

Pastures for Profit[®] Tips

Autumn 2010



Welcome to this autumn edition, which has slightly more content than usual. We have chosen to do this because we wanted to address some of the 'hot topic' issues around pasture persistence and endophytes. If you want more details about any of these items, please email us. We hope you find something of interest.

AR37 best endophyte for the North

An analysis of ryegrass cultivar trials in Northland has confirmed that ryegrass infected with AR37 endophyte gave the best agronomic performance.

Advantages in dry matter production from cultivars infected with AR37 compared with AR1 ranged from 5 to 94% over the 12 different years trials were run.

In some trials, large advantages to AR37 could be explained by black beetle presence on the site, but large advantages also

occurred in trials where black beetle was absent, but root aphid was present. When deciding on ryegrass for autumn sowing, remember the importance of endophyte and what AR37 offers.



The same variety ryegrass with AR1 (left) and AR37 (right).

AR37 in New Cultivars

This autumn two more cultivars will be available with AR37 endophyte.

Ohau AR37 is a tetraploid long-rotation ryegrass with strong winter and early-spring growth. Its rapid establishment makes it an ideal option for undersowing into older ryegrass pastures. The benefits from undersowing with Ohau AR37 are longer-lasting than using nil-endophyte Italian ryegrass, which has no protection from insect damage. Ohau AR37 is also a good option as a medium-term pasture established after crops, as it has rapid growth and high feed quality, especially in regions exposed to black beetle, porina, root aphid and other insects.



Halo tetraploid perennial ryegrass.

Halo AR37 is a tetraploid perennial ryegrass with a very late heading date (+25). It has yielded very well in trials to date, and has particularly good seasonal growth in winter, summer and autumn. Halo AR37 is a good choice for farmers wanting a perennial pasture with maximum feed quality and pasture growth.

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Ohau AR37 and Halo AR37 complement existing cultivars from Agricom with AR37, namely Commando AR37 and Samson AR37.

Plantain for High Performance During Lambing

Sole stands of Tonic plantain can be used to boost the performance of lambs and their mothers during lambing, resulting in greater liveweight per-head at weaning.

Two years of research by Agricom has found that lambs from Tonic pastures had a mean of 5.2 kg/lamb greater liveweight at weaning compared with lambs from perennial ryegrass pastures. This resulted in up to 85% of lambs from Tonic achieving 36 kg by weaning, compared with just 39% of lambs from ryegrass. Ewes were also 11.8 kg heavier at weaning on Tonic pastures, which would be an advantage if lambing hoggets and also for summer-dry farms.



Tonic boosts weaning weight of lambs.

Despite growing similar amounts of forage, carrying capacity of ewes was lower on Tonic pastures because ewes or lambs probably ate more individually. This resulted in slightly lower total weaning weight per-hectare for Tonic compared with ryegrass pastures.

Tonic therefore could have a role as a specialist lambing pasture on part of a farm. It should be especially beneficial for stock groups that would normally struggle to achieve good weaning weights for both lambs and mothers, including; triplet-bearing ewes, twin-bearing hoggets, and hoggets with low bodyweight at lambing.

AR37 Reduces Insect Build-up

The populations of insects were monitored in a DairyNZ trial that evaluated the milk production from Commando perennial ryegrass with AR37, AR1, standard or no endophyte in the seed.

Measurements over the three years confirmed other trial data. AR37 pastures had the lowest overall insect pressure from Argentine stem weevil, black beetle, root aphid and grass grub, and had the highest tiller densities and survived drought better than standard and AR1 endophyte.



Black beetle larvae.

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AR37 and Milk Production

The DairyNZ trial on Scott Farm (Waikato) compared Commando perennial ryegrass-based pastures infected with AR37, AR1, Standard (HE) or without endophyte (Nil).

The project aimed to measure ryegrass persistence and pasture yields and to assess any effects of the AR37 endophyte on cow health and milk production.

In the fourth and final milking season white clover was removed to test the effect of endophyte/ryegrass association in isolation from any effect on clover content of pastures. The following bullet points present a summary of results from the four seasons.



Milk production unaffected by AR37.

Overall conclusions:

1. AR37 ryegrass was clearly more persistent than either AR1 or Standard (HE) ryegrass. This supports findings from previous work.
2. The greater persistency translated into a reduced need for renovation of AR37 pastures after the 2008 drought, but in the three years before that time there was no difference in total pasture yield.
3. There was no sign of ryegrass staggers or any other animal health issues in cows grazing AR1 or AR37 pastures – even at times when cows grazing HE were affected by ryegrass staggers.
4. With ryegrass/white clover pastures, there was a trend for slightly lower milksolids (MS) production over summer from cows grazing AR37 or HE compared with AR1. With pure ryegrass pastures there were no significant differences in MS production. These results suggest that the higher clover content of the AR1 mixed pasture was a contributing factor to the observed MS production differences.
5. Where pasture persistence is the top priority then AR37 will clearly deliver benefits. Where persistence of AR1 ryegrass is not a problem, continuing to sow AR1 is advised. DairyNZ cannot envisage any situation in which farmers should sow HE ryegrass.

DairyNewz, Summer 2010

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New Triticale Released

Agricom have released a new triticale cultivar this autumn. Prophet is a multi-graze triticale with some different characteristics to the popular DoubleTake. Prophet is slower to generate feed in the first two months after planting, but has better tolerance of imperfect grazing and stronger recovery. The slower start means it will mostly be used where only one winter grazing is required.



Prophet in winter after cutting (left) and uncut (right).

In spring, it has improved yield and quality potential for whole crop cereal silage over DoubleTake, so may be preferred where silage is the most important outcome. DoubleTake will continue to be available because many farmers are pleased with the amount of grazing in winter that can be achieved with this cultivar.

New Oat Released

Coronet is a new oat with excellent disease tolerance and its long maturity ensures good quality in late winter/early spring like Hokonui oat, which has been hugely successful in the South Island. Coronet's excellent disease tolerance also makes it a strong candidate for the North Island.



Coronet has excellent quality at grazing.

Coronet's main advantages over Hokonui are increased disease tolerance and yields, while maintaining the positive attributes of long maturity, cold tolerance and a high leaf to stem ratio resulting in high feed quality. When planted early in autumn, the long maturity of Coronet means quality is still high when grazing during June/July/August. Coronet contrasts with Milton oats, which mature faster and should be grazed earlier, or sown later in the season.

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Grazing Tall Fescue in Autumn

In autumn, tall fescue pastures should be grazed slightly differently to ryegrass, to improve pasture density and spring production.

From the second autumn after planting, tall fescue produces short rhizomes (underground stems) which grow in the soil and come up 1-4 cm from the original plant, to form a new tiller and later, a sub-plant. This is an important persistence mechanism of tall fescue. Autumn is also when tall fescue produces most of its new tillers, and replaces energy stored in the base of tillers and roots, which all contribute to stronger growth in early-spring.

This development of the plant can be encouraged with nitrogen fertiliser and changes to grazing during the March to May period. Higher residuals should be left behind after grazing (e.g. 7-10 cm), because more stored energy is available for regrowth, and this also results in more new tillers being formed.

Spelling the pasture longer between grazings (e.g. to 20 cm height) also builds higher energy reserves in roots and stem bases, and improves early-spring growth.



At least 7 cm should be left after grazing in autumn.

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