



Media release

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### **Ballance research suggests grass grub control opportunity**

For many farmers, by the time it becomes evident that they have a grass grub problem it's too late in the season to do anything about it.

Now, after a period of intensive research, Ballance Agri-Nutrients believes it is close to providing more certainty for pastures in their second year after cultivation, enabling farmers to apply Bioshield Grass Grub in complete confidence from mid February to combat a problem that they wouldn't have noticed until April.

Warwick Catto, Ballance Agri-Nutrients Head of Agro-Sciences, says extensive sampling and counting has determined that the probability is very high that grass grub populations on light soils will be high enough to treat with Bioshield Grass Grub two years following cultivation.

'This has yet to be confirmed conclusively, which we are working toward, but the preliminary indication is that farmers can act to control the situation at that stage and will see the benefits for several years.

'Most farmers have no idea that they have a pending grass grub problem in February or March, say, which is the best time for Bioshield Grass Grub application. It becomes evident only in late April or May, by which time it is too late to apply Bioshield Grass Grub for optimum results.'

The fertiliser cooperative has conducted field research that involved digging hundreds of sample holes on a range of pastures, and then counting the life forms present.

It recommends that a grass grub count of 50-150 per square metre requires Bioshield Grass Grub treatment. Bioshield Grass Grub is a live bacterium drilled into the soil in dry granule form. This can be applied with further grass seed, to "top up" the pasture.

'If left until next year, i.e. three years from cultivation, you'll have a count of about 200-400 per square metre, and even if you halved that number with Bioshield Grass Grub, the grass grub population would still be high enough to cause economic damage.

'The Bioshield Grass Grub bacterium spreads through the grass grub population – it doesn't affect beneficial soil life forms such as earthworms and wire worms – killing off about half of it. It's not designed for a total kill, as the subsequent lack of prey would also eradicate grass grub predators such as the wire worm, leaving the way clear for a future grass grub infestation.'

Mr Catto says the challenge for farmers seeking a good result is to know how many grass grubs are present, and that means sampling a lot of holes. It is worthwhile to also count the predators present, and clover nodules, to get a full picture.

'We found that where the soil had been cultivated there were next to no live wire worms present and fungal and other bacterial diseases that could restrict grass grub infestation were also absent. Two years after cultivation, the grass grub population was at a level that required treatment.

'That's why we are proposing that it is prudent to apply Bioshield Grass Grub from mid to late February on land that was cultivated two years ago, even if there is no sign of infestation. We are confident that it is needed, and will do the job for several years hence.

'It is important to realise that grass grub can be treated on a per paddock basis.'

Grass grubs become less mobile from April onward, and therefore can fail to contact the Bioshield Grass Grub bacterium. By July they have moved down about 10 cm into the soil to pupate into the brown beetle by October-November.

Mr Catto stressed that pasture damage seen in January on farms north of Putaruru would almost certainly be black beetle, not grass grub, and it was necessary for farmers to understand the different lifecycles of these two pests.

'Farmers noticing grass pulling in January might assume it's grass grub and apply Bioshield Grass Grub, which won't kill black beetle.'

In a general sense, the large "third instar" black beetle larvae eat the roots of grass in January, pupating in February to surface in March as an adult. Black beetle larvae do not eat clover roots, so pastures affected by black beetle tend to be clover dominant.

'Black beetle adults live in the top centimetre of soil. They eat anything green, including emerging seedlings sown in March and April. You need to use treated seed in the black beetle zone to kill the black beetle adult as it feeds.'

The life cycle of black beetle is quite different to grass grub. The adult lives in the top centimetre of the soil all winter, mates, lays eggs and dies about November. The grass grub, on the other hand, spends the winter as a larva in the soil, pupating in spring to emerge as an adult brown beetle in October/November to mate, lay eggs and die.

'If you plant the wrong variety of grasses, with the wrong endophyte, then more black beetle adults will survive the winter, and the population will grow. You must control them so fewer eggs are laid.

'Ballance has qualified technical sales representatives throughout the country who can help farmers make the right decisions. Anyone in doubt should give them a call on 0800 222 090.'

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