

Audrain County News

Mary Sobba, Ag Business Specialist
<http://extension.missouri.edu/audrain>

May 2018

Upcoming Events

May 19 – MO Pesticide Collection Event –

Palmyra 8 a.m. to noon

<https://dnr.mo.gov/env/hwp/pesticide/docs/palmyrafler.pdf>
Palmyra Recycling Center

Free pesticide collection for Missouri farmers and households. Accepting all pesticides including: herbicides, insecticides, fungicides, rodenticides, dewormers, fly tags, fertilizer containing pesticides.

Sponsored by Missouri DNR

July 10 – MU Extension Summer Tax (TCJA)

School 2018 – Columbia 8 a.m. to 4:45 p.m.

<http://extension.missouri.edu/audrain/agtax.aspx>
This school is for individuals and professionals preparing tax returns. This school will feature details of the new Tax Cuts and Jobs Act (TCJA) law. There will be an emphasis on the impact on agriculture, since one of the instructors is a nationally known agriculture lawyer. The day will also be covering individual issues, business issues and cyber security and more. Early bird registration (\$190) ends June 21st. After then registration is \$215. *This class meets the requirements for 8 hrs of continuing ed. with the IRS, Certified Financial Planner Board of Standards (applied 7 hrs) and the Missouri Bar CLE (applied).*

June 8 – Food Safety Modernization Act (FSMA) Produce Safety Rule Grower Training – Jefferson City

For more information, call 913-307-7391. In response to the growing number of produce-related food safety outbreaks, FSMA was signed into law in 2011, with a goal of preventing contamination in the U.S. food supply. On-farm food safety is an area covered jointly by MU Extension and K-State Extension.

July 12 – Crop and Soil Management

Workshop – MU Bradford Farm - Columbia all day

For more information contact the farm manager Andrew Biggs 573-884-7945

Sept 8 – MO Pesticide Collection Event –

Jefferson City 8 a.m. to noon

<https://dnr.mo.gov/env/hwp/pesticide/docs/jcfler.pdf>
MFA Agri Services – Jefferson City

Free pesticide collection for Missouri farmers and households. Accepting all pesticides including: herbicides, insecticides, fungicides, rodenticides, dewormers, fly tags, fertilizer containing pesticides.

Sponsored by Missouri DNR

Tomato Varieties

In case you are thinking about planting tomatoes, the following information from the MU Bradford farm may be helpful. They planted 145 varieties last year and had the public taste test them.

The best tasting top five were:

- ✓ SunSugar Hybrid
- ✓ Cossack Pineapple
- ✓ Green Doctors
- ✓ Aunt Molly's Ground Cherry
- ✓ Cherry Bomb

The bottom (worst tasting) varieties were:

- ✓ Roma
- ✓ Charger F1
- ✓ Mountain Pride Hybrid
- ✓ Wagner Blue Green
- ✓ Indigo Kumquat Hybrid

Extension Centers do not have a list of suppliers of these varieties. You may want to check local stores and if not there, try searching online.

Early Season Soybean Diseases

article adapted/shorted from Dr. Kaitlyn Bissonnette

As soybean planting approaches, it is important to make early season management decisions to reduce losses from the two most damaging soybean diseases: sudden death syndrome (SDS) and soybean cyst nematode (SCN). The pathogens of both diseases can infect soybean roots shortly after germination, making early season management of these diseases critical.

Sudden death syndrome

SDS is caused by the soil inhabiting fungus *Fusarium virguliforme*, survives on soybean residues and produces survival structures, which can withstand the elements for several years. Its name is derived from the "sudden" appearance of foliar symptoms that occur after the plants begin to flower. Symptoms of SDS begin as interveinal chlorosis (yellowing) and necrosis (tissue death) of the leaves and can eventually result in defoliation if infection is severe. Though the first observable symptoms of the disease are in the leaves, the pathogen is localized in the roots. For this reason, foliar fungicides are not effective in controlling the pathogen.

Root infection by *F. virguliforme* can begin as soon as roots have emerged from the seed and is favored by cool, wet soils. For this reason, management of SDS begins at planting. Methods of managing SDS once it is present include: delaying planting until soils have warmed (> 60°F), improving soil drainage, reducing compaction, selecting SDS resistant varieties, and crop rotation. *Fusarium virguliforme* also is capable of surviving and increasing on corn residues, so the traditional corn-soybean rotation may not be sufficient to substantially reduce the amount of fungal inoculum (disease-causing particles) in the soil. Breaking up this traditional rotation with a small grain or other non-host crop can help decrease inoculum levels. Most commercially available seed treatment fungicides are ineffective in controlling *F. virguliforme*, but fluopyram (Ilevo; Bayer Crop Science) has been shown to have some efficacy in reducing infection severity. Most importantly, if SDS is confirmed in a field, avoid continuous soybean to reduce the buildup of fungal inoculum in the soil.

Soybean cyst nematode

Soybean cyst nematode, a plant-parasitic roundworm, is another soil-inhabiting pest found throughout the soybean growing regions of the United States and is well established in Missouri. SCN juveniles penetrate the root tissue and establish feeding sites, called syncytia, which then reduce water and nutrient uptake in the plant and ultimately result in yield reductions. In Missouri, SCN is capable of reproducing on soybean roots at a rate of three to six generations per year. When symptoms of SCN damage are visible, plants appear stunted and yellowed or result in bare patches in the field. Frequently, symptoms of SCN damage are not visible, but there still can be up to 30% yield loss. Additionally, the presence of SCN in conjunction with the SDS pathogen in a field can increase the severity of SDS foliar symptoms.

The first step in an active SCN management program is

to sample the soil in fields where soybeans are grown and to get your SCN egg count (each egg is a potential disease-causing unit). Remember: take the test, beat the pest. To sample for SCN, subdivide large fields into 20 acre sections, collect at least 15-20 soil cores from each section, and thoroughly mix the cores from within each section together. Collected samples can be submitted to the University of Missouri SCN Diagnostic Lab with a completed nematode sample submission form indicating that an SCN egg count is needed. Sampling for SCN can occur at any point during the growing season, but SCN counts are most informative when soil is collected at or shortly following harvest or just prior to planting.

Management of SCN relies on the use of resistant varieties and crop rotation to non-host crops. The primary source of resistance in commercially available soybean varieties is derived from a single source, PI 88788, which has resulted in many SCN field populations adapting to SCN resistant varieties in Missouri. The most effective way to manage SCN still begins by selecting an SCN resistant variety, but it is important to rotate the varieties planted each year. By rotating varieties, even if those varieties have the same source of resistance, the ability of the pest to adapt to PI 88788 can be slowed.

The key to keeping SCN numbers low is testing soils and manage populations while the numbers are low. When egg counts are high, yearly testing, crop rotation to non-hosts, and rotation of SCN resistant varieties can be employed over multiple seasons to reduce the SCN population density. In some cases, nematode-protectant seed treatments could be an additional management option. If possible, avoid growing continuous soybeans in heavily infested fields.

Key take-aways

1. Sudden death syndrome – reduce disease risk by planting into warm soils, improving soil drainage, reducing compaction, selecting an SDS resistant variety, and rotating crops
2. Soybean cyst nematode – employ active SCN management tactics: 1) test your soil to know your number; 2) select SCN resistant varieties and rotate the variety each year; and 3) rotate to non-host crops such as wheat or corn
3. If either disease is present in your field – avoid continuous soybeans and rotate to non-host crops





Ag Connection

Your local link to MU for ag extension and research information

<http://agebb.missouri.edu/agconnection>

For more information
please contact your
MU Extension Center:

Adair
(660) 665-9866
Audrain
(573) 581-3231
Boone
(573) 445-9792
Callaway
(573) 642-0755
Chariton
(660) 288-3239
Clark
(660) 727-3339
Howard
(660) 248-2272
Knox
(660) 397-2179
Lewis
(573) 767-5273
Linn
(660) 895-5123
Macon
(660) 385-2173
Marion
(573) 769-2177
Monroe
(660) 327-4158
Pike
(573) 324-5464
Putnam
(660) 947-2705
Osage
(573) 897-3648
Ralls
(573) 985-3911
Randolph
(660) 269-9656
Schuyler
(660) 457-3469
Scotland
(660) 465-7255
Shelby
(573) 633-2640
Sullivan
(660) 265-4541

New SCN Coalition is Launched

Soybean cyst nematode (SCN) is easily the most devastating soybean pathogen in North America. Alone, it is responsible for upwards of \$1 billion in yield loss each year. To combat this pest a group of University researchers, Extension specialists, and Ag business representatives have formed the SCN Coalition. This is the second SCN Coalition. The original started in late 1990s when SCN was wreaking havoc on soybean yields and producers had little knowledge of the pest. Unfortunately, the scenario is similar today because the simple solution from 20 years ago is starting to fail.

The first coalition, which lasted a couple of years, helped thousands of producers understand and manage the pest. Yield loss often goes unnoticed for several years because SCN attacks the roots. Above ground symptoms are minimal until SCN populations become high and damage is severe. With prolific growth, it does not take long for populations to become large. Each female produces 250 eggs and there are 3-6 generations in one season. Unlike other pathogens or pests, SCN is a consistent yield robber, it is not weather dependent and it is well adapted to survive through several years of non-host crops. Once a field is infested with SCN it cannot be eradicated, so it must be managed.

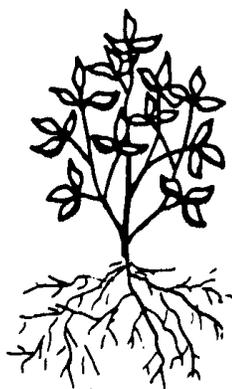
The simple, and effective, management tool 20 years ago was SCN-resistant soybean varieties. According to nematologists, for a variety to be resistant it should not allow more than 10 percent SCN reproduction when compared to a susceptible variety. In other words, a resistant variety should prevent 90 percent or more of the SCN in a field from reproducing. Unfortunately, almost all SCN-resistant varieties (over 95%) have resistance genes from the same breeding line called PI 88788. Producers have been using the same source of resistance for 20 some years. Growing soybean varieties with the same SCN resistance genes is just like continually using the same herbicide repeatedly to control a population of weeds. Eventually the weed develops a resistance and the herbicide is no longer effective. Nematode populations with the ability to reproduce on varieties with PI 88788 resistance are now common in the Midwest. In fact, 78 percent of SCN populations in Missouri have greater than 10 percent reproduction on PI 88788.

The understanding by producers of the severity regarding the SCN further complicates the issue. Researchers conducted a survey in 2015 and found that 45% of farmers did not think identifying SCN was important and of that group, 69% did not think SCN was a serious threat. This is likely because traditional resistant varieties were very effective for nearly 20 years and it allowed producers to stop focusing on SCN. Obviously, SCN is still a major issue as it has been confirmed in more than 30 states, Puerto Rico, and Canada. SCN continues to spread into new counties and fields each season and there is no slow down on the horizon.

For these reasons, the second coalition has been launched. It is a diverse partnership

to help the agriculture industry speak with one voice about soybean cyst nematode management. The first step in actively managing SCN is to determine what your field populations are. SCN experts like Dr. Greg Tylka from Iowa State, encourage producers to implement multiple tactics to manage SCN. Recommendations include growing nonhost crops (such as corn and wheat), selecting SCN-resistant soybean varieties with different breeding lines (sources of resistance) and to rotating varieties within a resistant source, and using nematode-protectant seed treatments.

The SCN Coalition’s goal is to decrease SCN populations and increase yield potential. So “Know Your Number.” “Take the Test. Beat the Best.” Follow the coalition on twitter (@TheSCNCoalition) or Visit www.TheSCNcoalition.com for links to new SCN management tools and technologies from SCN Coalition partners and for state-specific SCN management recommendations from local SCN experts. Specifically at the University of Missouri, Kaitlyn Bissonnette – Plant Pathologist and Melissa Mitchum – Nematologist are part of the coalition. For information on testing for SCN, go to sendiagnostics.com



Source: *Wyatt Miller, agronomy specialist*

New Tax Bill for the 2018 Tax Year

President Trump signed the new tax law, commonly called the Tax Cuts and Jobs Act, into law on December 22, 2017. This is the first major tax change in over thirty years and affects all taxpayers.

The law provides many changes for individuals and businesses. Some of the changes will expire at the end of 2025 and others will be permanent changes.

The new law continues with seven income tax brackets, but the percentages and amounts change. The changes will be favorable for most taxpayers. Many employees have already seen changes in paychecks due to employers changing withholdings attributable to the new percentages.

Following are a few items related to agriculture:

- Section 179 has been increased to \$1 million beginning January 1, 2018. In 2017, the amount was \$510,000.

Beginning in 2019, the amount will be indexed for inflation. This provision is permanent.

- **Additional First-Year Depreciation** – allows for 100% bonus depreciation for five years for qualifying property acquired and placed into service after September 27, 2017. Beginning in 2023, a phase out begins and will end after the 2026 tax year. First-year depreciation provisions apply to used and new property.
- **Farm Equipment Depreciation** – Historically most farm equipment was depreciated over seven years. The new law allows new farm equipment to be depreciated over five years. It removes the requirement that farm property be depreciated using the 150 percent declining balance method, except for 15 or 20 year property. This provision applies to property placed in service after December 31, 2017.
- **Domestic Production Activities Deduction**, commonly called DPAD, was a deduction for businesses producing most of their goods in the United States. This deduction has been eliminated.
- **Cash Accounting** has been expanded allowing more taxpayers to use it. Most taxpayers who meet a \$25 million gross receipts test are eligible to use the cash method including farming C corporations.
- **Estate Tax** has doubled the basic exclusion for estates of decedents dying during the tax years 2018-2025. The basic exclusion for each person is \$11.2 million beginning in 2018. Portability continues which allows a surviving spouse to elect to preserve the deceased spouse’s unused exclusion. In 2026, the basic exclusion is set to return to the 2017 levels.

In addition, on March 23, 2018 the President signed the Omnibus spending bill into law, which included provisions to “level the playing field” for selling grain to cooperatives. The Tax Cuts and Jobs Act included Section 199A, which had an unintended advantage for patrons selling grain to cooperatives in which they were a member. If you have specific tax bill questions, please contact your local University of Missouri Extension Ag Business Specialist.

Source: *Mary Sobba, ag business specialist*



Garden Tips for May

May is a busy month for gardening. To ensure you have a successful gardening season, follow these gardening tips:

Ornamentals

- Fertilize azaleas after bloom. Use a formulation that has an acid reaction.
- Apples, crabapples and hawthorns susceptible to rust disease should have protective fungicidal sprays applied beginning when these trees bloom.
- Continue monitoring pines, especially scotch and mugo, for sawfly activity on new shoots.
- Do not remove spring bulb foliage until it turns yellow and dies down, or next year's flower production will be reduced.
- Begin planting warm-season annuals.
- Plant summer bulbs such as gladiolus, caladiums, dahlias, cannas, and elephant ears.
- Scale crawlers are active now. Infested pines and euonymus should be treated with an insecticide at this time.
- Pinch back mums to promote bushy growth.

Vegetables

- Set out vegetable transplants, herbs and plant sweet potatoes.
- Stake or cage tomato plants at planting time.
- Direct seed crops like cucumber, melons and pumpkins.
- Growing lettuce under screening materials will slow bolting and extend harvests into hot weather.
- Place cutworm collars around young transplants. Collars can be made from cardboard strips.
- Isolate sweet, super sweet and popcorn varieties to prevent cross-pollination.
- Harvest asparagus for continued spear production. Control asparagus beetles as needed.
- Thin plantings of carrots and beets to avoid overcrowding.
- Control caterpillars on broccoli and cabbage plants by handpicking or use biological sprays such as B.T.
- Remove rhubarb seed stalks as they appear.
- Watch for striped and spotted cucumber beetles. Both may spread wilt and mosaic diseases to squash and cucumber plants.

Fruits

- Mulch blueberries with pine needles or sawdust.
- Do not spray fruit trees while in bloom. Refer to local Extension publications for a fruit spray schedule.

Turfgrass

- Mow lawns at 2 to 3.5 inch height.
- Apply post-emergence broadleaf weed controls if needed.
- Watch for the emergence of sod webworms.

Source: *Jennifer Schutter, horticulture specialist*

Northeast Missouri Bull Sale

The 46th Annual Northeast Missouri Performance Tested Bull Sale was held in Palmyra on March 31. The overall average on forty-three bulls was \$2,995.

The high breed average was Polled Hereford at \$3,667. Other breed averages were SimAngus \$3,500, and Angus \$2,931.

High selling bulls in the sale were Angus and Polled Hereford consigned by Kris and Tracy Graupman, Palmyra, MO and Keithley/Jackson, Frankford, MO and sold for \$6,700 and \$5,900 respectively. They were purchased by Keithley/Jackson, Frankford, MO and Baker Family Farms, Atlanta, MO. Fifteen other bulls sold for \$3,000 or higher.

Other top selling bulls included Shannon Farms, Angus at \$5,600; Donald Drebes, top Simmental at \$3,500.

Bulls offered in this sale met certain predetermined standards in order to be eligible for this sale. Bulls must be in the upper 50th percentile in two out of four EPD (Expected Progeny Difference) traits: CE or BW, WW, YW, or Milk, yearling height 49 inches or above, weight at a year 1100 pounds or above, semen tested and examined for breeding soundness. In addition bulls must meet the following health requirements: tested and found negative for Brucellosis and BVD-PI, vaccinated against Leptospirosis, and must follow state requirements for trichomoniasis.

The annual meeting of the Northeast Missouri Beef Cattle Improvement Association, which sponsors the bull sale, was held April 5 at the Rialto Banquet Hall in Hannibal with 95 members and guests attending. Several awards were presented at the banquet.

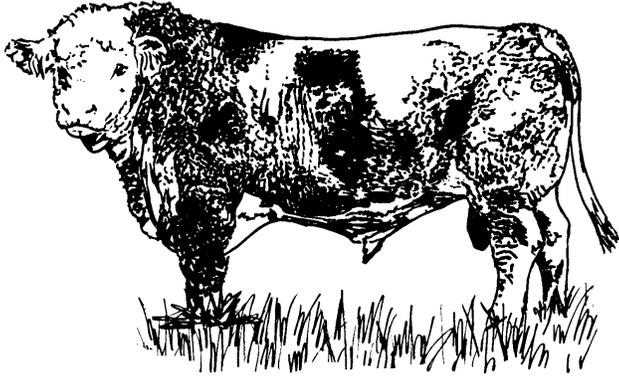
Plaques were presented to the owners of the high indexing bulls in the sale. Angus went to Tracy and Kris Graupman, and Hereford went to Keithley/Jackson.

Other awards presented, included Outstanding Seedstock Producer, Donald Drebes, Monroe City, MO; Outstanding

Commercial Producer, Randy Baker, LaPlata, MO; and
Outstanding Service to Daniel Mallory, Perry, MO

The sale is a cooperative effort between the Northeast
Missouri BCIA and University of Missouri Extension. For
details on participating, contact your nearest Extension
Livestock Specialist. The next sale will be March 30, 2019
at F & T Livestock Market, Palmyra, MO.

Source: *Daniel Mallory, livestock specialist*



Area Grazing Schools

Several grazing schools have been scheduled for 2018.
MU Extension partners with USDA NRCS and county
Soil and Water Conservation Districts for the educational
schools. Below is a partial list of the 2018 schools.

Boone / Howard counties

June 14 - 15 Fayette, MO

For details call: 660.248.3358 ext. 3

Putnam County

September 20 - 21 Unionville, MO

For details call: Valerie Tate 660-895-5123

Ralls County

June 7 - 8

For details call: Lucas Brass 573.985.8611 ext. 110

Additional schools are expected to be added to the
list. For locations across the state visit
<https://mofgc.org/grazing-schools/>