



# The North Dakota Seed Journal

DECEMBER 2008

Newsletter of the North Dakota State Seed Department

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## Why Purchase Certified Seed?

**Steve Sebesta, Deputy Commissioner**

In 2008, Seed Department inspectors inspected more than 325,000 acres of seed production. So now what? How do you turn your efforts to produce a quality product into a sale?

Many farmers have already begun the task of selecting varieties and seed for next planting season. NDSU yield trial results have been published, trade shows have begun and private companies are conducting sales meetings. With all the information available, consumers may ask, "why should I buy certified seed?" Well, why would **you**?

Input costs are certainly higher these days but available farm budget statistics suggest seed costs are approximately 6-10% of input costs. There are a number of smart reasons to plant North Dakota certified seed; seed quality is perhaps the most important factor in your buying decision.

### The best genetics available

Most varieties released today are protected by PVP, a federal law that protects the variety owner's rights to production and sales. Additionally, most varieties are protected by the Title V option, which means that seed must be sold as certified seed.

There are several reasons variety owners select this option. It provides a revenue stream back to the variety developer to promote additional research and development of new varieties. As a result, new varieties with better traits continue to come online. Farmers benefit from higher yields, better disease packages and improved quality traits. The use of certified seed provides the farmer assurance that the identity of the variety is traceable, through documentation and field inspection, throughout the production process. This traceability ensures the delivery of those traits, thus maintaining the value of the variety.

Seed certification also provides the variety owner assurance that their product, which is often produced and marketed by independent seed producers, meets minimum standards for quality attributes and will therefore deliver the true genetic potential to the farmer and that it is being properly labeled and represented as required by state and federal seed laws.

### Pure seed enhances profitability

Department field inspectors examine seed fields for factors that affect the purity of the seed such as isolation and the presence of other crops or other varieties. They also check for a long list of weeds that can impact the quality of the seed.

Seed purity is important for a number of reasons. Fewer weed seeds means your crop will have the potential to maximize other inputs such as fertilizer and rainfall. Less competition means higher yields. Weed infestation means additional control costs (chemical, fuel and labor), higher dockage, slower harvest, and reduced quality. Why add to the problem with dirty bin-run seed?

Some weeds are very competitive with small grains. One Canadian publication indicates that losses due to wild oats cost \$500 million annually in the Prairie Provinces. And, according to the 2000 survey of weeds in North Dakota conducted

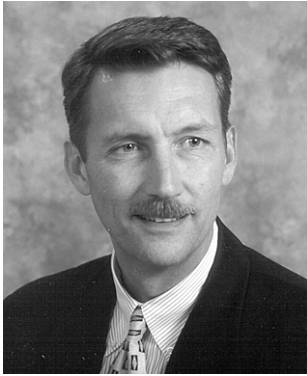


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Seed Department

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## From the Commissioner's Desk

Thank goodness it's over.

I'm talking about elections, not farming season....although that's been a long pull too.

This commentary is penned the day after elections, and I'm really tired of politics right now. This statement doesn't mean I'm not interested, or don't care, or don't continue to love the process of legislating and its importance to the citizens of this state and country....I'm just truly sick of the election process.

The simple fact that OVER A BILLION DOLLARS can be spent by candidates to win a presidential race is astounding. I wonder if it can possibly be worth it. It seems like that money might go a long way toward funding some of what ails this country, or at least the multitude of promises made by candidates. Add to this issue the problem of presidential politics becoming a two or three year process, and maybe my political fatigue is justified.

If you are asking yourself "self, what does this have to do with seed?" the answer is nothing. I just needed to vent for a moment.

Today may also mark the end of another long-drawn-out season. By the end of the week, if forecasts are correct, much

Ken Bertsch..... State Seed Commissioner  
 Steve Sebesta..... Deputy Seed Commissioner  
 Willem Schrage ..... 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

of the state may be under substantial, season-ending snow cover. There is still plenty of corn and soybeans standing throughout much of the eastern part of the state. Despite an answered-prayer for a frost-free fall, extensive rains have challenged corn, soybean and sugar beet growers to complete harvest. I've talked to dozens of growers who are just worn out from the length and stress of this production cycle, I hope it ends on a decent note. Best of luck to all in this position.

As for the seed side of the ag industry, most of the production should be harvested and stored awaiting the next steps in the process. My main concern this year is placement: high yields in the east and low yields in the west (drought related) mean logistical problems. We believe seed supplies are more than adequate, the trick will be moving the right varieties to the right places next spring. Despite the challenge of high input costs and the usual weather related problems, there seems to be some optimism going into 2009 for seed

producers of most crops we certify and test, including potatoes.

Lastly, after complaining about politics I can now do a 180-degree turn and (with enthusiasm) look forward to the upcoming state legislative session. I mentioned in an article some time ago an interim study of agriculture code, and how the Seed Department chapters would be under review during the 2007-2008 interim. The Interim Agriculture Committee has adjourned, but didn't have the time to complete its research and examination of all agriculture chapters, including ours. The committee will forward another resolution during the 2009 session to review the remaining agriculture chapters, and complete the re-write during the 2009-2010 interim. We look forward to participating in any discussions involving the seed industry during the session that begins January 6, 2009.

Hope to see many of you at upcoming industry meetings. Have a safe and profitable year end.

### ND Crop Improvement & Seed Association Annual Meeting Scheduled

Seed producers, conditioners and retailers are invited to attend the annual meeting of the North Dakota Crop Improvement and Seed Association, February 12 & 13 at the Doublewood Inn, Bismarck. The 2009 annual meeting will be held in conjunction with the Best of the Best in Wheat Research, conducted by NDSU Extension. The NDCISA morning agenda will include the usual business and committee meetings but will conclude in time for everyone to attend the Best of the Best meeting. Extension specialists will present the latest information on cultivar performance, production practices, pathology, entomology, and marketing. Everyone is encouraged to attend and get involved.



Mike Oosterwijk (L) and Willem Schrage.

### Oosterwijk Presented Service Award

The North Dakota State Seed Department is proud to recognize Mike Oosterwijk, potato inspection supervisor for thirty years of outstanding service to the North Dakota potato industry. Mike was presented a service award from Director of Potato Programs, Willem Schrage, during an informal gathering with neighbors and friends at the Forest River Cafe.

## Conditioner's Manual Completed

**Steve Sebesta**, Deputy Commissioner

The Seed Department recently completed production of a manual for seed conditioners approved to condition and handle field-inspected seed for certification. The manual brings together information from a number of different sources into a single publication and is intended to provide seed conditioners a simple resource about department policies, procedures and regulations and should assist conditioners in the seed certification process. While no manual of this type could ever be considered complete, it does cover a significant part of the certified seed business conditioners need to know to properly operate within the rules.

One of our goals during this project was to ensure we met our customers' needs. So, to further improve the product we solicited customer review. A draft of the manual was distributed to a small group of seed conditioners representing diverse range in size, type of facility, and crops conditioned. We appreciate the contributions of the following businesses to this project.

Bottineau Farmers Elevator, Bottineau	Custom Grain Cleaning, Langdon
Gartner Seed Farm, Mandan	Hamre Seed Cleaning, Inc, Starkweather
Harlow Coop Elevator and Seed Co, Leeds	Howe Seed Farm, Casselton
Miller Grain and Cleaning Service, Donnybrook	Missouri West Seed Conditioning, Dickinson
NDSU Agronomy Seed Farm, Casselton	NDSU Carrington REC, Carrington
Northern Tier Seed Company, LLC, Thompson	O'Toole Farm Seed Company, Crystal
Peltz Grain Cleaning, Bismarck	Souris River Coop Seed Plant, Newburg
Sunprairie Grain – Main Plant, Minot	Birdsall Grain and Seed, LLC, Berthold
Jim Swanson, Fargo	Issendorf Brothers, Newburg

Manuals were distributed to all North Dakota approved conditioners who attended the MonDak Seed Conditioner's Clinic in November. If you were unable to attend that meeting, you are welcome to pick your copy up at the Seed Department office in Fargo. Otherwise, manuals will be distributed later.

## Dome Test (Bean Bacterial Blight) Results

**Jeff Prischmann**, Diagnostic Lab Manager

The bacterial blight test, known as the dome test, has been used by the department for a number of years to detect bacterial blight in dry edible beans. The dome test provides a blight rating score to each sample, permitting an easy comparison of seed lots. Lower dome scores equate to lower amounts of blight in the seed. Dome scores of four or less are considered acceptable for certification.

The dome test actually measures the symptoms of blight, in the form of water-soaked lesions, on the undersides of primary bean leaves. These results are calculated on the basis of the number of water-lesion spots observed on the primary leaves of 13-day-old plants. This lesion number corresponds to the average area of the leaf surface covered by water-lesion spots from the test and to a dome score.

A sample with a dome score of 4 or less will pass the test. Any sample receiving a dome score of 5 or greater fails the test. It is important when submitting a sample for a dome test that sufficient seed is submitted. A minimum of 2-3 lbs. of seed is required for the test depending upon the type of bean. Please contact the department with any questions.



## Soil Testing in North Dakota for Potato Exports

**Willem Schrage**, Director, Potato Programs

The USDA/APHIS has made funds available again this year to test fields for potato cyst nematodes. Because Canadian import requirements specify that fields must have a negative test, there was interest among the industry to have fields sampled. In North Dakota, APHIS decided to manage the soil sampling for potato cyst nematode this year. Washing soil samples was to be done in Idaho, just like last year. APHIS purchased mechanical samplers and hired a contractor from Montana to collect the samples. Sampling requests from growers were prioritized as they came in. Fields identified for potential export to Canada were the top priority.

APHIS has been consistent in their quest to detect a low population of the cyst nematode. Their preference was to collect large samples from fewer fields, rather than smaller samples from more fields or, e.g. piler dirt. This resulted in fewer samples taken, but with a greater certainty that a negative sample indicated that a field could be considered free from the nematode. Just before starting the sampling in North Dakota, APHIS received advice from an international panel of

experts that a one-pound sample of soil per acre was not sufficient. Therefore, APHIS decided to increase the sample size to five pounds per acre. It was also decided that the sampling would concentrate on Priority One requests. On November 3 the sampling of those fields was nearly finished.

Because the collection of seed samples for the Florida winter test coincided with the collection of the soil samples, APHIS placed a container at the Grafton office. It worked well, because it created more space so that drying of the soil did not interfere with the preparation of winter test samples. However, since the container is a closed environment, not conducive to good drying, some of the samples were not dry enough when they arrived in Idaho. This resulted in some testing delays.

The large samples have created a surplus of soil that, according to procedure, must go to a landfill. There is little interest in Idaho to continue filling their landfills with soil from out of state so next year we may have to look at another facility to do the soil testing. There is hope that some APHIS funds will be available next year also.

# Regulatory Update

Joe Magnusson, Seed Regulatory Manager

The upcoming seed sales season is about to get under way and now is a good time to review some of the requirements for selling seed in North Dakota.

## Out-of-Date Seed Labels

Check your inventory. Most of the seed that was carried over will need to be retested for germination and new seed labels with current test date must be attached to the container. If you sell seed for another company (and the seed is labeled in that company's name) you may contact them concerning outdated seed labels. They may get samples of the outdated seed, retest the germ and supply you with new tags for the remainder of the lot. If they will not provide that service, you need to send a sample to our department, request a new germination test and then replace the tags with the current labeling information. Use the following chart to determine if the germination test is current:

Cereal grains, soybeans and edible beans .....	9 months excluding the month of test
Vegetable seed and native grasses .....	12 months excluding the month of test
Cool season lawn and turf grasses .....	15 months excluding the month of test
Interstate seed transactions .....	5 months excluding the month of test

## Seed Labeling Permit is Required to Sell Seed

Any person labeling seed in this state must obtain a permit before any sales are made. In the 2008 sales season we had over 200 certified seed growers who did not have a permit to sell seed. The department sent a permit application to these growers and have received 80 of these back. If you received an application and have not returned it to our office, please do so as soon as possible. If you are a new certified seed grower this year and plan to label seed in your name but do not have a permit, call the department and we will send you an application. There is no charge for the permit. This year we will be issuing a Stop Sale order on any seed if the labeler does not have a permit.

## Clean Your Bins

Thoroughly clean bins and handling equipment prior to moving clean seed. Examine the first few bushels on the bottom of the bin to be sure that you have not damaged or contaminated your seed with other crop seeds. Last year we had forty lots of certified seed that were out of tolerance with ND certification standards due to insufficient cleaning of bins and augers.

## Custom Seeders and PVP

We have received several complaints pertaining to custom seeders supplying uncertified seed of protected varieties to farmers. It is an infringement of the Plant Variety Protection Act and the ND Seed Laws and Regulations to sell, offer, deliver, exchange or transfer title or possession of seed of a protected variety without authorization from the owner of the variety. Most varieties of small grains planted in ND are protected under Title V of the Federal Seed Act and must be sold as a class of certified seed. Custom seeders will be held liable for damages for supplying and planting illegal seed of protected varieties. Also, the farmer that produces the crop from the illegal seed will be held liable for triple damages from the crop produced.

The following is an example of the costs that can be incurred from a "brown bag sale" of seed that normally carries a research fee of \$1.00.

**Seller:** Sold 1,000 bushels

Liability: \$3,000 plus attorney fees and court costs

**Buyer:** 1,000 bushels planted which produced 40,000 bushels gross.

Liability: \$120,000 plus attorney fees and court costs

There would also be additional fines assessed by our department for a PVP violation, labeling violations and others, which can carry a penalty up to \$5000 each.

PVP violations are serious and costly. If you have any questions concerning proper labeling or seed laws please call.

## Weathered and Shriveled Small Grain Seed

Mark Hafdahl, Seed Lab Manager

The summer of 2008 was not the best one for some small grain seed producers. There was a severe drought in some parts of the state and untimely rains during harvest in other parts. Both of these situations result in reduction of seed quality. I have received several calls wondering if these lots can be used for seed and what problems they might encounter. Seed vigor seems to be the number one question.

The germination test is performed under optimal, controlled conditions and therefore indicates the maximum emergence one could expect for both shriveled and weathered seed. There isn't a vigor test for small grains that provides useful information.

The shriveled seed observed in samples so far hasn't been terrible. If one has concerns about field performance, I would recommend some type of seed treatment to protect the seed and seedling as it begins to emerge. Don't plant questionable seed lots too deeply and if possible, delay planting until the soil warms or at least a predicted sunny and warm week ahead. These tactics might improve field germination and emergence.

The care of weathered seed lots is a little different. If the seed had begun to germinate in the field the storability could be reduced even if it had not broken the seed coat. I recommend conducting a germination test in the spring prior to planting. The germ may have dropped over the winter. If the germ has dropped 10 to 15%, the lot might be very weak and one should consider acquiring other seed. I also recommend seed treatment and planting in warm soil for weathered seed. Contact your chemical rep for seed treatment recommendations.

The lab is ready to test your samples. Generally, we keep up pretty well with the workload, but by March the volume of samples is greatest and delays can occur. I encourage you to submit samples early to avoid the spring rush.

(**Certified Seed** continued from page 1)

by NDSU Extension, grain losses due to wild oats, field bindweed and foxtail (green and yellow) exceeds 40 million bushels in hard red spring wheat, durum and barley. (NDSU Extension publication ER-83). At today's market prices, the economic impact of such losses is staggering.

Seed certification provides an additional level of purity above state seed laws. Some studies have shown, in the case for wild oat competition in wheat that 48 wild oats/m<sup>2</sup> (approximately 10ft<sup>2</sup>) significantly reduced wheat yield, and losses increased with increasing density above that level. According to North Dakota certification standards, the maximum allowable objectionable weed seed would equate to about 0.018 /m<sup>2</sup>. Most seed lots are well below that. That means pure, certified seed is helping to eliminate the problems caused by weeds.

Proper conditioning is always important to remove inert matter as well as weed seeds. Less inert matter means more plants per acre and easier harvest. Seed is sized to remove small, less vigorous seed or seed that is diseased. This improves plantability, resulting in more uniform stands. More vigorous seed results in quicker emergence, better stand establishment which also means better weed competition. An additional benefit is more uniform maturity. In some crops, uniform flowering and maturity are important for optimum timing of fungicide and insecticide applications. Uniform maturity also means easier harvest and reduced drying costs.

### **Disease tested**

In some crops certified seed standards include field inspections and lab tests to check for certain seed-borne diseases that are impossible to control otherwise. Anthracnose and blight in edible beans and Ascochyta blight in chickpeas and lentils can cause significant yield losses. Certification standards help to reduce the spread of disease in the field, minimizes the problem of alternate hosts and also reduces overwintering sites for susceptible crops subsequently planted on the same field.

### **Legal concerns**

The purchase of certified seed helps assure the customer that the seed meets the legal requirements of state and federal seed laws. Audits of grower records provided with the application, field inspection, proper conditioning by an approved seed plant, lab testing and final certification provide the customer assurance that certified seed has been produced and handled in such a manner as to protect the varietal identity and purity of the crop. These procedures were established to meet Federal Seed Act standards. Certified seed is properly labeled. It provides a mechanism for variety owners to recover research fees. It meets state and federal seed standards. It means the seed complies with PVP laws. It keeps everybody legal!

### **Success begins with high quality certified seed**

These are just a few of the reasons you should promote the use of North Dakota certified seed. Use them when you call on your customers this winter. Certified seed is the best value in agriculture. Help your customers maximize their profit potential and help promote your customer-dealer relationship.

## **Field Pea Variety Identification Testing**

*Jeff Prischmann, Diagnostic Lab Manager*

Field pea has become an important crop in the state. Physical seed characteristics of some varieties are very similar which can make it difficult to distinguish between varieties. Also, environmental conditions may bleach seed color giving them the appearance of other varieties. This can be true in the case of some green seeded varieties that may bleach and take on the appearance of yellow seeded varieties. In addition, immature yellow seeded varieties may appear to be green. These conditions can make distinguishing field pea varieties difficult. Over the past year, the Diagnostic Lab at the North Dakota State Seed Department has begun conducting variety identification testing of field pea varieties using a DNA based test. This test uses PCR (polymerase chain reaction) in combination with specific field pea markers that plant breeders and other researchers have developed. PCR products are then visualized using gel electrophoresis.

The Diagnostic Lab is currently able to test for over 50 field pea varieties including several yellow, green, and some forage type varieties. Field pea samples are first screened with a group of available field pea markers to determine if differences are observed in comparison to a control sample. This initial screening is usually conducted on a bulk seed sample. If the initial marker screen is unable to identify any other varieties present, then the sample is likely to be highly pure and correctly labeled or identified as to variety. If markers are identified that show differences between the sample and the control, individuals from the sample can be tested further to determine exact percentages of mixtures.

Customers interested in this test should submit a 100g sample and request a variety identification test. Depending upon the sample, an initial marker screen will be conducted to determine if any problems exist with the sample. If a problem is identified, then further testing would be required to determine mixtures and the identity of the mixture components. Any sample information the customer can provide the lab regarding the sample is important. This information helps narrow the possible varieties for the unknown sample and gives the lab a starting point. Contact the department with any further questions on this test.

## North Dakota State Seed Department

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Permit No. 229

# NDSSD Calendar

- Dec. 31**..... Application deadline for Non-resident Seed Dealers License
- Jan. 6-7** ..... Lake Region Extension Roundup, Devils Lake
- Jan. 18-20** ..... ND Grain Dealers Association Annual Meeting, Holiday Inn, Fargo
- Jan. 28-30** ..... KMOT Ag Expo, Minot
- Feb. 2-4** ..... National Hard Spring Wheat Show, International Inn, Minot
- Feb. 12-13** ..... ND Crop Improvement and Seed Association Annual Meeting, Doublewood Inn, Bismarck
- Feb. 13** ..... Best of the Best in Wheat Research, Bismarck