Animal Industry News
LSU AgCenter and the LSU School of Animal Science
December 2018

Buttercup Control in Horse Pastures

Howard Cormier, Southwest Region Horse Specialist

Maintaining horse pastures is something most folks think must be done in the warmer months of the year, but there are some "winter chores" that, if done now, will make pastures weed-free and more productive.

Every year, Louisiana pastures get a blanket of yellow flowers commonly called buttercups. By the time they flower in late spring, they have been growing for several months, and have already done damage to spring grasses. The good news is, according to LSU AgCenter Weed Scientist, Dr. Ron Trahan, they are easy and inexpensive to control during the winter months. Following is information from Dr. Strahan.

Winter weeds like buttercup will be blooming soon causing pastures to be covered with a sea of yellow flowers. Buttercup, a robust seed producing annual is probably the most common and noticeable winter weed infesting pastures. I cannot tell you how many calls I get on buttercup in late April when the plants are in full bloom. By April and May, buttercup has grown all winter long and produced thousands of seeds, adding to the weed seed bank in the soil. If you do nothing this year to control buttercup, even more seeds will be added to the soil seed bank. If you wait till late spring to apply herbicides, you are really waiting too late to get the highest level of control, plus you will delay pasture green up. The good news is that buttercup is cheap and easy to control because it is highly sensitive to 2,4-D, especially when this herbicide is timed correctly. Research conducted at the LSU AgCenter has shown that 2,4-D applied at 1 pint/acre during the months of December, January, and early February are very effective in controlling buttercup selectively in pastures, including ryegrass pastures. More good news--buttercup is highly sensitive to 2,4-D but white clover seems to come through these applications with minimal damage. There will be some initial herbicide damage on the white clover, but you will be surprised to see its remarkable recovery. The key for white clover safety is not to apply more than 1 pint of 2,4-D per acre. Please note that despite white clover's tolerance of this application of 2,4-D, other clover types are not nearly as tolerant. Recommendation: Don't let buttercup linger in your pastures. Pick a warm day this winter (2,4-D works best with temperatures above 60 degrees) and eliminate it from your pastures with 2,4-D @ 1 pt/A.

Buttercup should be sprayed with herbicide BEFORE it flowers.
Photo Credit: Howard Cormier

Winter Management Tips for Beef Producers

Tyler Braud, LSU AgCenter 4-H Livestock Specialist

As we make the transition from fall to winter, there are several things to consider regarding beef cattle management. Many producers across the state have started to feed hay and have been working to prepare pastures for winter grazing. Managing nutrition during the winter months can be challenging, so it is very important to plan ahead. There are several tools available to cattle producers to assist with evaluating their winter feeding program.

Assess Hay Quality

Forage testing is an easy and inexpensive way to get an idea of the quality of the hay that you are feeding. Although your cowherd may be required to eat the hay that you baled or purchased regardless of quality, testing your hay has several benefits. It allows you to determine the nutrient levels in the forage and it assists you in developing a supplementation program by eliminating all guesswork. It is hard to know what your cows need if you do not know what you are currently offering them. Many different factors can affect hay quality including maturity, management, storage, etc. Submitting a forage sample will allow you to match forage supply to nutrient requirements of the cowherd.

When collecting forage samples, it is a good idea to use the expertise of your local extension agent. It is very important to use a hay probe to collect the sample, rather than grabbing a handful of hay from a bale. When collecting a sample for analysis, you should collect samples from 15-20 bales. After getting a sample from each bale, samples should be combined into a subsample and sent off for analysis. There are several laboratories that conduct forage testing and this information can be obtained through your local LSU AgCenter office.

Understanding the results of your forage analysis can seem like a difficult task. Moisture and dry matter are two values that are usually at the top of each forage analysis report. Moisture simply refers to the amount of water in the forage, while dry matter refers to the air-dried component of the forage with the moisture removed. Nutrient values will be listed on an as fed and dry matter basis. When you are comparing hay samples, you should always use the dry matter column because this represents the nutrient levels after the moisture has been removed. Important values to look at include crude protein (CP), total digestible nutrients (TDN), and fiber. Fiber will typically be listed as neutral detergent fiber (NDF) and acid detergent fiber (ADF). ADF represents the level of cellulose and lignin in the plant and is the estimation of the component of the feedstuff that is indigestible. Several resources are available to assist with interpreting your forage test results.

Calculating Winter Hay Needs

It is important to have an idea on the amount of hay to purchase for the winter feeding period each year. Below is an example on how to calculate your winter hay needs on a per cow basis. Let's say that you have a herd of 1,200 lb. commercial cows that are lactating. Your cows are expected to consume 2.5% of their body weight each day. The hay that your purchased is 88% dry matter and you plan to feed hay for approximately 120 days. Do not forget to factor in storage and feeding losses!

1,200 lb. cow X 2.5% of body weight = 30 lbs. dry matter
30 lbs. dry matter / 88% hay dry matter = 34.09 lbs. of hay as fed
34.09 lbs. of hay as fed X 120 days = 4090.8 lbs. hay as fed for winter feeding period
4090.8 lbs. of hay per cow / 850 lbs. per bale = 4.81 bales of hay per cow

Factoring in losses
100% - 28% storage loss = 72% hay remaining
100% - 5% feeding loss = 95% hay reminaing
72% X 95% = 68.4% of hay after losses
Needed 5 bales per cow before losses / 68.4% = 7 bales of hay per cow

As you can see from this example, it is very important to factor in hay losses when calculating the amount of hay you need each year. You should strive to reduce storage loss by storing hay off the ground in a covered

This article continued on next page.

Continued from page 2

area or by using tarps.

Other Management Considerations

Producers with spring calving herds should be preparing for calving season, while producers with fall calving herds are currently working to get their cows bred. Many spring calving herds will begin to calve in the next month or two. It is critical to ensure that everything is in place prior to calving in hopes of having a smooth calving season. Producers should be working to control lice, prevent grass tetany, and ensure that they are meeting the needs of their cattle from a nutritional standpoint. With spring herds approaching calving season and fall herds in breeding season, it is very important to make sure cows are in optimal condition for the stage of production that they are in. As the end of the year approaches, consider making end of year purchases and sales. A good mineral program is important for every function in the body, so take the time to evaluate your mineral program to ensure that it is getting the job done.

Keeping Show Animals Healthy

Dr. Christine Navarre, LSU AgCenter Extension Veterinarian

CATTLE

Chronic Bloat

One of the most common conditions occurring in show cattle is chronic bloat. Common feeding regimes of show animals, which include large amounts of high carbohydrate containing feeds with limited roughage, can cause rumentitis and lead to secondary chronic bloat problems. The bloat is usually mild, and if caught early enough, is not usually life threatening. Most of the time, a slight correction of the diet by adding hay, and possibly ionophores, will decrease chronic bloat problems. In some cases, more aggressive treatment is needed by a veterinarian.

Indigestion/Grain Overload

The rush to add size and condition to show animals tempts many exhibitors to overfeed animals, or not allow proper time for diet adaptation. This can lead to mild cases of indigestion or severe cases of grain overload. Exhibitors can help prevent this by collecting information on proper feeding of livestock and by working with a nutritionist or veterinarian to develop feeding regimes suitable for show animals.

Lameness

Along with the above digestive problems that occur from over or improper feeding, laminitis (founder) and inflammation of growth plates and joints can occur. Laminitis is usually chronic and leads to hoof overgrowth, white-line disease, hoof abscesses and hoof cracks. These may or may not cause lameness. Routine hoof care and trimming are needed to prevent lameness in these cases. Acute, severe laminitis is less common in cattle than horses, but does occur and should be treated promptly. Enlargement of the growth plates or joints can cause lameness, but is usually a cosmetic problem. Draining fluid from enlarged joints is not recommended; it only alleviates the problem temporarily, and risks causing infection in the joint, which is very serious. Exercise and decreasing protein in the diet sometimes help with joint enlargement.

Respiratory Disease

Transport and commingling of livestock can lead to outbreaks of respiratory disease. Animals traveling to shows should be adequately vaccinated for respiratory disease pathogens, and stress should be minimized. Pretreating animals with antibiotics is not effective and risks causing meat residues.

This article continued on next page.

Continued from page 3

Miscellaneous issues

Caution should be used when exhibitors try to treat sick animals themselves. Sometimes these treatments can be harmful. Balling gun/dose syringe injuries can cause damage to the throat area, causing animals to stop eating, or if severe, have difficulty breathing. A less common but potentially deadly mistake is to withhold water from animals, then let them drink large amounts to increase fill. This can cause diarrhea, and, if severe, cause salt toxicity or acute anemia, both of which can be deadly.

SHEEP and GOATS

Copper Toxicosis

Sheep are highly susceptible to copper toxicosis and, as such, should be fed diets and salt/mineral mixes formulated especially for sheep. Stress usually induces the acute manifestations of a chronic accumulation of copper, so the show environment can bring on this disease. The signs are depression, high fever, port-wine colored urine, and yellow gums. This disease is usually fatal despite treatment, so prevention is critical.

Fatty Liver/Pregnancy Toxemia

Meat goats, particularly the Boer breed, are popular show animals. These show goats are commonly over-conditioned, which can lead to fatty liver syndrome and liver failure during times of stress. Also, when the over-conditioned females become pregnant, pregnancy toxemia can occur in late gestation. Keeping animals in proper body condition, slow weight loss to more acceptable body conditions, and proper gestational nutrition are important to prevent these problems.

SWINE

Contagious Viral Diseases

The most common problems seen in show pigs are Swine Flu and Transmissible Gastroenteritis (TGE). Most cases are mild and self-limiting, but may require supportive care.

BIOSECURITY

Show animals can potentially bring contagious pathogens back to the home farm, so proper post-show quarantine for 30 days is recommended. Even if the show animals appear healthy, they can be shedding diseases that can cause pneumonia, diarrhea and abortions. Showing pregnant female cattle is risky. If exposed to Bovine Viral Diarrhea (BVD), these cattle can later give birth to a persistently infected calf, which sheds this virus to the herd, and can lead to several disease syndromes. Consult a local veterinarian about preventing introduction of BVD to cattle herds.

PRUDENT DRUG USE

Drug Testing and Use: If an animal becomes sick and needs drug therapy, documentation is important. Parents and veterinarians should take the lead in teaching junior exhibitors proper drug use and handling and meat quality assurance guidelines. For more information, go to http://beefusa.org/.

Managing Cold Stress in Beef Cattle

Jason Holmes, LSU AgCenter, Regional Livestock Extension Specialist

When temperatures start to decline, particularly as we get to 32°F, it is time to think about what effect this is having on cow productivity and efficiency. We've been fortunate and almost spoiled by our previous mild winters, and I believe this is the perfect teachable moment for providing some reminders as it pertains to managing our cattle during bitter cold.

Like all mammals, cows are warm blooded and need to maintain a constant core body temperature. Normal rectal temperatures for a cow is around 101°F. Within a range of environmental temperatures called the "thermo neutral zone", animals do not have to expend any extra energy to maintain their body temperature. At the lower end of this range, normal metabolic processes supply enough heat to maintain body core temperature. Within their thermo neutral zone, animals may modify their behavior, such as seeking shelter from wind, and respond over the long term by growing a thick hair coat for winter, without affecting their nutrient requirements. However, below the lower limit of the thermo neutral zone, in the "lower critical temperature," the animal experiences cold stress. To combat cold stress, the animal must increase its metabolic rate to supply more body heat. This increases dietary requirements, particularly for energy. Cattle, like us, can experience the "effective temperature", which takes into account both air temperature and the effect of wind chill. Cool or cold wind passing over an animal draws heat away from it much more quickly than still air at the same temperature. If the animal is wet, this effective temperature will drop even lower.

Factors that can affect the animal's ability to withstand the cold are:

- Hair coat - a longer, thicker hair coat provides additional insulation against cold weather
- Fat layer - cattle in good condition with a thick fat layer are better able to withstand the cold than thin cattle. The fat layer acts as another insulating layer between the animal's core and the environment. Strive for a body condition score of 5-6 (6 being for heifers) coming into winter months.
- Metabolic rate - cows will also increase their metabolic rate to increase heat production and help maintain body temperature.

Hypothermia occurs when the body temperature drops well below normal. In general terms, with cattle, mild hypothermia occurs with a body temperature of 30°C–32°C, (86°F–89°F), moderate hypothermia at 22°F–29°C, (71°F–85°F) and severe hypothermia below 20°C (68°F). As rectal temperature drops below 28° C (82°F), cows are not able to return to normal temperature without assistance through warming and the administration of warm fluids. As hypothermia progresses, metabolic and physiological processes slow down, and blood is diverted from the extremities to protect the vital organs. Teats, ears and testes are prone to frostbite. In extremes, respiration and heart rate drop, animals lose consciousness and die. In most situations, a more insidious and costly problem occurs. Cows are subjected to an environmental temperature below the lower critical temperature, but without obvious signs of hypothermia. This increases the maintenance energy requirement of these animals as they adjust to the conditions and divert more energy to maintaining body temperature. There are two potential responses to this situation.

1. ***Cattle have access to higher quality feed and/or increased intake, and therefore maintain their body weight.***
   Cows try to increase feed intake in an effort to meet their energy requirements. Given the opportunity and gut capacity, cows will eat more feed to help meet their increased energy demands. Practically, it is usually expedient to feed grain as well. This increases feed costs, increasing the cost of keeping cows, however the expectation is that cows will maintain their body weight! *Remember, a 1200lb wet cow needs 2lbs of crude protein (CP) and 12.8lbs of TDN daily!* Math: Assuming 14% CP feed - 100/14 = 7.14 X 2 = 14.28lbs of that particular 14% CP feed

This article continued on next page.

Continued from page 5

to meet her *basic maintenance* daily requirements. Assuming you can get 1lb CP daily from hay intake, you will still have to supplement her 7.14lbs of a 14% CP feed to meet her basic maintenance daily requirements.

2. ***Cattle don't have increased feed quality and intake and loose body weight.***
   If cows are not fed additional feed or the quality does not allow them to eat enough to meet additional energy requirements, body mass will be "burned" to produce metabolic heat. These cows lose weight as both feed energy and stored fat are diverted to maintain body temperature and vital functions. Cows in this situation that start to lose weight soon enter a downward spiral—the more with (fat) they loose, the less insulation they have, the more susceptible they are to further cold stress, and they lose weight even faster. Cows, and especially heifers that lose weight, calve in poor condition. The consequences are increased calving difficulties, an increase in the number of lighter, weaker calves and higher calf mortality. These dams produce a reduced amount of colostrum (of lower quality) and have lower milk production, increased neonatal mortality and reduced growth rate in surviving calves. These cows usually have delayed return to estrus, longer days open and poorer reproductive success.

Management factors to limit the effects of cold stress:

- Monitor the weather. Monitor temperature and increase feeding in response to cold weather. Cows in the last trimester or milking will require additional feed during critical cold weather.
- Provide areas for cattle to protect themselves from wind. Remember, wind markedly reduces the effective temperature...increasing cold stress.
- Provide additional feed...feed more hay and high energy feeds (i.e., corn, cotton, or soybean feedstuffs).
- Provide water. Make sure cows have ample water available at all times. Limiting water will limit feed intake and make it more difficult for cows to meet their energy requirements. Frozen water troughs and excessively cold water seriously limit water intake.

Ryegrass Managment

Howard Cormier, Southwest Region Horse Specialist

This has not been a good season for ryegrass production. Most folks had too much rain, then experienced cold temperatures without much sunshine. Ryegrass pastures have been slow to grow, even where horse owners have been able to get a stand. Many wait too late to fertilize.

t is critical that you fertilize with nitrogen (urea, or a nitrogen blend) as soon as the ryegrass comes up. Ryegrass makes little or no growth at temperatures below 55 degrees. You must fertilize early so the grass can grow while temps are warm. After it gets cold, fertilizer won't help, until it warms up again. You can apply more nitrogen if it is needed in early spring, but you might be able to get by without it, if conditions are right, and you have a good rotation set up.

About a month after you fertilize with nitrogen, if you have had enough rain, you should have 6 inch tall ryegrass, ready to graze. Graze as soon as you can without hurting the grass. When ryegrass doesn't pull out of the ground, start limited grazing for an hour a day, then go to two hours a day after the horses are accustomed to it in a week or so. An hour in the morning and an hour in the afternoon is better, but time-consuming if you don't have the freedom of schedule to open and close gates twice a day. Leaving them on too long will result in trampling when they lie down to rest. Take them off of the pasture so they can lie down outside on a dry lot or other pasture. As soon as they get full and start resting on the ryegrass, try to remove them.

Plan to divide the pasture into several small plots. Electric fence is ideal for this. Plan to repair the fence a few times if the horses are not accustomed to it. They will learn quickly, and you will get to where you don't even have to keep the charger on all the time.

Fertilize according to a soil test, or follow recommendations. Fertilize with nitrogen when the grass first comes up. Limit grazing at first, and set up rotational grazing pens to maximize yield.

If you follow these instructions, and have luck with adequate rainfall and sunshine, you will have a good winter forage program for your horses. Call me at 337-296-6819 if you have questions. (hcormier@agcenter.lsu.edu)

Managing Horses with Polysaccharide Storage Myopathy

Dr. Neely Walker, LSU AgCenter, Extension Specialist

Polysaccharide Storage Myopathy (PSSM) is a condition that affects the way a horse stores glycogen and causes bouts of exertional rhabdomyolysis commonly referred to as tying up. This disorder mainly affects Draft horses, and light horses such as Quarter Horses, Paints, and Appaloosas. Currently there are two main forms of this disorder:

PSSM1- is due to a mutation in the glycogen synthase-1 gene (*GYS1*), which causes increased synthesis of amylase-resistant polysaccharide and results in an increased storage of glycogen (sugar) within their muscles. This form is easily diagnosed with a genetic test and requires a hair or blood sample, and is included in the AQHA 5 panel test.

PSSM2- this form is NOT caused by the *GYS1* gene mutation, but muscle biopsy still shows clumps of stored glycogen. Research has yet to identify the cause of PSSM2. This form is not so easily diagnosed and requires a somewhat invasive muscle biopsy.

Normally, insulin will drive glucose from the bloodstream into muscle cells to be utilized or sent into liver cells to be stored as glycogen to be used later as energy. In PSSM horses, there is an accumulation of excess glycogen and abnormal amylase resistant polysaccharides creating a large bank of “energy” that needs to be used, and a bank of abnormal “energy” that cannot be used and remains stored in muscle cells.

Typically the symptoms associated with PSSM will occur during and after exercise and in some breeds, horses with PSSM1 show no signs of the condition. Owners may observe traditional signs of tying up; mild signs include reluctance to work, engage the hindquarters, shifting lameness, and stopping and stretching as if to urinate. As the pain increases, frequent gait changes, stiff, firm and sore hindquarters will occur. In the most severe cases, horses will experience profuse sweating, increased heart rate and respiration, muscle twitching, refusal to move, off-colored, reddish-brown urine, and the inability to stand.

While the symptoms of PSSM can be debilitating and potentially career ending, research advances have discovered management approaches that include strict nutrition and exercise schedules that allow affected horses to return to a normal performance level. Research has suggested that if only nutritional management is used, 50% of horses with PSSM will improve, while 90% of horses will improve with diet and exercise alterations. Current dietary recommendations for horses with PSSM include a low-starch, high fat diet.

- Forages including pasture and hay should be utilized as the main source of nutrients, however, high sugar grasses and legumes (clover, alfalfa, rye, or lucerne) should be limited. If utilizing pasture, low yield acreage with mature grasses, which contain less energy, is appropriate. A grazing muzzle may be necessary to reduce access to lush grasses. Hay can be also be soaked to reduce the amount of available energy and limit the intake of non-structural carbohydrates.
- Reduction of concentrates (grain, sweet feeds, etc.) is necessary. Additional supplementation of high fat concentrates can be used if the horse is performing at a level that requires additional caloric intake. At the most basic level supplementing with ¼ cup – 2 cups of vegetable oil high in Omega -3s is adequate. Although care should be taken to work the horse into a fat supplement slowly.
- Vitamin, Mineral, and Vitamin E supplementation should also be a concern. A mineral block should be sufficient for most horses. The increase of fat within the horse’s diet can cause an increase of free radical production. To negate the effects vitamin E supplement should be fed (approximately 1,000-2,000 IU

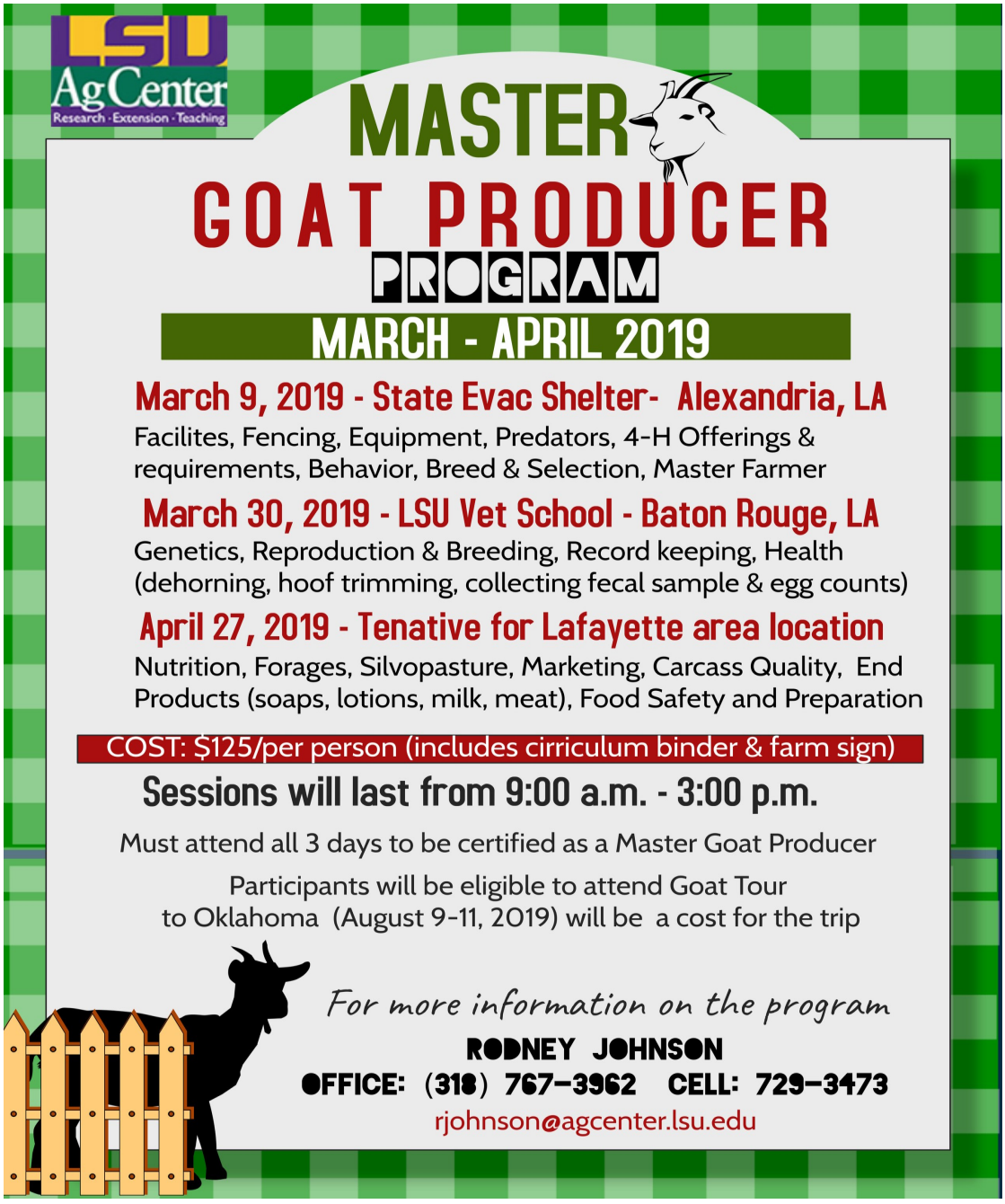
This article continued on next page.

Continued from page 7

of vitamin E/1000 lb horse/day).

- Regular, regimented exercise is necessary to enhance energy metabolism. If your horse has recently suffered from a bout of tying up as a result of PSSM, exercise should resume within a few days or after the residual pain subsides. Excess time off can predispose PSSM horses to additional episodes. The following guidelines should help your horse return to work:
  - Regular turn out.
  - Condition your horse slowly to high intensity short duration work outs (no more than 20 minutes).
  - Be consistent! Include some kind of exercise daily. Include warm up, cool down and stretching exercises.

PSSM is a disorder that has previously been viewed as a career ending condition. However with advances in nutrition and management techniques, horses with PSSM have increased longevity within their careers. If you suspect your horse may have PSSM please contact your local veterinarian for diagnosis and to create an effective management plan.



Louisiana Master Goat Producer Program

2019 Registration Form

(Please Print or Type)

Name: _____ Date: _____

Mailing Address: _____

City/Town: _____ State: LA Zip Code: _____

Home Phone (____)_____ Cell Phone (____)_____

Parish of Residence:_____

Parish of Goat Operation if different from Residence: _____

E-mail address: _____

The following sessions must be attended to become Master Goat Producer certified:

March 9, 2019 -State Evacuation Shelter - Alexandria, LA
Facilities, Fencing, Equipment, Predators, 4-H offerings & requirements, Behavior, Breeds & Selection, Master Farmer
March 30, 2019 - LSU Vet School - Baton Rouge, LA
Genetics, Reproduction & Breeding, Record keeping, Health (dehorning, hoof trimming, collecting fecal sample and egg counts)
April 27, 2019 Tentative for a location in Lafayette area
Nutrition, Forages, Silvopasture, Marketing, Carcass Quailty, End Production (soaps, lotions, m milk, meat), Food safety and Prepartion

The cost of Master Goat Producer certification is $125.00. Please make check or money orders payable to: LSU AgCenter

Sessions will last from 9:00 a.m. - 3:00 p.m. You must attend all 3 days to be certified as a Master Goat Producer. Participants will be eligible to attend a Goat Tour to Oklahoma (August 9-11, 2019) will a cost for the trip.

Mail to: LSU AgCenter Rapides Parish Extension Office

c/o Rodney Johnson
300 Grady Britt Drive
Alexandria, LA 71302

Registrations must be received by February 15, 2019

Animal Industry News

LSU AgCenter
School of Animal Sciences
LSU College of Agriculture
Animal Sciences