

## Impact of Deworming Beef Cattle

A strategic deworming program has beneficial economic and performance returns for cow/calf, stocker, and feedlot producers. We outline several recent controlled research trials from all phases of beef production and suggest strategic deworming programs that are cost effective.

### Cost of Deworming Formulations

Henderson (1998) summarized the cost to deworm cattle with various commercially available formulations. Feedgrade products are among the least expensive and most effective to use, plus provide the convenience and labor savings of administration without special handling of the cattle. In presenting economic data below, we will use \$.35/cwt as the cost of deworming with feedgrade products.

Dewormer Formulation	Retail cost Per hundred-weight
Bolus	★
Block	0.25 – 0.35
Drench	0.23 – 0.33
Feedgrade	0.23 – 0.35
Injectable	0.50 – 0.60
Loose mineral	0.33 – 0.43
Pour-on	0.35 – 0.59
Paste	0.35 – 0.59

★Dose is one bolus for animals between 275 lb and 660 lb. Designed to control parasites for 135 days. Cost is \$13 to \$14 per bolus.

### Cow/Calf Systems

Taylor (1996) summarized 6 trials conducted in the western US. Both cows and calves were dewormed in the spring with Safe-Guard® and weaning weights were compared to untreated cow/calf pairs. Weaning weights were improved by deworming from 10 to 30 lb per calf with an average of 19 lb per calf. The body weight improvement of 19 lb was worth \$.55/lb or \$10.45 and the dewormer cost was \$4.55 (1,100 lb cow and 200 lb calf), thus the net return was \$5.90 per pair.

Fifteen trials from across the U.S. were summarized by Bliss (1997) where cows were dewormed in November and again in June along with their calves and performance was compared to untreated pairs. Weaning weights were increased from 16 to 49 lb with an average improvement of 31 lb or increased income of \$17.05 per cow (at \$.55 additional weight). With deworming costs at \$8.50 per pair (1,100 lb cow dewormed twice and a 200 lb calf dewormed once), the net return would be \$8.65 per pair. Additionally, in 7 of the trials, calving rate for the subsequent season was monitored and ranged from 0 to 22% and averaged 7%.

*A deworming program would include deworming the cows in late fall or early winter, preferably when cows were moved off of summer pasture. A second deworming of the cows may be advised 6 to 8 weeks after summer pasture grazing begins in southern, warm climates. When calves are approximately 200 lb in the early summer, they should be dewormed. This can coincide with the second deworming, if necessary, for the cows.*

### Stocker Systems

Ten grazing trails from across the U.S. summarized by Bliss (1997) observed an average improvement in daily gains of .36 per day or 46 lb (\$25.03 at \$.55/lb) over a 128 day average grazing season. Calves were dewormed 3 times with Safe-Guard® once, at the beginning of the

trials and again at 28 and 56 days into the trials, at an average cost of \$7.35 per head. The net benefit of deworming was \$17.68 per head.

Smith et al. (1998) observed a .41 lb increase in average daily gain with 3 similar dewormings with Safe-Guard® in a 118 day grazing trial on Bermuda grass pastures in OK. Their net return was \$18.70 per head.

*A strategic deworming system for stocker cattle would be to deworm at receipt of calves followed by repeat dewormings 4 and 8 weeks later. Young calves are more susceptible to accumulating large worm burdens than older cows, thus repeat dewormings are needed and cost effective. The method of deworming that is frequently convenient in stocker systems is through a receiving feed for the initial deworming, followed by uses of Safe-Guard® Free-Choice mineral.*

## Feedlot Systems

Smith et al., moved their steers from the grazing trial mentioned above into a feedlot in CO and assigned the untreated calves from the grazing trial to dewormed or untreated groups in the feedlot. They assigned the dewormed calves from the grazing trial to dewormed and untreated groups in the feedlot. They found intake, gain, efficiency, and carcass merit improvements to deworming with Safe-Guard® in the feedlot, irregardless of whether calves were dewormed on pasture or not. Net returns of feedlot

Pasture trt 1:	Control		Deworm	
ADG, lb	.93		1.34	
Feedlot trt 1:	Control	Deworm	Control	Deworm
Intake	21.7	23.4	23.2	24.0
ADG, lb	3.90	4.59	4.27	4.56
Feed/Gain	5.56	5.09	5.43	5.27
Dressing, %	59.7	60.6	60.4	61.0
Ribeye area, in <sup>2</sup>	12.79	13.27	13.27	13.42
Yield Grade	2.34	2.61	2.54	2.65
Marbling <sup>2</sup>	3.59	4.02	3.88	4.03

<sup>1</sup>Pasture trt was 118 days. Feedlot trt was 121 days.  
<sup>2</sup>Slight <sup>50</sup> = 3.5. small <sup>0</sup> = 4.0. small <sup>50</sup> = 4.5.

deworming steers that were not dewormed on pasture were \$30.61 per head. Net returns of feedlot deworming steers that had been dewormed on pasture were \$11.07 per head.

Myers and Grant (1998), conducted 4 trials comparing untreated feeders to feeders treated with either Ivermectin® (worm plus grub control) or Safe-Guard® (worm control) with an additional treatment of a topical grub control product. The daily averaged 3.06, 3.21, and 3.24 lb for the 3 respective groups. The feed efficiencies averaged 6.72, 6.64, and 6.47 for the 3 respective groups. Treatment with Ivermectin® was 1.5 times the cost of treatment with Safe-Guard® plus grub control, yet with similar improvement in gains between the two treatments, the Ivermectin®-treated calves were not as efficient.

Strategic deworming of feedlot steers is simple. *Deworm steers once, soon after arrival to the feedlot.* When feed grade dewormers are used, administer after feed intake stabilizes.

## Summary

The return on the investment to deworm is approximately 2 to 1 in cow/calf systems (without accounting for improvements in pregnancy rates), 3 to 1 in stocker systems, and from 3 to 1 up to 10 to 1 in feedlot systems depending on previous deworming history of the cattle. Administration of feed grade dewormers provides a convenient, labor efficient, and cost-effective method to deworm cows, stockers, and feedlot cattle.

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