

Missouri Ag News

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Herbicide Residual Activity - Replant Decision

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Following a drought weed problems usually increase. However, before applying herbicides farmers need to read the label to determine any restrictions for grass seedlings. Many of the commonly used pasture herbicides can damage newly planted grass seedlings. Additionally, some chemicals can

prevent grass seeds from germinating. Below is a table that can help you determine how long to wait after spraying to replant.

Sarah Kenyon, Agronomy Specialist, University of Missouri Extension, Alton, MO

Table 1. Interval between application and planting for some common pasture weed herbicides.

Herbicide	Forage Grasses	Alfalfa or Clover
2,4-D amine or ester *	NGS	NGS
Banvel/Clarity	See Label	See Label
Chaparral	12 Months	FB
Cimarron (0.1 - 0.2 oz)	12 Months	12 Months
Cimarron Max (Rate 1)	18 Months	12 Months
Crossow *	21 Days	NGS
GrazonNext	NGS	FB
Glyphosate	Anytime	Anytime
Grazon P+D *	FB	FB
Tordon 22K *	FB	36 Months
Milestone	--	FB
PastureGard	120 Days	1 Month
Remedy Ultra *	--	--
Surmount	1 Year	FB
Weedmaster	3 Weeks / Quart / Acre	See Label

* A variety of trade names exist. Check product labels for specific restrictions.

FB - Field bioassay required prior to establishment

NGS - Next Growing Season

The label is the final word on all restrictions. Verify all information with the label on your container.

Weed of the Month: Red Sorrel

Red sorrel, also known as sheep sorrel (*Rumex acetosella*), is a perennial weed that grows in pastures and lawns. The weed can be identified by the arrowhead-shaped leaves, red flowers, and red stem. The leaves initially develop as a basal rosette, but some leaves occur on the flowering stem as well.

This weed typically grows in areas with low fertility or areas that have been disturbed. Therefore, taking a soil test and correcting any nutrient deficiencies could help desirable plants to outcompete the red sorrel. Additionally, interseeding to thicken the stand, allowing adequate rest between grazing, and leaving adequate residual are practices that can diminish the presence of the weed over time.

Red sorrel can be grazed as another way to control this weed. The weed has a slightly

acidic taste, but grazing animals do not seem to mind this flavor. If grazing is done as a weed control technique, it is important to graze before seed production to prevent the spread of the seeds. When done frequently, grazing or mowing may deplete the root stock, which can weaken the weed population.

Chemicals can also be used to control this weed in pastures. Herbicides that contain 2,4-D will be effective at controlling this weed. It is important to apply herbicides before the plant flowers and produces seed. Applying herbicides during the rosette growth stage will provide the best results. Hand-pulling or weeding can also be done, but it is important to remove the rhizome to prevent it from re-spreading.

Sarah Kenyon, Agronomy Specialist, University of Missouri Extension, Alton, MO



Figure 1. Arrowhead-shaped leaves of red sorrel (A), and red flower structure (B).

Rice Irrigation In Missouri

An abundant supply of good quality irrigation water is needed for optimum rice production and the Missouri Bootheel is blessed with an abundant supply. 30 acre-inches of irrigation water pumped per year is average for Missouri rice fields. Although our water supply is very good and relatively inexpensive to lift to the surface it does cost money and fuel to do so. Rice is normally flooded at the 5th leaf or 1st tiller and a flood is held the entire season.

Prepare your fields now for uniform shallow floods:

Yearly preplant field leveling or smoothing is essential for seedbed preparation, surface drainage and maintaining optimum flood depths. A landplane or float should be used to remove reverse grades, fill "potholes" and smooth out old levees, rows or ruts in a field.

Rice can germinate under either soil or water, but not both. Therefore, maintaining a field surface that provides good drainage is important for stand establishment; controlling weeds, diseases and insects; maintaining desired flood depths; and providing a dry field for harvesting.

Determining Water Needs

A water supply is adequate for a given field if you can:

- Flush in two to four days;
- Flood in three to five days;
- Maintain flood for the entire season.

We have isolated water quality and quantity problems in our Missouri rice fields. Knowledge of the quality and quantity of irrigation water is required for proper water

management and high quality high yielding rice.

Correct diagnosis of problems concerning irrigation water quality is critical for effective management. Water quality testing is an important step in diagnosing existing problems and identifying potential problems. Several values are helpful in evaluating the quality of a particular water source. These include calcium concentration, bicarbonate concentration, chloride concentration, electrical conductivity (EC) and sodium absorption ratio (SAR) these can be found in (Table 9-7) in the UAR Rice Manual. Also, Iron and Magnesium can be a problem.



Irrigation flowing from one level to the next through a levee gate. Courtesy John Gunter.

Samples should be taken in a clean plastic bottle, labeled and tightly closed. Samples should be sent directly to the MU soil testing lab in Columbia, MO. For a sampling form go to <http://soilplantlab.missouri.edu/soil/water.aspx>. One quart of water is required for the test and should be taken just before mailing.

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

Herbicide Resistance

Herbicide resistance management requires a proactive approach to controlling weeds. This proactive formula must include: overlapping residual herbicides; scouting fields early and often for emerging weeds; proper identification of emerging weeds especially when using POST, conventional chemistry; rotating mode of action groups; rotating crops when possible; POST application timing must target weed size between 1 and 3 inches tall; proper spray tip selection and water volume to provide adequate POST application coverage; effectively removing weed escapes prior to producing seed; and avoiding over use or misuse of any one herbicide. A program void of a proactive approach to managing weeds will result in loss of potential crop yield, even if resistance is not currently a factor in a particular field on your farm.

Residual herbicides provide the best opportunity to suppress pigweed competition while crops, such as soybeans, obtain a competitive height differential to the weeds. The three timings generally available for residual herbicides are pre-plant burndown, preemergent (PRE) to crop, and early postemergent (POST) to crop. Residual herbicides require incorporation into the soil profile for activation either by tillage or rainfall. Read and follow all label directions for proper application of residual herbicides.

For more information on herbicide mode of action groups, weed control ratings, and a host of other information contact your local MU extension office and ask for Missouri Manual 171 "Pest Management Guide: Corn, Cotton, Grain Sorghum, Rice, Soybean, Winter Wheat" or find it on the web at <http://extension.missouri.edu/>.

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

Chainsaw Safety Workshop

Saturday, April 27th

10:00 am – 2:00 pm

Peck Ranch Conservation Area

Learn how to select, maintain and operate a chainsaw safely from one of Missouri's best loggers, Joe Glenn. As the Missouri Forest Product Association's chainsaw safety instructor for the Professional Timber Harvester program Joe will discuss directional felling techniques and chainsaw care. He will also demonstrate the principles discussed and answer any questions.

The workshop is limited to the first 25 people who register by calling the University of Missouri Carter County Extension Center at 573-323-4418.

Registration Deadline is Wednesday, April 24.

Black Cutworm

While the black cutworm can over winter in SE Missouri, most over winter on the Gulf Coast or Mexico and migrate north in the spring.

Damage occurs when larvae feed on seedling plants often times completely cutting off the plant and reducing plant populations below optimum levels. Cool conditions can increase damage potential as it slows plant growth. As the plants move beyond the seedling stage damage is minimized.

There are several management strategies to help prevent damage to corn or other seedlings. Tillage or an early herbicide burndown at 14 days prior to planting reduces the attractiveness of the field to flying moths. Research has shown that most economic damage occurs from larvae already present in the field at the time of planting. Commercially available seed treatments are the first line of defense. It is critical to scout your field early and often, especially if emergence or overall growth is slowed due to weather, for any potential pest

outbreaks. Postemergence rescue treatments are warranted when 1-2% or more corn plants are cut below ground or 2 -3% or more plants have been cut above ground and larvae are present. Larvae are gray to black, 1 to 2 inches long when full grown and form a C when disturbed. In cotton, treatment is needed when stand counts fall below 3 plants/foot of row and larvae are present. In soybeans thresholds are when 20% of stand is cut, gaps are greater than 12 inches and larvae are still present.

For more information on black cutworm, contact your local MU Extension office and ask for guide G7112 "Black Cutworm in Missouri" or find it on the web at <http://extension.missouri.edu/>. For more information on insecticides labeled for black cutworm contact your local MU extension office and ask for Missouri Manual 171 "Pest Management Guide: Corn, Cotton, Grain Sorghum, Rice, Soybean, Winter Wheat" or find it on the web at <http://extension.missouri.edu/>.

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

Pollinators

For those seeking a pollinator source for the 2013 growing season please call Ernie Wells by April 5. This beekeeper is prepared to aid pollination but needs to know about you now. Call 573-429-0222

GHP/GAP - How Far Have You Come?

Many growers have taken steps toward certification for Good Handling Practices/ Good Agriculture Practices (GHP/GAP). One simple way to look at this certification is to see a means of confirming that food is clean and free of organisms that may cause consumers to become sick.

When putting together plans to achieve this certification think about the line that produce goes through from the time it first forms on the plant to the time it leaves your facility.

In southeast Missouri commercial growers do not usually use manure nor are they near a manure source so this eliminates some of the problems you hear about in other areas of the country. The water however is a potential contamination if it is somehow contaminated.

Your plan should show that the water is tested at least once per year. How is it tested and by whom? What steps are taken if the water shows a positive result? All of this should be outlined in the GAP plan.

When machinery is taken into a field it should be clean. Machinery includes any tractors, trucks, trailers, etc. that are used for production. What do you do to clean machinery? Do you wash it with a high powered spray of water? Do you brush off any debris on the machinery first? Do you include soap in the water or do you sanitize the machinery in any way? Where is the machinery washed? Does this wash area have any contact with growing fields or staging areas where the wash water may pose a contamination?

Also in the field are those who harvest the produce. What steps do you take to make sure they are clean? Do you have port-a-potties available in each field? How do the employees wash their hands after using these facilities? How do you train the employees to use these facilities? In what way do you confirm that the employees are using the facility and washing their hands when done? These questions may seem like common sense but each will be checked by an auditor when they review your facility for GHP/GAP certification.

Another aspect that must be recorded is any application or amendment of your fields. Chemical applications are already kept at your facility according to the Pesticide Use Act under your requirements as a certified Private Applicator. Reference those records in your plan, how you keep track and where they are kept. In addition keep a record of any other amendments that you apply to the fields. You may already record fertilizer, as this helps you lay out a budget from year to year but track any other amendments such as organic matter as well.

GHP/GAP certification is not hard and many of the requirements needed to complete a plan will help you in other ways as well, such as creating an accurate budget from year to year.

For more information on GHP/GAP certification go to: www.gaps.cornell.edu or to www.ams.usda.gov/AMSV1.0/GAPGHPAuditVerificationProgram.

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

Equipment Training - Thoughts for the Future

I have been known to fly airplanes; although I have not accumulated many hours in this endeavor, still the same, I have sat in the left seat of a small plane and pointed it toward an airport somewhere over the horizon. Before anyone is able to take the controls of these machines, the federal government requires that those potential pilots go through training, fly the plane without an instructor, conduct night flying, instrument flying, and a series of maneuvers and have your proficiency checked by either someone with or certified by the Federal Aviation Administration.

So what is the point? The point is, I was visiting with a local farm implement employee, the other day; and we were discussing the cost of a new cotton picker; which now approaches \$800,000. I can purchase a new Cessna 172, instrument rated, somewhere north of \$300,000. To fly this plane, I am required to have a minimum of 40 hours of flying time, with at least 20 hours of flight instruction. Flying the airplane with instruments requires additional training.

With the new GPS and guidance systems that are becoming prevalent in tractors, combines and cotton pickers; and with the multitude of instrumentation – these machines are as complex as small aircraft. So what training do you or the manufacturer provide to operate these expensive and complex machines? How much are you willing to pay an experienced operator?

I believe we are at the point where the complexity of agriculture equipment operation requires training. I also believe that there is a need to formalize this training into some type of certificate program – where operators prove they can handle this intricate equipment. An \$800,000 equipment investment dictates that trained agriculture equipment operators become the norm. Operating this equipment at maximum efficiency would increase the overall profitability of our agriculture enterprises.

Van Ayers, Agriculture and Rural Development Specialist, University of Missouri, Bloomfield, MO



available produce. Edible produce, including seconds, 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 to use as a tax right-off.

The Southeast Missouri Food Bank is eager for donations of specialty crops. The food bank will bring a 24 foot box truck to pick up

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Future Meetings & Events -

Women in Ag Tour: Tuesday, June 11 from 8:00 am to 4:00 pm near Poplar Bluff, MO. To register call 573-686-8064. We will eat lunch dutch-treat as a group. Transportation will be provided.

Chainsaw Safety Workshop: Saturday, April 27 from 10:00 am to 2:00 pm at Peck Ranch Conservation Area. Limited to first 25 who register at 573-323-4418.

Bradford Research Center Webinars: As part of the USDA certified organic research grant, the University of Missouri is offering 4 webinars. To join any of these webinars go to univmissouri.adobeconnect.com/debikelly and sign in as a guest.

Title	Presenter	Date/Time
Cover Crops for MO	Tim Reinbott, Superintendent, Bradford Research Center	April 25, 2-3 pm
Soil Health Testing	David Hammer, Director of MU Soil Health Lab and Professor Of Soil Science, MU College of Engineering	May 16, 2-3 pm
The Short & Long Term Benefits of Cover Crops	Newell Kitchen, Soil Scientist, USDA-ARS	June 13, 2-3 pm
Practical management of Cover Crops	Tim Reinbott, Superintendent of Bradford Research Center	July 18, 2-3 pm

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