

Alpaca Manure: Uses and Fecal Testing

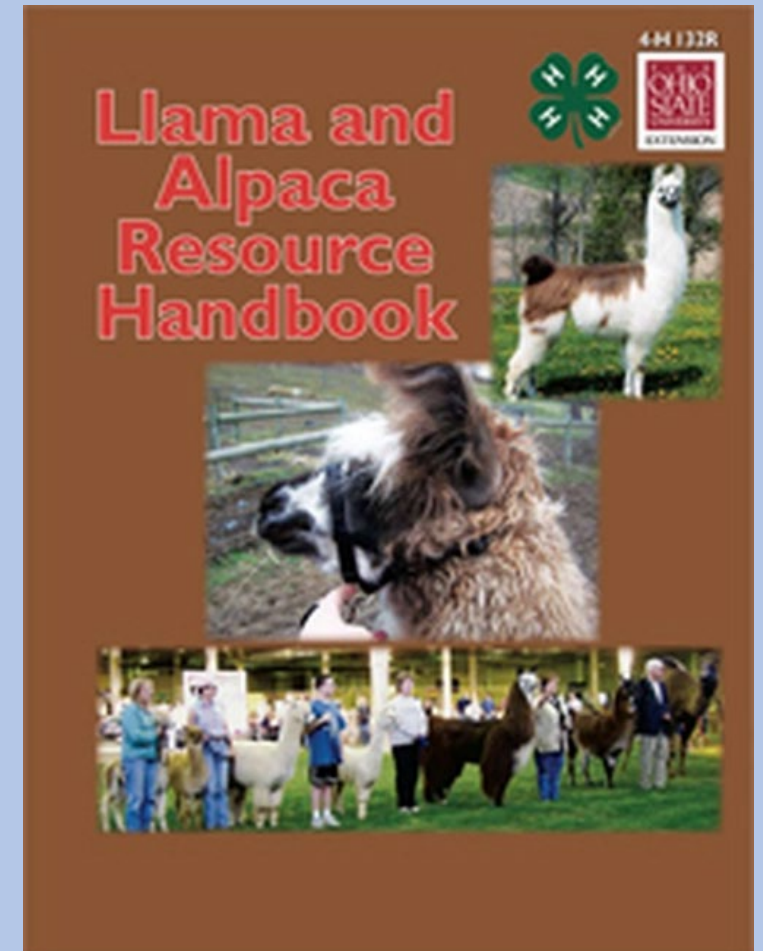


Warren County Camelid Club

Revised February 2022

References for this Program

- **Resource Handbook:
Pages 19, 42, 43**
- **Project Book:
Pages 8, 17**



ALPACA MANURE

ALPACA's

- efficiently & quickly convert grass and hay to energy

- eat far less and produce less manure than other livestock their size

COMMUNITY MANURE PILE HABIT

- helps to control parasites

- easy to collect and use

ALPACA “BEANS”

- **As fertilizer:** immediate usage/ won't “burn”
- **Beans' nutrient analysis:** 2-1-2
2 (Nitrogen), 1 (Phosphate), 2 (Potash)
- **As compost:** organic soil amendment
- **Dried beans:** very light and odor free
- **Powdered beans:** sprinkle on plants

ALPACA “TEA”

A GREAT LIQUID FERTILIZER!

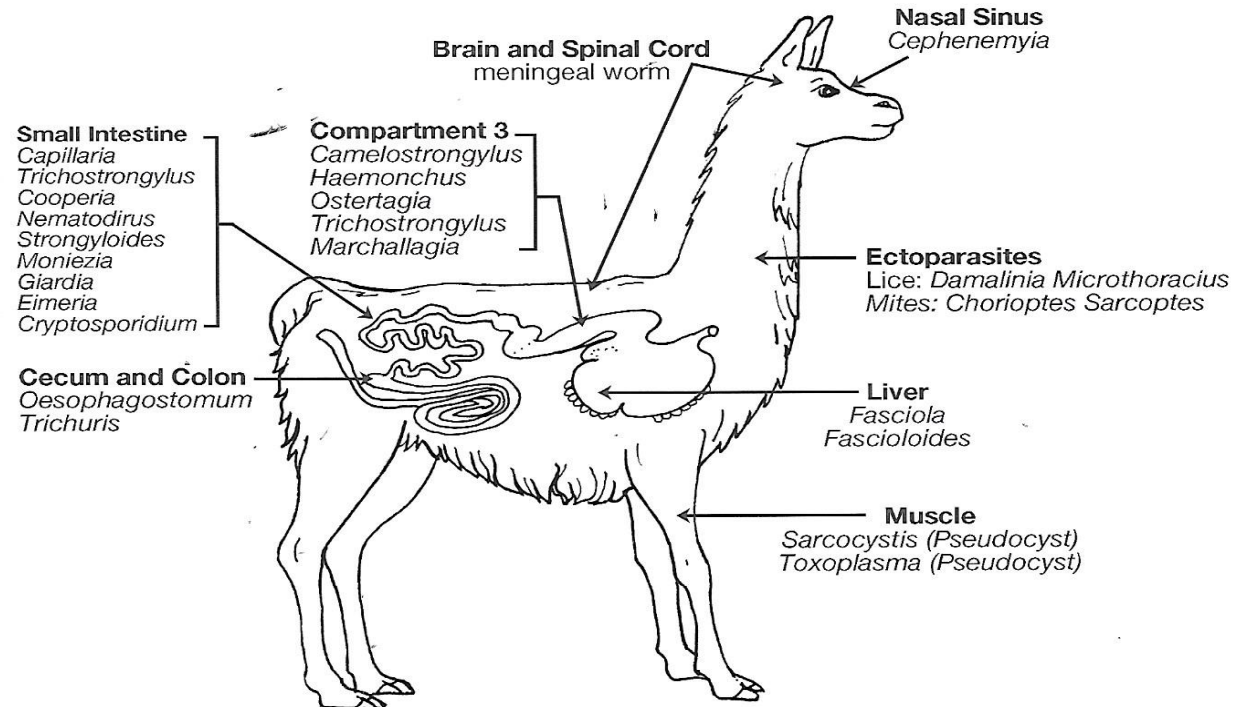
- 1 cup of Alpaca beans per 1 gallon of water
- Place beans in a nylon (hosiery) and tie it off
- Soak it in a bucket of water for 48 hours
- Pour or spray the “tea” on plants
- Will not “burn” or overfeed

ALPACA PARASITES

<i>Ostertagia</i>	emaciation.
Whipworm/ <i>Trichuris tenuis</i>	Poor growth, diarrhea.
Thin-necked intestinal worm/ <i>Nematodirus battus</i> , <i>N. helvetianus</i>	Common in llamas and alpacas. Poor growth, diarrhea.
Roundworm/Ascarid (Nematode)	Poor appetite, intermittent diarrhea/constipation or colic. Pot belly.
Tapeworm/ <i>Moniezia</i> sp.	Eggs can be difficult to detect in feces. May see worm segments in feces. Diarrhea, unthriftiness.
Coccidia/ <i>Eimeria</i> (Protozoan)	Ball Stool/diarrhea, common in young animals.
Liver Fluke/ <i>Fasciola hepatica</i> (Trematode)	Common in western states, chronic anemia. Requires fecal sedimentation test.

Parasites of Llamas

Locations of Major Parasites



PARASITE PREVENTION

- **Clean, Fresh Water**
- **Paddock Cleanliness**
- **Monthly Injection for Meningeal Worm**
- **Annual CDT Injection**
- **Vitamins/ Minerals/ Proper Feed/ Clean Hay/ Grass**

TESTING for PARASITES

FECAL TESTING is a SCIENTIFIC METHOD

- Instead of **Body Scoring**
- to determine and identify types of parasites

WHEN

-Alpaca acting “differently,” not eating, lethargic, losing weight, diarrhea, “ball” stool”

AS A HERD HEALTH PREVENTATIVE

-Ideal at annual shearing time

COLLECTING FECAL SAMPLES for a TEST

OBTAIN

5 uncontaminated Alpaca “beans”

PLACE

in new zip lock bag, mark Alpaca name, date, and note what you might suspect

REFRIGERATE

then deliver to your tester soon

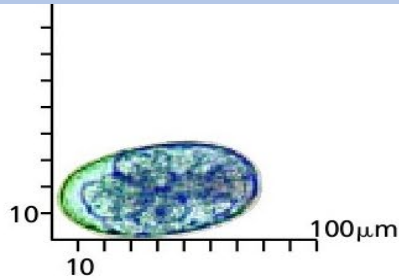


FECAL FLOAT TEST PROTOCOL

How Does it Work?

- **“beans” and float solution mixed, then strained**
- **Placed in a tapered vial with a cover slip**
- **Parasites “rise” to “escape,” and position on the inside of the cover**
- **Cover slip removed, placed on a microscope slide, and “read” under magnification**

Internal Alpaca Parasites



Ostertagia
(brown stomach worm)



Cooperia
(small intestinal worm)



Moniezia
(tapeworm - sheep)



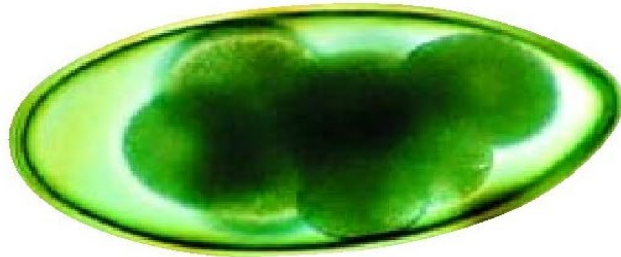
Moniezia
(tapeworm - cattle)



Bunostomum
(hookworm)



Haemonchus
(barberpole worm)



Nematodirus
(threadneck worm)



Trichostrongylus
(bankrupt worm)



Oesophagostomum
(nodular worm)



Trichuris
(whipworm)



Strongyloides
(threadworm)



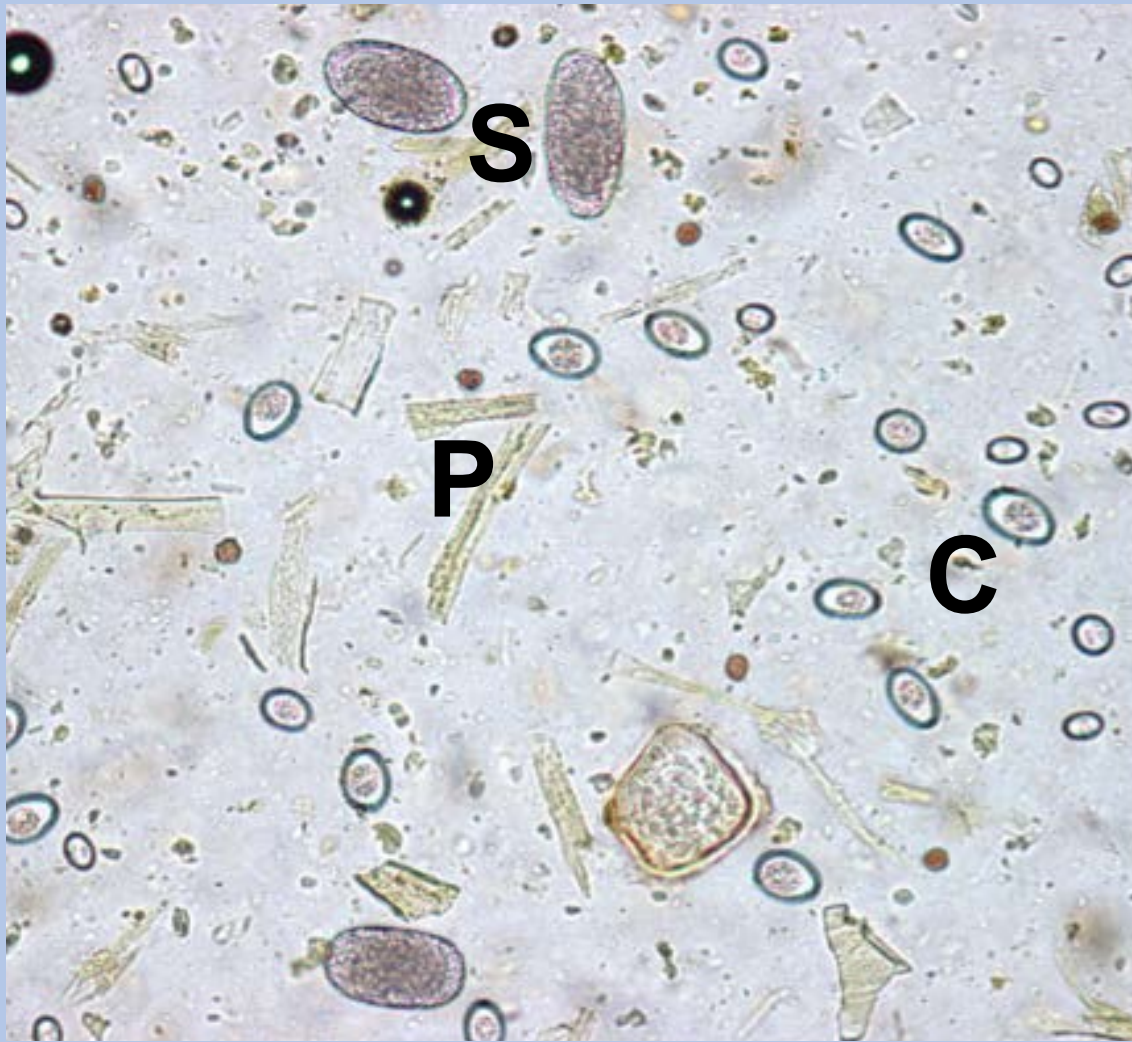
Coccidia
(a protozoan that causes coccidiosis)



Dictyocaulus
(lungworm)



Mite Egg - 1/4 actual size
(contaminant - often mistaken for worm eggs)



**Strongyloid egg (S),
Coccidia Oocysts (C),
and Plant Debris (P).**



**Strongyloid egg (S)
and Trichuris (T) eggs**

FECAL TEST RESULTS

REPORTED AS

- +** for 1-10 egg count in grid sample 10X objective
- ++** for 10-50 egg count in grid sample
- +++** for over 50 egg count in grid sample

TREATMENT and MEDICATIONS

- depends upon number & type of parasite(s) found

READING FECALS: TYPES OF COMMON ALPACA PARASITES

1. NEMATODE (roundworm, non-segmented)

Strongyles

-eggs all look the same; includes Haemonchus (“barber pole” worm)

Nematodirus

- largest egg; distinctive “shell;” can survive in pastures over winter to hatch in spring

Trichuris (whipworms)

- oval eggs with “doors” on the ends

2. PROTOZOA

Coccidia (are not worms but are microscopic protozoa)

-Eimeria species; oval shaped, like a fried egg with a big yolk

-Eimeria macusaniensis (E. mac; camelids only); the big one; five times larger than small coccidia; pear shaped and two-tone brown in color.

3. CESTODE (tapeworm)

Monezia

-eggs often not seen in fecals as they are passed in white segments which are visible on manure