

# SDSU SEED NEWS

Volume 17  
Issue 2

August 2009

*Special points of interest:*

- DakotaFest Mitchell SD, August 18-20
- Ag Horizons Conference, Pierre SD December 1-2.

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## Scab Infected Wheat Seed

Brent Turnipseed  
Director, SDSU Seed Testing Lab

Once again we had an unusual growing season with cooler temperatures and 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 by cause of secondary infections. The lab has been planting 8 replications of 50 seed when scab is suspected, 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%.

### 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 seedlings 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.

The SDSU Seed Testing Lab offers a treated germination test (using Raxil™) 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 County Extension Agent, your crop consultant, local Cooperative, or the Extension Plant Pathologist Dr. Larry Osborne (email: [Lawrence.osborne@sdstate.edu](mailto:Lawrence.osborne@sdstate.edu), phone: 605-688-5543) for treatment products and options.

### Testing

A germination test or a treated germination test on cereal crops at the SDSU Seed Testing Lab costs \$14 plus tax, a small price to pay to find out the quality of your seed. Send samples to: SDSU Seed Testing Lab, Box 2207-A, Ag Hall 242, Brookings, SD, 57007. Sample envelopes may be obtained from your County Extension office. Growers of certified seed are to use the mailing bag supplied to them after field inspection. Tests take approximately two weeks.

Testing for Vomitoxin (DON) levels on grain should be sent to: Olson Biochemistry Labs, South Dakota State University, SAS 133, Box 2170, Brookings, SD 57007.  
**Telephone Number:** 605-688-6171

## Meet the new SDSU Soybean Breeder

Dr. Guo-Liang Jiang, a newly hired faculty member with the SDSU Plant Science Department, has assumed the position to lead the soybean and oilseeds breeding program at South Dakota State University. He received a PhD (1994) and MS (1986) in Plant Breeding and Genetics from Nanjing Agricultural University (NAU), and a BS in Agronomy from Southwest Agricultural University (1982), China. Dr. Jiang was an assistant professor (1988-1993), associate professor (1994-1996) and full professor (1997-1999) at Nanjing Agricultural University. His work in China focused on wheat improvement and related research, such as characterization of target traits and breeding methodology. He also taught plant breeding courses and advised graduate students. During 1997-1998, he did a six-month study on leaf rust and resistance in barley at Wageningen University in the Netherlands. In 1999, as a visiting scientist, Dr. Jiang joined the wheat breeding program at Michigan State University, USA. His responsibility included development of new varieties resistant to the

disease Fusarium head blight and QTL analysis of the resistance, as well as general breeding activities. Since 2007, Dr. Jiang had been a plant breeder in the United Genetics Seed Company, leading the breeding program of melon as well as watermelon.

As the principal investigator and senior author, Dr. Jiang has developed and released more than ten elite germplasms and/or new varieties (five were registered in the USA), and co-authored the release of three varieties. He has also authored and co-authored approximately 40 publications in peer-reviewed journals and more than 20 articles in monographs, books and proceedings. Dr. Jiang was awarded several national prizes/awards by the Chinese government for his achievements and contributions in scientific research. He also received several recognitions for excellence in academic performance from NAU and other organizations.

## Winter Wheat Variety List

| Variety     | Crop | PVP | Sales Fee Per Bushel | Royalty Per Bushel | Variety            | Crop | PVP | Sales Fee Per Bushel | Royalty Per Bushel |
|-------------|------|-----|----------------------|--------------------|--------------------|------|-----|----------------------|--------------------|
| Alliance    | HRWW | YES | \$0.10               | -                  | Jerry              | HRWW | NO  | \$0.10               | -                  |
| AP502 CL    | HRWW | YES | \$0.05               | -                  | Lyman              | HRWW | YES | -                    | \$0.30             |
| AP503 CL2   | HRWW | YES | \$0.05               | -                  | <b>*Millennium</b> | HRWW | YES | \$0.10               | -                  |
| Arapahoe    | HRWW | YES | \$0.10               | -                  | Norris             | HRWW | YES | \$0.05               | -                  |
| Art         | HRWW | YES | \$0.05               | -                  | <b>*Overland</b>   | HRWW | YES | -                    | \$0.60             |
| Carlisle    | HRWW | YES | \$0.05               | -                  | Radiant            | HRWW | NO  | \$0.05               | -                  |
| CDC Buteo   | HRWW | YES | \$0.05               | -                  | Smoky Hill         | HRWW | YES | \$0.05               | -                  |
| CDC Falcon  | HRWW | YES | \$0.05               | -                  | Striker            | HRWW | YES | \$0.05               | -                  |
| Crimson     | HRWW | YES | \$0.10               | -                  | Tandem             | HRWW | YES | \$0.10               | -                  |
| Darrell     | HRWW | YES | -                    | \$0.30             | <b>*Wahoo</b>      | HRWW | YES | \$0.10               | -                  |
| Expedition  | HRWW | YES | \$0.10               | -                  | <b>*Wesley</b>     | HRWW | NO  | \$0.10               | -                  |
| Harding     | HRWW | YES | \$0.10               | -                  | <b>*Windstar</b>   | HRWW | YES | \$0.10               | -                  |
| Hawken      | HRWW | YES | \$0.05               | -                  | Alice              | HWWW | YES | -                    | \$0.30             |
| Infinity CL | HRWW | YES | -                    | \$1.00             | NuDakota           | HWWW | YES | \$0.05               | -                  |
| Jagalene    | HRWW | YES | \$0.05               | -                  | Wendy              | HWWW | YES | -                    | \$0.30             |

\* THERE IS NO SALEABLE REGISTERED CLASS ON THESE VARIETIES

**Please note that when selling foundation and/or registered seed of SDSU Royalty bearing varieties to other states, SDCIA must have a collection agreement in place before these sales can be made. Currently we have agreements with Colorado, Iowa, Minnesota, Montana, Nebraska, North Dakota and Wisconsin.**

## Meet the new Sustainable Agricultural Specialist

Peter Sexton joined the faculty of the Plant Science Department in July working in the area of sustainable agriculture. His appointment is about 50 % research, 40 % teaching, and 10 % extension. He anticipates that his research efforts will include work on cover crops, and on oilseeds as a source of renewable energy. He comes to South Dakota after working eight years as an agronomist in the potato program with Cooperative Extension in northern Maine. Before that he worked for three years in a research position with Oregon State University (Dept of Crop and Soil Science) at a branch experiment station near Madras in central Oregon. His research there included evaluating drip irrigation for seed pro-

duction of onions and carrots, varied work with potential alternative crops, and nitrogen fertilization of wheat and sugarbeet. Prior to this he was at Iowa State University for three years studying sulfur metabolism and protein quality in soybean. Before going to Iowa he worked for two years as a volunteer in a technical assistance program for small farmers in Bangladesh. He obtained his master's degree and doctorate at the University of Florida in Agronomy (emphasis on Crop Physiology) working with peanuts and dry beans, and his undergraduate degree in Agronomy from SDSU in 1985. Peter hails from Minnesota. His wife Esther is from Vermont. They have three children (Luke, Gabe, and Ruth).

## Foundation Spring Wheat Sales Remain Strong

Jack Ingemansen, Manager SDSU Foundation Seed

Sales of Foundation Spring Wheat topped the five year average in 2009. A total of 15,834 bushel was distributed to Registered Seed growers this spring, a 15% increase over the five year average. Brick Spring Wheat, SDSU's newest variety was the top seller comprising nearly half of the total sales. Briggs was second followed closely by RB07 and Traverse.

Sales of Foundation Oats were also strong with the SDSU releases of Colt and Streaker. A total of 5,601 bushel were sold, 55% above the five year average. Conventional soybeans were also popular with sales of 1,077 units, a 61% increase over the five year average. Davison, a 2.2 maturing variety, and Deuel, a 1.1, were two new SDSU developed varieties released this spring and comprised 61% of the total sales.

| Crop         | 2009 Sales | 2008 Sales | 5 Year Average |
|--------------|------------|------------|----------------|
| Barley       | 100        | 409        | 237            |
| Millet       | 32         | 84         | 139            |
| Oats         | 5,601      | 1,485      | 3,603          |
| Soybeans     | 1,077      | 569        | 668            |
| Spring Wheat | 15,834     | 18,346     | 13,699         |
| Totals       | 22,644     | 20,893     | 18,346         |

## DAKOTAFEST 2009

Come join SDCIA at DakotaFest August 18 - 20 in Mitchell. Our booth will be located in the big SDSU tent and will have a large display featuring SDCIA Seed Certification programs.

Seed Certification, Seed Lab, Foundation Seed and Extension Staff will be on hand to give out information on winter wheat and provide other information as well as answer questions about crop production. South Dakota Crop Performance (CPT) trials of winter wheat test plot results will be available along with a listing of Certified and Registered seed producers for 2009.

**South Dakota Crop  
Improvement Association**

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We're on the web at  
[www.SDCIA.info](http://www.SDCIA.info)



## Winter Wheat Certified Seed Directory

The SDCIA office is currently in the process of putting together the Fall 2009 Winter Wheat Directory. Stop by our booth at Dakota Fest and pick up your copy. Again this year, in addition to the current format, watch the Dakota Farmer for a new version of the directory. This will be our second year of publishing our Winter Wheat Directory in this manner to provide greater coverage for purchasers and producers of certified seed. If you would like additional copies of the Winter Wheat Directory, please call the office at 605-688-4606.

## REMINDER: LABEL YOUR STORAGE BINS!

Properly label all bins and maintain records of Certified seed in storage. Kind, variety, field number/s, year grown, seed class and lot number should all be part of the record kept. Number or otherwise physically identify all storage bins. Certified Seed Growers who sell cleaned, bulk seed from their bins need the seed analysis displayed on the bin. This is a Certification requirement and also a State Seed Law requirement!! Bulk Retail Facilities must also have bins clearly marked with seed analysis posted on the bin the seed is dispensed from.