The North Dakota
Seed Journal

APRIL 2018

Newsletter of the North Dakota State Seed Department

Inside

The North Dakota Seed Journal is published and edited by the Seed Department, State of North Dakota, under the provisions of Chap. 258, S.L. 1931, as administrative and instrumental matter required for effective transaction of the Department's business and for properly fostering the general welfare of the seed industry in the state.

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Application, Field Inspection, and Research Fees

***Joe Magnusson**, Field Seed Program Manager*

As field inspection season nears, it never hurts to review important requirements to ensure the application and inspection processes work smoothly. Here are a few reminders to consider before the busy planting season starts.

Plant eligible seed on eligible ground

Seed cannot be planted on fields that had the same crop the previous year unless it was the same variety and that field was inspected for certification. Durum has an additional restriction which prohibits planting Foundation class seed on fields that had spring wheat the previous two years. If you plant Registered durum seed, one year out of spring wheat is all that is required. Even so, we recommend avoiding spring wheat ground for several years as we have seen wheat carryover and volunteer in some fields for up to five years.

Apply for field inspection

If you planted or intend to plant Foundation or Registered seed, we strongly encourage you to apply for field inspection. Every year we receive calls from growers who failed to apply for inspection of eligible fields (Foundation or Registered seed planted) wanting us to certify their seed after harvest. Field inspection is critical to the certification process. If you don't apply we can't certify the seed and you will miss out on an opportunity to sell your field-inspected seed for a premium price. Complete the application and submit by the appropriate deadline. Enclose a copy of the proof of seed eligibility (bulk certificate or tag), an FSA map of the field to be inspected, and the proper fee. Applications can be obtained on our website, ndseed.com, your local county agent, or by calling the Seed Department.

Isolation required

A minimum 5 foot isolation strip is required between inseparable crops and varieties of the same crop. Isolation can be achieved by mowing, cultivating, or leaving a bare strip at planting time. A field will be rejected if isolation is not in place at the time of inspection. Once the isolation strip is in place the grower may call for a re-inspection, but a second inspection will incur an additional inspection fee. A natural barrier such as a ditch, fencerow or roadway or a separable crop adjacent to your field is considered proper isolation.

Weeds of concern

Field bindweed is the most common weed resulting in a failed inspection. It is a prohibited weed and difficult to remove from small grains due to similar size and weight. Field bindweed is generally found along ditches, fences, tree rows, hill tops, old farm sites and rock piles. Be sure to control this weed before the inspector arrives to ensure your field will pass inspection. Thistles are also a concern in field peas and crops of similar size. Even though seed may not be viable in these weeds, it is difficult to condition the seed heads from the crop being inspected. Inspectors will reject all areas found with patches of thistle and require you to avoid these areas at harvest. Selling seed with thistle heads will adversely affect your business in the future.

Application, Field Inspection, and Research Fees continued on page 2

SIPA™
1-844-SEED-TIP
Respect Seed Innovation

The Seed Innovation and Protection Alliance (SIPA) was formed as an industry-wide effort to champion the importance of intellectual property (IP) protection and its value to agriculture. SIPA supports the use of education as an instrument to protect innovation as well as to facilitate and promote the respect of intellectual property rights. SIPA will work with member companies to help them resolve IPR compliance allegations. Concerned about potential seed piracy? Call 1-844-733-3847 to anonymously report suspected seed IP violations.

From the Commissioner's Desk

It's April 10th and it looks like February around here. It doesn't happen often, but this spring is looking like a late one. If there is one thing that changes planting intentions in North Dakota it's a late spring. The other is major market swings; and we have both going simultaneously this year.

Our neighbors to the south often wonder about the sensibility of living in a place with long winters. I say, at least if you're in agriculture, it's a blessing. We are fortunate here to have options to respond to both market and weather shifts by planting any number of crops; corn, soy, cereals, oilseeds, pulses and everything in between. For an agency like ours, it means needing to maintain a solid breadth of expertise in those crops; expertise that extends from field inspection to laboratory testing. Certification of seed is a start-to-finish product quality assessment and demands a thorough examination whether in field or lab settings.

Even though we, at our core, are a certification agency we also provide for other types of quality assessments. For example, our potato program provides food safety-related audit services through our USDA Cooperative Agreement. Those include Good Handling Practice and Good Agricultural Practice (GHP/GAP) and Harmonized GHP/GAP audit services in the potato industry, which assess production practices of tablestock, processing and chip potato growers and shippers. I've always believed that this type of inspection service will extend to other food-grade commodities in the future; soybean and edible bean are examples. In fact, we are training inspectors in our Field Seed Program to provide these process-based audit services for other field crops in the future.

We have provided Quality Assured (QA) inspections for seed companies for years. Up to now, those QA services have really been an extension of certification; inspecting fields or examining seed within a set of standards provided by the company rather than certification standards set in state administrative rules. QA inspection services are very similar to seed certification in most cases, with slight differences depending on the need of the customer/company. They often contain an IP (identity preserved) audit component, where we assess and report that the integrity and identity of product has been maintained throughout the production process. These QA inspection services have been primarily with corn and/or soybean customers, with crops not requiring certification under PVP Title V (which applies to most cereal and minor crops grown here).

Like our food safety audit programs, we are seeing increased demand for QA inspections and identity preserved audits. The driver seems to be specialized traits, those that may not fit into a certification standard. Food grade soybeans or specialty wheats are an example; where the presence (or absence) of a trait and ability to maintain separation (identity) in the end-product is as important as varietal purity and seed performance is in certification.

While food safety audits and QA inspections are much different (one being process and the other being product certification), their demand is an indicator of shifting service needs in our industry. While admittedly focused on certification (where standards are well-defined and similar around the country) our agency can provide relevant and demanded services in the same way the state's ag industry adapts and responds to weather and market shifts.

Best wishes for a safe, warmer and productive spring season.

Ken Bertsch.....State Seed Commissioner
Steve Sebesta.....Deputy Seed Commissioner
Kent Sather.....Director, Potato Program
Jason Goltz.....Field Seed Program Manager
Joe Magnusson.....Field Seed Program Manager
Jeanna Mueller.....Seed Laboratory Manager
Jeff Prischmann.....Diagnostic Laboratory Manager
Kris Steussy.....Administrative Officer
Mike Oosterwijk.....Potato Program Supervisor

Application, Field Inspection, and Research Fees

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Harvest

It is the seed grower's responsibility to ensure each seed field has been inspected and passed before harvest. **Do not harvest a field if you are unsure**. Call your inspector or the Seed Department to confirm the status. Review the field inspection report for any corrections or areas to be avoided during harvest. If you utilize custom harvesters, make sure their combines, trucks and handling equipment are clean before they enter your certified field.

Annual reporting forms

The annual report for seed sales, research fee report and carryover seed report will be sent out the first week in July and need to be returned to our office by September 1, 2018. Log sheets and unused bulk certificates are also due at this time. If you would like your conditioned and unconditioned carryover seed to be included in the 2019 Field Seed Directory return the form by September 1. The Annual Report of Agricultural and Vegetable Seed and the Variety Development Research Fee report must be returned even if no sales were made. Do not pay the total fee that is listed on your research fee report. You are only required to pay fees on seed that is sold, not planted, sold as a commodity or for carryover seed.

New research fee structure

There is a new research fee structure on three soybeans from NDSU. ND Benson, ND Stutsman, and ND17009GT will be sold by and research fees collected on a 140,000 seed count unit. The form you will receive will bill you for each 140,000 seed count unit, not the bushels that were final certified. If you sold these varieties by the bushel you will need to convert bushels sold into 140,000 seed count units and pay the fee on units sold. Use this equation to convert bushels to 140,000 seed count units:

$$\text{Units} = \text{bushels} \times \frac{60\text{lbs}}{\text{bu}} \times \frac{\text{seed}}{\text{lb}} \div \frac{140{,}000\ \text{seed}}{\text{unit}}$$

Changes at the ND Crop Improvement and Seed Association

***Steve Sebesta**, Deputy Commissioner*

Nearly 90 years after the formation of the North Dakota Crop Improvement Association, the organization is making significant changes in its management structure and operations. Recently, the NDCISA hired its first executive director, Chad Anderson, to lead the organization. Many of you will recognize Chad's name, as he was previously the Foundation Seed Manager at the North Central Research Extension Center in Minot. Until this change, the association had been led by a board of directors elected by the members of each district in the state.

This change is being made as the NDCISA embarks on new endeavors that will enhance its ability to make significant and positive impacts on NDSU breeding programs through financial support and collaboration. The association has reached an agreement in principle that will allow it first right of refusal to license all NDSU varieties when released by the ND Agricultural Experiment Station. This has been a goal for the association for several years.

Licensing NDSU varieties will give the association management responsibilities for the varieties and provide a number of benefits for the agriculture industry including:

- a more significant effort in marketing and promoting NDSU varieties
- better access to new genetics through association with other state CIAs
- a greater voice on key breeding objectives for NDSU breeding programs
- greater flexibility to reinvest revenues generated by research fees in NDSU research programs

The NDCISA is in the process of finalizing licensing agreements with the Research Foundation and there will be additional announcements in the near future. For now, the state's producers should know that the NDCISA is evolving and continues its strong support of NDSU's mission as a land-grant university and still works for the improvement of North Dakota agriculture.

The State Seed Department looks forward to working with the NDCISA to help make it successful for another 90 years.

Soybean Trait Testing

***Jeff Prischmann**, Diagnostic Lab Manager*

In recent years, several new herbicide tolerant traits have been released in soybeans that offer seed producers new options in herbicide use and weed control in response to the development of herbicide tolerant weeds. Some of the more notable traits include: Enlist soybean released by Dow Agro-Sciences which has tolerance to 2,4-D herbicide; Xtend soybean released by Monsanto which has tolerance to Dicamba herbicide which is stacked with the Roundup Ready® 2 trait; and HPPD tolerant soybeans. HPPD tolerant soybeans are being sold by Syngenta as MGI soybeans tolerant to Balance Herbicide and by Bayer as Balance GT soybeans. The Bayer Cropscience version will likely be stacked with the Liberty tolerance trait. All of these traits are considered GMO traits.

In addition to these traits, some public soybean breeding programs such as North Dakota State University, have released several new soybean varieties that contain the original glyphosate tolerant (GT) trait released by Monsanto back in the mid 1990's. This has created the need for a test that can distinguish between the original trait and the new version. The patent on the original trait has expired and is the reason for the renewed interest in this trait.

There are also a significant number of conventional soybean varieties that do not contain any of the traits mentioned above. These soybean varieties are typically used for food applications such as soy sprouts, natto, tofu, and soy protein. In addition, conventional varieties can be used for soybean meal, oil applications, or several others.

The need to distinguish these traits from each other using seed tests is important. Also, these tests are important for soybeans being exported to foreign markets that permit only low levels of these traits. In order to verify trait purity of these particular traits in soybeans, a number of tests are available. Traditional bioassay tests can be used for glyphosate tolerant soybeans and are an inexpensive way to determine trait purity of seed. This test involves treating the seed sample with the herbicide and running a typical germination test. Another similar method is to spray the herbicide on seedlings and conduct a grow-out test. For both tests, non-tolerant and tolerant seedlings are scored to determine a percentage for trait purity.

Immunoassay tests can also be used to detect the presence of herbicide tolerant traits. ELISA (enzyme linked immunosorbent assay) or lateral flow strip tests are examples. These tests are typically used to detect low levels of traits that are not desired in a seed lot or grain sample. Lateral flow strip tests can be quick, inexpensive, and able to detect multiple traits simultaneously such as Dicamba, Liberty Link®, and Roundup Ready®.

The final category of testing for soybean traits is the DNA test. DNA tests typically use PCR (polymerase chain reaction) to detect the presence of the trait. This test can be conducted using qualitative or quantitative methods and multiple traits can be detected simultaneously. This test is one of the only methods that can distinguish certain traits from each other such as Roundup Ready® 2 from the original GT trait.

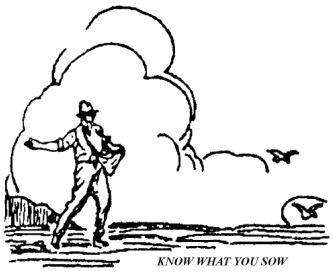
For additional information on soybean trait testing, please contact the North Dakota State Seed Department.

Know What You Sow

***Jason Goltz**, Field Seed Program Manager*

Seed is arguably the most important input in agriculture. Without quality seed, the other agronomic practices won't be able to make up the difference. This is why it is so important to receive and understand a label when purchasing seed and why it is illegal to sell seed without a proper label. The information on the label is proof to the customer they are getting what they paid for. The information required on a label and the requirement to issue that label is not trivial.

Each state has a regulatory program to provide consumer protection through truth in labeling laws. These laws can differ from state-to-state, but there is an effort to achieve uniformity. The Association of American Seed Control Officials (AASCO) was formed in 1949 as a result of initial communications between state regulatory officials; their motto is "know what you sow".



Regulatory officials from the United States and Canada continue to meet on an annual basis to discuss mutual concerns and issues related to seed law. The meetings are hosted each year by a different state; the 2018 meeting will be held in Des Moines, Iowa. The purpose is to promote and establish basic requirements of a state seed law which shall serve as guidelines for member states. The result is a document called the Recommended Uniform State Seed Law (RUSSL). This document serves as a guide when developing or updating seed laws.

It is the goal of AASCO to achieve uniformity of seed legislation and to promote and foster uniformity of procedures and policies between member states and federal agencies. The product of that collaboration can be seen when comparing labeling requirements between states, Federal Seed Act and RUSSL. The majority of the information required on a tag will be the same. Similarities include:

- Lot number
- Kind and variety
- Germination percentage and date of test
- Name and address of labeler
- Purity analysis
- Origin

There will still be some differences as each state will have different needs. The most common differences will be the expiration date of the germination test and variety stated. When creating a label to satisfy the requirements for multiple states, contact the regulatory official for each state to discuss the labeling requirements.

Contact information for each state, Canada and the USDA is available on the AASCO website. Also available is RUSSL, the Seed Sampling Handbook and information regarding the Accredited Seed Sampling Program.

www.seedcontrol.org

New Forms - New Fees

Certified seed growers should note that the Application for Field Inspection of Field Seeds has been updated. The new fee schedule is listed on the back of the application along with instructions for completing the form, if needed. Please discard all old applications and only use applications with a 2-18 revision date (upper left corner, beneath our logo). If you need new applications please call.

Potato Cyst Nematode Survey

***Kent Sather**, Director, Potato Programs*
***Charles Elhard**, ND Dept of Ag Plant Protection Officer*

North Dakota certified seed potato growers, with the support of North Dakota Department of Agriculture, NDSSD, and APHIS-PPQ have been conducting a soil survey against pale cyst nematode (*Globodera padilla*) and the golden nematode (*G. rostochiensis*), or PCN, for the past decade. Over this time thousands of acres have been surveyed to confirm our North Dakota soils are free from this quarantine pest, at a cost of $80,000 to $100,000 each year.

PCN infested soils have been confirmed in southeastern Idaho and Long Island, NY in the U.S., and Quebec, Alberta, and on the islands of Newfoundland and Vancouver in Canada.

PCN, like other cyst nematodes, can survive in soil for long periods as eggs in the dead bodies of female nematodes called "cysts". Even in the absence of the potato host crop, viable cysts may remain in field soil for years. PCN can go undetected for months or years—even decades—without vigilant surveillance. PCN can cause up to 80 percent yield loss if left uncontrolled, and be spread to PCN free soils through infected seed and soil. Worldwide, this pest accounts for more than 12 percent of yield losses in potatoes. If a new detection of PCN occurs, regulatory actions such as quarantines and eradication measures would be initiated to protect other potato fields and minimize the impact on the overall potato industry.

North Dakota soil survey participation for PCN is voluntary. However, if certified seed potato growers intend to export certified seed to Canada, respective seed lot field soil testing is mandatory. Registration for field sampling begins in May of each year. PCN survey application information is distributed by Charles Elhard, Plant Protection Officer, NDDA. Sampling is completed by a pest survey specialist following specific collection protocols. This is typically completed right after harvest. Samples are shipped to a lab in Idaho for diagnostic testing. When samples are confirmed negative for PCN, growers would be eligible to ship the represented certified seed potato lots to Canada.

Protect your farm from this quarantine pest by planting fully-certified seed potatoes that are grown under a country's statutory control program. Soil surveys and strict regulatory activities will help prevent the spread of cyst nematodes.

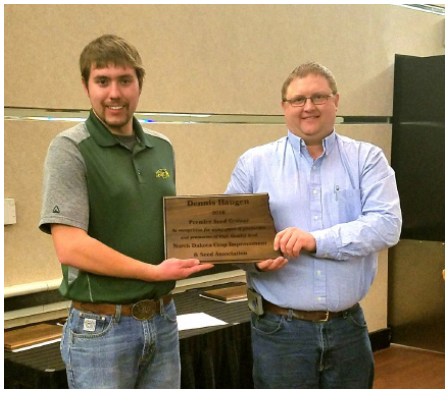
Funding for this survey program has primarily been from USDA grants. However, grant money may not cover total expenses in the future. At that time, growers requesting this service will be charged an acreage fee.

To learn more about PCN, the National Survey Plan, and related topics, visit the APHIS web site at www.aphis.usda.gov/planthealth/pcn.

NDCISA Honors

Each year during the annual meeting, the ND Crop Improvement and Seed Association honors several individuals for their contributions to the agricultural community.

The Premier Seed Grower Award recognizes individuals who have successfully grown Registered or Certified seed for several years and have made significant contributions to the certified seed industry. This year's recipient for Premier Seed Grower is **Dennis Haugen** of **Hannaford.**



Andy Haugen (l) accepts Premier Seed Grower Award from NDCISA President Blake Inman.

Dennis has maintained certified seed production of spring wheat, barley, soybeans, and radishes. He has successfully produced certified seed of numerous NDSU and private varieties for the past 25 years. He has also produced seed for the Griggs County Seed Increase Program for about 5 years.

Haugen believes that proper crop rotation is extremely important for successful seed production. He has been a member of the soil conservation district for 30 years as well as a member of ManDak No-Till Association, ND Grain Growers and the state board of NDSC Districts. Dennis has hosted field days with Dr. Abbey Wick and is a member of the Carrington REC Advisory Board. Haugen focuses on no-till practices and increasing soil health. Dennis' son, Andy, accepted the award on his behalf.

The Distinguished Service Award is given yearly to a worthy recipient that has made significant contributions to agriculture in North Dakota. This year's winner is **Sandy Werth** of **Lehr**. Sandy has been a pillar in her community for over 30 years. She has raised a family and is a hard-working partner in Werth Seed Farm with her husband, Marlow. They have been seed producers for more than 30 years and are also an approved bulk retail facility.

Sandy Werth (l) accepts Distinguished Service Award from NDCISA President Blake Inman.

As an example of her commitment to her community, Sandy has been chief of the Lehr Fire Department for 9 years, in which time she totally rejuvenated their dying department to make it a department to envy. Sandy is also a past city council member and is currently serving as advisor to the Farm Service Agency in McIntosh County.

John Schatz, Napoleon was recognized for his service to the crop improvement association during the annual meeting. John has been active in the association and has served as a district director and on the executive board for many years. John served as president in 2013-14 and was instrumental in negotiations to license varieties from the NDSU Research Foundation.

Noxious Weed Seed Examinations

***Jeanna Mueller**, Seed Lab Manager*

As a seed retailer or buyer it is very important to know what is in your seed. There is a variety of information listed on the report of analysis from a seed quality testing lab. It is very important to pay attention and to understand the type of noxious weed seed examination that is performed. Below is the noxious weed seed examinations listed in the AOSA Rules for Testing Seeds.

All States Noxious Weed Seed Exam - a comprehensive exam for all state and federal noxious weed seeds based on the current USDA publication entitled State Noxious-Weed Seed Requirements Recognized in the Administration of the Federal Seed Act. If the examination conducted excludes noxious weed seeds from one or more states or particular kinds of noxious weeds this must be stated on the report of analysis.

Federal Noxious Weed Seed Exam - an examination for the presence of species declared as noxious weed seeds under Federal Seed Act Regulations Section 201.16(b).

State Noxious Weed Seed Exam - an examination for the presence of species declared noxious weed seeds by a particular state. The state for which the examination is conducted must be stated on the report of analysis.

Undesirable Grass Species (UGS) - an examination for the presence of certain grass species declared by certain states as restricted when found in lawn and turf seed lots. The examination shall be based on the current USDA publication entitled State Noxious-Weed Seed Requirements recognized in the Administration of the Federal Seed Act.

Canadian Noxious Weed Seed Exam - an examination for species declared as noxious weed seeds under the appropriate grade table designation for the kind of seed under consideration as specified under the current edition of the Canada Weed Seeds Order.

Foreign Noxious Weed Exam - an examination of species declared noxious weeds or undesirable by a foreign country. The country for which the examination is conducted must be stated on the report of analysis.

As a seed retailer, when submitting a seed sample for testing, make sure to request the test that most appropriately meets your requirements. As seed buyers, make sure the seed lot you are purchasing meets the proper testing requirements for your needs.

North Dakota State Seed Department
PO Box 5257
Fargo, ND 58105-5257

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NDSSD Calendar

May 1.....Applications due – grasses

May 28.....Memorial Day – office closed

June 15.....Applications due – for all crops including potato (except buckwheat, millet & soybeans requiring single inspection)

July 4.....Independence Day – office closed

July 15.....Applications due for buckwheat and millet

Aug 1.....Applications due for soybeans requiring single inspection

Sept 1.....Reports due: Annual Report of Agricultural & Vegetable Seed Sold (labeling fees); Research Fee Report; Carryover Seed Report; Applications for Approved Conditioner & Bulk Retail Facilities

NDSU Field Days

July 10 - Hettinger REC
July 11 - Dickinson REC
July 11 - Williston REC – dryland tour
July 12 - Williston REC – irrigated tour
July 16 - Agronomy Seed Farm, Casselton
July 17 - Carrington REC
July 18 - North Central REC, Minot
July 19 - Langdon REC