



Elanco™



**ENHANCE AND
EXTEND CALF
AND STOCKER
PERFORMANCE**



Elanco

Component®

with Tylan.

Elanco

Compudose®

Elanco

Encore®

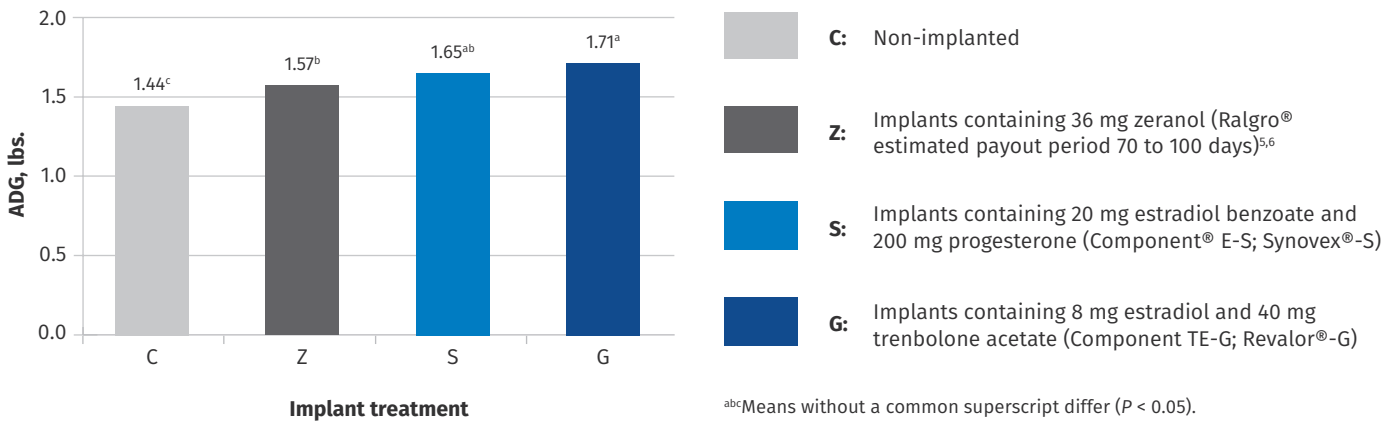
PERFORMANCE AND ECONOMIC BENEFITS OF GRAZING PHASE IMPLANTS

- ▶ One of the most profitable management tools available to stocker operators.¹
- ▶ Consistently helps improve weight gain by 15 to 40 pounds over non-implanted controls.¹
- ▶ Increases rate of gain, live weight and value in each phase of beef production.²

IMPROVED AVERAGE DAILY GAIN

Figure 1 below represents stocker implant data collected by Oklahoma State University during a 90-day grazing period on primarily Bermuda grass pastures.³ 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.⁴

FIGURE 1 EFFECTS OF IMPLANT TREATMENT ON ADG³



Implants increase value by an average
\$14.25/HD TO \$38.00/HD
when used in calves and stocker cattle.*

*Based on grazing implant data presented by Kuhl¹ and a value of \$0.95/lb. gain from 2010 to 2018 for steers and heifers across multiple states.⁷

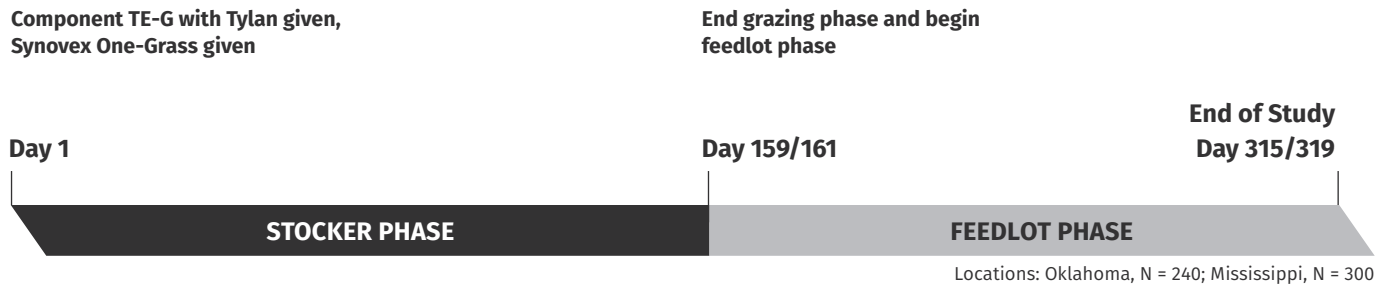
COMPONENT® TE-G WITH TYLAN®: EFFECTIVE AND ECONOMICAL^{8,9}



Two studies compared the effects of grazing implant protocols on cattle performance during grazing and feedlot phases (Figure 2).^{**}

- ▶ Compared to Synovex® One-Grass, a single Component TE-G with Tylan® dose performed similarly during the stocker phase and resulted in increased carcass quality.
- ▶ The results from these studies and previous studies do not support paying a premium for Synovex One-Grass.^{10,11}

FIGURE 2 EXPERIMENTAL MODEL



Study 1 results

The figures below summarize average daily weight gain and marbling scores for steers in each of the treatment groups.

FIGURE 3 AVERAGE STOCKER DAILY WEIGHT GAIN

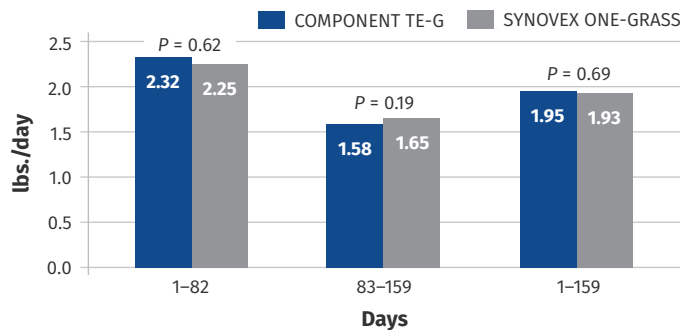
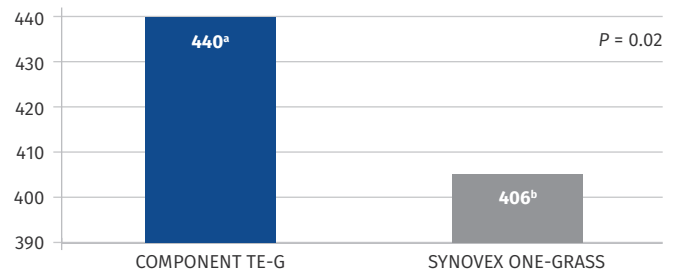


FIGURE 4 MARBLING SCORE

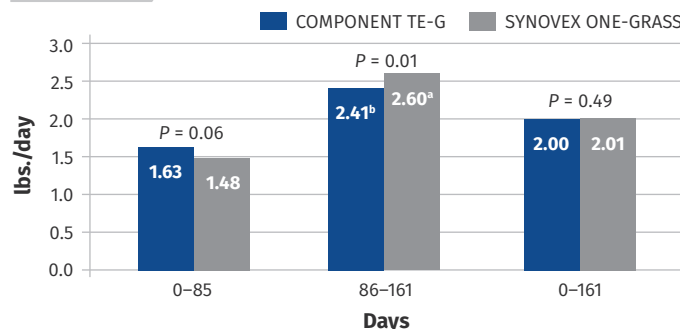


300 = trace^o; 400 = slight^o; 500 = small^o; 600 = modest^o; 700 = moderate^o; 800 = slightly abundant^o; 900 = moderately abundant^o
^{ab}Values with different superscripts differ P ≤ 0.05.

Study 2 results

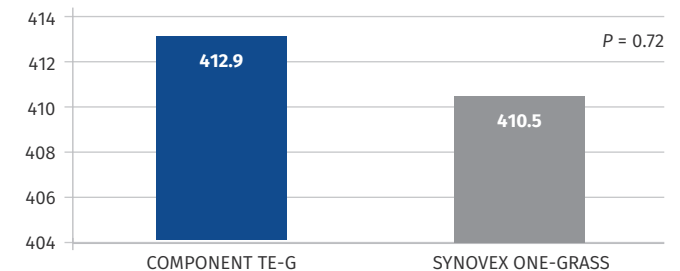
The figures below summarize average daily weight gain and marbling scores for steers in each of the treatment groups.

FIGURE 5 AVERAGE STOCKER DAILY WEIGHT GAIN



^{ab}Values with different superscripts differ P ≤ 0.05.

FIGURE 6 MARBLING SCORE



300 = trace^o; 400 = slight^o; 500 = small^o; 600 = modest^o; 700 = moderate^o; 800 = slightly abundant^o; 900 = moderately abundant^o

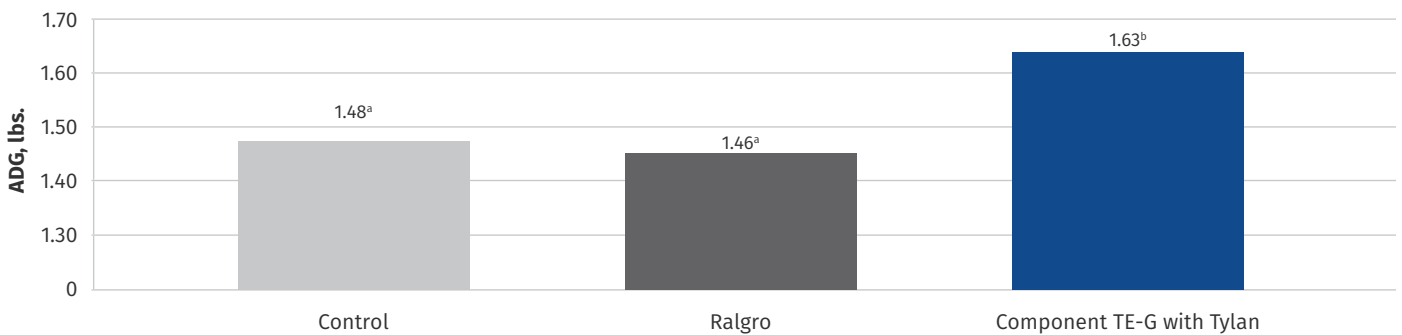
^{**}The third treatment in these studies included Component TE-G with Tylan (40 mg trenbolone acetate and 8 mg estradiol) implanted on Day 1 and again on Day 82/85. This treatment was not different (p > 0.49) from the first treatment group that implanted Component TE-G on Day 1. This treatment group was removed due to the request by the Center for Veterinary Medicine (CVM) for clarification of labeling regarding reimplantation within a production phase.

INCREASE GAIN: COMPONENT TE-G WITH TYLAN

Oklahoma State University conducted a study¹² 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.

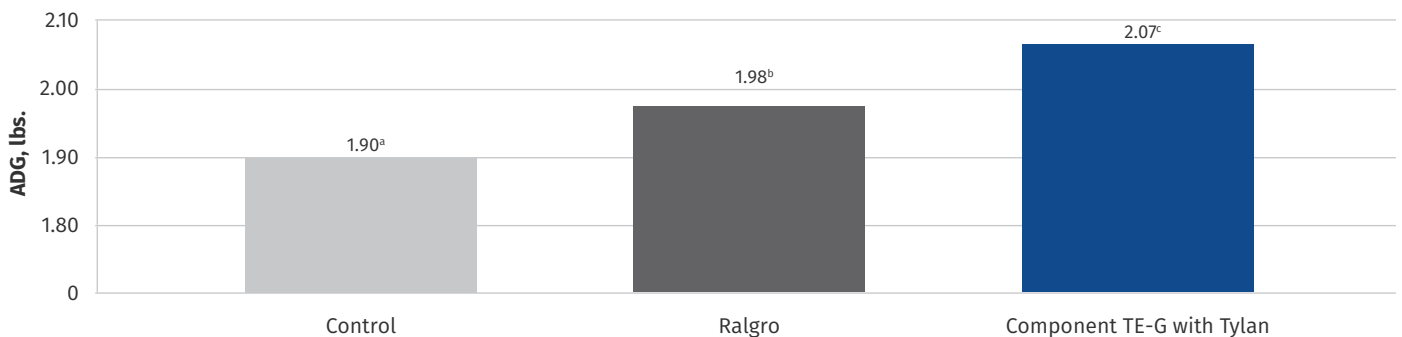
- ▶ Cattle implanted with Component TE-G with Tylan outperformed Ralgro[®] by 11% in the last phase of the grazing period (Figure 7).
- ▶ Component TE-G with Tylan increased ADG by 9% compared to the control and 4.5% over Ralgro (Figure 8).

FIGURE 7 ADG FROM DAY 95 TO 126¹²



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

FIGURE 8 TOTAL ADG DAY 0 TO 126¹²



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

IMPROVE 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 (Table 1).¹³

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 (P-VALUE)		PRE-FEEDLOT IMPLANT EFFECT ON CARCASS TRAITS (P-VALUE)			
Investigator	Year	Stocker	Feedlot	Gain, lbs. ^a (P-value)	Gain, lbs.	Final BW	Hot carcass weight, lbs. ^a	Yield grade	Marbling	Quality grade
Sharman ¹³	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 ¹⁴	2012	Y	Y	32.10 lbs. greater (0.001)	No impact (0.93)	Greater (0.04)	24 lbs. greater (0.5)	No impact (0.26)	No impact (0.20)	No impact (0.54)
McMurphy ¹⁵	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)

^aGain versus non-implanted control.

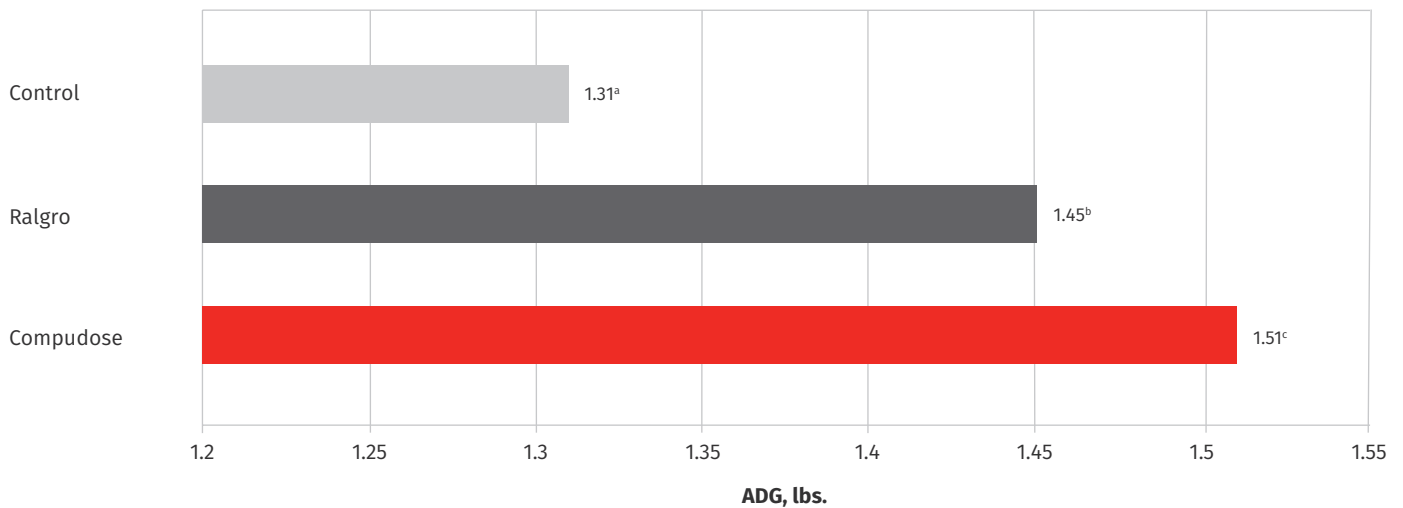


LONG-ACTING IMPLANTS INCREASE GAIN — COMPUDOSE®

Elanco conducted five grazing trials involving 414 steers to determine the growth response in steers implanted with Compudose® compared to Ralgro and non-implanted controls (Figure 9).¹⁶

- ▶ Implanting significantly improved rate of gain over non-implanted control cattle.
- ▶ Compudose-implanted cattle gained 0.2 lbs./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 pounds and Ralgro-treated cattle by 12 pounds by the end of the 196-day grazing period.

FIGURE 9 FIVE-TRIAL PASTURE SUMMARY—COMPUDOSE VS. RALGRO IN STEERS¹⁶



^{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.

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.

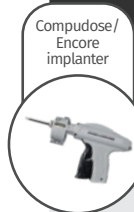
COMPONENT WITH TYLAN IMPLANTS



Implant	Ingredients	Dosage (mg)	Indications	Estimated payout period ^{5,6}	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			

***Ralgro's active ingredient is zeranol and its estimated payout period is 70 to 100 days.¹⁷

LONG-ACTING IMPLANTS



Implant	Ingredients	Dosage (mg)	Indications	Estimated payout period ^{5,6}
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		

RECOMMENDED USE THROUGHOUT THE PRODUCTION SYSTEM

Cow-Calf Protocol

SEX	IMPLANT	TIMING	DURATION
Suckling calves - steers and heifers	Component E-C with Tylan	At least 45 days of age	Until weaning*

*Up to 400 lbs of body weight.

Stocker/Backgrounder Protocols

SEX	IMPLANT	TIMING	DURATION
Steers and heifers	Component TE-G with Tylan	At arrival	Up to 150 days
Steers	Compudose	At arrival	200 days
Steers	Encore	At arrival	400 days

▶ For more information about the value of implants, contact your Elanco technical consultant or sales representative.

For all products: The label contains complete use information, including cautions and warnings. Always read, understand and follow the label and use directions.

Implants are indicated for increased rate of weight gain; see product labels for full indications. Administer one dose in the ear subcutaneously according to label directions.

¹Kuhl G. Stocker cattle responses to implants. In: Proceedings of the Impact of Implants on Performance and Carcass Value of Beef Cattle. 1997;P-957:51-62.

²Duckett SK, Andrae JG. Implant strategies in an integrated beef production system. J Anim Sci. 2001;79(Suppl E):E110-7.

³Gill D. Performance of stocker steers implanted with Ralgro, Synovex-S or Revalor-G. Animal Science Research Report: Oklahoma Agricultural Experiment Station, Oklahoma State University. 1995:163-6.

⁴Reuter R, Mourer G, Lalman D, et al. Implants and their use in beef cattle production. Oklahoma Cooperative Extension Service, Oklahoma State University. 2017.

⁵Tatum J. Pre-harvest cattle management practices for enhancing beef tenderness. Executive summary prepared for the National Cattlemen's Beef Association. 2006:1-22.

⁶McCollum FT. Implanting beef calves and stocker cattle. AgriLife Extension, Texas A&M System. 2000;L-2291:4-98.

⁷CME Group. August feeder cattle prices. Available at: <http://www.cmegroup.com/trading/agricultural/livestock/feeder-cattle.html>. Accessed: March 28, 2018.

⁸Elanco Animal Health. Data on file.

⁹Elanco Animal Health. Data on file.

¹⁰Farney JK, Corrigan M. Evaluation of 2 implants for growing steers grazing tall-grass prairie when using intensive early stocking. Appl Anim Sci. 2019;35(1):83-7.

¹¹Zoetis. Summary of five phase IIIB Synovex One-Grass studies. SYN-00089. 2016. Available at: https://www.zoetis.com/_locale-assets/pdf/summary-of-five-phase-iiib-synovex-one-grass-studies.pdf. Accessed: July 2020.

¹²McMurphy CP. Effects of implant type and protein source on growth of steers grazing summer pasture. J Anim Sci. 2010;27(5):402-9.

¹³Sharman ED, Lancaster PA, Horn GW, et al. Effects of energy supplementation and a combination grazing implant to performance and carcass characteristics of growing cattle on wheat pasture. Plains Nutrition Council. 2011:114.

¹⁴Sharman E. Effect of Rumensin, Micotil, and Component TE-G with Tylan on health, growth performance, and carcass merit of stocker cattle grazing wheat pasture. J Anim Sci. 2012;90(Suppl 3):669.

¹⁵McMurphy CP, Lineen SK, Mourer GL, et al. Effects of stocker-phase grazing system and implantation on performance and carcass characteristics of fall-born steers. Prof Anim Sci. 2013;29(1):27-32.

¹⁶Elanco Animal Health. Data on file.

¹⁷Griffin D, Mader T. 1997. G97-1324 "Beef cattle implant update." University of Nebraska-Lincoln Extension.

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