

Enhance and extend calf and stocker performance



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



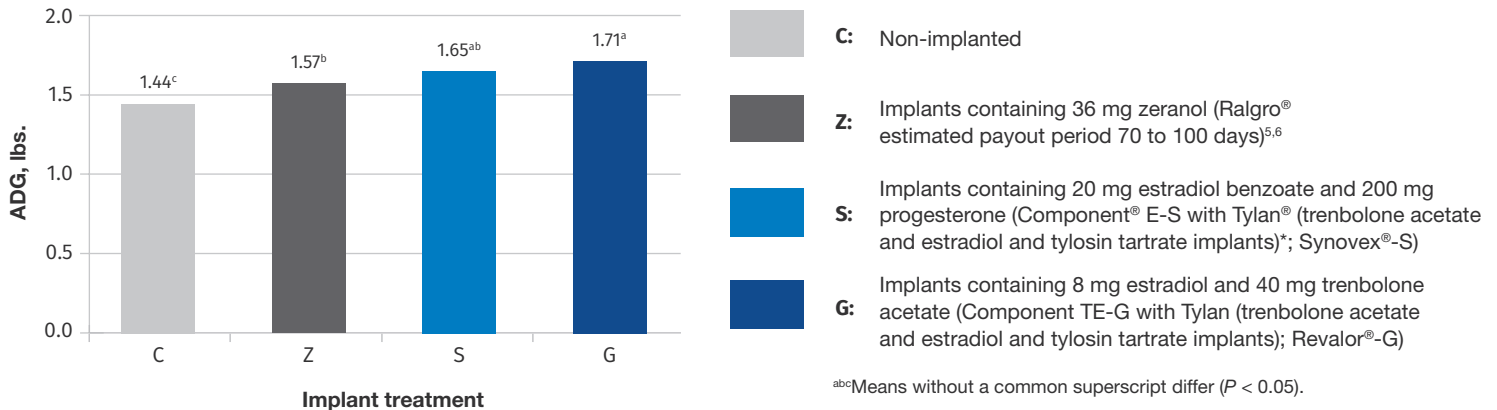
Right for cattle. Right by you.

ElancoTM

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



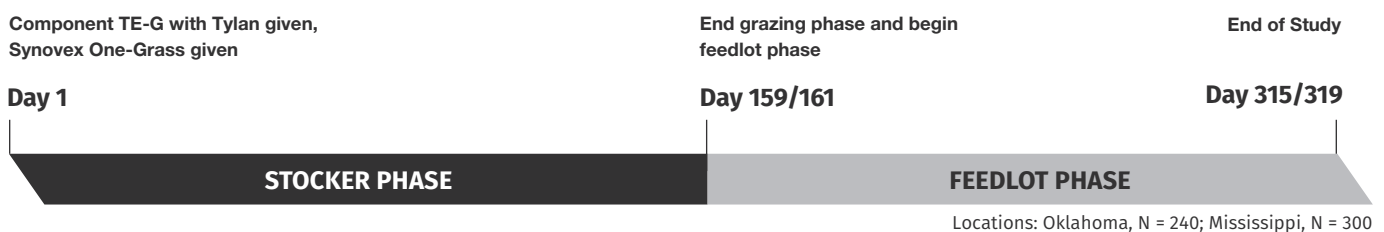
Implants have been shown to **provide a 24:1 ROI** and play a successful role in end-point management protocols.¹

Component[®] TE-G with Tylan[®]: effective and economical^{7,8}

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.

FIGURE 2 Experimental Model



*Component E-S with Tylan is no longer marketed

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

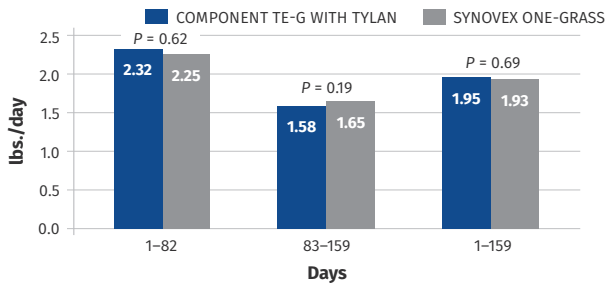
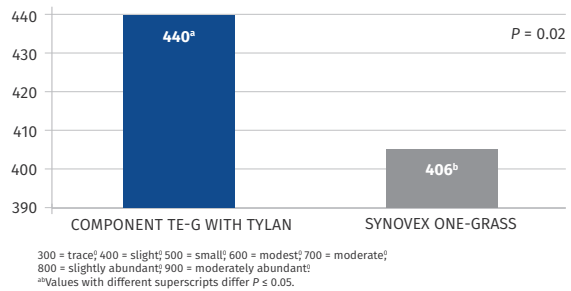


FIGURE 4 Marbling score



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

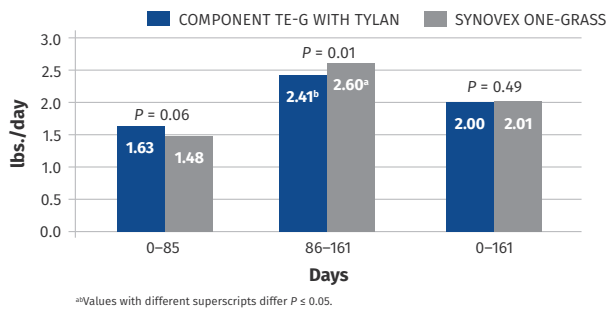
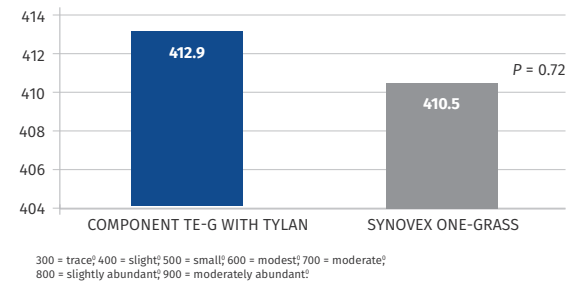


FIGURE 6 Marbling score



**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 with Tylan 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.

Oklahoma State University conducted a study⁹ 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 twelve 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 126⁹

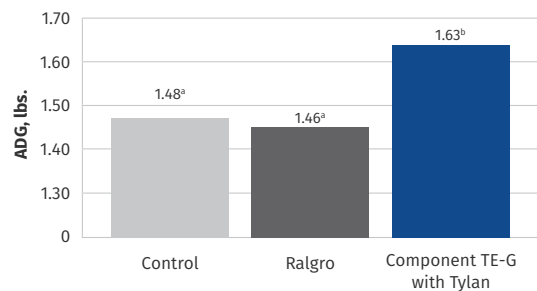
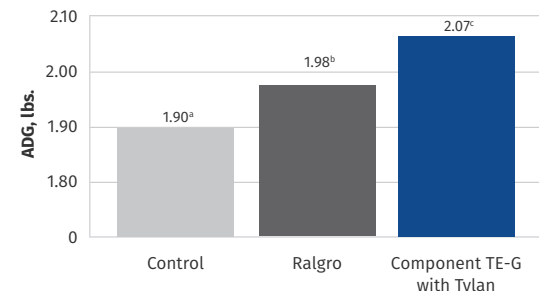


FIGURE 8 Total ADG day 0 to 126⁹



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).¹⁰

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 ¹⁰	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 ¹¹	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 ¹²	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)

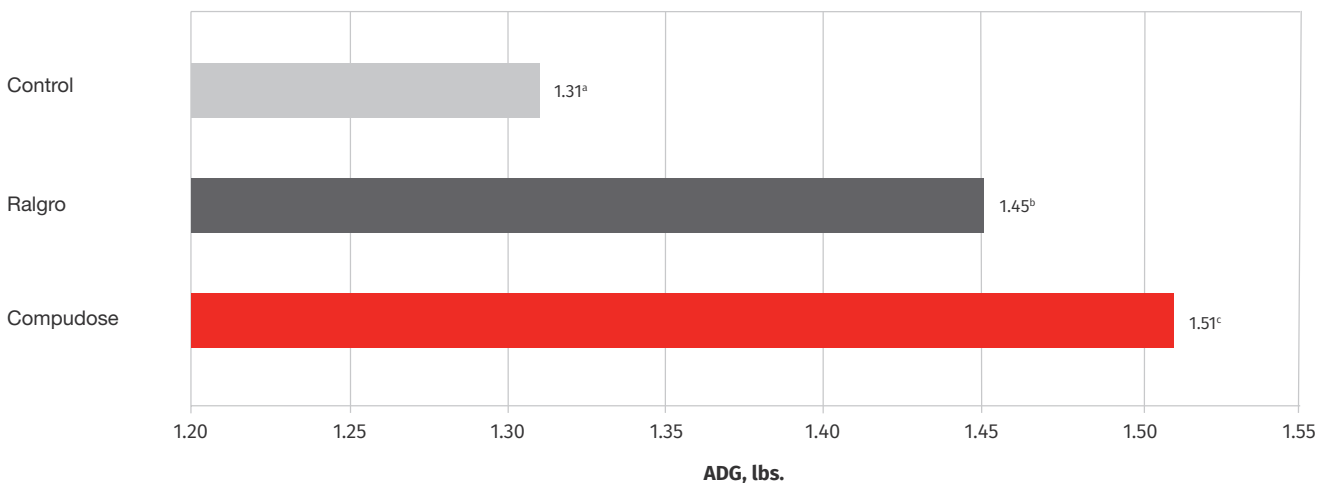
^aGain versus non-implanted control.

Long-acting implants increase gain — Compudose® (estradiol)

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).¹³

- 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 steers¹³




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


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 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.

Component® Implants					
BLUE COMPONENT EZ® GUN	IMPLANT	INGREDIENTS	DOSAGE (MG)	INDICATIONS	ESTIMATED PAYOUT PERIOD
	Component E-C	Progesterone Estradiol benzoate	100 10	Beef calves 45 days of age and older and weighing up to 400 lbs.	100–140 days
	Component E-C with Tylan®* (progesterone and estradiol benzoate and tylosin tartrate implants)	Estradiol benzoate Progesterone Tylosin tartrate	10 100 29	Beef calves 45 days of age and older and weighing up to 400 lbs.	100–140 days
	Component TE-G	Trenbolone acetate Estradiol	40 8	Growing beef steers and heifers on pasture (stocker, feeder and slaughter)	100–140 days
	Component TE-G with Tylan* (trenbolone acetate and estradiol and tylosin tartrate implants)	Estradiol Trenbolone acetate Tylosin tartrate	8 40 29	Growing beef steers and heifers on pasture (stocker, feeder and slaughter)	100–140 days
	Component TE-IH with Tylan* (trenbolone acetate and estradiol and tylosin tartrate implants)	Trenbolone acetate Estradiol Tylosin tartrate	80 8 29	Growing beef heifers fed in confinement for slaughter	100–140 days
	Component TE-IS with Tylan* (trenbolone acetate and estradiol and tylosin tartrate implants)	Trenbolone acetate Estradiol Tylosin tartrate	80 16 29	Growing beef steers fed in confinement for slaughter	100–140 days
	COMPONENT 200T IMPLANTER®	Component TE-200 with Tylan* (trenbolone acetate and estradiol and tylosin tartrate implants)	Trenbolone acetate Estradiol Tylosin tartrate	200 20 29	Growing beef steers and heifers fed in confinement for slaughter

*CAUTION: Federal law restricts this drug to use by or on the order of a licensed veterinarian.
Bolded implant products are available for over-the-counter (OTC) purchase.

Long-Acting Implants					
COMPUDOSE®/ ENCORE® IMPLANTER	PRODUCT	INGREDIENTS	DOSAGE (MG)	INDICATIONS	ESTIMATED PAYOUT PERIOD
	Compudose	Estradiol	25.7	Suckling calves and stocker steers	170–200 days
	Encore	Estradiol	43.9	Suckling calves and stocker steers	350–400 days

ROI protection in every implant

Every pound counts. Trust the only implant line, Component with Tylan implants, that offers the added value of Tylan's abscess defense to help protect and maximize your implant ROI.

Recommended use throughout the production system

Cow-Calf Protocol

SEX	IMPLANT	TIMING	DURATION
Suckling calves - steers and heifers	Component E-C	At least 45 days of age	Until weaning*
Suckling calves - steers and heifers	Component E-C with Tylan	At least 45 days of age	Up to 140 days

*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 140 days
Steers and heifers	Component TE-G	At arrival	Up to 140 days
Suckling calves	Component E-C	At least 45 days of age	Up to 140 days
Suckling calves - steers and heifers	Component E-C with Tylan	At least 45 days of age	Up to 140 days
Steers	Compudose	At arrival	Up to 200 days
Steers	Encore	At arrival	Up to 400 days

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

COMPONENT TE-G with Tylan IMPORTANT SAFETY INFORMATION:

INDICATION:

For increased rate of weight gain in growing beef steers and heifers on pasture (stocker, feeder, and slaughter). Not approved for repeated implantation (re-implantation) with this or any other cattle ear implant in growing beef steers and heifers on pasture (stocker, feeder, and slaughter). Safety and effectiveness following reimplantation have not been evaluated.

DIRECTIONS FOR USE: Administer one dose in the ear subcutaneously according to label directions.

CAUTION: Federal law restricts this drug to use by or on the order of a licensed veterinarian.

- Do not use in beef calves less than 2 months of age, dairy calves, and veal calves because effectiveness and safety have not been established.
- Do not use in animals intended for subsequent breeding, or in dairy cows.

COMPONENT E-C with TYLAN IMPORTANT SAFETY INFORMATION:

INDICATION:

For increased rate of weight gain in beef calves 45 days of age and older and weighing up to 400 lbs. This implant is not approved for repeated implantation (re-implantation) with this or any other cattle ear implant as safety and effectiveness has not been evaluated.

DIRECTIONS FOR USE: Administer one dose in the ear subcutaneously according to label directions.

CAUTION: Federal law restricts this drug to use by or on the order of a licensed veterinarian.

- Do not use in calves less than 45 days of age or veal calves because effectiveness and safety have not been evaluated.
- Do not use in animals intended for subsequent breeding, or in dairy cows.

COMPONENT TE-IS with TYLAN IMPORTANT SAFETY INFORMATION:

INDICATION:

For increased rate of weight gain and improved feed efficiency in growing beef steers fed in confinement for slaughter. Not approved for repeated implantation (re-implantation) with this or any other cattle ear implant in growing beef steers fed in confinement for slaughter. Safety and effectiveness following reimplantation have not been evaluated.

DIRECTIONS FOR USE: Administer one dose in the ear subcutaneously according to label directions.

CAUTION: Federal law restricts this drug to use by or on the order of a licensed veterinarian.

- Do not use in beef calves less than 2 months of age, dairy calves, and veal calves because effectiveness and safety have not been established.
- Do not use in animals intended for subsequent breeding, or in dairy cows.

COMPONENT TE-IH with TYLAN IMPORTANT SAFETY INFORMATION:

INDICATION:

For increased rate of weight gain and improved feed efficiency in growing beef heifers fed in confinement for slaughter. Not approved for repeated implantation (re-implantation) with this or any other cattle ear implant in growing beef heifers fed in confinement for slaughter. Safety and effectiveness following reimplantation have not been evaluated.

DIRECTIONS FOR USE: Administer one dose in the ear subcutaneously according to label directions.

CAUTION: Federal law restricts this drug to use by or on the order of a licensed veterinarian.

- Do not use in beef calves less than 2 months of age, dairy calves, and veal calves because effectiveness and safety have not been established.
- Do not use in animals intended for subsequent breeding, or in dairy cows.

COMPONENT TE-200 with TYLAN IMPORTANT SAFETY INFORMATION:

INDICATION:

For increased rate of weight gain and improved feed efficiency in growing beef steers and heifers fed in confinement for slaughter. Not approved for repeated implantation (re-implantation) with this or any other cattle ear implant in growing beef steers and heifers fed in confinement for slaughter. Safety and effectiveness following reimplantation have not been evaluated.

DIRECTIONS FOR USE: Administer one dose in the ear subcutaneously according to label directions.

CAUTION: Federal law restricts this drug to use by or on the order of a licensed veterinarian.

- Do not use in beef calves less than 2 months of age, dairy calves, and veal calves because effectiveness and safety have not been established.
- Do not use in animals intended for subsequent breeding, or in dairy cows.

¹ Duckett, S. et al. Anabolic implants and meat quality. *J Anim Sci.* 2013.

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

³ Gill 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.

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

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

⁶ McCollum FT. Implanting beef calves and stocker cattle. *AgriLife Extension, Texas A&M System.* 2000;L-22914-98.

⁷ Elanco Animal Health. Data on File.

⁸ Elanco Animal Health. Data on File.

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

¹⁰ Sharman E. Effect of Rumensin, Micotil, and Component TE-G with Tylan on health, growth performance, and carcass characteristics of growing cattle on wheat pasture. *Plains Nutrition Council.* 2011;114.

¹¹ Sharman 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.

¹² McMurphy 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.

¹³ Elanco Animal Health. Data on File.

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E-G with Tylan

