

# **Standard Operating Procedures (SOPs) for diagnosis of *Fasciola* spp. and Paramphistomidae eggs in cattle using the Sedimentation technique**

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**ETHICS APPROVAL NO:** PG/2022/0008127

## **1. GOAL**

These SOPs provide instructions on the laboratory activities, i.e. the preparation and copromicroscopic analysis of cattle faecal samples for the diagnosis of *Fasciola* spp. and Paramphistomidae eggs using the Sedimentation technique, in the framework of the PREPARE4VBD project.

## **2. EQUIPMENTS, MATERIALS AND REAGENTS**

- Gloves
- Balance
- Becker
- Conical becker
- Cylinder
- Gauze or wire mesh (i.e., metal sieve having an aperture of 250 µm)
- Petri plate or glass slide and coverslide
- Conventional optical microscope
- A hand tally counter

## **3. METHODOLOGY AND PROCEDURES**

### **3.1 Sedimentation Technique**

1. Homogenize the sample thoroughly.
2. Weight 10 g of faeces in a becker, add 90 ml of tap water, homogenize and filter the faecal suspension using a double layer of gauze or a wire mesh having an aperture of 250 µm in a conical becker with a capacity of 500 ml.
3. Add tap water up to 250 ml.
4. Wait for the mixture allowed to sit for 4 minutes.
5. Discard the supernatant.
6. Refill the conical becker with tap water up to 250 ml.
7. Repeat steps 4 to 6 for three times more.
8. Discard the last time the supernatant and transfer 10-15 ml of sediment in a Petri plate or add some drops of sediment on a glass slide, add a coverslip and examine under the microscope.
9. Look for eggs using a 10x objective and count the eggs.

### **3.2 Cleaning Sedimentation kit**

You can wash all the plastic materials after use before the next assay.

## References

Foreyet W.J. *Veterinary Parasitology*. Fifth Edition, 2001, Iowa State Press, pp. 145.

Prof. Maria Paola Maurelli



04/05/2022

Dr. Antonio Bosco



Dr. Lavinia Ciuca

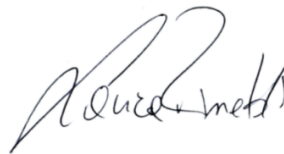


Reviewers

Signature

Date

Prof. Laura Rinaldi



05/05/2022

Approver

Signature

Date

Appendix 1. Faecal sample analysis sheet - Sedimentazion Technique

Farm ID: _____		
City: _____ Province: _____		
GPS coordinates: Longitude (N/S): _____ Latitude (E/W): _____ Altitude: _____		
Name of Analyst: _____ Date of Analyzes: _____		
Cattle ID	<i>Fasciola</i> spp.	Paramphistomidae
	Number of eggs	Number of eggs
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
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