



The North Dakota Seed Journal

SEPTEMBER 2004

Newsletter of the North Dakota State Seed Department

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Cold Temperatures Cause Problems

Mark Hafdahl, Seed Lab Manager

The weather during this year's growing season has, and may yet present some problems for seed growers. This spring's extended period of cool weather caused some emergence problems in some fields and slowed the development of warm season row crops such as corn, soybeans and edible beans.

Many areas of ND and MN experienced a frost the last week of August, which could affect seed quality. Usually freeze damage doesn't manifest itself right away.

Germination tests on freeze-damaged seed conducted shortly after harvest may not indicate a problem, but over time the damaged tissue deteriorates, resulting in lower germination. The vigor of damaged seed may also be reduced.

If you suspect freeze damage I recommend two courses of action

to determine the true quality of the seed lot. First, wait until at least December before getting a final germination test. Second, get an accelerated aging (AA) test to determine the vigor of the seed. High vigor seed will have an accelerated aging score that is within 15 percentage points of the germination value. AA scores that deviate from the germination score by more than 15% indicate reduced vigor that may contribute to germination and emergence problems, especially if that seed is planted in cool, wet soil. The AA test, which includes the germination test, costs \$17.50. That's cheap insurance that could prevent stand losses next year.

If you have any questions about seed quality testing please call me at 701-231-5420.

Soybean Growers...

Final soybean field inspections will be underway soon. Make certain your fields are ready. Have isolation strips in place and rogue all nightshade plants before the inspector arrives.

Make sure your increase fields have been inspected BEFORE combining.

Our inspections include checks for hilum color, pod color and pubescence color to determine varietal purity. Obviously, we can't determine these traits if the crop is in the bin.

FIELDS COMBINED BEFORE FINAL FIELD INSPECTION WILL BE REJECTED.

If you are ready to harvest and you have not received verification that the final field inspection has been completed call the Seed Department at 701-231-5400. We'll try to get an inspector out to you as quickly as possible. Please keep in mind, though, that with the large number of fields we have to inspect this year and the geographic area we cover, response time may be delayed depending on the location of our inspectors. Plan ahead to avoid harvest delays.

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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From the Commissioner's Desk

Fearless predictions for the 2004 crop year: March/April, cooler and drier than normal. June, cold. July, enough heat and moisture to make us believe we have a chance to bring soybeans and corn to maturity. Cereal crops look great; row crops have us worried.

So much for the tongue-in-cheek predictions. This growing season seems to have something for everyone, is as variable as normal (whatever that is), and causes us to wonder if the next curveball might be an early frost. Let's hope not.

I spent part of last week at the North Central Seed Trade meeting in Sioux Falls, with a variety of people from the seed industry throughout our region. It was a nice opportunity to hear presentations on interesting topics and visit with individuals from throughout the industry for a few days. One of the presenters was Dr. Jay Lehr, who is a nationally recognized speaker on agricultural issues, along with having a professional resume a few pages in length. Dr. Lehr discussed a program called Fertile Minds that is designed to help people interested in agriculture promote our industry to the non-ag public in a positive and factual way.

- Ken Bertsch State Seed Commissioner
- Steve Sebesta Director, Field Seed Program
- Steve Marquardt Director, Potato Program
- James Swanson Seed Regulatory Manager
- Joe Magnusson Seed Certification Manager
- Mark Hafdahl Seed Laboratory Manager
- Jeff Prischmann Diagnostic Laboratory Manager
- Kris Nicklay Administrative Officer
- Galen Briese Field Seed Specialist
- Mike Oostewijk Potato Program Supervisor

This is an abbreviated snapshot of Dr. Lehr and his talk, but I'm hurrying to the point. When talking of industrial advancements over time, Dr. Lehr made the comment: **"When we went from the Stone Age to the Iron Age, do you think it's because we ran out of stones?"** Dr. Lehr used the comment to show how our society often sees the evolution of man's technical ability as a hazard rather than a benefit to our overall well-being (ex. fossil fuel usage = hole in the ozone).

Not to minimize environmental concerns, but I immediately thought how technical advancements are often greeted with distrust or fear. I have discussed many times in this publication the potential of technology in agriculture, especially in seed. While some believe that dangers lurk with science (technology = overproduction or contamination), I prefer to think about how technology might help feed people, or replace scarce, non-renewable resources with plant-based sources.

Maybe even to extract medicines from plants.

While some believe that a wandering mind is a dangerous thing, I would encourage you to let yours go on this particular comment. Think about whether we develop new methods and tools because we run out of the old ones, or because the new ones improve our existence. Wonder how many times the predictions of dire consequences have actually occurred, or if we have done better for a hungry world with tractors rather than horses. Question whether "high tech" equals "problematic", "dangerous" or "unhealthy."

With that said, let's hope that this year and this crop finishes better than it started. By the time you read this, I predict harvest is well underway or near complete, and that the journey has been safe and bountiful. Best wishes to you on the "prediction."

Clearfield® Wheat Tolerance Testing

Jeff Prischmann, Diagnostic Lab Manager

The North Dakota State Seed Department Seed Lab is again offering the Clearfield® wheat tolerance test as required by BASF for growers of Clearfield® Winter Wheat. Our seed lab is BASF-certified and this will be the third year that we are offering the test.

Clearfield® winter wheat is a non-genetically modified wheat with high tolerance to imidazolinone herbicides. This tolerance provides new post-emergence weed control options in wheat for some previously uncontrolled weeds. Clearfield® winter wheat has been grown since 2002 in the central and southern plains. White winter wheat varieties have also been developed and are being grown in the Pacific Northwest.

In 2000, the North Dakota State Seed Department began working with BASF on the development of a standardized bioassay tolerance test that could be used to ensure the consistency of the Clearfield® winter wheat seed produced. For further information, please contact the department.

Seed Storage Guidelines

Kenneth Hellevang, Ph.D., Professor, Extension Engineer

It is very important for seed to be stored at cooler temperatures and at acceptable storage moisture contents to maintain germination. The germ of the seed is normally affected by mold growth, but germination will be damaged **before** mold growth is visible. The germination of wheat can be affected within weeks if stored damp and warm.

The allowable storage time is approximately cut in half with each percentage point of moisture content increase or with each ten degree increase in grain temperature.

Wheat seed germination may be reduced during a few months storage at moisture contents exceeding 13% and temperatures of 70F or warmer. Normally, the allowable storage time for commercial grain storage is based on a 0.5% dry matter loss. Significant amounts of visible mold growth are not normally expected during these allowable storage times, but germination can be damaged.

It is very important that seed be cooled using aeration and for it to be dried to recommended long-term storage moisture contents to maintain germination.

Estimated Safe Storage Period (weeks)

Criterion: Germination

Grain	Temperature (F)	Moisture Content (%)						
		12	13	14	15	16	17	18
Barley	68	80	50	32	19	10	5	2
	59	170	100	65	40	20	10	4
	50	400	260	160	90	50	21	8
Wheat	68	55	40	23	16	10	5	2
	59	100	75	40	25	16	9	4
	50	200	140	77	49	29	15	8

Estimated Safe Storage Period (weeks)

Criterion: Visible Mold Growth

Grain	Temperature (F)	Moisture Content (%)						
		12	13	14	15	16	17	18
Cereal	68	*	*	*	*	100	20	10
Grain	59	*	*	*	*	*	30	20
	50	*	*	*	*	*	60	30

* Exceeds 100 weeks

Other Crop Check or Purity Analysis. Which is better?

Joe Magnusson, Certification Manager

If you are concerned that your unconditioned, field inspected seed may have become contaminated with other crop seed you should submit a representative sample of the bin for an "other crop check." The laboratory will examine one pound of this seed and only report the number of "other crop" contaminants on the seed analysis report.

A purity analysis indicates the total **percentage** of other crop seed, weed seed and inert matter that is in your seed lot. A purity analysis will not give you any information on the **number** of other crop or weed seeds that are in your sample.

Another concern growers have is wild oats in oat seed. Other test options available are to submit a sample of unconditioned seed for a "weed check" or "wild oat check." The lab will again examine one pound and only report the number of weeds or wild oats in the sample.

These tests will help you determine if the seed lot is worth the expense of conditioning for final certification.



2004 Annual Regulatory Report

For Fiscal Period Ending June 30, 2004

James E. Swanson, Regulatory Manager

Seed Labeling Requirements

All seed exposed, offered or transported for sale to the public must be properly and truthfully labeled and represented. The Seed Labeling Fee Permit system requires that any person or business that labels seed must have a permit, report seed sales and submit a fee annually to the State Seed Department. Seed labeling fee reports are due back in the department's office 31 days after the end of the reporting period, i.e. August 1. Anyone not reporting by the due date will be assessed a late filing fee whether a balance is due or not. Approximately 1,500 permits are currently in place.

State Seed Arbitration Board

If a dispute between a seed labeler and a seed customer occurs, a petition may be made to the state agriculture commissioner to arbitrate the dispute before the State Seed Arbitration Board. If the dispute is heard, the board will make a recommendation to the parties involved to resolve the dispute. If the parties involved do not accept the recommendation of the board, the parties can pursue resolution through a litigation process.

Cooperation With The Federal Seed Act

North Dakota, as well as all states, has a cooperative agreement with the Federal Seed Branch of the Agricultural Marketing Service, U.S.D.A. The department cooperates with the Federal Seed Branch enforcement authorities in regulatory matters pertaining to seed shipped in the state. All violations of interstate-shipped seed are reported to the Federal Seed Branch.

When seed is shipped or transported in interstate commerce, the labeling must comply with the rules and regulations under the Federal Seed Act and with the state into which the seed is delivered. If the U.S. Postal Service is used to advertise seed, those seed lots also must be truthfully advertised as required by the Federal Seed Act regulations.

Plant Variety Protection

Owners and developers of unique varieties of plants may apply for Plant Variety Protection on a variety they own. Protection may be granted in two ways.

1. **Protected** – owner retains exclusive control over the production and distribution of the protected variety – generations are unlimited.
2. **Protected – Title V Option** – owner specifies that variety can only be sold as a class of certified seed – owner determines the number of generations allowed.

Certain limitations apply to producers planting seed of a protected variety.

1. Producers can save seed for their own use.
2. Producers cannot sell seed of a protected variety without authorization of the owner (for Title V varieties, certification constitutes authorization).
3. Producers may not knowingly condition seed of a protected variety for unauthorized propagation.
4. Protection extends to harvested material grown from illegally acquired seed.

Inspection Report

The inspection staff, consisting of Dave Drechsel, Don Jablonsky, Ordean Jacobson, Don Pingree, Les Stuber and Tom Weippert drew 1,851 samples that were tested for germination and purity. Seed quality was generally excellent this past season which was borne out by the low violation rate. Of the samples tested, "Stop Sale" orders were issued on 15 samples that were found out of tolerance with the label claim. This is a very low violation rate in relation to the number of samples drawn (<1%).

Administrative action was taken, and fines and fees were assessed on the unauthorized sale of a variety for which a Certificate of Plant Variety Protection has been issued. The investigation followed a tip that a North Dakota elevator was selling seed of a protected variety under a different variety name.

Seed was sampled and tested and it was determined that seed being sold as 'Renville' durum, a non-protected variety that can be sold as common seed, was in fact either 'Lebsock' or 'Mountrail' durum, both of which are protected varieties and can only be sold as a class of certified seed.

Max Farmers Elevator of Max, North Dakota was fined a total of \$8,000 for violations of the Plant Variety Protection Act and North Dakota Seed Laws as follows:

- \$750 for violation of Sec. 4-09-14, 1-b-Seed not labeled according to the provisions of the Law
- \$750 for violation of Sec. 4-09-14, 1-f-Seed is offered by a variety name other than which it was originally known
- \$750 for violation of Sec. 4-09, 2-d-Failure to comply with a "Stop Sale" order
- \$750 for violation of Sec. 4-09-14, 2-g-Movement without authorization of seed held under a "Stop Sale" order
- \$5,000 for violation of Sec. 4-09-17.1-Plant Variety Protection Act

Other action is listed in the following table.

“Stop Sale” orders were issued on the following seed lots that were out of tolerance with the label claim

Name and Address of Vendor/ Labeler	Kind and Var. Lot#	Mislabeled as to	Claimed	Found
ADM Edible Bean Spec. Casselton, ND/ ADM, Reese, MI	Ensign Navy Bean A1015453084	Germination	90%	69%
Dakota Quality Grain, Parshall, ND/ Same	Cert. Robust Bly T-1	Germination	98%	88%
Dakota Quality Grain, Parshall, ND/ Same	Cert. Excel Bly 03-7-083843	Germination	89%	57%
Dakota Quality Grain, Parshall, ND/ Same	Cert. Robust Bly. T-9	Germination	98%	87%
Falkirk Farmers Elev, Washburn, ND/ Victoria Seed & Proc., Coleharbor, ND/	Cert. Knudson Wht AAKNSW3-FAL	Excess other crop Excess Inert	0.0% .05%	10.38% 1.314%
Goerger Seed & Supply, Mantador, ND/ Same	Cert Ebeltoft Oat 3953	Excess other crop	.00%	12 wht/lb
Hubbard Feed Inc., Bismarck, ND/ Discount Seeds, Watertown, SD	Golden German Millet 3486	Excess Weeds	1% allowed	1.17%
Satrom-Hiam Seed, Page, ND/ Same	Cert. Briggs Wht. SHSCBW03	Germination	97%	83%
Scranton Equity, Scranton, ND/ Tracy Schumacher, Scranton, ND	Cert. Dilse Durum 1	Excess Other Crop	.03%	.07%-3Bly, 4 Wht/lb.
Sunprairie Grain, Minot, ND/ Same	Pembina Flax 74	Excess Weeds	.09%	1.06%
Sunprairie Grain, Minot, and Webster/ Same	Flax 104	Germination	96%	74%
Tappen, Grain Co, Tappen ND/ Hubbard Feed, Bismarck, ND	Golden German Millet 2495	Germination	85%	37%
Tronson Grain Co., Tolna, ND Same	Cert. Alsen Wht.	Germination	96%	77%
Walhalla Fmrs. Grain Co. Walhalla, ND/ Same	Cert. Briggs Wht S0310831	Excess Other Crop	.00%	.06%, 6Bly/lb.
Walhalla Fmrs. Grain Co., Walhalla, ND Same	Cert. Robust Bly 878-7113249	Excess Other Crop	.02%	.58% 1 Wht 21 Soybean

A “Stop Sale” order was issued on the following lot due to a mixture of lots

Vendor-Agriliance,, Mantador, ND Labeler-Land’O Lakes, Ft. Dodge, IA Lots/MP32-100, 102, 107 & 108

‘Stop Sale’ orders were issued on the following seed lots with out-of-date labels

Name and Address of Vendor	Kind and Variety	Lot #
Agri Valley, Larimore, ND	Vernal Alfalfa	3078
Coop Elev of McClusky, McClusky, ND	Eagle Canola	none listed
Farmers Mill & Elev, Hankinson, ND	Multi-F-2 Alfalfa	7792
Farmers Mill & Elev, Hankinson, ND	Vernal Alfalfa	7770
J&G Landscaping, Emerado, ND	Boulevard Turf Mix	12828
J&G Landscaping, Emerado, ND	Exec. Shady Lawn Mix	12762
J&G Landscaping, Emerado, ND	Premium Sunny Mix	9-0317PS
Plains Gr & Agronomy, Enderlin, ND	A-1 Pasture Mix	12778
Plains Gr & Agronomy, Enderlin ND	Classic Lawn Mix	12759
Plains Gr. & Agronomy, Enderlin, ND	Legendary YPQ Alfalfa	N197-3
Plains Gr. & Agronomy, Sheldon, ND,	MP2000 Alfalfa	N231-3
Farmers Coop Elev. Co, Lidgerwood, ND	Classic Brand Lawn Mix	11441
Farmers Coop Elev. Co, Lidgerwood, ND	Elite Brand Lawn Mix	12761
Wheaton Dumont Elev, Fairmount, ND	AG0801 Soybean	5349EREMD
Wilbur Ellis Co, Minot, ND	Cert. Piper Sudan Grass	0312

Edible Bean Growers...

Two inspections are required on dry edible beans. The final inspection is primarily for blight and nightshade. Nightshade should be rogued prior to the inspector's arrival. If nightshade is found, the field will be rejected subject to re-inspection. Producers then have the option to rogue the nightshade and have the field re-inspected at a rate of \$25 per hour, so it is best to check your fields and rogue before the inspector arrives.

Make certain your fields have been inspected before knifing. Any field harvested before the final inspection will be rejected.

If you are ready to harvest and you have not received verification that the final field inspection has been completed call your inspector or the Seed Department at 231-5400.

Carry-over Seed Report Due October 1

Unconditioned carry-over seed produced in 2003 must be reported by October 1 in order to be listed in the 2005 Seed Directory. Call the office if you did not receive a report form.

Many Thanks

Don Pingree and Les Stuber, two of our veteran inspectors, retired following the Regulatory inspection season. Les and Don also worked in the Field Seed Program as field inspectors for many years. The department wishes to extend our appreciation to these two inspectors for their significant contributions to the seed industry over the past years. They will be missed by both the department and the clients they served.



2004 Challenging for Seed Growers

Steve Sebesta, Director, Field Seed Program

To say that 2004 has been a difficult year for the region's seed producers is an obvious understatement. Excessive spring rain, late season snowstorms, drought and July frosts have provided many challenges for producers. According to statistics, more than 1.7 million acres of North Dakota farmland went unplanted in 2004. In spite of these adverse weather conditions, and a significant reduction

in wheat acres, applications for field inspection have actually exceeded our early-season expectations.

There has been a lot of interest in the last couple weeks in planting winter wheat on prevent-plant acres. There were more than 4,700 acres of winter wheat in certification this year and I expect a good supply of quality seed.

Barley acres, while down compared to the last two years, are nearly 12% higher than 2000's mark of 44,900 acres. Yield and quality look very good so far.

A decrease in wheat acres statewide and the increase in soybean acres in the eastern half of the state contributed to a reduction in field inspected acres overall. Wheat acres in certification are down approximately 30%, whereas soybean acres are up 60%. A review of our data indicates a significant cause for the reduction in wheat acres in certification was due to the large supply of the two principle varieties grown in 2003. Last year more than 94,000 acres of Alsen and Briggs were certified, nearly two-thirds of all the hard red spring wheat. This year they combine for about 37,000 acres, or about one-third of all HRSW acres. In my opinion this ratio is probably healthier for the wheat industry overall.

NDSU, SDSU and private companies are developing and releasing newer varieties that offer performance enhancements over older ones. The small grain crop in the region looks fantastic statewide and excellent yields are expected. Seed quality looks good also. Very little *Fusarium* head blight has been reported to date and weed control appears quite good despite wet weather.

While soybeans and corn have their niche, farmers need to pay close attention to maturities and production practices. Early planted soybeans did not germ or emerge well under cool soil temperatures. This year's cold, wet, growing season may catch a lot of producers short of the growing degree days needed to mature their row crops. Producers should not overlook the excellent performance of small grains the last two years.



Understanding Plant Variety Protection

Jim Swanson, Regulatory Manager

Producers, conditioners and labellers need to be aware of the limitations in place when handling seed of varieties that have a Certificate of Plant Variety Protection.

The Plant Variety Protection Act (PVPA) was passed in 1970 to provide developers of new varieties a simpler and less costly way to protect their proprietary rights. It was also meant to stimulate investment in development of self-pollinated crops such as wheat. PVPA also gives the seed producer reasonable and easy access to new genetics.

Variety owners have two options under the 1994 amendments:

1. **PVP 1994.** The variety owner maintains control through production and marketing agreements. Once a grower has produced a crop from authorized seed, that crop can be sold in the commercial market without restriction, but it cannot be sold for seeding purposes without authorization from the owner.
2. **PVP 1994 Title V.** Title V varieties can only be sold as a class of certified seed. In most cases, the certified status of the variety constitutes the right for the person in possession of the variety to market the variety as seed, providing it has met all certification requirements. One of the advantages of protecting a variety with the Title V provision is that if there is a violation of the Act, the resources of state and federal seed regulatory agencies are at the disposal of the variety's owner to help protect their proprietary rights. The certification requirement is also easier to monitor should a question of legality arise.

One of the basic elements of PVP is that if a producer acquires a protected variety by legal, authorized means, they have the right to grow a crop and save seed from that crop for their own use for an indefinite period of time. They are prohibited from selling any of that production for seeding purposes. Anyone who acquires grain from that original source is prohibited from converting that grain to seeding purposes.

Please note the Annual Regulatory Report on page 4. In that report you will find a case of an elevator in the state that purchased some grain of a protected variety as market grain, and subsequently converted it and sold the grain for seed. Not only was there a violation of the PVPA, but several sections of the North Dakota Seed Laws were also violated. As you can see by the report, this was a very costly venture. Any business or individual that becomes involved in this type of activity is putting themselves at risk of substantial fines and fees if found in violation of PVP, state or federal seed laws. In addition to regulatory action, the owner of the variety can also recover damages based on loss of revenue and associated costs of recovery.

The Seed Department lists protected plant varieties commonly grown in the state or region each year in the Seed Directory. **It is the responsibility of the buyer and seller of any seed product to determine the protection status of any variety they handle.**

Ascochyta Blight of Pulse Crops

Jeff Prischmann, Diagnostic Lab Manager

Ascochyta blight is an important disease of pulse crops such as chickpea, lentil, and field pea. In fact, some researchers consider ascochyta blight to be the most important disease of chickpeas worldwide. The fungus *Ascochyta rabiei* causes ascochyta blight in chickpea. This organism is capable of infecting all above ground portions of chickpea plants including stems, leaves, pods and seed. Most chickpea ascochyta is spread by infected seed. For this reason, conducting a laboratory test for the presence of ascochyta is extremely important for chickpea seed.

Our department offers a 500 seed test for the presence of ascochyta in chickpea and other pulse crops including field pea and lentil. This test currently costs \$50 per sample. A 1000 seed ascochyta test is also available at \$80 per sample. Growers submitting samples for these tests need to send in sufficient seed. Lentils require 1/4 lb of seed while larger seeded crops such as chickpea require 1.5 lbs. for this test alone. Additional seed needs to be submitted for germination and purity tests.

A good source of information about pulse crop diseases is the Agriculture and Agri-Food Canada in the Saskatchewan pulse disease web page. http://paridss.usask.ca/specialcrop/pulse_diseases/index.html

North Dakota State Seed Department

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NDSSD Calendar

October 1 Carry-over Seed Report Due

Crop Improvement District Meetings Scheduled

December 6 Southwest District — Mandan
Seven Seas, 1:00-4:00 p.m.

December 7 Northwest District — Minot
International Inn, 9:00 a.m.-noon

December 10 ... Southeast District — Valley City
Eagles Club, 9:00 a.m.-noon

December 13 ... Northeast District — Lakota
Community Center, 9:00 a.m.-noon