wormboss

Drench Decision Guide

NSW northeast and Qld Granite Belt

GOATS

Smallholders who assess and treat individuals: use the Smallholders DDG
Barbervax® vaccination program: www.wormboss.com.au/barbervax

QUESTIONS

INSTRUCTIONS: *Follow the* ***'GO TO'*** *letter or number on the right for each answer. Only answer the questions to which you are directed. When you are directed to a letter, this is the final* ***recommendation*** *(shown over the page).*

START HERE

1 Are these does that will kid within 4 weeks? — GO TO

- Yes, and the kidding paddock is low worm-risk *(see definition[1] at bottom of page)* — **A**
- Yes, but the kidding paddock is NOT low worm-risk *(see definition[1] at bottom of page)* — **B**
- No — **2**

2 Are these kids that will be weaned within 2 weeks?

- Yes, and the weaning paddock is low worm-risk *(see definition[1] at bottom of page)* — **C**
- Yes, but the weaning paddock is NOT low worm-risk *(see definition[1] at bottom of page)* — **D**
- No — **3**

3 On close inspection (with goats yarded or held tightly against a fence), are these goats showing signs[4] suggesting a worm infection?

- There are no signs of worm infection — **4**
- There are no signs of worm infection AND I have a recent worm egg count — **4**
- Yes, at least 2% of the mob are showing signs: including pale inside eyelids and gums, bottle jaw, lagging/collapse — **E**
- Yes, only 1–2% of the mob are showing signs: including pale inside eyelids and gums, bottle jaw, lagging/collapse — **F**
- Yes, some are scouring, but not showing the other signs listed above — **G**

4 What 'length of protection' treatment type was last used?

- Persistent (mid-length and long-acting drenches, injections and capsules giving ongoing protection) — **H**
- Short-acting (drenches with no ongoing protection) or the last treatment type is unknown — **5**

5 What type of *WormTest* results do you have?

- Worm egg counts and a culture — **6**
- Worm egg counts but no culture (consider a culture next time), however recent culture or experience suggests barber's pole worm — **7**
- Worm egg counts but no culture (consider a culture next time), however recent culture or experience suggests scour worms — **8**
- None — **I**

NOTE: If treatment was less than 3 weeks ago and you now have a positive result, your drench may be ineffective. Seek veterinary advice because a DrenchTest might be required.

6 Is the percentage of barber's pole worm *(Haemonchus contortus)*, shown in the larval culture, higher than 60%? — GO TO

- Yes — **7**
- No — **8**

7 There are greater than 60% barber's pole worms.

In the table below, find the worm egg count threshold for the average goat condition of your mob and the condition of the pasture they will graze.

(If pasture[2] or goat condition[3] is unknown, use a worm egg count value of 800 epg).

Worm egg count (epg) thresholds for **barber's pole** worm

Goat condition[3] (or growth rate for weaners)	Pasture condition[2]		
	Poor	Moderate	Good
Poor	400	600	800
Moderate	600	800	900
Good	800	900	1000

What is your worm egg count in relation to the threshold value?

- My worm egg count is equal to or higher than the threshold value — **E**
- My worm egg count is below the threshold value — **J**

8 There are greater than 40% scour worms.

In the table below, find the worm egg count threshold for the average goat condition of your mob and the condition of the pasture they will graze.

(If pasture[2] or goat condition[3] is unknown, use a worm egg count value of 400 epg).

Worm egg count (epg) thresholds for **scour** worm

Goat condition[3] (or growth rate for weaners)	Pasture condition[2]		
	Poor	Moderate	Good
Poor	200	300	400
Moderate	300	400	500
Good	400	500	600

What is your worm egg count in relation to the threshold value?

- My worm egg count is equal to or higher than the threshold value — **E**
- My worm egg count is below the threshold value — **J**

Definitions

[1] Preparing low worm-risk paddocks involves preventing worm contamination on them prior to use; 3 months for a summer weaning paddock, and just the warmer months (daily max. temperature >18°C) in the 6 months prior for a spring kidding.

[2] Pasture condition can also be defined by the amount of green herbage mass in kg DM/ha
- Poor: less than 600 kg DM of green herbage mass/ha
- Moderate: 600–1200 kg DM of green herbage mass/ha
- Good: more than 1200 kg DM of green herbage mass/ha

[3] Goat condition can also be defined by body condition scores
- Poor: score 2 or less
- Moderate: score 2.5
- Good: score 3 or better

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GOATS

RECOMMENDATIONS

INSTRUCTIONS: *Read the* ***recommendation*** *that you have been directed to from the Drench Decision Guide questions, plus the information in the other three green boxes below.*

A Treat kidding does with an effective short-acting drench[6] and then *WormTest* 1 week before marking. In a well-prepared low worm-risk paddock, does often do not need treatment at marking.

See NOTE below.

B Treat kidding does with an effective short-acting drench[6]. A *WormTest* 1 week before marking is essential.

Consider preparing a low worm-risk kidding paddock from autumn next year.

See NOTE below.

C Treat weaners with an effective short-acting drench[6] and then *WormTest* 4 weeks later[5].

See NOTE below.

NOTE: While mid-length (some combined with vaccine) and long-acting 'mectin'/ML (macrocyclic lactone) products provide convenience, their use in this situation can increase drench resistance on your farm. It is best to reserve these treatments for the higher and longer worm-risk times later in summer and autumn. They are not required when low worm-risk paddocks are used.

D Treat weaners with an effective short-acting drench[6] and then *WormTest* 4 weeks later[5].

However, a long-acting treatment may be warranted at weaning because low worm-risk weaning paddocks were not prepared and if the next few months are predicted to be high worm-risk weather conditions. Follow the guidelines below for long-acting drenches[6].

E Treat the entire mob now with a drench[6] shown to be effective against the worms present and then *WormTest* 4 weeks later[5].

NOTE: Do not use an organophosphate drench on severely worm-affected or stressed goats. Consider that other parasites/diseases cause similar signs.

- If the paddock to be used after treatment is not considered to be highly contaminated with worm larvae, give an effective short-acting drench[6] and *WormTest* in 4 weeks[5].
- If the paddock to be used after treatment is considered to be highly contaminated with worm larvae, give an effective long-acting treatment. Follow the guidelines below for long-acting drenches[6]. Usually, long-acting 'mectin'/ML (macrocyclic lactone) treatments are best restricted to February–April to minimize development of ML resistance, but high worm-risk may require its use at other times.

F Treat affected individuals now with an effective short-acting drench[6] and *WormTest* the mob now. Also, investigate other causes of their signs.

NOTE: Do not use an organophosphate drench on severely worm-affected or stressed goats.

G *WormTest* and proceed from Question 6 of the *Drench Decision Guide* questions.

- If the test shows that scour worms do not require treatment, then the scouring may be from coccidiosis or feed and you should seek veterinary advice on treatment or management.
- If treatment is required, use an effective short-acting drench[6].

H

- If *WormTest* results are greater than 100 epg, treat with an effective short-acting drench[6] and then *WormTest* 4–6 weeks later[5].
- If you have no *WormTest* results (or worm egg counts are below 100 epg), follow the instructions below to check effectiveness of your treatment at day 60. Also follow the guidelines below for long-acting drenches[6].

Anytime that you are concerned that the treatment is not providing protection, *WormTest* immediately.

I *WormTest* in 4 weeks (summer) or 6 weeks (winter) after the last treatment was given and observe goats closely for signs of worms[5].

J *WormTest* in another 4 weeks (summer) or 6 weeks (winter) and observe goats closely for signs of worms[5].

[4]Signs of worms

Closely examine for signs of worms, yard or hold goats against a fence. Catch and examine 5–10 animals.

Barber's pole worm: anaemia (pale inside eyelids and gums); 'bottle jaw' (swelling under the jaw); lagging or collapse when mustered; death.

Scour worms (black scour worm [*Trichostrongylus* species]; brown stomach worm [*Teladorsagia circumcincta*]; and others [incl. *Nematodirus*]): dark scours; weight loss; death.

NOTE: Other diseases and poor nutrition can cause similar signs. Consider seeking veterinary advice.

[5]High risk barber's pole worm conditions

Goats can sometimes be rapidly re-infected with worms, causing illness and death within 2 weeks of a drench. In these situations (i) check at least weekly for visual signs of barber's pole worm; and (ii) conduct a *DrenchCheck*. To reduce this risk, prepare low worm-risk pastures.

[6]Guidelines for worm control treatments

When using anthelmintic products in goats, obtain a veterinary prescription because:

- Goats require a different dose rate and withholding period to that on the label.
- Many drenches are not registered for use in goats (see exceptions below).

Victoria: over the counter drenches can be used if residues are kept below the Maximum Residue Limits (MRL).

South Australia: cattle drenches can be used in goats, but pour-on formulations should be avoided.

When giving all treatments

Follow the product labels or veterinarian's instructions. Dose to the heaviest goat in the group. Calibrate equipment to ensure the right dose is delivered with the right procedures. Do not mix drenches unless the label states they are compatible. Check and comply with withholding periods and export slaughter intervals.

Choosing treatment options on your property

Use these principles together, where possible:

1. Use drenches tested to be most effective on your property and either multi-active products or more than one active concurrently (up the race with one and then the other); if drench effectiveness is unknown, conduct a *DrenchCheck* after drenching.
2. Use short-acting treatments—reserve long-acting products for specific purposes or high worm-risk times.

For more details read the drench resistance section in the WormBoss Worm Control Program.

Check effectiveness of long-acting treatments

Use only under veterinary prescription.

WormTest with a culture at 35, 60 and 90 days after treatment.

If *WormTest* results are 100 epg or above, drench resistance is likely. Drench immediately with an effective short-acting drench with a different drench group to the long-acting treatment. Seek veterinary advice on the further use of this product. If *WormTest* results are less than 100 epg, then treat with an exit drench at 100 days after the long-acting treatment was given (you can delay drenching if this occurs in the cold period, see next column).

Seek veterinary advice if *WormTests* are positive at or before 60 days.

Primer and exit drenches

These help to slow drench resistance to persistent treatments.

Protection period of persistent treatments

(These are for sheep as goat times are unknown, but likely much shorter as goats metabolise the drenches faster)

Mid-length: 7–28 days. Long-acting: 91–100 days.

NOTE: The protection period against susceptible black scour worm with a long-acting moxidectin injection is 49 days in sheep, but is not set in goats.

Use a primer before long-acting treatments

Primer drenches (effective short-acting treatments that do not include the drench group in the long-acting treatment) should be given concurrently with all long-acting treatments.

Use an exit drench after all mid-length and long-acting treatments

- Treat with an 'exit drench'—an effective short-acting treatment that does not include the drench group in the mid-length or long-acting treatment. Also called a 'tail-cutter' drench.
- Give this at 42 days (mid-length) or 100 days (long-acting) after the treatment was given (in the tablelands' cold period, you can delay the exit drench, as described below).
- *WormTest* 4–6 weeks after the exit drench.

Delay the exit drench if the protection from the persistent treatment runs out during the cold period (average daily maximum temperatures are consistently below 18°C) and an egg count indicates drenching is not required. The exit drench can simply then be given as the next drench that is required, but not later than 3 weeks before the end of the cold period, to ensure removal of any drench-resistant worms.

Anytime that you are concerned that the persistent treatment is not providing protection, *WormTest* immediately and seek

For more information on regional worm control plans, drenches, tests, checks and worms visit www.wormboss.com.au