University of Missouri Extension has released a new guide, “Cover Crops in Missouri: Putting Them to Work on Your Farm” (G4161), available for free download at extension.missouri.edu/p/G4161.

There is tremendous interest in cover crops in Missouri right now, notes Rob Myers, an MU adjunct associate professor of plant science and lead author of the publication. Wet weather prevented farmers from planting thousands of acres of soybeans. Farmers with prevented-planting insurance can plant cover crops as an alternative.

“We put together this short publication to provide some straightforward, practical information on how to get started with cover crops,” Myers said. “The six-page guide lays out a couple of simple rotation sequences for using cover crops with corn, bean or wheat rotations. There’s also some information on using cover crops with vegetable crops.”

Developed with input from MU Extension faculty along with experts from the Natural Resources Conservation Service and the Agriculture Research Service, the guide includes information on the most common cover crops and recommended seeding rates for common cover crops planted either individually or in mixes with other cover crops.

Myers says the publication also provides guidance on managing and terminating cover crops, and describes the benefits of using cover crops.

“The benefits provided by cover crops are valuable not only for sustaining food production capacity but also for regenerating soil,” he says. “Although not a cure-all, they definitely increase the health of cropping systems.”
July/August Soybean Plantings in the Bootheel

Due to the flooding this summer, many thousands of acres of soybeans were planted in late July to early August. The question is ‘will they make harvestable beans before frost?’ Soybean date of planting research conducted in Mississippi and Nebraska shows that the later soybeans are planted the shorter the period of each growth stage the plant goes through.

Date from ‘The Guide to Soybean Growth Stages’ from Mississippi State University Extension shows that mid and late Group 4 varieties planted in early July took about 48 days to get from Beginning Bloom (R1) to Full Seed stage (R6, a seed fills the pod cavity at one of the four uppermost nodes). Group 4 varieties took 60 days to get from beginning bloom to beginning maturity (R7; one main stem pod with mature pod color). Mid Group 5 varieties took 63 days to get to R7.

One Mississippi County grower I spoke with reported it took Group 5.1 soybeans 33 days to get from planting on August 8 to early bloom. He is hoping for a later than average killing freeze this year.

There are varying estimates of yield loss from an early freeze. A Kansas State University report, Estimating Yield Reductions from Fall Freeze Damage for Summer Grain Crops, lists these estimates of yield loss to an early freeze. These losses are higher than several other reports:

Rick DeLoughery, Agronomy Specialist, University of Missouri, Caruthersville, MO.

<table>
<thead>
<tr>
<th>Stage of Soybean Grain Development at Time of Freeze</th>
<th>Soybean Growth Stage</th>
<th>Estimated Yield Loss (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning Seed – seed 1/8 inch long in pod at one of 4 uppermost nodes</td>
<td>R5.0</td>
<td>65.4</td>
</tr>
<tr>
<td></td>
<td>R5.5</td>
<td>51.0</td>
</tr>
<tr>
<td>Full Seed – seed fills pod cavity at one of 4 uppermost nodes, leaves beginning to yellow</td>
<td>R6.0</td>
<td>37.1</td>
</tr>
<tr>
<td></td>
<td>R6.5</td>
<td>23.9</td>
</tr>
<tr>
<td>Beginning Maturity – 1 pod on main stem has reached mature color, 50% of leaves yellow</td>
<td>R7.0</td>
<td>11.4</td>
</tr>
<tr>
<td></td>
<td>R7.5</td>
<td>0.0</td>
</tr>
<tr>
<td>Full Maturity – 95% of pods are mature color, leaves have dropped</td>
<td>R8.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>
What is SPCC?

The goal of the SPCC program is to prevent oil spills into waters of the United States and adjoining shorelines. A key element of this program calls for farmers and other facilities to have an oil spill prevention plan (SPCC Plan) to help farmers prevent oil spills.

What is considered a farm under SPCC?

Under SPCC, a farm is: ‘a facility on a tract of land devoted to the production of crops or raising of animals, including fish, which produced and sold, or normally would have produced and sold, $1,000 or more of agricultural products during a year.”

Is my farm covered by SPCC?

SPCC applies to a farm which: Stores, transfers, uses, or consumes oil or oil products, such as diesel fuel, gasoline, lube oil, hydraulic oil, adjuvant oil, crop oil, vegetable oil, or animal fat; and stores more than 1,320 US gallons in aboveground containers or more than 42,000 US gallons in completely buried containers; and could reasonably be expected to discharge oil to waters of the US or adjoining shorelines, such as interstate waters, intrastate lakes, rivers, and streams. If your farm meets all of these criteria, then your farm is covered by SPCC.

If my farm is covered by SPCC, what should I do?

The SPCC program requires you to prepare and implement an SPCC Plan. If you already have a plan, maintain it. If you do not have a plan, you should prepare and implement one. Many farmers will need to have their plan certified by a professional engineer (“PE”). However, you may be eligible to self-certify your amended plan if:

Your farm has a total oil storage capacity between 1,320 and 10,000 gallons in aboveground containers, and the farm has a good spill history (as described in the SPCC rule), you may prepare and self-certify your own Plan. (However, if you decide to use certain alternate measures allowed by the federal SPCC Rule, you will need a PE.)
Your farm has storage capacity of more than 10,000 gallons, or has had an oil spill you may need to prepare an SPCC Plan certified by a PE.

When should I prepare and implement a plan?

Farms in operation on or before August 16, 2002, must maintain or amend their existing plan by November 10, 2010. Any farm that started operation after August 16, 2002, but before November 10, 2010, must prepare and use a plan on or before

What information will I need to prepare an SPCC Plan for my farm?

A list of the oil containers at the farm by parcel (including the contents and location of each container);

A brief description of the procedures that you will use to prevent oil spills. For example, steps you use to transfer fuel from a storage tank to your farm vehicles that reduce the possibility of a fuel spill;

A brief description of the measures you installed to prevent oil from reaching water (see next section);

A brief description of the measures you will use to contain and cleanup an oil spill to water; and

A list of emergency contacts and first responders.

What spill prevention measures should I implement and include in my SPCC Plan?

Use containers suitable for the oil stored. For example, use a container designed for flammable liquids to store gasoline;

Provide overfill prevention for your oil storage containers. You could use a high-level alarm, or audible vent, or establish a procedure to fill containers;

Provide effective, sized secondary containment for bulk storage containers, such as a dike or a remote impoundment. The containment must be able to hold the full capacity of the container plus possible rainfall. The dike may be constructed of earth or concrete. A double-walled tank may also suffice;

Provide effective, general secondary containment to address the most likely discharge where you transfer oil to and from containers and for mobile refuelers, such as fuel nurse tanks mounted on trucks or trailers. For example, you may use sorbent materials, drip pans or curbing for these areas; and

Periodically inspect and test pipes and containers. You should visually inspect aboveground pipes and inspect aboveground containers following industry standards. You must “leak test” buried pipes when they are installed or repaired. EPA recommends you keep a written record of your inspections.

How and when do I maintain my SPCC Plan?

Amend and update your SPCC Plan when changes are made to the farm, for example, if you add new storage containers (e.g. tanks) that are 55 gallons or larger, or if you purchase or lease parcels with containers that are 55 gallons or larger. You must review your plan every five years to make sure it includes any changes in oil storage at your farm.

What should I do if I have an oil spill?

Activate your SPCC Plan procedures to prevent the oil spill from reaching a creek or river. Implement spill cleanup and mitigation procedures outlined in your plan. Notify the National Response Center (NRC) at 800-424-8802 if you have an oil discharge to waters or adjoining shorelines. If the amount of oil spilled to water is more than 42 gallons on two different occasions within a 12-month period or more than 1,000 gallons to water in a single spill event, then notify your EPA Regional office in writing.
Fall From Grain Bin Ladder Sends Reminder to Be Safe

Mid-Missouri farmer Brian Flatt had climbed up the ladders of grain bins on his farm with a screwdriver or grease gun in hand thousands of times.

But this time was different. While he waited for a load of corn to empty one mid-September day, he decided to check out a faulty electric blower on a grain bin.

With a screwdriver in his pocket and voltage tester in hand, he climbed the grain bin’s ladder. He lost his grip and fell about 20-25 feet to the ground.

Flatt called his dad, who was combining in a nearby field. His mother, who was mowing the yard nearby, called 911.

Before an ambulance arrived, Flatt removed his work boot and saw a bone poking through his sock. He was hurt, but alive. “I’m looking up and saying, ‘Thank you, God. I’m very lucky.’” But in the same breath, he was saying, “No, no, no, God. I can’t be hurt right now.”

Flatt will soon undergo a second surgery at University Hospital in Columbia and faces up to 12 weeks of recuperation, all in the midst of his favorite time of the year—harvest. He hopes his recuperation will be less. At 43, Flatt runs several miles a couple of times a week and stays in shape.

Flatt wants to remind other farmers to be careful this harvest season. He plans to follow his own advice by placing a backpack to carry tools at each grain storage area on his farm. “I’m not going to go up a ladder again without two free hands,” he says.

Flatt’s sister, Wendy Flatt, is the University of Missouri Extension livestock specialist in Howard County. She had her own near miss with a grain bin when she was a preschooler. She climbed to the top of the grain bin and was scared to get down. Her father rescued her. “To this day, I’m scared of heights,” she says.

She is thankful her brother’s injuries weren’t fatal and may serve as a reminder to others to be careful. “When farmers are harvesting, they have a million things going on in their minds,” she says. “The last thing they think about is staying safe. Usually they have done mundane things like climbing up the side of a grain bin without a second thought, or unclogged a combine so they can keep harvesting.”

“All it takes is one little slip to change an entire course of a life, so please take the extra minute to stay safe, especially around grain bins.”

MU Extension state safety and health specialist Karen Funkenbusch agrees. “Slips and falls are the most common types of injuries on a farm. They are frequent and rank second only to motor vehicle accidents.”

Meanwhile friends, neighbors and local trucking companies are pulling together to help Flatt’s father harvest the family’s 5,200 acres of land in Boone, Audrain and Monroe counties. He is the third generation to farm his family’s land.

This harvest, he will miss the time of year when farmers bring in the fruits of their labor. “It’s the most fun time of the year,” he says, “and I’m missing it all.”

But even worse, he knows his absence from the field increases the workload for friends and family during one of the farm’s busiest times. “By far the hardest part of this is the workload I’ve dumped on my family and our help,” he says.

For more information from MU Extension about farm safety, go to http://extension.missouri.edu.
Crop Update

Soybean

This time of year I will receive a question or two on estimating soybean yield. Purdue has some information on quickly estimating yield as soybeans enter R6 growth stage: https://www.agry.purdue.edu/ext/soybean/News/2012/2012_0814SOYSimplifiedYieldEstimates.pdf.

As soybeans continue to develop some fields are showing signs of maturity and beginning leaf drop. Some fields still have a way to go before R7 (physiological maturity). One question that came up was irrigation termination. Soybeans will require approximately 1.5 to 2 inches of water to reach maturity when more than 2/3 of pods have beans touching (R6++). This time period is generally a recommended timing for terminating or to make one last irrigation on sandier soils which have a lower water holding capacity than loam soils. Information on irrigation can be found at the following link: http://extension.missouri.edu/scott/Irrigation.aspx.

Another question that came up concerned a field that seemed to develop widespread, instant SDS (sudden death syndrome). Much like SDS, the field had interveinal chlorosis and some necrosis (browning between veins). Unlike SDS the symptoms were isolated to a uniform location in the canopy throughout the field with new growth displaying no symptoms. This symptomology was caused by phytotoxic response to fungicides. Information on fungicide phytotoxicity can be found at two sites: UT Disease Guide and Mississippi State Crops at the following link: http://www.mississippi-crops.com/2014/08/31/fungicide-phytotoxicity-check-the-fungicide-applied-prior-to-blaming-sds/

In a similar situation, there was a question about a field that had SDS symptoms on the leaves (top picture). In this particular field the problem was decetes stem borer (lower picture) which were present in the stems. The attached pictures show leaf symptoms mimicking SDS or brown stem rot and presence of decetes stem borer. The diagnostic lab confirmed that the culprit was the stem borer in this particular case.

Wheat

Wheat planting season is coming up soon. MU Variety Testing is a good resource for variety selection: http://varietytesting.missouri.edu/.

Optimum planting window is the month of October, preferably after the Hessian fly free date of October 10 or later for the southern region: http://extension.missouri.edu/p/g7180

Optimum seeding rate is 1.3 to 1.5 million pure live seeds/acre. Pure live seed takes into account percent germination and percent purity of seed. Ideal fall stand counts should be between 30 and 35 plants/ft².

Optimum seeding depth is ¾ to 1.5 inches deep. Planting too shallow or deep will negatively influence emergence. Information on wheat management can found in IPM Guide 1022: “Wheat Management Guide”

Anthony Ohmes of Jackson Missouri and David Reinbott of Benton, MO Agronomy Specialist, University of Missouri Extension
Last week, USDA’s Federal Crop Insurance Corporation (FCIC) approved changes to Whole Farm Revenue Protection (WFRP) that will increase access to the program for beginning farmers and livestock farmers. These changes will be effective starting in the 2016 crop insurance year.

“WFRP allows farmers to insure the revenue of the whole farm rather than insuring revenue on a crop-by-crop basis, which makes the program a good option for farms that manage risk through crop and livestock diversification,” says James Robinson, Research and Policy Associate at the Rural Advancement Foundation International-USA.

In previous years, WFRP required farmers to provide five years of federal tax forms as part of the application process. Farmers will now only be required to provide three years of federal tax forms, making the program available sooner to beginning farmers.

“Requiring five years of tax records was a significant barrier for beginning farmers in need of a federal risk management program. Reducing the requirement to three years is a strong move in support of beginning farmers,” says Robinson.

In 2015, WFRP capped livestock income at 35 percent of a farmer’s total revenue, eliminating farmers from eligibility who earn more than 35 percent of their total revenue from livestock. In 2016, the 35 percent cap will be removed entirely so that a farmer making any amount of revenue from livestock up to $1 million will be eligible.

Additional positive program changes include increasing coverage options for expanding operations and expanding eligibility to farmers with a missing year of tax history as the result of physical disabilities.

USDA will release additional details about these changes later this year.

Beginning Sept. 1, farmers and ranchers can apply for financial assistance to help conserve working grasslands, rangeland and pastureland while maintaining the areas as livestock grazing lands.

The initiative is part of the voluntary Conservation Reserve Program (CRP), a federally funded program that for 30 years has assisted agricultural producers with the cost of restoring, enhancing and protecting certain grasses, shrubs and trees to improve water quality, prevent soil erosion and reduce loss of wildlife habitat. In return, the U.S. Department of Agriculture (USDA) provides participants with rental payments and cost-share assistance. CRP has helped farmers and ranchers prevent more than 8 billion tons of soil from eroding, reduce nitrogen and phosphorous runoff relative to cropland by 95 and 85 percent respectively, and even sequester 43 million tons of greenhouse gases annually, equal to taking 8 million cars off the road.

The CRP-Grasslands initiative will provide participants who establish long-term, resource-conserving covers with annual rental payments up to 75 percent of the grazing value of the land. Cost-share assistance also is available for up to 50 percent of the covers and other practices, such as cross fencing to support rotational grazing or improving pasture cover to benefit pollinators or other wildlife. Participants may still conduct common grazing practices, produce hay, mow, or harvest for seed production, conduct fire rehabilitation, and construct firebreaks and fences.

With the publication of the CRP regulation today, the Farm Service Agency will accept applications on an ongoing basis beginning Sept. 1, 2015, with those applications scored against published ranking criteria, and approved based on the competitiveness of the offer. The ranking period will occur at least once per year and be announced at least 30 days prior to its start. The end of the first ranking period will be Nov. 20, 2015.
Future Meetings & Events -

Reproduction and AI Clinic - October 1, 2015 at the Greenville High School Library. Talks on cattle markets, economics of artificial insemination, anatomy and physiology of cattle and pregnancy determination. Hands-on activities and demos featuring semen handling, reproductive tracts, and ultrasound. Session is from 6:00 pm to 9:00pm and cost $5.00 which includes meal and materials. RSVP by September 30 to 573-224-5600.

Missouri Farm to School Conference - October 20, 2015 Columbia, MO. http://muconf.missouri.edu/farmtoschool/index.html

SEMO All-Breed Performance Tested Bull Sale- Friday, October 23, 2015 Farmington Auction Barn at 7:00 PM. Consignments include 20 Angus, 7 Charolais, 3 Red Angus, and 1 SimAngus. Visit www.semobeef.com for catalog and photos!


Commodities and markets - http://extension.missouri.edu/scott/crop-budgets.aspx

Farm Bill - http://extension.missouri.edu/scott/Farm-bill.aspx