



The North Dakota Seed Journal

SEPTEMBER 2014

Newsletter of the North Dakota State Seed Department

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DON (vomitoxin) and Germination

Jeanna Mueller, Seed Laboratory Manager

In the past few weeks, numerous winter wheat samples have had a visual presence of black point and scab, usually resulting in a germination score of mid 80's to low 90's. Although these scores are not low, it is a concern for some. Scab is not the only factor raising questions this year, but so is vomitoxin or DON. A few growers are questioning if DON affects germination.

What is DON?

According to NDSU Extension Bulletin September 2005 issue, deoxynivalenol (DON), referred to as vomitoxin, is a mycotoxin that may be produced in wheat and barley grain infected by *Fusarium* head blight or scab. Scab infects grain heads during flowering and grain filling stages of the plant. The occurrence of scab does not automatically mean that DON is present, but a high level of scabby kernels in the harvested grain means DON will most likely be present. Early infection of scab can cause a lower yield by reducing kernel numbers. A slightly later infection will cause the typical shriveled, white or pink kernels. Late infection of scab will cause no visual effects but will have DON levels that can be detected.

The levels of DON are a concern for the use of feed because it can cause feed refusal and poor weight gain in some livestock. The majority of DON is in the seed coat or the bran of the wheat which is a concern to the flour miller. The DON levels affect gluten strength and adversely affect the bread and pasta making properties of flour.

In conclusion, DON does not affect the germination directly in the same way scab would. The best possible solution is to get your grain tested. If scab is a major issue we will be busy in the lab, so send your samples in early. Also remember to send in any grasses and grass mixes before the big rush, it would be greatly appreciated.

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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Jason Goltz Named Director of Field Seed Programs

Jason Goltz has been named Director of Field Seed Programs effective June 1st. Jason grew up on a farm in Sargent County and is a 2006 graduate of NDSU's Agricultural Systems Management Program and a 2010 graduate of the University of Mary's MBA Program.

Jason worked as an NDSU Extension Agent in Kidder County from 2007 until 2011 and Richland County from 2011 until accepting his current position. He served in the U.S. Navy Submarine Force directly out of high school and is currently serving in the North Dakota Army National Guard as a combat engineer.

Welcome to the Seed Department!



From the Commissioner's Desk

Fees and the Flying Wallenda's

Ken Bertsch, Seed Commissioner

Since nobody would read an article about fees... you get a weak effort at grabbing attention with reference to the tightrope troupe. Although, setting fees in a self-funded agency is a balancing act.

I've written before of the Seed Department's unique structure: self-funded, board-directed, broad certification, testing and regulatory responsibilities. Our operation is a strange mix of authorities (by virtue of Century Code), business (profitability) and responsibilities (to our growers/clients). The profitability part is a stretch; we mainly seek to remain financially healthy rather than create profit.

You will note a sidebar in this edition of Seed Journal that laboratory testing fees are set to increase on October 1, 2014. The lab fee changes were reviewed and approved by the Seed Commission at their July meeting. That sounds simple-but the process is more involved.

Any decision to raise Department fees is the responsibility of the Seed Commission. This is the authority issue discussed earlier, and can be found in NDCC Chapter 4.1-52. Fees are analyzed at the program level, on a break-even basis, and fee changes are recommended to the Commission. That's the business part of the process.

Ken Bertsch..... State Seed Commissioner
Willem Schrage Director, Potato Program
Jason Goltz.....Director, Field Seed Program
Joe Magnusson.....Field Seed Program Manager
Jeanna Mueller.....Seed Laboratory Manager
Jeff Prischmann...Diagnostic Laboratory Manager
Kris Steussy Administrative Officer
Mike OosterwijkPotato Program Supervisor

The responsibility part is a bit more complicated. When we examine and recommend fee changes, especially in laboratory services, we use a combination of internal costs and comparatives with other testing labs in the region. The Commission reviews spreadsheets that outline supplies, labor, overhead and total costs for each test provided by NDSSD. They also see comparative pricing of what other labs charge for most of the tests so that we remain in a reasonably fair position price-wise. Then they discuss the impact on agency finances and growers/customers. It's a great process, with input from management and board members who represent the seed industry from production and marketing standpoints.

That's only part of the balancing act. We also account for the financial health of enterprises within the Department when analyzing, recommending and adjusting fees. Case in point; during my tenure

as Commissioner, our Lab Services unit has *never* achieved a breakeven bottom line. Really, I'm not kidding. We (the Commission and administration) have looked at agency finances across the spectrum of programs and made the conscious decision to seek financial equilibrium by balancing fees across all areas of our operation.

That's a mouthful, but it really means we are recognizing the impact on growers from the field inspection, final certification and testing services for all the crops we certify. Field Seed, Potato, Lab Services and Regulatory program financials all fluctuate above and below the breakeven line on any given year, but the balancing act works for an agency like ours, one that serves a broad constituency and with broad responsibilities to the ag industry.

Best wishes for a safe and profitable harvest season,



Administrative Corner

Kris Steussy, Administrative Officer

Seed Count: Beginning October 1, 2014, when a purity test is requested on all cereals, large seeded legumes and pulse crops, safflower and soybeans a seed count test will automatically be added at a cost of \$6.00.

Pre-germs on field inspected samples: Please be sure to include your current year field inspection number on samples sent for pre-germs. This number will begin with S14. Please do not use the lot number of the seed you planted. If you are unsure of the current year field number, it can be looked up in on-line data or contact Department staff.

Bulk Certificates: When you receive bulk certificates for 2014 seed production and begin selling seed, please remember to:

- Complete the log sheet at the back of your printed bulk certificates
- Retain your seller copies
- Keep a copy of the log sheet
- Return your completed log sheet and unused bulk certificates to the Department

Seed Directories: One of the most important functions of our certification programs is the publication and distribution of seed directories for all of the crops we inspect and certify.

We are in the process of finalizing directories for both Field Seeds and Potato programs, and should have them completed, printed and distributed by the end of November. The Potato Directory is sent to a broad distribution list and is also available at numerous trade shows each year. The Field Seed Directory is handled in the same manner, and is also distributed at District Crop Improvement meetings in December.

As always, both of our directories are available at ndseed.com as soon as field inspections are completed for the year.

Certified Seed Acreage Increased for 2014

Jason Goltz, Director of Field Seed Programs

The 2014 growing season started out similar to 2013 as far as having a wet planting season. During both years, wet weather caused delays in planting as well as replanting, sometimes on the same acreage. I recall fields in 2013 that were harvested in stages due to having multiple planting dates, and this year is looking similar. The 2014 growing season has been different in terms of growing degree days, which has been generally behind the pace of 2013 when July and August were much warmer. We can anticipate that harvest, and the wide variation in crop stages, will reflect a much different growing season.

Although there were similar challenges to the start of 2014, that overall applied acreage is higher in 2014. The largest percentage increase in certification acreage is in durum with 10,744 in 2014 compared to 5,108 in 2013—more than a two fold increase. Other crops that increased on a large margin were HRSW which went from 102,580 to 128,943; an increase of 26,363 acres. Soybean increased from 79,452 to 94,908 between the two years which equates to 15,456 acres.

According to the USDA National Agricultural Statistics Service, Corn acreage decreased in North Dakota by approximately 800,000 acres in 2014. This decrease in corn can partly explain the increase in certified seed acreage in these other crops.

CROP	2013	2014	CHANGE	% CHANGE
HRSW	102,580	128,943	26,363	26
BARLEY	22,628	24,321	1,693	8
FIELD PEA	15,628	12,114	(3,514)	(23)
HRWW	10,935	10,731	(204)	(2)
DURUM	5,108	10,944	5,836	114
OAT	2,430	2,615	185	8
SOYBEAN	79,452	94,908	15,456	20



South Dakota and Montana Royalty Rates Increasing

Both South Dakota State University (SDSU) and Montana State University (MSU) have announced intentions to increase research fees (royalties) on certified seed produced from varieties released from their respective breeding programs.

Royalty rates for Montana State University barley varieties will increase from \$.50 to \$.75 per bushel, and wheat varieties will increase from \$.30 to \$.50 per bushel respectively. The increase takes effect on January 1, 2015 and will be collected on all seed sold after January 1 of 2015.

Royalty rates for South Dakota State University oat varieties will increase from \$.20 to \$.30 per bushel, and wheat varieties will increase from \$.30 to \$.60 per bushel respectively. SDSU soybean variety royalties will remain unchanged at \$.50 per bushel. The increase takes effect on July 1, 2015 and will be collected on seed sold after July 1 of 2015.

NDSSD serves as the collection agent for NDSURF, SDSU, MSU, the University of Minnesota and Busch Agricultural Resources for their varieties sold in North Dakota.

Pea Seed Borne Mosaic Virus Test Will Be Offered

Jeff Prischmann,
Diagnostic Lab Manager

Starting this Fall, the Diagnostic Lab will begin to offer pea seed borne mosaic virus (PSbMV) testing on field pea. During the past growing season, concerns over pea seed borne mosaic virus infection in field pea seed has been on the increase. Due to these concerns and interest from field pea growers, this test will now be available on field pea seed. This virus is spread by infected seed and aphids. Significant yield losses can occur in infected fields. Some literature sources have reported seed weight reductions of 33% in infected seed. The potential for a serious impact on seed yield exists with PSbMV.

PSbMV symptoms can include leaf chlorosis, plant stunting, shortening and downward rolling of leaflets, vein clearing and swelling, growing point malformation or rosetting, distorted flowers or seed pods, and failure to set seed. Symptoms can disappear soon after infection. Control measures include planting disease free seed and planting varieties that are resistant to PSbMV.

The test will cost \$180 per sample and will require a minimum of 2,000 seed (2-3 lbs). The test format is an ELISA based test and will take 2-3 days to complete.

If there are any questions regarding the PSbMV test, please contact the department or the lab for more information.

Potato Program

Willem Schrage, *Director of Potato Programs*

Potato Post-Harvest Test and Import Requirements

Summer virus testing by the NDSSD Diagnostic Laboratory generally confirmed what field inspection reports indicate from field readings. The virus counts were generally clean with a few exceptions. However, aphid trap counts indicate that insect pressure has increased after the summer testing was completed. The winter test is the final predictor of expected virus levels for next season.

North Dakota's post-harvest test requirements are similar to other states with a few exceptions (noted later in this article). The post-harvest (winter) test determines eligibility for re-certification, and is extremely important in managing the quality of seed produced in North Dakota.

North Dakota growers should submit the following number of tubers per field acreage size:

- 80 acres and over: 1,200 tubers
- 2 acres to 80 acres: 600 tubers
- 2 acres and under: 300 tubers
- 100 tubers for small plot

Seed size for round-type tubers should be no larger than 1 7/8" in diameter, and for long-type tubers no longer than 2 1/4" in length to allow the seed pieces to pass through the planter.

Requirements in Other States and Provinces

The Grafton Office should be informed that a seed lot may be destined for destinations such as Idaho, Colorado, or Canadian provinces that carry additional post-harvest testing requirements. Growers should also check testing requirements of other states and provinces and communicate with NDSSD staff if you need additional testing to comply with seed import requirements.

Idaho requirements for post-harvest testing are:

1. Virus Testing: Potato Leaf Roll Virus (PLRV) can be scored in a post-harvest grow out or by lab test. A lab test (ELISA) is required for Potato Virus Y (PVY). The test can be performed on leaves collected from the winter grow out or a tuber test. The tolerances for recertification are PLRV 0.8%

and PVY 2.0%. The required sample sizes are same as North Dakota.

2. Bacterial Ring Rot (BRR) testing: Idaho Crop Improvement Association (ICIA) now requires laboratory testing of a random sample of stems or tubers obtained from all seed lots entered for certification, Idaho G1 (Field Year 2) or higher. Samples must be tested by an approved laboratory using PCR. The minimum required sample sizes are: Seed lots exceeding 0.1 acres; 400 stems or tubers. Seed lots 0.1 acres or less; 200 stems or tubers.

Colorado requires the identification of the strain of PVY when PVY has been found in the winter test sample. The planting of a seed lot with PVYNTN is prohibited. Colorado also requires that 400 tubers have been tested for late blight with a negative result before the potatoes are shipped into the state.

Canada requires a BRR laboratory test for seed potatoes imported into Canada. The testing should be done by a USDA/APHIS approved laboratory such as the NDSU Diagnostic Laboratory to fulfill the requirements for the phyto-sanitary certification. The sample size is 400 tubers per seed lot.

Canada also requires a negative soil test for potato cyst nematodes (PCN). Unless a field has been tested negative twice before, seed potatoes will not be allowed into Canada without PCN soil survey. All documentation needs to be in order and inspections and tests done early enough to avoid delays in shipping

Additionally, there may be some variations to virus testing requirements depending on the Canadian destination for seed potatoes. The variations may involve tuber or leaf testing, CFIA recognition of laboratory equivalency or sample collection process.

The North Dakota State Seed Departments can be of assistance when informed that the expected destination of certain seed lots is out of state. This list of requirements and destinations is not all inclusive, but consists of answers to questions that have been posed. Please contact Willem Schrage or Mike Oosterwijk if you may be marketing seed in any Canadian province for information on import requirements by province.

2015 Approved Facility Applications

Kyle Bednar, Field Seed Inspector II

2015 Approved Facility Applications were mailed out early August, 2014. 2014 permits for operating approved seed facilities will expire on December 31, 2014. Please read through the information, inform your staff of the contents and requirements of the application, and return the signed agreement with your payment by October 1, 2014. Retain a copy for your records. **Facility inspections will begin in October.**

It should be noted that the information you put on the agreement will be published in the Seed Directory and on our website, so please make sure it is filled out completely and carefully. **You must return your agreement by October 1, 2014 to be listed in the Seed Directory.**

Prior to the cold fall weather setting in, a few points that will facilitate final certification, labeling and conditioning processes:

- check all your approved seed bins for proper labeling and ensure it corresponds with your displayed bin map.
- make sure your two-pound sample for each lot have proper labeling and are retained for one year. Keep in mind that the lot, class, kind and variety are required to be recorded on each retained sample — a copy of your corresponding Bulk Certificate works well.
- make sure all un-used Bulk Certificates and Log Sheets have been returned.

As always we appreciate your cooperation with the inspectors. Please don't hesitate to call the Fargo office if you have any questions.



The Farmers Yield Initiative, or FYI, promotes legal seed trade, research, education, seed certification, and the enforcement of intellectual property rights authorized under the Plant Variety Protection Act (PVPA) and patent laws. The purpose of the initiative is to educate the public and encourage compliance with existing state and federal seed laws embodied in the PVPA and state seed certification regulations.

If you suspect illegal seed activity please consider submitting a strictly confidential tip to help put a stop to illegal seed trade. You need not identify yourself during the phone call. The caller can remain anonymous, and it is toll-free.

Phone completely confidential tips using the toll free number: **(877) 482-5907**

Email tips to: **tips@farmersyieldinitiative.com**

Mail tips to: Farmers Yield Initiative
PO Box 8850
Fayetteville, AR 72703

Field Seed Certification Topics

Joe Magnusson, Field Seed Program Manager

Each year brings some unique variables and standard questions into play for final certification of Field Crops. The topics below are examples of both, and should be noted as seed growers move into the final stages of this year's certification process.

Pretests and Sprouted Seed

Although ND regulations allow the use of preliminary germination results for small grains, this may be the year to consider performing a new germination after conditioning due to scab and sprouting. Seed that has begun sprouting or has gone through adverse field or storage conditions may deteriorate over time and will lower the germination rate of that seed. If the seed was conditioned, tested and labeled in the fall or early winter, we would still recommend a new germination prior to sales in the spring to ensure it has not gone out of condition.

Carryover Seed

When submitting samples of carryover certified seed for germination testing and new bulk certificates, several things are required. In order for us to process your sample we need a completed **Relabeling Request for Carryover Certified Seed** form including the required information. The form is on our website under Online Forms. Please include this form with your sample and include the number of bushels carried over, the certification number from the previous year and the number of bulk certificates you will need.

Conditionally Passed Seed Fields

Some seed fields may pass conditionally due to excessive weeds or other crops which may be difficult to separate during conditioning. Before conditioning, ask the grower if they have any of these fields. When these seed lots are conditioned, a five pound representative sample must be submitted for testing along with the **Seed Sampler's Report**. If a seed sample from a conditionally passed field is submitted without the required amount of seed, you will be notified to resubmit additional seed for testing which will delay the final certification process for the labeler. Conditioners are advised to always check Field Inspection Reports before conditioning a seed lot.



Laboratory Test Fee Increases

Seed Lab and Diagnostic Lab test fees will increase on October 1, 2014. Seed Lab fees will increase from \$1-3 per test in most areas associated with germination, purity and miscellaneous categories. Diagnostic Lab fees increase in a range from \$3-50 depending on the test and with much higher-cost tests on the list. Both lab fee schedules can be found online at **ndseed.com** and will be included in the Seed Directory.

North Dakota State Seed Department

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NDSSD Calendar

- Oct. 1** Carryover Seed Report due
- Oct. 1** Applications due for Approved Seed Conditioners and Bulk Retailers
- Nov. 11** Veterans Day (office closed)
- Dec. 2** Seed Commission meeting (Fargo, tentative)
- Dec. 2-3** ND Ag Association Northern Ag Expo - FargoDome
- Dec. 3** SW District Crop Improvement Association, Mandan
- Dec. 4** NW District Crop Improvement Association, Minot
- Dec. 5** NE District Crop Improvement Association, Devils Lake
- Dec. 8** SE District Crop Improvement Association, Casselton