



Wombat Mange Assessment

FACT SHEET

When treating wombats with mange, permit holders are required to assess the body score and mange severity of the wombats they are treating, including euthanasia considerations. They are also required to be experienced in the use of veterinary chemicals including the signs of chemical toxicity.

This fact sheet has been developed to provide assistance with assessing and surveying the prevalence of mange in wombats to ensure consistency between surveys undertaken by different groups (e.g., NRE Tas (including PWS), University of Tasmania, Non-Government Organisation, community and volunteer groups).

Mange can be assessed by direct observation and camera surveys. Mange prevalence can also be assessed from road kills, although noting that mange-affected wombats may be more likely to have collisions with vehicles.

Body Score

Mange causes hair loss, skin discoloration, thickening and crusting, open wounds and weight loss. These signs become more clear and severe as the disease progresses.

The body condition of a wombat with mange is scored from a scale of A (very good) to D (poor), see Figure 1.

Mange severity

When assessing mange, the extent and severity of mange should be evaluated on the condition apparent on the side of the animal (see Figure 2). The back and the rump of the wombat are not as appropriate for assessment as these areas are prone to skin aberrations that are typically not the result of mange.

Wombats severely affected by mange are unlikely to recover owing to other complicating factors (e.g., secondary infections, compromised immune system) and require intensive treatment or, if this is not possible, euthanasia on animal welfare grounds.

Body Condition Score	Body Condition
A	Very good: fat, glossy coat appearance
B	Good: healthy appearance
C	Moderate: pelvis/ribs may be visible
D	Poor / extremely poor: emaciated or extremely thin

Figure 1. Modified from Woolnough, AP Foley, WJ, Johnson, CN Evans, M. (1997). Evaluation of techniques for direct measurements of body composition in a free-ranging large herbivore, the southern hairy-nosed wombat. *Wildlife Research* 24:649-660.



Figure 2. The side of the animal is used to assess mange.

Resistance of mites to moxidectin or fluralaner has not been documented to date. However, continued or long-term use of either drug on mite-infested wombat populations could lead to the development of resistance in mites and caution should therefore be exercised when carrying out long term treatment at a population level.

It is imperative that you make every effort to determine if others may be treating wombats in the areas you intend to target.

Mange Score	Hair Loss	Mange Severity Status
0	No sign of mange observed	Healthy
1	Ambiguous, possible hair thinning/skin reddening	Likely healthy
2	<10% of segment affected by mange	Early mange
3	10-40% of segment affected by mange	Moderate mange
4	40-60% of segment affected by mange	Severe mange
5	60-100% of segment affected by mange	Late-stage mange

Figure 3. Modified from Simpson K, Johnson CN, Carver S (2016) *Scarcoptes scabiei*: The Mange Mite with Mighty Effects on the Common Wombat (*Vombatus urinus*), PLoS ONE 11(3)

The extent of mange is scored according to the following criteria outlined in Figure 3.

Toxicity and Resistance

The risk of toxicity to wombats is believed to be low for administration of moxidectin (Cydectin®) or fluralaner (Bravecto®) at the recommended dose and frequency outlined above, however acute (immediate) toxicity is more likely to occur than chronic (long term) due in part to less body fat carried by mange-affected wombats.

Signs of moxidectin or fluralaner toxicity may include one or more of the following: itching, salivation, vomiting, diarrhoea, wobbliness, lethargy / drowsiness, tremors, and seizures. Do not continue treatment in wombats that show any signs of toxicity and report to a registered veterinarian.

Treatment

The use of moxidectin (Cydectin®) and fluralaner (Bravecto®) must occur in accordance with APVMA Directions and Conditions of Use.

Please note that Cydectin and Bravecto are NOT to be used simultaneously. DO NOT use either treatments in conjunction with any other treatments.

Effective treatment is dependent on the availability of access, equipment and personnel to deliver a full course of the recommended medicine. A major cause of treatment failure is when repeat delivery of the full course of treatment is not achieved.

Every effort to identify individuals must be taken to ensure correct treatment; this can be by using mange patterns, scars, fur colour or an identifying



feature. Adding red, blue or green food dye to the moxidectin (Cydectin®) is recommended to identify whether an individual has been treated recently. Paint is not recommended as it may interact with the moxidectin (Cydectin®).

Euthanasia

As a guide, euthanasia of a wombat is acceptable and should be considered if one or more of the following signs are present:

- the animal is extremely thin and emaciated;
- infected smelly wounds or flystrike;
- severe facial crusting leading to apparent blindness, difficulty breathing or eating; or
- 50% or more of the side of the animal is subject to hair loss and mange related thick scabs and crusts.

Hair loss may also occur as a result of fighting wounds, so it is necessary to look for signs of crust development, and other allied signs of mange.

The following images provide examples of individual wombats of different health status and recommended management options.

Euthanasia Methods

The *Animal Welfare Act 1993* prescribes penalties for persons who do not kill animals in a humane manner. It is that person's responsibility to kill an animal in a manner that does not cause unreasonable and unjustifiable pain and suffering to that animal.

MANGE AFFECTED WOMBAT –



TREATMENT APPROPRIATE IF LOGISTICALLY POSSIBLE

HEALTHY WOMBAT –



NO ACTION

MANGE AFFECTED WOMBAT –



EUTHANASIA RECOMMENDED

Photo Credits: K Simpson, S Carver.



Recommended euthanasia methods include humane shooting or lethal injection by a registered veterinary surgeon. Further information is available from the Department by contacting Wildlife Services on 03 6165 4305 or by emailing Wildlife.Services@nre.tas.gov.au .

Carcass disposal

Correct disposal of a wombat carcass after euthanasia is essential to prevent the spread of mange mites and after chemical euthanasia to prevent secondary poisoning of scavenging animals. Recommended disposal methods include deep burial (at least 1m deep), complete burning, or bagging for disposal by a veterinary clinic.

Dependent young of euthanised wombats

All adult female mange-affected wombats that have been euthanased must be examined promptly for dependent young. Orphaned wombats may also be discovered in the course of treating wombats for mange. Any joey found must be reported to Bonorong Wildlife Rescue (all hours) on 0447 264 625.

The joey may be placed with an experienced wildlife rehabilitator permitted by the Department under the provisions of the *Nature Conservation (Wildlife) Regulations 2021*. Wombats have specialised requirements to be successfully rehabilitated for release into the wild, and it is in the best interests of the animal for this to be undertaken by an experienced wildlife rehabilitator.

