Lab #4
McMasters and Equine & Swine Parasite Ova

What you should accomplish during Lab #4.

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.

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) Mix strained mixture by pouring mixture from beaker to beaker a few times.
6) Withdraw a small amount of the well-mixed suspension with a pipette and load this into one side of the McMaster's counting chamber.
7) Mix suspension again by pouring mixture from beaker to beaker a few times.
8) Again, withdraw a small amount of the well-mixed suspension with a pipette and load the second side of the McMaster's counting chamber.
9) Wait 1 minute for eggs to rise to the top of the chamber.
10) Focus on the lines of the McMaster's chamber with 4X, then examine the chamber with 10X. (Scan for ova).
11) Examine the entire ruled area, counting all the eggs within the ruled areas
12) Add the total egg from each side of the chamber.
13) Multiply the sum of the 2 chambers by 25 to determine the eggs per gram (epg).

- Note: 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 _____ epg. (pre-FWEC will be provided by the instructor)
   b) **Twelve days later** a Post-Treatment fecal was collected. Assume your results from today's lab is from 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:

      % Efficacy = [(pre-FWEC – Post-FWEC) / pre-FWEC] X 100

      %Efficacy = _____%

      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, Eimeria, Cystoisopora*

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

Lab #4
Laboratory Discussion
Complete and turn in as directed.

1. The FWEC: _____ epg.

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

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