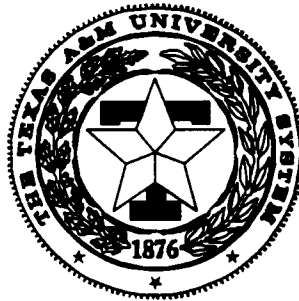


**FORAGE-LIVESTOCK  
FIELD DAY REPORT - 1998**

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

**Texas Agricultural Experiment Station  
Texas Agricultural Extension Service**



**April 16, 1998**

**Research Center Technical Report 98-1**

---

All programs and information of the Texas Agricultural Experiment Station and Texas Agricultural Extension Service are available to everyone without regard to race, color, religion, sex, age, or national origin.

Mention of trademark or a proprietary product does not constitute a guarantee or a warranty of the product by the Texas Agricultural Experiment Station or Texas Agricultural Extension Service and does not imply its approval to the exclusion of other products that also may be suitable.

## INFLUENCE OF STOCKING RATE ON WEANED FALLOW BUCKS GRAZING WINTER PASTURE

G. W. Evers, A. D. Davidson, R. D. Randel, and D. A. Neuendorff

**Background.** Of the 1.3 million lbs of venison marketed in the United States in 1994, only 208,000 lbs were produced in the US. The rest were imported from New Zealand. About 70% of the US venison production was in Texas. Venison is a lean meat, low in fat and cholesterol, which is an attractive alternative to chicken and fish for health conscious Americans. Texas deer farmers presently receive \$2.50/lb of carcass with a minimum carcass weight of 60 lb. Dressing percentage of non-native deer ranges from 55 to 60% which requires a minimum live slaughter weight of 100 to 110 lb. Economic analysis of the deer farming enterprise has shown that maximum profit occurs when fawns are carried to slaughter weight instead of sold at weaning. Most non-native deer species are seasonal breeders with most fawns born from late May to July and weaned in autumn. A grazing study was carried out at the TAMU Agricultural Research and Extension Center at Overton to determine the relationship between stocking rate and animal performance on cool-season annual pasture.

Four 0.5 acre Coastal bermudagrass pastures were lightly disked on September 11 and 12, 1996. On September 13, 100 lb of Elbon rye was drilled in 7-in. rows and 25 lb of TAM 90 annual ryegrass was broadcast per acre. Forty lb/acre of N, P, and K were applied after planting. An additional 200 lb of N and 60 lb of K was applied during the growing season. Each pasture was divided in half and the deer rotated every 2 weeks. All pastures were sampled to estimate available forage at the beginning and end of each grazing period when the deer were moved. Pastures were stocked with 12, 16, 20, or 24 head/acre of weaned 1/4 Mesopotamian-3/4 European fallow bucks averaging 62 lb on November 4. The deer were removed on Dec. 3 because of limited forage and returned on January 30 until March 25. The mild, moist autumn enhanced rye growth to the point that it crowded most of the annual ryegrass out. The rye matured in late March and there was not a sufficient ryegrass stand to sustain the deer. Deer were weighed every 28 days.

**Research Findings.** A poor ryegrass stand due to competition from the rye resulted in a short grazing season of only 89 days. Rye was added to the annual ryegrass to improve autumn and winter forage production which has worked well with cattle. However, rye regrowth was poor after close defoliation by deer even though from 400 to 600 lb/acre of residual forage remained after the initial grazing period (Table 1). After the 2-month rest period (3 Dec. to 30 Jan.) sufficient forage was available to resume grazing but it was essentially all consumed by the end of the 2-week grazing period except at the low stocking rate. Average daily gain decreased from .255 to .085 lb/hd/day as stocking rate increased

because of less forage available per animal. There was a corresponding decrease in gain/head. Maximum gain/acre was at 16 hd/acre. None of the deer reached the target slaughter weight of 100 to 110 lb because of the short grazing period.

**Application.** Under continuous grazing or a two-pasture rotation only ryegrass should be used for cool-season annual pasture for deer. Rye, and probably the other small grains, did not recover well from close defoliation by deer. Small grains might persist better with a four-pasture rotation where the deer could be moved to the next pasture before grazing to stubble heights shorter than 2 to 3 in.

Table 1. Ryegrass disappearance at four stocking rates of weaned fallow bucks 1996-1997.

	12		16		20		24	
Head/acre	Avail. 1	Res.	Avail.	Res.	Avail.	Res.	Avail.	Res.
Period	-----dry matter (lbs/acre)-----							
4 Nov - 19 Nov	1296	604	972	576	1744	382	2220	628
19 Nov - 3 Dec	1246	408	1648	597	1612	408	1800	658
3 Dec - 30 Jan	OFF PASTURE							
30 Jan - 13 Feb	1928	782	1298	136	1570	178	1488	332
13 Feb - 27 Feb	1468	706	1014	24	826	0	984	0
27 Feb - 13 Mar	654	0	200	0	224	0	236	0
13 Mar - 26 Mar	3124	470	2266	0	1980	0	2218	322

Table 2. Influence of weaned fallow buck stocking rate on average daily gain, gain/head and gain/acre 1996-1997.

Head acre	Average daily gain			Gain head lb	Gain acre lb
	4-Nov-3 Dec	30 Jan-26 Mar	Season		
	-----lb/hd/da-----				
12	.239	.263	.255	21.4	256.8
16	.221	.198	.206	17.3	276.8
20	.093	.050	.064	5.4	108.0
24	.068	.093	.085	7.1	170.4