

FIELD DAY REPORT - 1996

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

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

Overton, Texas

April 18, 1996

Research Center Technical Report 96-1

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GROWING WEANED FALLOW BUCKS TO SLAUGHTER ON COOL-SEASON PASTURE IN EAST TEXAS

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Background. Deer farming, raising deer in confinement on improved pastures, is a new agricultural enterprise that is gaining popularity in the United States. Of the 1.3 million lbs of venison consumed nationally last year, only 208,000 lbs were produced in the US with 72% (150,000 lb) of that coming from Texas. It is estimated that over 50% of the exotic deer being intensively farmed in the United States are in Texas. The present price for slaughter animals exceeds \$2/lb of carcass. East Texas is well suited for deer farming because of small size pastures and a climate well suited for forage production. A grazing study was conducted at the TAMU Agricultural Research and Extension Center at Overton to evaluate the feasibility of taking weaned fallow bucks to a slaughter weight of 100 lb on cool-season pasture.

Research Findings. Four 0.5 acre pastures of Coastal bermudagrass were disked lightly and overseeded with 40 lb/acre of ryegrass on 14 Sept. 1994. Sixty seven lb of phosphorus and 100 lb of potassium per acre were applied at planting and a total of 230 lb/acre of nitrogen was applied in four applications during the growing season. Each 0.5 acre pasture was split in half with the deer rotated between the two every 2 weeks. Available forage at the beginning and end of each grazing period was estimated from four random samples per pasture.

Weaned fallow bucks averaging 53 lb/hd were obtained 7 Oct. 1994. They were ear tagged, wormed, vaccinated for blackleg, and injected with an antibiotic. The fawns were fed rabbit pellets (16% protein) at 2% of body weight in a 0.25 acre drylot. On 7 December, the pastures were stocked at 12, 16, 20, or 24 hd/acre. Deer were weighed every 4 weeks.

The amount of residual forage at the end of each grazing period decreased as stocking rate increased (Table 1). Winter temperatures limit ryegrass growth so the deer were supplemented with rabbit pellets at 2% of body weight in January and February. Except for the lightest stocking rate, the deer consumed essentially all available ryegrass in February. All deer were removed from 1 March to 15 March to allow the ryegrass to recover and fed rabbit pellets at 4% of body weight in drylot. After 15 March, residual forage at the end of each 2 week grazing period was about 600 lbs/acre or greater except for the highest stocking rate.

Average daily gain (ADG) was about 3 times greater in spring than winter (Table 2). Although forage availability had some influence, seasonal effect on fallow deer's intake and metabolism were the major reasons for the higher ADG in spring. For the 155 day period, ADG

and gain/head decreased as stocking rate increased. Gain per acre peaked at 20 deer/acre.

Application. This study provides the first information on the influence of stocking rate on exotic deer weight gain with forages adapted to the southeastern US. Only the fallow bucks stocked at the lowest rate of 12 hd/acre were able to reach the target weight of 100 lb by the end of the ryegrass season in late May. Stocking ryegrass pasture at 20 hd/acre maximized gain/acre but will require a subsequent feeding period for the deer to reach 100 lb/hd.

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

Head/acre Period	12		16		20		24	
	Avail. ¹	Res.	Avail.	Res.	Avail.	Res.	Avail.	Res.
-----dry matter (lb/acre)-----								
7 Dec- 21 Dec	756	410	1101	761	1022	245	1336	346
21 Dec-4 Jan	950	720	1228	979	1113	396	1060	329
4 Jan-19 Jan	1013	674	938	626	588	271	478	276
19 Jan-1 Feb	897	823	1106	408	463	242	559	0
1 Feb-15 Feb	703	463	828	0	485	0	302	0
15 Feb-1 Mar	933	825	571	271	182	88	130	0
1 Mar-15 Mar	OFF PASTURE							
15 Mar-29 Mar	1794	1408	1082	914	892	581	609	0
29 Mar-12 Apr	1012	2389	895	1422	1197	960	895	0
12 Apr-26 Apr	2848	2648	1732	2185	1062	943	593	0
26 Apr-10 May	3550	2266	3227	2170	1506	749	624	0

¹Avail. - available forage at beginning of grazing period, Res. - residual forage at end of grazing period.

Table 2. Influence of deer stocking rate on ADG, gain/hd, and gain/acre.

<u>Head</u> acre	<u>Average daily gain</u>			<u>Gain</u> head	<u>Gain</u> acre
	7 Dec-1 Mar	15 Mar-4 May	Season		
	-----lb/hd/day-----			-----lb-----	
12	.180	.430	.262	39.0	468
16	.138	.388	.236	35.2	563
20	.134	.398	.220	32.8	656
24	.082	.258	.153	22.8	547