

# INTERNAL PARASITES

## STRONGYLES

- Large Strongyles
  - Blood worms, palisade worms, red worms
- 3 major species
  - Strongylus Vulgaris
    - ~25 mm
    - Cecum, Colon, **Cranial Mesenteric Artery**
  - Strongylus Edentatus
    - ~ 40 mm
    - Cecum, Colon - Liver, Pancreas
  - Strongylus Equinus
    - ~50 mm
    - Cecum, Colon – Liver, Pancreas

## LARGE STRONGYLES

- Most destructive
  - Larvae migration causes severe damage
  - Active blood feeders
  - S. Vulgaris
    - Can cause blood clots – reduce blood to bowel
- Seen in horses of all ages except very young
- Life Cycle –Large Strongyles
  1. Horse ingests larva (infective) clinging to vegetation
  2. larvae migrate through intestinal arteries and various organs
  3. Migrating larvae return to mucous membranes of digestive tract to mature and reproduce
  4. Eggs leave horse with the feces
  5. Eggs in feces or soil develop to first stage larvae
  6. First stage larvae develop to second stage, then to third (infective) stage (possibly in about a weeks time) larvae move up blades of grass where horse ingests them
  7. The infective stage may remain a potential hazard for a month or longer depending on environmental conditions.

Cause arterial damage and development of blood clots in arteries. Aneurisms can develop and burst so horse bleeds to death. Some blood clots can break loose and block smaller blood vessels so cutting off blood supply to organs or tissues. Can lead to colic

- SYMPTOMS
  - o Poor appetite
  - o Rough hair coat
  - o Rapid weight loss

- o Anemia
- o Fever
- o Depression
- o Weakness, emaciation
- o Diarrhea
- o Gangrenous enteritis, intestinal rupture
- o Colic

## **SMALL STRONGYLES**

- AKA Cyathostomes
- Approx. 40 species (not blood sucking)
  - Drug Resistance!
    - Benzimidazoles
- Do not migrate outside of intestines
- Intestine and Cecum
  - Diarrhea, loss of appetite, and colic
- Encysted Larvae
  - Very dangerous to the horse
  - Depends on # of Adults in small intestine
  - The ability to encyst themselves ensures survival of the species. It works during its migration the small strongyle larvae receive a signal from adults within the intestine of the horse. The signal tells the migrating larvae not to enter the intestine, there are enough adults laying eggs. When the larvae stop migrating the body attacks them by surrounding them with scar tissue and they become encysted. The encysted small strongyle will remain in this stage as long as there are adults laying eggs in the intestines.
- SYMPTOMS
  - Diarrhea
  - Depression
  - Rough Hair Coat
  - Progressive weight loss
  - Emaciation
  - Fever
  - Colic
  - Death

## **ASCARIDS**

- Paracaris equorum
  - Large roundworm
  - 12-15 inches long
  - Eggs are VERY hardy- years in environment

- Affect mainly what age of horse?
  - Foals (under 1 year)
- Life cycle 10-13 weeks
- Life Cycle
  - Horse eats eggs
  - Eggs hatch in small intestine
  - Larvae enter blood, travel to liver and lungs
  - Larvae in lungs move up trachea
  - Horse coughs up larvae and are re-swallowed
  - Larvae become adults
- SYMPTOMS
  - Decrease in gut motility
  - Intestinal impaction
  - Unthriftiness
  - Depression
  - Pot-bellied appearance
  - Rough hair coat
  - Loss of appetite
  - Summer “cold” with dry cough and nasal discharge
  - Colic and death

With large numbers we see the major problems

## **THREADWORMS**

- *Strongyloides* *Westeri*
  - 8-9 mm (1/3 inch) long
- Affect mainly what age group?
  - Foals
- How does the horse get it?
  - Mother’s Milk
  - 4-40 days after foaling
- How can we help control this parasite?
  - Proper deworming practices in the mare
- Parasitic form of *Strongyloides* is the female adult
  - Mainly effects intestines and lungs
- Male and female sexually reproduce outside the host
- The infective-stage larvae do not survive outside the horse over the winter.