

AR37 shines in Northern regions

It's in the nature of a scientist to be always looking for something new or better. Kerikeri-based AgResearch plant breeder Bruce Cooper is no different.

He was involved with the testing of the ryegrass endophyte AR37 following its identification by some of his colleagues in 1996, and has since been engaged in a search for other endophytes that confer greater benefits.

An endophyte superior to AR37, however, continues to elude him. "AR37 is still one of the major breakthroughs in grasses that I've seen over the years," says Cooper whose plant-breeding career spans more than 30 years.

The growing body of trial work on AR37 continues to confirm its superiority throughout the country, but in Northland it offers greater advantages than anywhere else. Nationally it outperforms standard toxic endophytes, in terms of dry matter production, by 12 per cent but in Northland the figure is 21 per cent; even compared with its nearest rival AR1, it has been shown to produce 15 per cent more dry matter in Northland.

With black beetle pressure significant through many regions Taupo north in recent years, the application of the AR37 endophyte in the Waikato and Bay of Plenty is now obvious and confirms the role the AR37 endophyte will play in the future of the dairy industry.

AR37 has proved suited to Northland conditions on three main fronts. The first is the obvious one, black beetle resistance. Few farmers on the low-lying free-draining areas of the province — where most of the dairying takes place — have not experienced the depressing sight of a new young pasture completely wiped out by the beetle. So the fact that black beetle was among the five insect pests to which AR37 conferred resistance would be key to its uptake by Northland farmers; AR1 has no answer to this pest.

But a strange thing has happened in the remaining 70 per cent of Northland's soils, the heavier clays or gumlands, where black beetle is not typically a problem. AR37 increased dry matter production in these soils, too. The researchers eventually found the reason: a pasture pest, not previously considered significant, called root aphid. AR37 provided sufficient resistance to root aphid to boost production for farmers who did not even realise they had a pest gnawing away at the roots of their ryegrass plants, including those populated with standard toxic endophyte with those sown with AR1.

While these two pests are the major reasons for the superiority of AR37 in Northland, Bruce Cooper reckons there is a third one: he says AR37 plants seem stronger through summer. Plants in AR37 pastures, he says, have a few more tillers and they "seem to recover that much better in the autumn." He called it "a subtle persistency" that enables the ryegrass plants to recover more readily from stress.

While there have been some instances of RGS in sheep on ryegrass with AR37, in six years of observations on commercial dairy properties, there haven't been any reported instances of RGS in any class of dairy stock.

Cooper has now been involved a good number of AR37 trials and its consistency continues to impress him: "It's never let us down; it has always performed. We've tried it in a number of different situations and it's always come through."

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



12 month old long-rotation pasture in the Waikato, AR1 v AR37 in the same variety