Effect of Ralgro on Nursing Calves
Barry H. Dunn

In 1976 and 1977 nursing steer and heifer calves were implanted with 36 mgs of Ralgro when they weighed approximately 138 lbs. Average daily gains were calculated for the summer grazing period and weaning weights were adjusted for age and sex of calf and age of dam. Implanted calves gained 6.8% faster during the growing season and were 22.2 lbs heavier at weaning than nonimplanted calves. Implanting heifer calves did not appear to have any effect on yearling breeding performance or in the number of heifers requiring assistance during their first calving.

Introduction

In the livestock industry today, extensive use is being made of a wide variety of growth stimulating materials. Several of these products are available for use in beef cattle. One such product, Ralgro (zeranol), is an anabolic agent that has been widely tested in growing and finishing experiments. Embry and Swan, (1974) reported an 11.0% improvement in gain and an 8.2% improvement in feed efficiency when weaned calves were implanted with Ralgro. Finishing steers implanted with Ralgro have had gains improved by 7.9 to 18.2% when compared to nonimplanted control animals (Embry and Swan, 1975; Embry and Gates, 1976). One explanation for Ralgro's ability to promote growth in cattle has been offered by Heath et al. (1978). These Iowa State University scientists have reported that intravenously infused zeranol increases the absolute rate of glucose utilization and/or synthesis. An experiment was conducted at the Carrington Irrigation Station to evaluate the effect of Ralgro on nursing calves.

Materials and Methods

In late May of 1976 and 1977, suckling calves, both steers and heifers, were allotted randomly on the basis of weight, breed and sex to two experimental groups. The first group served as a nonimplanted control and the second group was implanted with 36 mgs of Ralgro. Using the Ralgro pellet injector, the skin in the middle part on the back of one of the calf's ears was pierced. The needle on the injector gun was directed toward the base under the skin but not in the cartilage. When the point of the needle was approximately one inch from the base of the ear, the needle was withdrawn slightly and three 12-mg pellets were deposited by depressing the trigger on the injector.

Overall average daily gains for the grazing season and adjusted 205-day weaning weights for the experiment can be seen in Table 1. Calves implanted with 36 mgs of Ralgro gained 6.8% faster (P < 0.01) than calves not implanted. The 0.12 lbs per head per day faster gains for the implanted calves during the grazing season carried over to weaning. Implanted calves had 22.2 lbs heavier (P < 0.01) weaning weights than nonimplanted calves. Davis et al. (1977) reported similar results in an experiment with nursing calves. These Texas Extension workers found that implanting calves with Ralgro improved gain over a 200-day period by 22 lbs. Gray et al. (1977) reported variable results in four separate trials with Ralgro in nursing calves. At the end of the approximately 105-day trials, implanted calves were 2, 10, 15 and 18 lbs heavier than nonimplanted calves. Snyovex has produced gains in Nebraska trials (Ellington and Kinder, 1972) similar to those reported

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Heifer calves were selected for herd replacements from both the implant and control groups. The yearling breeding performance and the number of heifers requiring assistance during the first calving are shown in Table 3. No significant differences were measured for either parameter.

Lesmeister and Ellington (1976a) and Staigmiller et al. (1978) have suggested that Synovex and Ralgro given to replacement heifers weighing approximately 400 lbs decreases their breeding performance as yearlings. However, the heifers in this experiment were implanted once at an early age, and it did not appear to have any effect of yearling breeding performance.

Several reports (Ellington et al. 1978; Lesmeister and Ellington, 1976b) have suggested that growth promoting implants in nursing heifer calves increases pelvic size. This would appear to be helpful in overcoming some of the problems which occur when calving two-year old heifers. However, Lesmeister and Ellington, (1976a) noticed that most of the pelvic size advantage is lost by the time bred heifers reach two years of age. This may explain why implanted heifer calves in this experiment showed no advantage over implanted heifer calves in terms of reduced calving problems as two-year olds.

Table 3. Heifer Breeding and Calving Performance, Treatment Totals

<table>
<thead>
<tr>
<th>Yearling breeding, bred/exposed</th>
<th>Control</th>
<th>Implant</th>
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</thead>
<tbody>
<tr>
<td>Calving, assisted/calved</td>
<td>22/24</td>
<td>22/25</td>
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References


