

Deworming Adds Dollars

Strategic timing is key.

by **Brandon Nuttelman, Ph.D.**

Dewormers had the largest impact on profitability, compared to the other technologies available to the cow-calf industry, according to an often-cited study (Lawrence, Ibarburu, 2007¹). It evaluated the economic impacts of dewormers, growth promoting implants and ionophores in the cow-calf, stocker and feedlot sectors.

Internal parasites continue to have a large economic impact on production variables in beef cattle operations. Typically, cattle infected with internal parasites do not exhibit clinical signs of infection. Although signs are difficult to see, impacts to the animal's production are significant.

Internal parasites have the largest impact on cattle's daily dry matter intake (DMI). First and foremost, internal parasites cause cattle to have a satiety sensation, thus reducing DMI. Additionally, parasites rob nutrients consumed by cattle, as well as damage the gastrointestinal tract, resulting in reduced absorption of nutrients cattle consume. These factors reduce the overall energy available to cattle, resulting in lower growth, less milk production and reduced conception rates.

A two-year study (Stromberg et al., 2000²) found that conception rate for strategically

dewormed cows was 13% greater than non-dewormed peers. Additionally, calves from strategically dewormed cows were 35 pounds heavier.

Along with reducing nutrient availability, internal parasites have a negative impact on the animal's immune system, making the animal more susceptible to sickness. The effect on the animal's immune system also alters the animal's ability to build an immune response when vaccinated. For instance, according to one study (Smith, et al., 1997³), freshly weaned calves dewormed at the feedlot on arrival had 7% less morbidity than calves that were not dewormed.

Understand the parasite life cycle

To develop a proper deworming strategy, it is important to understand how cattle become infected with parasites.

As cattle graze pastures, parasites on the blades of the grass are consumed with the grass. After ingestion, the parasites mature into adults that are capable of laying eggs. The animal excretes these eggs in its manure. Eggs will hatch and grow in the manure. Once weather and pasture conditions are ideal, the immature parasites will travel from the manure to grass blades, which cattle will consume, renewing the egg-laying process. Length of this life cycle is dependent on the age of the cattle. This parasite life cycle and how cattle become infected throughout the grazing season suggests merit to deworming cattle multiple times throughout the season.

This is the commonly recommended deworming strategy for cows:

- Deworm cows prior to turning out to summer pastures.
- Cows will become reinfected after grazing these pastures. With the parasite's life cycle in mind, deworm cows approximately six to eight weeks after turnout (re-infection). This will clean out the cattle and reduce the number of parasites present on the pasture.

- Deworm cows six to eight weeks following the second deworming. If grazing pastures in areas that experience a hard freeze in the fall, delay this third deworming until after the hard freeze, as parasites will become dormant and will not re-infect cattle until subsequent pasture green-up. Usually, this occurs near the time spring-calving operations are pregnancy-checking cows.

Operations grazing crop residues or cover crops also should deworm prior to turn-out on these fields. Cattle grazing these fields will remain parasite-free until they are turned onto green grass pastures that have been grazed the previous years.

Match management with product options

Producers who process cattle through a handling chute can choose to deworm with an oral white dewormer, such as Safeguard.

Producers unable to process cattle through a handling chute, can strategically deworm cattle at recommended times with Safeguard pellets, meal, cubes, mineral or blocks. These products also can be incorporated into existing mineral or supplementation programs. Efficacy between the oral drench and the non-handling forms are equal.

Collecting fecal samples following treatment to determine the number of eggs being shed in the manure helps prove efficacy of the product. Merck Animal Health provides this service and fecal egg counts are an easy way to determine if cattle are infected with internal parasites.

It is difficult to see the effects of internal parasite infestation when driving by cattle or walking through the herd, but parasites can reduce profit potential through reduced growth, reproduction and negative effects on cattle health. **HW**

Editor's note: Brandon Nuttelman is a technical services manager at Merck Animal Health.

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Sources:

¹Lawrence, John D., Ibarburu, Maro A., 2007. Economic Analysis of Pharmaceutical Technologies in Modern Beef Production, NCCC-134 Conference on Applied Commodity Price Analysis, Forecasting, and Market Risk Management.

²Smith, R.A., et al., 2000. Pasture Deworming and (or) Subsequent Feedlot Deworming with Febendazole, Effects on Grazing Performance, Feedlot Performance and Carcass Traits of Yearling Steers —The Bovine Practitioner, Vol. 4, pg. 104.

³Stromberg, B.E., et al., 1997. Production responses following strategic parasite control in a beef cow / calf herd — Veterinary Parasitology 68, 315-322.