**Principle**

The McMaster counting technique is a quantitative technique to determine the number of eggs present per gram of faeces (e.p.g.). A flotation fluid is used to separate eggs from faecal material in a counting chamber (McMaster) with two compartments. The technique described below will detect 50 or more e.p.g. of faeces.

**Application**

This technique can be used to provide a quantitative estimate of egg output for nematodes, cestodes and coccidia. Its use to quantify levels of infection is limited by the factors governing egg excretion.

 **Equipment**

· Beakers or plastic containers
· Balance
· A tea strainer or cheesecloth
· Measuring cylinder
· Stirring device (fork, tongue depressor)
· Pasteur pipettes and (rubber) teats
· Flotation fluid (see the Appendix to this handbook for formulation)
· McMaster counting chamber
· Microscope

#### Procedure

[(a) Weigh 4 g of faeces and place into Container 1.](http://www.fao.org/wairdocs/ilri/x5492e/x5492e10.jpg)

[(b) Add 56 ml of flotation fluid.](http://www.fao.org/wairdocs/ilri/x5492e/x5492e11.jpg)

[(c) Mix (stir) the contents thoroughly with a stirring device (fork, tongue blade).](http://www.fao.org/wairdocs/ilri/x5492e/x5492e12.jpg)

[(d) Filter the faecal suspension through a tea strainer or a double-layer of cheesecloth into Container 2.](http://www.fao.org/wairdocs/ilri/x5492e/x5492e13.jpg)

[(e) While stirring the filtrate in Container 2, take a sub-sample with a Pasteur pipette.](http://www.fao.org/wairdocs/ilri/x5492e/x5492e14.jpg)

[(f) Fill both sides of the McMaster counting chamber with the sub-sample.](http://www.fao.org/wairdocs/ilri/x5492e/x5492e15.jpg)

[(g) Allow the counting chamber to stand for 5 minutes (this is important)](http://www.fao.org/wairdocs/ilri/x5492e/x5492e16.jpg)

[(h) Examine the sub-sample of the filtrate under a microscope at 10 x 10 magnification.](http://www.fao.org/wairdocs/ilri/x5492e/x5492e17.jpg)

(i) Count all eggs and coccidia oocytes within the engraved area of both chambers.

[(j) The number of eggs per gram of faeces can be calculated as follows: Add the egg counts of the two chambers together.](http://www.fao.org/wairdocs/ilri/x5492e/x5492e18.jpg)

Multiply the total by 50. This gives the e.p.g. of faeces. (Example: 12 eggs seen in chamber 1 and 15 eggs seen in chamber 2 = (12 + 15) x 50 = 1350 e.p.g.)

(k) In the event that the McMaster is negative (no eggs seen), the filtrate in Container 2 can be used for the simple flotation method (section 3.2.2), steps f, g and h.