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## **AGRIVIEW**

**By: Rick Hirsch  
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**The forage harvested as hay will remove all nutrients in the grass and there is no recycling. As a result, a hay meadow requires a higher fertility level than pastures. A 6 ton hay crop each year will remove 300 pounds of nitrogen, 84 pounds phosphorus and 252 pounds of potassium. If these amounts of nutrients are not applied each year, the forage will mine the soil. After a period of time, the soil fertility level will decline and yields will decrease. It is essential to maintain soil fertility to maintain grass stands, yields and quality.**

Nitrogen and potassium are normally low in East Texas fields. Where hay is harvested 3 - 4 times a year, I would suggest that a 1-1 ratio of nitrogen and potassium be used.

The soil test report will list in the center of the page the suggested fertilizer rates in pounds per acre for nitrogen, phosphorus and potassium. The phosphorus and potassium rates are for the year and the nitrogen requirement is for the first fertilization. A following statement will suggest the nitrogen rate for additional fertilizations.

Remember, the amount of fertilizer recommended by the soil testing laboratory is not absolute. The fertilizer rate is only a suggested guideline. Producers will know much

more about a particular field than the laboratory and the suggested rate may need to be modified by experience.

Generally, fertilizer blends such as 19-4-17 and 21-8-17 will meet the nutrient requirement for Bermuda grass and Bahia grass meadows. These blends are close to the ratio of nutrients required by grasses. In hay meadows having a medium - high soil phosphorus level, a 20-0-20 fertilizer blend will work well, but a soil test is needed each year to prevent phosphorus from becoming deficient. The fertilizer blends mentioned need to be applied each time fertilizer is applied to prevent a soil deficiency.

A 3-1-2 fertilizer blend will supply the nitrogen, phosphorus and potassium for the first cutting. However, if only nitrogen is applied for the second cutting, the grass will remove the phosphorus and potassium from the soil. When phosphorus and potassium are not present in sufficient amounts, the forage yields and stands will decrease, even if there is sufficient nitrogen.

Phosphorus and potassium fertilizer may be applied in the fall or early spring to provide the necessary nutrients and then following each application with nitrogen only. If more than 100 pounds of potassium are required, it will be beneficial to make split applications. Usually a thin strand of grass is a result of low potassium. All plant nutrients are needed in the correct amount to maintain stands and yields.

It is impossible to make one recommendation that will fit all soils and management programs. The only sure way to achieve the correct levels of nutrients in a particular soil is to follow recommendations. Soil testing should be considered a tool for saving money, not just an indicator of how much fertilizer to purchase. A producer should purchase only the

elements his soil is lacking - not an excess of other elements. Often, money can be saved on fertilizer by figuring the exact amount of nutrients needed and then purchasing fertilizers that fit those forage needs.

Haylage, also known as round bale silage, is an approach to preserving forage that some producers are utilizing. Haylage is simply forage that is baled at a higher moisture content than dry hay and then stored in a sealed plastic wrap. Because of the high moisture level and air-tight environment, the forage ferments and is preserved by acid production during fermentation. This method has certain advantages and disadvantages over other forage harvesting and preservation systems.

According to North Carolina Extension advantages to using haylage include decreased curing time needed from cutting to baling, which makes weather less of a factor in forage harvesting; potential for more timely harvest of large quantities of forage; decreased need for mechanical handling and time curing to dry the forage reduces the loss of leaves, the most digestible part of the plant and potential for higher feed quality bale through leaf preservation and possible nitrate reduction.

There are some issues to consider when considering haylage as a forage source. Some of which include increased harvest cost per bale vs. conventional cured hay; disposal of used plastic wrap and the possibility of spoilage during the storage period. Transportation of bales is limited due to cost of moving high-moisture bales.

A number of East Texas beef producers have begun to utilize haylage especially in cool season grasses in order to capture excess production in the spring time. Putting haylage up decreases the need for curing time which can be one of the biggest issues in harvesting cool season grasses such as ryegrass during the later part of spring. So far 2016 is an excellent example of this situation.

**IMPORTANT DATES:**

- April 23<sup>rd</sup>** - **Henderson County Master Gardeners Plant Sale - Senior Citizens Center, 3356 SH 31 E, Athens - 9:00 a.m. - 2:00 p.m.**
- May 5<sup>th</sup>** - **Lake & Pond Field Day - Happy Valley Ranch, 12609 CR 3900, Athens - 5:00 p.m. - 2 C. E. U.'s - \$10.00/Person**
- May 10<sup>th</sup>** - **Forage Field Day - Trinity Valley Community College Ranch, Athens - 5:00 p.m. - 2 C. E. U.'s - \$10.00/Person**
- May 17<sup>th</sup>** - **Farm & Ranch Tour - Cain Center, Athens - 9:00 a.m.**

*Rick Hirsch is the Henderson County Extension Agent - Agriculture for the Texas A&M AgriLife Extension Service. Visit our web page at <http://henderson.agrilife.org/>.*