

## 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



<b>1</b>	In which WormBoss zone are these sheep? (refer to map)	<b>GO TO</b>
	• High rainfall zone	<b>2</b>
	• Low rainfall cereal zone	<b>5</b>
<b>HIGH RAINFALL ZONE</b>		
<b>2</b>	Are these sheep showing signs <sup>1</sup> suggesting a worm infection?	
	• Yes, these are lambs (current year drop) and some are scouring and/or showing weight loss (and deaths may have occurred—see note below)	<b>A</b>
	• Yes, these are hoggets or older sheep and some are scouring and appear to have lost weight recently (and deaths may have occurred—see note below)	<b>B</b>
	• Yes, these are hoggets or older sheep and some are scouring, but no weight loss is obvious and no deaths have occurred	<b>C</b>
	• Yes, some of these sheep (any age) have anaemia and lethargy, but not scouring, and this is a known barber's pole worm area	<b>D</b>
	• No signs of worms are obvious	<b>3</b>
<b>3</b>	Are these lambs, weaners or hoggets (and at which stage)?	
	• Yes, these are lambs just about to be marked	<b>E</b>
	• Yes, these are lambs just about to be weaned	<b>F</b>
	• Yes, these are weaned lambs (current year drop) in early summer	<b>G</b>
	• Yes, these are hoggets (previous year drop) in early summer	<b>G</b>
	• Yes, these are weaners/hoggets (previous year drop) from the autumn break through to spring	<b>H</b>
	• No, these are adult sheep	<b>4</b>

**Note:** If deaths have occurred, discuss with a veterinarian. Treatment may be recommended before a *WormTest* is conducted, although a test will be needed for confirmation.

### <sup>1</sup>Signs of worms

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

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

**NOTE:** Other diseases can cause similar signs. Consult your vet if *WormTests* do not indicate worms.

### <sup>2</sup>High risk worm conditions

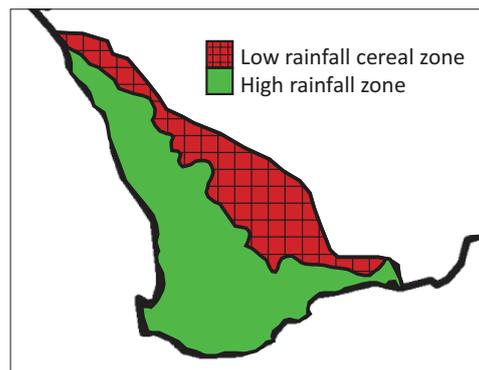
Sheep can sometimes be rapidly re-infected with worms, occasionally causing illness and death within a month of a drench when WECs will still be low or zero. If the onset of scouring, weight loss or deaths is sudden, urgently seek veterinary advice.

<b>4</b>	Which time or event applies to these adult sheep?	<b>GO TO</b>
	• These are rams just prior to joining	<b>I</b>
	• These are adult ewes, rams or wethers in late March–April	<b>J</b>
	• These are early lambing ewes 3–4 weeks before lambing (lambing starts before mid-June)	<b>K</b>
	• These are later lambing ewes 3–4 weeks before lambing (lambing starts from mid-June)	<b>L</b>
	• These are wethers or rams from the autumn break, (or when there has been green feed for 6 weeks)	<b>M</b>
	• These are ewes, wethers or rams after the pasture has dried off (late spring–early summer)	<b>N</b>
<b>LOW RAINFALL CEREAL ZONE</b>		
<b>5</b>	Are these sheep showing signs <sup>1</sup> suggesting a worm infection?	
	• Yes, these are lambs (current year drop) and some are scouring and/or showing weight loss (and deaths may have occurred—see note below left)	<b>O</b>
	• Yes, these are hoggets or older sheep and some are scouring and appear to have lost weight recently (and deaths may have occurred—see note below left)	<b>P</b>
	• Yes, these are hoggets or older sheep and some are scouring, but no weight loss is obvious and no deaths have occurred	<b>C</b>
	• No signs of worms are obvious	<b>6</b>
<b>6</b>	Are these lambs, weaners or hoggets (and at which stage)?	
	• Yes, these are lambs just about to be marked	<b>E</b>
	• Yes, these are lambs just about to be weaned	<b>Q</b>
	• Yes, these are weaners/hoggets (previous year drop) from summer through to spring	<b>R</b>
	• No, these are adult sheep	<b>7</b>
<b>7</b>	Which time or event applies to these adult sheep?	
	• These are rams just prior to joining	<b>I</b>
	• These are adult ewes just prior to lambing	<b>N</b>
	• These are either adult ewes <u>not</u> just prior to lambing or rams <u>not</u> just prior to joining or wethers at any time	<b>S</b>

For more information on regional worm control plans, drenches, tests, checks and worms visit [www.wormboss.com.au](http://www.wormboss.com.au)

## 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.



**A** Treat with an effective drench<sup>3</sup> and move to a paddock as 'worm-free' as possible and continue to check closely for signs of worms<sup>1</sup>. In 4–6 weeks if the summer drench was due, treat with an effective drench<sup>3</sup>; if not due, *WormTest* and treat if average worm egg count exceeds 200 epg.

**B**

- Poorer condition sheep (average less than Condition Score 2.5): treat now with an effective drench<sup>3</sup> and *WormTest* in 4–6 weeks time.
- Moderate/good condition sheep (average Condition Score 2.5 or more): *WormTest* now and drench if average worm egg count exceeds 200 epg, then *WormTest* in a further 4–6 weeks.

**C** *WormTest* now rather than drench (as 'hypersensitivity' to worm larvae will not respond to drenching). Treat with an effective drench<sup>3</sup> if average worm egg count exceeds 200 epg.

**D**

- If deaths have occurred, discuss with a veterinarian immediately. If this is not possible, both *WormTest* (request a barber's pole worm test) and treat with an effective drench<sup>3</sup> immediately, then seek advice.
- If deaths have not occurred, *WormTest* now with a barber's pole worm test. Treat with an effective drench<sup>3</sup> if average egg count exceeds 500 epg, then *WormTest* again in 4–6 weeks<sup>2</sup>.
- If results show barber's pole worm is not the likely cause of anaemia and the problem persists, seek veterinary advice.

**E** No treatment is required now if lambs are developing normally and putting on weight (if not seek veterinary advice). Treat at weaning with an effective drench<sup>3</sup>.

**F** Treat at weaning with an effective drench<sup>3</sup> and move to a paddock as 'worm-free' as possible and continue to check closely for signs of worms<sup>1</sup>. In 4–6 weeks if the summer drench was due, treat with an effective drench<sup>3</sup>; if not due, *WormTest* and treat if the worm egg count exceeds 200 epg.

**G** Treat with an effective summer drench<sup>3</sup> and move to (or leave on) a dry pasture or crop stubble. If no drench resistance test results are current *WormTest* 10–14 days after the drench to check for complete worm removal.

**H** *WormTest* at approximately 6-week intervals, starting 6 weeks after the autumn break, until late spring. Treat with an effective drench<sup>3</sup> if average egg count exceeds 300 epg (or a different threshold as agreed with your animal health advisor).

**I** Treat rams with an effective drench<sup>3</sup> prior to joining, OR *WormTest* and treat if average egg count exceeds 100 epg.

**J** Treat sheep with an effective drench<sup>3</sup> between the last week of March and mid-April, OR if in good condition (average Condition Score 2.5 or more), *WormTest*, then treat with an effective drench<sup>3</sup> if average egg count exceeds 200 epg. (Ewes: review the *Drench Decision Guide* again 3 weeks prior to lambing or if there are signs of worms<sup>1</sup>).

**K** No drench is recommended, as worm burdens will be low after the autumn treatment. Review this *Drench Decision Guide* in late spring or if there are signs of worms<sup>1</sup>.

**L** *WormTest* 3 weeks before lambing starts and treat with an effective drench<sup>3</sup> if average worm egg count exceeds 200 epg. Review this *Drench Decision Guide* in late spring or if there are signs of worms<sup>1</sup>.

**M** *WormTest* rams and wethers after there has been green feed for 6 weeks; treat with an effective drench<sup>3</sup> if egg count exceeds 300 epg. Review this *Drench Decision Guide* in late spring or if there are signs of worms<sup>1</sup>.

**N** *WormTest* poorer condition sheep now (average Condition Score less than 2.5) and treat with an effective drench<sup>3</sup> if the average worm egg count is over 200 epg. Otherwise, continue checking for signs of worms<sup>1</sup> and *WormTest* if concerned.

**O** Treat with an effective drench<sup>3</sup> and move to a paddock as 'worm-free' as possible and continue to monitor visually (if scouring persists 5 days after drenching seek veterinary advice). *WormTest* again in 4–6 weeks.

**P**

- Poorer condition sheep (average less than Condition Score 2.5): treat now with an effective drench<sup>3</sup>.
- Moderate/good condition sheep (average Condition Score 2.5 or more): *WormTest* now and drench if average worm egg count exceeds 200 epg. After, continue checking for signs of worms<sup>1</sup> and *WormTest* if concerned.

**Q** Treat at weaning with an effective drench<sup>3</sup> and move to a paddock as 'worm-free' as possible. Continue checking for signs of worms<sup>1</sup> and *WormTest* if lambs are not growing to expectation.

**R** Continue checking for signs of worms<sup>1</sup> from summer through to next spring and *WormTest* if concerned.

**S** Continue checking for signs of worms<sup>1</sup> from autumn through spring and *WormTest* if sheep are losing condition.  
Note: *WormTests* at key times (ewes: pre-lambing; other sheep: winter or spring) will establish an annual pattern and indicate whether routine treatments are necessary.

### <sup>3</sup>Guidelines 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.

#### Long-acting treatments

These are rarely necessary in Western Australia as pasture planning can provide similar options without the risk that drench resistance may develop more rapidly when long-acting treatments are used. You should seek expert advice before using them; more details can be found in the WormBoss Worm Control Program.