ONA REPORTS

published in

THE FLORIDA CATTLEMAN AND LIVESTOCK JOURNAL

January-1996

Liming Limpograss

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Limpograss (Hemarthria) is a popular grass grown for cattle in Florida. When managed correctly, limpograss can be a high yielding and good quality grass. As a general fertilizer recommendation, one should apply about 300 lbs. of 20-5-10 per acre in the spring, with an additional 50 pounds of nitrogen applied one or two times during the growing season.

Research is currently being conducted at the Range Cattle Research and Education Center to evaluate the limestone requirements for limpograss. It is well established that limestome is important for crop production. Limestone increases soil pH and also increases the calcium and/or magnesium content of the soil. The majority of soils in Florida on which forage grasses are grown are acid, coarse textured sands. These soils tend to be low in calcium and magnesium, both of which are required for plant growth.

Acid mineral soils found in Florida can contain toxic aluminum which stunts plant root systems and reduces nutrient and water uptake. Aluminum is normally present in its toxic form at soil pH levels less than 5.0 to 5.5. Thus, when an acid soil is limed to a pH level more than 5.0, any toxic aluminum present in the soil will be converted to a nontoxic form, alleviating aluminum toxicity.

Addition of limestone can also affect nutrient availability to crops. Under acid soil conditions (pH less than 5.0) nutrients such as phosphorus can be tied up in the soil in various forms making it unavailable to the plant. If too much lime is applied to the soil and pH gets to high (greater that 7.5) nutrients such as phosphorus, manganese, copper, iron and zinc can also be changed to forms making them unavailable to the plant. Thus, it is important that limestone not be applied haphazardly. It is important to take soil samples to determine pH and lime requirements prior to applying limestone. the amount of limestone needed depends upon the initial soil pH, soil texture and the crop to be grown.

Whenever it is cost-effective, one should use dolomitic limestone. Ordinary calcitic limestone only increases soil pH and provides calcium for the plant, while dolomitic limestone provides magnesium in addition to increasing soil pH and providing calcium. One will also need to consider the cost of the various limestone materials when making this decision. Limestone application should cost approximately 20 to 25 dollars per acre spread.

Preliminary results of a 3-year lime study on limpograss conducted at Ona suggest that there is a yield response in limpograss from the addition of as little as one ton of limestone per acre. Addition of one ton of limestone per acre increased annual limpograss production by as much as 0.8 tons of dry matter per acre over three years. The study is also evaluating various sources of limestone on limpograss production. However, at this time it is diffcult to draw any firm conclusions as to which source of limestone is economically better.

The study is planned to continue for at least two more years in order to evaluate the long term effects of limestone addition on limpograss, to help determine how long limestone will be effective in our sandy soils of Florida. Although it appears that limestone addition does increase limpograss production for at least three years from one initial application.