

Dry Matter Yields and Preliminary Evaluation of Forage Quality for Eight Dallisgrass Accessions and Common Dallisgrass

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Summary

Eight dallisgrass accessions were compared to common dallisgrass for yield and forage quality during the 1984 growing season. Plots, arranged in a randomized block with four replications, were sampled or harvested bi-weekly. Because of severe drought from March until mid-July, yields were only half the previous 3-year average. There were no significant differences between dallisgrass entries for neutral detergent fiber or indigestible neutral detergent fiber.

Introduction

Common dallisgrass (*Paspalum dilatatum* Poir.) is well adapted to the soil and climate of southeast Texas as well as much of the Gulf coastal area of the United States. Its prostrate growth under frequent defoliation and its high forage quality relative to competitive warm-season perennial grasses make it an excellent pasture plant for a variety of grazing managements. Dry matter yields from

KEYWORDS: Dallisgrass/yield/forage quality.

common dallisgrass and from eight accessions collected in Uruguay, representing a dallisgrass biotype different from common, have been measured in plots at Angleton for three previous years. Among the accessions, the more erect types yielded more than common when rainfall was adequate, indicating a greater potential for hay production. Drought tended to eliminate differences in yield. No aspect of forage quality has previously been measured, however.

Procedure

Fertilizer application was at the rate of 50 pounds of nitrogen and 60 pounds of P_2O_5 per acre in early June, 1984 and another 50 pounds of nitrogen in early August. The plots, in four replicates, were harvested bi-monthly for yield measurement. At bi-weekly intervals within harvest period, a single plant from each plot was harvested, composited within entry, quickly dried on open pans, and ground for laboratory analyses. Samples were also taken at the bi-monthly total harvests and dried for analyses. Forage quality was characterized by measuring neutral detergent fiber (NDF) and NDF that remained undigested after 6 days of *in vitro* fermentation (INDF).

Results and Discussion

Very little growth occurred until late spring due to drought. Therefore, no samples were obtained for the April-May period. Samples were taken for NDF and INDF determination beginning June 11 and approximately biweekly thereafter until the end of July, when the entire plots were harvested for yield measurement. Regrowth was again sampled at biweekly intervals, and another total cutting was taken on September 26.

Dry matter yields are shown in Table 1. Although the dallisgrass accessions tended to yield more than common in 1984, none of the differences were statistically significant. The 1981-83 average is shown for comparison.

Table 2 shows the NDF and INDF values by period. Differences among entries within periods were small and statistically not significant. Differences in INDF due to sampling time within the June-July period (not shown) ranged 10 percentage units and were primarily

TABLE 1. FORAGE PRODUCTION OF DALLISGRASS ACCESSIONS AND COMMON DALLISGRASS DURING 1984 AND THE 3-YEAR AVERAGE (1981-83)

Entry	Cutting date		Total	1981-83 Average
	Aug. 1	Sept. 26		
	Pounds Dry Matter/Acre			
426	3,150	540	3,690	6,810
455	2,960	600	3,550	6,940
458	3,040	660	3,700	7,130
460	3,020	640	3,660	7,240
461	2,900	520	3,420	7,360
544	3,150	600	3,750	6,410
554	2,980	520	3,510	7,180
555	2,750	480	3,220	6,580
Common	2,720	470	3,190	6,190

TABLE 2. NDF AND INDF VALUES FOR DALLISGRASS ACCESSIONS AND COMMON DALLISGRASS FOR TWO GROWTH PERIODS IN 1984

Entry	June-July		August-September	
	NDF	INDF	NDF	INDF
	Percent			
426	72.7	22.8	69.8	21.1
455	73.1	22.5	70.2	19.9
458	73.6	23.5	70.4	21.2
460	73.1	23.5	71.4	22.6
461	72.3	22.9	70.8	21.7
544	73.7	23.2	70.3	21.9
554	73.0	22.6	70.3	21.9
555	71.5	21.5	71.3	21.9
Common	73.1	23.6	71.9	23.5

a reflection of rainfall and the resulting new growth just prior to sampling. Overall, the NDF and INDF values indicate that the dallisgrass accessions evaluated here are equal to common dallisgrass in forage quality and may exceed common dallisgrass yields, particularly for hay production.