GAINS OF WHEAT PASTURE STOCKER HEIFERS IMPLANTED WITH RALGRO® , SYNOVEX-® H, OR REVALOR® -G

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Story in Brief

Two hundred thirty five stocker heifers grazing wheat pasture were used to determine the influence of implants on weight gain. Treatments consisted of non-implanted controls, or an initial implant of either Ralgro®, Synovex®-H or Revalor®-G. Two cooperators provided the groups of cattle and three wheat pastures. One hundred thirteen Charolais cross heifers from the first farm were split randomly into two pasture groups and grazed for 117 days. The third group of 122 head were Limousin and Limousin cross heifers and grazed 112 days. Location had no influence on response to implant, consequently the data were pooled. Average daily gain for heifers fed the four treatments were 1.83 lb for Control, 1.98 lb for Ralgro® , 2.20 lb for Synovex®-H and 2.08 lb for Revalor®-G. Pounds of increased weight gain and percent improvement in weight gain over controls were 18, 8.2%; 44, 20.2%; and 29, 13.7%, for Ralgro® , Synovex® -H and Revalor® -G, respectively.

(Key Words: Implant, Ralgro®, Synovex®-H, Revalor®-G, Wheat Pasture.)

Introduction

Anabolic implants have been used to increase gains of grazing cattle since the early 1950s. Current products have estrogenic or estrogen-like activity. Recently, trenbolone acetate, a potent androgen, has been approved in combination with estrodiol as a growth promotant in grazing cattle. In the feedlot, this combination increases gain more than either compound administered separately (Owens et al., 1997). Additionally, weight gain response to implants varies with forage quality (Owens et al., 1997); higher quality diets give greater response to implants. Wheat pasture is an extremely high quality pasture provided that adequate forage is available. The objectives of this study were to determine the value of implanting stocker heifers grazing wheat pasture and to compare responses to three implants available commercially.

Materials and Methods

Two hundred thirty five healthy stocker heifers were individually identified, dewormed with Safeguard® (fenbendazole) drench, and assigned to treatments of Control (no implant), Ralgro® (36 mg zeranol), Synovex®-H (200 mg testosterone and 20 mg estradiol benzoate) or Revalor®-G (40 mg trenbolone acetate and 8 mg estradiol). All initial weights were taken unshrunk (access to hay and water) on November 11, 1996. Heifers all grazed on wheat pasture (variety 2163) in southwest Garfield County in three replications made up from two sources of cattle and three pastures.

Groups 1 and 2 consisted of one hundred thirteen heifers (implanted November 8, 1996); these were primarily Charolais and Angus crossbred heifers. Cattle were split randomly to two

pastures. Groups 1 and 2 cattle were weighed off test March 8, 1997 (117 days) after an overnight stand with hay and water available.

Group 1 consisted of fifty-seven head (503 lb) that grazed 145 acres. Standing forage clipped initially was 2063 lb dry matter per acre; standing forage at the end was 1967 lb dry matter per acre. Heifers had free choice access to wheat hay and salt blocks. One sick heifer was removed.

Group 2 consisted of fifty-six heifers (505 lb) that grazed 127 acres. Standing forage initially was 1703 lb dry matter per acre; standing forage at the end was 1079 lb dry matter per acre. Heifers had access to salt blocks only.

Group 3 consisted of 122 heifers (implanted November 11, 1996) and were primarily Limousin and Limousin crossbreds. Group 3 (468 lb) grazed 150 acres. Standing forage initially was 1319 lb dry matter per acre. Group 3 pasture was grazed substantially so standing forage at trial end was less than 500 lb dry matter per acre. Heifers had access to grass hay. Group 3 cattle were weighed off test on March 3, 1997 (112 days) directly off of wheat pasture. Two head were excluded due to lost tags.

Data were analyzed by least squares analysis of variance (SAS, 1985) with each animal considered as an experimental unit. The model included the effects of treatment and location. The treatment by location interaction was tested and deleted from the final model due to lack of significance. Treatment means were compared using least significant differences.

Results and Discussion

All implant treatments significantly (p<.01) increased weight gain above that of control cattle. Implants increased gains from 18 to 44 lbs during the 112 - 117 day wheat pasture grazing period. The return on the cost of implants was very high for these heifers grazing wheat pasture.

Implanting heifers with Ralgro[®] increased gain by 8.5%, Synovex[®]-H increased gain by 20.6%, and Revalor[®]-G increased gain by 13.6% in this wheat pasture trial (Table 1). Synovex[®]-H increased gains more (p<.01 and p<.06) than Ralgro[®] and Revalor[®]-G, respectively.

In feedlot tests, heifers receiving implants containing a combination of trenbolone acetate and an estrogen usually out perform those receiving implants that do not contain trenbolone. The concentration of both estrogen and trenbolone acetate in feedlot implants is higher than those in the Revalor® -G used in these trials. This may explain why the Synovex® -H implant increased gain more than Revalor® -G did in these trials.

Literature Cited

Owens, F.N. et al., 1997. Okla. Agr. Exp. Sta. Res. Rep. P - 957

SAS. 1985. SAS User□s Guide: Statistics (Version 5 Ed.) SAS Inst. Inc., Cary, N.C.

Table 1. Effect of implant treatment on total gain and average daily gain

	Control	Ralgro®	Synovex® -H	Revalor® -G
Number of heifers	56	60	59	57
Initial wt.	490	501	490	487
Final wt.	701	729	744	726
Total Gain	211^a	228^b	254^c	239^{bc}
Avg. Daily Gain	1.83^a	1.98^b	2.20^c	2.08^{bc}

[a, b, c] Values with different superscripts differ at the P<.05 level.

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