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Native Warm-Season Grasses Can Be Part of Your Forage Program

Dr. Dirk Philipp, Assistant Professor

The major advantages of non-native forage grasses compared with native species are the higher nutritive value and dry matter (DM) production that is more evenly distributed across the growing season. Bermudagrass, although relatively low in nutritive value, has become the dominant forage species in the southern U.S. for a reason. It has excellent persistence and a host of varieties for different kinds of applications.

Native warm-season forage grasses can have their place in a forage program as well. When it comes to water and fertilizer use, these grasses are frugal and have other advantages over non-native perennial forage grasses. Native grasses provide better wildlife habitat, soil erosion control through deep rooting, less weed infestation and are potentially suitable for cost-sharing programs.

In addition, some farmers planted switchgrass in the hope for biomass production, but since it is still a long way to a viable

biomass-ethanol business model for producers, those native grass paddocks can be used for grazing.

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Many cattle operations in the southern U.S. rely on tall fescue as well, and those farms are probably the best-fitting places for native grasses as their increased DM production during summer months can offset less production from fescue pastures. This will also permit increased resting time for the fescue and provide for grazing during late summer while the fescue may be stockpiled.

Native warm-season forages grow rapidly during late spring and early summer. This is a serious management challenge as it may result in a tall canopy and stemmy tillers, which are both detrimental to palatability and efficient

forage utilization. Data showed that native grasses can generate up to 4 tons of DM in just a matter of weeks, so the potential of the forage “getting away” from cattle is large. In that case, stocking rates should be quickly increased or hay harvested.

To avoid poor forage utilization, canopy heights should be kept to 15 to 18 inches, which will result in increased vegetative tiller growth and congruent high nutritive value. Advanced grazing methods can increase forage utilization, but they require increased management input.

If cattle are stocked rotationally, relatively small paddocks may be needed, including water and fencing setup, to keep grazing pressure at an optimum to timely graze the forage. Stocking rates of about 1,800 lbs/acre during the early part of the grazing season is recommended for switchgrass and gamagrass. Stocking rates for bluestem and indiagrass are considered somewhat lower. Stocking rates will likely have to be reduced with the ongoing grazing season.

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Researchers from Tennessee indicated that average daily gains (ADG) for stocker cattle from switchgrass and gamagrass were 2.2 and 1.7 lbs, respectively, during a 90-day grazing period. Higher gains were reported during the first months of grazing, and the ADG declined over the course of stocking towards the end of the summer.

Native grasses are much more sensitive to low grazing heights than bermudagrass. Grazing below 12 inches will result in dramatically thinned stands if sustained over longer periods. Overgrazing is especially damaging

late in the season. Grazing should end four to six weeks before the first frost to avoid diminishing root biomass before onset of winter. September 1 is recommended as the date to stop grazing as this will allow for sufficient recovery time before the first frost.

Native warm-season grasses are adapted to an environment that is relatively low in fertility. Applications of N should not exceed 90 lbs/acre/year, with inputs of about 60 lbs/acre/year likely to be enough. Unless P and K are low on the soil test, fertilizer should not be applied. If necessary, fertilizer applications should not be applied too

early in spring as cool-season weeds might benefit from it. It is recommended to let the canopy reach at least 12 inches in height early in the season before nitrogen is applied.

Establishing native warm-season grasses will take time, however. During the first year grazing is not possible, and even during the second year after planting, grazing may take place only occasionally. Well-established stands can last 15 to 20 years, making native warm-season grasses a long-term investment in your forage program.

Arkansas 4-H Members Face Tough Competition at 2014 Mid-America Grassland Evaluation Contest

Dr. John Jennings, Professor

Evaluating a grazing system, wildlife habitat, soils and identifying plants are some of the things Arkansas 4-H members had to learn to compete in the 15th annual Mid-America Grassland Evaluation Contest held June 4 in Springfield, Mo. Arkansas 4-H teams from Cleburne, Fulton, Randolph, Madison and Van Buren counties competed in a field of 26 teams from Missouri, West Virginia, Ohio and Indiana. To qualify for the Mid-America Grassland Contest, each team had to place in the top five of the Arkansas Grassland Evaluation Contest. The students have to complete four sections in the contest including Grassland Condition, Wildlife, Soils, and Plant ID.

For the Grassland Condition section, the students must assess current grazing conditions in the field, determine fertilizer and weed control recommendations, calculate how much forage is needed in spring, summer, fall and winter for an example herd and make recommendations for improvement – all in 25 minutes.

For the Wildlife section, students must evaluate the field habitat value for quail and rabbits, make recommendations to improve the habitat and answer 20 questions on wildlife management.

In the Soils section, students must locate the contest site on a soil map, determine the correct soil, answer questions evaluating the soil, guess the slope of the field and determine suitability of 10 forages for that site.

In the Plant ID section, the students must correctly identify 25 pasture plants from a list of 75 possible species. An extra twist is to receive points for a correct plant ID, each plant's life cycle has to be answered correctly as well. At first glance, the contest appears overwhelming, but after some study, students and agents learn the flow and logic to the material. Many county agents and vo-ag teachers from several states have commented that it is probably the most real-life contest available.

Arkansas 4-H teams competed very well in the 2014 Mid-America Grassland Evaluation Contest, taking fifth place individual honors and third and fourth place teams in the 4-H Division amid very tough competition. The top five individuals in the 4-H division were separated by only 6 points.

Cleburne County took third place team and was coached by Cleburne County staff chair Michelle Mobley. Mobley's team won the 2014 Arkansas Grassland contest. Team members were

Matthew Hipp, Aaron Wilson, Rachel Wilson and Isaac Feil. Rachel Wilson took fifth place individual and scored 100 percent on both the plant ID and soils scorecards.

Fulton County took fourth place team and was coached by county agriculture agent Brad Runsick. Runsick's team placed second in the Arkansas Grassland contest. Team members included Perri Huett, Leah Wasson, Autumn Brown and Luke Huett.

The Randolph County team was coached by Randolph County staff chair Mike Andrews. Team members included Jesse DeJournett, Jacob Kelly, Blaine Huddleston and Jonathan Kelly.

The Madison County team was coached by Madison County 4-H agent Jerry Jo Hamm and included members Cheyenne Walkingstick, Mitchell Nelson, Anna Shrader and Tanner Burks.

The Van Buren County team was coached by Van Buren County staff chair Danny Griffin. Team members included Bryce Sawyer, Clay Evans and Casey Deckard.

Congratulations to these young people for competing and for learning about managing grasslands and forages.

Spring and Summer Events Hosted by the University of Arkansas Animal Science Department

Bryan Kutz, Instructor

As part of building strong relationships along with educating youth in Arkansas and potential recruiting opportunities, the University of Arkansas system Animal Science Department has hosted several events this past spring.

The Department of Animal Science hosted three educational events in February beginning with the 2014 Arkansas State Beef Quiz Bowl. This is a Cooperative Extension activity that allows students to sharpen their knowledge about beef cattle management, food safety, forage nutrition, quality assurance and the end product. This activity also helps students work on communication, goal setting, critical thinking and team building skills and ultimately enhance their interest in beef cattle. The quiz bowl program is funded by the Arkansas Beef Council through revenue collected from the Beef Check-Off.

The annual, statewide, double elimination tournament was held in Fayetteville at the Pauline Whitaker Animal Science Center. Sebastian County 4-H won first place with the Washington County Beefcakes placing second and the Pope County 4-H

Livestock team placing third. This program has a great impact on educating students and encouraging a broadened perspective about their role in beef production, food safety and consumer acceptance.

As the 2014 beef quiz bowl was completed, the annual Livestock Judging workshop began. We provided several classes of livestock representing sheep, cattle and hogs. This activity helps prepare students for future 4-H and FFA Livestock Judging contests. Students were divided into groups according to level of experience along with an old-timer group, which included University of Arkansas judging team alumni, agriculture instructors and county 4-H agents.

Sydney Marpel of Dover FFA was high individual for the senior division with Luke Russell of Benton County winning the junior division and Joe Don Greenwood of Hermitage scoring the most points in the old-timers division. There were 255 students and 17 adults who participated in this event.

The following day the U of A Animal Science Department hosted the Wild Hog CDE Livestock Judging

Contest. There were 263 students representing 58 teams from Arkansas and Missouri who participated in this contest. Sarah Reed of Elkins was high individual, and Hermitage FFA was named champion team.

The Arkansas State FFA Livestock Contest was held in April at the Pauline Whitaker Animal Science Center. Twenty-five teams who qualified from their respective districts competed for the chance to represent Arkansas at the national livestock contest this fall in Louisville, Ky. Batesville Southside FFA, coached by Chase Hilton, was the winning team. Seventy-five students were registered for our annual livestock judging camp held June 23-25. This camp provides detailed instructions on industry trends and oral presentation of reasons. Students ranging from 9 to 17 are allowed to participate.

We will wrap up our summer events on July 24 when we will be hosting the Arkansas State 4-H Livestock Judging Contest. The winning 4-H county will represent Arkansas at the national contest, which is also held in Louisville, Ky., in November.

Getting Started With New Beef Cattle Projects

Steven M. Jones, Associate Professor

Deciding which type of beef project to exhibit can sometimes be one the most difficult decisions the 4-H member is asked to make. Haltered show steers and heifers demand time, discipline, expense and work. Market steer and commercial heifer programs are outstanding beef training projects. These projects educate 4-H members on economic strategies to feed and manage animals to market or for commercial cow-calf production.

After deciding on a type of project, it is time to begin the selection process.

Practice, patience and experience will help the 4-H member properly select the project. It is a good idea to evaluate several young projects before deciding on one. It is very important for each 4-H member to ask someone else to accompany and assist them during the selection of projects. Usually, county Extension agents, agricultural science teachers, ranchers, breeders and experienced exhibitors offer the best advice.

There are selection criteria each 4-H member should consider during the selection process of market steers

PRACTICE, PATIENCE and EXPERIENCE will help 4-H members properly select their new beef cattle project.

or commercial heifers for show. Before selecting the steer or heifer for show, consult your county Extension agent for county, regional, state or national rules governing the exhibition of your project. Then age, frame size, weight and breed are all important to coordinate for specific shows and dates for the show. Rules of the intended show should be studied carefully for specific

guidelines, such as ownership dates, minimum and maximum weights and ages and class divisions. Important selection criteria are age, weight, frame size and breed or breed types.

Age: Actual age and birthdates are very important. The age of a steer or heifer when placed on feed will vary from 6 to 10 months. Most calves are weaned at approximately 6 to 7 months of age. Steers can reach slaughter point from 14 to 20 months of age, and heifers should reach puberty to breed between 14 to 16 months of age. Most steers are exhibited at 16 to 20 months while heifers may be shown to 24 months of age.

Weight: Steers intended to be exhibited at major fall shows (those from September to November) are normally placed on feed in December to February, weighing approximately 400 to 600 pounds. This should allow the steer to reach 1100 to 1300 pounds in October, accounting for reduced weight gain and shrink due to training, fitting, conditioning and hauling. Show steers are normally on feed approximately 270 days and gain between 2.0 and 3.5 pounds a day. This rate of gain and growth can be slightly controlled by regulating the feed ration and amount fed for faster or slower gain.

Anaplasmosis is an infectious disease in cattle that infects red blood cells. It is transmitted from animal to animal by biting flies (horsefly, stable fly), ticks and contaminated needles or surgical instruments (dehorning, castration instruments, tattoo instruments).

This disease is typically age related. Calves less than one year of age usually show no symptoms of this disease and are considered mild. Cattle 12 to 24 months of age can show acute signs of the disease, but it is rarely fatal. However, animals that are 2 years and older will show acute signs of the disease, and mortality rates may be as great as 50 percent if animals are left

Frame Size: A numerical frame size is generally correlated with growth and can be used to predict final height that correlates with definite mature weight ranges. On average, steers grow approximately 3/4 inch height per month from weaning to finishing and gain ranges from 2.0 to 3.5 pounds per day. The 4-H member can predict the final height of a steer by knowing the exact age and height of the animal at any given time. Referring to a Beef Cattle Frame Chart, match up the age in months with the hip height in inches. The most popular frame sizes are 4 to 6 for ideal show cattle height on show day.

The following tips should be helpful in developing future champions in the show ring:

- 1. Cattle are creatures of habit and have good memories.** Develop a routine and follow it each day. A daily routine makes chores much easier. For example, exercise the calf, show it by setting it up, make it stand properly, then brush it and feed it last.
- 2. Weigh the calves periodically to monitor gain.** Decide on which weight class (steers) you want to show your calf and shoot for that

Anaplasmosis

Dr. Tom Troxel, Professor

untreated. Some cattle that do survive without treatment may become carrier animals for this disease. They will serve as a reservoir and be an underlying source of infection for other susceptible cattle in the herd. Animals in the carrier phase usually show no clinical signs and rarely become ill a second time with the disease.

Outbreaks generally occur in late summer and early fall. The incubation period is from 21 to 45 days, with an average length of 30 days. Once the red blood cells initially become infected, the organism replicates itself in order to infect more red blood cells. During this period, the infected animal

weight. Old class breakdowns from previous shows are very helpful in determining desired weights.

3. To be a good showman, you need a well-trained calf. A calf should be taught to stop and lead, with his head up. A good daily practice is to pull the calf's head up to a stop so both front feet are placed squarely under the front end. Using a show stick with a blunt point on the end, teach the calf the use of a show stick by stroking its underline while tied. Stroke the animal, then place the foot in the correct place. After the calf sets its feet properly when tied, then it is ready to be led and have its feet placed while being held by the exhibitor. Teach the calf to keep its top line level and to lead and walk freely.

4. When training calves or working and brushing hair, it is best to tie them to a high rail rather than placing them in a blocking chute. Working cattle in this manner makes them easier to handle and more accustomed to strange movements at the show. Before washing the calf, remove dirt and manure from the hair with a comb or brush. An electric blower will help in this process.

shows little or no signs of illness. At some point, the infected animal's immune system begins to respond and attempts to attack the invader. When this occurs, the immune system destroys the pathogen but also destroys the infected red blood cells. As a result, the signs of clinical anemia will appear.

Early clinical signs include a rectal temperature of 104°F to 107°F, a decrease in appetite, pale mucous membranes, lethargy, a decrease in milk production and weakness. As the disease progresses, other signs may be noted such as weight loss, yellowed mucous membranes, constipation, excitation, abortion and death. Death is

due to a large number of red blood cells being lost. This inhibits the animal's ability to provide adequate oxygen to the tissues, and death occurs due to anoxia (suffocation).

Prevention

Prevention of this disease can incorporate many factors. Insect

control can be difficult, but pesticide applications to the herd may limit the number of potential vectors. Feeding chlortetracycline at the rate of 0.5 mg per pound of cow body weight during the vector season will help prevent transmission of anaplasmosis. CTC may be included in medicated feed, mineral mix or feed blocks.

It is also important to be mindful of contaminated needles or instruments. When performing herd work, change needles often, and keep castration knives, dehorners or tattoo instruments in disinfectant between uses. Vaccines are also available to help with the control and prevention of anaplasmosis. Contact your veterinarian for additional prevention or treatment protocols.