

Lab #6

McMasters and Equine & Swine Parasite Ova

What you should accomplish during Lab #6.

1. After an introduction, students will prepare and examine a **McMasters Technique**
2. Understand and interpret % **Efficacy** technique
3. Be able to Identify parasite ova commonly found in equine feces and swine feces.

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 2nd 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 horse 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. % Efficacy

- a) A fecal was collected at the time of deworming with Fenbendazole. At that time, a McMasters was performed and the pre-FWEC was 1,500 epg.
- b) **Twelve days later** a Post-Treatment fecal was collected. Assume your results from today's lab is of the Post-Treatment fecal.
- c) Utilizing the % Efficacy formula and determine if the dewormer was effective.

The formula for determining efficacy of an anthelmintic is:

$$\% \text{ Efficacy} = [(pre-FWEC - Post-FWEC) / pre-FWEC] \times 100$$

$$\% \text{ Efficacy} = \text{_____} \%$$

- i. % Efficacy of >95% is considered Efficacious
- ii. % Efficacy of <95% is considered Not Efficacious.

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

Equine Ova: Strongyle-type, *Strongyloides*, *Parascaris*, *Oxyuris*, *Anoplocephala*.

Swine Ova: Strongyle-type, *Strongyloides*, *Ascaris*, *Trichuris*, *Coccidia*

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 #6
Laboratory Discussion
Complete and turn in as directed.

1. The FWEC: _____ epg.

2. List the Parasite ova that you found in the horse feces.
