

Now more than ever

John Maday, Managing Editor | Drovers Magazine March 2011

Cattle-Fax analysts predict that five-weight calves this fall will sell for \$140 per hundredweight or more. Some quick math shows that an extra 20 pounds of weaning weight per head is worth \$28 per head or \$2,800 for 100 calves. Timely deworming can help achieve those gains and more.



In 2009, researchers at Iowa State University conducted an economic analysis of pharmaceutical technologies used in beef production and concluded parasite control in cow herds has the greatest effect on breakeven prices, providing a value of \$201 per head. Producers who use parasite control can expect an advantage of 4 percent in weaning weights, according to the study.

And that's not all. Timely parasite control increases cow reproductive efficiency, resulting in a 23 percent improvement in weaning rate in the ISU study. Spring deworming also can improve cow condition at breeding, resulting in higher pregnancy rates at first breeding, improve vaccine response and long-term health, and reduce supplemental feeding costs.

Why deworm in the spring?

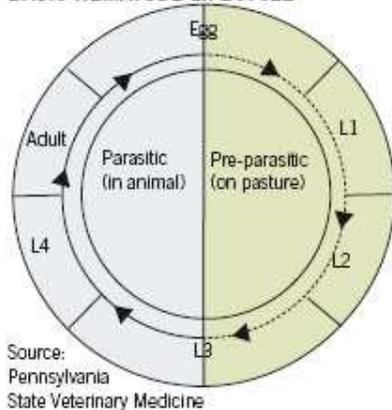
Worms are good at what they do. They possess adaptations that allow them to survive a wide range of environmental conditions and find their way into the digestive systems of cattle.

This past winter, for example, featured unusually cold, snowy weather in many parts of the country, even extending into normally mild southern regions. Producers trying to drive a fence post into that frozen soil could think one of the few benefits would be the demise of over-wintering worms.

Not so, says South Dakota State University parasitologist Mike Hildreth. Nematodes such as *Ostertagia ostertagi*, in their juvenile stage, overwinter in the soil and are relatively cold tolerant. In addition, substantial snow cover in many areas helps insulate the soil. He expects parasite populations this spring to be as high as ever in northern pastures.

Thomas Craig, a veterinarian at Texas A&M University, says last summer was dry across much of the South but with enough moisture to sustain worm populations on available forage. By fall, Craig saw worm infestations including clinical cases of disease caused by internal parasites in calves.

BASIC NEMATODE LIFECYCLE



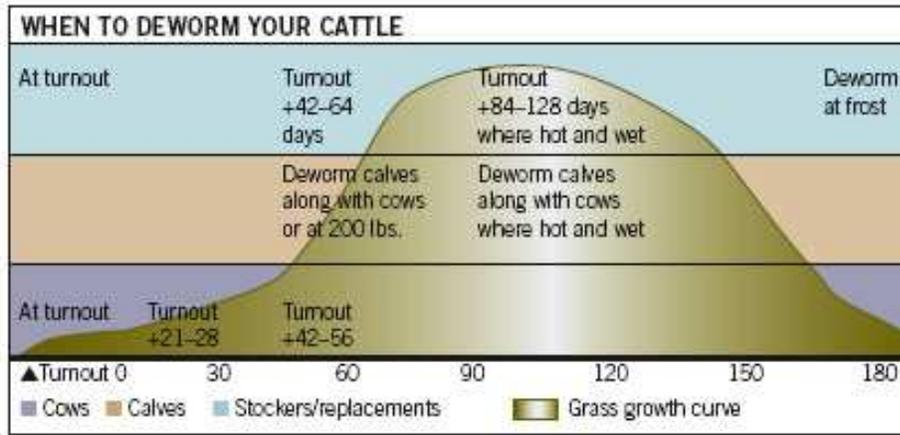
This winter, as we know, cold weather, snow and ice extended well into the South on several occasions. But, Craig says, the worms are doing just fine. He is concerned that poor winter forage growth in Texas and the Southwest has left many cattle nutritionally stressed. As green grass becomes available this spring, those hungry cattle will begin picking up immature worms, and the effects on health could be more pronounced than usual because of poor cow condition.

Timing is an important consideration in spring deworming, Craig says. Worms that overwintered on pastures move up from the ground onto forage plants during March and April — later further north — when temperatures average higher than 50 degrees.

Treating too early, before worms become active in pastures, can mean cattle become re-infected soon after treatment, unless the deworming product has residual activity to extend through the infective period. "Wait until late spring, after cattle have harvested the worms," Craig says.

He also notes that in the South, *Ostertagia ostertagi*, or the brown stomach worm, a primary parasite in cattle, typically enters an arrested stage after cattle consume the larvae in the spring. It spends the summer in an arrested stage of development inside animals, then matures, emerges and causes damage in the fall, especially in calves. Calves that are not treated in the spring with a product that controls arrested-stage worms can suffer considerable health and performance losses later, just as they enter the stressful weaning and shipping period.

Craig adds that the brown stomach worm does not survive well through the summer on hot, dry pastures. Its populations depend on cattle shedding parasite eggs in their manure in the fall, reinfesting pastures. Treatment in the spring with a proven dewormer interrupts the cycle on southern pastures.



In northern climates, *Ostertagia* enters its arrested stage during the winter and shedding occurs in the spring.

Craig points out there is no magic date for spring deworming, as conditions vary from ranch to ranch and year to year. The "best" time depends on calving season, weather, forage growth and an operation's management

schedule. He stresses the importance of working with a veterinarian who knows the area and who can help plan a treatment schedule that works for the ranch.

Put a program to work

Mike Healy operates LU Ranch Co. near Worland in north-central Wyoming. He retains ownership of his calves, feeding them at Decatur County Feedyard in Kansas every year, and has tracked calf health through weaning and during the feeding period. He's seen significant improvement in calf health in his herd over the past few years, which he attributes in part to his parasite-control program.

In spite of a comprehensive preconditioning program including pre-weaning vaccines and parasite control with a broad-spectrum pour-on, Healy was seeing some sickness in calves earlier in the season, including a few cases of coccidiosis and some death loss apparently from summer pneumonia. He adds that flies also were a problem for cows and calves during the summer.

A few years ago, he attended a producer meeting sponsored by Pfizer Animal Health, where veterinarians recommended shifting deworming to branding time and using an injectible product for that treatment rather than a pour-on. Healy made that switch, using the injectible dewormer with calves as well as cows and bulls, and also began feeding a supplement containing an insect growth regulator that prevents emergence of adult flies from manure. He continues to use the broad-spectrum pour-on product in the fall to control lice and internal parasites.

This program, he says, has kept flies to a minimum and improved calf health, with virtually no coccidiosis, summer pneumonia cases or calf death loss. Weaning weights also have improved, although Healy is unsure how much of those gains are attributable to changes in parasite control or to other management factors. One of the biggest improvements, he says, has been in weaning rates. With the decline in death losses over the past couple seasons, an average of 95 percent of cows on the ranch have weaned a live calf.

Are worms becoming resistant?

Over the past few years, concerns have emerged that resistance to deworming products could be developing in populations of cattle parasites. Resistance has turned up in some studies, but there is no consensus among experts as to its importance. Craig says *Cooperia* worms have shown resistance in some cases, but cattle tolerate typical exposure levels to this worm. In the more economically important *Ostertagia* species, he has not seen resistance.

Hildreth agrees, saying drug resistance has become an issue with species of sheep and goat worms such as *Haemonchus contortus*, but he has not seen any evidence of problems in South Dakota. Other issues, however, could lead producers to believe resistance is occurring. He says some producers who use broad-spectrum "endectocides," to control worms and external parasites such as lice, have seen instances where lice control failed. Several factors could contribute to inadequate lice control, but producers sometimes assume the lice have developed resistance to the product. Then, he says, they make a "leap of faith" and suspect worms also have developed resistance.



Ostertagia ostertagi

Craig says he has seen rare instances of drug-resistant *Haemonchus* species, commonly called barber pole worm, a sheep parasite that sometimes affects cattle. This worm, he says, is adapted to tropical conditions and does well in southern climates. Older cows tend to resist its effects, but it can be devastating in calves. Infestations typically turn up in places where calves are concentrated in high-density pastures such as under center pivot systems. In addition to the usual signs of severe worm infestations, one distinguishing characteristic of *Haemonchus* is that the mucous membranes in a calf's mouth turn the same color as its teeth.



Cooperia

This worm, Craig says, has in some cases developed resistance to the two major classes of dewormers in common use. One older product, Levamisole, which is not widely used in cattle, remains effective against resistant *Haemonchus* worms. In these uncommon cases, Craig says, producers need to work with their veterinarians to implement a targeted control program.

Hildreth says when he hears of a case where a parasite-control program is not working, he looks at a number of management factors — timing of treatment, treatment methods, environmental factors — as more probable causes of treatment failure than drug resistance.

In his recommendations to producers, Hildreth focuses mostly on programs rather than products, and he advises producers not to jump to conclusions if results are unsatisfactory. Some might need to look more at the supplier of the product, not the class of product. If someone is using a generic product and having good results, he says they might as well continue. But if you see evidence the program isn't working, change to a reliable supplier of a proven, branded product. A small investment — spending a little more for a proven product — can pay for itself easily with reduced risk and more reliable control.



Haemonchus contortus

In any case, if your parasite-control program seems inadequate, or you see health problems in calves or reproductive problems in cows, work with your veterinarian to diagnose the problem. Effective parasite control is one of the best investments available for cow-calf producers. And, Hildreth says, whether calf prices are high or low, worms will cause losses if left untreated.