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Popular Article

FAMACHA chart and its utility

Vikrant Sudan*, Deepak Sumbria, Rabjot Kour

Department of Veterinary Parasitology, College of Veterinary Science,
Guru Angad Dev Veterinary and Animal Sciences University,
Rampura Phul, Bathinda Punjab, India
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Abstract

In veterinary science, the FAMACHA chart is a useful tool for determining the degree of anaemia brought on by internal parasites, mainly gastrointestinal parasites like *Haemonchus contortus*, also referred to as the barber pole worm, in small ruminants such as sheep and goats. In small ruminant production systems, anaemia brought on by these parasites might pose a serious threat and also lead to economic losses. By comparing the colour of the animal's lower eyelid mucous membranes to the colours on the FAMACHA chart, farmers and veterinarians can make use of this useful tool. Treatment for a parasite infection may be necessary if an animal's mucous membranes are pale or white, which indicates moderate to severe anaemia.

Introduction

Goats and sheep are highly susceptible to heavy infections of *Haemonchus contortus*, commonly known as the barber pole worm, leading to significant economic losses for farmers. The parasitic infection results in severe consequences such as anaemia, bottle jaw, diarrhoea, reduced production, diminished wool growth, and even fatalities in animals. While anthelmintic medications are the primary method of control, indiscriminate use poses the risk of drug resistance. To address this issue, a targeted and specific treatment approach is essential. Given that these parasites primarily induce anaemic conditions, adopting the FAMACHA anaemia colour chart for drug administration is crucial in order to prevent the misuse of anthelmintics and curb the development of drug resistance. The FAMACHA system plays a crucial role in targeted deworming, reducing the reliance on dewormers and mitigating the acceleration of drug-resistant parasite populations. Additionally, the FAMACHA system facilitates informed breeding decisions by pinpointing animals that are particularly vulnerable to barber pole worm infections.

Originating in South Africa, FAMACHA, an acronym derived from the name of its



creator, South African scientist Dr. Faffa Malan, has been developed as a method for assessing the anaemic condition of animals caused by haemonchosis. This technique involves evaluating the colour of the conjunctival mucous membranes, specifically the lower eyelid. In a healthy animal, these membranes exhibit a deep red hue, while heavily parasitized animals typically display a pale or white coloration. Scores are assigned based on the colour of the mucous membrane, providing an indication of the level of anaemia present.

Score	Colour of membrane	Expected condition of animal
1	Deep red	Non anaemic
2	Reddish pink	Non anaemic
3	Pink	Slightly anaemic
4	Pinkish white	Anaemic
5	White	Severely anaemic

General guidelines to be followed while using the FAMACHA card:

- Examine the animal's eye in natural light, directly comparing its colour to the FAMACHA chart.
- Utilize the same chart consistently for all animals within the same flock.
- Conduct the analysis swiftly, as prolonged exposure can intensify the redness of mucous membranes.
- Evaluate both eyes and record the higher score.
- Store the card in a dark place when not in use to prevent colour fading, and replace it annually.

Steps involved in FAMACHA card reading:

- Gently expose the lower eye mucous membrane using a gloved finger and compare its colour to the reference on the card.
- Roll the upper eyelid down over the eyeball to cover the eye.
- Apply downward pressure to the eye, ensuring enough force to observe the eyelashes of the upper eyelid curling over your thumb.
- Proceed to pull down the lower eyelid, revealing the mucous membranes. Exercise caution to avoid scoring the inner surface of the lower eyelid and instead score the bed of mucous membranes.

Analysis of FAMACHA chart:

- Administer deworming medication to sheep and goats scoring 4 or 5 on the FAMACHA chart.



- Animals scoring 1 or 2 generally do not require deworming, unless there are other signs of parasitic diseases such as diarrhoea, poor body condition, a dull hair coat, or abnormal fleece.
- For animals with a score of 3, contemplate deworming if: more than 10% of the flock/herd scores 4 or 5, lambs, kids, pregnant or lactating ewes/does are involved (usually recommended), or if animals are in poor body condition.



Fig 1 :Adult *Haemonchus contortus* worm

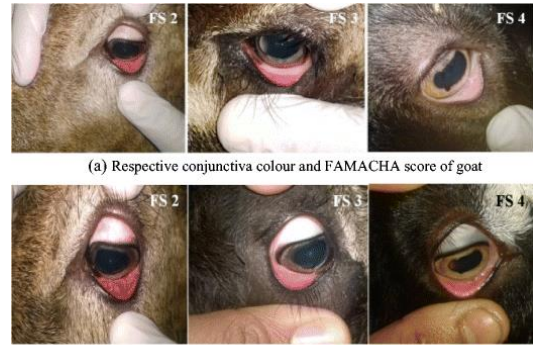


Fig 2: Respective conjunctiva colour and FAMACHA score of animals

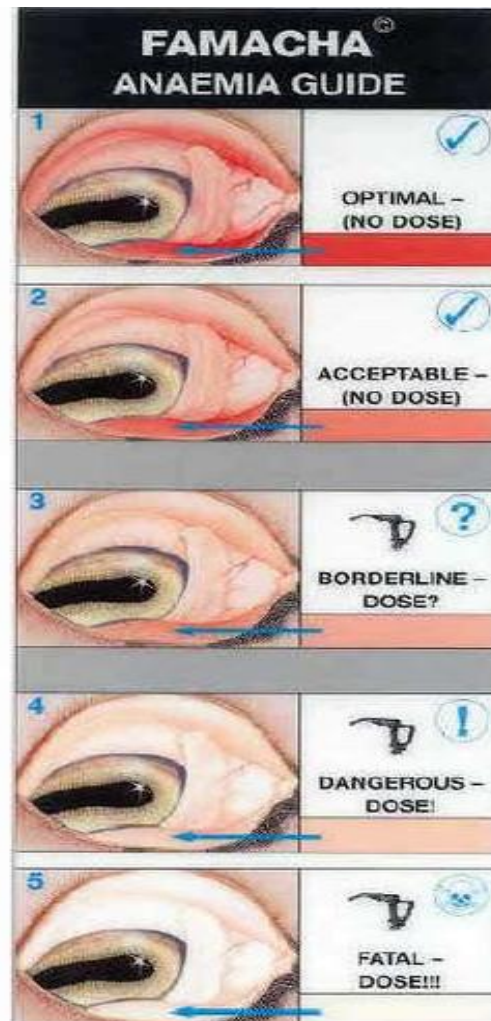


Fig 3: FAMACHA card



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