



FACT SHEET

APVMA APPROVED MANGE TREATMENT OPTIONS

Permit PER90094 Cydectin/Moxidectin held by (WPSA) Wombat Protection Society of Australia. 4 mL per kg up to 100 mL per dose every 5 – 7 days, for up to 5 doses, delivered via pole and scoop.

SUITABLE: for targeting individual wombats with generalised (including severe) mange of 15 kg and above.

BENEFITS:

- Treatment is completed in 4 weeks or less.
- Currently the fastest method of recovery.
- Most efficient way of completing treatment.
- Safe and efficacious.
- Multiple known infield severe cases resolved.

DISADVANTAGES:

- Not to be used via flap method.
- Spillage via shake off can occur.
- Difficult to administer the targeted animal weekly for 5 doses.
- Not to be used in conjunction with any other treatments.
- Only partial pharmacokinetics published.

This method has been used successfully in the field for over 10 years. Current research is underway by Charles Sturt University, Dr Howard Ralph Southern Cross Wildlife Care, Jarake Wildlife Sanctuary and WPSA.

No toxicity has been observed or reported since the issue of the permit.

Case: Adult free-living male with generalised mange treated under veterinary supervision in the field. Skin scraping from hyperkeratotic plaque confirming *Sarcoptes scabiei* mites. Haematology and biochemistry parameters assessed before, during and after treatment of three 100 mL weekly doses. Visual monitoring by medically trained staff using wombat ethogram. No adverse effects noted and complete resolution of mange with no reinfestation.



FACT SHEET

APVMA APPROVED MANGE TREATMENT OPTIONS

Permit PER89040 Cydectin/Moxidectin 0.8 mL per kg up to 20 mL applied weekly over 15 weeks held by Wombat Protection Society and PER89982 held by Mange Management Inc.

SUITABLE for population treatment via burrow flap or direct application with a pole and scoop.

BENEFITS:

- Can be used as population treatment.
- Volunteers can fill up flaps on a weekly basis without seeing the wombat.
- Can be administered both via pole and scoop and alternatively via flaps.
- Does not have the 15 kg and above restriction.

DISADVANTAGES:

- Takes a long period of time for sarcoptic mange to clear.
- Difficult to confirm doses to the targeted animal for 15 weeks.
- Difficult to confirm success by end of 15 weeks.
- Spillage from flaps by environmental factors or shake off can occur.
- APVMA requires WPSA to provide a letter of authority to individual treaters.

Case: WPSA (as holder of the permit) has not been provided with comprehensive infield outcome studies from anyone acting under this permit. No toxicity has been observed or reported since the issue of the permit.

Two burrow flap trials have been undertaken to reduce sarcoptic mange at the population level. Old et al. (2018) used topical moxidectin (5 g/L) at 4 ml/wombat via burrow flaps on 40 burrows in NSW. Spotlighting surveys showed no significant change in sarcoptic mange infected wombats (Old et al., 2018). Martin et al. (2019) used topical moxidectin (5 g/L) at 1 ml/kg, by placing 5 ml in burrow flaps in Tasmania. There was some initial recovery from sarcoptic mange however, the disease eventually resurged (Martin et al., 2019).

Martin, A. M., Richards, S. A., Fraser, T. A., Polkinghorne, A., Burrige, C. P. & Carver, S. 2019. Population-scale treatment informs solutions for control of environmentally transmitted wildlife disease. *Journal of Applied Ecology* 56, 2363-2375.

Old, J. M., Sengupta, C., Narayan, E. & Wolfenden, J. 2018. Sarcoptic mange in wombats—A review and future research directions. *Transboundary & Emerging Diseases* 65, 399-407.



FACT SHEET

APVMA APPROVED MANGE TREATMENT OPTIONS

Permit PER90837 Bravecto/Fluralaner Spot on for dogs held by Intervet Australia Pty Ltd. 25 mg/kg up to 3 doses, not to be administered at intervals shorter than 1 month.

SUITABLE for targeting individual wombats with mild to moderate mange of above 5 kg. Permit requires veterinary consultation for severe mange and for higher than 25 mg/kg doses.

BENEFITS:

- An additional treatment method for in care wombats 5 kg and above.
- Least number of doses required but over a longer duration.
- Pharmacokinetics published for healthy captive wombats. (n = 5 for 25 mg/kg).
- Permit owned by distributor; no letter of authority required.

DISADVANTAGES:

- Permit requires spot-on application directly to the skin, such as with the Pipette in the primary package.
- Bravecto Spot-on is not to be used in conjunction with any other product for control of sarcoptic mange in wombats, e.g., acaricides such as Orange Power Sticky Spot & Goo Dissolver (Wilkinson et al. 2021) or Cydectin.
- Difficult to locate, apply and assess success in free living wombats over three months.
- Not suitable for severe mange.
- Environmental impacts of fluralaner have not been assessed.

To date Wilkinson et al. (2021) is the only published study on the pharmacokinetics of Fluralaner on wombats. Five healthy in-care wombats were given by spot-on 25 mg/kg and two were given 85 mg/kg. Three wombats taken into care (two juveniles with mild mange and one adult wombat with moderate mange) were used to measure efficaciousness of Bravecto. Clinical resolution of sarcoptic mange was observed, and all wombats remained tick-free for 15 weeks.

Wilkinson, V., Takano, K., Nichols, D., Martin, A., Holme, R., Phalen, D., Mounsey, K., Charleston, M., Kreiss, A., Pye, R., Browne, E., Næsborg-Nielsen, C., Richards, & Scott Carver, S., 2021. Fluralaner as a novel treatment for sarcoptic mange in the bare-nosed wombat (*Vombatus ursinus*): safety, pharmacokinetics, efficacy and practicable use. *Parasites and vectors* 14:18 1-21.