And Now for Something Completely Different...
Lucy Johnson MA VetMB MRCVS

If you've ever poked around in livestock dung on your farm, chances are you've spotted a few dung beetles. In recent years we've come to appreciate the importance of these insects, and also their scarcity as their lifecycle is interrupted by many common farming practices – around half of the 60 UK species of dung beetle are currently considered threatened or worse.

What can dung beetles do for us?

A lot! As the name suggests, these small beetles (measuring 3-26mm) live in and help to process dung. They can live in the dung of all livestock species, so whether you are keeping cattle, sheep, goats, pigs or alpacas they can still work for you. One of their main benefits is to soil health. Many species will tunnel down into the soil, taking nutrient-rich dung with them which improves soil structure and drainage. They can also help to control common parasites of livestock by making dung less suitable for worm eggs to develop in and through partnership with phoretic mites which eat fly larvae. In conjunction with other sustainable parasite control strategies, a healthy population of dung beetles can help to control worms in our livestock without the need for worming products.

How do they do it?

Different species act in different ways and bring different benefits. We have 3 main groups of beetles in the UK which either dwell within or just below dung pats (dwellers) or dig tunnels up to 1 metre deep into the soil (tunnellers). In order to raise their young, the beetles need to create a 'nest' of some kind out of dung for their larvae to feed on. In doing so they break down the pat, allowing it to decompose faster, and drag dung into the soil below.

What can we do for them?

A few simple changes to management practices can make your farm an ideal home for dung beetles, allowing you to reap the rewards of improved soil quality and reduced parasite burdens. Consider the following to support populations on your land:

1. Outwintering stock where possible
Different species of dung beetle are active at different times of year and their emergence or dormancy may be triggered by weather patterns, which are becoming less predictable. By having stock, and therefore dung, on your land throughout the year you ensure food and a home is available for any emerging beetles.

2. Increasing fibre in the diet
Dung beetles cannot survive in pats which are too wet as they can drown and are unable to make balls of dung to take into the soil. By increasing the fibre content of your animals' diet you can

improve the consistency of dung, at least from a dung beetle's point of view! Remember to consult a vet or nutritionist before making significant changes to diet.

3. Reducing anthelmintic (wormer) use
Many commonly used wormers are known to have off-target effects, meaning that as well as killing the worms we're targeting they also kill dung beetles and other vital invertebrates. By following SCOPs principles for sustainable parasite control it is possible to minimise wormer use.

We can survey dung beetles on your farm throughout the year and monitor the impact of management strategies on their populations. Speak to a vet about how we can help you!

Several species of the dung beetle (especially *Scarabaeus sacer*, or the 'sacred scarab beetle'), enjoyed a sacred status among the ancient Egyptians. This picture shows a scarab depicted on the walls of Tomb KV6 in the Valley of the Kings.

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Two dung beetles fighting over a ball of dung.

Rafael Brix, used with permission under the Creative Commons Attribution-Share Alike 3.0 Unported license.

BVD Explained (in skittles)
Lucy Johnson MA VetMB MRCVS)

1. Before infection
You have a naïve cattle herd which has never been exposed to BVD. There is no infection within the herd.

Yellow = naïve (not exposed to BVD)
Green = immune
Red = PI (shedding virus)

2. Infection enters the herd
Infection can enter the herd in many ways as BVD is very infectious. One common way is that a persistently infected (PI) animal enters the herd, either by being born on the farm or bought in.
These animals shed huge amounts of virus for life, never become immune to BVD and will eventually die of the disease, but can live up to several years before this happens. Disease can also enter through contact between infected animals, especially in calf cows and heifers, or by people or machinery carrying virus onto the farm.

3. BVD spreads through the herd
Cows and calves become infected with BVD and their immune system clears the virus. Antibodies are generated and they are now immune to BVD. During the infection they may become sick, common signs include scour and abortion, and their immune system will be depressed making them less able to fight other diseases such as pneumonia.
When in-calf cows and heifers become infected there is a chance their calf will be born a PI and will continue to spread infection within the herd.
If no action is taken, BVD will continue to spread within the herd causing abortions, infertility and immune suppression. There may be losses as PI animals die of the disease.

4. Removal of PIs
The first step to eradication of BVD in the herd is identification and removal of PI animals. This can be done with a blood test, which may need to be repeated in 3 weeks' time, or an ear tissue sample (known as tag and test). PI animals shed huge amounts of virus so removing them stops infection spreading. Remember that in-calf animals may be carrying a PI calf so continued monitoring for PIs is important.

5. Vaccination and biosecurity
Once active sources of infection are removed, vaccination and biosecurity are key to preventing re-entry. Annual vaccination of cows and replacement heifers gives them good immunity to BVD. Informed purchasing decisions to avoid buying in a PI and tightening up farm biosecurity to prevent contact with infected animals remains important as vaccination is not 100% effective. The herd is now protected against BVD.

RABI Fundraising Quiz Night
7.30pm
Thursday 19th October 2023

£10 per person to include pie and pea supper

Max 6 people per team

Booking essential. Please call the Scarsdale Markeaton office to reserve your ticket.

Booking and dietary requirements needed by 5/10/2023

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Worming ewes around tupping
Chris Daykin BSc BVSC MRCVS

In the past, it has been common to treat all ewes pre-tupping. This was advised to prevent contamination of clean pasture in the spring. However, there is now strong evidence to stop blanket treatment of the whole flock with anthelmintics. It is shown that worming pre-tupping does not improve overall performance of the flock. A healthy ewe would normally have a good acquired immunity to worms meaning that only a small number of adult worms would stay in the gut. Any 'dose and move' strategies are highly selective for resistance to wormer, as the worms that survive have a much higher reproductive advantage.

Taking faecal egg counts pre-tupping is a great way to see how low the worm population could be in the flock as a whole. SCOPS is now advising that only lean, immature or clinically affected ewes should be treated with wormer pre-tupping. An exception to this would be any flocks with known exposure to Haemonchus – we would advise that you get in touch with your vet if this is relevant to you.