

It is a timeworn formula: one part fall pasture, one part grazing cattle, let stand for about a month, then watch for the rough coats and the falling gains. Internal parasites can take the fun and profit out of fall grazing.

To overcome worms, you have to understand their life cycles, says Paul Coe, DVM, MPVM, a veterinary researcher and practitioner working with beef cattle through Michigan State University's College of Veterinary Medicine.

Adult worms reside in the stomach. The eggs they lay there are passed in an animal's feces.

"Given adequate warmth and moisture, the eggs hatch into larvae. Once the larvae reach the larval molt 3 stage, they swim, scoot or crawl up a blade of grass and get eaten by cattle. It takes them about three weeks to mature into egg-laying adults."

Cattle build harmful worm infestations from two sources, says Coe. "Usually they get them from grazing in an infested field. But sometimes they result from a harmful larval mass residing in their stomachs in arrested development."

Larvae in arrested development are said to be hypobiotic. They may remain in cattle's stomachs for some time before developing into adults.

Four factors determine when cattle might be susceptible to worm infestations, says Coe. They are climate, management systems, age of cattle, and the life cycle of the worms.

The brown stomach worm is one of the more common intestinal nematodes that affect cattle, says Coe. "These worms don't handle dry conditions very well. They develop any time moisture is present and the temperature ranges from 50 to 95 degrees."

If temperatures are higher or lower than that, worms will not necessarily be killed. "They will more likely go into hypobiosis. When conditions become more favorable, they will begin development again."

Certain management systems also make cattle more susceptible to worms. Intensive grazing systems and high stocking rates can foster heavy worm infestations, Coe says.

Intensive grazing systems frequently rotate cattle through the small pastures in three- to four-week cycles. "That is

usually not enough time to break the worm life cycle in the pasture."

Younger cattle are more susceptible to worms than older ones. "Still, it is a good idea to expose young cattle to some worms to build immunity, as long as the numbers are not overwhelming. It usually takes about one grazing season to build immunity."

At what level are numbers overwhelming? Research indicates 20,000 worms will reduce weight gains while 40,000 will cause diarrhea and rough coats.

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Coe cautions that fecal egg counts are not good indicators of worm loads. "Lots of eggs do not necessarily mean lots of worms; you might have a few females laying lots of eggs. Fecal counts are still important. Use them to determine if cattle have worms."

Larvae at the L3 stage are considered infectious. At this stage, for example, lung worms migrate through the small intestine into the lungs to the trachea and cause a great deal of damage.

There are two ways to control worms. "Historically, we have dewormed cattle on an 'as-needed' basis. But in the long term, we have to look at prevention and ways to stimulate the natural immune response," Coe says.

Coe advocates a strategy combining the use of drugs and pasture management.

"Stock young cattle in 'safe pastures', those that should have low levels of worms on them," he says. "Another option is to turn younger cattle out on pastures first, then follow with older animals whose immunity is higher to graze off larvae deposited by the young stock."

Mowing pastures helps, too. When pastures are mowed, worm larvae are exposed to sunlight, something in which they do not thrive.

He also suggests turning young stock

out on pastures that did not have cattle on them previously or onto crop residue. "Grazing a hay field after its last cutting is an option to consider."

Grazing cattle on wheat pasture also works. "Tillage reduces the worm egg population," Coe says.

When it is time to deworm, do it strategically. Most products kill adults, not eggs. Therefore, the trick is to time deworming so that the drug kills newly hatched adults.

"Let's say you buy some calves from the Southeast," Coe says. "You know that

means they will be wormy. Deworm them when they arrive to take care of the adults they brought in with them, then deworm them again in three weeks to take care of the worms they pick up from pasture here."

Use a similar strategy for clean calves. "Deworm calves you think are cleaner three weeks and six weeks after turnout to take care of the developing worms hatched from the eggs of the worms killed in the first round."

Those who only deworm once should deworm three weeks after turnout, Coe says. "Doing it once as soon as they arrive will cause you to miss the second wave of adults, which results in further egg and larval contamination in the pasture."

In general, Coe recommends use of broad spectrum dewormers capable of killing a wide variety of parasites. "In the fall, use a product that is effective against hypobiotic worms, such as Safe-Guard® or Ivomec®."

*Editors note: Paul H. Coe serves as Extension beef veterinarian at Michigan State University College of Veterinary Medicine.*

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