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**2014
BEEF SYMPOSIUM
HAY SHOW
WINNERS**

Grand Champion
Alex Broussard

Reserve Champion
L.J. Chachere

**1st Place Warm
Season Perennial**
Alex Broussard

**OVERALL LIBERTY
COUNTY HAY
SAMPLE**

Alex Broussard

Liberty County Agriculture News

IMPORTANCE OF pH IN THE SOIL FOR FORAGE

Many soils have an acid soil pH; that is, the soil pH is less than 7.0. Optimum nutrient uptake by most crops occurs at a soil pH between 6.0 and 7.0. The availability of fertilizer nutrients such as nitrogen (N), phosphorus (P), and potassium (K) generally is reduced as soil pH decreases, while micronutrient availability may actually increase to toxic levels. As soil pH drops below 5.5, the concentration of soluble aluminum increases and becomes toxic to plant roots when it exceeds 1.0 part million (ppm). Below pH 5.2, the concentration of manga-

nese also can become toxic to plants. Hydrogen ions only become toxic to plants in extremely acid soil (pH<4.0) and at very low calcium levels.

Soil pH also affects the types, concentrations, and activities of soil microorganisms. Soil microbes play critically important roles in the recycling of soil nutrients through mineralization of organic matter and N fixation associated with forage legumes. As soil pH decreases, the soil microbe population is adversely affected due to aluminum and manganese

toxicity and lower nutrient availability.

Some plants are more sensitive to acid soil conditions than others. For example, bahiagrass is less sensitive to soil pH values in lower 5s, but ryegrass or some legumes may be significantly impacted. It is important to understand which species are most sensitive to soil acidity so limestone inputs may be made at the appropriate time.

Soil pH should be routinely monitored as part of annual soil testing to determine crop

Warm-Season Perennial Grasses	Target Soil pH
Bermudagrass	5.5—8.0
Bahiagrass	5.5—6.5
Native Species	6.0—8.0
Warm-Season Annual Grasses	
Forage sorghum, sorghum-sudan hybrids	6.0—7.5
Cool-Season Annual Grasses	
Ryegrass (annual)	6.0—7.0
Cool-season Legumes	
Alfalfa	6.5—7.5
Ball Clover	6.5—8.5
Crimson Clover	6.0—7.0
Hairy Vetch	5.5—7.0
White Clover	5.5—7.5

The above information was provided by Dr.'s Larry Redmon and Mark McFarland Extension Forage Specialist and Extension Soil Fertility Specialist, College Station.

SELECTING FORAGE SPECIES

The forage species you choose will have a large impact on the nutritive value of your hay. The species must be adapted for the soil type, rainfall and other environmental conditions of the location where you intend to produce the hay. You will want a species with multiple year yields, high nutritive value, winter hardiness, persistence, and disease resistance. When choosing a forage species for hay, you must also consider the nutrient requirements of the animals what will likely be target of the hay feeding as well as the cost to establish, maintain and continue hay production. An annual forage species will have to be established each year, which can increase the cost of hay production. A perennial forage species will not need to be reestablished each year. Although cool-season annual grasses and some legumes are harvested for hay each spring, most hay operations in Texas are based on warm-season perennial grasses. The following are some common forage types and species used for hay production.

Warm-Season Perennial Grasses

Bermudagrass spreads mainly by rhizomes and stolons. This grass tolerates a wide range of soil types and soil pH values, making it adapted to most of the southern U.S. Bermudagrass provides good nutrition for cows during the growing season and is used extensively to produce hay for winter feeding.

Bahiagrass is established from seed. The grass is very tolerant of low-fertility, acid soils, but does respond to nitrogen and potassium. It is best used for grazing rather than hay production. Once bahiagrass grows 10 to 12 inches tall, it produces little new growth and loses nutritive value the longer it stands.

Dallisgrass is palatable and has a higher level of nutritive value than bahiagrass and some bermudagrass varieties, and it can retain its nutritive value later into the summer. Dallisgrass, however, produces a lower dry matter yield than some bermudagrass varieties and can be difficult to establish because the seed germinate slowly.

Johnsongrass is better suited for hay production than for grazing because it can accumulate prussic acid in its leaves and poison livestock. Young, tender, fast-growing plants are more likely to be toxic than mature plants. Johnsongrass should be harvested at heading.

Warm-Season Annual Grasses

Pearl millet can be used for pasture, silage or hay, though making hay is usually somewhat more difficult because of the large stems. Millet may require a hay conditioner and more drying days than the fine-stemmed species such as bermudagrass. Proper sampling and testing are required to ensure the hay is safe to feed.

Sorghum-sudan hybrid is a warm-season annual that grows rapidly and produces high yields and high nutritive value hay. Like pearl millet, though, sorghum-sudan hybrids also have large stems, which require conditioning and extra drying time. Again, proper sampling and testing are required to ensure the hay is safe to feed.



The Soil and Crop Sciences Department is one of the largest such departments in the nation and is preeminent throughout the world.

This world-famous facility has a presence in every county in Texas. Working in partnership with Texas A&M AgriLife Research and the Texas A&M AgriLife Extension Service, their goal is to conduct research through trials and experimentation and then transfer that new knowledge to the public.

For more information on soil and forage fertility, visit their website at <http://soilcrop.tamu.edu>

SELECTING FORAGE SPECIES

Cool-Season Annual Grasses

Ryegrass is used primarily for pasture, though it can be used for hay or silage. It tolerates a variety of soil types and grows better in wet soils than other cool-season annual grasses. Ryegrass is sensitive to acid soil pH values below 5.5. It is popular for late winter/early spring grazing and hay production.

Oat, though primarily used for grain and pasture, can also be used as a hay crop. Oat is generally more cold sensitive than other small grain species and can suffer winterkill.

Wheat is primarily used for grain and pasture though it can be used for hay. It should be harvested at the boot to early heading stage.

Rye is generally the most winter hardy of the cool-season annual grasses. Rye is also the most productive cool-season annual grass on low-fertility, well-drained sandy soils.

Cool-Season Perennial Grasses

Tall fescue can be used for pasture, hay and/or erosion control. Tall fescue grows on a wide variety of soil types, but it performs best on loam or clay soils that have some water-holding capacity. Tall fescue also tolerates flooded conditions and grows well in soils that are typically too wet for many other forage grasses.

Cool-Season Legumes

Alfalfa is a perennial with high yield potential and nutritive value. Alfalfa harvested pre-bloom typically has higher nutritive value and is more palatable than more mature hay. Alfalfa contaminated with blister beetle may cause blister beetle poisoning, which can cause colic, urinary infections, dehydration, shock and death, especially in horses.

Red clover is a short-lived perennial that can last 2 to 3 years. It is better suited for hay production than other clovers because it grows upright and late into the season. This legume does poorly when planted on wet soils.

Arrowleaf clover can be used for grazing or for hay. It can be grazed until mid-April and harvested at the early bloom state in mid-May. You should expect one harvest. Mixtures of arrowleaf clover and annual ryegrass can make an excellent quality hay crop.

Warm-Season Legumes

Soybean can be used for grazing or for hay. Unlike most other legume crops used for hay, soybean foliage and pods both provide digestible protein.



There are several pyrethroid products available for control of fall armyworms and grasshoppers. These products are relatively low-cost and have few, if any, grazing or harvest restrictions. Some of the products to check out include Mustang, Tombstone, and Lambda-Cy.



Vaccinating the Heifer, Cow and Calf Herd

Infectious diseases cause sickness and death in calves, before or after they are born. Unborn and nursing calves are at high risk to fatal diseases during the time of year when a beef rancher is calving cows, moving and mixing these cows, and bringing in bulls to them. Newborn calves can have low immunity and be highly susceptible to many diseases. They are exposed to germs shed by stressed cows, calves and bulls in the cow herd. Below, State Veterinarian, Dr. Floran C. Faries, Jr., gives several tables to assist ranchers in choosing the proper immunization schedule for their herd.

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Individuals with disabilities who require an auxiliary aid, service or accommodations in order to participate in an Extension event are encouraged to contact the Liberty County Office of the Texas A&M AgriLife Extension Service at 936-334-3230 five days prior to the event in order to prepare the auxiliary aid or service that you will require.

Educational programs of the Texas A&M AgriLife Extension Service are open to all people without regard to race, color, religion, sex, national origin, age, disability, genetic information or veteran status. The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of

TABLE 1: COW HERD VACCINES

**Precalving Vaccination of
Cows and Heifers**

(7 to 9 months of pregnancy or twice a year)

1. 4-way Viral BRD Vaccine
2. Pasteurella Bacterin & Leukotoxoid
3. Haemophilus Bacterin
4. 5-way Lepto Bacterin
5. 7-way or 8-way Blackleg Bacterin
6. Scour Vaccine
7. Vibro Bacterin
8. Trich Vaccine

**Prebreeding Vaccination of
Replacement Heifers and Bulls**
(3 to 6 weeks before breeding)

1. 4-way Viral BRD Vaccine
2. Pasteurella Bacterin & Leukotoxoid
3. Haemophilus Bacterin
4. 5-way Lepto Bacterin
5. 7-way or 8-way Blackleg Bacterin
6. Vibrio Bacterin
7. Trich Vaccine (Heifers)
8. Anaplas Vaccine

TABLE 2: CALF HERD VACCINES

**Postcalving Vaccination of
Nursing Calves**

(2 to 3 months of age)

1. 4-way Viral BRD
2. Pasteurella Bacterin & Leukotoxoid
3. Haemophilus Bacterin
4. 5-way Lepto Bacterin
5. 7-way or 8-way Blackleg Bacterin

**Prewaning Vaccination of
Nursing Calves**

(3 weeks before weaning)

1. 4-way Viral BRD Vaccine
2. Pasteurella Bacterin & Leukotoxoid
3. Haemophilus Bacterin
4. 5-way Lepto Bacterin
5. 7-way or 8-way Blackleg Bacterin
6. Bang's Vaccine (Heifers)

Additional information can be found in the following Texas A&M AgriLife Extension Service publications: **Cattle Vaccines**, and **Common Cattle Parasites**. For a copy of these publications contact your County Extension Agent.

PESTICIDE APPLICATOR TRAINING

TUESDAY **JANUARY 13, 2015** 8:30 A.M.
TEXAS A&M AGRILIFE EXTENSION SERVICE
501 PLAMER LIBERTY, TEXAS
COST: \$55.00

TRAINING IS LIMITED TO THE FIRST 20 CALLERS. RSVP BY THE CLOSE OF BUSINESS DAY ON **JANUARY 5, 2015** BY CALLING 936-334-3230.