



## » Steps to Effective and Sustainable Internal Parasite Management

It is important to recognize that there are several species of gastrointestinal “worms” and they are located in different parts of the digestive tract or other organs. Season of the year can determine which species are affecting the flock and the stage of life or production influence which sheep will be most affected. Factors such as feeds and feeding are influential too.

The good news is that once these factors and others, such as stocking rate are recognized, there are effective ways to deal with them. Because drug resistance in parasites is genetic (gene frequency), each time a deworming drug is used, the shepherd is selecting for the more-resistant worms to produce the next generation.

**STEP 1** | Document the species creating the major challenge in the flock. Fecal samples (pooled from 5 to 10 similar animals) can be examined by a local veterinarian. To identify the species, larvae from hatched eggs is examined to determine specific strongyle species. This is worthwhile to do in the summer and fall to get the best picture. Manually collect per rectum or from piles in grazing area. A minimum of 3g is needed (10 pellets) per animal.

**STEP 2** | Determine the level of effectiveness of the anthelmintic being used. If needed, use other tools such as copper oxide wire particles, Sericea lespedeza, pasture rest/rotation, culling of breeding stock and/or selection of replacement animals based on parasite resistance.

- Can submit fecal samples for Drench-rite laboratory assay at a local diagnostic lab or college of veterinary medicine. Although expensive, this method provides precise and comprehensive data.
- Can conduct a fecal egg-count reduction test which can be done at a local veterinary clinic or on the farm. If fecal egg count (eggs per gram) is not reduced after deworming by 95 percent, the product is not working the way it was designed to and some level of worm resistance is evident.

**STEP 3** | Examine the flock at appropriate intervals (two to eight weeks) based on age, stage of life and activities, body-condition scores (BCS) and other criteria based on local experience.

**STEP 4** | Develop a plan for administering anthelmintic or alternative interventions to reduce the number and effect of worms. Use “Smart Drenching” principles and practices.

**STEP 5** | Deworm or take alternative management steps for only those animals requiring attention. Make certain the dose matches the type and weight of the animal. A farm scale can be very helpful in determining the appropriate dose. Do not under-dose.

**STEP 6** | Work toward maintaining Refugia (genetically susceptible worms) through selective treatment. Remember that every time an animal or group of animals is dewormed with drug treatment it is a selection event.

- Predominately Barber pole worm (*Haemonchus contortus*):
  - Deworm via FAMACHA anemia score, bottle jaw, BCS or fecal egg count. Do not deworm all animals nor use a fixed-time interval.
  - Employ novel methods, such as Sericea lespedeza, copper-wire particles.
  - Pasture rotation, grazing height and stocking rate or nutritional supplements.
- Other gastrointestinal nematodes (if present in large numbers, *Trichostrongylus spp.*):
  - Assess BCS, fecal soiling, age and stage of production.
  - Pasture rotation, grazing height and stocking rate.
- Be aware that liver fluke (*Fasciola hepatica*) may infect sheep in some geographic regions if grazing has included low-lying, frequently wet areas.

**ADDITIONAL INFORMATION** | American Consortium for Small Ruminant Parasite Control at [www.wormx.org](http://www.wormx.org).

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