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Prevalence, Relevance and the Economic Impact of Cattle Parasites

By Jerry Woodruff, DVM

Deworming has undoubtedly proven its value to the beef and dairy industry. It is no longer just a matter of deciding whether to include parasite control in a health program, there is the tough decision of which product to use in the program. Parasite control isn't just about how many parasites are listed on the product's label. The most important concern is controlling the right parasites, at the right time, while achieving maximum weight gain or milk production.

Prevalence of Parasites

Most deworming products control more than 30 internal and external parasites and stages of parasites. Producers should ask their veterinarian what key parasites need to be controlled in their geographic area. For example, *Ostertagia ostertagi*, the brown stomach worm, is recognized as the most economically damaging parasite for cattle.¹ For this reason, utilizing a dewormer that controls adult *Ostertagia*, as well as L₄ larvae, and inhibited L₄ larvae should be the first consideration.

It is important to identify the parasites that impact your herd and not get caught up in the game of number of parasites or parasite stages controlled. Make sure you have excellent control of the ones that impact animal performance.

According to Dr. Thomas Yazwinski, a professor at the University of Arkansas Department Animal Science, some parasites present a greater practical significance than others.

"*Strongyloides papillosus*, the intestinal 'threadworm', is pretty much a constant, environmentally-abundant worm," says Dr. Yazwinski. "However, *Strongyloides papillosus* has only very rarely (and not within his recent memory) demonstrated any ill effects in cattle. *Strongyloides* spp nematodes are important in dogs, people, horses, etc, but not cattle."

Dr. Yazwinski adds that *Trichostrongylus longispicularis*, the Black Scour Worm, is of little relevance to cattle in the United States. Globally, however, this parasite is known best as a threat to the Australian sheep industry explains Dr. Yazwinski.

With this insight from Dr. Yazwinski, it becomes more important that you discuss with your veterinarian what parasites may be of the greatest concern in your area so together you can develop a plan and select a parasite control product that works for your operation.

The Importance of Persistence

The persistence provided by a parasite control product is another consideration when selecting a dewormer. Persistency is described as how a parasite control product continues to fight parasite infestations after application. Increased persistency can result in fewer parasite eggs shed, reduced pasture parasite levels and increased opportunities for weight gain, as well as higher production for dairy animals.

Below is a comparison of the persistency of three parasite control products against three common parasites: the Brown Stomach Worm, Lungworm, and the Nodular Worm.*

Class	Product	Brown Stomach Worm	Lungworm	Nodular Worm
Milbemycin	Cydetin® Pour-On	28 days	42 days	28 days
Avermectin	Ivomec® Pour-On	14 days	28 days	28 days
	Noromectin® Pour-On	14 days	28 days	28 days
	Dectomax® Pour-On	28 days	28 days	28 days
	Ivomec® Eprinex®	0 days	21 days	0 days

*Based upon comparisons of FDA-approved label indications.

The table on the previous page shows that:

- Cydectin Pour-on is effective against the most economically significant parasite, the brown stomach worm (*Ostertagia ostertagi*), twice as long as Ivomec Pour-On and the leading generic.¹
- Cydectin Pour-on shows persistent activity against three key species, unlike Eprinex, which offers no persistence against important parasites common to cattle.

The Economic Impact

Long-lasting, effective parasite control can mean money in the bank. A Louisiana State University study summarized advantages in weight gain when various pour-on topical endectocides were used. Their research was conducted with stocker cattle that were treated with topical formulations (pour-on) of Cydectin (moxidectin), Dectomax (doramectin), Ivomec (ivermectin), and Eprinex (eprinomectin). The table below summarizes final weight gains and average daily gain at 112 days.

Group	Weight Gain	Avg. Daily Gain
Cydectin Pour-On (moxidectin)	338.8 lbs. ^c	3.02 lbs. ^c
Dectomax Pour-On (doramectin)	323.4 lbs. ^{b, c}	2.89 lbs. ^{b, c}
Ivomec Pour-On (ivermectin)	305.8 lbs. ^{a, b}	2.73 lbs. ^{a, b}
Eprinex (eprinomectin)	327.8 lbs. ^{b, c}	2.93 lbs. ^{b, c}
Control (no treatment)	279.4 lbs. ^a	2.49 lbs. ^a

^a Different letters in the same column indicate significant differences at $p < 0.05$

^b Weights are average of Day 1 and Day 0

^c Weights are average of Day 111 and 112

The best growth performance in this study was achieved by cattle treated with Cydectin Pour-On regardless of bodyweight categories measured.²

The dairy herd can also be challenged by parasites and cow comfort can be affected by a mange infestation. Cydectin Pour-On is one of only two products on the market labeled for use in the lactating dairy herd with zero milk withhold and is indicated for use in controlling mange.

Final Thoughts

As beef and dairy producers begin evaluating the many parasite control products available it is important for them to keep in mind the following points:

- Which parasites are most prevalent and economically important in your geographic area? It doesn't matter how many parasites a product controls if they don't control the ones with the greatest economic impact on your herd.
- Compare product labels for persistency. Increased persistency helps reduce the parasite load for the animal, as well as reducing the parasite load on the pasture.

Important Safety Information: For external use only. Do not apply to areas of skin with mange scabs, skin lesions, mud or manure. Cydectin Pour-On is not recommended for use in species other than cattle. When used according to label directions, neither a pre-slaughter drug withdrawal period nor a milk discard time are required. A withdrawal period has not been established for this product in pre-ruminating calves. Do not use in calves to be processed for veal.

References:

- 1 Myers, GH and Keith, EA. Nationwide cattle survey: Zeroing in on parasites. *Large Animal Veterinarian*, 1993; 48:30-32.
- 2 J.C. Williams et al., *Veterinary Parasitology* 85 (1999) 277-288.

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