

SDSU Seednews

Volume 22
Issue 1

July/August
2014

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Scab Infected Wheat Seed

Brent Turnipseed, Director, SDSU Seed Testing Lab

Once again we have had an unusual growing season with cooler temperatures and in some areas more moisture during the wheat heading/flowering stage. Due to the moisture we have seen some scab in the seed samples received thus far. Scab, also known as head blight, head scab, or pink mold, is a fungal disease that can attack spring and winter wheat as well as other small grains, and it can even infect many other grass species. *Fusarium* spp. are the causal agents in scab.

Visual symptoms of infected seed are not always present on seed or grain, but usually scab-infected wheat kernels are shriveled, discolored with a white, pink, or light brown scaly appearance. These kernels are often referred to as "Tombstones". Infection of scab can also lead to production of mycotoxins in the seed. The most prevalent one "Vomitoxin" (also known as DON) is often tested for as it can cause problems for grain utilization.

Germination

Scab-infected seed, if not dead, will have lower vigor and be more susceptible to other field fungi when they germinate in the soil, and will remain vulnerable to infections in the seed seedling stage. In germination testing, infected seeds/seedlings can reduce germination percentages because of secondary infections. The lab plants eight 50 seed replications to spread out seeds/seedlings to reduce secondary infections, providing a more accurate test. From past experience this practice can increase the rate of normal seedlings (have all essential structures for growth) by up to 10% versus the normal planting of 4 replications of 100 seed method.

Seed Treatment

Another option that growers should be using is a fungicide seed treatment. Using a seed treatment will not bring dead seeds to

life, but will protect seeds and seedling from early season fungal infections. It will also suppress surface-infected *Fusarium* from growing during the germination test and infecting the seedling, thus allowing that seedling a chance to grow into a productive plant. A fungicide treatment will usually increase germination of infected lots on average at least 10% higher over a standard (4 reps of 100 seed) germination test.

The SDSU Seed Testing Lab offers a treated germination test (using Raxil™ or Stamina/Charter F2™) along with the standard (untreated) germination test to compare potential germination benefits of seed treatment. There are several effective fungicides on the market and the lab does not endorse one over the other. Contact your Extension Educator, your crop consultant, local Cooperative, or the Extension Plant Pathologist Dr. Emmanuel Byamukama (email: [emmanuel-byamukama@sdstate.edu](mailto:emmanuel.byamukama@sdstate.edu), phone: 605-688-4521) for treatment products and options.

Testing

An 8 replication of 50 seed germination test (or a treated germination test) on cereal crops at the SDSU Seed Testing Lab costs \$21.00 (an additional \$21.00 for a treated sample) plus tax, a small price to pay to find out the quality of your seed. Send samples by US Mail to: SDSU Seed Testing Lab, Box 2207-A, Brookings, SD, 57007; or through UPS/Fedex/ Spee-Dee to: SDSU Seed Testing Lab, 2380 Research Parkway, Brookings, SD 57006. Sample envelopes may be obtained from your Extension office. Growers of certified seed are to use the mailing bag supplied to them after field inspection. Tests take approximately two weeks. More information on submitting a sample can be found at the lab's website (<http://www.sdstate.edu/ps/seed-lab/index.cfm>).



Record Sales of Foundation Spring Oats Spring Wheat Sales Up 33% from 2013

Foundation Oat sales reached a new record high in 2014. SDSU's three latest releases were the top sellers with Horsepower at 5,669 bushels followed by Goliath at 4,911 and Shelby 427 at 4,712. Spring Wheat sales were up 33% from 2013 and 10% higher than the five year average. Prevail, SDSU's new release in 2014, was the top variety sold with nearly half of the total sales at 7,704 bushel. Advance was second in sales with 2,414 bushels followed by Elgin-ND at 990 and Forefront at 800. Overall Foundation Seed Sales this spring increased by 45% as compared to 2013. Sales were also up 37% over the five year average. A relatively early spring and low supplies of Certified Seed in the certification system, especially oats, were the major factors for the large increase in sales.

| Crop | 2014 Sales | 2013 Sales | 5 Year Average |
|-----------------------|------------|------------|----------------|
| Spring Wheat | 14,597 | 10,939 | 13,261 |
| Oats | 16,711 | 8,871 | 9,151 |
| Conventional Soybeans | 817 | 883 | 675 |
| Other Crops | 114 | 1,527 | 343 |
| Totals | 32,239 | 22,220 | 23,430 |

New Hires in Plant Science

There has been some change over in the SDSU Plant Science staff recently. These positions have a great impact on seed certification. The vacancy left by Bill Berzonsky as the winter wheat breeder has been filled by Dr. Sunish Sehgal. He is currently on the staff at Kansas State University and will be on board in September. In the oat program Dr. Melanie Caffé-Tremel will fill the position left open from Lon Hall's retirement. Melanie has been a post doc under Bill Berzonsky and has been running the winter wheat program since his departure. Jonathan Kleinjan will lead the Crop Performance Testing program. This is the position that was held by Nathan Mueller and Bob Hall. Jonathan has been on the spring wheat crew as a research associate and is completing his doctorate in agronomy. Hopefully they will all be at Ag Horizons this fall to give you a chance to meet them.



Past Oat Breeder Lon Hall gives some pointers to new oat breeder Melanie Caffé-Tremel in a new experimental line.

West Region Director Election Candidates Wanted

This November SDCIA will hold an election for the West Region. The position is currently held by Ron Giese. Mr. Giese will be completing his second term as a regional director and is not eligible for a third term as a regional director. The board holds three meetings per year, February, June and November at Ag Horizons. If you are located in the west region (Bennett, Butte, Campbell, Corson, Custer, Dewey, Fall River, Haakon, Harding, Hughes, Jackson, Lawrence, Meade, Pennington, Perkins, Shannon, Stanley, Walworth, and Ziebach counties) and would like more information about all that is involved please call the office 605-688-4606 or a regional director (Ron Giese 605-649-6385, Shawn McKay 605-279-2432).

Winter Wheat Directories and Crop Performance Testing Information

Watch our website (<http://www.SDCIA.info>) for the winter wheat directories. The directories can be found under the tab "Grower Directory" in the left hand column. As soon as we have the field inspection forms compiled and reviewed we will be posting the information on winter wheat. Directories can also be picked up at DakotaFest from Darrel Deneke at the Weed and Pest Board booth or at the IGrow kiosk in the SDSU tent. Once harvest is complete for the winter wheat trials, yield, maturity and disease rating information will be posted at <http://igrow.org/agronomy/wheat/winter-wheat-variety-trial-results/>.

SDSU and SDCIA Sign Agreement on Variety Release

It has taken over a year and a couple of lawyers but, the language of an agreement that defines how varieties are released from South Dakota State University to South Dakota Crop Improvement Association has finally been completed. This agreement puts down in writing what the two organizations have done for the last hundred years.

This agreement was needed because of all the advancements and changes that have been made to the way that we breed, handle and account for the releases from SDSU. Terms and duties are specifically defined by this agreement. The agreement will not change any of our current procedures but spells out what is expected from both sides.

Royalties to Increase for 2015 Crop Year

Royalties will increase next year (**July 1, 2015**) for oats and wheat. Oats will increase from 0.20¢ to 0.30¢ per bushel and spring and winter wheat will increase from 0.30¢ to 0.60¢ per bushel. Soybeans will stay at their current level of 0.50¢ per bushel. This increase will affect all of the SDSU royalty bearing varieties.

| VARIETY | CROP | PVP | ROYALTY PER BUSHEL 2014 | ROYALTY PER BUSHEL July 1, 2015 |
|-------------|----------|-----|-------------------------|---------------------------------|
| Advance | HRSW | YES | \$0.30 | \$0.60 |
| Brick | HRSW | YES | \$0.30 | \$0.60 |
| Forefront | HRSW | YES | \$0.30 | \$0.60 |
| Granger | HRSW | YES | \$0.30 | \$0.60 |
| Select | HRSW | YES | \$0.30 | \$0.60 |
| Traverse | HRSW | YES | \$0.30 | \$0.60 |
| Darrell | HRWW | YES | \$0.30 | \$0.60 |
| Ideal | HRWW | YES | \$0.30 | \$0.60 |
| Lyman | HRWW | YES | \$0.30 | \$0.60 |
| Redfield | HRWW | YES | \$0.30 | \$0.60 |
| Alice | HWWW | YES | \$0.30 | \$0.60 |
| Wendy | HWWW | YES | \$0.30 | \$0.60 |
| Colt | Oats | YES | \$0.20 | \$0.30 |
| Goliath* | Oats | YES | \$0.20 | \$0.30 |
| Horsepower* | Oats | YES | \$0.20 | \$0.30 |
| Shelby 427* | Oats | YES | \$0.20 | \$0.30 |
| Stallion | Oats | YES | \$0.20 | \$0.30 |
| Streaker | Oats | YES | \$0.20 | \$0.30 |
| Brookings | Soybeans | YES | \$0.50 | \$0.50 |
| Deuel | Soybeans | YES | \$0.50 | \$0.50 |
| Davison | Soybeans | YES | \$0.50 | \$0.50 |
| Hamlin | Soybeans | YES | \$0.50 | \$0.50 |
| SD1111RR | Soybeans | YES | \$0.50 | \$0.50 |
| SD1161RR | Soybeans | YES | \$0.50 | \$0.50 |

*No Salable Registered Class

South Dakota Crop
Improvement Association
2380 Research Park Way Suite 136
Brookings, SD 57006
Phone: 605-688-4606
Fax: 605-688-6752
E-mail: Neal.Foster@sdstate.edu

www.SDCIA.info

*Quality in
every bag*



RESPONSIBILITIES OF CERTIFIED SEED GROWERS FOLLOWING FIELD INSPECTION AND HARVEST

Field Inspection of Certified small grain in South Dakota is now complete. Harvest of winter wheat and oats will be wrapped up soon, as well as spring wheat and barley. As we finish this portion of certification, now is a good time to review the responsibilities of all growers and handlers of Certified Seed.

The word "Grower" in this article is not necessarily synonymous with the individual or entity that physically grew the seed, but rather the person or entity that made application to the Seed Certification Service for Field Inspection. The "Applicant" refers to the individual or concern whose name appears on the application form. This identification must be retained throughout the certification process.

Each applicant and handler of Certified seed in South Dakota has been supplied with the official "Handbook of Seed Certification Standards" and a "SDCIA Seed Certification Grower Manual". These two documents contain not only all the responsibilities of the "Applicant", but also those of the SDCIA Certification Division. Other documents which also spell out responsibilities are:

- SDCIA Membership Form
- Statement of Fields Applied For – Form B
- South Dakota Seed Certification Grower Agreement
- SDCIA Request for Testing and Certificate of Inspection – Form C
- SD Bulk Sales Certificate and/or Certificate of Transfer for Seed Pending Certification
- Statement of Royalty and/or Production Sales Fee – Form E

At this point in the process it is important to focus on these responsibilities of the Applicant:

- Maintaining the genetic purity and identity of the seed from harvest to the time it leaves the applicants possession.
- Completing report forms and paying the sales fee or royalties on public varieties and production fee on private varieties assessed against all seed sold for planting purposes from inspected and/or approved acreage.

Applicants with Contract Growers are still responsible for the seed and all reporting until it has either been sold as seed or disposed of as grain. Entities that are allowed to sell bulk Certified seed in South Dakota are:

1. Certified Seed Growers (Applicants)
2. Approved Bulk Retail Facilities
3. Approved Certified Seed Cleaners with seed storage and handling equipment.

Retention of seed by a contract grower for planting their own acres constitutes a sale that the Applicant is responsible for. This means that sales fees or royalties do apply. The contract grower is not allowed to make sales for the applicant or his or her self. Only the applicant or other designated sellers of bulk Certified seed can issue South Dakota Bulk Sales Certificates. Trading of seed for services or payment for services is not allowed.

For more information concerning any of the responsibilities of the Seed Grower (Applicant) or the SDCIA Certification Division call 605-688-5909.

Responsibilities of all concerned parties can be found in the "Handbook of Seed Certification Standards".