



Take another look at ryegrass management

Dairy is back operating in a low milk price environment requiring low cost production options. "For dairy farmers in temperate regions, it is an ideal time to revisit ryegrass management and look for opportunities to get more from their existing ryegrass pasture", says Greg O'Brien, extension leader with Project 3030. "Fortunately, there is still potential to get more from ryegrass. For the majority of south eastern Australian rainfed farms, it is still likely to be the easiest and most efficient way to improve the bottom line".

Over the last three years, dairy research Project 3030 recorded between 7.5 and 20% return on assets from a perennial ryegrass-based dairy farmlet operating at DemoDairy, Terang, SW Victoria. Profit is obviously affected by milk price and feed price. But even at \$4/kg milk solids, the 3030 ryegrass system still returned 4% on assets during the drought year in 2006/07. In 2007/08, the return was 6% using the same milk price and the actual feed prices paid. A 10% return was achieved where grain was costed at \$225 per tonne, pasture hay at \$150 and lucerne hay at \$200.

"The ryegrass-based production system can stand up to seasonal and price shocks very well," says David Chapman, project leader for 3030. "The good news for farmers is that pasture management used on the 3030 ryegrass farmlet can readily be applied on commercial farms".

A key principle behind making more money from perennial ryegrass pasture is to convert extra growth into milk at lower cost than the feed it replaces (eg concentrates or purchased fodder). This is not to say supplements weren't important in achieving the result in the 3030 farmlet: around 1.4 tonne of concentrate and 0.6 tonne of home-grown silage was fed per cow along with some purchased hay.

"Profit doesn't automatically come from growing ryegrass pastures, says David Chapman. "Timely decision making and the right management plan is required".

A series of four articles will track the seasonal ryegrass farmlet management throughout this year. The following focuses on spring management.



Spring

In theory, spring grazing is no more difficult than other times of year but somehow the practice often goes off the rails. Things happen more rapidly, and control can be lost before this is realised. 3030 believes this is the biggest opportunity for improvement in ryegrass consumed on dairy farms.

Part of the problem appears to be the focus on offering luxury amounts of pasture to achieve high cow production. It is generally assumed that high pasture utilisation results in low per cow performance. 3030 consistently achieved 600 kg MS/cow whilst achieving high utilisation. Luxury amounts were not offered in the 3030 system.

Spring management is about keeping strictly to the grazing guidelines used in winter. It requires accurate daily pasture allocation. It also requires accurate identification of pasture that is surplus to cow requirements and ensiling this as high quality feed.

1. *Accurate pasture mass at grazing.* 3030 farmlet managers worked backwards from milk production. Concentrates were set at the desired level and the pasture required to provide the necessary feed to meet milk production was calculated. By altering the rotation length in response to changes in pasture growth rates, pasture mass pre-grazing was around 3,000 kgs DM/ha, enabling the area offered per milking to be kept fairly constant. To achieve this, the area allocated for silage is varied (see point 4).
2. *Residual after grazing ~6cm.* A high pasture residue after grazing is the enemy of both high pasture utilisation and high per cow performance. The height of pasture remaining after grazing should not change during the year. 3030 targets 1600 kgs DM/ha residue after grazing (~6 cm) between the clumps). Often the residual is allowed to increase on farms during spring to achieve a high pasture intake. Initially, a one-off higher intake of pasture may be achieved, but significant downsides in subsequent grazings will always result unless the effort is made



- to top after every grazing. This approach would result in wasted feed/lower pasture utilisation.
3. *Pre-grazing topping may help.* In general, cows readily graze soft leafy pasture to the desired 6 cm without the need for topping. High milk production is also maintained. Topping before grazing is used in the 3030 system but only when there is a risk of not achieving the target residual pasture height through grazing alone. This can occur if pastures get bulky and start to lodge, or if there is sufficient hardening of the ryegrass stems.
 4. *Ensilage the spring surplus at peak quality.* Silage making is an important tool for keeping pastures in peak quality and maintaining high growth and utilisation. Candidates for silage are the pastures that are next in line for grazing but exceed target pre-grazing mass. In the 3030 system, they are skipped and conserved soon after to ensure high energy and protein silage is made. This is important for maintaining high milk production when fed back but also for ensuring pasture density remains high to support high growth rates.
 5. *Buffering against changes in growth rate.* Growth can change rapidly during spring, so it is not a good idea to use a fixed rule year-in, year-out for the area to make into silage. Rotations of 20 - 24 days are used on the farmlets during peak spring growth. Short rotations and low mass at grazing makes it harder to respond to changes in growing conditions. Weekly monitoring is required to ensure the right area of pasture remains in the grazing rotation.
 6. *Use nitrogen tactically.* Nitrogen is used tactically in the 3030 system, depending on the cost-effectiveness of generating extra silage. There is a budgeted tonnage of a quality fibre source to fill milker feed gaps outside of spring. If using nitrogen to produce extra silage compares favourably with purchasing options, nitrogen fertiliser is applied to boost growth. Generating extra home-grown silage in a drought year can be used to manage risk.



Project 3030 seeks to increase the return on assets in dryland dairying regions by 30%, through a 30% increase in the consumption of home-grown forage.

The project is supported by dairy farmer R&D levies through Dairy Australia, DemoDAIRY, WestVic Dairy, GippsDairy, Murray Dairy, and Dairy SA, along with the Gardiner Foundation, the Department of Primary Industries Victoria and the University of Melbourne.

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