



Vetlab McMaster Worm Egg Counting Method

Equipment & Consumables Needed

- Microscope offering x40 and x100 Magnifications with a Mechanical Stage
[See Our Premiere Range of Microscopes](#)
- Cat No: 0523 50ml Plastic Graduated Measuring Cylinder
[Ready-made Flotation Solution S.G. 1.200](#) (different SG made to order)
Cat No: 6107-1 Litre, 6107-5 Litre Ready-made Sodium Nitrate
Cat No: 6108-1 Litre, 6108-5 Litre Ready-made Zinc Sulphate
- [Vetlab McMaster 2 Cell Counting Slide](#)
Cat No: 6603 Vetlab Acrylic McMaster (Glass McMaster Also Available: Slightly Different Counting Method)
- Cat No: 0670 1ml Plastic Transfer Pipettes
- Cat No: 6604 Plastic Bowls
- Cat No: 1897 Hand Tally Counter
- Tea Strainer & Teaspoon

Procedure

1. Pour the flotation solution (See Top Tips Below) into the measuring cylinder up to the 26ml mark (In practice this is best performed in 2 stages: fill to almost 26ml mark and complete the process using a plastic Transfer Pipette).
2. Add the faeces to the cylinder until the level rises to the 30ml mark.
3. Pour the entire contents into the tea strainer whilst holding over the bowl.
4. Dip the tea strainer in and out of the bowl whilst pressing the faeces retained in strainer through with the teaspoon.
5. Discard the faecal matter retained in the tea strainer.
6. Mix the remaining faecal solution in the bowl with the teaspoon and immediately aspirate into a transfer pipette.
7. Using a transfer pipette fill both chambers of the McMaster slide with faecal solution (Try to avoid filling with air bubbles, this is best achieved by resting your forearm on the bench to steady the filling process).
8. Stand on bench for at least 2 minutes and no longer than 5 minutes. Any longer may result in some eggs shrinking or distorting.
9. Carefully transfer McMaster slide to the microscope stage and position the grid under the x10 objective.
10. Using the x10 objective, focus on any corner of the first grid, using first the coarse focus and then the fine focus controls. Ensure you focus sharply on the edge of the grid line
(see counting diagram on Page 2)
11. Count the worm eggs in total area of both grids and multiply by 25 to obtain the result in eggs per gram. (see counting diagram on Page 2)

Flotation Solutions

1. The most common solutions are Sodium Nitrate S.G.1.20 and S.G. 1.27/8 or Zinc Sulphate S.G. 1.20. Sodium Nitrate is cleaner and less expensive, Zinc Sulphate is more difficult to make up and less costly, however it can give better results for canine & feline protozoan cysts and oocysts (e.g., Giardia and Coccidia Cysts)

2. Do not be tempted to make your own solution as the S.G will vary considerably and results will be inaccurate and eggs may be missed.

Microscopy

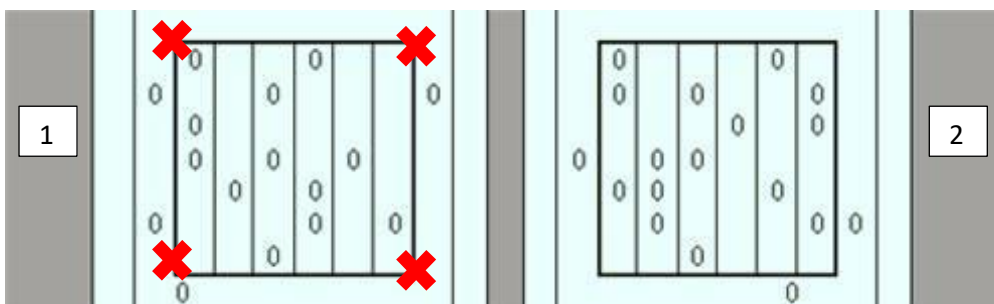
1. Any worm eggs present will float to the surface of the special flotation solution and sit tight underneath the coverlip of the counting chamber. In order to detect the eggs, the microscope must be focused at this level, and this can be achieved by sharply focusing on the edge of an air bubble or a grid line.
2. Once you become familiar with the visual appearance of the eggs that you are looking for you can speed up the counting process by using our Acrylic McMaster slide with the x4 objective (x40 magnification). This allows you to view two columns of the grid at once. So first of all identify them with the x10 objective (x100 magnification) then switch to the x4 objective (x40 magnification) to see what it looks like. This will give you confidence, later on, to routinely scan using the x4 objective.

The number of eggs per gram can be calculated as follows:

- Count the number of eggs within the grid of each chamber, ignoring those eggs outside the squares.
- Multiply the total by 25 – this gives the eggs per gram of faeces (e.p.g.)

For Example:

✘ = Procedure 10.



12 eggs seen in chamber 1 and 15 eggs seen in chamber 2

$$= (12 + 15 = 27) \times 25 = 675 \text{ e.p.g}$$

Important:

Do not delay reading the count beyond recommended time (see procedure: 8) as the flotation fluid may distort or destroy delicate eggs. Therefore it is advisable to only process a few samples at a time.

CLEANING

Clean the chamber by washing it in warm water using domestic washing up liquid applied with a soft cloth or soft brush. Rinse in clean water.

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