



ATTRA Sustainable Agriculture

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Integrated Parasite Management: Train the Trainer Project

Why FAMACHA[®] Score?

The Barber Pole Worm is present throughout the United States and represents the greatest single intestinal parasite threat to small ruminants. In the arid West, irrigated pastures are breeding grounds for the Barber Pole. The Barber Pole Worm sucks blood from the abomasum in the ewe, ram, or lamb, causing it to become anemic. This anemic condition can be noted in mucosal tissue, especially the lower eyelid. FAMACHA[®] scoring quantifies the anemic condition, making it easy for producers to diagnose and treat only the infected animals, creating beneficial outcomes. Initially, FAMACHA[®] should be used in conjunction with a Fecal Egg Count (ask your veterinarian) to ascertain the species of worm involved. However, if you have anemia, you most likely have the Barber Pole Worm. Lambs and lactating ewes under stress are most susceptible. Be especially watchful for the health of weaned lambs!



Photo: Ken Kailing, GoodFood World

Use FAMACHA[®] to Create Parasite Refugia

- Unrestrained use of dewormers has caused Barber Pole Worm to develop resistance to all three classes of dewormers: Benzamidizoles, Ivermectins and Levamisoles.
- FAMACHA first!! Then get out the dewormer and treat only the sheep that are infected. This creates refugia, diluting the parasite genetic pool. If you only deworm those sheep that are exhibiting the symptoms of the infection and leave the others alone, both resistant and non-resistant worms can interbreed. Conversely, if you deworm all sheep, the only worms left to interbreed with each other are the real bad guys. You then create a population of the super worm, which is soon completely resistant to the dewormer.

How to Create Refugia Using FAMACHA[®]

- Treat sheep with a FAMACHA[®] score of 3, 4, or 5. Leave the others alone. Typically, you will treat 20 to 30% of the flock, which harbors 80% of the infection.
- Never turn treated animals into a clean pasture by themselves.
- Enter all animals scored into flock records for future reference and management.
- Score animals as needed. Every two weeks during the parasite season is recommended if you have less than 10% of the flock score 4 or 5. It may be necessary to FAMACHA[®] score weekly in periods of high infestation if more than 10% of the flock scores 4 or 5.
- Remember, once you take sheep off of pasture, there is a lag period of approximately one month in which they may still become anemic. Don't forget to keep monitoring. Consider suspending monitoring when you only have 2% of the flock scoring 3, 4, or 5.

The Practical Advantages of FAMACHA[®] Scoring

- Creating refugia increases the effective life of a dewormer.
- Because 70 to 80% of the infection typically resides in 20 to 30% of the flock, you will use much less dewormer.
- It will take you less time to deworm your sheep.
- With good facilities and some practice, two people (one scoring, one drenching) can score and deworm 125 to 150 sheep per hour.
- If you FAMACHA[®] score regularly, you will be able to identify infected individuals early, reducing production losses.
- Indirectly, FAMACHA[®] scoring can tell you if your dewormer is working. Treated sheep should show improvement in FAMACHA score within seven to 10 days after deworming. Use a Fecal Egg Count Reduction Test www.uaex.edu/publications/PDF/FSA-9608.pdf or DrenchRite Assay www.wormx.info/drenchrитеassay to confirm any suspicions of dewormer resistance.
- FAMACHA[®] scoring can be an early warning alert of significant Barber Pole Worm loads on your pastures. A large uptick in FAMACHA 3 and 4 scores should initiate appropriate measures to mitigate the threat.
 - Graze to control (see Tipsheet, Barber Pole Worm: Graze to Control).
 - Remove from pastures to feed stored feed, such as hay that is adequate in protein.
 - Move to dryland pastures, if available.
 - Graze fields that have been previously hayed.

Other Excellent Uses of FAMACHA[®] Scoring

- Selecting ewe-lamb replacements. Choose ewe lambs that score 1 and 2 throughout the pasture season.
- Selecting cull ewes. The economic value of any chronic 3 or 4 score ewe should be questioned. Remember, not only do they lessen the flock genetic resistance to the Barber Pole Worm, they are shedding millions of eggs onto your pasture. Do you need that?
- Selecting rams from your own flock or those that are bought. Select rams from 1 and 2 score dams and those that demonstrate 1 and 2 scores on your pasture.
- Screening for DrenchRite Assay testing. It has been our experience in 2017 Montana State University field research (unpublished), that in order to meet the DrenchRite Assay requirement of 500 eggs per gram, fecal samples must usually be taken from sheep that FAMACHA score 3 or 4. It is preferable to have at least one-third of the samples from 4-score animals.
- Imported sheep—inspect them before buying or, if already purchased, while in a two-week quarantine. Remember, when you buy sheep, you are *also* buying the parasites they harbor and the deworming regimen that they have been subjected to. Ask first. Don't buy resistance!
- See if you need to deworm at all.
 - Less than 45 days on pasture – you may not need to deworm—no infection yet.
- During the parasite season, whenever you have your hands on a ewe or lamb, FAMACHA[®] score it. Make that second nature. It will give you a mental picture of the Barber Pole Worm status in your flock.
- Sheep are not like cows. They have a high pain threshold and don't show the first signs of illness except by their behavior. Any sheep who does not have her eyes and ears directed to the shepherd is sick. FAMACHA[®] score any sick animal. On rainfall or irrigated pastures, the two greatest causes of sick sheep are parasites and pneumonia. An animal can be suffering from parasites, pneumonia, or both. Often, parasitic infection weakens the animal, predisposing it to pneumonia, or vice versa. It's easy to learn how to use a FAMACHA[®] card, a thermometer, and a stethoscope. You can be your own vet 80% of the time. Want to know what a healthy lung and pneumonia lung sound like? Check this: www.youtube.com/watch?v=z4Fu1udzrTw&index=4&list=PLLKXSV1ibO86qgE2y9cMqNFmh6LfOa8RM

Where Can I Learn How to FAMACHA[®] Score?

- Attend one of the Integrated Parasite Management workshops in Montana, Wyoming, or Utah in 2018 and 2019. Contact Dave Scott at 406-533-6642, or visit www.ncat.org/events
- See the American Consortium for Small Ruminant Parasite Control website www.wormx.info/workshops
- Complete the online FAMACHA[®] Course offered by the University of Rhode Island at <https://web.uri.edu/sheepgoat/famacha>

Related ATTRA Resources

Don't Let the Barber Pole Worm Devastate Your Flock, <https://attra.ncat.org/multimedia/ppt>

FAMACHA[®] Scoring Out West, www.youtube.com/watch?v=qk9vtCnbh4

Managing Internal Parasites in Sheep and Goats, <https://attra.ncat.org/attra-pub/summaries/summary.php?pub=215>

Managing Internal Parasites: Success Stories, <https://attra.ncat.org/attra-pub/summaries/summary.php?pub=493>

Tips for Preventing Internal Parasites, <https://attra.ncat.org/attra-pub/summaries/summary.php?pub=494>

Tips for Treating Internal Parasites, <https://attra.ncat.org/attra-pub/summaries/summary.php?pub=496>

Tips for Managing Internal Parasites, <https://attra.ncat.org/attra-pub/summaries/summary.php?pub=495>

Tipsheet: Organic Management of Internal and External Livestock Parasites, <https://attra.ncat.org/attra-pub/summaries/summary.php?pub=524>

Tools for Managing Internal Parasites in Sheep and Goats: Animal Selection, <https://attra.ncat.org/attra-pub/summaries/summary.php?pub=398>

Tools for Managing Internal Parasites in Sheep and Goats: Pasture Management, <https://attra.ncat.org/attra-pub/summaries/summary.php?pub=415>

Other Resources

American Consortium for Small Ruminant Parasite Control
www.wormx.info

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