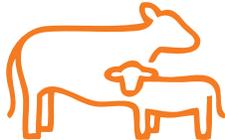


TECHNICAL BULLETIN

April 2016



SYNOVEX® ONE-GRASS Implants in Pastured Steers and Heifers: 4-Site Clinical Trial Results

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Summary

- Two multi-location clinical studies^{1,2} were conducted in pastured steers (study 1) and heifers (study 2) to evaluate the effect of SYNOVEX® ONE-GRASS (SYNOVEX ONE) on growth performance over a 200-day period.
- Beef steers and heifers in Idaho, Wisconsin, Missouri, and Nevada were sham-implanted (n=281 both studies) or implanted with SYNOVEX ONE (n=280 study 1 and n=279 study 2) and growth on pasture was measured for 201 to 202 days.
- SYNOVEX ONE in steers increased average daily gain (ADG) 17.2% and final body weight 50 lb, and in heifers increased ADG 11.3% and final body weight 30 lb.

Few beef cattle management practices are more cost effective or provide a higher return on investment (ROI) than growth promoting implants. Because stockers operate on narrow profit margins, costs of production are critically important and the ROI for implants is greater than for any other technology. Animals with implants grow faster, use less nitrogen, and produce less CO₂ and CH₄ per pound of protein than animals without implants. Of the variety of implants used routinely in the stocker industry, most have a duration ranging from 90 to 150 days and some programs include reimplantation. Sequential implants starting with suckling calves and through the stocker and finishing production phases have been shown to provide benefits, and it is important to point out that a new implant is effective at each stage of production. Zoetis has developed a single implant with a coating that prolongs release of 150 mg of trenbolone acetate (TBA) and 21

mg of estradiol benzoate (EB) (15 mg E2 equivalent³) to improve performance over a 200-day growing period. This bulletin summarizes the growth responses of pastured cattle to the SYNOVEX® ONE-GRASS (SYNOVEX ONE) implant.^{1,2}

Experiment Design

Animals were sorted by ear tag number into 2 groups that were subsequently randomly assigned to either of the following 2 experimental groups:

- Sham-implanted control (implant gun needle inserted subcutaneously at middle third of ear injection site and withdrawn, but no growth implant administered);
- SYNOVEX ONE implant containing 150 mg TBA and 21 mg EB.

Each individual animal was considered an experimental unit and all animals at each site were managed as a single group on pastures

throughout the study. Animals remaining on study after the final body weight was measured were returned to the owner's herd.

Results

Starting on day 84, steers and heifers with the SYNOVEX ONE implant weighed significantly more than the sham-implanted animals such that by day 202 steers had gained 50 more lb live weight than the sham-implanted controls and heifers had gained 30 more lb live weight than the sham-implanted controls (Figure 1). In addition, the shape of the growth rate curves show the body weights of steers and heifers continued to diverge throughout the study, indicating the implants were

continuously active during the full duration of the study.

Steers and heifers treated with SYNOVEX ONE implants gained weight 17.2% and 11.3% faster, respectively, than sham-implanted controls during the 200-day period (Figure 2).

Conclusions

Use of the SYNOVEX ONE implant increased average daily gain 17.2% and final body weight 50 lb in steers and increased average daily gain 11.3% and final body weight 30 lb in heifers. Thus, a single SYNOVEX ONE implant effectively improved 200-day growth performance of pastured steers and heifers.

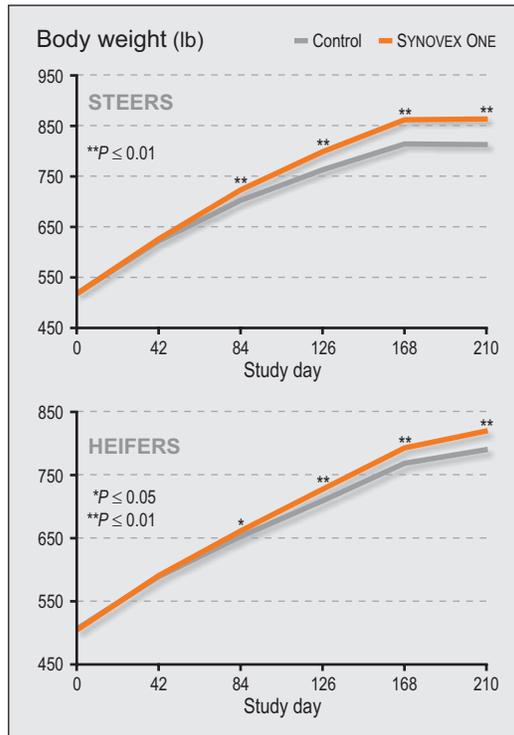


Figure 1 – Body weight of steers and heifers.

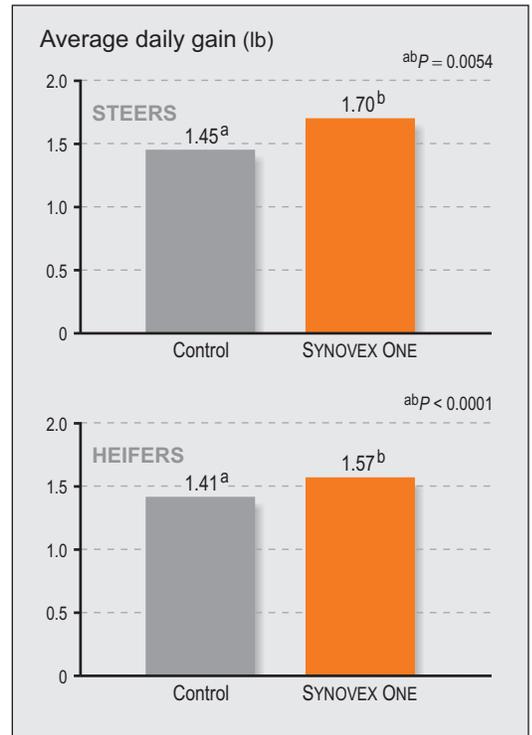


Figure 2 – Average daily gain of steers and heifers.

Do not use SYNOVEX products in veal calves. Refer to label for complete directions for use, precautions, and warnings.



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References

1. Data on file, Study Report No. GASD 16-57.00, Zoetis Inc.
2. Data on file, Study Report No. GASD 16-58.00, Zoetis Inc.
3. Herschler et al., *J Anim Sci* 1995; 73:2873-2881.

