

Missouri Ag News

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Late Season Soybean Pests

Inside this issue:

- [Late Season Soybean Pests](#) 1
- [August: A Good Time to Begin Getting Pastures In](#) 2
- [Spill Prevention Control & Countermeasures](#) 3
- [Insects and Diseases in Missouri Rice 2013](#) 5
- [Cover Crops Instead of Plastic](#) 6

Look for the color code to find articles related to the following.

Crops	Horticulture
Engineering	Livestock
Forestry	Other



Continue to monitor flowering soybean fields for pod feeding insects such as podworms and stink bugs. Podworms have been heavy the past two seasons, appearing in late planted soybean fields toward the end of August and into September. We have seen over the two seasons that many standard control programs containing only pyrethroid chemistry did not provide satisfactory control of podworm.

As producers, you know, last season does not dictate the pest pattern for this season. However, it is important to remain vigilant as flowers develop and to continue to monitor through pod development. It will be essential that you scout because the podworm complex can come on late, after a common fungicide application timing of R3. So, manage your insecticides prudently to help fight resistance, just as you are managing resistance in weeds. Also, unwarranted early season insecticide applications can reduce or eliminate beneficial insects. Podworm threshold in soybean is an average of 1 worm per foot of row. The sweep net threshold is 9 per 25 sweeps. If treatment is warranted, consider using insecticides that specifically target Lepidoptera (caterpillar) insects such as podworm. Read and follow all pesticide labels.

The final late season pest to mention is stink bug. Our predominant species is the green stink bug,

followed distantly by the brown stink bug. Threshold is the same as podworm, 1 per foot of row. Keep in mind, that the insecticides that specifically target Lepidoptera species, may offer suppression but do not control stink bugs. And, like budworm, brown stink bugs are more tolerant/resistant to pyrethroids.



Courtesy of Wayne Bailey, University of MO

For more information on late season soybean pests contact your local MU Extension center and ask for MU guides 7110 and 7151, "Corn earworm" and "Stink bugs," respectively and MU Pest Management Guide M171. You can find these guides at the following links:

<http://extension.missouri.edu/p/G7110>, <http://extension.missouri.edu/p/G7151>, <http://extension.missouri.edu/p/M171>.

Anthony Ohmes, Agronomy Specialist, University of Missouri, Cape Girardeau, MO

August: A Good Time to Begin Getting Pastures in Shape

Whether establishing a new pasture, renovating or maintaining an existing pasture, or stockpiling a fescue pasture, August is the month to begin preparing your fields for this fall. Preparation may include herbicide burndown or applying fertilizer.

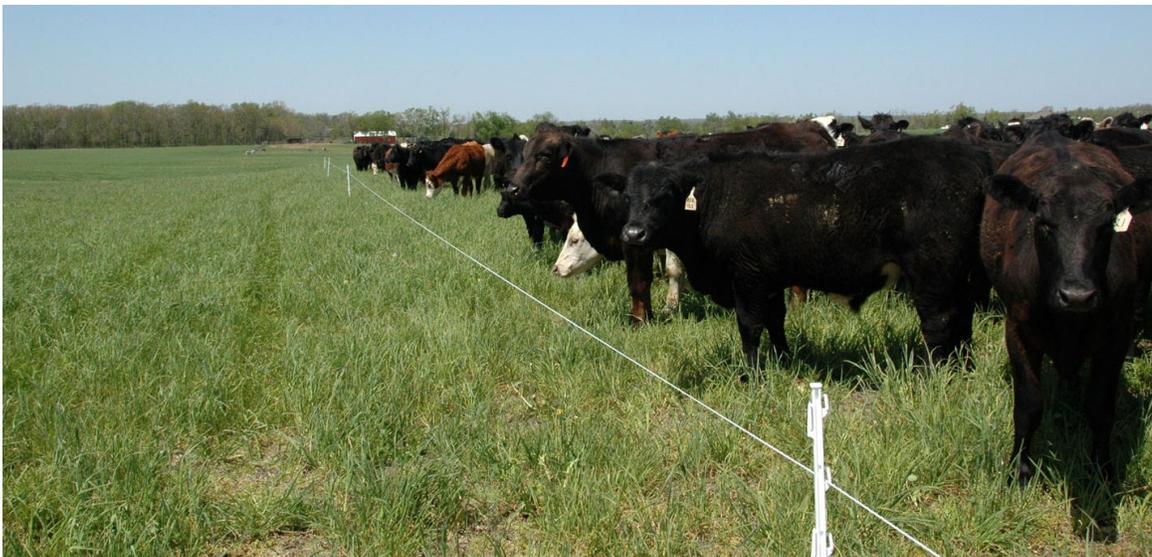
The 2012 drought reduced many of pasture stands coming into spring 2013. We had numerous calls this spring about establishing a warm season grass annual with plans for reestablishing a cool season perennial grass this September. If your management plans fall under this situation, August is the time to make the final herbicide application to control the warm season annual and prepare the seed bed for planting your cool season grass. Consider in these fields establishing “novel” endophyte fescue which provide the positive qualities of fescue without the negative factors.

season, this would be a good time to soil sample fields. Keep in mind that cool season grass root development occurs in the fall, therefore adequate fertility and pH is necessary for a healthy grass. In those pastures with a thin stand of fescue that have limited legumes (<20%), consider renovating with a legume such as clover. If the stand needs more grass, graze fields from mid to late August to drill into existing stand early September. If the stand contains more weeds than grass, August is a good time to apply glyphosate two weeks before reestablishment to actively growing weeds.

Mid-August is the time to even up fescue pastures selected for stockpiling. Pastures selected for stockpiling should receive nitrogen in order to maximize September and October growth. Research has indicated 50 units of nitrogen per acre can produce approximately 1200 pounds of forage. November-December grazing stockpile is most

efficient when strip grazed with a moveable electric fence.

For more information contact University of Missouri Extension and ask for MU guide G4652, “Seeding rates, dates and depths of common Missouri Forages,” as well as, other information on pasture



Courtesy of Debi Kelly from Missouri Beginning Farming

management. You can also find information on the web at the Missouri Beef Resource Guide (<http://agebb.missouri.edu/beef/>) under “Forage and Grazing” and <http://extension.missouri.edu/p/G4652>.

Renovating an existing pasture may be in the plans for many producers following the 2012 drought and late cold spring of 2013. August is a good time to prepare those fields for September planting. If your soil has not been tested this

Anthony Ohmes, Agronomy Specialist, University of Missouri, Cape Girardeau, MO

Spill Prevention Control and Countermeasures

Several farmers have called asking questions about Spill Prevention, Control, and Countermeasure (SPCC) plans, and the engineering firm that is conducting meetings in Missouri related to SPCC and regulatory deadlines. The engineering firm is putting on meetings to drum up some plan building business. They may be able to answer some questions, but remember that they are in the business of writing plans to collect fees.

Below is a brief summary of pending legislation. This was released in mid-June on proposed legislature concerning changes to the present SPCC laws.

The Continuing Resolution (CR) passed by Congress to fund the government through September 30, 2013, prohibits enforcement under SPCC by the U.S. Environmental Protection Agency (EPA). However, the compliance deadline still applies. EPA's Office of Enforcement and Compliance has interpreted the language in the CR to mean that while they cannot issue an enforcement action until October 1, 2013, they can still inspect farms for compliance. If a farm is found to be out of compliance, an enforcement action would be issued after October 1 even if the issue is resolved in the meantime. Fines for being out of compliance can be as much as \$10,000 each day.

Senators Mark Pryor (D-AR) and James Inhofe (R-OK) offered an amended version of S. 496, the Farmers Undertake Environmental Land Stewardship (FUELS) Act, as an amendment to the Water Resources Development Act (WRDA). S. 496 aims to lessen the regulatory burden under SPCC for farms. The amendment underwent several changes but ultimately garnered unanimous consent. Final passage of WRDA occurred and the bill now heads to the House for consideration.

Below is a summary list of the Pryor/Inhofe SPCC amendment to WRDA that was adopted by unanimous consent in the Senate:

- Farms with aggregate above ground storage of 2,500 gallons or less are exempt.
- Farms with above ground storage between 2,501 and 6,000 gallons are exempt until EPA and USDA conduct a study (12 months) to establish a reasonable exemption threshold within the range and EPA then issues a rule (additional 18 months) to set the new exemption threshold.

- Farms with above ground storage between 6,001 gallons and 20,000 gallons can self-certify. When the rule is issued, the lower level shall be adjusted accordingly.
- Farms with above ground storage of 20,001 gallons and more require a Professional Engineer (PE).
- Any farm with a spill history, regardless of above ground storage capacity, requires a PE.

Similar legislation, H.R. 311, has been introduced in the House of Representatives by Rep. Rick Crawford (R-AR). The House Transportation & Infrastructure Committee has indicated its willingness to move forward on the bill but no timeframe has been set. They may take the same approach on their version of WRDA and include the provisions contained in H.R. 311. To look up the legislation, go to <http://thomas.loc.gov>. You can search by bill number or by bill sponsor.

Short answer to this is that if a farm has 1,320 gallons of petroleum or more in one or more tanks they must complete a Spill Prevention Control and Countermeasure plan. The template for the plans can be found on the EPA web site and are fairly simple and straight forward.

The component that is not part of this SPCC regulation but is part of the 1972 secondary containment law is that any producers with one tank of 660 gallons or combination of tanks of 1,320 gallons or more must have secondary containment. If you qualify for needing secondary containment at 660 gallons but are under the 1,320 gallons you don't need to have a SPCC plan in place.

These are two different regulations that are related. The bottom line is that we all know we need to prevent fuel spills and take care of our farm environment. We know there will be adverse results if we allow spills. The house and senate bills are in process so late that they will not prevent any regulatory action by EPA as EPA gets ready for the September deadline. Most farms will be exempt, unless they have a fuel spill. Do you need to attend the Engineering firms meeting? Perhaps, if you think you might be big enough, you need some time away from the farm, or you just want to eat lunch with them.

Frank Wideman, Natural Resource Engineer Specialist, University of Missouri, Perryville, MO

Taxation Tidbit: Affordable Care Act

Many farmers have established medical reimbursement plans for their employees. A couple of filing requirements for businesses that offer medical reimbursement plans have come to light. The first filing due date is July 31, 2013 and a second filing due date will be January 15, 2014.

The first filing will be Form 720 "Quarterly Federal Excise Tax Return" for an excise tax of \$1 per life covered by the medical reimbursement plan. The funds from this excise tax will help fund the Patient-Centered Outcomes Research Institute. This excise tax is required to be reported annually on the 2nd quarter Form 720. The fees to be reported by the July 31, 2013 date are for reimbursement plan years ending on or after October 1, 2012 and before January 1, 2014. This excise tax is

scheduled to continue through October 1, 2019 and will be \$2 per life covered for plan years ending after 2012.

The second filing for employers providing self-insured health plans is a fee (tax) to help stabilize the premiums for policies covering high-cost individuals. Each employer is to submit their annual self-insured enrollment count to Health and Human Services (HHS) by November 15 of their benefit year. Health and Human Services will notify the employer (plan sponsor) of the amount of their tax by December 15th and the employer has 30 days to remit the fee (tax). For 2013, the fee (tax) is scheduled to be \$63 per enrollee in the plan.

Parman Green, Agriculture Business Management Specialist, University of Missouri, Carrollton, MO



The Southeast Missouri Food Bank is eager for donations of specialty food crops. The food bank will bring a 24 foot box truck to pick up any edible produce, including seconds, which should be in a crate or box.

Contact James Landewee, Operations Director at 573-651-0400 several days ahead of time if possible and specify if a refrigerated truck is needed. He will provide you with a tax receipt for anything you donate.

Food Safety

There has been a lot of talk about food safety and Good Agricultural Practices (GAP) certification in the last year and there will be a lot more in years to come, especially when the Food Safety Modernization Act (FSMA) goes into effect next year. If you grow, harvest, pack, or hold produce, the produce rules under FSMA will most likely effect you; GAP certification is part of FSMA. To learn more about FSMA and the produce rules associated with it check out the National Sustainable Agriculture Coalition's (NSAC) easy to read guide on their website: <http://sustainableagriculture.net/fsma/>

To learn about FSMA and the Produce Rule, and to then go and make comments on how you want the rules shaped. There is still time to let your voice be heard. The comment period is open until September 16, 2013. Again you can go to NSAC to learn how to comment: <http://sustainableagriculture.net/fsma/speak-out-today/>

Insects and Diseases in Missouri Rice 2013

What a year?

Finally, (almost) all rice in the state is at or approaching ½" internode elongation. In a couple weeks nearly half of the rice acreage should be reaching 50% heading. The majority should follow in the next three weeks with the latest planted fields getting there in late -August.

The point at which fields are projected to reach 20% grain moisture for harvest is spread out to say the least. The first fields should get there the by mid-August, but the last fields won't until early October.

For now, warm temperatures in the low to mid-90s fill out the 10-day forecast. With the thunderstorms, I'm still hoping our temps remain in that range throughout crop maturity to help to produce solid yields with high grain quality.

With the rice crop beginning to head – be on the alert for rice stink bug infestations. While blast and sheath blight reports have been low, keep an eye on these diseases as your crop begins to head so that fungicide applications can be appropriately timed.

Rice Stink Bug: Early planted rice will be heading soon. Scout now for stink bugs so you will be ready to spray at heading. As expected rice stink bug numbers are high. In MO we follow the UAR insect spray program for rice. With a threshold of 5 stink bugs per 10 sweeps, the question isn't whether or not you're at threshold but rather do I really need to count how many are in the net? May sound silly to some but the answer is, yes, you need to count, so when you come back after application you can see how much control you were able to get.

Remember with numbers as high as this it may require 2 applications to achieve control. If application does it that's great, but you need to be prepared if one isn't enough. Remember, the threshold of 5 stink bugs per 10 sweeps during the first two weeks of heading drops to 10 stink bugs per 10 sweeps the second two weeks of heading.

Choices on insecticides are Declare, Karate (lambda-cyhalothrin), Mustang Max, and Tenchu. I expect these will be the most available. We've tested all of these and found them to all be effective. I don't see

any advantages of one over the other, so shop and get the best price.

One question I've received this past week on fields that have treatment level stink bugs but aren't even heading: Should I go ahead and spray? NO. If you spray before heading it's no guarantee that you won't have to spray again once the rice begins to head, because there is usually a big influx of stink bugs into the field at heading. So you potentially just cost yourself another application.

The first two weeks of heading we are protecting yield potential so get out there and scout if you have rice beginning to head.

Disease Notes

Sheath blight has been very low but recent rainfall may favor disease development. Temperature and humidity are also high and there is a possibility for vertical movement of the disease. Continue scouting until a few days before heading and make sure the top three leaves are free from the disease. Research has indicated Stratego at 16 oz/A will give ~14 days of protection, at 19 oz/A will give ~21 days of protection. Quadris at 6.4 oz/A will give ~14 days of protection, 8.5-9.2 oz/A will give ~21 days of protection, and the full 12.5 oz/A will give ~28 days of protection. These are average figures and may change depending on field factors that affect the activity of the fungicide used.

Blast: So far, little Blast in MO. Fields that are susceptible to blast are those that are difficult to hold a flood. Maintaining a deep flood of at least 4 inches after midseason will help reduce the risk of blast. Scout fields close to tree lines more frequently. Blast can appear in wide-open fields if other conditions are favorable. Trifloxystrobin (GEM) is considered slightly more effective on blast than azoxystrobin (Quadris). Repeated blast history in the field, susceptibility of the variety, high pre-flood nitrogen and lower flood depth in soil types that do not hold water should be taken as evidence for the need to scout for blast. The rain should stop Blast.

Sam Atwell, Agronomy Specialist, University of Missouri, New Madrid, MO

Cover Crops Instead of Plastic

Black plastic has been a staple in commercial vegetable production due to the benefits of weed control, heat retention in the soil and its ability to retain soil moisture. The downsides of using plastic include not only cost and disposal but also that it retains a higher level of heat in soil during the hot months of July and August.

Cover crops are a substitute that can be used as a mulch cover to hold soil moisture, reduce weeds within the row and reduce weed pressure in the row middles where black plastic cannot. The key is using the correct mixture of cover crop and terminating the cover in the method that works best for you at the correct time of year.

Additionally cover crops will scavenge nutrients from the soil and add organic matter as they decompose.

The cover needs to be thick and ready to terminate by the time you want to plant vegetables in the spring. Winter annuals planted in the fall and terminated at least 2 weeks before planting transplants in the spring work well for this purpose. Planting earlier in the fall will provide enough time for the cover to die and mat down.

Hairy vetch is a winter annual that is a great source of nitrogen and acts as a 'glue' holding a cover mulch together. It should be seeded at least 40 days before frost at 25 to 50 pounds per acre. To create more biomass use the higher seeding rate and plant 8 weeks before frost. This is ideal for creating a uniform and stable mat for weed suppression.

Winter Wheat or Cereal Rye are two winter annual grasses that can be mixed with the hairy vetch. Both will provide biomass with the rye being taller, having better root growth and capturing nutrients more successfully. Make sure the seed is annual cereal rye and not perennial ryegrass or annual ryegrass. Seed wheat or cereal rye at 60 to 90 pounds per



Courtesy of USDA

acre. Both grasses will provide quick growth from the start allowing the hairy vetch to catch up later.

When terminating a crop mowing will provide a uniform soil cover but can also promote rapid decomposition because the cover material is in smaller pieces. Mowing provides excellent weed suppression at the start of the growing season but weeds may begin to show as the season progresses. Crimping or rolling the cover will provide cover mass for a longer period of time but it will be less uniform, leaving gaps where weeds will get through. In addition, crimping may be required twice to adequately terminate the cover crop before planting.

According to Tim Reinbott, superintendent and research associate of Bradford Research Farm at the University of Missouri, drip tape can be added in the spring before termination. A heavier grade may be needed to protect against damage from chewing by rodents.

Sarah Denkler, Horticulture Specialist, University of Missouri, Poplar Bluff, MO

More interesting Apps for Agriculture

Following is the final installment of applications available for smart phone technology designed to help ease the burden of office work.

Ag PhD. The Ag PhD Field Guide identifies problem pests in the field. Browse weeds by name or by photo.

Dragon Dictation is an easy-to-use voice recognition application powered by Dragon® NaturallySpeaking® that allows you to speak and instantly see your text or email messages.

Optimizer 2.0. Predict corn yields using data through a daily text message and a Web login portal. Messages include the projected corn yield and the most limiting factor for their farm. Projections are made based on variety of seed, soil type, weather data and other limiting factors. (Available on most mobile devices)

Corn N Rate Calculator. Assists in selecting a Nitrogen (N) rate that improves profitability when N and corn prices fluctuate. Maximum return to N (MRTN) is the N rate that will be most profitable for a particular N:Corn price ratio.

Corn Planning Calculator. This app provides real-time useful calculations for the planting of corn from specific inputs (population desired, cost per acre, seed counts and spacing) resulting in the correct spacing of the corn being planted. (iPhone, iPad, iPod Touch)

YieldCheck. Provides growers with a simple way to calculate and store corn yield estimates. Estimates can be organized based on client, farm and field. They can also see the location of all of their estimates on a map with satellite imagery. For example, users can simply enter kernel counts for three ears of corn and reveal the amount of bushels they can expect this fall. (iPhone, iPad, iPod Touch)

Nutrient Removal. Provides growers and retailers with nutrient removal data in support of higher yields utilizing data from the "Balanced Crop Nutrition" guide to allow users to test potential yields, generating results that are crop and region specific. (iPhone, iPad, Droid)

Grain Shrinkage Calculator. Returns results for the number of bushels after the moisture removal from field to storage for seven common grains: corn, wheat, soybeans, oats, barley, buckwheat, and rye. (Android)

Dynamic Pricing Platform (DPP). Allows farmers the ability to view cash grain prices, basis levels and to make, manage, and monitor firm offers. (Android, iPhone)

AGRIplot allows you to plot any area on a map. Simply walk around your property and add a landmark point, or drag and drop pins anywhere on the map. AGRiplot will automatically calculate the area enclosed by the points and provide the distances between each point. Interest points allow you to identify additional features for your plot. You can even take pictures associated with each landmark or interest point for a visual representation.

Connected Farm. Uses your phone's GPS for mapping field boundaries, locating irrigation pivots, marking flags, and entering scouting information for points, lines, and polygon areas. Scouting attributes include an extensive list of weeds, insects and diseases, and allows you to log the severity of a problem, crop conditions, and more.

The Farm Progress Growing Degree Days application measures the maturity of your crop by viewing data from current and past growing degree days for your farm's location. Growing degree days (GDD) are a measure of heat accumulation to predict the date crops will mature.

N Price Calculator. Compares the price of various forms of nitrogen fertilizer products in terms of their price per pound of nitrogen. This can be added to a list of prices on a separate screen for you to build a price list to compare.

Fertilizer Removal by Crop. Simply select your crop and the desired yield for that crop, and you will be given the amount of vital crop nutrients that your desired yield will need. Results can be saved within the app and e-mailed to yourself or your agronomist for later reference.

Units can convert hundreds of units from 43 different categories including Speed, Time, Length, Volume, Area, Power, Temperature, Fuel Consumption, Clothing Size, Shoe Sizes and loads more!

Water Cost. Texas A&M AgriLife Extension Service, calculates cost per acre and acre-inch of irrigation applied by entering fuel meter readings, hours of operation, gallons per minute, acres covered and cost of fuel per meter unit. Additionally, it calculates the acre-inches applied per acre.

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If you are interested in receiving this publication via e-mail or being removed from the email list please send a request to denklers@missouri.edu.

Future Meetings & Events -

Missouri Rice Field Day: Thursday, August 22, 2013 at the Rice Research Farm in Glennonville, Missouri. Contact the New Madrid County Extension Center at 573-748-5531 to register or with questions.

Watermelon Meeting: Mark you calendar for the watermelon meeting to be held on Wednesday, December 4, 2013.

Commodities and markets - <http://extension.missouri.edu/seregion/fmmkt.htm>