

Managing Parasite Resistance Using A Whole Farm Approach

Module 5. Conducting Fecal Egg Counts



Penn State **Extension**

Benefits to you, your farm, and your horse

- * Better parasite management
- * Save money on dewormers that are not needed
- * Effectively deworm horses with high parasite levels
- * Discover which horses are high shedders and high contamination potential



Benefits to you, your farm, and your horse.....

- * Discover which horses are low shedders , have natural immunity and are a source of refugia.
- * Can be used to determine product efficacy.



You are encouraged to involve your veterinarian when developing your parasite management plan.....



Collecting Manure Samples

- ✓ **Collect 3-4 fecal balls from a clean stall**
- ✓ **Samples should be as fresh as possible when collected – recommended no older than 12 hours**
- ✓ **Place samples in individual plastic bag and label bag with horses name**
- ✓ **Samples should immediately be placed in the refrigerator (preferably not your families) or a cooler with an ice pack**



Things to Avoid Doing With Your Manure Samples

- Do not allow samples to freeze.
- Avoid exposure to temperatures above 100 degrees fahrenheit.
- Do not put in a cooler with ice. As the ice melts you are left with a soupy mess.

**Now let's have some fun and begin
our fecal egg counts!**



Tools and Materials You Will be Using.....

- Manure from targeted horse
- Microscope
- McMaster slide
- Calibrated mixing vial
- Sugar flotation solution
- Tongue depressor
- Cup
- Gauze for straining
- Syringe (without needle)



Remember to wear gloves

Quick Microscope Lesson

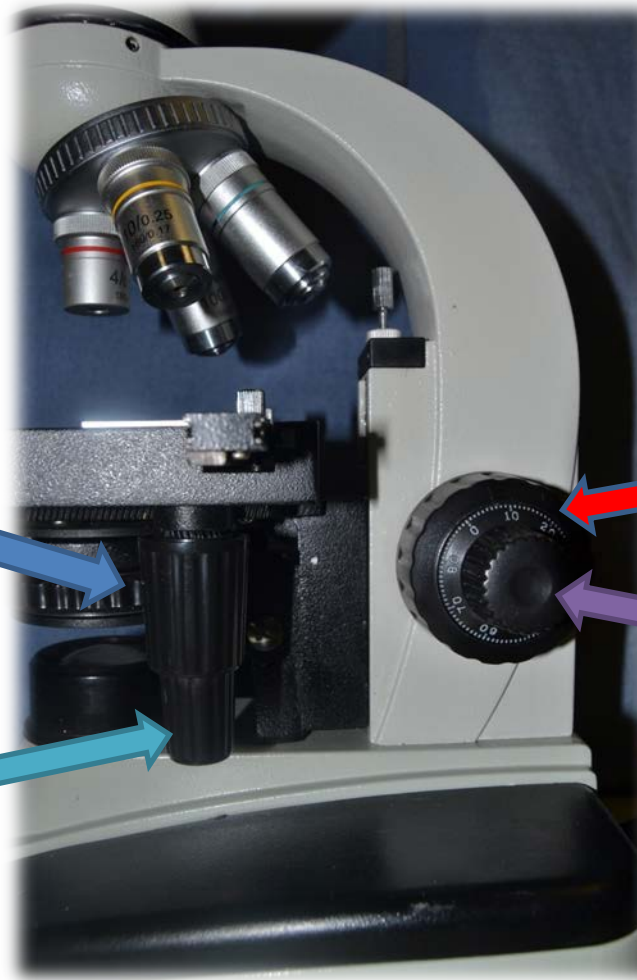


- When counting eggs, you will need to move the slide. It is desirable to use a microscope that has a movable stage.
- When counting eggs, use 100X magnification. The eye piece of the microscope is 10X magnification. When combined with the 10X objective, the magnification is 100X.

What are these adjustments for?

Moves stage
left to right

Moves stage
front and
back



Outer dial used to
move stage up and
down to focus

Center Dial used for
fine movements to
focus

Preparing Your Sample

- Squeeze and mix the manure sample in the bag.
- Fill the calibrated glass vial with the sugar flotation solution to the 26 ml. mark.
- Use the tongue depressor to add manure a little at a time until the vial is filled to the 30 ml. mark.
- Stir the solution every time you add manure.

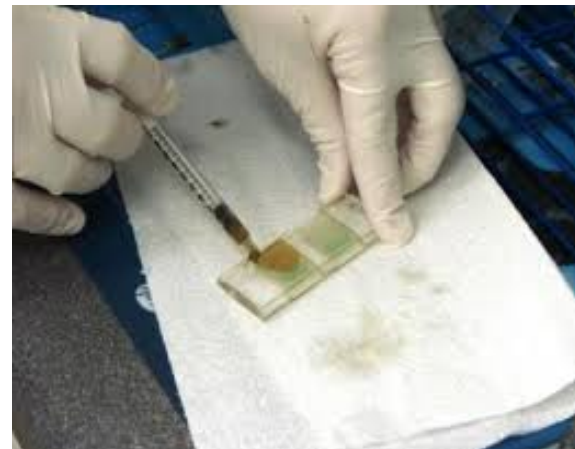
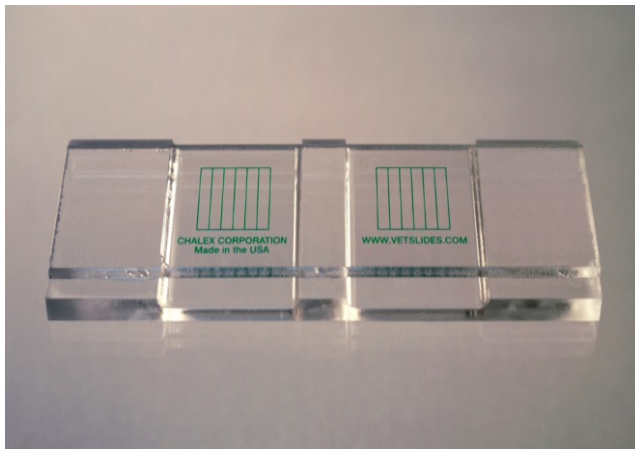


Preparing the Sample -continued

- **Once the solution reaches 30 mls., stop adding manure and stir thoroughly for 30 seconds.**
- **Place a piece of gauze over the paper cup.**
- **Holding the gauze tightly over the cup, strain the manure sample through the gauze.**
- **Use the tongue depressor to be sure all the manure is out the vial.**
- **Squeeze the gauze to discharge all the liquid and fine manure into the cup.**

Preparing the McMaster Slide

- Stir the manure solution and use a syringe to draw up approximately 1 ml of liquid and fill one side of the McMaster slide.
- Expel any solution left in the syringe.
- Repeat the step above to fill the other chamber.
- Let the slide sit for at least 2 minutes before reading.



What are you looking for?

Strongyle Eggs



You may see: Ascarid Eggs and/or air bubbles, pollen, fiber, etc.



Conducting Your Count

- * Start in one corner of grid and count all the eggs in each row and column of the grid. If an egg falls on the outer edge of the grid, count it as well.
- * Count the eggs on the second grid.
- * Add the results of the two grids together.
- * Multiply the total by 25. This gives you the number of eggs per gram of manure.

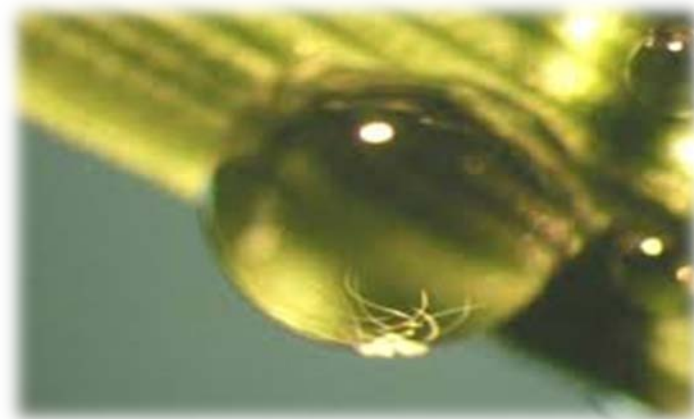


What Do the Numbers Mean?

- * Horses with fecal egg counts 500 or above are considered high shedders.
- * Horses with fecal egg counts 200-500 are considered moderate shedders.
- * Horses with fecal egg counts below 200 are considered low shedders.

.....By conducting fecal egg counts routinely you will be able to determine which horses are high shedders and which horses are low shedders. Remember: The goal is to target deworming efforts to horses with high egg contamination potential and allow low shedders to serve as a refuge.....

Next Module - Putting the Pieces Together - How to Develop a Parasite Management Program for Your Farm



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