

AR37 protects your ryegrass from black beetle

Black beetle larvae have been causing serious damage in the Waikato, Bay of Plenty and northern regions over recent weeks. The damage has become obvious as soils have dried out and the root feeding larvae grow to their maximum size. Larvae often chew right into the crown of ryegrass, meaning that those plants will not recover even with the recent rain.

The last 2 years have seen black beetle populations increasing over the region. Understanding the beetle's lifecycle is a key to understanding why this has happened. At this time of the year the larvae are reaching maturity and pupating before emerging as the adult beetle. The adult beetle will not lay eggs until spring so it needs to feed in order to survive through autumn, winter and early spring. Two factors are critical to enable the adult beetle to feed. The first is temperature. The beetle becomes inactive in cold temperatures so warm autumn and early winter temperatures followed by a warm early spring will allow the beetle to feed for a long period and increase its chances of survival until it produces its eggs around October. The second factor governing beetle survival is the availability of plants on which it can feed. This is where endophyte is important because it deters the adult beetle from feeding and if it can't find alternative food it will die before it lays its eggs. AR1 has only a mild deterrent effect on the adult so often the beetle will survive on AR1 and give rise to damaging larval populations. The alternative is AR37 which is considerably more active against black beetle than AR1.

In several trials carried out comparing the effects of different endophytes in Waikato, ryegrass with AR37 has out-performed the standard endophyte and AR1 every time, yielding up to 18% more dry matter. Last year in the Waikato, AgResearch scientist, Alison Popay, observed AR37 pastures persisting through the prolonged drought extremely well and much better than either AR1 or the standard endophyte. Protection from black beetle is a major factor in favour of AR37 but it's not the only one. AR37 also protects ryegrass from infestations by a small root aphid which sucks the plant sap, thereby reducing its vigour. This aphid has only recently been recognised as a pest. It is widespread throughout New Zealand and can reach very high populations. Neither AR1 nor the standard endophyte has any major effect on this aphid.

To maximise investment in AR37, it's important that the seed is sown into clean paddocks that are free of contamination by other grasses that beetles can feed on. This includes paspalum, summer grasses and poa. It is also recommended that seed be coated with a proprietary insecticide product. This will aid establishment by killing some of the resident pests, including black beetle adults, which can damage young seedlings. AR37, as for other endophytes, will not give complete protection of seedlings from black beetle attack.

It's worth noting too that sowing annuals into a damaged pasture for winter feed before sowing a maize crop in spring is likely to exacerbate an existing black beetle problem. The black beetle will happily feed on the annual grasses and then on the young maize seedlings in spring while it is highly likely that the larvae can also survive the summer by feeding on maize roots.

Agricom market three perennial ryegrasses Commando, Halo and Samson with the AR37 endophyte.



12 month old perennial ryegrass pasture in the Waikato, AR37 v AR1 in the same variety