

## **Lab #5**

### **McMasters & Ruminant Parasite Ova**

#### **What you should accomplish during Lab #5.**

1. A description of the laboratory organization.
2. After an introduction, students will prepare and examine a **McMasters Technique**
3. Be able to Identify parasite ova & oocysts commonly found in ruminant feces.

#### **LABORATORY ORGANIZATION**

- Work in pairs
- Parasitology drawers with supplies are all orange & numbered 1-25.

#### **LABORATORY SUPPLIES**

Some supplies that are used during the lab are listed below. Please note the “disposable supplies” versus the supplies that need to be retained.

##### **Non-Disposable Supplies**

1. McMaster’s counting chamber
2. McMaster’s measuring vial
3. Plastic cups
4. Tea strainers
5. Microscope slide box
6. Sodium nitrate containers
7. Test tube racks
8. Plastic Transfer Pipettes ←(\*\***Do Not Dispose**\*\*)
9. Flotation vials (brown) ←(\*\***Do Not Dispose**\*\*)

##### **Disposable**

1. Wooden applicator sticks
2. Wooden tongue depressors
3. Glass slides & Cover slips
4. Centrifuge tubes

## Technique

### McMaster's Quantitation Technique

- 1) Fill McMaster's Graduated Vial (clear vial with 2 lines) to the bottom line with flotation solution (= 26 mls).
  - 2) Add feces, about 4 gm, until the fluid level rises to the top line.
  - 3) Pour this mixture into a clean beaker and mix thoroughly.
  - 4) Pour mixture through a strainer into a 2<sup>nd</sup> clean beaker.
  - 5) Withdraw a small amount of the well-mixed, strained suspension with a pipette and load this into the McMaster's counting chamber.
  - 6) Wait 1 minute for eggs to rise to the top of the chamber.
  - 7) Focus on the lines of the McMaster's chamber with 4X, then examine the chamber with 10X. (Scan for ova).
  - 8) Examine the entire ruled area, counting all the eggs within the ruled areas
  - 9) Add the total egg from each side of the chamber.
  - 10) Multiply the sum of the 2 chambers by 25 to determine the eggs per gram (epg).
- Note: The McMaster's Quantitation Techniques is mainly for the quantitation of Strongyle-type ova, thus only strongyle-type eggs should be counted. However, a general idea (i.e. none, few, many...) of the number of other nematode ova, cestode ova & coccidian oocysts should be noted.
  - Note: The McMaster's Chambers can **NOT** be examined with the 40X or 100X objectives.

## Exercises

### 1. **Fecal Worm Egg Count & Fecal Floatation.**

- a) Perform a McMasters on the provided goat feces.
  - i. Count the number of strongyle-type eggs in each grid.

- b) Determine and record the resulting FWEC.

(Grid A: \_\_\_\_\_ + Grid B: \_\_\_\_\_) X 25 = \_\_\_\_\_ epg

- c) **Perform a Fecal Floatation with the strained fecal suspension.**

2. Examine specimens of parasite diagnostic stages presented on the overhead monitors.

**Oocysts: *Eimeria*.**

**Ova: Strongyle-type, *Nematodirus*, *Strongyloides*, *Trichuris*, *Moniezia*, *Fasciola*.**

Utilize this lab and the Parasitology website to learn these diagnostic stages as one will be responsible for identifying these on the Final Practical.

**Lab #5**  
**Laboratory Discussion**  
**Complete and turn in as directed.**

**1. The FWEC: \_\_\_\_\_ epg.**

**2. List the Parasite ova / oocysts that you found in the goat feces.**

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