



RETHINKING EFFLUENT MANAGEMENT

In the March issue of Agline, John and Donna Dowdle's stock water system development was profiled. The Dowdles have worked on a number of conversions under Ambrose Farms in Southland and utilise new technology to ensure their farming system is running as effectively as possible.

On their latest conversion, a stock water and effluent system were both part of their development plan. The Dowdles were looking for an effluent system that was easy to use and had the flexibility to allow them to store effluent for times when they aren't able to distribute this around the farm.

Effluent management has come under the spotlight with the large number of dairy conversions over the last few years and regional council regulations around the disposal of effluent have been tightening up. This has encouraged some lateral thinking. As effluent is high in nitrogen, it can be seen as an additional tool for farm management as opposed to a waste that needs to be disposed of.

John was keen to utilise the nutrients in the effluent and use this all over the dairy farm. He consulted with CRT's Nigel Henigan so they could firstly plan a system that would allow for all these targets to be achieved. A soil scientist was also employed to analyse the soil composition and report on the levels of effluent application appropriate for each area of the farm.

As Nigel had already worked on a plan for the stock water system, he had the details of the farming system, paddock layout and contours of the land so he was able to base an effluent plan on this information. It was decided that a 90 day effluent storage pond was the best option to provide the flexibility required and the whole farm was planned out on this basis.

The Southland region is characterised with heavy soil types, a high water table and a matrix of tiles around the area to drain away excess

water. Low effluent application rates are important to ensure that effluent does not pool and run into tile drains and an irripod system can be set to low pressure to minimise the chance of this occurring.

An Irripod system allows for low application rates and can be configured to meet a farm's individual requirements so this system is particularly suitable for the Southland environment. Hydrants were placed under the fence line half way down a paddock to allow access to the hydrant from both adjoining paddocks and reduce the need for too many pipelines to be installed. Strategically placing the hydrants under the fence lines also ensures they are not in the way of the dairy cows, as they are inquisitive creatures that will often stand on anything they have access to in a paddock.

The installation of the project is in three stages as the application rate in one sector of the farm is sufficient to cover the requirements from Environment Southland. This enables the Dowdles to complete the rest of the installation at the most appropriate time for the team. They would like to have the ability to spread effluent over the whole of the farm as effluent contains elements which help in the production of pasture such as nitrogen (N), phosphorus (P), potassium (K), sulphur (S), magnesium (Mg) and trace elements. By testing the effluent in the pond, the rate of each of these can be assessed and the Dowdles will use these figures to help complete a nutrient budget.

The Dowdles are pleased with how this project is progressing and are looking forward to the completion of all the stages. They value Nigel's guidance as he has a lot of experience in the area of water systems and advised them on the most appropriate plan to come well within the Environment Southland Best Practice Guidelines.



CRT's water systems division was established to cover the requirements of farmer shareholders around the South Island. There are now six technical field officer's who specialise in this area, providing expertise on irrigation, stock water and effluent, from initial consultation through to final installation.



Nigel Henigan has been working for CRT for five and a half years in the Southland region. He previously worked as a pipelines systems manager in Invercargill and Hastings, and as a rural territory manager in Southland.

Nigel gains a lot of satisfaction from working in the water industry. He believes that water is the new gold and this has created a lot of opportunities as well as some very significant management issues. We all use water every day without thinking so there is a real need to utilise it in the most effective way. Nigel values the CRT concept of developing systems that are a long term solution for the farmer. Planning is the key to ensuring that water is not wasted as it is such an important resource for the agricultural industry.

Outside of work, Nigel is a keen mountain biker and he enjoys spending time with his partner Diane and the kids.

