



The North Dakota Seed Journal

JANUARY 2023

Newsletter of the North Dakota State Seed Department

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In Memory

KYLE BEDNAR

Kyle Bednar, friend and colleague, lost his courageous battle with cancer on October 26, 2022. Kyle grew up on the family farm and attended school in Cooperstown, ND. While in Cooperstown, he farmed and was manager of the Farmer's Elevator. Upon moving to Fargo in 2007, Kyle continued his passion for agriculture by working as a field inspector at the ND State Seed Department and continued working until his passing. Kyle was an important part of the Field Seed team. In addition to performing field inspections, Kyle ran our inspection program for conditioning and bulk retail facilities and performed GHP/GAP inspections and audits. Kyle was an amazing worker with a kind heart that was always willing to help others at work and outside of work. Kyle will be greatly missed.



Adapting to Change

Steve Sebesta, Deputy Commissioner

"A bend in the road isn't the end of the road, unless you fail to make the turn" – Helen Keller. That's a fitting statement these days. Think of everything that has changed in just the last three years. Global pandemic, supply chain issues, staffing shortages, Jimmy Carter-era inflation rates..... the list goes on.

No organization is immune to change. We have experienced plenty of our own at the Seed Department in recent months. Like every other successful business, we adapt. We've done it before; we'll do it again.

In October, Certification Manager **Joe Magnusson** suddenly retired. Replacing 26 years of experience is difficult, but we did. We have prepared as much as possible over the years by cross-training other managers to handle multiple tasks. Cross-training is smart – one never knows when a team member will be out for an extended time, or leaves for another opportunity or suddenly retires. However, regardless of how well we train others, it's different.

Also in October, one of our team members, **Kyle Bednar**, passed away. Kyle was our Swiss Army knife. He did a bit of everything for the department. He was our seed facility expert, having working experience and knowledge of grain elevators and seed plants. He also inspected seed increase fields and he was part of our



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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Adapting to Change
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From the Commissioner's Desk

While attending the American Seed Trade Association meeting in December, one of the conference sessions in particular caught my attention and triggered this topic for the *Seed Journal*. The Seed Innovation and Protection Alliance (SIPA), of whom the ND State Seed Department (NDSSD) is a member, held an educational session on variety protection focused on state seed laws and Plant Variety Protection. In addition to acting as the state's certification authority, NDSSD also carries seed regulatory responsibilities for the state of North Dakota.

The session became more interesting when the presenter used NDSSD as an example of state regulatory action in support of ASTA variety owner and seed retailer members.

For background: all seed sold or placed for sale must be labeled. That label must include germination, purity and variety name along with other information. This information provides the purchaser with seed quality and varietal identity that allows him or her to make informed decisions about the potential performance of that seed. Today's topic involves the variety statement on the seed label.

The other principal in the labeling requirement is the owner of the variety. The key labeling function for them is the variety and protection statement, which entitles the owner with certain rights inherent in the variety name; including their right to protect ownership interest in purchase and use. Owners of protected varieties can legally determine who gets to reproduce their seed for sale and distribution to the public and to charge a fee for the use of their technology.

We argued (successfully) to the legislature

- Ken Bertsch.....State Seed Commissioner
- Steve Sebesta.....Deputy Seed Commissioner
- Kent Sather.....Director, Potato Program
- Jason Goltz.....Field Seed Program Manager
- Jeanna Mueller.....Seed Laboratory Manager
- Presley Mosher.....Diagnostic Laboratory Manager
- Starr ThiesBusiness Manager
- Mike Oosterwijk.....Potato Program Supervisor

in 2015 to double the penalty provisions in ND seed laws to \$10,000 per occurrence. The principal argument was the loss of value of seed technology to the seed industry in cases of seed piracy and that increasing penalties may help deter the illegal use of seed and subsequent loss of value to the owner. As the seed regulatory agency in ND, we have the authority to enforce seed labeling and Plant Variety Protection provisions of state and federal law. Seed laws and state seed regulatory programs are intended to protect both consumers and owners of seeds.

Brownbagging, bartering, trading, moving any seed for the purpose of evading variety protection laws and owner's rights is theft, simply put. It inhibits investment in variety development and diminishes the value of the seed industry in total. It never ceases to amaze me that people who argue for property rights for themselves won't accept that the technology (varietal or trait) in seed is owned by someone and, therefore, due the same legal respect as any private property right or protection. R&D, innovation, improvement of all seed types is wholly dependent on the variety owner, public institutions or private companies, being able to gain a reasonable return on monies invested in developing new and improved varieties.

Since 2015, we've pursued a number of cases where seed has been pirated, brownbagged, bartered, traded...pick your favorite term for theft. In every case the violator(s) have an excuse, a "good" reason or flat-out denial that they've done anything wrong. Amazingly, despite PVPA Title V legally allowing you to replant on your farm, we continue to see and hear the same refrain when an illegal farmer-to-farmer transfer is found.

So, if someone came on your farm and took your property, it would be ok if they had an excuse or a good reason? Is that not a hypocritical view of property rights and ownership?

A seed regulatory agency seldom gains factual information on a suspected case of seed piracy without help from the public. Rumors and accusations mean little; a tip with functional evidence of misdoing may help the regulator succeed in prosecuting a violation. Again, prosecution isn't the main goal, but is a necessary duty of regulatory officials and one that provides value to the entire seed industry.

It is critical to the future of variety improvement in non-hybrid crops that the commercial ag industry honors variety protection laws, PVPA Title V in particular. The farmer replant provision works to your benefit, but is at risk due to ignorance of or ignoring the law. The movement toward patents, limited use licenses/single-use agreements is a result of the mindset of disregard for owner's rights.



Notice to Seed Growers

Field inspection fees increased 25 cents this year.	
Single inspections.....	\$2.75 per acre
Two inspections.....	\$3.75 per acre
Three inspections.....	\$4.75 per acre
Potato field inspections.....	\$34.00 per acre

Please discard any old Field Inspection Application forms. We will mail new application forms to all growers who have produced seed the last two years. New forms will also be available from your county NDSU Extension office. Fillable forms are available on our website.

Virus Testing of Potato Samples

Presley Mosher, Diagnostic Lab Manager

The NDSSD Diagnostic Lab regularly conducts serological virus testing of potato samples. Sensitive and specific techniques known as ELISAs (enzyme-linked immunosorbent assays) are used. Plates are coated with antibodies specific to each virus. After several intermediate steps, positive sample wells turn color. Plates can then be analyzed using a reader and positive samples are determined based on their value compared to controls.

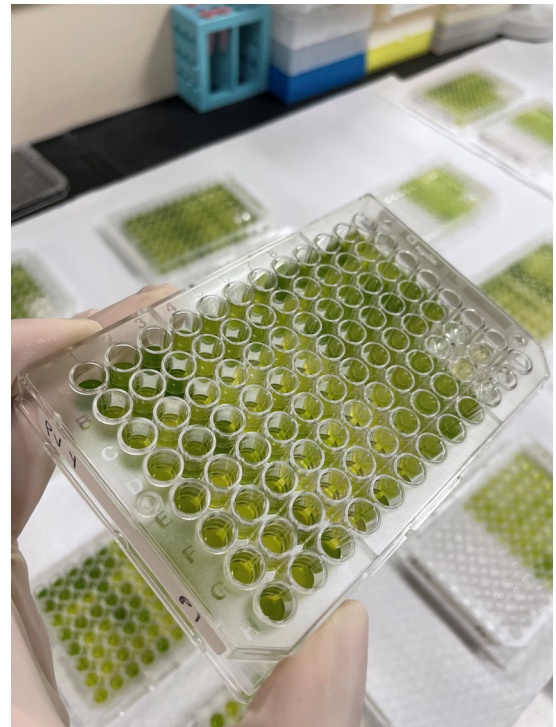
Annually, the lab supports the Potato Program through testing of leaf samples obtained during the summer from certified seed fields. Every year the lab also tests post-harvest samples from the Florida winter test plots. The lab routinely tests certified seed lots for Potato Virus Y, Potato Virus X, and Potato Leaf Roll Virus.

Additionally, the lab supports the NDSSD Seedstocks & Tissue Culture unit by testing the tissue culture bank for eight viruses using ELISA. Each greenhouse crop is also tested at 30 and 60 days post-planting. These efforts help insure that minitubers are free of pathogens.

GMO testing: The Diagnostic Lab offers an ELISA test for detection of a potato GMO trait. Specifically, the test detects the presence or absence of the Bt-Cry3A protein expressed by transgenic New Leaf® varieties.

Looking toward the coming months, the lab plans to test sprout samples. This is a somewhat unique situation as most years the winter test is performed on leaf samples collected in the post-harvest test plots in Florida. But, due to the unfortunate flooding of the plot, lab testing will be conducted on sprouts collected from backup samples. This is considered an alternative method of evaluating virus levels in seed lots. The standard method is visual inspection and testing of leaves from specific latent varieties.

If you have interest in our testing services or have any questions, please contact the lab at 701-231-5430 or pmosher@ndseed.ndsu.edu.



ELISA plates loaded with potato leaf extract samples to be tested for Potato Virus Y.

Adapting to Change

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Regulatory team, pulling samples and checking labeling records every spring. He also assisted our Potato Program by performing GAP/GHP audits. We will be opening that position soon.

In December of 2021, **Wes Pepple** retired to go on a church mission in Kenya. Wes performed similar duties as Kyle in the western half of the state and we could rely on Wes to handle business for us without a lot of direct supervision. We have been trying to fill that position for over a year, without much luck. The position is still open if anyone is interested.

The December Seed Commission meeting marked the last meeting for one of our most experienced commissioners.

Kim Alberty, president of Agassiz Seed, represented the North Dakota Agricultural Association on the commission for more than 25 years. He has provided sound advice and leadership through many of the changes at the department during his tenure.

If you have been actively recruiting and hiring staff positions lately, you know how difficult it is to find people you can trust to manage the business. We now have two new managers in key positions that are doing great jobs. **Jason Goltz** is our new certification manager and **Presley Mosher** took over management of the Diagnostic Lab in December 2021.



We've replaced two Admin Support staff and we have one new germination analyst in the Seed Lab – all within the last year. All offer new perspectives and ideas which help contribute to organizational evolution.

In spite of all the changes at the department in the last year, we are still focused on providing our customers superior service and ensuring high quality products. We are a rules-based organization. We inspect seed fields and certify seed lots according to solid rules and standards; we test seed according to industry-accepted rules and we enforce state and federal seed laws. I have written before about the importance of standard operating procedures. SOPs and rules provide structure, uniformity and consistency in our processes so no matter the name in the office, you can trust that we are doing our jobs properly.

The department's long-range plan provides guidance for the development and implementation of processes and services for the North Dakota agriculture industry and we remain dedicated to our mission statement: "To assure integrity of the seed industry through commitment to client service and product quality".

Some Seed Potato Certification History

Kent Sather, Director, Potato Program

At the first official Seed Potato Certification Conference in 1914 held in Philadelphia, W. A. Orton wrote "It [seed certification] presupposes a movement for the betterment of the potato industry through the improvement of seed potatoes, through the development of specialized growers of seed potatoes, and through an organization created to control diseases, to reduce varietal mixture, to improve varietal types, to be stimulated by the inspecting service organized by the state for the purpose of inspecting seed potatoes and granting certificates to such as may be found worthy of such certification through their varietal purity and freedom from disease."

Target pests that undermine seed potato quality, limiting production and profitability, have changed since 1914, but the goals are the same. Certification agencies and researchers constantly evaluate which pathogens and pests are important. Appropriate sampling, visual inspections, tolerances, and disease testing are developed and incorporated into the seed potato certification programs.

State or government statutes authorize certification activities. In North Dakota, the Agricultural Experiment Station had responsibility to inspect seed sold in the state from 1909 to 1927. This responsibility was transferred to the State Seed Department when it was established in 1927. The Seed Department was authorized to promote the production, registration, and certification of seed and promulgate regulations for the production, handling and sale of seed.

However, integrity of a certification program is a shared responsibility. Participating seed growers and seed buyers, along with the authorized certification agencies, bear a portion of this responsibility. Regulations and quality control programs can always be subverted, but invariably this can cause the reputations of both the grower and the seed industry to suffer.

The North Dakota Potato Growers Association was established on March 3, 1933, with the objective as follows: 'foster and promote...in the improvement and production of potatoes...and in particular to coordinate with the State Seed Department to effect a proper observance of seed and potato laws and regulations and to create an active interest in better potatoes through media.' The Seed Department and Growers Association have developed a strong partnership over the years.

There is no perfect certification system, one that would give complete assurance of detection and exclusion of all defects. Programs are limited by human factors, disease detection methodology, and costs, among other factors. Rather, a desired quality of seed can be maintained with full disclosure from the grower, seed history documentation, current testing methodologies, and inspections based on statistical samples. Seed potato certification programs have served the industry for about 100 years with a good record, and will continue to do so into the future, even with challenges and changes.

Seed Lab Reminders

Jeanna Mueller, Seed Lab Manager

As the busy season for testing seed is fast approaching, we in the Seed Lab would like to remind our customers of a few key points about sample processing. Below is a list of the germination periods for a few crops. It is common, especially for grasses, to forget just how long germination tests take. Native crops take longer to germinate because the amount of time the seed take to sprout and produce a healthy seedling varies. Due to decades of plant breeding, field crops emerge more uniformly so they mature at the same time for harvesting purposes.

<u>Crop Kind</u>	<u>Germination Test Period</u>
Small grains	7 days
Clovers	7 days
Soybeans	7 days
Wheat grasses	28 days
Fescues	21-28 days
Native Seed (Forbs)	14 - 28 days

Please keep in mind samples are not always planted the same day they come in our door. And, we only plant pure seed so dirty samples take more time to plant.

Purity Test Process Timing

We aim to have purity test results finalized the same day as the germination test is completed. If our daily sample load is decreased, the purity test may be done sooner than that. If the customer rushes the sample, it moves the sample to the front of the line but does not reduce the time it takes to complete the test. Keep in mind that certification will not be finalized until all required tests are completed.

Sample Size and Identification

Our website is a good resource to find the test request form, detailed sample sizes or an explanation of the tests we offer. Be sure to send enough seed for all tests to be completed. Filling the envelope will provide enough seed for a purity test. If it is Foundation class seed or has a Canadian noxious test it will require more seed.

If you have any questions before you submit your sample, please do not hesitate to call us. Our goal is to provide our customers results in a timely manner. So send your samples in early!

Useful Tips

- Provide enough seed for all the tests requested.
- USPS will only deliver to our PO Box, all other couriers use the street address.
- When emailing, use the central email account:
ndseed@ndseed.ndsu.edu.

Multiple staff members check that account regularly. If you email an individual directly and they are not in the office, there may be a delay.

There's a Form for That

Jason Goltz, Seed Certification Manager

We can only effectively provide services to our customers if we have a clear understanding of what we are being asked to do. The only way to accomplish this is for the customer to complete and submit the proper written request. Each year, we receive between 9,000 to 10,000 seed samples. Unfortunately, a large number of those samples arrive without a form, they are accompanied by the wrong form or the form is incomplete. All our forms are available on our website.

The following are some guidelines on sample submission:

Certified Seed

- Sample must be submitted in the plastic sample bags which have the document pocket. These bags are for certified seed only.
- Complete a Seed Sampler's Report (SFN 50307) and insert into the document pocket. One sample-one report.
 - Samplers reports are for certified seed and official samples.
 - Forms are available on our website, ndseed.com
 - Instructions for completing the form are in the appendix of the Seed Conditioner's Manual (online).
 - Complete the form entirely; missing information causes delays processing the sample.
 - Write your permit number next to your name (or company name) to ensure the sample is entered under the correct account.

Common Seed (Any seed not in the certification program)

- Sample should be submitted in the manila sample envelope.
 - If you run out of manila envelopes we can mail you a few but if you need more, we can make other arrangements.
 - Sturdy Ziploc bags can work to send the sample if envelopes are unavailable.
- The envelope is the form and has all the information we require or you can use a Lab Test Request Form (SFN 61461).
- ND Grain Inspection uses a similar envelope, so check to ensure the correct envelope is being used.

Service Samples (pregerm or farmer saved seed)

- Use the manila envelope.
- Samples submitted for pre-germs intended for certification later must be indicated as field-inspected seed. Write the field number(s) on the envelope.
- When the conditioned sample is submitted for final certification testing, the lab sample number from this test needs to be written on the final Sampler's Report in the pre-germ box. If you don't, we will automatically retest the seed. The most current germination test result is used for labeling purposes.

Samples arriving without the required information will be set aside and go to the back of the line until we have time to contact the customer. This causes unnecessary delays in processing your sample(s). Please contact us if you have any questions, it takes much less time to answer a question than it does to fix a problem later.

Staff Changes

Jason Goltz assumed leadership duties for the Field Seed Certification Program November 1 following Joe Magnusson's retirement. Jason has more than nine years of experience with the Seed Department, serving previously as Regulatory Program manager. He has been active in leadership roles with the Association of American Seed Control Officials and served as that organization's president from 2018-2020. Jason has excellent organization skills, attention to detail and understands rules. Jason knows our processes and has solid experience in seed certification, from field inspections through final certification and labeling.

Amanda Monson assumed the position of Potato Inspector I on December 1. Her professional experience includes field agronomist/crop scouting after graduating with a BS in Agronomy from U of M Crookston in 2018. Amanda worked for the Seed Department as a part-time inspector for six months prior to joining State Seed on a full-time basis. She began field training in potato inspection last summer and will continue field training this year. She will also continue working toward licensure for potato shipping point and USDA GHP/GAP inspection programs in 2023. Welcome Amanda!

North Dakota State Seed Department

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NDSSD Calendar

- Jan 24**Northern Pulse Growers Association, Minot
- Jan 25-27**KMOT Ag Expo, Minot
- Feb 14**ND Crop Improvement annual meeting, Bismarck
- Feb 20**President's Day, office closed
- Feb 22**ND Certified Seed Potato Growers annual meeting, Grand Forks
- Feb 22-23**International Crop Expo, Grand Forks
- Apr 7**Good Friday, office closed
- May 1**.....Field Inspection applications due for grass