

AGRICULTURE COMMITTEE - VOMITOXIN BACKGROUND MEMORANDUM

Section 20 of 2017 House Bill No. 1126 directs a study of practices and procedures with the potential to increase consistency and reduce variability in the sampling and testing of grains for deoxynivalenol (vomitoxin), falling numbers, and protein.

BACKGROUND

House Bill No. 1126, as introduced, related to public warehouse and grain buyer licensing. The study was added to the bill in the Senate. According to the standing committee minutes, the study was proposed to address the misunderstanding regarding the differences between the inspection of grain and the inspection of grain licensees, who governs the testing of grain, the standards for grain testing, as well as the practices and procedures dictating the resolution of disputes involving the testing of grain samples. There was testimony regarding the complexity and variability of testing equipment and how that may impact a grain testing sample. Testimony in committee revealed concerns the United States Federal Grain Inspection Service may not be adequately training grain elevator operators in the proper procedures for grain testing, which may result in variance within a sample among multiple elevators.

According to the North Dakota State University Extension Service, vomitoxin is a mycotoxin produced in wheat and barley grain infected by fusarium head blight or scab. Fusarium head blight may infect grain heads when wet weather occurs during the flowering and grain filling stages of plant development. Mycotoxins are toxic products of fungal metabolism which occur in a wide variety of substances, including animal feed and human food. Mycotoxins can cause human health problems and economic losses in livestock due to feed refusal and poor weight gain. The United States Food and Drug Administration has established vomitoxin advisory levels to provide safe food and feed. Human food products are restricted to one part per million.

FEDERAL GUIDELINES

The United States Grain Standards Act was passed by Congress in 1916, and the standards for grains have been revised and amended multiple times since 1916. Under the Act, the Secretary of Agriculture of the United States has the authority to investigate the weighing, handling, and grading of grain and to establish standards of kind, class, quality, and condition of grain. The secretary also may establish standards and procedures for accurate weighing of grains and safeguards over equipment calibration and maintenance for grain shipped in interstate or foreign commerce. The secretary may delegate responsibility over these duties to competent employees of an official agency or state agency. The administrator of the United States Department of Agriculture Grain Inspection, Packers and Stockyards Administration (GIPSA) has been delegated authority, from the Secretary of Agriculture, to administer the United States Grain Standards Act and to establish policies, guidelines, and regulations by which the Federal Grain Inspection Service is to carry out the Grain Standards Act.

The United States Federal Grain Inspection Service is authorized to test wheat for protein, and governs and approves the equipment for bond tests, protein tests, moisture tests, and weighing for any grain being shipped out of state. According to committee testimony for House Bill No. 1126, any dispute involving an official grain grade is resolved by the federal inspection process through a laboratory in Kansas City, Missouri and grain grading is conducted by an official grain inspection agency appointed by the Federal Grain Inspection Service. The United States Department of Agriculture does not require domestic or export shipments to be tested for vomitoxin, but GIPSA provides voluntary vomitoxin testing services locally at various field locations.

STATUTORY PROVISIONS

Under North Dakota Century Code Section 60-02-03, the Public Service Commission has the authority to oversee the public warehouses of the state, including the handling, weighing, and storing of grain. A public warehouse includes any elevator, mill, warehouse, or grain warehouse. Under Section 60-02-04, the Public Service Commission may employ a federal licensed inspector to carryout the commission's oversight duties. Section 60-02-05 provides a procedure for resolving disputes relating to grain delivered to a public warehouse and which relate to grain grading, dockage, vomitoxin level, moisture content, or protein content. The sample grain involved in any dispute must be forwarded to be inspected by a federal licensed inspector or mutually agreed upon third party. The grain inspector determines the quality of the grain based on the inspection rules and grades adopted by the United States Secretary of Agriculture.

Chapter 60-02.1 addresses grain buyers. Under Section 60-02.1-03, the Public Service Commission has the authority to oversee grain buyers in the state. A grain buyer is defined as any person, other than a public warehouseman under Chapter 60-02, who purchases or otherwise merchandises grain for compensation. Under Section 60-02.1-04, the commission may employ a federal licensed inspector to carry out the commission's oversight duties. Section 60-02.1-05 provides a procedure for resolving disputes relating to grain grading, dockage,

vomitoxin level, moisture content, or protein content. The sample grain involved in any dispute must be forwarded to be inspected by a federal licensed inspector or mutually agreed upon third party. The grain inspector determines the quality of the grain based on the inspection rules and grades adopted by the United States Secretary of Agriculture.

RECENT STUDIES

While a specific study of vomitoxin has not occurred in the recent past, during the 1993-94 interim, the Legislative Management's Agriculture Committee studied systems used in the testing of wheat protein and how the consistent protein testing of wheat can be encouraged. The final report of that committee indicated, under rules adopted by the Federal Grain Inspection Service, all official protein analyses must be performed in accordance with the procedures prescribed by the service and must be performed by authorized or licensed employees of the service at delegated or designated agencies. The report stated in an effort to measure larger samples and reduce human error, the Federal Grain Inspection Service required official tests to be done while using whole grain analyzers. Testimony indicated grain testing is more of an art than a science and sampling errors may occur for a variety of reasons, including human error, improperly calibrated or used testing equipment, and failure to follow proper sampling methods, or if grain buyers do not use the testing procedures outlined by the Federal Grain Inspection Service.

Because the committee concluded issues related to test variances have national and international implications, the committee recommended 1995 House Concurrent Resolution No. 3001 to urge the Federal Grain Inspection Service to disseminate useful information about technological and regulatory changes affecting the grading of wheat and encourage the use of contractual provisions that require the acceptance of first official grades as the price and quality determinants at destination ports. The 1995 Legislative Assembly passed the resolution.

STUDY APPROACH

In conducting this study, the committee may desire to receive testimony from interested parties, including:

- The Agriculture Commissioner;
- The Public Service Commission;
- The United States Department of Agriculture Federal Grain Inspection Service;
- The North Dakota Grain Dealers Association;
- The North Dakota Wheat Commission; and
- The North Dakota Grain Growers Association.

The committee may desire to define any issues that need addressing after receipt of information from the interested parties and, if appropriate, receive testimony regarding best practices in other states.