

Component[®] with Tylan[®] Research Brief 5

Comparison of Component[®] TE-IS with Tylan[®] Followed by Component TE-S with Tylan vs. a Single Revalor[®]-XS or a Single Component TE-200 with Tylan Implant in Finishing Steers¹



Study overview

A commercial feedlot study was conducted to compare a reimplant program using Component[®] TE-IS with Tylan[®] followed by Component TE-S with Tylan to a single implant of Component TE-200 with Tylan or a single implant of Revalor[®]-XS. The study evaluated the effects on performance and carcass characteristics of feedlot steers in Kansas.

Key study results

- Live data from this trial suggest feedlot performance is similar for cattle administered either the single implant or the combination of two implants during the feeding period
- Cattle receiving a TE-IS/TE-S reimplant program had heavier final live weights, greater average daily gains and lower feed conversion ($P < 0.05$) when compared on a carcass-adjusted basis, and heavier hot carcass weights compared to cattle receiving one implant of TE-200
- Cattle receiving Revalor-XS performed similarly when compared to the other implant programs with the exception of having lower ($P < 0.05$) feed conversion on a carcass-adjusted basis compared to a single Component TE-200 with Tylan implant

Background information

TRIAL DESIGN

- Pens were assigned randomly to one of three treatments (81 to 107 hd/pen, 7 pens/treatment):
 - Reimplant: Component TE-IS with Tylan administered on day 1 followed by Component TE-S with Tylan on day 80
 - Single implant 1: Component TE-200 with Tylan administered on day 1
 - Single implant 2: Revalor-XS administered on day 1
- Studies were designed and executed under a common protocol to facilitate a combined analysis
- Pen used as the experimental unit

STATISTICS

- Pooled analysis using the MIXED procedure of SAS
- Initial weight used as a covariate when significant ($P < 0.05$)

MATERIALS AND METHODS

- Total head — 2,069
 - Days on feed — 160
 - Average initial weight — 760 lbs
- On day 80, steers receiving a reimplant of Component TE-S with Tylan were revaccinated and weighed; single-implant steers remained in their home pen
- Ration consisted of (100% dry-matter [DM] basis): 69.0% steam-flaked corn, 17.0% wet distillers grain with solubles, 5.0% liquid supplement, 3.5% mixed hay, 3.5% mixed silage and 2.0% added fat
- Carcass performance weights were adjusted using a standard dressing percentage of 63.5%
- Ear checks were conducted on 100% of the cattle

Study results

- Feed conversion improved ($P < 0.05$) when cattle were reimplanted compared to a single implant of Component TE-200 with Tylan when compared on a live basis (Table 1)
- On a carcass-adjusted basis, cattle that received a reimplant had greater ($P < 0.05$) final weight and average daily gain and lower ($P < 0.05$) feed conversion compared to cattle receiving a single Component TE-200 with Tylan. Revalor-XS cattle had lower ($P < 0.05$) feed conversion compared to a single Component TE-200 with Tylan implant (Table 2)
- Hot carcass weights were greater ($P < 0.05$) for cattle in the reimplant program compared to cattle receiving a single implant of TE-200, with carcasses from cattle implanted with Revalor-XS being intermediate and not different ($P > 0.05$) compared to the reimplant and TE-200 treatments (Table 3)
- Other carcass measurements — dressing percent, percent USDA Choice and calculated USDA yield grade — were similar ($P > 0.05$) between treatments (Table 3)

Table 1. Live performance of single-implanted steers compared to reimplanted steers

	Component TE-IS/TE-S with Tylan	Component TE-200 with Tylan	Revalor-XS	SEM	P-value
Initial weight, lbs	766	760	753	5.26	0.07
Final weight, lbs ^a	1,424	1,398	1,407	15.8	0.23
DM intake, lbs/d ^a	22.8	22.5	22.4	0.35	0.53
Daily gain, lbs	4.14	3.99	4.03	0.11	0.30
Feed conversion ^a	5.49	5.65	5.56	—	0.24

^aInitial weight used as a covariate in the analysis.

Table 2. Carcass-adjusted performance of single-implanted steers compared to reimplanted steers

	Component TE-IS/TE-S with Tylan	Component TE-200 with Tylan	Revalor-XS	SEM	P-value
Initial weight, lbs	766	760	753	5.26	0.07
Final weight, lbs ^{ab}	1,422 ^d	1,394 ^c	1,415 ^d	10.4	0.02
DM intake, lbs/d	22.8	22.5	22.4	0.35	0.53
Daily gain, lbs	4.13 ^d	3.96 ^c	4.08 ^{cd}	0.07	0.04
Feed conversion	5.49 ^d	5.68 ^c	5.49 ^d	—	0.02 ^e

^aFinal weight calculated by dividing hot carcass weight by a common dressing percent (0.63).

^bInitial weight used as a covariate in the analysis.

^{cd}Within a row, means without a common superscript differ ($P < 0.05$).

^eP-value calculated from G:F.

Table 3. Carcass data of single-implanted steers compared to reimplanted steers

	Component TE-IS/TE-S with Tylan	Component TE-200 with Tylan	Revalor-XS	SEM	P-value
Dressing percent	63.4	63.2	63.7	0.43	0.35
Hot carcass weight, lbs ^a	903 ^b	883 ^c	897 ^b	6.3	0.01
USDA Choice, %	57.9	62.1	59.5	0.27	0.27
USDA yield grade	2.5	2.8	2.7	0.09	0.31

^aInitial weight used as a covariate in the analysis.

^{bc}Means within row with uncommon superscripts differ ($P < 0.05$).

Table 4. Quality assurance implant checks for Kansas trial*

	Component TE-IS/TE-S with Tylan	Component TE-200 with Tylan	Revalor-XS
Proper, %	98.6 ^a	94.4 ^b	85.3 ^c
Abscessed, %	1.1 ^a	4.8 ^b	14.1 ^c
Missing, %	0.3	0.7	0.6

*Implant checks were conducted by personnel at the plant on the day of slaughter. Ear checks were conducted on terminal implants, Component TE-S with Tylan, Component TE-200 with Tylan and Revalor-XS.

^{abc}Means within row with uncommon superscripts differ ($P < 0.01$).

Summary

- Cattle receiving the reimplant treatment or the Revalor-XS treatment had more favorable feed conversion than steers that received Component TE-200 with Tylan ($P < 0.05$)
- TE-IS/TE-S reimplant program had heavier ($P < 0.05$) final weights, greater ($P < 0.05$) daily gains and lower ($P < 0.05$) feed conversion when compared on a carcass-adjusted basis
- On a live basis, no differences were observed in final weight, daily gain or feed conversion
- Cattle that received the Component TE-IS with Tylan/Component TE-S with Tylan and Revalor-XS treatments had heavier ($P < 0.01$) HCW than the Component TE-200 with Tylan treatment

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

Component with Tylan

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

¹Comparison of Component TE-IS with Tylan followed by Component TE-S with Tylan vs. a single Revalor[®]-XS or a single Component TE-200 with Tylan implant in finishing steers. Elanco Data on File, 2011.

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