response to questions from Chairman Johnson, Mr. Letcher said his concern is that technology may be advancing to the point at which producers will be unable to meet the high standards, and it will result in producers being pushed out of the market. He said vomitoxin is not a new issue. He said it has always been present in grains, but we have not been able to detect it in the past. He said his personal opinion is that buyers on the world market want as many factors of quality as possible to potentially buy grain at a cheaper rate.

### **Wheat Commission**

Chairman Johnson called on Mr. Jim Peterson, Marketing Director, North Dakota Wheat Commission, for a presentation (Appendices [I](#), [J](#), and [K](#)) regarding methods to improve consistency and reduce variability in vomitoxin testing. Mr. Peterson said that Mr. Neal Fisher, Administrator, North Dakota Wheat Commission, also is present to assist with the presentation and address questions.

In response to a question from Chairman Johnson, Mr. Peterson said he agrees it would be a good idea to continue allocating resources to the research and development of new fungicides and grains that are resistant to vomitoxin so that North Dakota producers may meet buyer demands for high-quality grains and stay competitive in the world market.

In response to a question from Representative Skroch, Mr. Fisher said research efforts have not developed any enzymes capable of neutralizing vomitoxin. He said he is not sure what level of consumption of vomitoxin the human body can handle. Because the definitive effects of vomitoxin on the human body have not been established, he said, there are still many questions surrounding the issue and the limits that have been established as industry standard.

### **REPORT FROM THE ADVISORY COMMITTEE ON SUSTAINABLE AGRICULTURE**

Chairman Johnson called on Mr. Goehring for a presentation ([Appendix L](#)) regarding the status of the activities of the Advisory Committee on Sustainable Agriculture.

In response to questions from Senator Luick, the Legislative Council staff said because the advisory committee is a statutorily created entity, dissolving or disbanding the committee would require legislative action to repeal the relevant provision.

### **MISCELLANEOUS DISCUSSION AND STAFF DIRECTIVES**

Senator Luick said he is enthused after hearing the presentations regarding the study of vomitoxin. He said he is not sure anything can be mandated at the state level due to the criteria laid out at the federal level and the quality demands from the world market, but he is hopeful the industry as a whole might pick up some of the ideas discussed today to improve vomitoxin testing practices to reduce variability.

Senator Myrdal said she would like to see some research regarding the cost of improving the industry standards regarding vomitoxin testing versus the economic loss sustained by producers currently on an annual basis.

Senator Luick said he would like to see additional research conducted into developing new breeds of grains resistant to vomitoxin. He said he also would like to see additional research into the limitations of safe levels of vomitoxin. He said he is concerned we are regulating ourselves out of the market and we need to determine the effects and safe levels of vomitoxin.

Representative Skroch said her concern is the whole industry reaction to vomitoxin may not be built on sound data. She said prior to the 1980s and 1990s there was no testing for vomitoxin and although it was likely present in the grain then, it was not a concern. She said the current standards may be an extreme overreaction and more research needs to be conducted.

Senator Myrdal said because the issue of vomitoxin has reached the global market and industry standards have been set, she is not sure any legislative action can be taken to change things.

Chairman Johnson said he would like to have one more meeting this calendar year, possibly in December.

No further business appearing, Chairman Johnson adjourned the meeting at 3:45 p.m.

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Dustin Assel  
Counsel

ATTACH:12