



SheepSense

an applied research brief

Barber Pole Worm: A Guide for Intermountain Producers

Summary

Internal parasites can have a serious animal health and economic impacts on sheep production, and one of, if not the most, concerning parasites is *Haemonchus contortus*, commonly known as the barber pole worm. This blood-sucking nematode lives in the abomasum and primarily affects sheep by causing anemia, which can lead to reduced weight gain, and even death in severe cases. Understanding risk factors and implementing effective management strategies can help producers minimize production losses.

High-Risk Pastures and Sheep Classes

Irrigated and sub-irrigated pastures create favorable conditions for internal parasite survival, as moisture is essential for the development of infective larvae. Larvae survive longer and in greater numbers on irrigated pastures compared to dry rangelands. In contrast, non-irrigated pastures have reduced parasite burdens because eggs and larvae cannot survive under dry conditions. Lambs, lactating ewes, and sheep with low body condition score (< 2.5 BCS) are more susceptible to barber pole worm infections. Lambs can develop immunity later in the season, but before this happens, they are at high risk of infection. Lactating ewes, due to the nutritional demands of milk

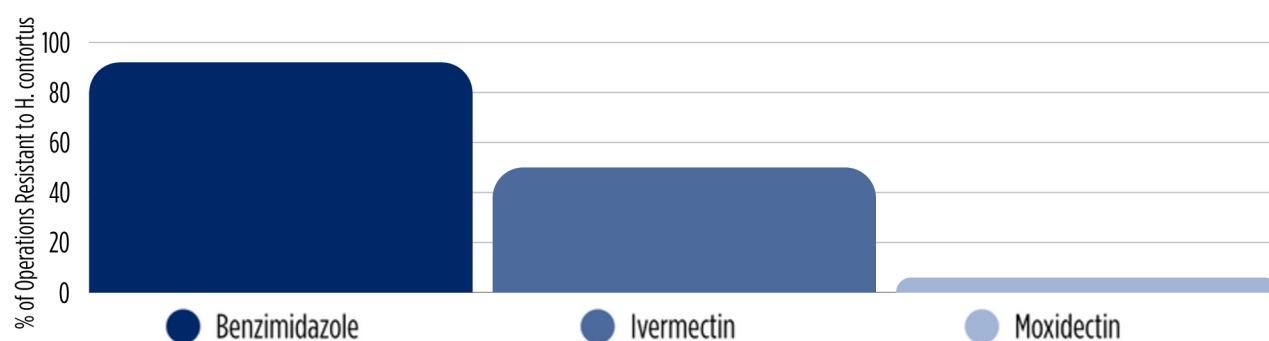
production, also have reduced immune function and can be significant sources of egg shedding onto pastures. Additionally, any sheep experiencing nutritional deficiencies, especially in protein and trace elements, may struggle to mount an effective immune response against parasites.



A lamb undergoes a FAMACHA® evaluation to assess anemia levels, a key indicator of parasite burden—especially from Barber Pole Worm (*Haemonchus contortus*)

Barber Pole Worm Resistance by Drug Class

Haemonchus Contortus (Barber pole worm) resistance within each drug class as observed by Stewart et al. (2020) who surveyed producers grazing under sub-irrigated and irrigated pastures in Montana (n=15), Wyoming (n=9), and Utah (n=1).



The Lifecycle of *Haemonchus contortus*

The barber pole worm has a short and highly productive lifecycle, allowing it to rapidly establish large populations in favorable conditions. Under ideal moisture and temperature conditions (between 50°F and 100°F), eggs hatch within a few days and develop into infective larvae (L3) within 5 to 7 days. Once ingested by grazing sheep, the larvae mature into adult worms in about 20 days, with females capable of producing 5,000–15,000 eggs per day. This rapid reproduction means that without intervention, parasite populations can build up quickly on pastures.

While *H. contortus* thrives in warm, moist conditions, its survival decreases in extreme cold or dry environments. Eggs and larvae are highly susceptible to desiccation, which limits their persistence on dryland pastures. In colder months, larvae may enter a dormant state (hypobiosis) within the sheep's digestive system, resuming development when environmental conditions become favorable in the spring.

Management Strategies to Reduce Production Losses

Pasture Management

Rotational grazing and pasture rest periods help disrupt the parasite lifecycle. Keeping stocking densities appropriate and avoiding overgrazing can reduce parasite exposure by minimizing the concentration of infective larvae.

Targeted Deworming and Refugia

Producers should work with their local veterinarian to develop a plan that works best for their operation. However, plans should consider targeted deworming by assessing signs of anemia. This can be conducted using the FAMACHA® scoring system which will allow a small population of parasites that have not been exposed to dewormers (called refugia) which can help slow resistance to dewormers. Another method to assess selective treatment in sheep is the Five Point Check © which assesses visual checkpoints (nose, eyes, jaw, body condition, and fecal soiling) that are associated with parasitic infections. Overuse of dewormers has led to resistance in *H. contortus* populations, making

some treatments less effective than they once were. Research from our lab group indicates that common white dewormers (known as Benzimidazoles) are mostly ineffective at controlling the barber pole worm (Table 1). Producers should work with their veterinarian and find a dewormer that is suitable or use a combination treatment (two or more dewormers administered at the same time) to treat affected animals.

Genetic Selection

Some sheep can tolerate *H. contortus* infections better than others. Sheep breeds like the Katahdin and St. Croix are known for their ability to tolerate internal parasites. However, within-breed selection can also be an effective tool for selecting animals that are less likely to develop severe infections from *H. contortus*. Fecal samples can be collected and fecal egg counts can be used to select for more tolerant animals.

Optimizing Nutrition

Providing adequate protein and trace minerals supports the immune system's ability to combat parasite infections.

Sheep with good nutritional status are better equipped to handle low to moderate parasite burdens without significant production losses.

Take Action

The barber pole worm poses a significant threat to sheep production in the Intermountain West, particularly in irrigated pastures and among high-risk sheep classes. By understanding the parasite's lifecycle and implementing integrated parasite management strategies, producers can reduce the impact of *H. contortus* in their flocks. Combining pasture management, targeted deworming, genetic selection, and proper nutrition will help maintain sheep health while minimizing economic losses due to internal parasites. Information on how to become FAMACHA certified and other information on the barber pole worm is provided by the American Consortium for Small Ruminant Parasite Control online at wormx.info.

QUICK FACTS:

- Lambs and lactating ewes are at highest risk for barber pole worm infections due to weaker immune responses.
- Irrigated pastures create conditions that greatly favor parasite survival and reproduction.
- Strategic use of FAMACHA® and Five Point Check© systems can help identify animals in need of treatment and reduce resistance to dewormers.



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Extension Sheep Program

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Sources:

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