**Principle**

The Baermann technique is used to isolate lungworm larvae from faecal samples and infective larvae from faecal cultures. It is based on the active migration of larvae from faeces suspended in water and their subsequent collection and identification.

**Application**

This is a procedure for harvesting infective larvae for identification purposes.

**Equipment**

· Funnel (size according to need)
· Funnel stand
· Rubber or plastic tubing
· Rubber bands
· Clamp or spring clip
· Cheesecloth or screen
· Simple thin stick (about 15 cm long)
· Strainer
· Microscope
· Test tube
· Pasteur pipette
· Small petri dish(es)

**Procedure**

[(a) Fit a short piece of tubing which is closed at one end with a clamp or spring clip, to the stem of a funnel of appropriate size.](http://www.fao.org/wairdocs/ilri/x5492e/x5492e1g.jpg)

[(b) Support the funnel by a stand.](http://www.fao.org/wairdocs/ilri/x5492e/x5492e1h.jpg)

[(c) Weigh or measure about 5-10 g of faecal culture/faeces and place it on a piece of double-layer cheesecloth.](http://www.fao.org/wairdocs/ilri/x5492e/x5492e1i.jpg)

[(d) Form the cheesecloth around the faeces as a "pouch".](http://www.fao.org/wairdocs/ilri/x5492e/x5492e1j.jpg)

[(e) Close the pouch with a rubber band.](http://www.fao.org/wairdocs/ilri/x5492e/x5492e1k.jpg)

[(f) Fix a supporting stick under the rubber band - Step 1](http://www.fao.org/wairdocs/ilri/x5492e/x5492e1l.jpg)

[Fix a supporting stick under the rubber band - Step 2](http://www.fao.org/wairdocs/ilri/x5492e/x5492e1m.jpg)

[(g) Place the pouch containing faecal culture material or faeces in the funnel. Trim the surplus cheesecloth off.](http://www.fao.org/wairdocs/ilri/x5492e/x5492e1n.jpg)

[(h) Fill the funnel with lukewarm water, covering the faecal material.](http://www.fao.org/wairdocs/ilri/x5492e/x5492e1o.jpg)

[(i) Leave the apparatus in place for 24 hours, during which time larvae actively move out of faeces and ultimately collect by gravitation in the stem of the funnel.](http://www.fao.org/wairdocs/ilri/x5492e/x5492e1p.jpg)

**Examination for longhorns**

[(j) Draw a few ml of fluid from the stem of the funnel into a small petri dish.](http://www.fao.org/wairdocs/ilri/x5492e/x5492e1q.jpg)

[(k) Examine under dissecting microscope for live lungworm larvae (L1).](http://www.fao.org/wairdocs/ilri/x5492e/x5492e1r.jpg)

(l) For positive samples a transfer of larvae to a microslide for identification at 10 x 10 magnification may be required. It is important to differentiate between *Muellerius capillaris*and other species as the treatment is different.

**Examination for infective larvae from faecal cultures**

(m) Draw 10-15 ml of fluid from the stem of the funnel into a test tube or other container.

(n) Leave the tube to stand for 30 minutes. Remove the supernatant with a Pasteur pipette.

(o) Transfer a small aliquot of the remaining fluid using a Pasteur pipette to a microslide, add a drop of iodine and cover with a coverslip.

(p) Examine under 10 x 10 magnification.

(q) Repeat steps m and n until 100 larvae have been identified.

(r) The counts for each species provide an estimate of the composition (%) of the parasite population of the host.