RALGRO® (zeranol)

TECH BULLETIN

MERCK Animal Health

Key Highlights

- Implanting suckling steers and heifer calves with Ralgro® (zeranol) increases weight gained through weaning.
- Implanted and non-implanted steer calves bring the same or similar price per pound ($/lb.) at market.
- Implanting calves while on the cow did not adversely affect performance during the post-weaning growing and finishing phase.
- RALGRO is approved for one-time use in replacement heifer calves between one month of age and weaning and will not adversely affect reproduction of healthy heifers.

Facts versus myths of using pre-weaning implants

INTRODUCTION

Implanting calves pre-weaning significantly improves income generation for the cow-calf producer. However, in recent Superior Livestock data analyses from 2011-2013, only 31% of calves presented for sale received an implant pre-weaning. Explanation for such a small percentage of implanted calves may include the following producer perceptions:

- There is really no difference in weaning weight when calves are implanted on the cow.
- Non-implanted calves typically garner a significant premium on sale day.
- Implanting heifer calves will adversely affect future conception and reproduction parameters.
- Non-implanted calves will have better performance in the feedlot and higher-quality carcasses.
- Beef from implanted cattle is full of hormones and is detrimental to human health.

The below data address these misperceptions and support the economic benefits of utilizing RALGRO pre-weaning.

SUMMARY

Implanted calves gain more weight and are in high demand. A Superior Livestock data analysis over 9 years shows no difference in sale price ($/lb.) between implanted calves and non-implanted calves.[1] Even assuming a price slide of $2-3 per cwt. for non-implanted calves, that difference is more than offset by the 23 lbs. of additional weight gain realized by RALGRO implanted calves.

THERE IS REALLY NO DIFFERENCE IN WEANING WEIGHT WHEN CALVES ARE IMPLANTED ON THE COW. FALSE.

A 23-trial summary involving 2,358 suckling calves demonstrated, on average, a 23-lb. weaning weight advantage (163 days) with RALGRO over non-implanted controls.[2] Assume we have 100 head of non-implanted steer calves with an average weaning weight of 500 lbs. If the calves sold for $1.75/lb., then the price received will be $875 per head. If we implanted these same steers, the weaning weight would have been 523 lbs. Assuming the 523-lb. steer will not bring the same $/cwt. as the lighter steer, we therefore applied a weight/price slide for accuracy. If the slide is 10 cents, then the price for the implanted steer would be $1.75 – (.23 X $0.10 = .023) = $1.727. The value for the heavier steer then is $903.22, an advantage of $28.22 over the non-implanted steer.

NON-IMPLANTED CALVES TYPICALLY GARNER A SIGNIFICANT PREMIUM ON SALE DAY. FALSE.

Superior Livestock data analysis from 2011-2013 consistently show that the sale price for implanted calves was not statistically different than non-implanted calves.[1] The sale prices in 2011 for implanted and non-implanted steer calves were $148.50 and $148.49 cwt., respectively, while implanted and non-implanted heifer calves garnered $136.77 and $136.08 cwt., respectively. The year 2012 mirrored those findings as implanted and non-implanted steers garnered $169.30 and $169.98 cwt., respectively, while implanted and non-implanted heifer calves garnered $155.55 and $154.06 cwt., respectively. Assuming the example in the prior paragraph, a producer would have to realize a $5.40 cwt. premium ($28.22/5.23 = $5.40) to break even for the lost weight gain. Even in process-verified NHTC calves, the 2012 data shows only a $1.13 cwt. premium for non-implanted hormone-free calves.[1]

IMPLANTING HEIFER CALVES PRE-WEANING WILL ADVERSELY AFFECT CONCEPTION RATE. FALSE.

When label directions are followed, there is no negative effect on conception or calving. Do not implant heifers before 30 days of age or after weaning.

Data on file demonstrates an 18-lb. weaning weight advantage and a 4% increase in conception rate on heifers implanted with RALGRO as calves compared to non-implanted controls.[3] The procedure of implanting heifer calves after 30 days of age with RALGRO will add weaning weight if you decide to sell them and will not affect reproductive parameters if you decide to retain them for replacements.

NON-IMPLANTED CALVES HAVE BETTER PERFORMANCE AND QUALITY GRADE IN THE FINISHING PERIOD. FALSE.

Data on file demonstrates weaning weight gain is maintained and realized at harvest if proper implant protocols are continued. One study looked at the carryover effects of implanting and not implanting calves pre-weaning and following them through the growing phase on both implanted and non-implanted programs. The pre-weaning and growing phase was 179 days and 168 days, respectively. The trial showed that RALGRO-implanted calves were 19 lbs. heavier entering the growing phase and continued to perform at an improved growth rate in the grower phase. Delaying implanting with RALGRO until the growing phase resulted in 19 fewer lbs. at weaning. There was no difference in grower phase performance by delayed implanting.[4]

Another study looked at RALGRO administration prior to weaning, the post-weaning and finishing period (re-implant programs) vs. non-implanted controls. There was a 15.1% increase in average daily gain (ADG) and 8.2% improvement in feed efficiency with the RALGRO-implanted protocols compared to non-RALGRO-implanted controls. No differences were found between implanted and non-implanted cattle for percent Choice.[5]

IMPLANTED BEEF AND CONSUMER PERCEPTION

Some consumers have concerns that beef from implanted cattle is full of hormones and is detrimental to human health. The science and research suggests that is a false assumption. A 3 oz. serving of beef from an implanted steer contains 1.9 nanograms of estrogen whereas the same serving size of non-implanted beef contains 1.3 nanograms of estrogen. These values are very small in comparison to the 50,000 nanograms of estrogen produced daily in children. Three-ounce servings of the following contain: 340 nanograms of estrogen in peas; 225 nanograms of estrogen in potatoes; 11,250 nanograms of estrogen in soy milk and 2,000 nanograms of estrogen in cabbage.[6] The concern of implanted beef causing developmental issues is not based on science but rather sensationalism. There are many resources available to help refute the myth that implanted beef is full of hormones and detrimental to human health.

FIGURE 1. HEIFER PRICES BY IMPLANT STATUS

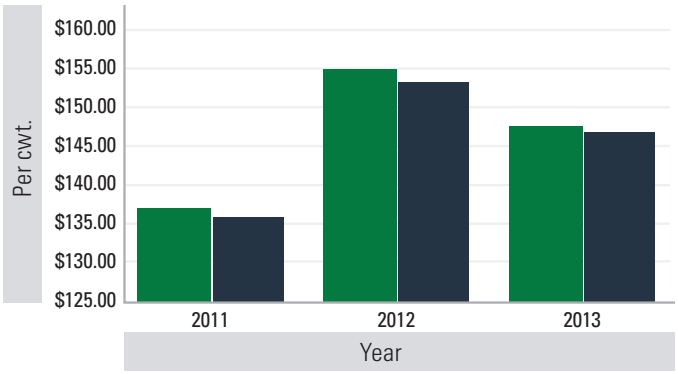
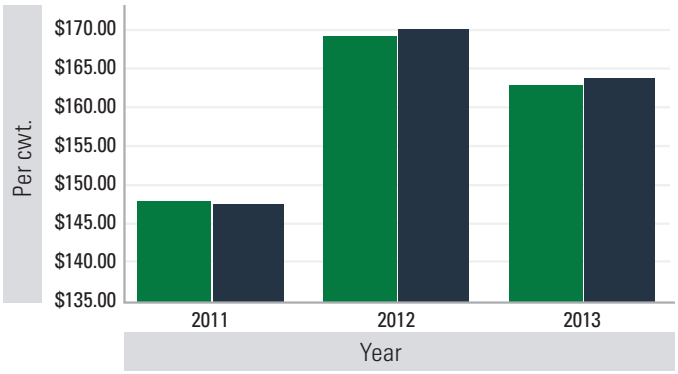


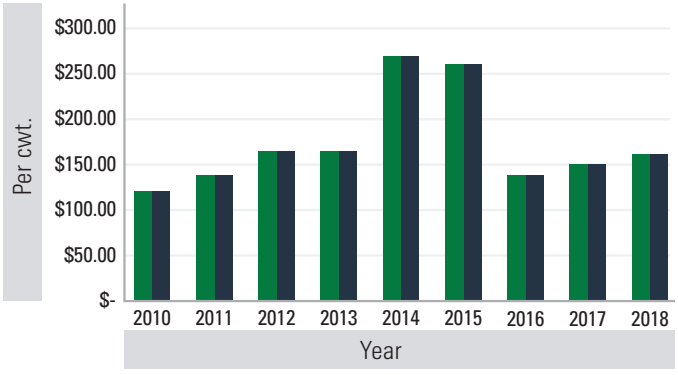
FIGURE 2. STEER PRICES BY IMPLANT STATUS



Implanted

Non-Implanted

FIGURE 3. CALF PRICE RECEIVED BY IMPLANT STATUS ($/CWT.) SUPERIOR LIVESTOCK AUCTION)



REFERENCES

1. Superior Livestock Auction data 2014-2018.
2. Data on file, Merck Animal Health.
3. Data on file, Merck Animal Health.
4. Laudert ST, Matsushima JK, Wary MW. 1981. *Effect of Ralgro implants on suckling, growing and finishing cattle.*
5. Pritchard, 1999.
6. Treffer B. Worried about hormones. University of Nebraska. December 2013. https://newsroom.unl.edu/announce/beef/2846/15997. Accessed May 31, 2019.

IMPORTANT SAFETY INFORMATION: A withdrawal period has not been established for Ralgro® in pre-ruminating calves. Do not use in calves to be processed for veal. For complete information, refer to product label.

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