

# Dung beetle care in Tasmania

Having a healthy population of dung beetles on your property makes the rain soak in more and run off less, helps pasture grow faster with less fertiliser, and kills parasitic gut worms in the part of the gut worm life cycle when they are on the pasture.

Chemicals used in parasite control often damage dung beetles & their young. Decisions about chemical use are important in protecting dung beetles. There are often ways to use less chemicals and protect your dung beetles while maintaining worm control.

Here are a few directions to explore:

- Rotating animals to new pastures regularly, so they are constantly leaving the parasite behind, can lead to less need for chemical worming. The longer the break, and the drier the conditions, the more likely the parasites on the paddock will die and not reinfect animals.

- Cropping a paddock as a break from grazing can break the breeding cycle of gut parasites.

- Always getting a faecal worm egg count to see if worming is really needed can reduce the amount of chemical used. Test kits are readily available, or DPIPWEE offers an affordable faecal egg count service through the mail.

- Using robust adult cattle that have immunity to parasites to clear paddocks of parasite larvae before introducing sensitive calves can mean less worming.

- Worming only badly affected animals, and leaving the healthy ones un-wormed, can protect dung beetles, and prevent resistant strains of parasites developing. If you want to know more about this look up "refugia".



-The avermectin group of chemicals are very damaging to many dung beetles. Chemicals in this group often end in 'mectin'. By reading the ingredients on the bottle you can avoid wormers ending in 'mectin' (abamectin, doramectin, eprinomectin, ivermectin, etc).

-The milbemycin group of worming chemicals are not as damaging to dung beetles. If you want to find a wormer with this active ingredient look for moxidectin on the bottle.

-The fungus *Duddingtonia flagrans* is an effective bio-control agent for intestinal worms. It is present in the product 'Bioworma' which has no known negative effects on dung beetles.

-Using worming methods that mean the chemical is on the paddock for as short a time as possible can protect dung beetles. Oral treatments are often cleared from the animal's system more quickly than injectable or pour-on treatments. 'Mectin's' are an exception to this, as they stay around for a long time even if administered orally. Sustained release systems are particularly damaging to beetles as they remain in the system for a long time.

-Careful planning of worming times can also reduce damage to dung beetles. In Tasmania there aren't many beetles active through the middle of winter. Worming in winter instead of summer or autumn can minimise dung beetle damage. You can also check beetle numbers on your pastures before worming.

-Other chemicals commonly used on pastures that are known to damage dung beetles include malathion, Le-Mat, the pyrethroids and carbaryl. Leaving an appropriate length of time after using using agricultural chemicals before re-introducing cattle can help protect dung beetles.

-Talking to your neighbours about dung beetle care can help too. As beetles can fly a long way and between properties, your neighbours worming practices can affect the dung beetles that work on your property.



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The information in this pamphlet was collated from: the book '**Dung Down Under**' by B Doube and T Marshal; the paper 'Effects of the veterinary anthelmintic moxidectin on dung beetle survival and ecosystem functioning' 2007 by P Manning, O Lewis and S Beynon; the paper 'Reductions of non-pest insects in dung of cattle treated with endectocides: A comparison of four products' 2002 by K Floate and D Colwell; the Department of Primary Industries, Parks, Water and Environment website; the pamphlet 'Beetle Power' by P Lawson from Kondinin Group; and personal correspondence.

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