

## An Eye Test for Barber Pole Worm – *Haemonchus contortus*

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Mendocino & Lake Counties



# Famacha Eye Color Test

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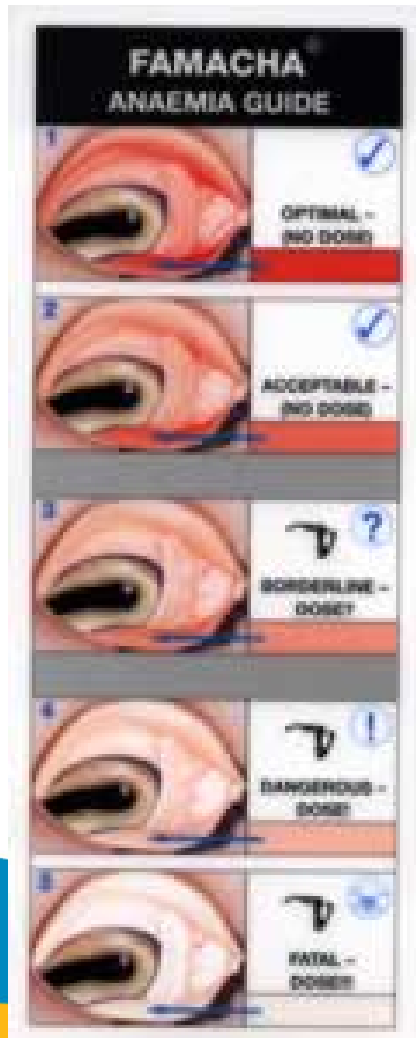


# Objectives

- What is FAMACHA?
- Who developed it?
- Where to use it?
- Why use it?
- How to use it?
- When to use?



# What is the FAMACHA Test?



- ◆ Plastic card with 5 high-resolution photos
- ◆ Eyes of infected goats and sheep
- ◆ Shade of redness inside eyelids
- ◆ Different stages of Barber Pole worm infection
- ◆ Numerically designates each stage of anemia

# Who Developed FAMACHA

- ◆ Francois “Fafa” Malan
  - ◆ South African livestock parasitologist
- ◆ Joan Burke (ARS)
- ◆ Southern Consortium for Small Ruminant Parasite Control (SCSRPC)
- ◆ Resistance to anthelmintics



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# Where to Use FAMACHA

- Only used for Barber Pole Worm infestation
- Blood-sucking parasite
- Infects both goats & sheep
- Rapid assessment
- Prior to fecal egg counts





# Barber Pole Worm

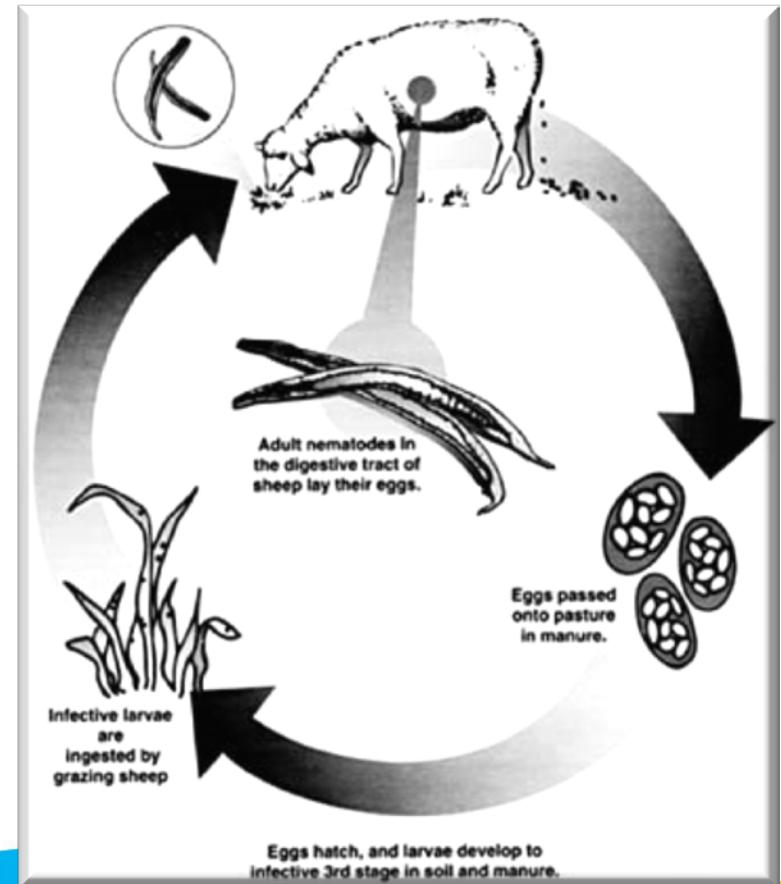
## a.k.a. *Haemonchus contortus*

- ◆ Most deadly internal parasite of sheep & goats
- ◆ Causes severe anemia
- ◆ Symptoms
  - ◆ Stamina loss
  - ◆ Pale gums
  - ◆ Conjunctiva
  - ◆ Bottle-jaw
  - ◆ >10,000 epg
- ◆ Production loss
  - ◆ 500-2000 epg
  - ◆ Reduced weight gain - 30%
  - ◆ Reduced milk production – 30%
  - ◆ Reduced growth
  - ◆ Reduced wool growth – 10%



# Life Cycle

- ◆ 21 days to complete
- ◆ L3 stage ingested from grass
- ◆ Travel to abomasum
  - ◆ Two paths
    - ◆ Hypobiosis – arrested state
    - ◆ Molt to L4 then to adults
  - ◆ Adults lay eggs ~ 14 days
    - ◆ 5,000 per day
- ◆ Eggs expelled via feces
  - ◆ Larvae hatch from egg emerge from pellets
  - ◆ Move through L1, L2, to L3
  - ◆ L3 leave pellet and climb up grass blade
  - ◆ Warm, wet conditions optimal



# Blood Loss/Day X Egg Count

<b>Worm egg count (epg)</b>	<b>Est. Worm numbers</b>	<b>Est. blood loss/day</b>
100	20	1ml
500	100	5ml
1000	200	10ml
2000	400	20ml
3000	600	30ml
5000	1000	50ml

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# Why Use FAMACHA?

- ◆ Becoming resistant to dewormers
- ◆ Selectively deworming decreases development of resistance
- ◆ Resistance and resilience are moderately heritable
- ◆ Reduces costs by treating only those animals that need it
- ◆ Culling animals creates a flock that is more resistant and resilient
- ◆ Treatment is done before symptoms become severe
- ◆ Done during other management – e.g. condition scoring



# How to Use FAMACHA

- ◆ Pull open the eyelid
- ◆ Compare with photo chart
- ◆ Record score
  - ◆ 1 = Optimal - No dose ✓
  - ◆ 2 = Acceptable – No dose ✓
  - ◆ 3 = Borderline – Maybe ?
  - ◆ 4 = Dangerous – Dose !
  - ◆ 5 = Fatal – Dose ☠
- ◆ Treat accordingly
- ◆ Rescore in a week or so
- ◆ Use in conjunction with fecal egg counts
  - ◆ Other diseases cause anemia
  - ◆ Sometimes eye membranes appear redder than expected
  - ◆ Critical to use an effective dewormer
- ◆ Always use the chart not memory
- ◆ Protect card from light when not in use
- ◆ Replace the card after 1 year of use



# When to Use FAMACHA

- ◆ Spring or several weeks prior to lambing/kidding
  - ◆ Every 2-3 weeks
- ◆ During warm wet weather
  - ◆ More frequently may be needed, even weekly
- ◆ Ewes & does have decreased immunity to worms during periparturient period
- ◆ Refer to the FAMACHA guide during inspections
  - ◆ Don't rely on memory from previous exams
  - ◆ Don't just use the card – the guide offers more directions for making treatment decisions



# Great, I want one!

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