

## Sustainable Productive Support Land for South Island Dairying

An increasing number of South Island dairy farmers are choosing to use their land as a milking platform, and therefore rely on feed and grazing from other farm sectors, or from their own runoffs. Support land for dairying therefore includes run-offs, peripheral or adjoining land to the milking platform, and non-dairying land farmed by others that is used to provide grazing or feed inputs.

The “Dairy Support Land Project” is managed by the South Island Dairying Development Centre and funded by the Sustainable Farming Fund and SIDE. The project has been running for nearly three years and during that time has provided valuable information on crop rotations and utilisation, the use of nitrification inhibitors on support land, surveys with consultants and farmers in regards to why farmers have support land, the profitability of support land and the sustainable management of support land. Case study farms were examined in Southland and Canterbury to gain insights into how support blocks are managed in two very different environments. All information gathered has been reported in media publications, at focus days and discussion groups and through DairyNZ extension channels. The project results for the past year include the following:

**Research and Demonstration:** Lysimeter research conducted over the previous winter showed that using the nitrification inhibitor eco-n on intensively grazed wintering land reduced the total amount of potentially leachable nitrate present within the urine patch soil profile from 250 kg N/ha to 160 kg N/ha (35%) and increased the amount of ammonium retained in the soil from 35 kg N/ha to 47 kg N/ha. The amount of nitrate leached below the top 20 cm of soil of animal urine patches was reduced from 160 to 105 N/ha (35% reduction).

**Survey:** Dairy farming systems are exposed to a number of external risks and DSL is one way of managing them. Whatever means is used to manage external factors, it is clear that time and money need to be invested for the dairy farm to be sustainable. The participants believed that they were successful in using DSL to control how cows are fed over winter and that environmental risks can be contained. There may be some social impacts that need to be managed. To successfully manage production risk while avoiding undesirable impacts on staff, management or the physical environment, specific policies need to be in place. The DSL must be well-resourced, there must be good planning and timing and attention to detail is essential to success with sensitive tasks like crop management. There are a wide variety of DSL situations, but the fundamentals of practice remain constant. The same concept of appropriate practice applies across all types of DSL, regardless of location or local conditions.

### Regional Case Studies:

#### Southland

The Southland case study farm (Abe and Anita deWolde) compared outside wintering vs. indoor systems in the winter of 2006. The following observations were made:

- That cows wintered inside had lower feed requirements.
- Less land was required to provide feed for an indoor wintering systems due to better utilisation.
- Labour requirements were lower in indoor systems.
- Effluent is captured in an indoor system allowing for lower nutrient losses and giving the ability to utilise this fertiliser in the spring.
- The indoor systems can be utilised to extend lactation
- Although gross wintering costs are higher for the inside system, the extra milk through extended lactation and the value of the saved fertiliser more than compensate.

#### Canterbury

The Canterbury case study farm described the wintering system of Greg and Rachel Roadley. They have developed gravel strips (150m X 12m) next to shelter belts on their farm. The cows are fed silage under a hot wire on the strip each morning for 1 to 2 hours before being put on Kale. Utilisation of silage has improved to 90% and because the cows have eaten silage before being put on the crop, then don't rush through the crop. This improves utilisation of the crop and helps prevent health problems. Because the cows are only on the strips for a few hours each day effluent systems are not needed and maintenance is minimal. Although expensive to set up, the strips are estimated to have a payback period of five years from improved silage utilisation. The Roadleys also found the sheltered strips beneficial during the snows of 2006, keeping the cows warmer and off paddocks.