

1986

Comparison of Ralgro, Compudose and Synovex-C Implants on the Growth Performance of Yearling Steers

D.L. Whittington
South Dakota State University

Follow this and additional works at: http://openprairie.sdstate.edu/sd_beefreport_1986

 Part of the [Meat Science Commons](#)

Recommended Citation

Whittington, D.L., "Comparison of Ralgro, Compudose and Synovex-C Implants on the Growth Performance of Yearling Steers" (1986). *South Dakota Beef Report, 1986*. Paper 22.
http://openprairie.sdstate.edu/sd_beefreport_1986/22

This Report is brought to you for free and open access by the Animal Science Reports at Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. It has been accepted for inclusion in South Dakota Beef Report, 1986 by an authorized administrator of Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. For more information, please contact michael.biondo@sdstate.edu.



COMPARISON OF RALGRO, COMPUDOSE AND SYNOVEX-S IMPLANTS ON THE GROWTH PERFORMANCE OF YEARLING STEERS

D. L. Whittington
Department of Animal and Range Sciences

CATTLE 86-21

Summary

Growth response to a single implant was measured in yearling steers grazing native range on two ranches in South Dakota. The steers (724 head) were randomly allotted on each ranch to either a Ralgro, Compudose, Synovex-S or no implant treatment. Implants were administered according to manufacturers' recommendations. The yearlings were weighed at the time of implanting in the spring and again 116 to 149 days later. The ears of the steers receiving Compudose were palpated at the end of the trial to determine retention. The weight advantage of implanted steers over controls ranged from 12.1 to 30.1 lb. All implants, Ralgro, Compudose and Synovex-S improved gains significantly ($P < .05$) over controls except one case where the Compudose advantage of 12.1 lb over controls was not significant ($P > .05$). Palpation of the ears revealed that Compudose retention was excellent for the yearling cattle. The weighted average improvement in gain of 22.3 lb was worth \$14.51 on a \$65 yearling market or a total of \$10,510 for the 724 yearlings evaluated in this study. This clearly illustrates the economic advantage of implanting.

(Key Words: Implants, Growth Performance, Yearling Steers, Native Range.)

Introduction

With today's high production costs, the rancher needs to take full advantage of any tool, product or management scheme which will return more net dollars to his enterprise. Growth implants increase the net return potential and have been shown to be cost effective. Commercial companies now offer implants which will increase the growth performance of suckling calves and yearlings on grass.

Growth implants are described as anabolic "compounds". This simply means that they promote constructive metabolism, generally increasing protein deposition. This is accomplished by low levels of estrogenic or hormone-like substances which increase pituitary size and the secretion of growth hormones which in turn increase protein deposition. Estrogens are widespread in our normal physiological environment and in our food supply. In the strictest sense, an estrogen is a phenolic steroid which is synthesized mainly in the ovary but also in the testes and the adrenal cortex. The primary function of estrogens is to affect various facets of female reproduction and secondary sexual characteristics. Extensive research has shown that estrogens and substances with estrogenic activity improve the growth rate and feed conversion of cattle when administered at relatively low levels.

Ralgro, a synthetic substance which exhibits estrogenic activity, known as Zeranol is a fermentation product of *Gibberella zeae*. Synovex implants are from

natural estrogens and are recommended for specific sexes. Synovex-S for steers is a compound of 20 mg estradiol benzoate plus 200 mg progesterone. Compudose is also a natural estrogen, estradiol-17 β . The mode of action of all implants is basically the same.

The decision as to which implant to use or whether or not implants are beneficial is a real issue to producers. Thus additional large scale field comparisons are needed to illustrate the benefits from implanting as well as to compare implants. The objective of these studies was to compare the influence of implants on the growth performance of yearling steers grazing native summer range.

Materials and Methods

The trials were conducted with three herds of yearlings grazing separately on two ranches in South Dakota. In total, 724 yearling steers were randomly allotted to receive a single implant of either Ralgro, Compudose, Synovex-S or no implant treatment. The breed background on each yearling was taken into consideration to allow breed groups to be allotted across treatments. Implanting was one of several processes performed on the yearlings in May of 1986. The processing also included ear tagging, fly tagging, branding, dehorning if needed, vaccinating and weighing. Practices other than implanting were the same for all yearlings within the same group on the same ranch. The yearlings grazed native range for 116 to 149 days and received no supplement. At the end of the designated grazing period, the yearlings were weighed individually and those in the Compudose treatment were palpated for implant retention. The breeding on the yearlings differed from ranch to ranch but was uniform on the same ranch.

All implants were applied only once at the initiation of the trials in mid-to early May, 1986. Both Compudose and Synovex-S were administered subcutaneous in the median surface of the ear. Ralgro was administered subcutaneously behind the ear at the base of the head.

The data are reported for each ranch location with a summary for all ranches. Analysis of variance and least significant differences were applied to the data to test for differences between treatments (Steel and Torrie, 1960).

Results and Discussion

Table 1 summarizes the results of the study. The implant response ranged from 12.1 to 30.1 lb. All implants, Ralgro, Compudose and Synovex-S, improved gains significantly ($P < .05$) over controls except one case where the Compudose advantage on Ranch C of 12.1 lb over controls was not significant ($P > .05$). Although a trend was apparent in the data as to which implants improved gains the greatest, no significant differences occurred between implant treatments. Ralgro and Synovex-S implants were consistent in resulting in greater gains than the Compudose-implanted cattle. The weighted average improvement in gain of 22.3 lb was worth \$14.51 on a \$65 yearling market or a total of \$10,510 for the 724 yearlings evaluated in this study. This clearly illustrates the economic advantage of implanting.

Palpation of the ears of the Compudose-implanted steers revealed that implant retention in yearling cattle is excellent (99%). The apparent problems with retention in yearling cattle when Compudose was first introduced has been overcome with an antibiotic coating on the implant.

In conclusion, all the implants appeared to give an anabolic response with gains all being significantly greater than the controls. Ralgro and Synovex-S treatments were consistently but not significantly greater than the Compudose-treated yearlings. The results of this study are consistent with reported literature and claims of the independent manufacturers.

TABLE 1. SUMMER PERFORMANCE OF YEARLING STEERS RECEIVING ONE
IMPLANT OF EITHER RALGRO, COMPUDOSE OR SYNOVEX-S

Ranch	Item	Implant treatments			
		Control	Ralgro	Compudose	Synovex-S
		1b			
A (116 days)					
	No. yearlings	53	54	54	54
	Beg. wt	600.2	588.9	600.5	597.5
	Ending wt	838.8	857.0	863.5	866.2
	Gain	238.6 ^b	268.0 ^a	262.9 ^a	268.7 ^a
	Advantage	0 ^b	29.4 ^a	24.3 ^a	30.1 ^a
B (127 days)					
	No. yearlings	41	42	42	41
	Beg. wt	675.5	658.2	679.1	693.0
	Ending wt	860.0	870.3	884.4	903.2
	Gain	184.5 ^b	212.1 ^a	205.2 ^a	210.1 ^a
	Advantage	0 ^b	27.6 ^a	20.7 ^a	25.6 ^a
C (149 days)					
	No. yearlings	85	86	84	88
	Beg. wt	625.7	631.1	638.1	627.4
	Ending wt	825.3	847.6	849.8	850.9
	Gain	199.6 ^b	216.5 ^a	211.7 ^{ab}	223.5 ^a
	Advantage	0 ^b	16.9 ^a	12.1 ^{ab}	23.9 ^a
Summary (131-day avg)					
	No. yearlings	179	182	180	183
	Beg. wt	629.5	624.9	636.4	633.3
	Ending wt	837.2	855.7	861.9	867.1
	Gain	207.7 ^a	230.8 ^b	225.5 ^b	233.8 ^b
	Advantage	0 ^a	23.1 ^b	17.8 ^b	26.1 ^b

a,b Means in the same row not sharing a common superscript differ (P<.05).