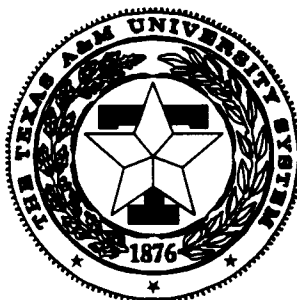


FORAGE-LIVESTOCK FIELD DAY REPORT - 1998

TEXAS A&M UNIVERSITY AGRICULTURAL RESEARCH and EXTENSION CENTER at OVERTON

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PASTURE COSTS ASSOCIATED WITH GRAZING BERMUDAGRASS-RYE-RYEGRASS WITH STOCKER CATTLE

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Background. Small grain and ryegrass have been planted into prepared seedbeds or sod-seeded into warm-season perennial grass pastures in East Texas for more than forty years. Climatic conditions, on average, permit planting in September-October, and grazing from November-December until mid- to late May. Forage from small grain-ryegrass pastures is bimodal with a minor production peak in the fall and a major production peak from March-May. Thus, during an average 180-day grazing period, there are usually three distinct periods which may require different stocking rates for optimum forage utilization. Management decisions on stocking rates and associated costs of production are critical to positive cash flow from grazing ventures.

Application. With adjustments for fertilization rates based on both soil fertility status and forage yield expectations, total winter pasture costs will likely range from \$100 to \$150 per acre (Table 1). Table 2 illustrates allocated costs per head based on \$137 per acre for rye-ryegrass. This emphasizes the need to adjust the stocking density on pastures with relatively high costs per acre. Average stocking rates on rye-ryegrass may range from 1.5 to 3 head per acre for stocker calves with initial bodyweights of 500 lbs (750-1500 lbs BW/ac). Over a range of stocking rates and average daily gains, projected gains per acre may be calculated or estimated (Table 3). Within the expected gains from winter pasture (300 to 800 lbs/ac), pasture costs (only) range from about \$.45 to \$.17/ lb gain. Sod-seeded bermudagrass pastures offer forage production during the summer months without additional fertilizer. Based on previous research at TAMU-Overton, these non-fertilized summer pastures will accommodate approximately 2000 lbs BW/acre and stocker calves will have ADG of about 1.0 lb. During a year-long grazing period, multiple (2 to 4) sets of stocker cattle could be grazed from December until early September. Additional summer gains (300-500 lbs/acre) are possible without extra fertilizer costs due to the efficiency of bermudagrass to capture fertilizer nutrients recycled by grazing animals. Thus, year-long pasture gains should range from 800 to 1200 lbs/ac with corresponding pasture costs of \$.17 to .11/lb gain. A complete economic analysis that includes animal costs and expected margins is necessary to estimate profitability and to evaluate cash flow. On high quality, relatively expensive pastures that combine winter annual forages and warm-season perennial grasses for 9 to 10 months of grazing, management should seek optimum forage utilization through methods of variable stocking rates and/or haying operations.

Table 1. Approximate pasture costs associated with rye-ryegrass pastures in East Texas.

ITEM	AMOUNT/AC	COST/AC
SEED ¹		
Rye	100 lbs	\$18
Ryegrass	30 lbs	10
FERTILIZER ²		
21-8-17	250 lbs	25
34-0-0	600 lbs	55
Lime (per year basis)	.33 T	9
PLANTING		10
INTEREST-10% @ 9 mo.		10
TOTAL PASTURE COSTS		\$137/ac

¹Small grain variety and seeding rates may vary.

²Fertilizer ratios and rates will vary with soil analyses and expectations for dry matter yield..

Table 2. Costs per animal for small grain-ryegrass grazed at different stocking rates.

STOCKING RATE (hd/ac)	COST/ANIMAL (\$/hd)
1.0	\$137.00
1.5	91.33
2.0	68.50
2.5	54.80
3.0	45.67

Table 3. Estimated pasture cost per pound of gain for calves grazing small grain-ryegrass-bermudagrass from December through August.

POUNDS GAIN/AC (lbs)	PASTURE COST/LB GAIN ¹ (\$/lb)
300	.457
400	.343
500	.274
600	.228
700	.196
800	.171
900	.152
1000	.137
1100	.125
1200	.114

¹Pasture costs only and does not include animal costs and management.