

Effect of Suckling Calf Implant

Research over the last 50 years has clearly demonstrated the efficacy and cost effectiveness of growth-promoting implants in beef cattle. A 1997 review of research trials that evaluated the effectiveness of implanting nursing beef calves showed that implanting steer calves with zeranol (Ralgro, 23 trials reviewed) or estradiol-progesterone implants (13 trials reviewed) increased average daily gains by approximately 0.1 lb./day from the time of implant insertion to weaning.¹ Hence, implanting suckling calves typically increase weaning weights by approximately 15 to 25 pounds. Sometimes feed yards discourage administering growth implants to suckling calves based on the idea that calf implants reduce the response to feedlot implants. Does research support this argument?

Some recent research from South Dakota State University (SDSU) examines this issue.² This SDSU research evaluated the efficacy and timing of suckling calf implants on weaning weight, post-weaning performance and subsequent carcass traits in steer calves. This study was repeated over two consecutive years using steer calves from a ranch located in western SD. Calves on this ranch were born in March and April of each year and were reared on native range prior to weaning.

Three implant treatments were evaluated using 194 calves in year 1 and 196 calves in year 2: 1) no implant, 2) calves implanted in May with Synovex C (Zoetis, Florham Park, NJ), or 3) calves

implanted with Synovex C in August. In this study, the dams (cows) were classified as immature (<4 years of age) or mature (≥ 4 years of age). These dam age groups were managed separately on the ranch through the breeding season each year on native range (without creep feed). In late October of each year, the steers were weaned and immediately shipped 360 miles to the SDSU Ruminant Nutrition Center research feedlot where the steers were sorted into feedlot pens by suckling implant (8 or 9 steers/pen; 8 pens/treatment; 24 pens/year). The steers were treated the same during backgrounding and finishing phases with all steers being implanted with Synovex S shortly after arrival (5 to 6 days) followed by a re-implant at the beginning of the finishing phase (about 70 days) with either a Revalor S (Merck, Summit, NJ) or a Ralgro (Merck, Summit, NJ) implant. Steers that received a Ralgro implant at the beginning of the finishing phase were reimplanted with Revalor S about 130 days after the initial implant. The cattle were marketed when the majority of the cattle were estimated to average 0.4 inches of backfat (221 and 208 days on feed in years 1 and 2, respectively).

The effects of suckling implant treatment on weaning weights, and subsequent backgrounding and finishing performance are shown in Table 1. Both the May and August implant treatments increased weaning weight by an average of 22.5 lb. ($P < 0.05$) compared to non-implanted calves. The magnitude of this response interacted with the age of the cows. Steers nursing mature cows and implanted in May had the greatest increase in weaning weight compared to non-implanted calves (40 lb.; $P < 0.05$). The weaning weight advantage for steers nursing mature cows and implanted in August was reduced to 17 lb. ($P < 0.05$). In contrast, the steers on immature cows benefited most from the August implant compared to non-implanted calves (25 lb., $P < 0.05$) and the May implant only increased weaning weight by 9 lb.

The suckling implant treatment had no effect on daily gains or feed efficiency (Feed/Gain) in the backgrounding or finishing phases. The steers receiving suckling implants were still heavier at the end of backgrounding phase (16.5 lb.; $P < 0.05$). In addition, implant treatment did not impact the carcass characteristics of the steers (data not shown). However, implanted calves tended to yield heavier carcasses (8.5 lb.; $P = 0.10$). These authors estimated that if all 22.5 lb. of weaning weight has been retained, the additional carcass weight would have been 12 lb. (assuming 55% dressing

percent at weaning). Thus, about 70% of the weight advantage was maintained over the 200+ days of post-weaning growth through slaughter.