



Summer 2019

Welcome to the SC MO Ag News.

If you would like to receive this publication electronically, please
Contact your local county extension office.

Douglas County:

203 East Lincoln Avenue Ava, MO 65608
417-683-4409

Howell County:

1376 Bill Virdon Blvd. West Plains, MO 65775
417-256-2391

Ozark County:

526 3rd Street Gainesville, MO 65655
417-679-3525

Texas County:

114 West Main Houston, MO 65483
417-967-4545

Webster County:

800 S. Marshall St. Marshfield, MO 65706
417-859-2044

Wright County:

608 East State Street Mountain Grove, MO 65711
417-349-4134

Upcoming programs

Ginseng and medicinal herb Forest Tour and Workshop

Free workshop in Thayer, MO on June 8, 2019
Advanced registration required

For more information or to register, contact Jamie Gundel at
the Oregon County Extension Center at (417)-778-7490 or
email: gundelj@Missouri.edu

Wright County Youth Horse Workshop

June 8, 2019

Free workshop for 4-H members
\$25 fee for non-4-H members
Advanced registration required

For more information or to register, contact Wright county
Extension at 417-349-4134

Dairy Margin Coverage (DMC) Webinar

June 17, 2019 12-1pm

Wright County Extension Center
608 East State Street
Mountain Grove, Missouri
Phone: 417-349-4134

Howell County 4-H/FFA Youth Market Sale

July 16, 2019

Heart of the Ozarks Fair Grounds

2019 Grazing Schools

Squires - June 17-19

Contact: Douglas County Extension Center
417-683-4409

Houston - July 9-11

Contact: Sandy Wooten
417-967-2028 ext. 3

sandra.wooten@swcd.mo.gov

West Plains - October 8-10

Contact: Howell County Extension Center
417-256-2391

Ellington - October 28-30

Contact: Reynolds County Extension Center
573-648-1035

Buttercup

Dr. Sarah Kenyon, Agronomy Specialist

Bulbous buttercup (*Ranunculus bulbosus*) is a perennial weed that can be seen flowering throughout south-central Missouri pastures. The plant emerges from rootstock or bulbs to form a rosette, and it is low-growing with leaves that are divided into three sections. The flowers are bright yellow with five to seven petals.

There are approximately 20 species of buttercups present in Missouri. All species are poisonous to livestock. The leaves and stem are the most toxic parts of the plant. Animals that consume large quantities of buttercup will experience oral and gastrointestinal irritation. Because of the immediate effects, livestock tend to avoid the plant. Hay containing buttercup will be safe for livestock because the toxins volatilize during drying.

This weed needs to be controlled soon to prevent the weed from producing seed. Buttercup can be hayed or brushhogged. If spray is used, Grazon P+D (a.i. picloram and 2,4-D), Cimarron May (a.i. metsulfuron, dicamba, and 2,4-D) or Weedmaster (a.i. dicamba and 2,4-D) are recommended.





Figure 1. Bulbous butter cup can be identified by the divided leaves, yellow flower with five petals, and a corm. Picture courtesy of MU Weed Science.

Watch for Ergot Bodies in Grass Seedheads

Dr. Sarah Kenyon, Agronomy Specialist

Conditions are right for the development of ergot, *Claviceps purpurea*, an airborne fungus that affects grass seedheads. Wet, cool weather followed by high heat and humidity create ideal conditions for ergot growth. Farmers should begin scouting grass seedheads for this disease.



This fungal infection creates hard ergot bodies in the seed of grasses. The ergot bodies look like mouse droppings and are easily visible in the seedhead of cereal grains such as barley, oats, wheat, triticale, and rye, as well as many pasture grasses such as timothy, perennial ryegrass, orchardgrass, and tall fescue.

Farmers should inspect pastures and hay for the presence of ergot bodies. Begin by inspecting the seedheads, if the pasture or hay does not contain seedheads there is no concern. If seedheads are present look for ergot bodies (look like mouse droppings). If the pasture or hay contains ergot bodies be cautious about feeding to livestock.

Ergot produces alkaloid compounds that are toxic to livestock and humans. The toxins constrict blood vessels, increasing respiration rates, raise core body temperatures, and limit blood supply to the extremities. When livestock consume ergot they appeared to suffer from extreme heat stress. Livestock may seek relief in shade or stand in water. Other symptoms might include rapid breathing, sloughing of the tail switches and tips of ears, abortion, and decreased milk production. Livestock deaths may also result when large quantities are consumed.

Ergotism can be confused with fescue foot or fescue toxicosis because the symptoms are similar. However, ergot bodies (the ones that look like mouse droppings) have a thousand times more toxic alkaloids than those of fescue toxicosis. Because the toxin concentration is so much more,

the animal symptoms appear quicker and are much more pronounced.

If ergot is observed in seedheads, producers should immediately move livestock from infected fields. Producers may also consider feeding other sources of feed to dilute the amount of ergot that is consumed. Hay containing ergot bodies can be destroyed or diluted with other feeds.

For more information, help identifying ergot bodies, or questions contact Sarah Kenyon Ph.D, Field Specialist in Agronomy, University of Missouri Extension at 417-256-2391 or KenyonS@missouri.edu.



The fungal pathogen *Claviceps purpurea* is responsible for the development of ergot. Ergot bodies have a purple-black color, they are hard, have a horn like shape, and replace one or more grains in the heads of grasses and resemble mouse droppings. Photo credit: Craig Roberts, MU Extension.

Pre-Breeding Exams for Replacement Heifer Selection

Elizabeth Picking, Livestock Specialist

As cow-calf producers, it is ideal to have one healthy calf on the ground per cow per year. Producers should also strive to have cows that are productive in the herd for many years. On average, a cow has to stay in the herd for 6 years in order for the producer to break even on that cow's initial investment along with yearly maintenance costs. With this in mind, proper selection of replacement heifers is key in order to have cows that produce a calf every year for many years.

In order to set that heifer up for life-long success, heifers need to reach puberty by 15 months in order to potentially calve at 24 months. However, 35% of heifers have not reached puberty at 15 months of age. Identifying these later maturing heifers can be done by having a pre-breeding exam done. Pre-breeding exams are performed by veterinarians and include a reproductive tract score as well as a pelvic measurement.

The reproductive tract is scored from 1 to 5 in relation to the heifer's puberty status. A tract score 1 is given to heifers with an infantile or underdeveloped tract. A tract score 2 is given to heifers that are not close to cycling but not as underdeveloped as a score 1. A tract score 3 is assigned to heifers that are near puberty but not yet cycling. A tract score 4 is for heifers that have reached puberty and are cycling in the first phase of the estrous cycle where follicles are

developing but an oocyte (egg) has not ovulated. A tract score 5 is assessed by a heifer who is cycling and is in the second phase of the estrous cycle during which an oocyte has ovulated and a structure termed corpus luteum (CL) is present on the ovary.

As the reproductive tract score increases, the likelihood of that heifer becoming pregnant increases. This occurs because the heifers with a tract score 4 or 5 are already cycling and will have more opportunities to achieve pregnancy when out with a bull than a heifer who is a tract score 1 or 2 and may not be cycling when the bull is turned out. Further, pregnancy rates are lower on a heifer's first cycle so it is best to have a heifer already through her first cycle when she is artificially inseminated or turned out with the bull. Heifers with higher scoring tracts will achieve their first pregnancy earlier in life, and subsequently, calve earlier in the calving season. This trend generally continues throughout that female's life, allowing her to produce more calves in her lifetime and be more profitable.

Along with the reproductive tract score, a veterinarian can measure the pelvic height and width. By multiplying the height and width, the pelvic area can be determined. Heifers with smaller pelvic areas are more likely to have difficult births because the calf has a smaller birth canal to get through. This leads to more work for producers who may have to pull those calves and it increases the likelihood of calf sickness or death. By selecting for larger pelvic areas, producers can decrease the number of difficult births and death loss, improving their bottom line.



Figure 1. This veterinarian is using a pelvimeter to measure the height and width of this heifer's pelvis.

A pre-breeding exam is required for the Show-Me-Select heifer program. This University of Missouri Extension Program was developed to help producers to improve their replacement heifer selection and give them an outlet to market quality replacements. In this program, heifers undergo a reproductive tract score as well as a pelvic measurement to reduce the incidence of difficult births. In order to qualify as a show-me-select heifer, heifers must have a pelvic area of at least 150cm as well as meet several other criteria ensuring that the heifers sold in show-me-select heifer sales are high quality, bred replacement females.

For more information about pre-breeding exams or the Show-Me-Select heifer program, contact Elizabeth Picking at the Howell County Extension Center at: 417-256-2391 or pickinge@missouri.edu.



Scrapie Disease

Eric Meusch, Agriculture Educator

Small ruminant production, sheep and goats, is growing in importance in Southern Missouri. Market demand is high, prices have been strong, and a number of livestock auctions are offering sheep and goat sales on a regular basis. This demand is driven by various ethnic groups who have traditionally consumed more sheep and goat meat, but also by Americans that are looking for more diverse meat options.

Anyone that has raised sheep or goats to show, or has sold them through a livestock sale barn knows about scrapie tags. If an animal arrives at the sale barn without a scrapie tag, it is given one (for a small charge). These tags provide a way to trace the animal back to a specific flock or market in case it is diagnosed with scrapie in the future. These tags are available through the Missouri Department of Agriculture for producers who register their flock and receive a flock ID number. Many new producers wonder "Why the big deal? What is scrapie anyway?" and more importantly "What will happen if my flock is found to have scrapie?"

Scrapie is a transmissible spongiform encephalopathy (TSE) disease that affects the central nervous system of the infected sheep and goats. It is the same type of disease that causes mad cow disease in cattle. Scrapie costs the US sheep industry 20 million dollars a year. Symptoms include rubbing as if itchy, staggering or hopping gate, lip smacking, flightiness, loss of coordination, emaciation and eventual death. Although transmission is not completely understood, it is presumed to be passed from infected females through contact with amniotic fluid and afterbirth.



Scrapie has been a known disease in Europe since the early 1800th century, but wasn't discovered in the US until 1947. The first scrapie eradication program in the US was started in 1952, and Voluntary Scrapie Flock Certification

Eradication Program was started and it has been successful in reducing the prevalence of the disease by over 85%.

Producers are asked to cooperate with this program and wipe out the disease by:

- Reporting all sheep and goats over 18 months of age that show symptoms of scrapie
- Submitting heads of sheep and goats over 18 months that die from scrapie-like symptoms for testing
- Obtaining a flock ID number and properly identifying animals that are sold or transported

If scrapie is found in a flock or a herd, all the animals will be genetically tested to identify animals that are most susceptible to the disease. Susceptible or infected animals may have to be destroyed. In many cases individuals that are genetically resistant can be introduced to a flock to increase overall resistance.

To get more information about scrapie, report suspected cases, or get information about flock ID and tagging contact your local veterinarian, the Missouri State Veterinarian, or USDA Veterinary Services. Any laboratory testing done by the state required for the diagnosis of scrapie disease is done free of charge.



Preventing Hay Fires with a Thermometer

Interview with Tim Schnakenberg, Agronomy Specialist

Farmers can prevent hay fires by monitoring hay temperature after baling according to Tim Schnakenberg, agronomy specialist with University of Missouri Extension.

Q: Many hay barns in the Ozarks have been lost to hay fires over the years. What can farmers do to prevent this from happening?

A: A wet spring has made hay harvest challenging. As a result, there has been some higher moisture hay baled which has led to concerns about spontaneous combustion. "If hay is harvested in the upper 20 percent moisture range or higher, it is possible that within six weeks of baling a fire will occur internally in hay bales. This can lead to hay fires and barns lost, especially if hay is packed away in barns. Keeping the moisture down to 16-22 percent when baling is the best thing to do,"

said Schnakenberg.

Q: How does a farmer know if there is a problem?

A: Moisture meters are available, and many farmers own them. But MU Extension specialists suggest that for farmers that harvest a lot of hay, a long thermometer is probably a better tool for monitoring wet bales. "The core temperature of a bale can say a lot about what's going on inside and if there is a concern. Probe several bales because some bales may be dryer than others. Hay normally goes through a heat during curing and most of the time will peak out in temperature about 5-7 days from harvest," said Schnakenberg.

Q: How hot does hay need to get to have a problem?

A: If the temperature goes between 130 and 150 degrees Fahrenheit, close monitoring is important. If over 150 degrees, it may continue to climb, and it needs to come out of the barn to improve air circulation. By 175, fire is a strong possibility. "If the temperature gets much over 175, moving it out of the barn can stimulate a fire when the air is introduced to the pile, so the fire department needs to be on standby," said Schnakenberg.

Q: Where can you get long thermometers and more information?

A: All of the MU Extension offices in southwest Missouri keep thermometers on hand to loan out to producers for this purpose. Also, these thermometers can be purchased online, at farm suppliers, or at compost supply outlets.

For more information, contact any of these MU Extension specialists in southwest Missouri: Tim Schnakenberg in Stone County, (417) 357-6812; Jill Scheidt in Barton County, (417) 682-3579, Sarah Kenyon in Howell County, (417) 256-2391, or Elizabeth Picking in Howell county, (417) 256-2391.

