

Put grazing in your

# Parasite Toolbox

Story & photo by **Barb Baylor Anderson**

**D**eworming may be the popular go-to strategy for controlling parasites, but a holistic approach to curbing parasite problems also should include grazing, soil and plant management.

“Don’t rely too much on one tool. Drug resistance has become a serious challenge to effective parasite control,” says Elizabeth Walker, Missouri State University associate professor with a research interest in farm animal physiology. “The interaction between parasites, the environment, animals and management decisions is complex. The goal of parasite control is not to eradicate worms, but to reduce their adverse effects in practical and economical ways.”

Walker says parasite problems may differ

slightly from region to region, but the main roundworm threat affecting beef cattle is *Ostertagia* (brown stomach worm). The worm causes diarrhea and ill thrift. Walker explains that the brown stomach worm causes significant damage to the true stomach, creating ongoing digestion issues. Cows essentially become nutrient-starved.

Lungworm and coccidiosis are two other threats to beef cattle. Walker says these parasites can be controlled through rotational grazing. She advises producers to understand the life cycles of these or any parasites, and don’t assume you have to deworm every animal. For those you do deworm, she advises using the correct dosage and administering it correctly.

## Rest and rotate

“Pasture and grazing management really is the cornerstone of effective parasite control,” she says. “Pasture rest or rotation is the primary method for creating safer pastures. Clean pastures are those that have not been grazed by ruminants for the past six to 12 months. Other clean or safe pastures are new or burned pastures, those renovated with tillage, or pastures where a hay or silage crop has been removed or is in rotation with row crops.”

Parasites are very sensitive to sunlight and heat. Even so, Walker says about 60 days of pasture rest are needed for highly contaminated pastures to become lowly contaminated pastures, meaning the worm larvae pose less of a threat, and pastures are relatively “clean” for grazing.

“No ‘one size fits all’ pasture rotation schedule exists. But we do know internal parasite infection is driven by stocking rates and duration of grazing periods. Overgrazing is what leads to parasitism,” she says. “The higher the stocking rate or the longer the grazing period, the more the pasture gets infected and the more likely livestock are to ingest infective worm larvae.”

## Mix it up

Another successful management strategy includes mixed species grazing. Walker says sheep and goats share parasites, but don’t share them with adult cattle or horses.

“Sheep, goats and cattle have complementary grazing habits,” she says. “You can decrease parasite infestations by commingling or rotating species and having cattle and horses ‘vacuum’ sheep/goat pastures of infective worm larvae. Larvae erupt, remain on the surface of plants and wait to be eaten. If they are eaten by a dead-end host for the species, end of problem.”

Walker adds that cattle that graze tall-growing forages will have fewer parasite problems. About 80% of parasite larvae are found in the first 2 inches (in.) of vegetative growth.

“Cattle should not graze below 4 inches of vegetative growth. It is best to ‘take half, leave half,’” she says. “There also are lower numbers of larvae on non-grass plants, like legumes and forbs (*euphorbiaceae*). Legumes can make up about 30% of pasture mixes.”

Non-grass plants, such as red clover, also reduce parasite survival in pastures and can reduce larval migration up the plant. Producers can plant alternative forages containing condensed tannins and



► “There also are lower numbers of larvae on non-grass plants, like legumes and forbs,” says Elizabeth Walker. Using that knowledge can help producers design a forage system that results in less need for chemical parasite control.

sesquiterpene lactones. Chicory forages may reduce the effects of parasitism.

“Producers should try to delay grazing until after dew has lifted from the pasture, or the grass has dried after a rain,” says Walker. “Dry conditions force larvae to stay at the base of plants.”

Walker encourages producers to pay attention to soil quality, as well.

“Healthy soil equals healthy plants, which equals healthy animals,” she says. “Use of mob grazing can help distribute organic matter. A micro-soil test analysis will show if soils are deficient in micro and macro nutrients. Avoid overuse of insecticides, too, which may harm the soil environment.”

## Parasite management pointers

Elizabeth Walker reminds beef producers to keep the following pointers in mind for effective parasite management:

- ▶ Know that all animals will have internal parasites.
- ▶ Integrated Pest Management must be used for cost-effective parasite management.
- ▶ Rest pastures a minimum of 60 days between grazings.
- ▶ Chemical anthelmintics may no longer offer effective parasite control.
- ▶ Keep records and cull cattle that don't perform under these situations.

Walker notes the condition of cattle can play into effective parasite control. Cows on a high plane of nutrition and in good body condition are better able to withstand worm burdens. In addition, nutrition during pregnancy can affect the female's immune response to internal parasites, as higher levels of protein can mean lower fecal egg counts.

“Genetics is another way to help manage parasites,” she says. “Choose cattle that have not been hand-fed if they are headed to pasture. Do your homework. Look for parasite-resistant genetic lines and hybrid vigor. Grazing management is just one tool in the toolbox.”

