

FAMACHA – Where Does it Fit in to a Sustainable Integrated Parasite Control (sIPC) Program

Roselen Marcy

In recent years, anthelmintic resistance has become a major issue for sheep producers worldwide. The worming techniques of the past have created a serious problem and in response to this, many producers are looking for alternative worming techniques.

The FAMACHA system was developed in South Africa with the intent of helping producers to quickly identify animals that need treatment and more importantly, animals that DO NOT need treatment. There are several very important points to understand when investigating the FAMACHA system.

1. It is only designed as a tool to diagnose infestations of *Haemonchus contortus* (Barber Pole worms)
2. It should only be used as one tool in a sIPC program
3. When using the FAMACHA system, animals are allowed to become clinically anemic (i.e. sick) prior to worming so it is imperative that when you do worm, an effective wormer is used.

The basic principle of the FAMACHA system is that *H. contortus*, being a bloodsucking parasite will with severe infections cause mild to marked anemia. By examining the inside of the animal's lower eyelids (conjunctiva), one can roughly judge by the colour, the severity of anemia and therefore the probable worm infestation. If the eyelids are pink, the animal does not require treatment for *H. contortus* infestation. If the eyelids are white, the program advises that the animal should be treated with an effective anthelmintic immediately.

Unfortunately it's not always as simple as that. As seen in Figure 1, the FAMACHA Anemia guide has five different stages - 1 being the best and 5 being the worst. It is important to note that an infestation of *H. contortus* is not the only possible cause of anemia; Hookworms, Liver Fluke, infections and nutritional deficiencies can all be causes of anemia. A recent study of gastrointestinal parasitism in Ontario and Quebec sheep flocks found a very poor correlation between the actual level

of anemia in the animals and the FAMACHA score (<10%). There are many reasons for this and so FAMACHA scores must be used with extreme caution if

selecting animals for treatment. It should not be used alone when monitoring the flock for parasites. Fecal eggs counts should also be monitored, particularly at high risk times (e.g. mid-summer).



Figure 1

As previously mentioned, the FAMACHA test is only effective in detecting infection with *Haemonchus contortus* and not other important nematode parasites. *Hemonchus* thrives in heat and humidity and therefore, in order for the FAMACHA system to be most accurate, flocks should be examined every 2 – 3 weeks by a properly trained person. It may be necessary to monitor the flock more frequently in warm wet weather. It is also important that the entire flock is examined. Since 20 – 30% of the flock can carry 70 – 80% of the worm load, checking 2 or three animals in the flock simply will not give you an accurate idea of whether you need to worm or not.

The quality of the FAMACHA guide card is also important. It should be an original card, not a photo copy or print out. It should be replaced yearly and kept out of the sun when not in use.

Continued on page 11.

There are three Small Ruminant Internal Parasite Seminars being offered in March and May. This is an excellent opportunity to learn more about Diagnosing Gastrointestinal Parasitism, Anthelmintic Resistance and creating a sustainable Parasite Control Program. The dates for the seminars are as follows: March 20th in Floradale, March 29th in Napanee and May 2nd in New Liskeard. More information about these seminars can be found on the OSMA Website at www.ontariosheep.org. To register, please call 1-877-424-1300. The cost of registration is \$35.00 + HST before March 12 and \$50.00 +HST after March 12. This price includes lunch.

Schmallenberg Virus in Europe

Message from CFIA

The Canadian Food Inspection Agency (CFIA) is closely monitoring the emergence of the Schmallenberg virus in ruminant livestock in Europe.

Based on what is known about this virus, and what we know about similar viruses, there does not appear to be any immediate danger to Canadian livestock. As well, there is no evidence to date that indicates the virus is associated with any human illness.

Canada does not allow live cattle, sheep or goats to be imported from Europe.

To allow for a harmonized response, the CFIA is working with US officials to gather information and assess the situation. The CFIA will also seek input from provincial and territorial governments and the livestock industry.

More information will be shared as it becomes available.

The Schmallenberg virus belongs to a group of viruses that is transmitted by vectors (that is, ticks, midges and

biting flies). This makes direct animal-to-animal transmission unlikely. In Europe, it appears to be causing non-specific symptoms (fever, diarrhea, reduced milk yield, etc.) and birth defects in ruminants.



Born dead with abnormally flexed deformed legs and a twisted spine.

For more information on the Schmallenberg virus and the situation in Europe, visit http://ec.europa.eu/food/animal/diseases/schmallenberg_virus/index_en.htm or you can go to <http://www.defra.gov.uk/ahvla/news/> for continuing updates and the number of animals affected. **OSN**

Continued from page 10 -FAMACHA

It is of utmost importance to understand the limitations of the FAMACHA system and to obtain proper training before using it a diagnostic tool. The effects of improper use can be both disappointing and devastating. This article is meant to be for informational purposes only.

Paula Menzies, Small Ruminant Research Coordinator at the University of Guelph says this about the FAMACHA System:

“FAMACHA was developed in South Africa where inputs are low and labour is cheap. It is used in high seasonal rainfall areas where *Haemonchus* is the predominant parasite. It is also used in South Eastern USA, where flock sizes are small and again *Haemonchus* is the predominant parasite. Our study of its use in Ontario Flocks was not encouraging, with a very poor prediction of anemia – although anemia was rare in our study, meaning that almost all sheep that were classified as anemic by FAMACHA, were actually OK. But that is likely because in Ontario, *Haemonchus* is not the important parasite at many times of the year. We know that most *Haemonchus* cases occur in the late summer, but only

in years with high rainfall and warm temperatures – cool wet summers or hot dry summers, we don't see it as often.[...] So while FAMACHA likely has a role, it is not useful in all flocks at all times of the year. Perhaps in sheep first year at pasture, late July to end of August – if performed to the whole at-risk portion of the flock every 2 weeks. But also remember that by the time the sheep is anemic, it is clinically very ill so FAMACHA should not replace a sustainable integrated control program.” **OSN**

Sources

Dr. Ray M. Kaplan, University of Georgia, College of Veterinary Medicine. Open letter to sheep and goat producers regarding the FAMACHA Program. 7 February 2012 <<http://www.scsrpc.org/SCSRPC/Files/FAMACHA%20response%20to%20requests%20from%20producers%20v5.pdf>>.

FAMACHA. 7 February 2012 <<http://www.vet.utk.edu/departments/LACS/pdf/FAMACHA.pdf>>.

Haemonchus contortus and the FAMACHA system. 2 February 2012 <<http://www.smallstock.info/tools/disease-nutrition/FAMACHA.htm>>.

Rory Lewandowski, Extension Educator, Athens County and Buckeye Hills EERA. Use FAMACHA Correctly. 16 June 2010. 30 January 2012 <<http://sheep.osu.edu/2010/06/16/373/>>.

Menzies, Paula. “Re: FAMACHA.” Email to C. Kennedy. 13 June 2011