

PROFIT-ENHANCING IMPLANTS for Calves and Stocker Cattle



FULL VALUE BEEF™

Elanco

Component®

with Tylan.

Elanco

Compudose®

Elanco

Encore®

Elanco

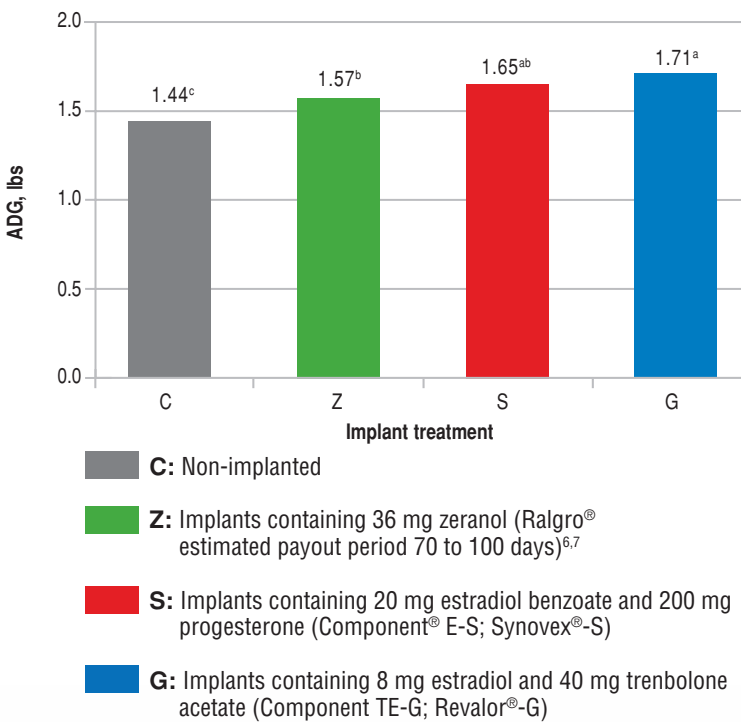
Performance and economic benefits of grazing phase implants

- One of the most profitable management tools available to stocker operators¹
- Consistently helps improve weight gain by 15 to 40 lbs over non-implanted controls¹
- Increases rate of gain, live weight and value in each phase of beef production²

Improved average daily gain

The figure below represents stocker implant data collected by Oklahoma State University⁴ during a 90-day grazing period on primarily Bermudagrass pastures. All groups responded positively to implant treatment, with improvements in gain of 9.49% (Z), 15.11% (S) and 18.95% (G) over non-implanted controls (C). Combination estrogen/androgen implants have been shown to be even more effective than either androgens or estrogens alone for stimulating growth of ruminants.⁵

Figure 1. Effects of implant treatment on ADG



^{abc}Means without a common superscript differ ($P < 0.05$).

Implants increase value by an average \$21.66 to \$57.76 per head when used in calves and stocker cattle, respectively†

†Based on grazing implant data presented by Kuhl¹ and updated using current economic data means.³



Improved grazing performance without negatively impacting carcass quality

Implanting steers with Component TE-G with Tylan® significantly improved grazing performance without negatively impacting feedlot performance or carcass yield and quality.⁸

Table 1. Grazing implant data on subsequent feedlot performance and carcass traits

Recent research		Implant program		Grazing implant	Pre-feedlot implant effect on feedlot performance (<i>P</i> -value)		Pre-feedlot implant effect on carcass traits (<i>P</i> -value)			
Investigator	Year	Stocker	Feedlot	Gain, lbs* (<i>P</i> -value)	Gain, lbs	Final BW	Hot carcass weight, lbs*	Yield grade	Marbling	Quality grade
Sharman ⁸	2011	Y	Y	45.88 lbs greater (0.001)	Trended higher (0.11)	Greater (0.001)	33 lbs greater (0.001)	No impact (0.23)	No impact (0.76)	Trended higher (0.11)
Sharman ⁹	2012	Y	Y	32.10 lbs greater (0.001)	No impact (0.93)	Greater (0.04)	24 lbs greater (0.05)	No impact (0.26)	No impact (0.20)	No impact (0.54)
McMurphy ¹⁰	2013	YY	Y	26.68 lbs greater (0.001)	No impact (0.39)	No impact (0.50)	11 lbs greater (0.54)	No impact (0.93)	No impact (0.26)	< Upper 2/3 Choice (0.01)

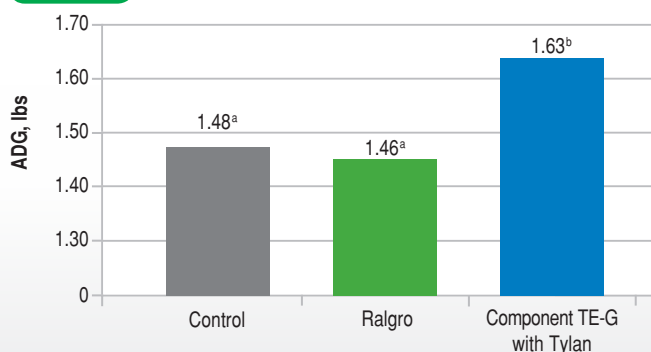
*Gain versus non-implanted control.

Grazing performance results — Component TE-G with Tylan

Oklahoma State University conducted a study¹¹ to determine the effects of stocker implants on the performance of steers grazing summer warm-season grass pastures during 2008 and 2009. The study consisted of 392 crossbred steers grazing on 12 Old World Bluestem pastures and three Native Tallgrass Prairie pastures.

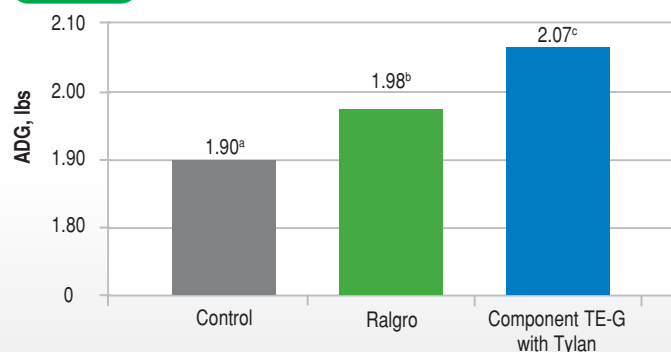
- Cattle implanted with Component TE-G with Tylan outperformed Ralgro by 11% in the last phase of the grazing period (Figure 2)
- Component TE-G with Tylan increased average daily gain (ADG) by 9% compared to the control and 4.5% over Ralgro (Figure 3)

Figure 2. ADG from day 95–126¹¹



^{ab}Means without a common superscript differ (*P* < 0.05).

Figure 3. Total ADG day 0–126¹¹



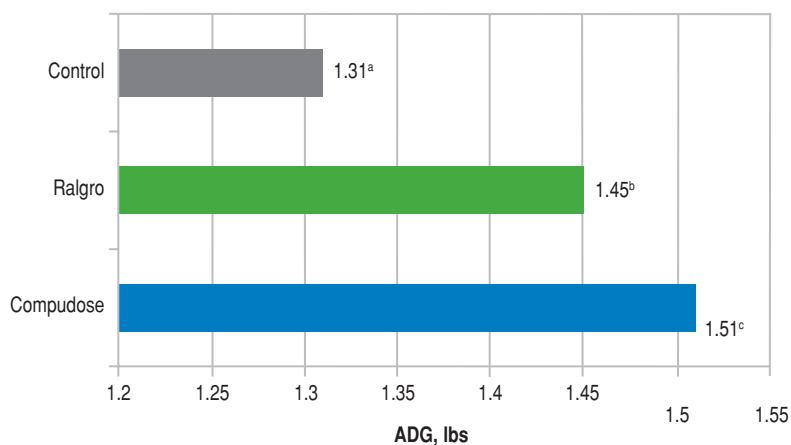
^{abc}Means without a common superscript differ (*P* < 0.05).

Long-acting implants increase gain — Compudose®

Elanco conducted five grazing trials¹² involving 414 steers to determine the growth response in steers implanted with Compudose compared to Ralgro and non-implanted controls.

- Implanting significantly improved rate of gain over non-implanted control cattle
- Compudose-implanted cattle gained 0.2 lb/hd/d more than non-implanted controls and 0.06 lbs/hd/d more than Ralgro-treated steers, over the entire 196-day study period
- Compudose-treated steers outgained non-implanted controls by 39 lbs and Ralgro-treated cattle by 12 lbs by the end of the 196-day grazing period

Figure 4. Five-trial pasture summary — Compudose vs. Ralgro in steers¹²



^{abc}Means without a common superscript differ ($P < 0.05$).



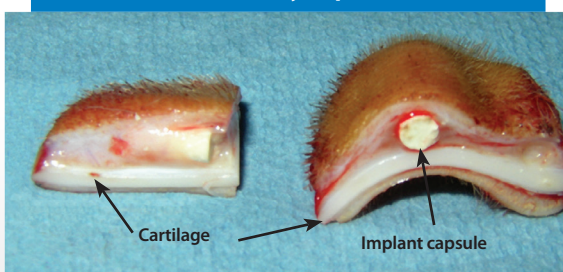
GET TO THE
PROFIT
— ROI PROTECTION
IN EVERY IMPLANT

Every pound counts — trust the only implant that offers the added value of Tylan's abscess defense to help protect and maximize your implant ROI.

Defective implant sites

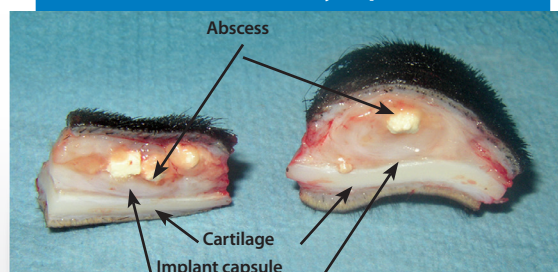
Every animal mounts an inflammatory response to the implanting procedure. Research studies at Iowa State University¹³ demonstrate cattle implanted under dirty conditions exhibited a higher incidence of abscess rates than cattle implanted under clean conditions. **When there are no implant defects, the implant can provide maximum performance improvements.**¹³

Normal healthy implant site



A healthy implant site provides optimum blood flow to deliver the active ingredients in the implant to the animal.

Defective unhealthy implant site




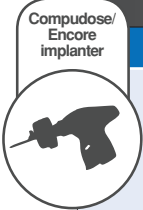
A capsule surrounding the infected implant site contains the implant and abscess.

Localized antibacterial control

Only Elanco offers a broad portfolio of implants with a localized antibacterial at the implant site.

- Implanting cattle with Component with Tylan or Compudose and Encore® with oxytetracycline delivers a localized antibacterial with every implant
- The first pellet in each dose of Component with Tylan is tylosin tartrate. The blue Tylan pellet dissolves and releases the antibacterial throughout the implant site. The exterior surface of Compudose and Encore implants are coated with oxytetracycline

Component with Tylan implants					
	Ingredients	Dosage (mg)	Indications	Estimated payout period ^{6,7}	Closest comparable product without antibacterial protection
 Component TE-G with Tylan	Estradiol	8	Stocker steers and heifers	100-140 days	Revalor-G
	Trenbolone acetate	40			
	Tylosin tartrate	29			
Component E-C with Tylan	Estradiol benzoate	10	Suckling calves	100-140 days	Synovex C/Ralgro**
	Progesterone	100			
	Tylosin tartrate	29			
Component E-S with Tylan	Estradiol benzoate	20	Stocker steers	100-140 days	Synovex S
	Progesterone	200			
	Tylosin tartrate	29			
Component E-H with Tylan	Estradiol benzoate	20	Stocker heifers	100-140 days	Synovex H
	Testosterone propionate	200			
	Tylosin tartrate	29			

Long-acting implants				
	Ingredients	Dosage (mg)	Indications	Estimated payout period ^{6,7}
 Compudose	Estradiol	25.7	Suckling calves and stocker steers	170-200 days
	Oxytetracycline	≥ 0.5		
Encore	Estradiol	43.9	Suckling calves and stocker steers	350-400 days
	Oxytetracycline	≥ 0.5		

**Ralgro's estimated payout period is 70-100 days.

Recommended use throughout the production system

Cow/calf protocol

Sex	Implant	Timing	Duration
Steers, Heifers & Heifers kept for replacement	Component E-C with Tylan	At least 45 days of age	Until weaning

Stocker/backgrounder protocols

Sex	Implant	Timing	Duration
Steers & Heifers	Component TE-G with Tylan	At arrival	Up to 150 days
Steers	Compudose	At arrival	200 days
Steers	Encore	At arrival	400 days

Holstein/Hutch calf protocol

Sex	1st implant	2nd implant	3rd implant
Steers	Component E-C with Tylan; at least 45 days of age	Encore in the feedyard	Component TE-S with Tylan or Component TE-IS with Tylan for final 60-110 days on feed

The label contains complete use information, including cautions and warnings. Always read, understand and follow label and use directions.

Dosage: Administer one dose in the ear subcutaneously according to label directions.

¹Kuhl, G. (1997). "Abstract: stocker cattle responses to implants." Oklahoma State University Symposium: Impact of Implants on Performance and Carcass Value of Beef Cattle, 51-62.

²Duckett, S. and J. Andrae. (2001). "Implant strategies in an integrated beef production system." *J. Anim. Sci.* 79:E110.

³August Feeder Cattle Prices, CME. Accessed March 28, 2018 <<http://www.cmegroup.com/trading/agricultural/livestock/feeder-cattle.html>>.

⁴Gill, D., et al. (1995). "Performance of stocker steers implanted with Ralgro, Synovex-S or Revalor-G." 1995 Animal Science Research Report. Oklahoma Agriculture Experiment State Division of Agricultural Science and Natural Resources Oklahoma State University. P-943.

⁵Dayton, et al. (1997). OSU Implant Symposium.

⁶Tatum, J. (2006). "Pre-harvest cattle management practices for enhancing beef tenderness." Executive summary: Prepared for the National Cattlemen's Beef Association. 1-22.

⁷McCollum, F. (2000). "Implanting beef calves and stocker cattle." AgriLife Extension Texas A&M System. L-2291: 4-98.

⁸Sharman, E., et al. (2011). Effects of energy supplements and a combination grazing implant to performance and carcass characteristics of growing cattle on wheat pasture." Plains Nutrition Council.

⁹Sharman, E., et al. (2012). "Ruminant nutrition: beef feed additives." *J. Anim. Sci.* Vol. 90 (Suppl. 3): 669.

¹⁰McMurphy, C., et al. (2013). "Effects of stocker-phase grazing system and implantation on performance and carcass characteristics of fall-born steers." *Prof. Anim. Sci.* 29:27.

¹¹McMurphy, C., et al. (2010). "Effects of implant type and protein source on growth of steers grazing summer pasture." *Proc. Western Section ASAS. J. Anim. Sci.* 61:100.

¹²Elanco Animal Health. Data on file.

¹³Elanco Animal Health. Data on file.

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