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Management Practices for Consideration with Perennial Grasses

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Perennial grasses (bahiagrass, limpograss, stargrass, bermudagrass, pangolagrass, Rhodesgrass, and atra paspalum) provide the nutritional foundation for Florida's livestock industry. Bahiagrass occupies about 70% of Florida's 3.5 million acres of improved pasture, with the remaining 30% consisting of various acreage of other grasses. These perennial grasses are used basically for grazing with limited amounts as hay and haylage. Since these are warm season grasses 70 to 90% of the total annual yield is produced between April and November, depending on the grass cultivar.

Bahiagrass produces 86 to 90% of its total annual yield between April and September, with only 10 to 14% of the total yield produced during the 6 winter (short day) months (October-March). Floralta limpograss, Florona stargrass, Florakirk (hay only) and Jiggs bermudagrass all produce between 15 and 30% of their annual yield during short days.

Floralta limpograss will tolerate the most cold, expressing the least amount of cold damage following sub-freezing temperatures. The bermudagrasses and stargrasses are extremely sensitive to cold, turning brown at temperatures of 30 to 32 o F. However, these selected stargrasses and bermudagrasses will produce forage during cool, moist, short day winter conditions. Therefore limpograss, selected stargrasses and bermudagrasses should be fertilized in late September to early October for fall and early winter forage production and/or fertilized again in early February for late winter-spring production. The late September and early February fertilization program takes advantage of fall and spring soil moisture and rainfall patterns.

Bahiagrass will not respond to fall fertilization because it will not grow under short days.

Therefore, it would not be desirable to fertilize bahiagrass for fall growth. However, in the spring, bahiagrass should be fertilized in early to mid-February to take advantage of spring showers and setting this grass up for forage production during March, and April (the driest month).

Growers should consider re-establishing at least one pasture annually, especially pastures that have shown considerable deterioration. Observations at the Range Cattle REC indicate that pastures one to five years old respond much better to fertilization under dry spring conditions than older pastures. When summer rains come and soil becomes saturated, even the old pastures produce well. At Ona during the spring of 2001 a one, two, and fourteen year old stand of Florona stargrass was fertilized with the same rate and on the same day. All three fields received the same moisture. By mid April the one and two year old stands were 25 to 30" tall and the fourteen year old stand was 8 to 10" tall. Apparently even on sandy flatwoods soils, old grass stands become root bound, producing little forage under stress conditions. Re-establishment appears to be the best way to alleviate root bound conditions. This practice destroys the entire sod allowing for a clean seed bed for re-establishment to new desirable grasses.

Mechanical chopping or aeration practices appears to have little effect on forage yield. Studies in Florida, Oklahoma, Mississippi, Tennessee, and Alabama showed that various types of aeration machines did not increase forage yield. However, forage yields were doubled or tripled in the Texas Backlands with Coastal bermudagrass when eroded soil with a clay pan on the surface was chiseled to a six inch depth.

In conclusion, timing of fertilization on perennial grasses is very important especially for late fall and spring forage production. Under favorable short day conditions Floralta limpograss, Florona stargrass, Florakirk (hay only) and Jiggs bermudagrass all have the ability to produce limited amounts of forage between October and March. Newly established pastures tend to be more responsive to fertilizer under limited rainfall than old pastures. If additional information is desired, please call 863-735-1314.