

Monitoring Internal Parasite Infection in Small Ruminants

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Frequently during the spring, summer, and early fall, based on subjective observation internal parasites are cited as the cause for poor livestock performance. While parasites are frequently the culprit, other performance inhibitors do exist. Fecal egg counts are a practical, cost-effective diagnostic tool for determining parasite burden.

Materials and Equipment:

1. Microscope – must have 100X magnification capability. Binocular preferred, monocular acceptable. Mechanical stage preferred but not required.
2. McMaster's slide – two or three chambered counting slide with grid.
3. Fecal sample – 2 grams minimum. Samples should be warm, moist and soft at collection. Eight to 10 pellets per sample is generally a sufficient quantity.
4. Vial – straight sides, glass or plastic, with cap. Fill with 28 ml (cc) of water



and mark meniscus. Add 2 ml (30 ml total) and mark meniscus again.

5. Tongue depressor
6. Medicine dropper
7. Saturated salt solution – prepared by adding salt to boiling water until salt will no longer go into solution. Iodized salt often leaves a white precipitate and is therefore the least preferred.

Procedure

(see diagram)

1. Fill vial to 28 ml mark with saturated salt solution.
2. Add fecal material until solution reaches the 30 ml mark. Theoretically, 2 grams of material will displace 2 ml of solution. Mashing pellets between thumb and forefinger before adding to solution will facilitate mixing.
3. Use tongue depressor (larger depressors can be split longitudinally) to break up and mix pellets in solution.
4. Cap vial and mix thoroughly by gently inverting several times (do not shake).
5. With eggs evenly dispersed in the solution, remove cap and immediately remove a dropperful of material.
6. Holding the slide almost flat with ends of slide between thumb and forefinger, completely fill one chamber. Slightly tilting

slide will facilitate filling. Immediately fill dropper again and fill remaining chamber.

7. Allow 1 to 2 minutes for eggs to float to upper surface of the counting chamber.

8. Examine at 100X magnification (10X ocular, 10X objective). Two focal planes exist. Eggs and air bubbles will be in the upper plane. Focus on air bubbles, then locate grid.

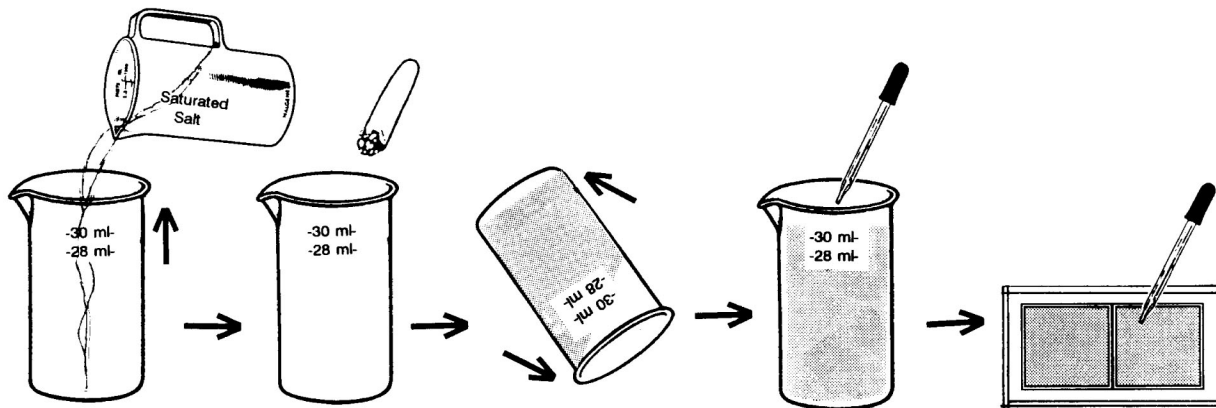
9. Count eggs in each grid. Do not count eggs outside the grid.

10. Calculate number of eggs per gram of feces as below:

Reference

Dunn, A. 1978. *Veterinary Helminthology* (2nd Ed.). William Heinemann Medical Books Ltd., London.

$$\text{EPG} = \frac{\text{Number eggs counted}}{\text{number of grids}} \times 100$$



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