



The North Dakota Seed Journal

JANUARY 2018

Newsletter of the North Dakota State Seed Department

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Seed Department Joins SIPA

Steve Sebesta, Deputy Commissioner

The State Seed Department and NDSU Foundation Seed Program recently joined the Seed Innovation and Protection Alliance (SIPA).

SIPA was formed by members of the American Seed Trade Association to create a unified and consistent voice for educational efforts promoting the value of new innovations for the seed industry and the importance of intellectual property rights protection.



Currently, members include local, regional and multinational seed companies and service providers from throughout the United States and world. SIPA welcomes membership from a broad spectrum of the seed industry, including state and federal agencies and universities.

The North Dakota State Seed Department has long promoted respect for intellectual property rights, so membership in the association was a natural fit for the department, providing additional educational resources for our local efforts. If you have paid attention to the previous two issues of the Seed Journal, you would have seen examples of our efforts to support IP rights of variety owners and maintain a robust seed industry in the state. In matters of non-compliance, we strive first to educate, and then enforce seed laws.

It is important for producers and retailers to remember that nearly all varieties of crops grown in North Dakota are protected by PVP laws giving the variety owner the exclusive right to determine who has authority to produce and market seed of their varieties. Beyond PVP, some variety owners utilize license agreements as an additional tool to control the production of their products. Knowledge of these methods of IPR protection is important. The seed industry thrives in a business climate that respects seed laws and the IP rights of genetics suppliers and variety owners.

In addition to its educational efforts around IP rights, SIPA provides a mechanism for initiating inquiries on suspected violations of intellectual property rights. Beginning with this issue of the Seed Journal you will notice a toll-free tip line operated by the alliance. We all have a responsibility for respecting and protecting seed intellectual property rights if we expect to benefit from new varieties and technology in the future.



New Seed Certification Rules and Standards

The State Seed Commission approved several administrative rule changes at its November meeting. The changes were mostly minor, but there were two important additions. We added rules and standards for certification of hybrid wheat seed and industrial hemp seed. The department inspected the first industrial hemp certified seed production fields in 2017 as part of the state's industrial hemp pilot program. Certified hybrid wheat seed production has not occurred in the state yet, but the new rules and standards are now in place to enable that to happen.

The proposed rules are available for review on our website, ndseed.com, in the News section. The proposal has been submitted to the legislative counsel and attorney general's office for review. A public hearing has been scheduled for January 17 to receive comment on the proposed rules and standards which are scheduled to take effect April 1, 2018.



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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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

If forced to name the top three most significant groups we work with, I would list (in no particular order) the ND Certified Seed Potato Growers Association, ND Crop Improvement and Seed Association and the NDSU Foundation Seed Program. I use the word significant intentionally in that we have close working relationships, almost-partnerships, with each.

Of the affiliated organizations and groups we deal with (and there are dozens) these three are directly related to the inspection, testing and certification of high quality seed, and ultimately most closely invested in our daily activities. They are the go-to organizations for input on rules and standards, program and service improvements and work to expand and improve the seed industry in North Dakota. Managers in our Potato (Kent Sather) and Field Seed (Joe Magnusson) program areas serve in a resource-advisory capacity to the grower associations and maintain very close relationships with each. Both groups hold annual meetings in February, with other board and committee meetings held throughout the calendar year. Our staff contributes to those and other activities throughout the year.

Many of our counterparts in the U.S. have foundation seed production enterprises within their respective organizational structures. Not so in North Dakota, where the Foundation Seed Program is an activity of the land grant university, NDSU. While our agency has always worked closely with breeding programs, variety release committees and Breeder/Foundation class seed production, the relationship between the seed certification and foundation seed entities would be considered arms-length in nature. We crafted a change in that structure in 2017, one that I believe will benefit the industry.

When Dr. Dale Williams (long-time director of NDSU Foundation Seed) retired in spring of 2017, Dr. Ken Grafton and I determined this was an opportunity to collaborate

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

more closely. Dr. Grafton is a member of the Seed Commission and knows our programs and people well. As a result of these discussions, we offered Steve Sebesta (your Deputy Seed Commissioner) a dual role of directing the NDSU Foundation Seed Program in addition to his leadership role at the Seed Department. Steve has chosen to accept the appointment with our appreciation.

I've always believed that having seed certification and regulatory programs under the same roof is a real advantage for North Dakota; the communication and free flow

of information benefits both programs, and producers/consumers of seed. While the NDSU Foundation Seed Program remains a budget and operational function of NDSU, those same advantages now extend to the working relationship between foundation seed and seed certification.

Or perhaps, this now is more like a partnership than a working relationship.

Best wishes for a safe, profitable...and warmer winter season.



Certification Fees Increasing

As part of our annual budgeting process, the Seed Department regularly reviews fees to determine whether increases are necessary. Laboratory analysis fees are commonly reviewed and adjusted every 2-3 years, while field inspection and other certification-related fees are modified/changed less frequently. When proposing fee schedule adjustments to the Seed Commission, administration uses a combination of internal cost analysis and regional price comparative information to create a proposed fee schedule.

We have been successful in managing the program to avoid increasing field inspection fees since 2004. However, after 14 years without an increase, field inspection fees will increase \$0.50 per acre effective March 1, 2018. Final certification fees, which have not increased since 2010, will increase a penny per bushel to 7 cents effective July 1, 2018. Lot fees and labeling fees remain unchanged.

Similarly, potato field inspection fees have not been adjusted since 2007. Field inspection fees were approved at a rate of \$32/acre (from the current \$26/acre) for the 2018 season. Shipping point inspection fees were reviewed in July, and increased from \$.085 to \$.09 per cwt. beginning in January, 2018.

Seed Department Retirements

The Seed Department bid farewell to a couple valued employees and friends the end of December.

Galen Briese has retired from the Seed Department after 27 years of service. Galen is a veteran of the Seed Department and has served multiple functions. He began working for the department as a part-time field inspector in 1991, working mostly in the Langdon area. He became a full-time employee in the Field Seed Program in 1998. Galen also assisted in the Seed Lab during the winter months, conducting purity analyses.

Nile Yoder retired effective December 31. Nile began as a part-time inspector for our Field Seed Program in 2007. He earned additional responsibilities as facility and regulatory inspector in the fall of 2008. In 2011 he moved over to the Potato Program and was responsible for field and shipping point inspections while continuing to conduct facility inspections and regulatory audits and sampling.

Galen and Nile always sought to do their best for their customers. Their service to the North Dakota seed industry will be greatly missed at the department. We wish them both the best in retirement.



The Farmers Yield Initiative, or FYI, promotes legal seed trade, research, education, seed certification, and the enforcement of intellectual property rights authorized under the Plant Variety Protection Act (PVPA) and patent laws. The purpose of the initiative is to educate the public and encourage compliance with existing state and federal seed laws embodied in the PVPA and state seed certification regulations.

If you suspect illegal seed activity please consider submitting a strictly confidential tip to help put a stop to illegal seed trade. You need not identify yourself during the phone call. The caller can remain anonymous, and it is toll-free.

Phone completely confidential tips using the toll free number: (877) 482-5907

Email tips to: tips@farmersyieldinitiative.com

Mail tips to: Farmers Yield Initiative, PO Box 8850, Fayetteville, AR 72703

Online Bulk Certificate Printing

Steve Sebesta, Deputy Commissioner

Response to our new online bulk certificate printing has been very good so far. With this new system, you may generate your own bulk certificates whenever it's convenient, and wherever you are. Snowbirds will really love this system!

To make it simple, we've posted instructions for getting started on our webpage, ndseed.com in the Field Seed Program section.

The screenshot shows the North Dakota State Seed Department website. At the top, there is contact information: "1313 18th Street North, PO Box 5257, Fargo, ND 58105, Phone: (701) 231-5400". Below this is a navigation bar with links: "HOME | ONLINE DATA | ONLINE FORMS | FIELD SEED DIRECTORY | POTATO DIRECTORY | CONTACT US | SITEMAP". The main content area is titled "Field Seed Program" and includes a list of services: "Seed Certification", "Eligibility Requirements", "Standards", "Field Inspection", "Final Certification", "On-Line Bulk Certs", "Certification of Blends & Mixtures", "Handling Bulk Certified Seed", "Custom Programs", "Quality Assurance Program", "Quality Assurance Guidelines", "Identity Preserved Programs", and "Pre-Variety". A yellow callout box with a hand icon points to the "ONLINE DATA" link, with the text "Begin using the tool here!". Another yellow callout box with a hand icon points to the "On-Line Bulk Certs" link, with the text "Find instructions here!". The background of the website features images of seed and a person in a field.

Access the system through the ONLINE DATA portal on our homepage. Once logged in, you may begin using the tool to generate bulk certificates. First, locate the crop/variety/lot number/bin number you are selling. After confirming the correct variety and lot number you will be prompted to enter the buyer's name, city and state, as well as the quantity of seed for that transaction. That quantity will then be subtracted from the lot. Then, check whether the seed is For Resale or Retail Only. Finally, click Save to record that transaction and either add more sales from the same lot or print your label. It's about that easy. But, there's more! We've added some other nice features as well.

Just in case you make a mistake with an entry, you may void that certificate and those bushels will be added back into your inventory. You may also downgrade seed on an individual transaction basis if you need to.

Need additional bulk certificates? No need to call the department and then wait for them to arrive in the mail. You may print bulk certificates as needed at any time of the day with the online tool.

Tired of filling out those log sheets at the end of the season? The online tool will do that for you. Each sales transaction is automatically and instantly added to your sales report for you. No more handwriting transactions on the log sheet. Need a sales report for that big seed company you work with? You can also generate a report of sales by variety at any time, or, wait until year-end to simplify research fee reporting.

We can't think of any reason why someone in the seed business wouldn't want to use this tool. If you are already set up to view lab test results online, you are all set to print your own bulk certificates. If you don't yet have a Login ID and password give us a call and we'll help you get started.

Why Test for Seed-Borne Pathogens?

Jeff Prischmann, Diagnostic Lab Manager

Conducting tests for seed-borne pathogens is an important tool that can be used to assess the quality of a particular seed lot. In addition, some crops are required to be tested for specific seed-borne pathogens as a requirement for seed certification. Examples of these include the Anthracnose test and the bacterial blight test for edible bean, loose smut test for barley, and the *Ascochyta* test for both chickpea and lentil. These tests help enhance the value of certified seed by assuring seed buyers that the seed they are purchasing is disease-free.

Seed health testing identifies diseases or pathogens that may impact the growth and performance of seeds in field conditions. In most cases, disease or pathogen issues are not aligned with labeling requirements and not included on the label. In some cases, the seed-borne presence of a pathogen may affect more than just seedling emergence and plant vigor, it can spread throughout the field crop and cause devastating harvest loss. Examples of this include edible bean anthracnose. Low levels of seed infection can cause significant yield loss in the field and also significantly spread anthracnose. Another example is chickpea *Ascochyta*. Like bean anthracnose, chickpea *Ascochyta* can cause significant field problems at low seed infection rates and the proper environmental conditions.

An important consideration with seed health testing is that the overall physical appearance and quality of the seed is not always the best indicator of poor seed health or the presence of seed-borne pathogens. Many seed-borne pathogens do affect the physical appearance of seed. This can be seen with scab infected wheat kernels that are white colored and shriveled or *Ascochyta* infected lentil seed that are stained brown. However, there are some cases where seed may have a very good physical appearance, but is infected with a seed-borne pathogen. With this in mind, it is very important for seed producers to have the necessary seed health tests performed on their seed regardless of the physical appearance of the seed lot. This is more important for those seed-borne pathogens that can cause significant field problems at low seed infection rates such as bean anthracnose or chickpea *Ascochyta*.

Some common seed health tests for seed-borne pathogens offered by the North Dakota State Seed Department that are available to seed producers include *Ascochyta* in pulse crops, loose smut and barley stripe mosaic virus in barley, bean anthracnose in edible bean, pea seed-borne mosaic virus in field pea, and blackleg in canola.

Seed producers should also keep in mind that all seed health tests are only as good as the sample submitted. It is very important for a good, representative sample of the seed lot to be submitted for testing. This may require the seed producer to take multiple bin probes or subsamples during seed handling and create a composite sample for testing from these subsamples.

For additional information on seed health testing, please contact the North Dakota State Seed Department.

Seed Quality Observations

Jeanna Mueller, Seed Lab Manager

Our 2017-18 season is starting to pick up. It is always nice to see samples earlier rather than later in the spring when we are on a time crunch before planting. The soybean samples have been coming in steadily for a few months now, but small grain samples have really increased the last few weeks.

Overall, sample quality is looking good.

- Seed quality has been good this year in durum. The germination scores mostly are above 85%. When scabby kernels are recognized or seed quality is poor we will plant the durum in 50 seed replicates rather than the typical 100 seed replicates to lessen the spread of scab affecting the seedlings. By spreading the seed out it is easier to determine if an abnormal seedling is truly abnormal or if it is affected by scab (secondary infection by nearby seeds).
- In hard red spring and hard red winter wheat samples, germination test scores have been average to good. We have seen very few below 90%, with low occurrence of scabby or tombstone kernels.
- Soybean germination scores have been average to high with very little damage to seed (harvest or handling damage). Very few samples have been below 90%. Soybean seed size has been noticeably smaller due to the drier year.
- Field pea germination quality has been good and we have observed very little seed damage or other issues.
- We have received very few flax samples so far. The samples received so far have been in the 80-90s for germination scores.
- Lentil seed quality this year is good with germination scores mostly above 90%.
- Field bean seed quality has been good with germination scores at 80-90%, only a few scoring in the 70s.

Reminders/ Concerns:

We have noticed a few samples of carryover or common bin-run seed, coming in the lab with sprout or insect damage. It is very important to get these samples tested for germination if you are thinking about using them. It is so hard to tell quality by just looking at the seed especially if it is carryover seed. Proper testing is cheap insurance that you have the quality you desire.

Be sure to send the appropriate sample size for the tests requested, more information is listed on our website. We are also now on social media (Facebook and Twitter), so check out our sites for updates or information.

Testing Carryover Seed

Joe Magnusson, Field Seed Program Manager

When submitting samples of carryover certified seed for germination testing and new bulk certificates, several things are required. But what isn't required may be equally important and a real value to your business.

First, and most importantly, when obtaining the sample for testing, the seed should be probed from the top and bottom of the bin or remove approximately five percent of the seed from the bin and either hand-sample from the flowing seed or probe the seed after it is removed. **Do not use seed from the file sample** you have in the office as this does not represent what is in the bin. Seed that has been stored in a bin over winter may have gone out of condition and the germination might have deteriorated.

In order for us to process your sample we need a completed *Relabeling Request for Carryover Seed* form, which can be found on our website (ndseed.com) under *Online Forms*. Please include this form with your sample and include the number of bushels carried over, the certification number from the previous year and the number of bulk certificates you will need for resale.

We also strongly recommend having a variety ID test done on carryover seed lots of wheat, field peas and barley. Variety ID testing is not required for recertification of carryover seed lots. By rule, the only test that is required for recertification of carryover seed is for germination so the label meets test date requirements. However, we have had several instances where carryover seed lots that have been recertified and sold have failed the variety ID test when submitted for final certification the following year. When a sample does not test true to type, we generally find one of the following reasons:

- bins were not labeled or were inaccurately labeled
- seed was taken from the wrong bin by the owner or the owner's employees
- two or more lots of the wrong variety were commingled to make bin room for new seed.

If you have any doubt about the identity of your carryover seed, you should ask for a variety ID test along with the germination. The cost of the test for wheat is \$150, and the cost for barley and field peas is \$250. When you consider the potential problems associated with selling the wrong variety to a customer, the additional testing is inexpensive insurance to confirm the true identity of your seed lot. What is peace of mind worth to you?



Post-Harvest Testing of Certified Seed Potatoes

Kent Sather, Director, Potato Programs

Post-harvest testing of certified seed potato lots is a long time industry standard recognized in North America. It is a very important component of the certification process for seed potatoes. All state and provincial certification rules and regulations have detailed standards or tolerances of quality requiring some type of post-harvest testing to qualify a specific seed lot for recertification and, in several states, for sale as certified seed for the following crop year. Post-harvest testing serves as a statistical estimation of the quality of the next crop produced from a particular seed lot.

Post-harvest testing can be performed by a grow-out in the field or greenhouse. Serological laboratory testing can also be done on sprouts of tubers. Nearly all states grow their post-harvest test samples in field plots planted in a warm climate.

Field plots allow for a visual assessment of several potential issues that may affect the quality of the future crop. Our primary focus is on virus pathogens that may have been spread by insect vectors into the seed lot after summer inspections were complete, but before vine death occurred. Those viruses include potato leaf roll virus and PVY (Mosaic). Serological leaf testing for PVY is also performed on some varieties that suppress typical visual symptoms. Inspections may also detect variety mixtures that may have occurred during harvest and bin piling, or chemical damage that may have transpired during the growing season.

Seed lot samples are taken by the grower during harvest, labeled, and submitted to State Seed staff. We index the samples, chemically treat to break dor-

Post-Harvest Testing continued on page 5

2018 Approved Plant Inspections

Kyle Bednar, Field Seed Inspector II

The annual facility inspection process started in early October and was completed in late December. Managers should have already received the 2018 Approved Facility Permit in the mail along with a copy of this year's inspection report. Please display the permit, retain your copy and review the 2018 facility inspection report with the appropriate employees for any nonconformity found during the inspection.

In order to continue to have another successful upcoming seed season, here are a few necessities to keep in mind:

- Re-label any carry over seed.
- Be sure that all seed bins and equipment are clean before certified seed is handled.
- Label all final certified seed bins with lot, class and variety. Certified blue sticker labels are provided with each lot.
- Keep an up-to-date bin chart and ensure all approved seed bins are numbered.
- A two pound sample of each seed lot must be retained for one year and labeled with lot, class and variety.
- At the time of sale, issue the buyer a bulk certificate for each sale and retain your portion.
- Return all unused bulk certificates and log sheets to the State Seed Department after final disposition of the lot, or by September 1.

Last fall, the State Seed Department launched a new online bulk certificate printing program for growers/dealers that have online capability. Paper bulk certificates are still available for those that don't want to print online. The new system will record each transaction and deduct the bushels you sell from the total number of bushels you reported in the lot. It will also create the sales log sheet, eliminating the need to complete by hand. Items to note with the new system:

- Accurately report the number of conditioned bushels on the Sampler's Report (don't estimate).
- Print and retain a paper copy of the log sheet for each final certified seed lot sold.
- No log sheets or unused bulk certificates to return at final disposition of the lot when using the online program.

With the fluctuating temperatures, closely monitor your seed bins for any signs of heating or insect damage that may occur during the winter months.

I would like to take this opportunity to thank my fellow inspectors for another successful year, and the facility managers and staff for the support shown while we were on site conducting the inspection.

I encourage you contact the State Seed Department office, or your inspector, if you have any questions.

Properly Labeling Seed is Important

Jason Goltz, Regulatory Program Manager

Now is the time to prepare for selling seed as the 2018 sales season is getting underway. According to both the Federal Seed Act and NDCC 4.1-53, all seed sold for planting purposes must be tested and properly labeled. This is true regardless of the use of the seed.

Forage and cover crops also need to be tested. When someone plants seed, it's because they expect that seed to provide some benefit. The expectation isn't always that the crop will be harvested as grain. A forage crop will produce livestock feed and cover crops are planted for soil health or grazing expectations. Seed testing and labeling is just as important for those crops. Why invest in a forage or cover crop without assurance that it has the potential to germinate and produce a viable plant, or it isn't contaminated with noxious weeds?

Sometimes, grain is used as seed. With a PVP variety, it is legal for the farmer to save back seed for their own use, provided it was legally acquired from the variety owner. It is not legal to sell that seed to another, even if they are a friend or relative. Common seed which was not protected, or seed of varieties for which PVP protection has expired can be sold. Remember, the seed laws apply to all seed and common seed must be tested and labeled. Again, why invest in a crop without assurances of its performance?

Testing a sample of common seed is not very expensive. A wheat sample, tested for germination, purity and seed count will cost \$50.00. The results of these tests provide the bulk of the information required on a legal label, although the analysis report itself is not considered a label. Create a label and transfer all the information from the tests; make sure to include your contact

information as well as the origin of the seed. The example given is only the minimum amount of information required and some crops require additional tests. Whether selling or purchasing,

please contact the Seed Department with any questions on legal labeling requirements. A quick call to us can prevent an issue later. 2017 was a busy regulatory year with labeling issues and PVP violations. The department has put more time and effort into social media and educational outreach; we hope to see fewer issues in 2018.

Kind & Variety _____	Lot No. _____
Pure Seed _____ %	Germination _____ %
Other Crop _____ %	Hard Seed _____ %
Weed Seed _____ %	Germ & Hard Seed _____ %
Inert _____ %	Date of Test _____
	(Month & Year)
Restricted _____	Origin _____
Noxious _____	(State or foreign country where grown)
Weeds _____	Name & number per pound _____
Seed Count _____	Approx number per pound _____
Name and address of labeler _____	
Loose smut _____ %	



Post-Harvest Testing continued from page 4

mancy, ship and plant, keeping meticulous notes of the planting order. North Dakota plants near Homestead, FL with Alger Farms, our cooperating grower. Samples from the 2017 crop were planted from November 14-20, 2017. We planted 363 seed potato lots, representing 7,977 acres of North Dakota certified seed potatoes that passed summer inspection. This covered about 12 acres, using about 166,000 total seed pieces. Seasoned inspectors returned to the plots January 3-16, 2018 for inspection and testing. Each emerged plant was visually scrutinized for disease by each inspector at two different intervals. Results were recorded and transitioned into a percent of disease per seed lot sample. Rejected lots are ineligible for recertification. These results will be provided initially to the respective North Dakota seed potato growers. Soon thereafter, eligible seed lots will be published online and in a Winter Test Directory for anyone interested.

Remember that results from a post-harvest test are an estimate of virus that may be in the future crop. It is amazing how close this estimate can be when the tubers in the sample are mature, the sample is picked in an evenly random manner, and there is good emergence in the plots. This post-harvest test process will continue to be an important part of management for a certified seed grower and the state certification program in which they participate.

North Dakota State Seed Department

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ADDRESS SERVICE REQUESTED

NDSSD Calendar

- Jan. 22-23**.... Northern Pulse Growers Association meeting, Minot
- Jan. 24-26**.... KMOT Ag Expo, Minot
- Jan. 31** Best of the Best in Wheat and Soybeans, Grand Forks
- Feb. 1** Best of the Best in Wheat and Soybeans, Moorhead
- Feb 6** Best of the Best in Wheat Research and Marketing, Dickinson
- Feb. 7** Best of the Best in Wheat Research and Marketing, Williston
- Feb. 7** ND Crop Improvement & Seed Association board meeting, Minot
- Feb. 8** ND Crop Improvement & Seed Association annual meeting, Minot
- Feb. 8** Best of the Best in Wheat Research and Marketing, Minot
- Feb. 21** ND Certified Seed Potato Growers annual meeting, Grand Forks
- Feb. 21-22** ... International Crop Expo, Grand Forks
- April 4-5** AOSCA northern region meeting, Madison, WI