

# Pastures for Profit® Tips Autumn 2009



Welcome to the autumn '09 edition of Agricom's Pastures for Profit® Tips

## Benefits of Drilling Cereal Crops/Ryegrass as Opposed to Broadcasting

One of the most important aspects of seed germination, as well as soil fertility, temperature and moisture, is seed depth and placement. A lot of time and money is spent on establishing a good seed bed only to have birds destroy a crop because seed wasn't placed at an even depth below the soil surface, especially with cereal crops. Bird droppings and empty husks are common sights after cereal crops are sown by broadcasting, because discs and cultivators do not accurately achieve uniform seed depth to prevent birds feeding on grains and allow good germination.

For correct germination the seed needs to go into a fine-firm seed bed and cereal crops need to be drilled between 25-50 mm in depth. Ryegrass needs only a slight amount of soil coverage, and is also tolerant of depths up to 30 mm. Clover seed in summer moist environments (South Otago/Southland) is best planted with a roller-drill, or can be broadcasted after drilling grasses, as the clover seed generally falls between the grass rows, encouraging spread of clover and reducing weed establishment.

Consolidation of the soil after sowing in light friable soils is important to get good seed-to-soil contact and to conserve moisture in drier climates. The reason drill manufacturers produce drills with depth settings is that some seeds have different depth requirements. Time and money can be saved if you follow these basic rules as well as giving you an even crop or pasture to deal with.



## Ashburton Race Track

Outstanding grasses and the best harness racing event of 2009, have come together at Ashburton.

In November 2008 the Ashburton Trotting Club planted the centre of their race track with Agricom grasses, to maximise forage production and create income from the land. It was planted in a mixture of Samson AR37 perennial ryegrass and Sensation red clover, and silage will be harvested and sold. AR37 was an important technology to use because irrigation and silage production creates a haven for porina caterpillars, often devastating pastures. The AR37 endophyte provides the plant with resistance to porina, as well as most other insects.

Strips were planted in the middle to demonstrate some key ryegrasses, including Commando AR37, Ohau, ONE50 and Crusader. These strips are surrounded with Charlton timothy and Sensation red clover, which can produce extremely high quality silage and hay. See if you can pick them out on 30 May this year when the Harness Jewels are held at the race track.



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## AR37 Endophyte research – the story so far

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.

### 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 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. There was a trend for slightly lower milksolids (MS) production over summer/autumn from cows grazing AR37 or HE compared with AR1.
5. Where ryegrass 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.

Regarding point 4, Errol Thom (DairyNZ Senior Scientist) noted “DairyNZ cannot be conclusive on reasons for the superior performance of AR1 over summer/autumn, but we expect that differences in clover content of the pastures (AR1 higher than AR37) had a positive effect on MS yields of cows grazing AR1 pastures.”



AR37 pasture showing persistence over the same cultivar with Nil endophyte at the DairyNZ trial in the Waikato during the drought early in 2008.

Source: Dairynewz, Summer

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## Lucerne Grazing

Lucerne planted last spring will hardly flower in the first summer, so the timing for first grazing should be once it has reached 15-20 cm in height. This first grazing should be for a brief period (1-3 days).

Subsequent grazings should be the same as recommended for established lucerne. You do not need to wait for flowering in summer when cutting or grazing. Graze or cut after 2000 kg DM/ha or 15 cm in height has been reached. Grazing should not exceed seven days, because grazing the plant stimulates formation of new shoots at the base of the plant, and these should not be damaged by grazing as they determine subsequent production.

In autumn it is important to spell lucerne from grazing until 30-50% of the plants have flowered, as this builds root reserves for next season's production.



## Lucerne Management in Autumn

It is important to give lucerne one good spell from grazing or cutting in autumn, until about 50% of plants have initiated flowers. This allows the plant to store energy in its root system, which drives production in the following spring. Timing of this can be from February to early-April (North Island). The majority of herbage should be grazed off in early-winter (May-June), and a few weeks later it will be ready for its winter herbicide application.

## Nitrogen for Free

Recent changes to the prices of fertiliser, now mean that red clover virtually pays for itself with the "free" nitrogen (N) it provides.

The amount of N fixed by clover is proportional to the amount it grows. Red clover is up to twice as productive as white clover over summer, the main period for nitrogen fixation. The value of adding red clover to a grass mix can be \$250/ha/year of free N, but seed costs are only \$90/ha (\$30/year).

Also, the performance of animals increases as the proportion of red clover in a pasture increases, with lambs growing more than twice as fast on pure red clover than they do on pure ryegrass. So simply adding red clover to seed mixes can help reduce annual maintenance costs, and also increase production.



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## Facial Eczema Control

Facial eczema is a frequent problem in North Island regions, affecting the fertility and growth rates of sheep and cattle in summer and autumn, costing the meat industry alone between \$80 and \$100 million annually.

Research on-farm has shown that species such as chicory, red and white clover, and tall fescue have potential in assisting in facial eczema control, because spore levels are consistently lower in these species compared with ryegrass. It is generally considered that these species support higher animal performance compared with ryegrass.

These lower risk FE pastures can be established by planting chicory and red clover as a pure pasture, or mixed with tall fescue. For maximum control it is important to prevent ryegrass plants establishing within these new pastures, as this will again elevate the risk.



## Ryegrass Endophyte in Hay and Silage?

What happens to toxin levels when ryegrass pasture with wild-type endophyte is made into silage or hay?

Compared with the original pasture, Lolitrem B (the cause of ryegrass staggers) levels are only slightly reduced in silage and hay stored for four months, and is actually increased after seven months of storage.

Ergovaline (which reduces liveweight gain and interferes with blood circulation) levels decline when made into hay to 30-50% of original levels. However, in silage wilted for a day, ergovaline levels actually increase in silage by 40% after seven months of storage.

The level of toxins at the time of harvest will obviously have a major influence on levels in silage or hay, with early-spring harvests having lower levels than late-spring and summer.

Some care therefore needs to be taken when feeding silage or hay made from wild-type endophyte pasture. If fed out in summer or autumn when grazed pastures are also high in toxins, it is likely to aggravate animal health and production problems.



**We hope you have enjoyed this Pastures for Profit® Tips newsletter and wish you all the best for the season ahead. If you would like further information on any of these articles please do not hesitate to contact us.**

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