



The North Dakota Seed Journal

MARCH 2007

Newsletter of the North Dakota State Seed Department

Inside

- 1 Seed Retailers Offered Tips for a Successful Season
- 1 Ensure Seed Quality From Harvest to Planting
- 2 From the Commissioner's Desk
- 2 Seed Dealers Notified of Wheat Checkoff Requirements
- 3 2006-2007 North Dakota Post Harvest Test Report
- 3 Legal Seed Potatoes in North Dakota
- 4 Linking Seed Reports to Results
- 4 Brown-Bag Seed Sales Illegal
- 5 Wheat and Oat Variety Identification Testing
- 5 ND Crop Improvement and Seed Association News
- 6 Calendar

Seed Retailers Offered Tips for a Successful Season

Joe Magnusson, Regulatory Manager

Each year, in late winter through early May, Seed Department Regulatory inspectors hit the road to inspect facilities that sell seed. The inspections include an audit of sales and seed labeling records. In addition, a major part of the program entails sampling seed available for sale at the facility. Those samples are returned to the Seed Department for purity and germination tests to determine whether the bulk certificate or seed tag for that lot of seed accurately represents the sample collected. The Federal Seed Act and North Dakota Seed Laws have specific requirements for labeling. One may view seed regulatory inspections as truth-in-labeling activities.

To help ensure retailer compliance with seed laws and minimize the risk of a "stop sale order" on a seed lot, the North Dakota State Seed Department offers these tips.

- Regulatory samples are sometimes taken from the bottom of bins. Make sure bins are thoroughly cleaned before filling them with clean certified seed.
- Thoroughly clean all handling equipment. Augers must be reversible to permit proper cleaning.
- After filling a bin with seed, check the first few bushels for contaminants, or damaged or split seed.
- Handle fragile crops such as soybeans, field peas, and field beans with care to prevent damage. These seeds are especially susceptible to damage during handling.
- Monitor bins frequently to ensure the seed does not go out of condition.
- Re-label carryover seed to show new germination and test date prior to sale. In most cases, the germination test is valid for nine months excluding the month it was tested.
- Certified seed samples must be retained for two years from the date of final disposition of the lot.
- Complete and accurate records must be retained for three years.

Call the Seed Department if you have any questions about seed regulatory matters.

North Dakota State

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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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Ensure Seed Quality From Harvest to Planting

Mark Hafdahl, Seed Lab Manager

The quality of the 2006 seed crop is very good with a few exceptions. There are several processing steps that must be completed before the seed is in the ground and germinating. Careful handling of the seed during all the steps, up to and including planting, will determine how well the seed will perform in the field.

Fragile seed, especially soybeans and field peas, is often damaged by improper handling. Use of augers and long drops are the most damaging processing steps. For best results seed should be handled as little as possible and as gently as possible.

Poor sanitation can adversely affect seed quality. Putting clean seed into a truck that hasn't been properly cleaned defeats the purpose of having clean seed. The final step of moving the seed from the truck to the planter also requires proper sanitation and gentle handling. Planters need to be thoroughly cleaned between varieties.



From the Commissioner's Desk

As this article is written, we in North Dakota are hip-deep into the semi-annual event called the Legislative Session. Having spent a number of years in different roles regarding legislative service, I've gained a real appreciation for the process and people involved. Some people use the analogy that the session is like making sausage; I say it's like making sausage with Sybil (the multiple-personality movie character).

I thought there would be some value in explaining one of our agency bills to our readers. HB 1124 is a bill that expands the warranty disclaimer protections for the Seed Department. No more, no less. Most businesses either provide a warranty or disclaim, to some extent, the issues they cannot control relating to their service or product. The Seed Department warranty statement reads, in part:

"A warranty of any kind, either expressed or implied, including a warranty of *merchantability, fitness for a particular purpose, or absence of disease* is not made by ... as to the *quantity and quality of crop produced* from the agricultural seeds or as to other produce which is inspected and certified ..."

Ken Bertsch State Seed Commissioner
 Steve Sebesta Deputy Seed Commissioner
 Steve Marquardt Director, Potato Program
 Joe Magnusson Seed Regulatory Manager
 Galen Briese Seed Certification Manager
 Mark Hafdahl Seed Laboratory Manager
 Jeff Prischmann Diagnostic Laboratory Manager
 Kris Nicklay Administrative Officer
 Mike Oosterwijk Potato Program Supervisor

We learned through litigation that the disclaimer language was weak concerning the issue of variety identification. Variety identification, a certification process, has an inherent set of challenges that any agency must overcome. A distinction must be made between the two issues. We can assure any number of factors, from purity to disease and varietal identity in the certification process; we cannot guarantee (warranty) what we certify is what you end up planting.

HB 1124 seeks to add variety to the list of certification factors which are disclaimed in warranty language. The legislature added "absence of disease" to the list of disclaimed issues, recognizing that the final product may be infected after inspection, even though it remains a critical certification standard. A graphic representation of what happens to both certification programs and warranty disclaimer language if HB 1124 passes is shown below.

Clearly, this type of legislative issue is not going to create a groundswell of support, and may in fact be dead or radically amended by the time you read this article. It can be seen as self-serving, and in fact only benefits the Seed Department directly. If you are the Com-

missioner or a Commission member, you understand it is an uphill battle to pass something that is beneficial to us and neutral to growers.

Given our experience with litigation regarding mislabeling/variety misidentification, and the general lack of control in this area, we had little choice but propose HB 1124 to protect the financial well being of the Department and State. Our alternative? Change programs to minimize risk to the agency. If the precedent has been set, and we are at legal and financial risk for issues beyond our control, we have little choice but to propose unpopular (but very rational) legislation. We've been advised by the Attorney General to pick one of the alternatives; I'll go with statute before programs every time, the choice entails less hardship for our growers.

It's tough to put this topic in an article capsule and do justice to the complexity of the issue. And it's really tough to grind this issue up and hope for a decent sausage for everyone concerned. Feel free to call with questions or thoughts on the issue. In the meantime, I'm off to deal with Sybil.

Before HB1124

Certification	Warranty
Variety	Merchantability
Seed Purity	Fitness for Purpose
Disease	Absence of Disease
Prohibited Weeds	Quantity or Quality

After HB1124

Certification	Warranty
Variety	Merchantability
Seed Purity	Fitness for Purpose
Disease	Absence of Disease
Prohibited Weeds	Quantity or Quality
	Variety/Strain

Seed Dealers Notified of Wheat Checkoff Requirements

The North Dakota Wheat Commission recently notified seed dealers of their responsibility under state law (NDCC 4-28), to assess the wheat checkoff of 15 mills (1.5 cents per bushel or \$15 per 1000 bushels) at the time of first purchase from a producer. Seed dealers are liable for the assessment on all bushels of wheat and durum purchased for seed, and are expected to remit checkoff collections to the North Dakota Wheat Commission on a quarterly basis. Checkoff funds are placed in the North Dakota Wheat Commission fund of the State Treasury and used to carry out domestic and international market development and promotional programs, which include significant involvement in wheat research to improve both quality and agronomics. A record of checkoff assessment must be given to the producer, which reflects the details of the transaction for their records. The record or receipt needs to include the producer's name, date of sale, net bushels and the amount of checkoff deduction. For more information about the wheat checkoff or the activities of the North Dakota Wheat Commission to build bigger better markets for wheat visit www.ndwheat.com or call 701-328-5111.

2006-2007 North Dakota Post Harvest Test Report

Steven Marquardt, Director of Potato Programs

This year's North Dakota Seed Potato Winter Test Plots at Immokalee and Homestead, FL were again a success. Environmental conditions in North Dakota before shipping of the seed, and in Florida contributed to excellent, uniform growth.

Plant growth and readability of the plot this season was the best in recent memory. Some of the most dormant varieties were among those varieties closing the rows early. There were some lot differences. Favorable growth was observed in lots that were kept warm after harvest, followed by those with the greatest amount of pre-warming before delivery to the Seed Department.

As anticipated, virus levels in the post-harvest grow-out tests were higher than in recent years. Early last season,

most aphid reports were favorable, but there were many reports of aphid flights late last summer. When this occurs, those readings of only a few plants will multiply. Sometimes late infestations go undetected by lab tests.

A possible explanation for the elevated virus levels is that there were many soybean fields adjacent to or within aphid flight of some potato fields. Winged aphids moved into potato fields when the soybeans were sprayed or matured. Fields with only a few scattered virus plants quickly become significantly infested. Late flights of aphids and late virus infestations are not typically detected by field inspection, as this occurs after or too near the third inspection. It takes time and numbers for the virus to influence the plant and to multiply to

detectable thresholds. Thus, one can see just how devastating delayed vine-kill would be to virus cleanliness. Those lots that start with only a few scattered plants of mosaic disease soon will have several too many.

Varieties that seem to be the first to "attract" mosaic disease were those with the most apparent virus. The virus spread occurred where one would expect and on the varieties one would expect it to occur first: Shepody, Russet Norkotah and strains, and Red LaSoda.

The number of North Dakota eligible acres represented was reduced from last year. Out of nearly 564 possible seed lots (representing approximately 16,886 acres) 386 (68%) were entered. This is down from last year, but approximates the same number of acres.

Legal Seed Potatoes in North Dakota

Eligibility requirements for seed in ND (as required by state law) state that even commercial fields be planted with Certified Seed of equal quality to ND Certified Seed Potato standards, as approved by the ND State Seed Department. If not approved by the ND State Seed Department, the seed is not legal. Please inquire at the Seed Department as to how to know if you are buying legal seed.

Typically, Canadian seed, and some other US seed potatoes, is not field checked at the appropriate time for Bacterial Ring Rot according to ND standards. This prompted the requirement for a BRR test prior to importing seed from those states and provinces for ALL plantings, including commercial. Seed imported from Canada or those states without the required testing, is illegal seed. Additionally, a growing number of Canadian potato seed farms have begun to grow uninspected, uncertified seed potato fields as well as certified fields on the same farm, as is legal in Canada. This is NOT legal seed in North Dakota nor is it practical for serious seed potato growers concerned with keeping their operations clean of disease, especially bacterial ring rot.

Grow-out testing is less expensive and far more reliable than a lab test in most cases. While a winter test is not required for recertification in Canada, it is a requirement for North Dakota growers and to be legal seed in North Dakota. A typical Canadian lab test is not acceptable as the sample size and tests are not appropriate or equivalent to the ND requirements. So, (1) the lab must be accredited and test in an acceptable manner, (2) the sample size must be approximately the same as for ND growers in their grow-out (typically 600 tubers) and (3) tested for PVY, PLRV and PVA. BRR tests require a minimum sample size of 400 tubers.

Also, some seed potatoes in other states are being grown in areas infested with nematodes not acceptable to North Dakota standards. If planted in your soil, seed from such areas will likely contaminate your soil.

2005-2006

	Seed lots	%	Acres
Entered	348		8,960
Passed	330	95	8,076

2006-2007

	Seed lots	%	Acres
Entered	386		9,131
Passed	304	79	6,445

Eligibility by generation was as expected: the first year seed lots fared the best and those lots with more age generally, and naturally, had time to acquire some virus.

The post-harvest test noted that leafroll was of little consequence relative to mosaic disease this year. There were only a handful of lots with leafroll and none of those with more than a single plant in a seed lot sample.

79% of the seed lots entered into the North Dakota winter grow-out in Florida were approved. 97% of the lots and acres were found to have less than 3% total virus. Final results may be seen at www.ndseed.com.

Last year, we saw that timely flushing and having lined up the early generation North Dakota seed was very instru-

Test Report continued on page 4

Linking Seed Reports to Results

Galen Briese, Certification Manager

In this day and age, most of us use computers routinely. As seed producers and farmers a lot of planning is done on the computer. Whenever we surf the internet for information and utilize many different sites, the majority of sites include links that contain more detailed information about a subject.

This article concerns ND State Seed Department reports and information contained on each report if completed accurately. Each report that we issue to you can be tracked. Field inspection reports, seed lots, seed samples, lab tests, labeling, bulk certificates/tags, conditioning plants, bulk retailers and others. These forms all have one thing in common. For each entry on any given report, a record is created in our computer system. Therefore, complete and accurate information is critical. The information on the Sampler's Report submitted with samples from the conditioner is critical to linking the sample with field inspection reports, pre-germs, smut tests, purity analysis, just to name a few.

Incomplete or inaccurate Sampler's Reports cause extra work for staff members that are operating at full capacity. Follow-up phone calls cause delays in entering samples in the system. If we are unable to contact you to gather information, further delays can be expected. If we leave a message, please respond.

Therefore, complete all forms, do not assume that we know the information, and if you want accurate, timely results, you need to do your part! If you are unsure or have questions please call us and we will be glad to help.

Brown-Bag Seed Sales Illegal

As seed sales activity increases in the weeks preceding spring planting the North Dakota State Seed Department reminds producers that brown-bag seed sales are illegal.

Most varieties today are protected by Plant Variety Protection Title V that states the variety may only be sold as a class of certified seed. The buyer's proof of certification is either a valid seed tag or a bulk sale certificate issued by an official seed certification agency such as the ND State Seed Department. Seed sellers are required to provide this documentation with each container of certified seed sold.

Additionally, North Dakota seed laws require that seed sold in North Dakota be labeled with specific information regarding the quality of the seed in the container. That information must include the name of the kind and the variety, lot identification number, origin, weed seed content, other crop seed content, percentage of inert matter, germination percentage and test date. The full name and address of the person who labels or offers the seed for sale must also be included. Proper labeling is required for all seed, whether it is a protected variety or not.

Brown-bagging seed is considered by some as a way to circumvent the legal process of seed sales and the payment of royalties or research fees to the variety owner. However, those engaged in this illegal practice risk significant penalties. Violators of PVP Title V seed law may be fined, and those fines can extend to the conditioner, seller, buyer and anyone who assists in the unauthorized sale of protected varieties. Recent cases in North Dakota and other states show how costly illegal seed sales are. Over the last several years, the Seed Department has levied fines and fees totaling \$124,933. In February, AgriPro Wheat, a division of Syngenta Seeds, announced that a federal district court entered a \$49,000 judgment against LB Grain, Inc of Lake Bronson, MN for the unauthorized sale of an AgriPro wheat variety. It is the responsibility of all parties involved, the seller, the conditioner and the buyer to understand the limitations of PVP laws.

Seed certification ensures that high quality seed of known genetic identity and purity is available to the agricultural industry. Illegal seed sales are detrimental to the entire seed industry. The Seed Department monitors seed sale activities, including ads placed in state newspapers and trade magazines. The Regulatory Program manager investigates suspicious ads and takes appropriate action when warranted.

For more information about seed sales or a list of protected varieties contact the State Seed Department or the USDA Plant Variety Protection website.

Test Report continued from page 3

mental in controlling virus levels. Also, credit was rightly given to those who decided to hold the line with the very low tolerance level that has kept the virus incidence to the level that North Dakota enjoys.

This year's success could be further enhanced by Commercial bulk potato producers who decide to use only high-quality seed, as typically produced in North Dakota, opposed to importing from other provinces or states. Growers that do so, typically reap the benefits that today's North Dakota seed grow-

ers are now enjoying: top quality, field proven seed.

Place your orders early with your seed growers. Make sure the pipeline is there for continued supply ALL THE WAY BACK TO THE TEST TUBE. If you're not sure, talk to your seed suppliers to line it up and visit your seed growers to see the material you are going to plant. That's the best way to know your future and quality. There isn't much speculative growing of seed anymore. Seed shortages and high quality are driving prices up.

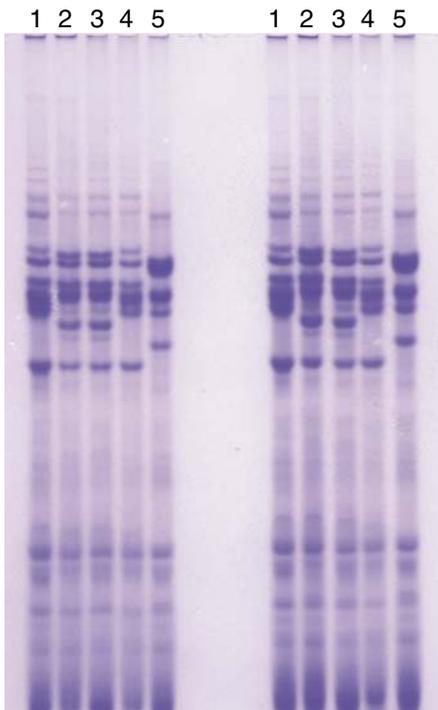
Wheat and Oat Variety Identification Testing

Jeff Prischmann, Diagnostic Lab Manager

Variety identification testing is an important testing service provided by the Seed Department. The Diagnostic Lab has performed varietal identification testing of oat and wheat since 1994. Many of our customers know this test as an “electrophoresis test.” This test is capable of detecting whether two or more different varieties of wheat or oat are mixed together.

Seed producers or retailers may request this test to verify which bin a particular lot of seed was stored in or to determine whether a mixture has occurred. With most new varieties protected by plant variety protection laws, this type of test becomes a valuable tool for PVP enforcement. The department uses this test during the regulatory inspection process to verify that a wheat or oat variety stated on a seed label matches what is in the bag.

Oat Seed Protein Electrophoresis Test Results



NDSSD Acid PAGE Analysis of Oat seed protein. Sample lanes represent: 1 = Paul Oat control; 2 = Stark Oat control; 3 = L2601132 (Stark sample); 4 = L2601133 (Paul sample); and 5 = Morton Oat control.

The variety identification test that the Diagnostic Lab performs on wheat and oat uses protein extracted from the seed to determine the identity of the unknown seed sample. Electrophoresis involves the separation of a mixture of chemical components, in this case proteins, using a gelatinous support medium or gel. A small amount of sample is applied to the gel and an electric current is applied. The electrical current allows charged molecules such as seed proteins to migrate through the gel and to be separated. A special stain is used to visualize the banding pattern or ‘fingerprint’ for a particular variety. Known control samples are run with unknowns for positive identification. Sample mixtures or other varieties can be identified from the sample fingerprint.

It is important to note that the Diagnostic Lab does not conduct variety identification testing on most durum wheat varieties due to their high degree similarity.

The minimum price for a variety identification test for a wheat or oat sample is \$70. This charge includes the unknown sample tested against one control sample using bulked seed analysis. Additional samples would be \$10 per sample. Additional controls are also \$10 per variety. Customers should have some idea as to what variety of wheat or oat they suspect their sample is and note that information when submitting samples for testing. This information helps narrow the possible varieties for the unknown sample and results in quicker sample turnaround times. Bulk seed analysis does not determine exact percentages or mixtures of two or more varieties. To determine exact percentages of mixed variety samples or seed lots, single seed testing is required. This test would be considered a genetic purity test. For more information or questions on this test, please contact the department.



Mark Birdsall (right) with his wife Colleen, daughter Danae and co-worker Kevin Dunn.

ND Crop Improvement and Seed Association News

The Premier Seed Grower Award recognizes individuals who have successfully grown registered or certified seed for several years and have significantly contributed to the certified seed industry. This year’s Premier Seed Grower Award was presented to **Mark Birdsall, Berthold, ND.**

Mark has produced quality registered and certified seed for over 20 years and produces many crops including durum, spring wheat, malting barley, soybeans, flax, and field peas. In the past five years, he has sold approximately 200,000 bushels of certified seed. Seed quality is always a primary consideration. Attention to detail is especially emphasized in the production and conditioning of seed. The smallest details are not overlooked, from field selection to cleaning the equipment.

Mark is an active member of the Ward County Crop Improvement Association, and is a member of the Grain Growers Assn, Dry Pea and Lentil Assn., Canola Growers Assn, Farmers Union, and the U.S. Durum Growers Assn. He has served on the Dakota Growers Research Committee, the Steering Committee for the U.S. Wheat and Barley Scab Initiative and is Co-Chair of the North Central Research Extension Center Agronomy Research Lab and Greenhouse Capital Campaign. Mark and his wife Colleen just celebrated their 25th wedding anniversary and have one daughter, Danae.

North Dakota State Seed Department

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NDSSD Calendar

June 15..... Field Inspection Applications due for all crops except conventional soybeans, buckwheat, and millet

July 1..... Bulk certificates due

July 15..... Field Inspection Applications due for conventional soybeans, buckwheat, and millet

July 31..... Labeling Fee Report due