

## **Educational Opportunities for Small Ruminant Producers in New England Essential Elements for Farm Visit Participation**

This project included a variety of hands-on educational opportunities for small ruminant producers in New England:

- Integrated Parasite Control/FAMACHA Training Workshops
- Comprehensive parasite control survey
- Farm visits
  - Evaluate the flock / herd for parasite infection
  - Determine the level of anthelmintic resistance on the farm
  - Parasite identification

Parasite control workshops. Parasite control workshops were held each year of the project (2010 – 2014). These workshops provided producers with the latest information and best management practices for whole farm parasite control. Topics covered included an overview of small ruminant parasites, biology of important gastrointestinal parasites, dewormers and drug resistance, integrated parasite control practices, and the FAMACHA© system including a hands-on demonstration. These workshops enabled participants to purchase a FAMACHA© card. Folders containing the comprehensive parasite control survey and educational resources and guidance documents were developed and distributed to each participant. On-going research updates were also presented. Due to producer interest and request, limited workshops on conducting fecal egg counts were also offered throughout the project.

In addition, one of the 2013 workshops was videotaped, edited and produced as a two hour video entitled, *Got Worms? Improving Small Ruminant Parasite Control in New England*. DVD copies were printed and distributed to project producers and their veterinarians in September 2013. In October 2014, two additional videos were produced to provide demonstration and information on FAMACHA© scoring and fecal egg counting. DVD copies were distributed to project producers and their veterinarians. Some of the original guidance documents on these topics were also revised into three fact sheets to accompany these videos. Also during 2014, a website was developed by URI to house information and resources for this and other small ruminant parasite control projects. The videos and workshop resources are available at <http://web.uri.edu/sheepngoat>. It was determined that videos and a website were needed in order to reach a larger number of producers who were unable or unwilling to travel to a workshop; and that project participants needed continued reinforcement on the principles of integrated parasite control.

Comprehensive Parasite Control Survey. This detailed survey was developed for small ruminant producers to identify their current (baseline) parasite control methods and issues including: use of chemical dewormers and basis for deworming decisions, current grazing practices, current breeding and culling practices, the use of alternative and integrated parasite control practices such as the FAMACHA© system, and the costs associated with chemical deworming and animal mortality due to severe parasite infections. This survey was administered using SurveyMonkey.com in both on-line and hard copy formats, and it was required in order to participate in the farm visit portion of this project.

A shorter follow-up survey was conducted with active producer farms each year to monitor changes in behavior, practices adopted, and other outcomes. This follow-up survey was conducted cumulatively (one year later; two years later; and three years later) after their farm visit.

Farm visits. Small ruminant producers residing in CT, MA, RI and VT were eligible to participate in the farm visit program (2010 - 2012). Limited farm visits were offered in 2013.

The objectives of the farm visits were three fold:

- 1) Evaluate the flock/herd for parasite infection. At the first farm visit animals were evaluated for parasite infection including: weighing each animal, FAMACHA scoring, Body Condition Scoring, and determining the presence or absence of diarrhea. A rectal fecal sample was collected (to conduct a fecal egg count test) followed by deworming on those animals suspected of harboring a significant parasite load as indicated by either an elevated FAMACHA<sup>®</sup> score (young animals  $\geq 3$ ; adults  $\geq 4$ ), low body condition score (BCS) and/or the presence of diarrhea. The producer provided current, properly stored anthelmintics for deworming. Dewormers were administered (drenches preferred) using the appropriate dosage (ACSRPC dewormer charts were provided) and following proper technique. A livestock scale was brought to each farm for accurate weight determinations for dosage calculations. The importance of tracking this information (FAMACHA, BCS, diarrhea) every two weeks during parasite season was stressed to each producer. Templates for record keeping (paper and/or electronic) were provided at the farm visits and at the workshops.
- 2) Determine the level of anthelmintic resistance on the farm. For interested producers, the fecal egg count reduction test (FECR) was utilized to determine the degree of anthelmintic resistance to the dewormers currently in use on the farm by collecting fecal samples from and then immediately deworming at least 6 to 15 sheep/goats on the first farm visit. Ten to 14 days later, fecal samples were collected from all animals that were dewormed on the first farm visit. This follow-up FEC was used to determine the degree of parasite resistance present to the dewormer that was used. To test the efficacy of a dewormer, there needed to be at least 6 animals with a FEC of  $>150$  eggs/gram from the first farm visit. If there were not at least 6 animals with a FEC of  $>150$  on the first farm visit there was no need for a second farm visit as the results would be considered unreliable.
- 3) Parasite identification. One composite fecal culture per farm was prepared and analyzed to identify the gastrointestinal nematodes present on each farm.

Producers were not charged for the farm visits. A detailed report of all farm visit results was sent to each producer with recommendations and notes where applicable.

Criteria to be met prior to first farm visit:

1. All sheep and goats must be individually identified, e.g., ear tag, neck chain.
2. In order for the results to be reliable, farm visits cannot occur until 6 to 8 weeks after any previous farm de-wormings.

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3. All animals must be penned 2-3 hours prior to arrival to give them time to settle. As many animals defecate during handling this delay (2 – 3 hrs) will facilitate the collection of fecal samples.
4. The FAMACHA scoring on the first visit needs to be conducted in **direct light** (not in a barn) so weather can play a role in the visitation schedule. If the day is extremely dark it will be necessary to reschedule the first farm visit. *The weather will not affect the second visit as only fecal samples will be taken.*
5. Anthelmintics
  - a. Producers should have enough anthelmintic on hand to treat at least 50% of their animals.
  - b. Liquid drenches should be used.
  - c. Anthelmintics used must be dosed according to project protocol based on animal weight.
  - d. Anthelmintics must have been properly stored and not have exceeded the expiration date.

**For more information about this project, visit our website, <http://web.uri.edu/sheepngoat>**

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