The North Dakota
Seed Journal
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Newsletter of the North Dakota State Seed Department

Inside

North Dakota State
NDSSD
Seed Department

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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Willem Schrage to Retire

Ken Bertsch, *Commissioner*

Willem Schrage, Director of Potato Programs, is looking forward to retirement in April of 2016. Willem joined the Seed Department in September of 2007 after a long, distinguished and geographically diverse career in the potato industry. Willem directs field inspection, shipping point, tissue culture/ greenhouse, winter test, grower relations and seed regulatory aspects of the NDSSD Seed Potato Program.

Willem is a native of the Netherlands, where he developed an interest in agriculture and farmed prior to earning an advanced degree. He earned undergraduate and graduate degrees in plant sciences and nematology, which served him well in a career path taking him worldwide working with seed potato. Those career stops include:

1976-77: International Potato Center, Lima Peru
1977-79: International Potato Center (Regional Center), Izmir, Turkey
- Development of a national seed potato program, research and extension

1979-82: International Potato Center, Tunis, Tunisia
- Tunisian National Seed Potato Program (expatriate manager of the national seed potato program)

1982-85: Seed Potato Specialist for the N.B. Department of Agriculture
- Duties included seed potato research and extension, management/ coordination of the provincial seed potato production program

1985-94: Florenceville, New Brunswick, Canada
- Manager of the N.B. Potato Agency (Provincial Potato Marketing Board)

1994-2007: East Grand Forks, Minnesota
- Head of Potato Inspection Program, MN Department of Agriculture

Willem has been active in many professional societies and organizations throughout his career. During his time in the U.S. with Minnesota and North Dakota seed agencies, he has served as Secretary/Treasurer of the Potato Association of America Seed Certification Section along with service on other seed-related committees with the National Potato Council, U.S. Potato Board and USDA. He has represented U.S. seed potato programs with the UNECE specialized section on seed potatoes, traveling world-wide for meetings representing the U.S. This dedication to and professional representation of potato seed growers in the region speaks to Willem's commitment to the seed industry.

This laundry list of jobs and places has benefited the ND seed industry and our agency. Having experienced or observed seed production on every continent but Antarctica is impressive; bringing that knowledge and experience to work with our program and people is good fortune for us. From a personal perspective, Willem's people skills are as important as any other in his success as our Program Director. His teamwork skills and tendencies, and his ability to work well with everyone around him is a gift…one that is truly appreciated.

Willem and his wife Gail have three children and five grandchildren, who now benefit from more of his time. Willem will be missed at the Department, but promises to remain active on a part-time basis. Congratulations and best wishes, Willem!

Seed Quality Outlook

Jeanna Mueller, *Seed Lab Manager*

The North Dakota State Seed Lab has received nearly 4,400 samples so far this year (beginning July 1st), slightly down in number compared to the same period last year. We are fully staffed for the busy season including our college intern, MacKenzie Derry, from Thompson, ND. She is studying Crop and Weed Science and very eager to help out where needed including planting and filing.

Incoming samples have not had any major problems, disease or otherwise. To make an accurate regional assessment of seed lot quality would be premature. We have not seen the quantity of samples or results to make a good prediction of overall seed quality.

Small grain germination scores are about average without any major disease issues. Soybean germination scores have been good, with few low germ scores or damaged seed. Soybean seed size has been noticeably smaller this year, probably due to dry growing conditions late in the season. Field peas may be the crop with the most issues; we have seen a good share of mechanical damage when analyzing seedlings. Germination scores from 50-70% are not uncommon in samples this fall and winter.

A number of grasses and grass mix samples have been tested to date; grasses are welcome at this time of year since it is easier to handle labor-intensive testing now rather than during the March/ April rush. Here's my opportunity to encourage all of our customers to send samples in early to ensure timely results. As sample numbers increase, wait times for sample results will naturally be extended too.

I wish everyone a happy and prosperous new year!

FARMERS Yield INITIATIVE

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

Administrative Corner

Kris Steussy, *Administrative Officer*

Here are some reminders to expedite the testing, final certification and labeling (relabeling) of seed lots:

Relabeling requests:

When sending bulk certificates to the department to request relabeling in your name, please be sure to include certificates for all seed purchased so all bushels are recorded.

Carry-over seed:

An updated germination is required to obtain certificates for carryover seed. To request new certificates, please complete a "Re-labeling Request for Carryover Certified Seed" form, which can be found on our website at ndseed.com, under forms, and include it with your sample. The web form is fillable and can be completed and printed. Please contact the department if you prefer to have paper forms sent to you.

Issuing Bulk Certificates with your sales:

Remember to issue a bulk certificate with each sale and to complete the bulk certificate log sheet located behind your certificates. The log sheet should be sent to the department when the lot is sold out. Please keep a copy of the log sheet for your records and to assist in completion of Research Fee Reports and the Annual Report of Seed Sold. Any unused bulk certificates should be included with the log sheet. Please do not send seller copies, as those should be retained for your records.

Purchasing seed:

If you are purchasing seed to plant for certification, please remember to keep your bulk sales certificate or tag to submit with your application for field inspection.

Seed testing envelopes:

Seed testing envelopes are available for you to send your samples in. Please contact the department if you would like some sent to you.

Cover Crops, PVP and Seed Laws

Joe Magnusson, *Field Seed Program Manager*

With the increasing interest in cover crops, there is also an increasing potential for violations of ND and Federal seed laws. Some basic rules and laws apply to cover crops in the same way they do for all seed.

All seed for planting purposes including cover crops must be labeled. The labeling information includes kind and variety, purity analysis, germination, test date, lot number and name and address of the labeler. If the variety used is a PVPA protected variety, it must be labeled and sold as a class of certified seed as with the use of any PVPA variety.

There has been concern that commercial applicators (including aerial applicators) are not following seed laws when spreading cover crops for farmers. Citing the information above, and to remain in compliance with seed laws, the applicator must use certified seed if the variety is protected. This seed can be obtained at a bulk retail or conditioning facility approved by the NDSSD, or through a certified seed grower that has completed final certification. The ONLY legal departure from these requirements is for the farmer to supply seed from their own bin to the applicator for use on his own field(s).

If you are an aerial or commercial applicator, and use non-certified grain of a protected variety procured from an elevator to apply the cover crop, you are in violation of State and Federal seed laws. Each sale of this grain could result in a fine of up to $10,000 from the NDSSD. The variety owner may also legally recover triple damages as an end result of illegal sale of their variety. The elevator or other grain supplier would also be in violation of state and federal laws, and these fines would apply to them as well.

Another potential serious problem you may encounter if you use grain instead of certified seed is the contamination from other crops if you plan to produce certified seed in the future. You may also introduce noxious and herbicide resistant weeds like water hemp into your fields, as this bin-run grain was not conditioned to the standards of certified seed.

To avoid a serious financial loss from not supplying/selling legal certified seed of protected varieties for cover crop seed, contact a ND approved bulk retailer, approved conditioner or certified seed grower to obtain certified seed. This information can be found on our website: ndseed.com, the 2016 ND Field Inspected Seed Directory or the 2016 ND Certified Seed Guide.

If you have any questions on Plant Variety Protection, seed sales regulations or the legal sale and labeling of cover crop seed, call us at the NDSSD and we can provide you with information to ensure you will not violate ND and Federal seed laws.

Regulatory Inspections

Jason Goltz, *Field Seed Program Manager*

Each year between February and May, the ND State Seed Department sends regulatory inspectors out to retail establishments. The purpose of these retail inspections is to determine if seed being offered for sale is in compliance with requirements of State and Federal Seed Laws. These regulatory inspections provide retailers and consumers assurance of a properly labeled quality product.

Inspectors ensure:

- Possession of a seed labeling permit if an initial labeler
- Information about the business is updated
- An inspection report is completed
- Record retention is verified to be in compliance with NDSSD requirements
- Random samples from different lots may be collected

To help the inspection go smoothly, retail facilities should prepare ahead of time for the inspectors arrival. Since the inspector may draw a sample from the bin, the bins should have been thoroughly cleaned before filling. Ensure that any lots of carry over seed have been re-labeled (forms are available on the NDSSD website). Verify record retention is up to date, and note that seed samples must be retained for one year and records retained for three years.

Regulatory inspectors will also verify that the seed in stock is labeled with a current germination test. Excluding the month of the test, germination tests expire after:

- Cereal grains, soybeans and edible beans.. 9 months
- Vegetable, flower, grass and forb seed..... 12 months
- Cool season lawn and turf grasses..... 15 months
- Interstate seed transactions..... 5 months

Samples arriving in the lab will be checked for contamination from other crop, excessive inert matter and common and noxious weed seeds. The samples will then be tested for germination and compared to the germination on the label. The labeler and retailer will be notified if the sample is not within State and Federal Seed Law tolerances. After all testing is completed a file sample is retained by NDSSD for two years.

Seed facilities should be prepared for inspections during this time of year. Understanding what the inspectors are looking for and preparing for an inspection will help ensure compliance. An inspection is all about truth-in-labeling. Contact the State Seed Department if you have any question about seed regulatory matters.

Certified Seed Use on the Rise

Ken Bertsch, *Seed Commissioner*

Raw data suggests that the use of certified seed is slowly rising industry-wide in North Dakota.

Crops like corn and soybean are outside the scope of discussion regarding the issue of certified seed, since most seed sources are either hybrid (corn) or seed/trait patent protected (soybean). However, cereals, pulse crops and some conventional soybean are relevant (in physiological or legal terms) in that they are often used as farm-saved or bin run seed.

We decided to take a quick, non-scientific look at the trend in use of certified Hard Red Spring Wheat (HRSW) in North Dakota since 2010. This six-year lookback takes into account the following factors:

Available seed — the total number of bushels certified by NDSSD that year, plus carryover available from prior year's final certification data.

Estimated bushels used — the total available seed minus an amount that may have been unused and/or marketed to commercial channels. We used a factor of 5% in this estimate.

Seeding rate — for purposes of this estimate, we used a 1.9 bushel per acre rate. We assumed this may be a reasonable average based on seed count variances, variety performance (tillering) and geographic (rainfall) factors.

Acres planted to certified seed — a simple division of estimated bushels used divided by average seeding rate.

Total acres planted — to HRSW according to USDA/NASS statistics

Certified seed use % — the estimated acres planted to certified seed divided by total acres planted.

	Available Certified Bushels (NDSSD)	Estimated Bushels Used (95%)	Seeding Rate	Acres Planted to Certified Seed	Total Acres Planted (USDA/NASS)	Certified Seed Use %
2015	5,310,451	5,044,928	1.9	2,655,226	6,300,000	42.1%
2014	4,996,652	4,746,819	1.9	2,498,326	5,900,000	42.3%
2013	4,773,332	4,534,665	1.9	2,386,666	5,700,000	41.9%
2012	4,125,140	3,918,883	1.9	2,062,570	5,500,000	37.5%
2011	5,456,066	5,183,263	1.9	2,728,033	5,650,000	48.3%
2010	4,468,674	4,245,240	1.9	2,234,337	6,400,000	34.9%

The Department has operated for years under the assumption that spring wheat certified seed use rate was in the range of 30-35%; a thought that was echoed by many seed growers and commercial producers. The numbers above may not account for a number of other variables, including seed imports from other state or Canadian sources.

The use of certified barley seed may be in a similar range; anecdotal evidence suggests that malting contract requirements may drive a similar certified usage in barley. Certified seed use for other cereal crops such as durum and oat may be lower; in fact the same calculations used for durum suggest a 20-30% upward-trending certified seed use range over the same six-year period.

If the assumptions in this bare-bones estimate are correct, the use of certified seed may be increasing … to the betterment of the seed and commercial ag industries.

2016 Approved Facility Inspections

Kyle Bednar, *Field Seed Inspector II*

Each year, from mid-October thru late December State Seed inspectors are out conducting their annual approved facility inspections for the upcoming year. Facility managers should have received a copy of the annual inspection report; please review the report for any deficiencies that may have been found during the inspection process, and retain this report. You should have also received your 2016 Approved Facility permit, which should be displayed in your facility. A complete list of Approved Conditioners and Approved Bulk Retailers can be found on line at **www.ndseed.com** or in the back of the 2016 Field Seed Directory, or Seed Guide.

Points to remember while conditioning a seed lot:

- Refer to the field inspection report for any notes on additional sample size if needed and what weeds or other crops were found in the field to assist in the cleaning process.
- Submit enough seed for the required final certification tests. Generally a two pound sample is sufficient for most crops.
- If you would like to use your pretest for final certification (germ or loose smut) include the sample number found on the top right corner of your seed analysis report. Pretest results are not allowed for fragile crops such as soybeans and field peas for final certification.
- Make sure the labeler of the lot retains a two pound sample for one year, labeled with kind, lot, class and variety.
- Ensure all approved seed bins are numbered and variety is identified.
- Maintain an up to date bin map.
- Issue the buyer copy and retain your portion of bulk certificate for each sale.
- Return all unused Bulk Certificates and corresponding log sheets, at final disposition of each seed lot, or by September 1st.

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.

Be sure to monitor your seed bins for any signs of heating or insect damage that may have occurred during the winter months. I encourage you to contact the North Dakota State Seed Department office at 701-231-5400 or your inspector if you have any questions.

Seed Health Testing and Seed Quality

Jeff Prischmann, *Diagnostic Lab Manager*

Seed laws at the state and federal level require that seed quality factors are outlined on a tag or label. Variety, germination, and seed purity testing is commonly required for all crops. Labeling requirements also include testing for the presence of weed seeds as a minimum requirement. These are only a few of the many factors that tell the story of seed quality.

One important factor that helps give additional information regarding seed quality is a seed health test. 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.

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. Examples of seed-borne pathogens that sometimes do not express physical visual symptoms that we have seen in our lab include pulse crop *Ascochyta*, Bean Anthracnose, and Barley Loose Smut. 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.

Some common seed health tests for seed-borne pathogens that are available to seed producers that are offered by the North Dakota State Seed Department 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 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.

Fusarium infected Durum on a germination test.

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NDSSD Calendar

Feb. 4 ..... ND Crop Improvement Annual Meeting, Minot

Feb. 15 ..... Presidents' Day (office closed)

Feb. 17 ..... ND Certified Seed Potato Growers Annual Meeting, Grand Forks

Feb. 17-19 ..... International Crops Expo, Grand Forks

March 5-12 ..... ND Winter Show, Valley City

March 15 ..... ND State Seed Commission meeting, Fargo

May 1 ..... Field inspection applications due, grasses