

QUESTIONS

START HERE



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).

1	Are these ewes that will lamb within 4 weeks?	GO TO
	• Yes, and the lambing paddock is low worm-risk (see definition ¹ at bottom of page)	A
	• Yes, but the lambing paddock is NOT low worm-risk (see definition ¹ at bottom of page)	B
	• No	2
2	Are these lambs 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 sheep yarded or held tightly against a fence), are these sheep 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 <i>WormTest</i> 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
	<i>NOTE: If treatment was less than 3 weeks ago and you now have a positive result, your drench may be ineffective. Seek professional advice because a DrenchTest might be required.</i>	

6	Is the percentage of barber's pole worm (<i>Haemonchus contortus</i>), 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 sheep condition of your mob and the condition of the pasture they will graze. (If pasture ² or sheep condition ³ is unknown, use a worm egg count value of 1000). Worm egg count (epg) thresholds for barber's pole worm																				
	<table border="1"> <thead> <tr> <th rowspan="2">Sheep condition³ (or growth rate for weaners)</th> <th colspan="3">Pasture condition²</th> </tr> <tr> <th>Poor</th> <th>Moderate</th> <th>Good</th> </tr> </thead> <tbody> <tr> <td>Poor</td> <td>600</td> <td>800</td> <td>1000</td> </tr> <tr> <td>Moderate</td> <td>800</td> <td>1000</td> <td>1100</td> </tr> <tr> <td>Good</td> <td>1000</td> <td>1100</td> <td>1200</td> </tr> </tbody> </table>	Sheep condition ³ (or growth rate for weaners)	Pasture condition ²			Poor	Moderate	Good	Poor	600	800	1000	Moderate	800	1000	1100	Good	1000	1100	1200	
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	• 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 sheep condition of your mob and the condition of the pasture they will graze. (If pasture ² or sheep condition ³ is unknown, use a worm egg count value of 500). Worm egg count (epg) thresholds for scour worm																				
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Definitions

¹ Preparing low worm-risk paddocks involves preventing worm contamination in March and April for a spring lambing paddock, and in the 3 months prior to use for a summer weaning paddock.

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 Sheep condition can also be defined by body condition scores
 • Poor: score 2 or less
 • Moderate: score 2.5
 • Good: score 3 or better

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 lambing ewes with an effective short-acting drench⁶ and then *WormTest* 1 week before lamb marking. In a well-prepared low worm-risk paddock, ewes often do not need treatment at lamb marking.

See NOTE below.

B Treat lambing ewes with an effective short-acting drench⁶. A *WormTest* 1 week before lamb marking is essential.

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

See NOTE below.

C Treat weaners with an effective short-acting drench⁶ and then *WormTest* 4 weeks later⁵.

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.

⁴Signs of worms

Closely examine for signs of worms, yard or hold sheep 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 can cause similar signs. Consider getting animal health advice.

D Treat weaners with an effective short-acting drench⁶ and then *WormTest* 4 weeks later⁵. 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 drenches⁶.

E Treat the entire mob now with a drench⁶ shown to be effective against the worms present and then *WormTest* 4 weeks later⁵.

NOTE: Do not use an organophosphate drench on severely worm-affected or stressed sheep. 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 drench⁶ and *WormTest* in 4 weeks⁵.
- 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 drenches⁶. 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 drench⁶ 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 sheep.

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 professional advice on treatment or management.
- If treatment is required, use an effective short-acting drench⁶.

H • If *WormTest* results are greater than 100 epg, treat with an effective short-acting drench⁶ and then *WormTest* 4–6 weeks later⁵.

• 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 drenches⁶.

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 sheep closely for signs of worms⁵.

J *WormTest* in another 4 weeks (summer) or 6 weeks (winter) and observe sheep closely for signs of worms⁵.

⁵High risk barber's pole worm conditions

Sheep 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; (ii) use the Haemonchus Dipstick Test; and (iii) conduct a *DrenchCheck-Day10*. To reduce this risk, prepare low worm-risk pastures.

⁶Guidelines for worm control treatments to slow drench resistance

When giving all treatments

Follow the product labels. Dose to the heaviest sheep in the mob or groups. 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 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 multi-active combinations where possible; If drench effectiveness is unknown, conduct a *DrenchCheck-Day10* after drenching.
2. Use short-acting treatments—reserve long-acting products for specific purposes or high worm-risk times.
3. Rotate drench groups each time a mob is drenched and for each paddock.

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

Check effectiveness of long-acting treatments

WormTest with a culture at 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 active to the long-acting treatment. Seek professional 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 (15 weeks) after the long-acting treatment was given (you can delay drenching if this occurs in the cold period, see next column).

Seek professional 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

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.

Use a primer before long-acting treatments

Primer drenches (effective short-acting treatments that do not include the active 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 active in the mid-length or long-acting treatment. Also called a 'tail-cutter' drench.
- Give this at 6 weeks (mid-length) or 100 days (15 weeks) (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, or 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 professional advice regarding drench resistance.

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

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