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Evaluation of Bermudagrass Selections with Mob Grazers

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SUMMARY

Sixteen bermudagrasses were evaluated for regrowth potential and total dry matter production. Yields were taken by hand-clipping small areas within each plot, but plot defoliation was accomplished with cow-calf grazers. Plots were not mowed during the growing season. Total yields ranged from 10,024 to 17,044 lbs/acre. Selection B-7 produced more total dry matter forage than any of the other bermudagrasses. Coastal ranked third and Tifton 44 ranked thirteenth among those grasses tested.

Introduction

Warm-season perennial grasses, primarily bermudagrasses, are the most widely used permanent pastures in the humid U.S. And, further, Coastal bermudagrass has been the most extensively planted hybrid bermudagrass in this area. Research has shown that significant improvements in forage quality may be made with hybrid bermudagrasses. However, before a new variety is chosen to replace Coastal, the variety should be consistent with Coastal's yield, vigor under grazing, disease resistance, winter survival, etc. Therefore, this trial was initiated to evaluate 14 new bermudagrass hybrids in addition to Coastal and Tifton 44.

Procedure

Fourteen hybrids from Dr. Glenn Burton's bermudagrass breeding program (USDA, Tifton, Georgia), along with Coastal and Tifton 44 bermudagrass, were planted in 8' x 20' plots. The field design was a randomized complete block with four replications. Plots were established in 1981 and were not grazed nor clipped until the 1982 growing season. Two, one square foot, quadrats were hand-clipped from each plot when grass reached approximately 8 to 10 inches in height. These samples were used for dry matter yield and nutritive analyses. After harvesting each subplot to a 2" height, cows and calves were allowed to graze the entire area to defoliate each plot. Sufficient numbers of animals were used so that the plots were grazed to an approximate 1-inch height during a 2 to 3 day period. Animals were removed and plots were not defoliated until the next harvest period. Fertilizer was applied six times during the growing season for an annual rate of 580-100-100 lbs/ac, respectively, of N-P2O5-K2O. The high nitrogen rate was used to discourage spot grazing due to defecation areas.

Results and Discussion

Dry matter production for the eight harvests and the total seasonal harvest are presented in Table 1. Bermudagrass yields ranged
from 17,044 for B-7 to 10,024 lbs/ac for B-2. Coastal ranked third in production; whereas, 'Tifton 44' ranked thirteenth out of the sixteen entries. The use of cows and calves as "mob grazers" served as a useful method of evaluating the grasses under grazing pressure, and also as a means of cleaning off plots after yield samples had been taken. The value of shredding plots after grazing was not ascertained in this trial. Forage quality, vigor, and stand maintenance data are being collected to critically evaluate these potential bermudagrass varieties.
Table 1. Dry matter production of sixteen bermudagrasses.  

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1 Means in the same column with different superscripts differ (P<.05) according to Duncan's Multiple Range Test.