

Dr. Frank Craddock

Professor & Extension Sheep and Goat
Specialist

Texas A&M University
Agricultural Research & Extension Center

San Angelo, Texas

INTERNAL PARASITE MANAGEMENT

SIGNS OF INTERNAL PARASITE INFECTION

Acute anemia

Edema (bottle jaw)

Weak and listless behavior

Diarrhea

Death

Diarrhea



“Sick” look



Swelling in throat area (bottle jaw)



Photo Courtesy "Goatmom" - Copyright 2002 - GoatWorld.com

Pale Membranes



HAEMONCHUS CONTORTUS

Hypobiosis

Strategic treatment

Effective anthelmintic

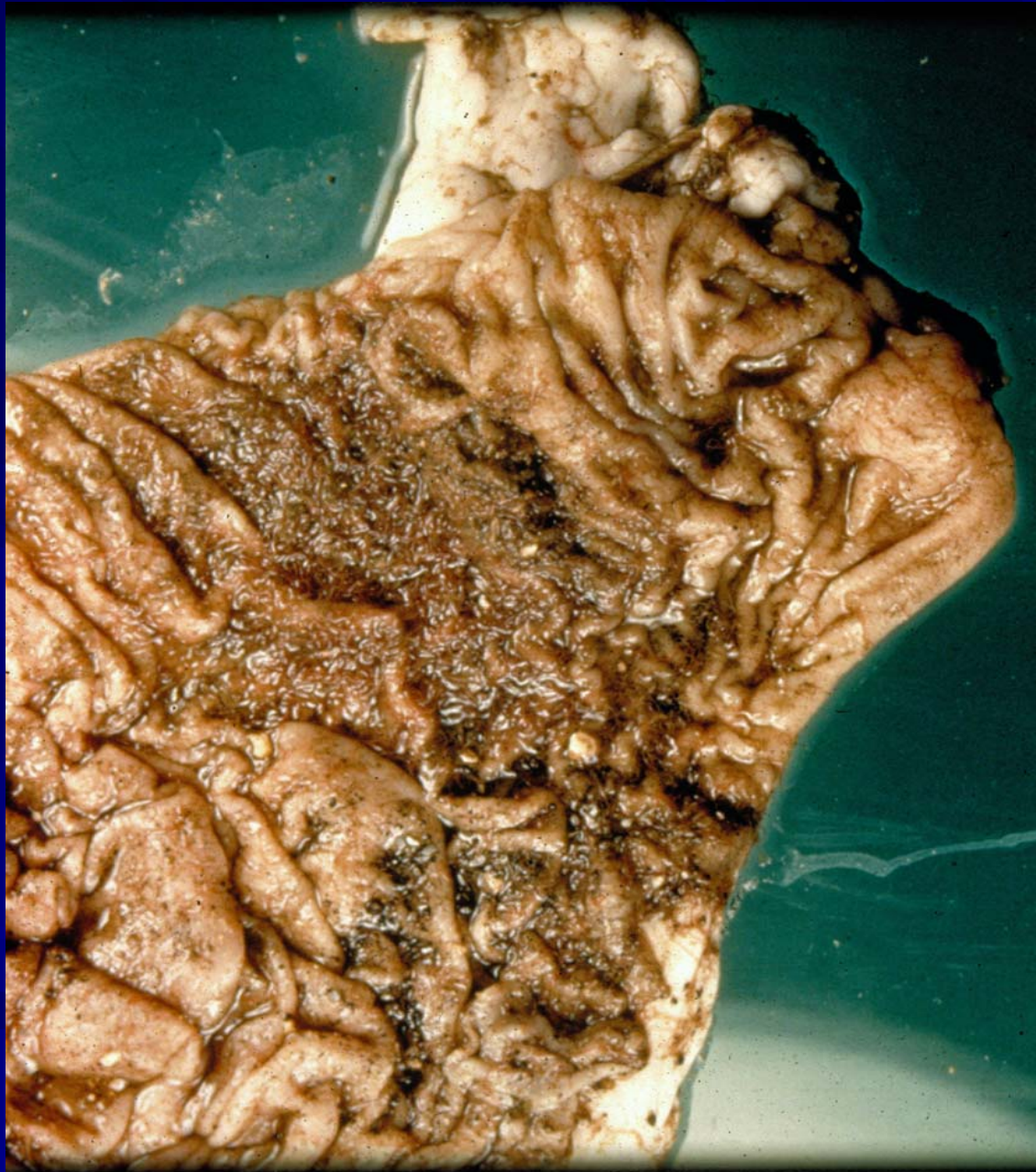
(Ivomec)

(Valbazen)

(Safe Guard, Panacur)

(Synanthic, Benzelmin)

Fecal egg counting





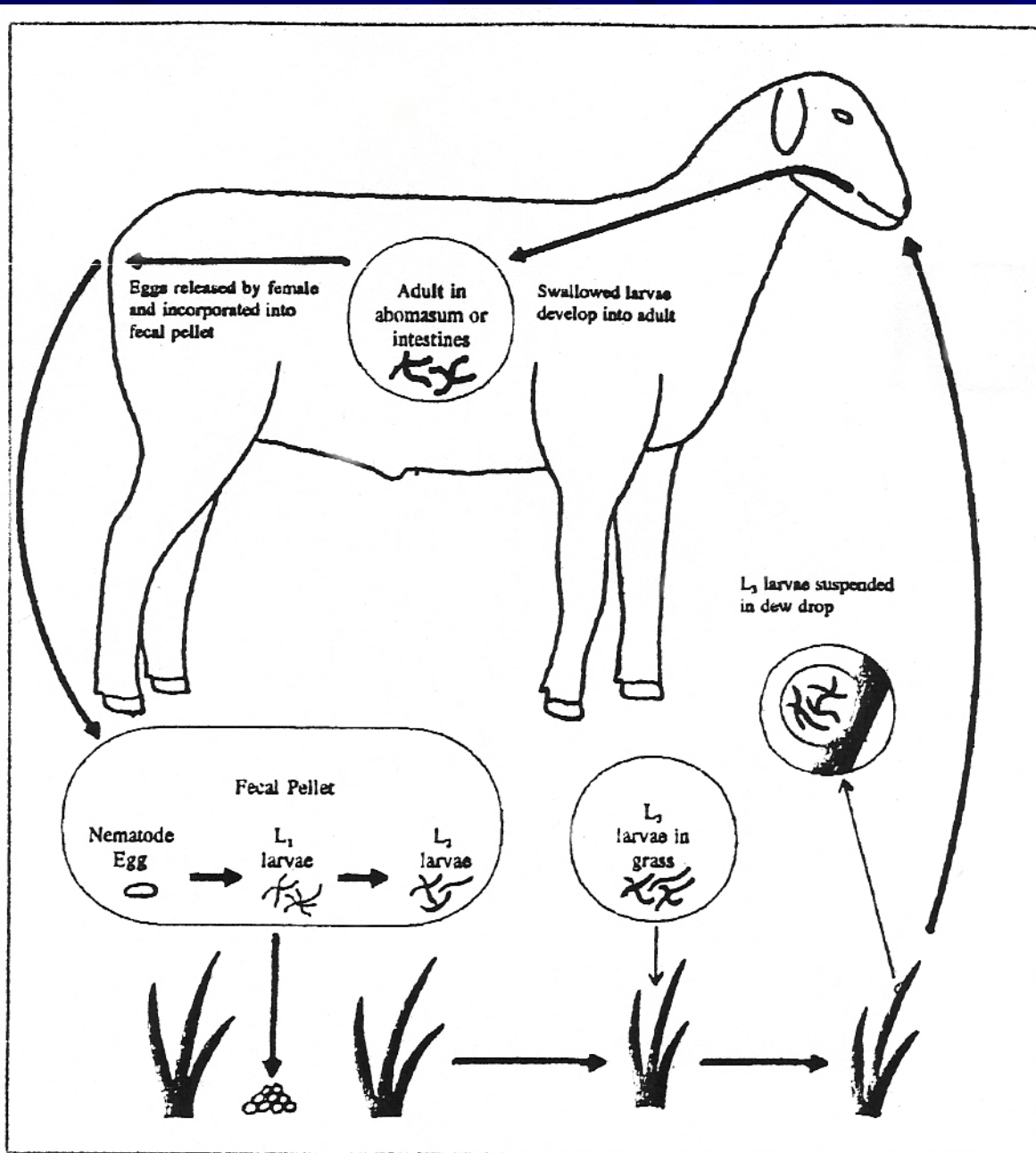


Figure 1. Life cycle of *Haemonchus contortus*

Internal Parasite Management Strategies

Strategy

Scenario

Strategic	winter treatment
Tactical	counts increasing, not critical
Periodic	in the pen or by the calendar
Suppressive	every 3 weeks
Salvage	save lives

Strategic Treatment

Early February Vs Late June

Time of year	% parasite population in host	% parasite population on pasture	Size of population
February	95	5	1
June	5	95	10,000

CAUSES OF ANTHELMINTIC RESISTANCE

Insufficient dose

- heaviest animal
- calibrate equipment

Inappropriate route

- oral dose
- subcutaneous injection

Failure to treat animals

Massive re-exposure

- not rotating pastures
- wait 24 hours before turning onto new pasture
- rest pastures
- use cultivated land

Ineffective drug

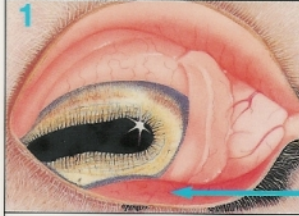

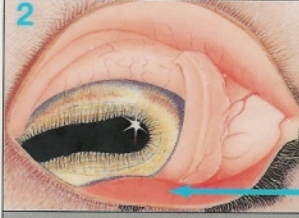

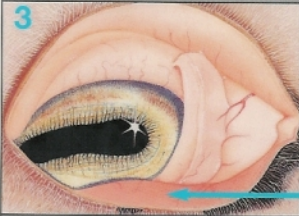

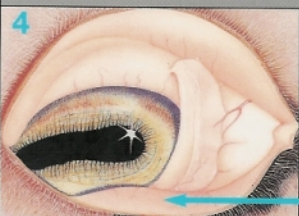

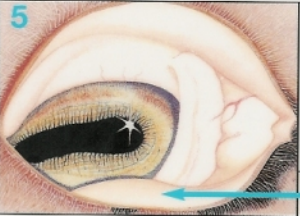

Treating too often

FAMACHA (South Africa)

- Drug Resistance – over use of dewormers
- Many are able to withstand unfavorable effects of *Haemonchus*, some can not
- Resistance – ability to prevent or suppress infection
- Resilience – ability to withstand effects of parasites
- Resistance & Resilience – moderately heritable
- Thus, can cull or select for these traits
- Anemia detection – eyelids
- Treat extremely anemic, cull repeaters

FAMACHA[®]

ANAEMIA GUIDE

1		 OPTIMAL – (NO DOSE)
2		 ACCEPTABLE – (NO DOSE)
3		 BORDERLINE – DOSE?
4		 DANGEROUS – DOSE!
5		 FATAL – DOSE!!!

Anthelmintics

Benzimidazoles - TBZ, *Panacur/Safe Guard#,
*Synanthic/Benzelmin,
Valbazen+, Telmin, Anthelcide

Imidothaizole - Tramisol, Levasole

Avermectin - *Ivomec, *Dectomax

Mibymycin - *Cydectin

* effective against inhibited larvae

2X dose to kill inhibited larvae

+ reproductive concern

Collecting Fecal Samples

- Minimum of 3 individual samples per pasture, flock, ranch, etc.
- Samples must be fresh: warm, moist and soft
- Keep samples cool, not frozen, until analysis

Parasite Treatment Thresholds

Lambs

Ewes

Kids

Does

Greenup – July 4	500	1000
July 4 – Frost	1000	2000

(eggs per gram)

Successfully Managing Internal Parasites

1. Fecal egg counts
2. Appropriate compound
3. Appropriate dose
4. Appropriate route
5. Treat every animal
6. Fecal egg counts

Compare 1 vs. 6

Need: $\geq 90\%$ reduction

Target: 95 % reduction





VABAZEN[®]
(brand of Albendazole)
**Broad-Spectrum
Cattle Dewormer**
Oral Suspension for Use in Cattle

Controls:
Stomach Worms
Including six stage inhibited
larvae of Oesophagostomum
Intestinal Worms
Lungworms
Tapeworms
Mature Liver Fluke

1 L/33.8 fl oz (1 qt 1.8 fl oz)
NADA #110-046, Approved by FDA
SIB SmithKline Beecham

MERCK Product 41268

ivomec[®]
(ivermectin)
Drench for Sheep
0.08% Solution

Parasiticide
For the Treatment and Control of
Worms and Bots of Sheep

415-100 lb Doses
1.268 GALLONS (5.07 QUARTS) 4800 mL 8670104

**DOUBLE
IMPACT[®]**
INJECTION
50 mL

NADA 141-075, 175
Synanthic[®]
OXFENDAZOLE
Bovine Dewormer Suspension, 9.06%
For Animal Use Only

NET CONTENT: 1000 mL (one liter)
(Weighs 88 cattle weighing approximately 900 lbs each)
NADA 141-075, Approved by FDA

Internal Parasite Management and Nutrition

- No wormer claims efficacy against hollow belly
- Poor nutrition status makes worms worse
- Good body condition is an excellent buffer

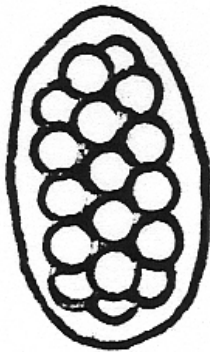
MICROSCOPE ESSENTIALS

- 10X eyepiece, 10X lens = 100 magnification
- Light source
- Mechanical stage
- Cost: \$300 - \$500

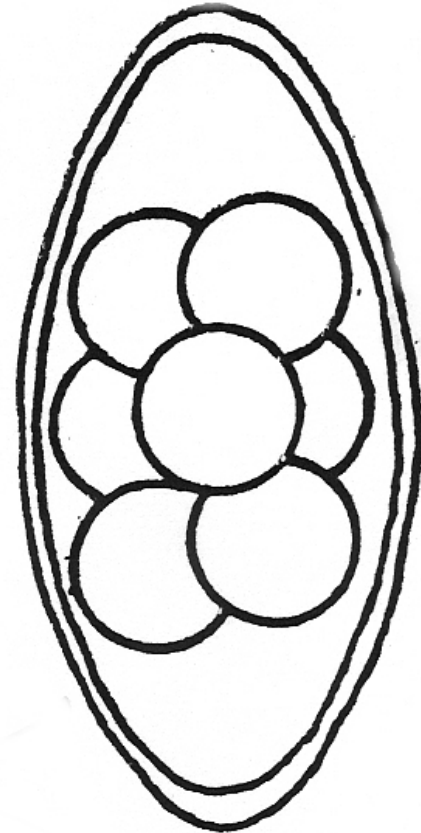
Common Parasite eggs and oocysts found
in sheep and goat feces.



Coccidia
oocyst

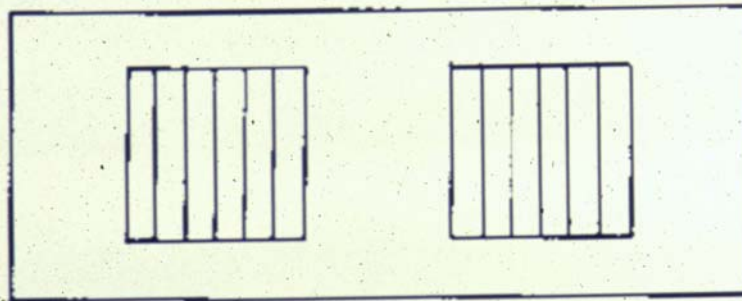


Haemonchus
contortus

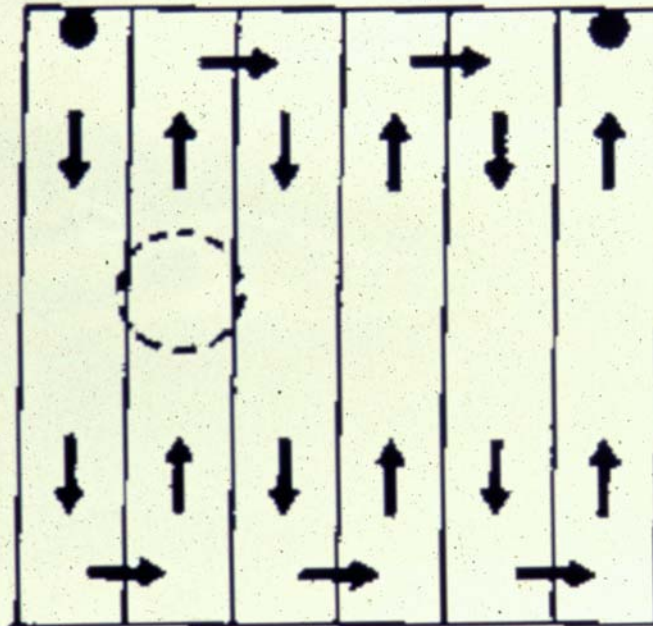


Nematodirus
spathiger

McMaster Slide



Grid on McMaster Slide


$$\# \text{ Eggs} \times 100 = \text{Eggs per gram}$$

Field of View

