COMPARING MGA AND STILBESTROL FOR FATTENING BEEF HEIFERS

The two compounds, Melengestrol Acetate (MGA) and diethyl stilbestrol (stilbestrol) are promoted as being capable of improving the feedlot performance of heifers. MGA is a progesterone-like compound that supresses estrus (heat) periods in beef heifers when fed at the low level of 0.4 milligrams per head per day. It is also reported to stimulate the growth rate and improve the feed efficiency of heifers in the feedlot.

Stilbestrol, a synthetic estrogen-like hormone, has improved the feedlot performance of steers and heifers. Results with heifers have been somewhat erratic.

A trial was initiated in January, 1969 and repeated in November, 1969 to compare treatments of MGA and stilbestrol when administered to heifers going into the feedlot from weaning to slaughter.

Three lots of Hereford heifer calves averaging about 400 pounds were randomly allotted and fed identical rations made up of corn silage, barley, supplement and minerals. One lot designated the "MGA" lot, received a daily allowance of approximately 0.4 mg. "MGA" per pound of supplement. One lot was designated the "stilbestrol" lot and each heifer was implanted with stilbestrol in the ear. The third lot served as a control and did not receive either MGA or stilbestrol.

Table 11. Weights, Gains, and Feed Costs in the Trial Comparing MGA and Stilbestrol and No Treatment.

	MGA [1] treatment			Stilbestrol [2] treatment			Control no treatment		
			2-Yr.			2-Yr.			2-Yr.
	1969	1969-70	Avg.	1969	1969-70	Avg.	1969	1969-70	Avg.
No. heifers	8	8	16	8	8	16	8	8	16
Avg. initial wt.	434.4	387.5	411.0	435.6	386.3	411.0	434.4	388.1	411.3
Avg. final wt.	920.6	940.6	930.6	888.8	913.8	901.3	902.5	931.9	917.2
Avg. gain per head	486.2	553.1	519.6	453.2	527.5	490.3	468.1	543.8	505.9
Days on feed	244	314	279	244	314	279	244	337	291
Avg. daily gain	1.99	1.76	1.86	1.86	1.68	1.77	1.92	1.61	1.74
Feed cost per hundredweight gain	$13.11	$15.78	$14.45	$15.10	$15.99	$15.55	$14.54	$17.07	$15.81

[1] MGA fed at 0.4 mg. per head per day as part of the supplement.
[2] Stilbestrol - 15 mg. implanted in ear of each heifer on November 13, 1969. reimplanted with 24 mg. on May 21, 1970.

In 1969 (first trial) the heifers were implanted with 15 mg. stilbestrol in January and reimplanted with 15 mg. in May.

Table 12. Carcass Data in the Trial Comparing MGA, Stilbestrol and No Treatment.

	MGA	Stilbestrol	Control
Average hot carcass weight	544.8	515.5	549.9
Average dressing percent	57.9	56.4	59.0
Grades per lot	4 choice 4 good	1 choice 7 good	4 choice 4 good
Average carcass value			
at $44.50 choice $40.50 good	$231.68	$211.32	$233.97
Average feed cost per head	$87.29	$84.34	$92.80
Average return per head over feed	$144.39	$126.98	$141.17

Note – Individual carcass information on 1969 trial was lost at slaughter.
However, when all heifers were averaged together, 87.5% graded choice and 12.5% graded good.

Table 13. Daily Ration Fed in the Trial Comparing MGA, Stilbestrol and No Treatment.

	MGA			Stilbestrol			Control		
	1969	1969-70	2-Yr. Avg.	1969	1969-70	2-Yr. Avg.	1969	1969-70	2-Yr. Avg.
Ration fed- lbs./hd/day									
Corn silage	34.6	34.0	34.3	34.6	33.9	34.3	34.1	34.2	34.2
Rolled barley	6.8	5.6	6.2	6.8	5.6	6.2	6.8	5.9	6.4
Supplement [1/]	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Minerals [2/]	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

[1/] MGA supplement

493 lbs. soybean oilmeal
493 lbs. ground alfalfa
10 lbs. trace mineral salt
4 lbs. MGA
1000 lbs.

[1/] Plain supplement (Stilbestrol + Control lots)

493 lbs. soybean oilmeal
497 lbs. ground alfalfa
10 lbs. trace mineral salt
1000 lbs.

[2/] Minerals – mixed as 2 parts di-calcium phosphate to 1 part trace mineral salt.

Summary

Two years data show improved feedlot performance and efficiency when heifers are fed 0.4 mg. MGA per head per day. The MGA proved to be 100 percent effective in suppressing estrus, with no heifers showing heat.

The stilbestrol implants have improved average daily gain slightly and have given cheaper gains. However, the stilbestrol implanted heifers have failed to grade as well as the controls or the heifers fed MGA. Heifers treated with stilbestrol may require a heavier slaughter weight to reach the same slaughter grade. Because of their lower grade, the stilbestrol treated heifers returned approximately $17.00 less per head than heifers fed MGA.