



The North Dakota Seed Journal

DECEMBER 2007

Newsletter of the North Dakota State Seed Department

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Rhonda Rabideaux on Lake Okeechobee, October 2007

Our Sincere Thanks!

Many of you are aware that one of our team members, Rhonda Rabideaux, has been battling cancer for the past year. During that time, she steadfastly and courageously continued to work nearly every day except for treatment days. Late this summer we learned that it has always been a dream of hers to go bass fishing on Lake Okeechobee in Florida. We also learned that Rhonda is a big fan of professional angler Roland Martin. In September, the department decided to make that dream a reality and quietly launched a campaign to raise funds to send Rhonda to Florida for a bass fishing excursion.

We were all astonished at the response we received from our business partners and co-workers that donated to the cause. In a little over a month, they donated nearly \$10,000, enough to send Rhonda and three family members on an all-expense-paid trip of a lifetime. It was especially rewarding that Rhonda's 11 year-old granddaughter, Aubrey, was able to join in. In mid October, Rhonda, along with her fiancé Kim, daughter Amy and Aubrey flew to Ft Lauderdale and spent five days at Roland and Mary Ann Martin's Marina & Resort at Clewiston.

The Seed Department, Rhonda and her family want to thank everyone who contributed to make this dream come true. Your generosity was overwhelming, and re-affirmed our belief in the goodness of the people of this region. Rhonda truly appreciates hearing from all of you, so give her a call.

Thanks again!

North Dakota State

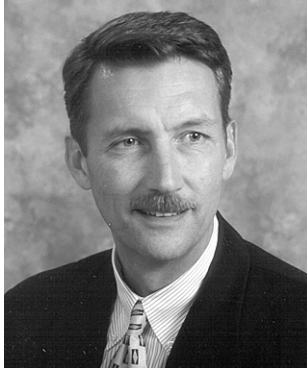
NDSSD

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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Seasons Greetings
 from the North Dakota State Seed Department



From the Commissioner's Desk

In a perfect world, every bushel of certified seed produced sells... at a premium. The perfect world has achieved harmony, where seed growers have produced the exact amount of the right varieties to meet demand, and everyone is happy and content. Nobody in the perfect world plants bin run seed, because plenty of good quality certified seed is available at a fair price... and every farmer knows the value of planting certified seed.

In a perfect world the boys are handsome, the girls are pretty, and big fish always bite. Farmers know they can't get protected varieties from their neighbor, and have booked seed after selling their crops for always present high prices. In a perfect world, your ideal crop rotation is always matched by great futures prices.

Enough fantasy. The reality is that, by spring, much of next year's cereal seed supply may already have disappeared in some fashion. This is a fine thing as long as the grower has received some sort of premium, and that commodity producers have planned appropriately by booking seed.

This article is really more about commodity producers than seedsmen; less related to your inventory management skill than the capacity of seed buyers to preplan in a highly unusual price environment. We have to face a hard truth: many farmers will sell everything out this calendar year, and expect seed to be available next spring. Many will fail to book seed in advance, depending on you to cover whatever needs they have... and then express shock when supplies are tight or "high priced". They may check with a neighbor to see if he has any "seed" to sell.

In reality, there should not be a supply problem (except, perhaps, durum seed), since North Dakota produces more certified seed acres than anywhere in the U.S. Again, the real problem is producer willingness to invest in certified seed.

We are imagining the strange requests or demands that may come through here by next spring, and the illegal activities that could occur in farm country. We don't have answers, only recommendations.

Talk to every one of your customers, current and past. Offer them the chance to book seed; appeal to them to do it now rather than later. Explain that this year presents an unusual marketing circumstance and unpredictable seed disappearance situation, and expecting to get "seed" from a neighbor will almost certainly constitute a violation of law.

Tell them that brownbagging will not be legalized for one year, and that even though bin run use is prevalent... use from someone else's bin is illegal.

Tell them that the Department or Commissioner will not violate federal or state laws by magically allowing grain to become seed. We can't "certify" a bin of grain, even if it is the hot variety that everyone wants. Certification is a process that starts with field inspection and ends with lab analysis, almost always with varieties protected by Title V. Tell them certified seed is a product that meets strict quality standards, not grain that germinates well on the windowsill. **There will be no emergency declarations**, the seed industry has product available to meet industry needs, but it must be reserved earlier than normal.

Sadly, this quote may affect both seedsmen and the Seed Department at some point this year: "Poor planning on your part does not constitute an emergency on my part".

Prepare to work with us, and your colleagues throughout agriculture, in trying to manage a difficult situation. Our objectives align with the seed industry: produce and provide high quality seed, protect consumers, and support investment in research by protecting intellectual property rights.

Best wishes for a safe and profitable new year.

- Ken Bertsch..... State Seed Commissioner
- Steve Sebesta..... Deputy Seed Commissioner
- Willem Schrage..... Director, Potato Program
- Joe Magnusson..... Director, 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

Research Fee Reminder

Research fees were due September 15. Delinquent accounts will be turned over to the variety owners after the first of the year. If you haven't responded previously, please do so immediately.

Soybean Adventitious Presence Testing

Jeff Prischmann, Diagnostic Lab Manager

Adventitious presence is a term used to describe when one type of commodity, grain, or seed is mixed with small amounts of another commodity, grain, or seed. This commingling is generally unintentional or accidental and includes both biotech and non-biotech products. Adventitious presence can occur when a biotech product, such as an herbicide tolerant soybean, is accidentally mixed into a non-biotech product like a conventional soybean variety. Adventitious presence could also occur when two non-biotech or two biotech products are mixed.

Currently, the Roundup® Ready trait is the only biotech trait available in soybean. Testing for an adventitious presence in soybean involves the use of several different types of tests. These include the flow strip test, ELISA test, DNA test, and a bioassay test. Each test varies in complexity, cost and completion time. The Seed Department offers all four types of tests.

Flow Strip Test

Flow strip tests are antibody based tests that use a support structure in the form of a stick that has imbedded antibodies. The flow strip is placed into a sample and is allowed to absorb. Lines develop indicating positive or negative test results after a few minutes. Samples that contain the protein produced by the biotech gene will yield positive test results. This test is a qualitative test, meaning the test results are given as positive or negative only. One advantage of this test is that it can be performed in a few minutes.

ELISA Test

ELISA stands for Enzyme Linked Immunosorbent Assay and is another type of antibody based test. In this test, a plate is used that contains wells coated with

a specific antibody that targets a protein of interest. The antibody captures the protein and the test allows that protein to be detected. The department currently conducts ELISA tests for the detection and quantification of low levels of Roundup® Ready soybean (less than 3%) in conventional soybean. ELISA tests can be performed in less than one day.

DNA Test

Flow strip tests and ELISA tests detect proteins produced by a biotech trait. A DNA test targets the gene of the biotech trait or regions next to the gene using the process of PCR (polymerase chain reaction) to detect this area of interest. This test is very specific and can be used in a qualitative form (presence or absence) or a quantitative form (exact percentage) of a particular biotech trait. Many different biotech traits can be detected in this manner including those from corn, cotton, canola, and soybean. DNA tests are sensitive and can detect small amounts of biotech traits in a sample. The seed department currently conducts a qualitative DNA test in soybean for the presence or absence of the Roundup Ready gene. This test usually involves testing for the presence of the gene promoter known as 35S. DNA tests can be performed in two days.

Bioassay Test

Herbicide bioassay tests can also be used to detect an adventitious presence in a sample. Most herbicide tolerant crops have bioassay tests that are designed to verify that a seed source has a minimum acceptable level of herbicide tolerance. These same tests can be used to identify the presence of a biotech soybean in a conventional soybean sample. Bioassay tests usually take 7 days to complete and are performed in a manner similar to a standard germination test except that the sample is either soaked in the herbicide prior to planting or the sample is grown in the presence of the herbicide on the germination media.

For more information on any of these tests, including prices or the sample sizes required to conduct the test, please contact the department.



Reading a soybean ELISA test using a plate reader

Canadian Seed Purchases

Joe Magnusson, Regulatory Manager

Before acquiring seed from Canada, be sure to ask if the variety is eligible to be exported into this state. Many varieties produced in Canada may be exported only by a Canadian licensee of the owner. In turn, these companies may have a contract with a licensee in North Dakota who will be the sole distributor of these varieties.

In order for Canadian seed to be eligible for recertification, certain steps must be followed to obtain proper labeling for resale since the Canadian system does not require complete analysis labeling.

If you plan to purchase Canadian seed for resale

Only approved conditioners or bulk retailers are eligible to resell the seed. When seed is delivered to your facility, obtain representative samples from all shipments, which will become a lot of seed. Mix these samples together and submit a two-pound sample to the NDSSD for testing. The sample should be accompanied by the Canadian bulk pedigreed seed certificate from each load, the new lot number you assign and the number of bulk certificates you will need. The pedigreed seed certificate is a 4½ inch by 8½ inch form which includes the kind and variety, number of bushels, crop certificate and lot numbers, class, name of vendor and name and address of the purchaser.

The tests required for new North Dakota Bulk Certificates are as follows

- Wheat — purity, germ, seed count
- Field peas — purity, germ
- Barley — purity, germ, seed count, loose smut
- Chickpea and lentils — purity, germ, ascochyta

If you purchase Canadian seed to plant for commercial or seed production

If you purchase Foundation or Registered seed and plan to raise certified seed, all the grower needs is the pedigreed seed certificate. The pedigreed seed certificate will be required for proof of seed source when you apply for field inspection. Your name must be on the certificate as the buyer in order to apply for field inspection.

If you plan to export seed to Canada

Any variety protected under the Plant Variety Protection Act in the United States cannot be sold into Canada without permission from the owner of the variety.

Quality of the 2007 Seed Crop

Mark Hafdahl, Seed Lab Manager

The seed produced in 2007 is similar in quality to last year. Wheat and durum quality is very good. There is a little more scab than last year, but with the exception of a few lots of durum, it isn't much of a problem. Germinations of wheat, barley, and durum are generally in the 90's. Soybeans and edible beans are of very good quality this year. There was very little mechanical damage to these crops this year, probably due to higher moisture at harvest. Field peas are variable in quality. Most lots are of high quality but some lots were dry and suffered damage during harvest. Lentils and flax are also of high quality. Good job, producers.

I will offer the same advice I have for the past several years. Handle the large seeded legumes gently to preserve the germination you have. Frozen bean and pea seeds are just as brittle as dry ones so avoid handling these in the dead of winter. We haven't seen any post harvest dormancy this year so send your samples in early to avoid the spring rush. We, in the seed lab, look forward to serving you.

2007 Field Inspection Summary

Not surprisingly, the Seed Department ended the inspection season with a decline in total acres applied for inspection. Of the six crops that had over 10,000 acres inspected, spring wheat and field peas showed significant declines in 2007. That reduction is most likely attributed to the increase in corn acres fueled by interest in ethanol production. However, we did see increases in barley, durum, and field beans. In spite of the decreases, we finished the year with over 300,000 acres for the sixth consecutive year.

The number of acres of hard red spring wheat declined 20% compared to 2006. According to the North Dakota Agricultural Statistics Service, the top HRSW varieties in terms of acres planted in 2007 were Glenn, Alsen, Freyr, Briggs, Steele-ND and Reeder. Glenn, Alsen, Steele-ND and Reeder are NDSU releases; Freyr is an AgriPro variety; Briggs is from SDSU. According to NDSSD records, Glenn was the leading variety in terms of acres of seed production with 40% of the total HRS wheat acres. Glenn's ascent to the top is rather remarkable since it was only released in 2005. All varieties except Reeder are in the department's top eight for acres in seed production.

Durum producers appear to be less willing to adopt new durum varieties. In contrast to Glenn HRSW, which now commands the greatest market share just two years after release, the top durum varieties, Lebsock and Mountrail, have been around since 1999 and 1998 respectively.

It is anticipated that some of the newer varieties will command a larger market share in the near future as seed stock inventories increase and producers learn of the characteristics and performance of the varieties.

Producers are encouraged to examine yield trial results to determine the best varieties for the area in which they farm. The North Dakota Agricultural Experiment Station's website (www.ag.ndsu.edu/variety/index.htm) is an excellent source of information for crops of interest. Additionally, the 2008 Seed Guide also includes NDSU yield trial results. That publication, distributed annually by Farm and Ranch Guide, will be available the last week of December.

Tips for Submitting Seed Samples

Rhonda Rabideaux

Follow the steps outlined below to ensure your samples are processed quickly and correctly.

When sending in a sample for testing, please be sure to:

1. Include a return address so we know who to send the results to.
2. Identify the kind, variety, lot number and which tests you want conducted. Consult Bulletin 51 for specific test requirements.
3. Identify field-inspected seed by using the current field application number (e.g. S0712345) — **not** the lot number of the seed that was planted.
4. If we are supposed to send a copy to someone else, or bill someone else, let us know.
5. Submit enough seed for the tests you want done

Conditioners — when sending in a sample for final certification, please remember:

1. We need a Sampler's Report for each lot (remember — **each bin is a separate lot**).
2. Be sure to fill in the blanks on the Sampler's Report, especially the field inspection number(s), clean bushels, number of bulk certs requested, who to send them to, who to bill, and any special instructions.
3. If the seed is being re-tested or has been re-conditioned, be sure to provide the certification number from the initial sample.
4. If we are supposed to use a pre-germ, smut, dome, anthracnose or ascochyta test that was previously done for the lot you are submitting, be sure to provide those test numbers so we don't repeat those tests.
5. Fill the plastic bag full and make sure you seal the zip-loc seal as well as the second sticky seal.

The Limitation of Generations and Emergency Declarations

Steve Sebesta, Deputy Commissioner

Concerns about seed availability for 2008 have already raised some questions about invoking emergency declarations to extend the limitation of generations for some varieties next spring. The number of generations which a variety may be multiplied is limited to that specified by the breeder or variety owner. That information is part of the application for Plant Variety Protection and ordinarily shall not exceed two generations beyond Foundation class, i.e., Registered and Certified.

The Federal Seed Act and North Dakota certification standards do, however, specify certain circumstances in which the limitation may be extended.

- 1) Re-certification of the Certified class may be permitted when Foundation seed is not being maintained.
- 2) Production of an additional generation of the Certified class may be permitted on a one-year basis only when:
 - a) an emergency is declared by an official certifying agency stating that Foundation and Registered seed supplies are not adequate to plant the needed Certified acreage of the variety and
 - b) permission of the originating breeder or owner is obtained and
 - c) the additional generation of certified seed produced to meet the emergency seed is ineligible for re-certification.

Please note that an individual grower's inventory problems do not constitute an emergency. Also keep in mind that an emergency declaration next spring will not solve 2008 planting shortages, should they arise. Such a declaration would enable a producer to plant Certified class seed in 2008 for re-certification. That re-certified seed would be available for 2009 planting.

An emergency declaration does not mean that grain harvested from fields that were not inspected by the Seed Department in 2007 would be eligible for certification. The time to act to get an emergency declaration for 2008 was last year.

All Seed Department requirements for producing Certified seed still must be met, including all seed and field eligibility requirements. The seed field would have to be inspected by the department and final certification would have to be completed. Seed growers must keep these requirements in mind prior to planting.

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 6 & 7 at the International Inn, Minot. As usual, there will be a seed show featuring new varieties released by NDSU. Cash prizes of \$75, \$50 and \$25 will be awarded for first, second and third places, respectively, for each variety. Eligible varieties include Registered class seed of Faller spring wheat, Sheyenne soybean, Souris oat, Tradition and Legacy barley. Each entrant will receive a complimentary registration for the meeting. Final certification must be completed by the time entries are judged. See your county agent for details. Everyone is encouraged to attend and get involved.

North Dakota State Seed Department

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NDSSD Calendar

- Dec. 31** Application deadline for Non-resident Seed Dealers License
- Jan. 6-7** Lake Region Extension Roundup, Devils Lake
- Jan. 17-18 ...** Bean Day, Holiday Inn, Fargo
- Jan. 20-21 ...** ND Grain Dealers Association Annual Meeting, Holiday Inn, Fargo
- Jan. 23-25 ...** KMOT Ag Expo, Minot
- Feb. 4-6.....** National Hard Spring Wheat Show, International Inn, Williston
- Feb. 6-7.....** ND Crop Improvement and Seed Association Annual Meeting, International Inn, Minot