



The North Dakota Seed Journal

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Newsletter of the North Dakota State Seed Department

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Some Final Thoughts

Jim Swanson, Regulatory Manager

As I prepare to write my final article for the Seed Journal, I approach this with a feeling of mixed emotions. As was reported in the last Journal, I will be retiring at the end of January, 2006. I want to take this opportunity to express my appreciation to every one involved in the seed industry for the support and consideration given to me and the staff I have worked with through the course of my tenure with NDSSD. It has given me the chance to become associated with some of the finest people in the state of North Dakota.

Being responsible for seed regulation does not always lend itself to the most

pleasant of situations, but for the most part, we have been able to work through those situations to the satisfaction of everyone. I want to express my appreciation to the inspection staff I have had the privilege of working with over the last fifteen years. They have been a group of dedicated people who have gone to great lengths to accommodate those that they regulate and help them comply with the laws and regulations. I want to thank my co-workers, past and present, for the opportunity to work with them over the course of time. The staff at NDSSD are some of the most dedicated, professional, and knowledgeable people that

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Let's Roast Him...



Jim Swanson

As most of you know by now, Jim Swanson plans to retire the end of January 2006. Jim has served as Regulatory Manager at the department since 1990 and during that time he has actively promoted plant variety protection and state seed laws. He has also been an integral part of the Field Seed team, assisting with field inspections and conditioning plant inspections and has been a valuable resource for the seed industry in North Dakota.

Therefore, it is only fitting that we roast (or toast) Jim as he deserves. An open house will be held at the State Seed Department office 1313 18th Street North, Fargo on Friday, January 20, 2006 from 2 to 4 pm. The public is invited to join us in wishing Jim a happy retirement.



From the Commissioner's Desk

When my son was just a little guy, he was a big fan of the "Ghostbusters" movie, and anything related; action figures and the like. He watched that movie dozens of times, meaning his dad did too. In a scene about the oncoming plague of ghosts on the city, Bill Murray delivers a line that says, in part "...cats and dogs living together, mass hysteria..." among other phrases describing the nearing apocalypse.

You're asking yourself, "self, where is he going with this?"

Whenever I look across the landscape of our industry and see major change-events occur, I always think of the movie line. I thought last year's August frost might be a change-event, one that would remind us we live in North Dakota, not Iowa, and lead to a return to production of shorter season crops. It seems I was mistaken; we're still surrounded by corn and soybean in this corner of the state.

Maybe I'm overreacting again. Maybe the return of fusarium problems in barley, durum and spring wheat isn't a big deal. Maybe hurricanes destroying

shipping and refining infrastructure is just another short-term problem to overcome. Maybe fuel will be back down to \$1.50 and nitrogen \$250/ton by spring. Maybe neither event is that important. Yeah, right.

Granted, most people are in the post-harvest evaluation-soul searching mode right now, and the negative factors may normalize to some extent by spring. Raising small grains with increased risk of disease isn't very appealing right now when calculating fertilizer and fuel costs. Corn? Care to roll the dice on fertilizing for max-yield and drying a wet crop? Point is; this year's events have rattled the planting and production trend that has been moving toward corn/beans and away from the historical small grain/oilseed complex. Currently, most everyone seems a bit confused as to the proper direction to take.

If the current situation is indicative of trend shift, a couple of things seem clear to me: The fuel emergency situation will alter the planted acreages of the most prevalent crops, and the

cropping systems used to produce them. No-till and minimum till should expand; anything involving increased usage of fuel will receive a lot of scrutiny. Soybean acres probably continue to increase out of sheer necessity.

Second, the fuel/scab factors will increase the support for development of biotech seeds, useful for production under minimal till systems and/or capable of combating disease. We are already seeing the renewal of pressure to deliver seed varieties resistant to disease that has cost the state billions over the past decade. Varietal improvement through conventional breeding will plateau at some point; non-conventional technologies may be the only way to improve the situation for production of crops suitable to this state. Clearly, something needs to change.

Perhaps this is short-term "mass hysteria." We'll see.

- Ken Bertsch State Seed Commissioner
- Steve Sebesta Deputy Seed Commissioner
- 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 Oosterwijk Potato Program Supervisor

Reminder...

Selling seed of a protected variety into Canada? Consider this.

According to section 111, Chapter 11 of the Plant Variety Protection Act, it is illegal to "import the variety into, or export it from, the United States." **This means it is illegal to sell seed of a protected variety into Canada without permission from the variety owner.** Seed producers need to check with variety owners to determine whether they will permit the sale of seed to a Canadian buyer. In some cases a licensing agreement governing the movement and sale of a variety may exist. Therefore, any seed that is sold into Canada must be sold to a licensee. Your best protection is to call the variety owner.

Pulse Crop Ascochyta Blight

Jeff Prischmann, Diagnostic Lab Manager

The disease known as Ascochyta blight can be a serious problem in pulse crops such as chickpea, lentil, and field pea. Ascochyta blight is transmitted by seed and can be spread by infected plant residue blown into a field. Ascochyta blight is pulse crop specific meaning that lentil Ascochyta blight will only infect lentil and not chickpea, field pea, or other pulse crops. The same is true for chickpea and lentil Ascochyta blight. There are similarities in the symptoms of Ascochyta blight on pulse crops, but controlling this disease varies among crop types.

Lentil Ascochyta Blight

Symptoms of Ascochyta blight on lentils can occur on leaves, pods, and stems as white to tan spots with a darker outside margin. The centers of these lesions can be speckled with the black fruiting bodies which contain spores of the fungus. Infected seed can be discolored with a brownish color. Moist weather is conducive to the development and spread of the disease. Ascochyta blight can cause yield losses of 30-50% in susceptible varieties.



Ascochyta in lentil

Effective control measures include planting disease free-seed, adequate crop rotation, application of fungicides, and using resistant varieties. A seed test is required for labeling.

Chickpea Ascochyta Blight

Ascochyta blight can affect all above ground portions of chickpea plants. This disease can be very devastating in chickpea as it can spread very quickly and can cause significant yield losses. Relatively low seed infection levels can cause serious problems in the field. Symptoms on chickpea include the development of dark, sunken lesions which contain rings on the outer margin. Spores are often present in these lesions. Cool, moist weather conditions favor development of Ascochyta blight. However, spore production can occur under relatively dry conditions providing inoculum for rain splash secondary infections. The best control measures for Ascochyta blight in chickpea are to use disease-free seed, plant resistant varieties, and use adequate crop rotation. A seed test is required for labeling.



Ascochyta in chickpea

Field Pea Ascochyta Blight

Field pea can be infected by more than one species of the fungus. All above-ground portions of pea plants can be susceptible to this disease. Symptoms on peas include the development of purplish black to brown spots or lesions on stems, leaves, and pods. Black spore-producing structures may form on these lesions. Pod lesions may become sunken. The fungus can over-winter in seed, infected crop residue, and in the soil. The best control measures are crop rotation and using disease-free seed.

Testing

The Seed Department currently conducts seed tests for Ascochyta blight in lentil, field pea, and chickpea. Results of this test are reported as percent infected seed of 500 seed tested. This test is typically completed in 8-10 days and requires varying amounts of seed depending upon the crop. Small seeded types such as lentil require a minimum of 75g while larger seeded types such as chickpea or field pea require a minimum of 250g of seed. Chickpea samples can also be tested for Ascochyta blight using 1,000 seed. Please contact the department for any questions regarding testing.

You're invited...

The North Dakota Crop Improvement and Seed Association 2006 annual meeting will be held at the International Inn, Minot on February 8 and 9. We hope to see you there.

Bean Anthracnose

Jeff Prischmann, Diagnostic Lab Manager

Bean anthracnose remains a concern for edible bean seed producers in North Dakota. Many bean-growing areas of the state experienced weather conditions during the 2005 growing season that were favorable for development of the disease. The department has taken measures to insure certified bean seed produced in North Dakota is free of this pathogen by requiring all certified seed to be lab tested for bean anthracnose.

Bean anthracnose is a serious bean disease that can be devastating at very low infection levels. This pathogen is seed borne and can easily be spread by planting infected seed. Other important means of spreading this disease include the spread of spores by rain splash, animals, and wind blown plant debris.

The best control measures for anthracnose are to plant certified seed that has been field inspected and lab tested, use of good management practices, and avoid planting bin run seed.

The diagnostic lab performs the bean anthracnose test on a 1,000 seed sample. This requires the individual to submit a 2 pound sample of seed for testing. Some tests for blight can be performed at the same time as an anthracnose test. Submit at least 3 pounds of seed for a Dome test and Anthracnose test. For these tests, a good representative sample of the seed lot is important, as very low levels of anthracnose are a serious problem. The bean anthracnose test is a pass or fail test. **Any amount of anthracnose found in the sample will result in a failed test.** Please contact the department for further information.



Anthracnose on bean pods



Anthracnose on bean seed

Conditioner's Clinic Held in Fargo



The 2005 Seed Conditioner's Clinic was held in Fargo November 8 and 9. It has been a number of years since we have hosted a conditioner's clinic and, therefore, it was well overdue. A quick post mortem says the clinic was a success. The last tally showed we had over 130 conditioners and 34 representatives from major equipment manufacturers and suppliers. The clinic focused on Plant Variety Protection and seed laws, seed sampling and labeling issues, certification requirements pertinent to conditioners and principles of seed conditioning equipment.

Featured speakers included:

- Francis Serr, EBM Mill and Elevator Supply, Norfolk, NE
- Geoff Rudesill, Westrup, Inc, Plano, TX
- Ron Purvis, Bratney Companies, Minneapolis
- Dave Knudsen, Oliver Manufacturing, Rocky Ford, CO
- Lance Perry, Camas International, Pocatello, ID

The Seed Department wishes to thank these individuals for their efforts in promoting quality seed.

Jim Swanson and Joe Magnusson also made presentations during the clinic. Additional educational opportunities were provided by Mark Hafdahl, Jeff Prischmann and their respective staffs who exhibited test samples of some of the more common tests performed at the department's labs.

Thanks to everyone who helped make the clinic a success.

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can be found in the seed industry. They are a treasure to North Dakota and it has been an honor for me to be a part of that group.

Transformation of the seed industry

Since I began my duties as manager of the Seed Regulatory Program in 1990, I have seen a large transformation in the seed industry in terms of participation, volume, products handled, size and types of seed operations, product mix, use of technology, improved genetics, production skills, etc. Although the number of growers has dropped from 775 to 630 in the last fifteen years, we have seen certification acres go from less than 200,000 acres to more than 350,000 acres. Certified bushels have increased from 4 million plus, to well over 7 million. We have seen the use of certified seed as a percentage of planted acres go from single digit percentages to over 40 percent of planted acres for some crops. Approved seed conditioners have increased from about 125 to 175, but more significantly, volume capacity has increased many-fold. Mobile conditioners have increased from a dozen to over 40. Mobile conditioners have evolved from basic small capacity two mill machines to sophisticated large capacity machines using the most modern technology and equipment available.

We have seen several new stationary conditioning plants established with high capacity and the ability to handle a wide variety of crops with the efficiency and gentleness required for handling fragile seed products.

The basic tenet of seed regulation is to protect the interest of the consumer.

As the seed industry has matured, so has the focus of seed regulation. We have tried to respond to the needs of

the seed industry, as well as maintain the integrity of the product for the benefit of the consumer. We have expanded seed regulation by emphasizing training and education as a part of our focus for both the consumer and the industry. Plant Variety Protection has become an integral part of seed production and the limitations on marketing and movement of seed under PVP restrictions has created an enormous task in educating the consuming public on those limitations. In some instances, the lessons learned have been quite painful. We continue to strive to create awareness for the public so some of these types of pitfalls can be avoided.

Increased efforts yield benefits

We have increased the number of regulatory samples drawn, from about 1000 samples to about 1800. We have increased the number of inspection staff from three to five. More importantly, we have incorporated training in seed labeling and handling as a part of our inspection process. The fruits of these efforts can be measured by the continuing reduction in the number of samples that have been found out of tolerance with the label claim. While more is not always better, as the industry grows, so are the demands on related services such as seed certification and regulation. NDSSD will continue to respond to the needs of the consumer and industry as conditions warrant.

As the torch is passed to a new person, I encourage everyone to give that person the full cooperation and consideration that I have received for the last fifteen plus years. It has been a distinct pleasure to serve the residents and the industry in this state and I hope to maintain the many contacts and friendships I have had the privilege to develop while at NDSSD.

Seed Quality Observations

Mark Hafdahl, Seed Lab manager

It sounds like a broken record but scab is here again this year. While there are some pockets of the state that have escaped the impact of *Fusarium*, most of the eastern two-thirds of the state has been impacted. Germination on the scabby seed is as low as 70% on uncleaned wheat, and uncleaned durum seed from same areas is as low as 50%. Barley germs are generally in the 90s. The use of gravity tables will be necessary to clean this year's wheat and durum. The cleanout might be as high as 40% based on what I have seen so far this year.

Soybean, field pea, edible beans, flax and lentil did well this year. Final germinations of these crops is expected to be well into the 90s. Some mechanical damage due to rough handling of low moisture seed has been observed in some samples. When conditioning large seeded legumes this winter remember that a frozen seed is just as brittle as a dry one.

*Seasons Greetings
from the North Dakota State Seed Department*

North Dakota State Seed Department

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NDSSD Calendar

Jan. 4-5 Lake Region Extension Roundup, Devils Lake

Jan. 9-10 ND Grain Growers & Durum Forum, Bismarck

Jan. 15-17 ... ND Grain Dealers Association, Fargo

Jan. 18 Market Place, Fargo

Jan. 20 Bean Day, Fargo

Jan. 20 Jim Swanson Retirement Roast, NDSSD Office,
Fargo

Jan. 25-27 ... KMOT Ag Expo, Minot

Feb. 8-9 ND Crop Improvement Annual Meeting, Minot