Mc MASTER QUANTITATIVE METHOD

EQUIPMENT, SUPPLIES AND REAGENTS:

Tongue depressors/applicator sticks
Balance (scale)
50 to 100 ml beaker
Flotation solution
1 cc syringes or transfer pipet
McMaster Slide
Magnetic stir plate (optional)
Magnetic stir bar (optional)

PROCEDURE:

1. Place beaker on balance and tare it.
2. Using tongue depressor, weigh out 3 gm of feces into beaker.
3. Add approximately 15 ml flotation solution.
4. Mix well with tongue depressor to break lumps.
5. Bring up to 45 ml with flotation solution.
6. Add stir bar, place on stir plate,(or stir by hand with tongue/applicator sticks) continue mixing for 5 minutes
7. While mixture is still stirring, draw about 1 ml fecal suspension into syringe or transfer pipet
8. Load one side of counting chamber carefully to avoid producing bubbles under the reading grid.
9. Repeat sampling and loading procedure for second side of chamber.
10. Let preparation stand 5 min (examine it by 20 min).
11. Place chamber on microscope and examine with 10X objective.
12. Count eggs in both sides of chamber.
13. Calculate eggs per gram:
    45 ml final volume, epg = (side 1 + side 2) x 50

Note: The minimum detection limit is 50 eggs per gram. Method consistency is important for reproducibility and comparability between samples.

COMMENTS:

Also if you have a smaller amount of feces, this table may help:

Feces, gm	partial vol flotation soln for breaking up fecal pellets, ml	total volume of flotation soln for stirring 5 mins., ml
1	5	15
2	10	30
3	15	45
4	20	60

Saturated Salt Flotation Solution

Add salt to water with constant stirring until no longer going into solution, approximately 350 g / 1 liter (0.8 lbs/ 1 quart). When the solution is saturated salt will settle/precipitate on bottom of container, so DO NOT MIX prior to use, only use the liquid on top of precipitate.

Magnesium Sulfate Solution (Epsom salts)for Fecal Flotation

350 grams of ($MgSO_4 \cdot 7H_2O$) bring up to 1000ml volume with distilled water Using a hydrometer check the specific gravity (spg), adjust accordingly to read 1.2 spg. Alternatively weigh a volume of flotation solution against the same volume of water. The flotation solution should weigh 1.2 times heavier than the same volume of water.

add water to bring spg down
add more $MgSO_4 \cdot 7H_2O$ to bring up spg

McMaster Slide Calculation

The volume examined under the chamber is 0.15ml per side so the amounts may be changed and epg calculated taking into account the starting volume and amount of feces:

EPG = # eggs counted x (T/V)]/F

T= total volume of flotation fecal mixture
V= volume examined in slide (one side = 0.15ml)
F= starting fecal amount

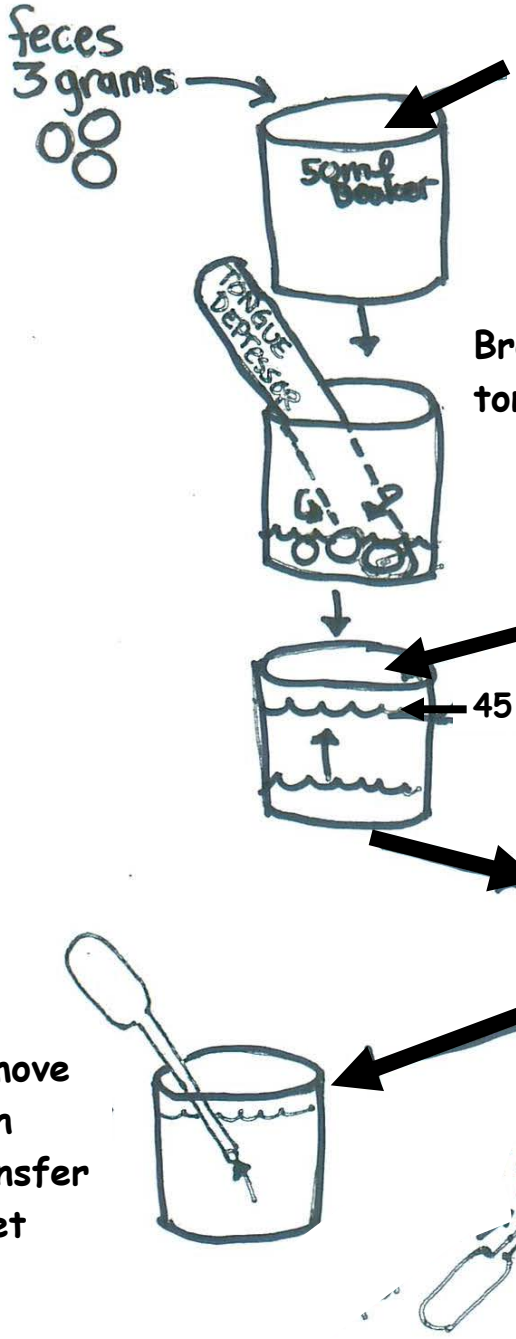
McMaster Slide CARE INSTRUCTIONS:

1. Thoroughly rinse out the McMaster chambers with warm running water. Limit the use of soap – **do not soak for long periods in soap as this will cause the chamber to become cloudy.**
2. Let slide air dry**. Drying the slide with a towel will ruin the optical finish**. Air-drying the slides is recommended.

Sources for The McMaster counting chamber:

Chalex Corporation (www.vetslides.com) (green grid ~ $20, etched grid ~$15)
www.FECsource.com (blue grid ~ $15)

Mc Masters



Add small amount approximately 15ml flotation solution – (From the total 42ml flotation solution)

Adding just enough to break up feces

Break up feces with tongue depressor

Add remaining Flotation Solution bringing total volume including feces to 45ml

MIX THROUGHLY

45 ml

Remove with transfer pipet

McMaster Chamber

Load Chamber using transfer pipet

View on microscope, 10x objective. Count eggs in grid on both sides X 50 = EGGS PER GRAM