

Development of an Online FAMACHA® Certification Program

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Introduction

The barber pole worm (*Haemonchus contortus*) is the most economically important parasite affecting small ruminant production on pasture and the most common cause of anemia during the grazing season. The FAMACHA® system is a critical tool that allows small ruminant producers to make deworming decisions based on an estimate of the level of anemia associated with *H. contortus* infection. Selective deworming minimizes drug use and slows the rate of development of drug resistant parasite populations including *H. contortus* and other gastrointestinal nematode worms. It can also aid in selective breeding decisions by identifying those animals that are most susceptible to haemonchosis.

The FAMACHA® system was developed in South Africa. Farmers and non-veterinarians in the USA must attend a training workshop in order to obtain a Certificate of Competence to qualify them for purchase and use of the necessary FAMACHA® card. Many stakeholders are constrained by busy schedules and financial circumstances that prohibit them from traveling long distances and/or committing a minimum half-day to attend a training workshop. In response to the need for a self-paced training option for obtaining FAMACHA® certification, the University of Rhode Island, in partnership with the American Consortium for Small Ruminant Parasite Control (ACSRPC), has developed an online FAMACHA® Certification program which includes the use of online training videos and assessment as well as stakeholder production of a video to demonstrate proper FAMACHA® technique.

Methods

Development of online training program resources

Northeast Small Ruminant Parasite Control Website, <http://web.uri.edu/sheepngoat>, informational videos and fact sheets on Integrated Small Ruminant Parasite Control and FAMACHA® scoring. Videos can also be viewed on YouTube.com.

Developed 4-step process for Online FAMACHA® Certification

1. View two required informational videos on Integrated Parasite Control and FAMACHA® scoring.
2. Complete an online assessment consisting of 10 questions and additional program evaluation.
3. Record and send project staff a video that shows the participant performing the FAMACHA® scoring technique.
4. Follow up with project staff primarily through email to discuss and ensure learning and proper technique.



Proper FAMACHA® scoring technique includes exposing the lower eye mucous membranes and matching them to the equivalent color on the FAMACHA® card.

1. **COVER** the eye by rolling the upper eyelid down over the eyeball.
2. **PUSH** down on the eyeball until the eyelashes curl up over your thumb.
3. **PULL** down the lower eyelid.
4. **POP!** The mucous membranes will pop into view. Make sure that you do not score the inner surface of the lower eyelid, but rather score the bed of mucous membranes.

Program outreach and advertising

The program is advertised to small ruminant producer groups and organizations, university Extension agents and veterinarians in the USA through email announcements, newsletters, post cards, websites, Facebook pages, and at workshops and events.

Program evaluation and data collection

- A program evaluation immediately following the online assessment, and an annual follow up survey are administered to all program participants to track program effectiveness, current parasite problems, and adoption of parasite control practices.
- Google Analytics is used to track website usage including ways that visitors enter the site.

Training Program Participants - FAMACHA® Scoring Demonstration Videos



Figure 1. Program Participants record and send project staff a video performing the proper FAMACHA® scoring technique. Instructions request that a "mock" FAMACHA® card be made out of index card with a red line to allow practice in holding a card and comparing the eye membrane color.



Acknowledgements

This project is supported by the College of Environment and Life Sciences, Department of Fisheries, Animal and Veterinary Science, University of Rhode Island. Funding is provided by the USDA National Institute of Food and Agriculture (NIFA) Northeast Sustainable Agriculture Research and Education (NESARE) Program Project LNE15-342 and USDA NIFA Hatch Project 1007290.



Results

Online FAMACHA Certification Program Participation

Since inception, March 2016 through July 31, 2019 (for data summary purposes):

- 333 participants from 43 U.S. States and 6 Canadian provinces have started the program with 213 participants completing it and receiving certification (64%). These numbers grow weekly.

Time to completion (213 participants): Project staff typically respond to requests in 1 to 3 days. Participants take an average of 33 days to complete the training (range 1 to 349 days).

Interest and participation has expanded to include facilitated group class participation to further assist those with technology challenges and that prefer group workshop learning. Three group facilitated classes have been conducted with 30 individuals being certified. In addition, video resources are being incorporated into veterinary school curricula.

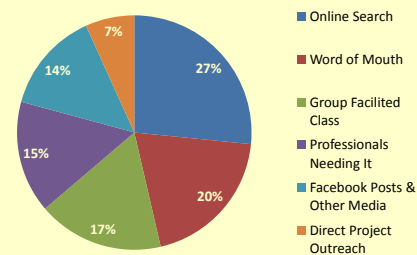


Figure 2: How Participants Heard About The Program
Based on 207 participant responses.

Challenges for completing the online certification program:

- Participants lack time and generally need assistance with animal handling and filming their required video.
- Participants fail to read the instructions and understand the full scope of the requirements upon initiating training.
- Participants are interested but lack need or incentive to complete training due to having no animals or limited problem with *H. contortus*. This includes professionals and veterinarians.

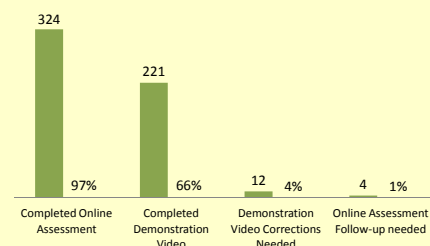


Figure 3: Program Components and Completion

333 participants have initiated training and 213 have completed it (64%) as of July 31, 2019.

Other Program Impacts

- 237 participants (73%) indicated plans to adopt at least one new parasite control practice.
- 89 out of 93 participants (96%) have adopted or improved at least 1 practice, with 2 participants being students and professionals with no animals but increased knowledge.
- The program website has been visited by 22,893 new users from 153 countries (89% from the USA and Canada).
- The webpage housing the online FAMACHA® certification instructions has received 29,325 unique page views from 22 countries (95% from the USA and Canada).
- The 2-hour video on integrated parasite control has had over 6,700 views (since Feb. 2016) and the FAMACHA® scoring video has had over 24,000 views (since Oct. 2014) on YouTube.com.

Future Plans

Additional funding through the U.S. Department of Agriculture has been obtained to continue this program. The informational videos will be updated and refined and a Spanish language version will be produced. Group facilitated classes will also be promoted to further reach underserved audiences with technology challenges and that prefer group workshop learning.

International Interest

To date, farmers, veterinarians and other professionals from 15 countries and regions outside the U.S. and Canada have requested general information or participation in this program. An international contact for more information and assistance is provided.