

**HILL FARM RESEARCH STATION
APRIL 24, 2008
FIELD DAY SUMMARY REPORT**

COMMODITY: FORAGE

TITLE: Using Clovers in a Forage System

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TAKE HOME MESSAGE:

The many different clover species available have different areas of adaptation and some differences in periods of growth. Crimson clover grows earlier than other clover species and can provide deferment from grazing for ryegrass during a few weeks in February and March to substantially increase ryegrass productivity for spring grazing. Arrowleaf clover and white clover generally provide grazing later in the cool season, and white clover can even be grazed into early summer on moist sites. Build-up of nutrients from repeated application of litter benefits clovers, but they also need at least light disking of the sod of summer-growing grasses and sustained soil moisture during fall for establishment.

PROBLEM/TOPIC:

Recent increases in cost of both feed and fertilizer have created a renewed interest in efficient pasture management. Clovers are recognized as readily available resources for increasing efficiency in forage production through both production of high quality forage and nitrogen fixation. Clover species are, however, also known as unpredictable rather than dependable sources of forage.

ACTION:

Plantings of several clover species were made at the Hill Farm Research Station to assess establishment responses of different clover species and effects of the extent of seedbed preparation on resulting clover stands on sites with enhanced nutrient levels from past applications of dairy manure. Only crimson clover provided good stand establishment with the limited rainfall in the fall of 2007, and only disked sites produced early stands even of crimson. Even with good fertility, the droughty upland sites proved better suited for crimson clover than for the smaller-seeded clover species.

IMPACT:

Establishment of all clover species was limited by insufficient rainfall during fall and early winter of 2007. On disked sites, the larger-seeded crimson clover established and provided grazing during February and March. This period of clover grazing allowed ryegrass to be rested from grazing, and resulted in accumulation of ryegrass growth for later use. Thus a planned winter forage

system based on ryegrass with an additional small pasture of crimson clover may allow much greater production from the ryegrass due to the rather short, timely grazing period of the crimson clover. Benefits from clover of late winter or spring grazing and nitrogen fixation will be more reliable following disking of sod of summer-growing grasses. Selecting sites where prior nutrient accumulation has occurred and moisture retention is good will also reduce risk of stand failure associated with small-seeded clover species such as white clover and arrowleaf clover.

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TITLE: Effect of Sodium on Bahiagrass Stands

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TAKE HOME MESSAGE:

Bermudagrass is more tolerant of salt accumulations in soil than is bahiagrass. Possible relationships of salt accumulations in surface soils and differing susceptibilities of bahiagrass and bermudagrass may determine management approaches to benefit particular grass species.

PROBLEM/TOPIC:

Bahiagrass has been a highly persistent pasture grass on Louisiana Coastal Plain soils even with limited fertilization and heavy grazing pressure. Recent isolated instances of loss of bahiagrass plants from portions of bahiagrass pastures, and even from bermudagrass stands with bahiagrass invasion, have not been fully explained. Salt intrusion along the eastern and southern portions of the Sparta Aquifer could be contributing to weakening of bahiagrass stands through transfer of salt from the aquifer to surface soils by litter application. Possible relationships of sodium and chloride with bahiagrass survival through this process are being evaluated in field plots at the Hill Farm Research Station.

ACTION:

A field plot experiment was established to assess effects of a range of levels of sodium, from sodium nitrate fertilizer, and salt on bahiagrass survival. Levels of sodium and salt affecting bahiagrass survival will be determined and compared to levels contributed by broiler litter from various sources. Initial applications of a range of sodium and salt levels applied in the 2007 growing season have had no adverse effect on bahiagrass, suggesting that any response is likely to long-term accumulation rather than to a single application even at a rather high rate.

IMPACT:

Two distinct and somewhat contrasting effects may be provided by sodium-rich soil amendments, if a differential relationship in survival of bahiagrass and bermudagrass is actually determined. First, repeated application of high rates of such amendments to bahiagrass stands could be detrimental and can be avoided. Second, specific application rates may be determined to competitively benefit bermudagrass and contribute to removal of bahiagrass in bermudagrass stands.

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COMMODITY: FORAGE

TITLE: Texas Bluegrass Forage Potential

CONTACT: Buddy Pitman, Hill Farm Research Station, (318) 927-2578
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TAKE HOME MESSAGE:

Texas bluegrass is a cool-season, perennial, sod-forming grass recently found to be adapted to some Louisiana Coastal Plain sites. This grass appears to have potential to provide permanent cool-season pastures on upland sites.

PROBLEM/TOPIC:

Most perennial grasses adapted to Louisiana conditions are summer-growing species. Although a few cultivars of tall fescue provide cool-season perennial forage for some Louisiana sites, they are not well adapted to Coastal Plain uplands. Texas bluegrass has persisted as a perennial grass on Louisiana upland sites, but available populations include a range of plant genotypes with variation in productivity and seedling vigor.

ACTION:

Individual Texas bluegrass plants previously selected for establishment vigor and productivity at Rosepine, Louisiana were transplanted to field plots at the Hill Farm Research Station in the spring of 2006 and 2007. These plants have exhibited a range in vigor and spread with superior plants selected for additional evaluation.

IMPACT:

Performance of the superior plants suggest that a population of Texas bluegrass can be developed for release as a cultivar adapted to Louisiana Coastal Plain uplands to provide permanent cool-season pastures for use by Louisiana beef cattle producers. Such pastures would decrease winter feed costs incurred with extensive feed purchases, hay making, or planting annual cool-season forages each year.