No Feedlot Gain Advantage For Hei-gro

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Introduction:

A relatively new non-chemical growth simulant known as the Hei-Gro device is being marketed to livestock feeders by Agrophysics Inc., of San Francisco, California. This device, composed of injection molded nylon, looks somewhat like a miniature Christmas tree. It is inserted deep into a feedlot heifer's vagina and deposited where it is supposed to stimulate natural body mechanisms to produce faster growth. According to company literature and advertisements, when the device is used as recommended, it should produce additional returns of from seven to nine dollars per head. It is also reported to give faster growth, better feed conversion, reduced "bulling", 99 per cent retention, simpler feeding procedures and show no effects of breed or season. Since the device contains no hormones or drugs, there are no problems with the Food and Drug Administration and there are no marketing restrictions.

A trial was conducted in 1976 and repeated in 1977 at the Dickinson Experiment Station to evaluate the response of heifers to the Hei-gro device.

Angus-Hereford heifer calves weighing approximately 485 pounds were fed from weaning to slaughter with one-half of the heifers carrying the Hei-Gro device and the other half serving as controls. All heifers in the trial were implanted in the ear with a single Synovex-H implant at the beginning of the trial in early December of both years. One-half the heifers from each treatment group were fed either a conventional or a computer formulated mixed ration.

The heifers were housed in unpaved lots that were located a minimum of 50 feet from either steers or bulls. Each lot included a pole shed, automatic waterer and self feeder designed for feeding mixed rations composed of chopped hay and grain. All heifers were vaccinated for type C and D enterotoxemia and given booster shots for blackleg, malignant edema and hemorrhagic septicemia at the beginning of the feeding period. Ration changes involving increased levels of grain were made gradually to keep the heifers on feed. The cattle were weighed initially and every 28 days throughout the trial, and were marketed on a grade and weight basis. The first year they were sold in West Fargo, North Dakota, a 300 mile haul from Dickinson. In 1978, they were sold in Williston, North Dakota, a distance of 130 miles from Dickinson. In 1978, the heifers were palpated midway through the feeding period and again just prior to slaughter to determine the retention of the devices.

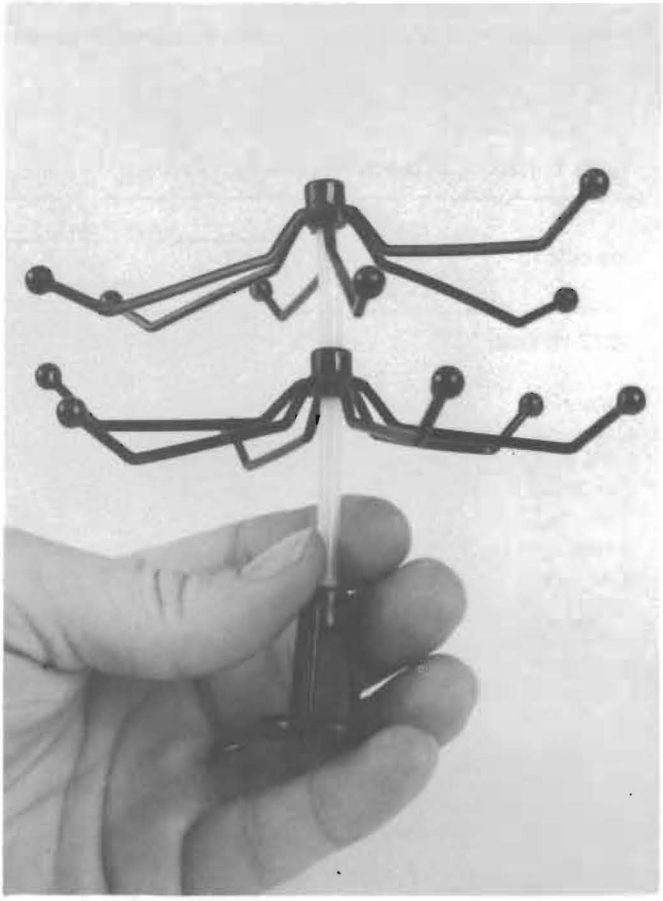

Figure 1. The Hei-Gro device.
Photo by Harold Caldwell, Agricultural Communication, NDSU.

All heifers were carefully observed daily and any heifer showing evidence of a vaginal prolapse was treated, using standard veterinary procedures. At market, individual carcass measurements were collected on all heifers, including hot carcass weight, loin eye size, fat thickness, marbling and USDA grade.

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Rations fed during the trial were prepared using a tub grinder to process the hay portion and a grinder-mixer to grind the grain. Both portions were then blended in a mixer wagon before being placed in the self feeders. The rations as fed during the trial are shown in Table 1.

Discussion:

Data on live weight gains, hot carcass weight and carcass value was subjected to statistical analysis, using the General Linear Model capabilities of the Statistical Analysis System in the computer at North Dakota State University. This analysis indicated no significant differences at the 95 per cent probability level for the parameters tested.

Although we did not observe any problems associated with the Hei-Gro device the first year, during the second year, three of 12 heifers lost their devices by April 17 and had to be re-deviced. Of the three heifers re-deviced, two heifers required stitches to prevent a vaginal prolapse prior to slaughter. The cost of the Synovex-H implant averaged 90¢ per heifer. Although the Hei-Gro devices were provided courtesy of Agrophysics, Inc., they would normally retail at around $1.75 per device.

The data recovered in this trial failed to show any advantage for using the Hei-Gro device. This is similar to work completed at South Dakota State University by Goodman, et al. (1978), which also indicated no statistically significant increase in daily gain when using the device. Other work cited in "Beef Digest", 1978, from Kansas State University, Manhattan, Kansas; Ridgetown College of Agricultural Technology, Ontario, Canada; and the University of Guelph in Ontario, Canada, shows no significant difference in gains for heifers carrying the device.

Results

Results of the two years of feeding are shown in Table 2.

Table 1. Rations as fed during the Hei-Gro trial.

Ingredients	Conventional start	Conventional finish	Computer start	Computer finish
	pounds		pounds	
1977-78 trial:				
Barley	–	–	191	602
Oats	500	750	–	–
HRS wheat	–	–	502	166
Oat straw	–	–	199	223
Tame hay	475	225	–	–
Di cal	5	5	–	–
T.M. salt	20	20	2	2.24
SBOM	–	–	49	–
Limestone	–	–	7	6.4
Alfalfa	–	–	50	–
	1000	1000	1000	1000
1977-78 trial:				
Barley	–	–	232	256
Oats	500	750	–	–
Wheat	–	–	367	500
SBOM	–	–	57	–
Alfalfa	–	–	50	50
Wheat straw	–	–	283	85
Hay	475	225	–	100
Di cal	5	5	–	–
Salt	20	20	2.5	2.5
Limestone	–	–	8.5	6.5
	1000	1000	1000	1000

Table 2. Weights, gains, feed costs, carcass data and returns.

	Hei-Gro			Control		
	1976-77	1977-78	2-Yr. avg.	1976-77	1977-78	2-Yr. avg.
Number head	12	12	24	12	11*	23
Avg. initial wt., lbs.	488	488	488	488	482	485
Final wt., lbs.	908	880	894	918	907	912
Avg. gain, lbs.	620	392	406	430	425	428
Days fed	195	174	184	195	174	184
ADG, lbs.	2.16	2.25	2.21	2.21	2.47	2.34
Feed efficiency	10.06	9.48	9.77	9.38	8.40	8.89
Avg. feed cost/hd, $	179.17	148.30	163.74	171.36	143.92	157.64
Avg. feed cost/hd/day, $	0.92	0.85	0.88	0.88	0.83	0.86
Feed cost/cwt gain, $	42.61	37.84	40.22	39.81	33.94	36.88
Net return, $	140.40	271.76	206.08	149.91	273.78	211.84
Avg. hot carcass wt., lbs.	540	506	523	543	513	528
Avg. dressing %	59.4	57.5	58.4	59.1	56.6	57.8
USDA grade: choice	8@60.75	2@90.75	10 Ch	8@60.75	1@90.75	9 Ch
good	4@56.25	9@80.00	13 Gd	4@56.25	9@80.00	13 Gd
standard		1@77.00	1 St		1@77.00	1 St
Avg. carcass value, $	319.56	420.06	369.81	321.28	417.70	369.49

* One heifer died of bloat not related to trial.

Summary:

Two feeding trials at the Dickinson Experiment Station failed to show any advantage in gain, hot carcass weight or carcass value for crossbred heifers deviced with the vaginal insert called Hei-Gro when compared with control heifers.

LITERATURE CITED

1. Beef Digest, Vol. 4. No. 3. pp. 30-32. September 1978.

2. Goodman, J. P., A. L. Slyter, and L. B. Embry. 1978. **Heifer growth stimulant outperforms uterine device.** Crops and Soils Magazine. Vol. 31. No. 3. December 1978.

Trade names are used in this article solely for the purpose of providing specific information. Mention of a trade name does not constitute an endorsement of the product over other products not mentioned.