

PUBLICATIONS

1986

**Forage Research
In Texas,
1986**

Heifer Performance on Oat and Wheat Pastures Seeded With Clover and Ryegrass

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Summary

One year of grazing has been completed and the second is in progress to evaluate Mit wheat and Mesquite oats as alternatives for winter pasture. All pastures were also planted to ryegrass and a mixture of Yuchi arrowleaf clover and Woogenellup subterranean clover. Yuchi arrowleaf clover has been the dominant clover in this mixture. The 1984-85 season permitted 195 calendar days of grazing with average daily gain (ADG) of 1.55 and 1.71 lb/day for oat and wheat based pastures, respectively. The 1985-86 season (through May 7) has resulted in ADG's of 1.62 and 1.71 lb for oat and wheat based pastures respectively. Average stocking rates have been similar between oat and wheat based pastures, averaging 1.28 and 0.8 animals/A for 1984-85 and 1985-86 seasons, respectively.

KEYWORDS: Wheat pastures/South Texas/heifer performance/grazing.

Introduction

Oats have been traditionally used for winter pasture in South Texas. The small plot data indicates that wheat could potentially yield as much or more forage as oats. Furthermore, wheat is less susceptible to iron chlorosis and cold winter temperatures than oats. Wheat is also susceptible to different disease organisms than oats. Ryegrass was added to all pastures to extend the grazing season in the spring if rainfall would permit. The clovers were added to reduce the requirement for nitrogen fertilizer and increase the length of the grazing season and the quality of the forage available late in the season. The objective of this research was to determine if wheat could be substituted for oats in South Texas winter pasture programs.

Procedures

This study was initiated in fall 1984 when four 6.25-A pastures were allocated for planting to either Mesquite oats or Mit wheat. These pastures had been used in previous years for winter grazing and were fallowed in summer 1984. Fertilizer was applied at the rate of 100 lb/A of 18-46-0 in mid-September of both 1984 and 1985. No other fertilizer has been applied. Plantings were made on November 1, 1984 and September 23, 1985. In 1984, Mesquite oats and Mit wheat were drilled in at the rate of 1 bu/A. All pastures were overseeded with a cultipacker seeder using 10 lb of Tetragold annual ryegrass and a mixture of Yuchi arrowleaf clover and Woogenellup subterranean clover. The clovers were inoculated with the appropriate rhizobia using "Pelinoc" and then mixed prior to seeding at about 12 lb/A for the mixture.

The area was chisel plowed twice and disked twice in August and September 1985. In 1985, the Mesquite oats and Mit wheat were drilled at the rate of 32 lb/A and Tetragold ryegrass was planted at 10 lb/A using a cultipacker. The clovers were not replanted in 1985 as they re-established from natural reseeding.

Grazing was initiated December 20, 1984 and continued (except for a short removal period during the snow storm in January of 1985) until July 3, 1985. The pastures were stocked with eight Brahman x Hereford (F_1) heifers averaging about 435 lb when the experiment started. Additional heifers or steers were added and removed from time to time to maintain uniform forage available per animal among all pastures. Cattle were weighed every 28 days following an overnight fast.

Grazing was initiated November 20, 1985 and is still in progress as this report is being written. The pastures were stocked with three Brahman x Hereford (F_1) heifers averaging about 380 lb. Initial body condition scores were 4 and 4+. Additional crossbred heifers have been added and removed from time to time to maintain uniform forage available per animal among all pastures. Cattle were weighed every 28 days following an overnight fast.

Results and Discussion

Rainfall was adequate to maintain a minimum of eight animals per 6.25-A pasture from December 20, 1984 through July 3, 1985. Average stocking rate was 1.28 animals/A with no difference between treatments. Aver-

age daily gains (ADG) for the 195-day grazing season were 1.55 and 1.71 lb/day for oat and wheat based pastures, respectively. Gain/acre averaged 387 and 427 lb for the oat and wheat based pastures, respectively. Ending condition scores averaged slightly higher (5+ to 6) for cattle on wheat based pastures than for cattle on oat based pastures.

Rainfall during the 1985-86 season to date has permitted stocking of from 3 to 9 animals per 6.25-A pasture. Most of the season to date has allowed 4 to 5 animals/pasture. For the first 141 days ADG's have been 1.62 and 1.71 lb/day for oat and wheat based pastures, respectively. The carrying capacities have been similar, averaging about 0.8 animals/A.

This preliminary data indicates that Mit wheat and Mesquite oats when planted with ryegrass and clover provide equal quality and quantity of winter pasture. This research will be continued at least one more year to verify performance to date.

Yuchi arrowleaf clover was the dominant clover in the mixture and reseeded profusely even under rather heavy grazing. Yuchi arrowleaf clover is very drought tolerant and can survive extended dry periods and recover after sufficient rainfall has occurred.