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Effects of Ralgro and DES implants during the suckling period on later reproductive performance of beef heifers

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K**S****U**

Effects of Ralgro¹ and DES^{2,3} Implants
During the Suckling Period on Later
Reproductive Performance of Beef Heifers

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Summary

Heifers were given either one or two Ralgro implants or one DES implant during the suckling period with no obvious effect on later reproductive performance when the heifers were bred as yearlings. However, conception rates in control heifers were low in two trials, so more studies are needed for conclusive results.

Introduction

Recent work at Kansas State University indicates that Ralgro given to bull calves markedly effects testicular development. These bulls, after a growth period, have much smaller testicles than those not given Ralgro as calves. However, the effects of Ralgro and DES on the reproductive performance of heifers is not known. Two university and two field trials were initiated to determine these effects.

Procedure

Approximately 300 heifers were used in two trials at Kansas State University and two field trials. Trial I at KSU consisted of 51 heifer calves divided among two groups. Group 1 served as a nonimplanted control and group 2 received one 36 mg Ralgro implant, while calves were still nursing (Table 1). Trial II at KSU used 77 heifer calves in a similar scheme except it included a DES group and a group implanted twice with Ralgro (Table 1). Trials III and IV were field trials with a total of 161 heifers. Both trials had a nonimplanted control, a group receiving one 15 mg DES implant, and a group receiving one 36 mg Ralgro implant (Table 1).

Results and Discussion

In Trial I at KSU, conception rates of heifers bred as yearlings were not affected by a Ralgro implant during the suckling period.

¹Ralgro is a product of International Minerals & Chemical Corporation.

²The DES is a product of Hess and Clark Company.

³Mention of products and companies is made with the understanding that no discrimination is intended and no endorsement implied.

Although all conception rates were low, data from Trial II at KSU (Table 2) showed a slightly lower first service conception by heifers with two implants, but no differences in overall conception rates. The only differences were the apparent increased first service conception rates by heifers given one Ralgro or one DES implant. The differences were not statistically significant, and overall pregnancy did not differ for any treatment group. Percent showing estrus during the AI period in Trial II did not differ.

Field Trials III and IV further showed that heifers implanted while nursing had similar reproductive performance to nonimplanted controls. No effect on conception rate, percent calving early in the calving season or on average calving date was observed.

Table 7.1. Treatments in Trials I & II at KSU and Field Trials III & IV.

Trial	Group	Treatment	No. heifers	Age at implant
I	1	Control	25	---
	2	One 36 mg Ralgro implant	26	40 days
II	1	Control	17	---
	2	One 36 mg Ralgro implant	20	40 days
	3	Two 36 mg Ralgro implants	21	1 at 40 days 1 at 110 days
	4	One 15 mg DES implant	19	40 days
III	1	Control	10	---
	2	One 15 mg DES implant	28	Approx. 2 months
	3	One 36 mg Ralgro implant	27	Approx. 2 months
IV	1	Control	13	---
	2	One 15 mg DES implant	50	72.3 days
	3	One 36 mg Ralgro implant	33	64.3 days

Table 7.2 Results of trials - KSU.

Trial	Group	No. heifers	Estrus during AI period, %	1 st service conception, %	Overall conception, %
I-KSU	Control	25	---	48	76
	One Ralgro	26	---	50	81
II-KSU	Control	17	76	38	59
	One Ralgro	20	60	58	55
	Two Ralgro	21	76	31	62
	One DES	19	74	50	63

Table 7.3. Results of field trials.

Trial	Group	No. heifers	% Overall conception	Of those pregnant-% conceiving by 21 day periods			Avg. calving date
				1 st 21 days	2 nd 21 days	3 rd 21 days	
III-field trial	Control	10	100	90	10	0	2-19
	One DES	28	82	83	17	0	2-17
	One Ralgro	27	100	92	8	0	2-17
IV field trial	Control	13	85	78	22	0	4-4
	One DES	50	83	68	20	12	4-8
	One Ralgro	33	81	66	17	17	4-11