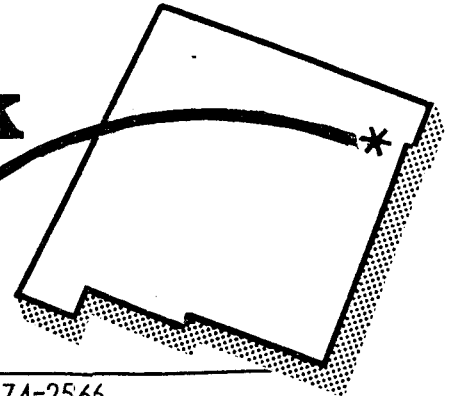




# Clayton Livestock Research Center

## PROGRESS REPORT



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Progress Report No. 44 (May 1986)

FINISHING YEARLING CATTLE FOLLOWING 91 DAYS OF GRAZING KOCHIA,  
NATIVE GRASS OR KOCHIA AND NATIVE GRASS

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In previous studies it has been found that kochia (*Kochia scorparia*) forage has potential as a feed for cattle but caution has to be exercised because of toxicity problems. Some of these problems have been documented in NMSU Research Report 546 (1984). Progress Report No. 43 from this center described studies in which kochia hay was used in growing programs either as the only feed or in a milled feed containing 50% roughage. The purpose of the study reported herein was to investigate the effects of grazing kochia

pasture on subsequent performance during finishing in the feedlot.

One lot of ten yearling steers was allowed to graze for 91 days on a pure stand of kochia pasture at the Agricultural Science Center at Tucumcari from May 29 to August 28. During the same period, one lot of similar steers grazed a native grass pasture while a third lot was allowed access to both kochia and native grass. At the conclusion of the grazing period, the cattle were brought to the Clayton

### Cattle Performance By Period

Item	Pasture grazed for 91 days		
	Native grass only	Kochia alone	Kochia with native grass
<u>Grazing period (91 days)</u>			
Initial weight, lb.	634	619	626
Daily weight gain, lb.	1.98 <sup>b</sup>	.52 <sup>a</sup>	1.68 <sup>b</sup>
Total weight gain, lb.	180 <sup>b</sup>	47 <sup>a</sup>	153 <sup>b</sup>
<u>Feedlot period (133 days)</u>			
Weight off pasture, lb.	814 <sup>c</sup>	666 <sup>a</sup>	779 <sup>b</sup>
Daily feed intake, lb.	24.88	24.12	25.90
Feed intake as % of weight	3.06	3.62 <sup>b</sup>	3.32
Daily weight gain, lb.	2.58 <sup>a</sup>	3.16 <sup>b</sup>	2.84 <sup>b</sup>
Feed/pound gain, lb.	9.64 <sup>b</sup>	7.63 <sup>a</sup>	9.12 <sup>b</sup>
Total feedlot gain, lb.	343 <sup>a</sup>	420 <sup>b</sup>	378 <sup>a</sup>
<u>Entire 224 days</u>			
Total weight gain, lb.	523 <sup>b</sup>	467 <sup>a</sup>	531 <sup>b</sup>
Daily weight gain, lb.	2.33 <sup>b</sup>	2.08 <sup>a</sup>	2.37 <sup>b</sup>
Final weight, lb.	1157	1086 <sup>a</sup>	1157

<sup>a, b</sup> Means in same row having different superscripts differ (P<.05).

Livestock Research Center for finishing in the feedlot. All cattle were started on a 50% concentrate milled ration plus free access to native grass hay for the first day. After 5 days, the level of concentrates was increased to 75% and to 85% at two weeks. The 85% concentrate ration was then fed until the cattle were sent to the packer. The cattle were in the feedlot 133 days and all were sent to slaughter on the same day.

The accompanying table presents a summary of the results on pasture, in the feedlot and the entire 224 days including pasture and feedlot.

During the summer grazing period the cattle on kochia gained the least, averaging only .52 lb/day. Those grazing native grass gained the most weight, averaging almost two pounds daily. The gains of those having access to both kochia and grass were intermediate but more closely resembled the gains achieved on native grass only. It is apparent that the pure stand of kochia was far less productive than native grass. However, when cattle had access to both kochia and grass, gains were almost as good as on grass alone.

During finishing, those cattle which had grazed kochia for the previous 91 days

consumed 24.12 lb. of feed/head daily, an amount equal to 3.62% of their feedlot initial weight. Those previously on native grass consumed 3.06% of their feedlot initial weight while those which grazed kochia and native grass consumed 3.32% of their initial weight. Daily weight gains followed this same pattern with those which grazed kochia for the previous 91 days gaining 3.16 lb/head daily while the cattle grazed on native grass only gained 2.58 lb/day in the feedlot. Those previously grazed on kochia plus native grass made an intermediate rate of gain.

Because of the more rapid feedlot gains of cattle previously grazed on kochia, they were able to make up 77 pounds of the 133 pound gain deficit which occurred during grazing compared to those grazing native grass only. However, the kochia cattle still lacked 56 and 64 pounds of making total gains equal to those grazing native grass only or those grazing both forages. Cattle grazing kochia and native grass were able to compensate completely for the slower gains during grazing.

Because of the compensatory feed consumption and gains exhibited in the feedlot by cattle previously grazed on kochia pasture, it may be possible under certain conditions to utilize kochia pasture prior to finishing cattle.

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Publication

Penalty for Private Use, \$300

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