FACT SHEET 2:

Dung Beetle Dire

SUSTAINABLE USE OF WORMERS & OTHER PARASITICIDES FOR CATTLE, SHEEP & HORSES

Dung beetles are nature's bin men! They clear-up dung, fertilise and aerate soils and may control livestock parasite burdens on your pastures.

Unfortunately, some wormers and other parasite control treatments (parasiticides) are toxic to dung beetles and our routine animal treatment with these chemicals may be destroying your dung beetle population. However, there are simple and easy ways in which you can manage parasites in your livestock to reduce impacts on dung beetles and other wildlife and reduce parasite resistance.

1. ONLY TREAT ANIMALS THAT HAVE A PARASITE BURDEN

Check for parasite burdens AND parasite resistance with faecal egg counts and blood tests (don't forget to test for liver fluke too). Your local vet, equine- or farm stores could do this for you. Depending on the results, your vet can advise on whether treatment is required. But remember to ask your vet to think about dung beetles too!

Most mature cattle shouldn't require routine treatment for intestinal parasites as they should have developed resistance

2. TRY TO USE CHEMICALS LESS TOXIC TO DUNG BEETLES WHEN LIVESTOCK ARE OUT ON PASTURE

All parasiticides are labeled with their active chemical. Just take a look on the back of the box or on the instruction leaflet. The order of toxicity to dung beetles of the chemical class you will see is:

Most Toxic → **Less Toxic**

Doramectin | Ivermectin | Eprinomectin | Abamectin | SPs* & Clorsulon & Triclabendazole | Moxidectin | IGRs*

SPs* (Synthetic Pyrethroids) include **Deltamethrin, Permethrin, Cypermethrin & Alphacypermethrin*
IGRs* (Insect Growth Regulators) include **Dicyclanil, Cyromazine

The following chemicals are unlikely to impact dung beetles:

Chemicals ending '-ole'* | Closantel | Monepantel | Nitroxynil | Praziquantel | Pyrantel

Albendazole, Fenbendazole, Levamisole, Mebendazole, Oxfendazole, Ricobendazole.* As far as we are aware, no data are currently available for **Derquantel or **Oxyclozanide. Diazinon** is an OP (Organophosphate) used in fleece dips. It is excreted in the urine so, whilst it is unlikely to impact dung beetles, it may have a negative impact on beneficial soil invertebrates.

Deckomax = Doramectin
Eqvalan, Equimax, Noromectin = Ivermectin
Equest gel, Equest pramox = Moxidectin

Paracur = Fenbendazole
* Check Label *

3. DO NOT MOVE ANIMALS ONTO CLEAN PASTURE IMMEDIATELY AFTER TREATMENT / KEEP ANIMALS IN AFTER TREATMENT

Best practice is to keep animals off pasture for at least one week after any treatment to ensure that a large proportion of the chemical has been passed in the dung. However, this is often unfeasible and some chemicals are excreted in a high enough concentration to affect dung beetles for many weeks after treatment. Be aware that any products that are 'long-acting' will affect dung beetles for a much longer period. Make sure to keep animals in the same field for a few days after treatment and **do not** move them onto clean pasture immediately after treatment, as this will select for parasite resistance.

4. DO NOT UNDER-DOSE

Weigh animals, don't guess. Parasiticides are not effective if the animal is not given the correct dosage. Under-dosing is an easy way to accelerate parasite resistance.

5. THINK ABOUT ADDITIONAL OPTIONS

If possible, rotate stock around fields and allow fields to rest for at least 3 weeks between grazing with the same animal species. Rotate animal species around pastures (e.g. follow cattle or horses with sheep). Stock and pasture rotation can help break parasite lifecycles and helps to reduce the build-up of parasite resistance to parasiticides. **Avoid treating all stock with parasiticides at the same time** to ensure that there is always some non-toxic dung available to dung beetles.

6. DEVELOP A PARASITE CONTROL PLAN WITH YOUR VET

Correct parasiticide rotation will help slow down parasite resistance. By using parasiticides less toxic to dung beetles during the grazing season you will also protect your dung beetles.

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