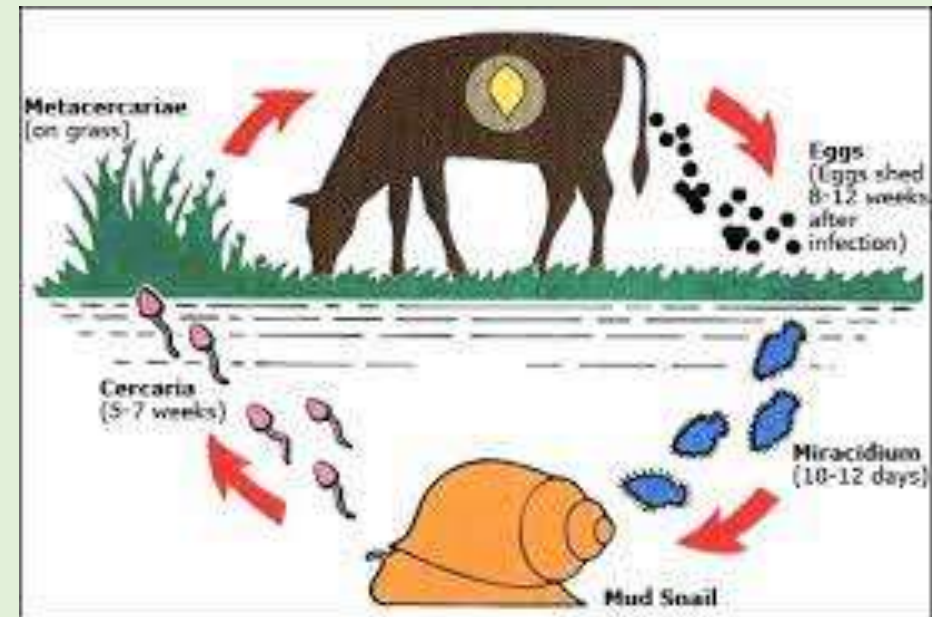


WORM INFECTIONS , PREVENTION AND TREATMENT (Level 1)

Topic	Training & information Content
9.1	Introduction to Animal health (Prevention vs curative health care)
9.2	Health signals
9.3	Biosecurity of dairy farms
9.4	Tick born diseases (Prevention and treatment)
9.5	Worm infections (Prevention and treatment)
9.6	Vaccination schedule and planning
9.7	Mastitis prevention and treatment
9.8	California Mastitis Test
9.9	Usage and storage of veterinary medicines on dairy farms
9.10	Administering of medicines to dairy cows
9.11	Instruction use of injectors into teat canal
9.12	Key performance indicators (KPIs) for monitoring health status of dairy herd



1. You will learn about (learning objectives):

- How do cattle get worm infections?
- What damage do they do?
- Why is it important?
- How to prevent worm infections?
- How to treat worm infections?



Tip!!!

Young stock developing a rough hair coat is often a sign of a worm infection . It can also be a sign of mineral deficiencies, so make sure mineral salt (lick blocks) are present.

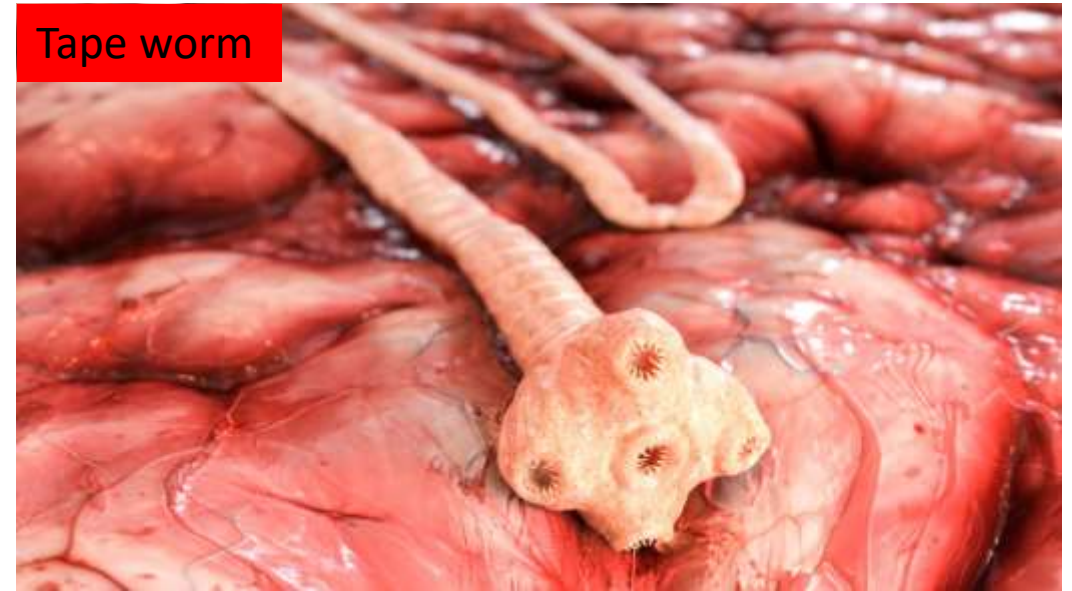
2. Background

- Worms cause issues in the gut of the calves or cows.
- In Uganda it is common on most dairy farms to and this affects the cows by;
 - Growth rate reduction,
 - Lower production and,
 - Cows appearance change; the hair becomes rough.
- It requires measures of which giving medicine is the most important.



3. Worms in cattle

- There are many different worms living in the lungs, liver, stomachs and gut of cattle.
- The two kinds of worms that affect cattle are:
 - Flat worms for example fluke like worms and tapeworms.
 - Round worms.



4. What's the problem?

- 'Gut worm' refers to roundworm species that can cause disease in cattle by infesting the abomasum and small intestine.
- Young stock are particularly at risk.
- But young animals need some light exposure to be able to develop immunity.



*Picture shows, Infections cause diarrhoea and rough hair

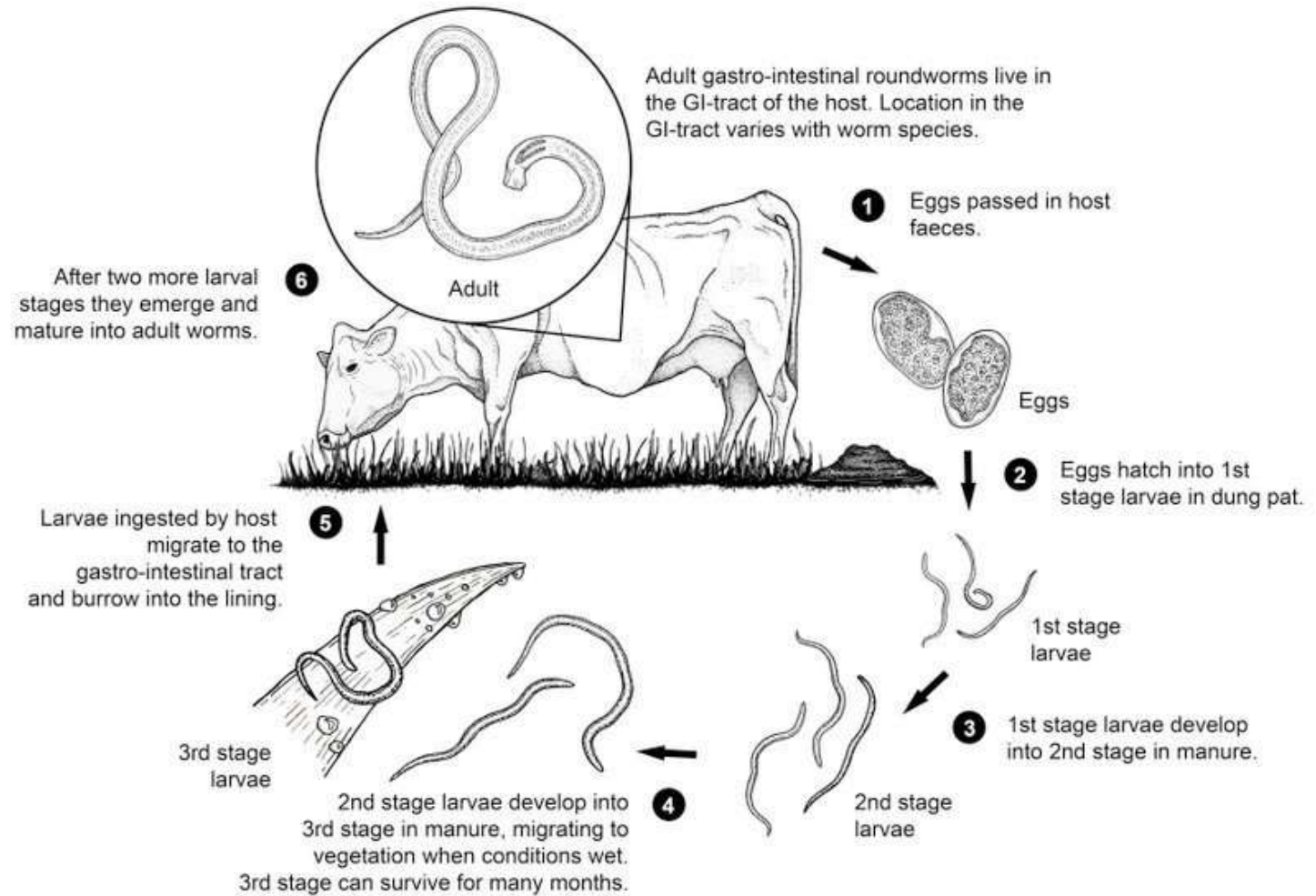
5. Clinical signs of a round worm infections includes

- Reduced growth rate and ultimately weight loss,
- Loss of appetite,
- Rough hair,
- Decreasing body condition,
- Diarrhea (only in severe cases).



6. The life cycle of a round worm

1. Eggs are excreted in manure,
2. Eggs hatch to larvae,
3. Larvae migrate to pasture,
4. Infective larvae in water droplets on grass,
5. Cattle eat grass,
6. Larvae develop to adult worms in stomach or gut. Adult worms lay eggs.



7. Prevention of round worms

9.1. Pasture management

- Practice rotational grazing. Make sure that young animals graze on regrowth of pastures which have been used for hay or grass silage making.
- Do not graze cows together with small ruminants (sheep and goats) or even worse after them.
- Suckling calves of dual purpose cows are exposed to lower levels of gut worm challenge, depending on the age of weaning, in their first grazing season as the bulk of their nutrition is still derived from their dams' milk.
- For calves which have been bucket fed good young stock management is important and a well planned introduction to grazing.



* Calves have who have not developed immunity to worm infections are infected fast.

10. Treating worm infections

- There are three ways for administering worm medicine to cows;
 - By mouth using drenching guns,
 - By injection,
 - By pour on the skin.
- Ask your vet or extension officer for the right medicines and when to use them.
- Respect withdrawal times for beef and milk.



*Medicines like levamisole on these pictures can be given orally by drench, bolus or by injection

11. Fluke

- Fluke is an infection caused by a trematode (flat worm) damaging the liver of the cow.
- Snails are a host to fluke.
- The fluke worms live in the liver of the cow.



*Picture left of a damaged liver. The worms live in the bile canals, which are swollen and white as in the picture.



*Picture above of the fluke worms. They have a size of 2-4 cm.

11.3. Clinical signs of a fluke infection include

- Reduced growth and ultimately weight loss.
 - Reduced milk yields.
 - Reduced fertility.
 - Bottle Jaw (oedema).
 - Diarrhea.
 - Anemia.
 - Severe cases can lead to death.
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- Furthermore the disease can be complicated by Black Leg
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- It is a herd problem, so in case of infection many cattle will be infected. Before clinical signs production loss can already be present.

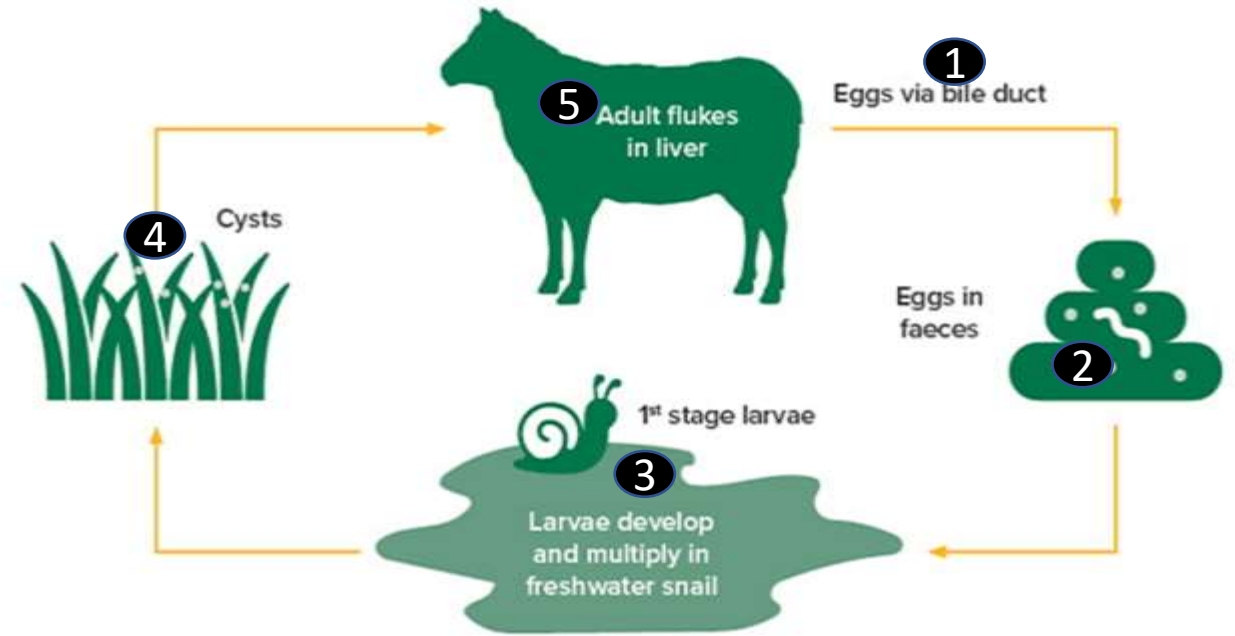


*Bottle jaw on a cow

*Fluke is not only a problem in cattle but also in small ruminants. Also other diseases can cause bottle jaw

11.4. The life cycle of fluke

1. Eggs are excreted in manure,
2. Eggs hatch and are eaten by snails,
3. The young fluke gets out of the snail,
4. They live on the grass. When the grass is eaten by the cow the young fluke worm gets to the liver,
5. In the liver they grow and start to produce eggs.



12. Prevention of fluke

- Pasture management
 - Avoid wet spots for instance at the dams.
- New animals
 - When they possibly will have fluke treat them and keep them separated for a week.



*A foot pump is an excellent tool to keep the area around the dam dry.

13.1. Treatment of fluke infection.

- Most medicines used to get rid of round worms can also have the same effect on fluke.
- Contact your veterinarian for deworming.

