*Microscopy PLUS instruments and supplies*

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# USER NOTES

# S8060

## Universal worm egg counting chamber

The Universal worm egg counting chamber is particularly designed for the quantitative estimation of the number of parasite eggs per gram of faeces in cattle, horses, sheep, goats, and small animals.

The overall methods which utilise this information can estimate the degree of infestation in livestock and the efficacy of treatments.

The counting chamber has 4 x 0.5mL chambers. Each chamber is subdivided by guidelines to five counting strips of approximately 0.1mL. Universal worm egg counting chambers feature guidelines in each chamber for easier counting of worm eggs.

The guidelines were introduced to assist users in alignment during the scanning of individual chambers. The lines should only be used as a counting aid.

The considered volume of each chamber is that area bounded by the inside of the thicker lines and NOT the area between each of the glass support strips.

Remember that not all microscopes are the same. This can affect individual usage.

The engravings are on the under surface of the top-piece for floatation egg counts and are opaqued for improved contrast.

The chambers feature:

- Wide front filling zone
- Silicone fillets between chambers
- Overhanging top-pieces for better grip
- Silicone bonding to absorb minor impacts and withstand autoclaving and most cleaning agents.

# Standard Calculations: Universal 4 x 0.5mL slide

The mean of two counts is recommended in calculating egg counts.

For 2g faeces in 48mL of floatation solution (2g:50mL)

| **Eggs counted in** | **1 strip** | **2 strip** | **4 strip** | **5 strip** | **2 chambers** | **4 chambers** | **Dilution** |
|---|---|---|---|---|---|---|---|
| Measurement volume used | 0.1mL | 0.2mL | 0.4mL | 0.5mL | 1.0mL | 2.0mL | |
| **Factor *X* for:** | | | | | | | |
| 2g : 50mL | 250 | 125 | 62.5 | 50 | 25 | 12.5 | 1:25* |
| 1.5g : 60mL | 400 | 200 | 100 | 80 | 40 | 20 | 1:40 |
| 2g : 60mL | 300 | 150 | 75 | 60 | 30 | 15 | 1:30 |
| 3g : 60mL | 200 | 100 | 50 | 40 | 20 | 10 | 1:20 |
| 4g : 60mL | 150 | 75 | 37.5 | 30 | 15 | 7.5 | 1:15 |
| 1g : 50mL | 500 | 250 | 125 | 100 | 50 | 25 | 1:50 |

*recommended generic dilution – para 9.1 of *reference*

To determine the number of eggs per gram (**Epg**) of faeces, multiply the number of eggs of each type counted in the scanned area of the slide by Factor *X*.

$$\frac{\text{Volume of (water}\textit{(mL)} + \text{faeces}\textit{(g)}) \; + \; \text{Floatation solution}\textit{(mL)}}{\text{Volume of faeces sample}\textit{(g)} \;\; \text{x} \;\; \text{Measurement volume used}\textit{(mL)}}$$

(= weight of faeces sample) (may be part of the slide)

*This fraction is the Factor X referred to in the table*

Eg: For 2g of faeces in 2.5mL water and 45.50mL floatation solution measured in one chamber:

$$\textbf{Epg} = \#\text{eggs} \times \frac{(2.5 + 2) + 45.50}{2 \times (5 \times 0.1)}$$

$$= \#\text{eggs} \times 50$$

*Reference:*

Details about the techniques which use these slides may be found in the Section on Anthelmintic Resistance in Sheep (para 9.1 in particular) in **Australian Standard Diagnostic Techniques for Animal Diseases.** – ISBN 0 643 05243 7 636.0896075 developed through the Standing Committee on Agriculture and Resource Management, Animal Health Committee, Sub-committee on Animal Health Laboratory Standards and published on their behalf by CSIRO Information Services, Australia.