



Missouri Crop Improvement Association

News and Notes

October – 2018

Vol. 13 – No. 6

MCIA's News and Notes is designed to provide members and other interested individuals with information about MCIA programs and services, as well as timely access to information that impacts the seed industry and agriculture in general. Our format is structured to provide a brief introduction to topics of interest along with contact information or links to sources where you can obtain more detailed information. Many of the articles and items listed in this newsletter contain web addresses or hyperlinks by which you can obtain additional information. If you do not have internet access and would like additional information on any of the topics mentioned in this newsletter, please contact the MCIA office and we will forward you the information. Please feel free to contact the MCIA office if you have questions or suggestions for items to be included in future issues.

2018 Wheat Wrap Up

With harvest moving along at a steady pace and favorable conditions for timely wheat seeding, for the fourth year in a row, there doesn't seem to be a lot of enthusiasm for wheat production in the soft red winter wheat regions. To date, MCIA has issued certification tags or bulk sales certificates for 352,341 units of certified and/or quality assurance seed (down 11,126 from 2017 and 27,182 from 2016). MCIA's seed lab has tested 606 soft red winter wheat samples (up 7 from 2017) with an average germination of 95.52%, 8 hard red winter wheat samples (down 1) with an average germination of 96.50% and 259 commercial wheat (VNS) samples (down 24 from 2017) with an average germination of 95.92%. **REMINDER - any certified or quality assurance seed sold in loose bulk form must be accompanied by a bulk sales certificate. If you sold seed in loose bulk form without a certificate, please complete the attached bulk sales certificate request form to insure the buyer receives the proper documentation.**

2018 Wheat Royalty Refunds

You may be eligible for a refund of royalties paid for wheat seed that you were unable to sell in 2018. In order to receive a refund, please return any unused tags/labels to the MCIA office no later than November 30 and indicate the number of tags/labels returned for each variety. **MCIA will not count your tags and labels for you.** Tags/labels received after the November 30 deadline **will not** be eligible to receive a credit.

2018 Soybean Yields and Quality

Fall inspections are winding down with only a few late planted and double-crop fields remaining. Reports from our inspectors indicate yields lower than 2017 with estimates ranging from the low 40's to low 60's, with most running in the 45-55 bu/ac range. Quality appears to be average, however, we are not noticing as much mechanical damage as last year and seed moisture appears to be at more optimal levels than 2017. That said, visual quality is substantially lower than 2017 and we are seeing a lot more phomopsis and aspergillus (common mold) in a higher percentage of samples. Once again, we are seeing a lot of variability with regard to seed size, most notably many samples with normal seed size while at the same time containing a lot of smaller seed presumably from pods that were negatively impacted by drought conditions. We strongly recommend submitting a representative sample for preliminary analysis as soon as possible after harvest and prior to initiating any conditioning activity.

For those producers that have preliminary samples showing lower than expected germination results, MCIA's seed testing lab offers optional sand germination and lab treated germination services. In some instances, sand germination testing can show improved results in samples with light seed borne infections and no mechanical damage. Treated germination testing can show the response of a sample to application of a standard fungicide treatment. MCIA is currently using a treatment package of Apron Maxx RTA. Please feel free to contact the MCIA seed testing lab if you have questions or would like to discuss testing options for your 2018 soybean seed production.

Vigor Testing for Soybeans

There are basically two types of vigor tests for soybean, namely a cold test or an accelerated aging test. Based on past experience, MCIA believes that the accelerated aging test is a more reliable and repeatable tool for measuring vigor and predicting storability for soybeans than a cold test. We offer the accelerated aging test in house and can accommodate requests for cold tests through one of our partnerships with other seed testing labs.

Accelerated aging tests should be conducted in conjunction with and compared to the results from a normal warm germination exam. High vigor lots should not exhibit more than a 5-10% spread between the 2 tests. Spreads over 10% indicate that the vigor level is dropping and the higher the spread, the lower the vigor. Please contact the MCIA office if you have questions or would like to discuss vigor testing in greater detail.

(over)

Missouri Crop Production *(Source: Missouri Ag Statistics Service)*

Corn harvested area is forecast at 3.35 million acres, up 3% from 2017. Based on October 1 conditions, yield is forecast at 142 bu/ac, down 28 bu/ac from 2017. Production is forecast at 479 million bushels, 14% below 2017.

Soybean harvested area is forecast at 5.78 million acres, down 2% from 2017. Based on October 1 conditions, yield is forecast at 48 bu/ac, down 1.5 bu/ac from 2017. Production is forecast at 277 million bushels, down 5% from 2017.

Cotton harvested area is forecast at 320,000 acres, up 8% from 2017. Yield is forecast at 1,245 lbs/ac, up 33 lbs/ac from 2017. Production is forecast at 830,000 bales (480 lb.) up 11% from 2017.

Rice harvested area is forecast at 219,000 acres, up 37% from 2017. Based on October 1 conditions, yield is forecast at a record 7,000 lbs/ac, down 440 lbs/ac from 2017. Production is forecast at 15.3 million cwt, up 29% from 2017.

Oat harvested area in 2018 is estimated at 16,000 acres, up 3,000 acres from 2017. Yield is estimated at 45 bu/ac, down 20 bu/ac from 2017. Production is estimated at 720,000 bushels, 15% below 2017.

Wheat harvested area in 2018 is estimated at 520,000 acres, down 4% from 2017. Yield is estimated at 59 bu/ac, down 9 bu/ac from 2017. Production is estimated at 30.7 million bushels, down 16% from 2017.

Soybean Specialist Gives Tips for Handling Weather Woes *(Source: Linda Geist (writer) and Dr. William Wiebold – UM Extension)*

COLUMBIA, Mo. – Mother Nature has much to say about soybean yield and grain quality almost every year, says University of Missouri Extension soybean specialist Bill Wiebold. This year was no exception. Several important soybean-growing regions in Missouri experienced severe drought this year. The most worrisome effect from drought is yield loss, but producers face several other effects during harvest, Wiebold says. “Although summer was dry, fall turned quite wet in some of the same regions,” he says. “This wet weather can also effect harvest in ways other than delays.”

Smaller seeds

Drought during seed fill decreases seed size. These small seeds differ little from normal seeds in quality, composition and appearance, Wiebold says. Elevators should accept them. Adjust combines to keep harvest loss of small seeds to a minimum. Drought can be severe enough to kill soybean plants. Seeds remain green when plant death occurs before maturity. The green may fade during storage, but not always. Elevators dock these seeds. For more information, download “United States Standards for Soybeans” at gipsa.usda.gov/fgis/standards/810soybean.pdf.

Green stems

Drought-stressed soybean plants may not mature normally. Stems remain green even though pods and seeds have matured. Sometimes leaves die but remain on the plant. “When this happens, we may wait too long to harvest,” Wiebold says. “We assume that the pods are not mature if we see green stems. Harvesting soybean plants with green stems is difficult and slows harvest, but delaying harvest will increase pod shattering and yield loss.”

Weak pods and shattering

Soybean pods are made of two halves. On wild soybean, the pods easily split to disseminate seeds, Wiebold says. Soybean breeders select against shattering and normally the two halves of soybean pods are held strongly together. They rupture only during harvest or if plants are left in the field long after maturity, he says. Drought stress can weaken the sutures that hold the halves together. This increases the possibility of shattering, especially if seeds swell and shrink during repeated cycles of wetting and drying. The soybean pod wall reaches almost full length before seed growth begins. Drought stress during pod wall growth can result in thinner pod walls that are prone to breakage. This happens less often than shattering from split pods. Tears in the pod wall usually are too small to allow seeds to fall, but they can let water into the pod.

Sprouted seeds

Pod walls usually prevent soybean seeds from absorbing water, Wiebold says. “Unfortunately, the current spell of frequent rains, drizzle and/or foggy days and nights can bathe the soybean pod in enough water that the water soaks through the pod wall and wets the soybean seed.” This can result in seed sprouting while still in the pod. For more information, see Wiebold's article “Wet Weather Can Cause Seeds to Sprout on the Plant” from the September 2016 Integrated Pest & Crop Management newsletter at ipm.missouri.edu/IPCM/?ID=645. Sprouting rapidly decreases seed quality and results in docking at the point of sale. Grain with sprouted seeds is difficult to store safely. Sprouted seeds release compounds that speed fungal growth. Harvest timely and make sure grain is dry to stop sprouting.

Poor grain quality

Seeds on plants killed by drought before maturity may be more susceptible to fungal invasion. Tears in pods, either within the pod wall or at the bottom suture, let water into the pod. If water can enter the pod, so can fungi. “The combination of water and fungi result in fungal growth,” says Wiebold. “This growth may produce toxins, but mostly it reduces grain quality.” U.S. standards for soybean set the upper limit for damaged kernels (it uses this term for seeds) in No. 2 soybean at 3 percent. If damaged kernels exceed 8 percent, the grain lot will be graded sample. Sample-grade lots are hard to sell and there are few uses for them near most communities. Timely harvest may decrease the amount of damaged seeds, but some damage happens well before harvest. Scout the field to find and isolate pockets of damage so the better-appearing grain is not contaminated. This is not easy and takes time, Wiebold says. It may, however, prevent grain from being rejected at market and is worth it. Storing damaged grain also is difficult because fungal growth may continue and the integrity of the seed coat has been broken. Quickly bring moisture of grain lots with damaged seeds below 13 percent. “Be careful not to raise grain moisture by aerating with humid air,” Wiebold says. “Carefully watch stored grain for signs of heating.”

Used Equipment for Sale

Ken Tevis (Hughesville, MO) has a few pieces of used equipment (listed below) for sale. Please contact Ken at (660) 460-0648 or email at kh2tevis@iland.net for pricing and other information.

X298D Clipper Cleaner
Oliver 2408 Gravity Table

69D Clipper Cleaner
(1) Bank of Enclosed Spirals

Variety Testing Performance Results

Results from the University of Missouri's 2018 performance testing for corn and soybean are available via the internet at <http://varietytesting.missouri.edu/> and may also be accessed via a link on MCIA's web site (<http://mocrop.org>). Preliminary results are usually posted as soon as a location is harvested but keep in mind they are only preliminary results until all data has been checked and verified.

Links to Items of Interest

- Residual Herbicides and Cover Crop Establishment <https://ag.purdue.edu/btny/weedscience/Documents/covercropcarryover.pdf>
- "Seed Destructor" Technology Likely Next Step in War on Weeds <http://wssa.net/2018/09/seed-destructor-technology-next-step-in-war-on-weeds/>
- Alternative Forage Options During/After Drought <https://extension2.missouri.edu/news/alternative-forage-options-during-and-after-drought-3696>
- Forage Insurance Gains Users in Big Dry Spells <https://extension2.missouri.edu/news/forage-insurance-gains-users-in-big-dry-spells-3740>
- Farm Tax Workshops Set for November <https://extension2.missouri.edu/news/farm-tax-workshops-set-for-november-3743>
- University of Sydney Scientists Solve 30-Year Wheat Puzzle <http://sydneyuniversity.cn/sydney-scientists-solve-30-year-wheat-rust-puzzle/>
- Nitrogen Fixation Engineering in Cereal Crops Moves a Step Closer <https://phys.org/news/2018-09-nitrogen-fixation-cereal-crops-closer.html>
- How Plants Harness Microbes to Get Nutrients <https://www.sciencedaily.com/releases/2018/09/180917111527.htm>
- Soy Natural: Genetic Resistance Against Aphids <https://www.sciencedaily.com/releases/2018/08/180829081320.htm>
- Global Warming Means More Insects Eating More Crops <https://www.morningagclips.com/more-insects-eating-more-crops/>
- Indonesia Researchers Look to Protect Rice Plants With Their Natural Defenses <http://www.acnnewswire.com/press-release/english/46034>
- Blue Green Algae Promises to Help Boost Food Crop Yields <https://phys.org/pdf455276358.pdf>
- Argentina to Release Drought and Salt Tolerant Soybeans <http://www.isaaa.org/kc/cropbiotechupdate/article/default.asp?ID=16811>
- UK Researchers Make Important Plant Disease Resistance Finding <https://www.morningagclips.com/important-finding-in-plant-disease-resistance/>
- Rice Gene Editing Cited as World Changing Science <http://www.publicnow.com/view/9FA71C9C4B220D09E89BA8F514556CBC6F20CED6>

Calendar

October 29-31	Western Seed Association Annual Conference	Kansas City, MO
November 1-2	ASTA Farm & Lawn Seed Conference	Kansas City, MO
November 22-23	Thanksgiving Holiday – MCIA Office Closed	
December 3-6	ASTA Corn, Sorghum & Soybean Research Conference	Chicago, IL
December 24-26	Christmas Holiday – MCIA Office Closed	
January 1, 2019	New Year's Holiday – MCIA Office Closed	
January 7-10	IPSA Annual Conference	Indian Wells, CA
February 1-5	ASTA Vegetable and Flower Seed Conference	Orlando, FL

