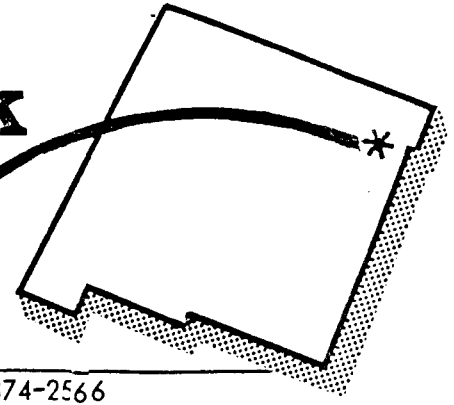




# Clayton Livestock Research Center

## PROGRESS REPORT



Route 1 Box 109

Clayton, New Mexico 88415

Tel. (505) 374-2566

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### EFFECT OF DEPO-MGA ON PERFORMANCE OF FEEDLOT HEIFERS

Glen P. Lofgreen, Mark Branine, Mike Hubbert and Danny R. Garcia<sup>1</sup>

Melengestrol acetate, commonly known as MGA is a synthetic progestational steroid used commercially to suppress estrus, increase weight gain and improve feed efficiency in feedlot heifers. Currently, MGA is available only as an orally administered feed additive. This route of administration presents several management limitations in feedlots feeding both heifers and steers. To evaluate an implantable form of MGA, known as DEPO-MGA, a cooperative study was conducted by the Clayton Livestock Research Center and the Upjohn Company to evaluate the effects of no MGA, oral MGA, or DEPO-MGA at levels of 30, 60 and 90 mg/head on performance of feedlot heifers. This particular study was one of 14 trials conducted nationwide to determine the optimal dosage of DEPO-MGA for feedlot heifers.

On October 1, 1986, 250 commercial grade Hereford and black-baldy heifers were received at the Clayton Livestock Research Center. All cattle were purchased from the T4 Ranch, Montoya, NM and were known to have never been previously implanted. Upon arrival, heifers were given free access to grass hay and water. On October 3, 1986 all animals were processed. Processing included administration of long-acting oxytetracycline (LA 200®) and 50 g sustained-release sulfadimethoxine (Albon SR®) as preventative medication; dehorning

if required; branding, ear-tagging and weighing; vaccination with IBR-PI<sub>3</sub>, BVD and 7-way Clostridium bacterin; administration of Ivomec®, Lutalyse®, and vitamins A and D. On October 6, all heifers were pregnancy tested by a local veterinarian. Heifers diagnosed pregnant were removed from further consideration for use in the trial. After processing, heifers were placed in 12 pens and provided with free choice grass hay and a 75% concentrate milled feed. After the first week, grass hay was withdrawn and cattle were progressively brought on full feed with the 75% concentrate feed and then switched to an 85% concentrate milled feed. On October 29, 1986, all heifers were once again weighed and allotted to groups receiving either no MGA (control), MGA in the feed provided at a level of .5 mg/head/day (oral MGA); or DEPO-MGA at levels of 30, 60 or 90 mg/head implanted subcutaneously at the base of the ear. Heifers were on trial for 114 days at which time they were sent to slaughter. Statistical analysis of the data was conducted using analysis of variance procedures.

Average weights for all heifers at the beginning and end of the trial are given in Table 1. Heifers receiving 60 mg DEPO-MGA had a greater total weight gain during the trial, resulting in a heavier

<sup>1</sup> The authors wish to thank the Upjohn Company for their partial financial support of this project and for providing the DEPO-MGA.

finishing weight. Daily weight gains (ADG), feed intake (DFI), and feed efficiency (F/G) values for the entire trial are given in Table 2. Mean values for ADG, DFI, and F/G ratio did not indicate a statistically significant effect from either oral MGA or any level of DEPO-MGA, although several trends were evident. Generally, heifers receiving oral MGA had a numerically greater ADG than controls, while all levels of DEPO-MGA produced numerically greater weight gains than both control and oral

MGA heifers. Providing DEPO-MGA at the 60 mg level substantially increased ADG and improved F/G compared to controls. Daily feed intake appeared greater for heifer receiving MGA, particularly those receiving oral MGA in the feed. Trends from this trial indicated providing DEPO-MGA at a level of 60 mg may be an optimal dosage for yearling feedlot heifers. However, final dose selection will take place upon completion of the analysis of the data from all 14 locations.

Table 1. Mean Initial and Final Weight by Treatment

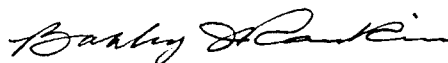
Treatment	Initial weight lbs	Final weight lbs	Total gain lbs
Control	644	1054	410
Oral MGA (.5 mg/hd/day)	644	1062	418
30 mg Depo-MGA	643	1064	421
60 mg Depo-MGA	644	1082	438
90 mg Depo-MGA	644	1067	423

Table 2. Effects of Oral MGA and Depo-MGA Concentration (mg) on Feed Intake, Weight Gain, and Feed-to-Gain Ratio in Feedlot Heifers

Item	Level of MGA				
	0	Oral	30	60	90
Average Daily Gain (lb/d)	3.64	3.73	3.74	3.89	3.76
Feed Intake (lb/d) <sup>a</sup>	22.7	24.1	23.4	24.0	23.5
Feed-to-gain Ratio <sup>a</sup>	6.23	6.47	6.25	6.17	6.26

<sup>a</sup> Feed intake and feed-to-gain ratio calculated on an as-fed basis.

Bobby J. Rankin, Head, Animal and Range Sciences



Agricultural Experiment Station  
 NEW MEXICO STATE UNIVERSITY  
 Las Cruces, New Mexico 88003-0058  
 David W. Smith, Director  
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