What is your soybean cyst nematode (SCN) egg population? If you can’t accurately answer this question, you are not alone. One survey indicated that 64% of producers have never sampled their fields and 25% have not sampled for greater than 5 years. If you fall into one of these categories and are a soybean producer, it may be time to consider a SCN egg count. SCN falls under plant pathology and is ranked number one for disease yield loss in the U.S. SCN is deceiving since it takes very high populations to cause above ground visual symptoms and much lower populations to actually reduce yield 15% to 30% with little to no visual symptoms.

As with any pest, scouting and monitoring changes over time is critical. A yield monitor is a great tool to identify locations in fields where yield loss cannot be linked to any definite above ground visual problems such as thin stand, weeds, insects, nutrients, etc. The one exception is a correlation to sudden death (SDS) and SCN, so sampling may be warranted where SDS symptoms were identified. Once those locations are identified, scouting requires soil sampling and submitting a sample to the nematology lab for an egg count. Follow the link to the MU Nematology website for sampling and submitting samples: http://soilplantlab.missouri.edu/nematode/samples.aspx. Egg counts can be taken any time of year, however, the ideal time is fall/winter after harvest.

A number of factors have occurred over the years that could lead to a buildup of these pests in your field. 1) A farm’s soil texture does not have to be beach sand to have a nematode population. Granted, a Sharkey clay would not be conducive to explosive nematode buildup. 2) There is a limited genetic pool of resistance where the dominant trait of most commercial SCN soybean lines is PI88788. Therefore fields of continuous soybean and even fields in rotation could see a specie shift due to selection pressure. 3) The high efficacy of PI88788 has given many a sense of security over the years to where testing has simply been forgotten. 4) There has been other “bigger” problems soybean producers have had on the front burner, namely – PIGWEED.

Management includes: 1) scouting and monitoring changes in egg
numbers. Sample thoroughly because results are only as good as the sample taken. For monitoring, mark your sample locations so when you do come back in a few years you are comparing as best you can apples to apples. 2) keeping non-host crops in rotation. Non-host crops include corn, sorghum, winter cereal grains, clover, alfalfa, and forage grasses. 3) grow resistant varieties. If egg counts have increased, an HG test can help direct to what type of resistance may be needed. Unfortunately your resistance options include: PI88788, Peking, and Hartwig. The Hartwig gene is considered complete SCN nematode resistance. 4) nematicide seed treatments are available. There is limited research on these products and if considered, use in conjunction with soybeans containing PI88788 or Peking resistance.

Anthony Ohmes, Agronomy Specialist, University of Missouri, Jackson, MO.

---

**Farmers Market Workshop**

Wednesday, March 25, 2015
8:30am to 3:00pm

**North College Center, Mineral Area College, Park Hills**

8:30 – Registration and Certifying Scales

9:15 – Greenhouse Options for the Market Grower, Donna Aufdenberg

10:25 – Diseases, Sarah Denkler

11:20 – Growing Flowers for Cut Flower Market

12:15 – Lunch

1:00 – Marketing & Presentation

2:00 – Beekeeping Basics, Gregg Hitchings, Parkland Beekeepers Association

The cost is $15. Lunch will be served and there will also be an opportunity to recertify scales. RSVP required by March 20 to ensure a spot. For more information, contact Katie Kammler at 573-883-3548 or kammlerk@missouri.edu.

---

**Source:** [http://extension.missouri.edu/p/G4450](http://extension.missouri.edu/p/G4450)

Stunted, yellow soybean plants (foreground) are a sign of infection by soybean cyst nematode.
**SEMO All-Breed Performance Tested Bull Sale**

**Friday, March 27, 2015**

**Farmington Livestock Auction Barn**

The SEMO Bull sale will be held Friday, March 27, 2015 starting at 7 PM in the Farmington Livestock Auction barn. Please visit SEMObeef.com or contact Darrell Aufdenberg (573-270-6755) or the Cape Girardeau County Extension office for a catalog.

Offering 30 bulls - 6 Charolais; 21 Angus; 1 Simmental; 2 Gelbvieh Balancer

---

**Fescue Renovation Schools**

The Alliance for Grassland Renewal will host a series of fescue renovation schools at University of Missouri Farms and Centers. The schools provide producers, veterinarians and industry professionals options for successfully converting Kentucky 31 tall fescue to novel endophyte varieties. Schools begin with understanding fescue toxicosis, then walk through the conversion process. Conversion topics include establishment practices, fertility needs, smother crops, weed control, stand maintenance, and variety selection. Schools provide hands on training for drill calibration in addition to pasture walks to observe different novel endophyte varieties. Expertise will be on hand from University of Missouri Extension, NRCS, Agribusiness and producers to give participants the opportunity to get answers to questions from a variety of perspectives and information sources. For further information visit [http://grasslandrenewal.org/education.htm](http://grasslandrenewal.org/education.htm) or contact

- **Southwest Research Center, Mt. Vernon, MO**  
  Monday, March 30, 2015  
  Enrollment Limit = 60
  For more information, contact Carla Rathman at 417-466-2148 or RathmannC@missouri.edu

- **Wurdack Farm, Cook Station, MO**  
  Tuesday, March 31, 2015  
  Enrollment Limit = 30
  For more information, contact Will McClain 573-775-2135 or McClainWE@missouri.edu

- **Beef Research & Teaching Farm, Columbia, MO**  
  Wednesday, April 1, 2015  
  Enrollment Limit = 70
  For more information, contact Lena Johnson at 573-882-7327 or JohnsonLM@missouri.edu

- **Forage Systems Research Center, Linneus, MO**  
  Thursday, April 2, 2015  
  Enrollment Limit = 120
  For more information, contact Racheal Foster-Neal at 660-895-5121 or FosterNealR@missouri.edu
In the past few weeks I have received a number of calls about the use of dolomitic (red lime) vs. calcite (white lime). Clearly, there exists some confusion on the use of liming material containing Mg. There is a concern that our soils are high in Mg and application of liming material with Mg will increase the soil Mg concentration. Before I can offer my opinion on the subject, let’s first define a few key terms to ensure we are all speaking the same language.

**Dolomitic lime:** Liming material used to raise soil pH composed of calcium magnesium carbonate, ideally CaMg(CO$_3$)$_2$.

**Calcite lime:** Liming material use to raise soil pH composed of calcium carbonate, ideally CaCO$_3$.

**Calcium to Magnesium Ratio:** The relative proportion of the percent base saturation of exchangeable calcium and magnesium in the soil.

**Why plants need Ca and Mg:**

The primary function of calcium in plants is to provide structural support to cell walls. Calcium also serves as a secondary messenger when plants are physically or biochemically stressed. While, magnesium is the central atom in the chlorophyll molecule, so it is involved in photosynthesis. It serves as an activator for many enzymes required in plant growth processes and stabilizes the nucleic acids. Plant requires Ca in larger amount than Mg.

**Origin of the Ca:Mg Ratio Idea:**

The origin of the concept of an ideal ratio for Ca:Mg in soil for good plant growth derived from work by Bear and colleagues in the 1940s. They recommended an ideal Ca:Mg ratio of 5:4 for good plant growth. However, their work did not differentiate between crop response (alfalfa) due to pH improvement from lime application to acid soils and the change in Ca:Mg.

**My Perspective:**

In my opinion, providing adequate amount of available Ca and Mg to promote good crop growth is most important. Let’s say this favorable basic cation ratio does exist, it would be like chasing wind to find and maintain in most soil. One reason why we don’t need to spend our time chasing wind to find this ratio is a plant will excrete excess Ca and Mg at the root surface. So in the saying of the legend Bob Marley “A man can only be what he is meant to be, if he takes in too much he will un-filter.” Thanks Bob, it is the same with plants. So, maintaining soil pH in the range suitable for plant growth (5.5-7.5) and sufficient amounts of available nutrients should be our focus.

**Others Perspectives:**

McLean and colleagues in 1983 conducted a series of studies where ratios were manipulated by application of calcite lime, magnesium oxide, and magnesium sulfate and yield response measured. Their results showed the highest yielding treatments and lowest yielding treatments both occurred in soil with similar Ca:Mg ratios, thus indicating that Ca:Mg ratio was not the reason for measured yield differences.

Webb and colleagues in 1978 in Iowa also addressed the issue of over application of Mg. Webb applied potash and potassium-magnesium sulfate (K-Mag) annually to a Webster soil (total of 784 lb Mg/acre over an 8-year period). The results indicate a response to applied potassium, but no effect of applied Mg.

Dr. Gene Stevens and colleagues in southeast Missouri studied the effect of Ca:Mg ratio on potassium uptake in rice. They applied different rates of epsom salt (MgSO4), red lime (dolomite), and white lime (calcite) to create
**Spring Pasture Weed Control**

Late February to mid-March is the recommended spring timing to control biennial and winter annual pasture weeds. The other recommended timing to control these weeds is in the fall. The reason for these timings is stage of growth and development of the target weeds. Applying herbicides to small actively growing weeds is critical to achieve maximum control and prevent seed production. Many biennial and annual winter weeds have two basic stages of development, which are basal rosette (vegetative stage) followed by bolting stalk (reproductive stage). For these plants the herbicide application timing would be the basal rosette stage. An example of this type of development is thistles.

Products containing 2,4-D, dicamba, triclopyr, picloram, aminopyralid, or pre-mixed products containing two or more of these products provide good to excellent control of broadleaf weeds in pasture. Use caution: these products are safe at labeled rates on grass species but can kill or severely injure desirable broadleaves in grass-legume pasture mixes. In some cases spot treatment of areas may provide adequate control. Always read label for proper rates, target weeds, and grazing or harvest restrictions.

In addition to herbicide applications, timely mowing will help suppress seed production. Successful mowing for seed suppression must occur prior to pollination. In many cases, a combination of both timely herbicide application and timely mowing will be needed during the growing season to manage weeds and improve pasture health.

For more information contact a University of Missouri Extension Center and ask for IPM 1031: “Weed and Brush Control for Forages, Pastures, and Noncropland.” The MU IPM guide is a new publication and is an excellent resource for pasture management. You can also find it on the web at: [http://extension.missouri.edu/p/ipm1031](http://extension.missouri.edu/p/ipm1031)

Anthony Ohmes, Agronomy Specialist, University of Missouri, Jackson, MO.
Blueberries offer huge potential for Missouri farmers. Though a challenging crop to produce, blueberries are in high demand for many markets. The Missouri Blueberry School will offer educational sessions and a tour of innovative blueberry farms. Join local and nationally known blueberry specialists to gain expertise on a wide range of blueberry issues, including:

- Establishing new blueberry plantings
- Blueberry weed management, including recent advances
- Update on blueberry insect issues, including spotted wing drosophila and brown marmorated stink bug
- Creative marketing strategies for blueberries
- Blueberry production practices
- Blueberry growers profile
- On-farm tours of innovative blueberry producers

Questions: Call Patrick Byers at 417-881-8909/email: byerspl@missouri.edu or Kelly McGowan at mcgowank@missouri.edu

Make check payable to Greene County Extension, mail to or drop by: Greene County Extension Center, 2400 S. Scenic Avenue, Springfield, MO 65807

Your Name and Farm Name: _____________________________________________________

Additional Members from Farm: ________________________________________________

Address: _____________________________________________________________________

City, State, ___________________________________________________________________

Daytime Phone: _______________________________________________________________

Blueberry School Website: www.extension.missouri.edu/blueberry
MU Extension Offers Educational Grain Marketing Game

After a successful run last year, University of Missouri Extension is offering a second round of the online grain marketing game “Show-Me Market Showdown” from March 2 to May 8. Participants can register for this round of the game as late as Sunday evening, March 8.

The goal of the program is to improve farmers’ knowledge of grain marketing strategies and encourage them to develop sound marketing plans. “Show-Me Market Showdown” is a fun, risk-free way to learn about grain markets, says Mark Jenner, MU Extension agriculture business specialist.

The game uses a third-party website called CommodityChallenge.com to allow players to execute virtual transactions based on real-time market prices. The website monitors players’ market positions, executes their trades and summarizes their virtual account balances.

Although the game is competitive, the main focus is for players to learn the risks and rewards of alternative marketing strategies and understand the mechanics of various marketing tools.

“Players each receive an electronic endowment of corn, beans and wheat, and they compete with each other to see who can increase—or keep from losing—the value of their grain over the 10-week gaming period,” says Jenner. “It is a risk-free opportunity to experiment with grain marketing tools and strategies. The game structure allows for friendly competition between families and co-workers. One farmer intends to sign up everyone in the family.”

MU Extension agriculture business specialists will offer guidance and instruction through weekly emails and a game blog. The emails and blog will also provide a forum for discussion among the game coordinators and participants.

“Players make trades from their own computer and Internet connection,” Jenner says. “They can put as much or as little into the game as they want. Since the game is educational, a valid alternative strategy to ‘competing’ is to try new tools to understand how they impact your grain value. The reward of learning in this case outweighs risk of playing in this virtual market.”

An additional program objective is to educate nonfarmer participants about the complexities of grain marketing and increase their awareness of the challenges farmers face when they make marketing decisions.

For more information and instructions to register for “Show-Me Market Showdown,” go to http://extension.missouri.edu/bates/ag.aspx or contact Mark Jenner at 660-679-4167 or JennerMW@missouri.edu.

Mark Jenner, Ag Business Specialist, University of Missouri, Butler, MO.
Feeding Baleage to Cattle

I have had several inquiries about feeding moldy baleage to cattle. Surface mold may be visible and is usually white, but may also appear pink, gray, or blue. It typically will not penetrate more than a couple inches of the bale and have not shown to cause problems when feeding. Cattle will typically avoid the moldy portion unless they are being limit-fed or forced to eat the entire bale. Depressed intake is the most common effect of moldy haylage as a result of reduced palatability.

Spoilage due to bacterial growth can also occur. Bacterial growth and spoilage can be a result of wrapping at a moisture content >65% (too wet), improper sealing (too little wrap), and soil/manure contamination. Signs of spoilage include dark brown/black bale color, wet, slimy feel, rancid smell, and poor palatability. Botulism caused by *Clostridium botulinum* poses the biggest toxicity risk associated with moldy baleage. Again, campus personnel are not aware of any cattle getting sick or dying from consuming moldy baleage, not to say it isn’t possible!

Recommendation for feeding moldy baleage:
1. Open/dry cows
2. Growing non-pregnant cattle
3. Lactating non-pregnant cattle
4. Pregnant cows

Erin Larimore, Livestock Specialist, University of Missouri, Jackson, MO.

Grass Tetany

As the snow melts and cool-season forages begin to emerge, producers need to prepare for grass tetany. Grass tetany can occur in cattle grazing ryegrass, small grains (oats, rye, wheat), and cool-season grasses (tall fescue, orchardgrass) with low levels of calcium and magnesium and excess potassium. Grass tetany most commonly affects lactating cattle because their magnesium and calcium requirements are so high.

Clinical Signs: nervousness, muscle twitching and staggering during walking, animal may go down, experience muscle spasms and convulsions

Prevention: provide magnesium and calcium mineral supplement during grass tetany season (when grazing above mentioned forages and cereal grains in late winter and early spring)

- Occurrence is more frequent in fertilized pastures than unfertilized ones.
- Occurrence is usually higher after 5 to 10 days of cold weather.
- Most frequently observed in early spring after consumption of lush forages.
- Low magnesium levels are a result of the high water content of rapidly growing plants.

Erin Larimore, Livestock Specialist, University of Missouri, Jackson, MO.
Future Meetings & Events -

Annie’s Project March 5 through April 9, 6:00 to 9:00 pm. Southern Reynolds R-II School in Ellington, MO. Fee is $75.00. Preregister by calling Joyce Pyles at 573-648-1035.

Missouri’s Complex Fence Laws via Lync. Tuesday, March 24 (Cape Girardeau County Extension Center) or Thursday, April 2 (Reynolds and Cape Girardeau County Extension Center) from 6:30 to 8:30 PM. Contact your local extension center to find out more.


Fescue Renovation School. [http://grasslandrenewal.org/education.htm](http://grasslandrenewal.org/education.htm)

Southwest Research Center, Mt. Vernon, MO, Monday, March 30, 2015
Enrollment limit = 60. Contact Carla Rathman at 417-466-2148 or [RathmannC@missouri.edu](mailto:RathmannC@missouri.edu)

Wurdack Farm, Cook Station, MO, Tuesday, March 31, 2015
Enrollment limit = 30. Contact Will McClain 573-775-2135 or [McClainWE@missouri.edu](mailto:McClainWE@missouri.edu)

Beef Research & Teaching Farm, Columbia, MO, Wednesday, April 1, 2015
Enrollment limit = 70. Contact Lena Johnson at 573-882-7327 or [JohnsonLM@missouri.edu](mailto:JohnsonLM@missouri.edu)

Forage Systems Research Center, Linneus, MO, Thursday, April 2, 2015
Enrollment limit = 120. Contact Racheal Foster-Neal at 660-895-5121 or [FosterNealR@missouri.edu](mailto:FosterNealR@missouri.edu)

Missouri State Fair August 13-23, 2015. Sedalia, MO. For more information visit www.mostatefair.com or call 1-800-422-FAIR.

Commodities and markets - [http://extension.missouri.edu/scott/crop-budgets.aspx](http://extension.missouri.edu/scott/crop-budgets.aspx)

2014 Farm Bill - [http://extension.missouri.edu/scott/Farm-bill.aspx](http://extension.missouri.edu/scott/Farm-bill.aspx)
Annie’s Project

March 5 through April 9
6:00 to 9:00 pm

An educational program for farm women held in six consecutive sessions on Thursday evenings. It will be held at the Southern Reynolds R-II schools in Ellington.

Topics covered include: financial documentation and analysis, estate planning, property titles, insurance human resource, business plans and farm legal agreements. Many past participants report that networking with other women farmers is a valuable part of the program.

Registration is $75.00 and participants will receive a binder, calculator, thumb drive, 18 hour workshop and refreshments. Registration is required by March 4 by calling Joyce Pyles at 573-648-1035.