



AMURI IRRIGATION CO

## ENVIRONMENTAL COLLECTIVE NEWSLETTER

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### Soil Moisture Monitoring for Beef and Sheep Farmers Field day 4<sup>th</sup> April 2019

The AIC Environmental Collective in partnership with Agri Optics Limited will be running a short field day looking at soil moisture monitoring for irrigated beef and sheep farms on the 4<sup>th</sup> of April at Balmoral Station with the kind permission of Phil Smith.

The event will explain the basics of soil moisture monitoring, how probes work and where to locate them and how to read and understand the data they provide to help make better irrigation scheduling decisions.

There will also be comment from beef and sheep farmers who are already using soil moisture monitoring this season on what benefits and challenges they have found with the technology.

The day is a great opportunity for those farmers considering installing soil moisture monitoring to learn a bit more and hear from other farmers before finally committing to the technology.

The day is open to all members of the AIC Environmental Collective and is free of charge.

Please contact Renee to register your interest.



### OverseerFM

OverseerFM is the new generation Overseer Nutrient Budget tool launched in February 2019. The new software interface offered by OverseerFM has been completely remodelled to make it more intuitive to use and facilitate

greater control by the farmer, either directly or via an 'Organisation Administrator'.

All Environmental Collective Members will need to be registered with OverseerFM to enable nutrient budgets to be prepared for FEP Auditing and other budgeting situations. Overseer Ltd are charging a \$200 annual membership fee.

The attached briefing provides more detail about OverseerFM and next steps that members need to take.

### Forages for Reduced Nitrate Leaching

*Forages for Reduced Nitrate Leaching (FRNL) is a DairyNZ-led collaborative research programme that combines the expertise and resources of DairyNZ, AgResearch, Plant and Food Research, Lincoln University, Foundation for Arable Research and Landcare Research. Although focused on dairy farms, the results have lessons for all pastoral systems.*

*The aim of the project is to:*

- *Reduce livestock urinary N excretion;*
- *Sustain high levels of feed and animal production;*
- *Hold more N in soil and reduce the amount of potentially leachable N;*
- *Maximise yield and N use efficiency in forage crops; and*
- *Provide solutions that can be readily integrated into dairy, arable, beef/sheep or mixed farming systems.*

Last month DairyNZ ran a discussion group meeting at Peter and Joc Kinney's Ballindalloch property to review the farm's involvement in the FRNL project and some of the findings from this nationwide research project.

Ballindalloch is a 310ha dairy platform with a combined support block and beef unit. There was a great turnout and some good lively discussion.



The presentation focused on research looking at:

- Use of plantain as a component of pastures;
- The role and effectiveness of catch crops following fodder crops to 'mop-up' surplus N, such as oats or barley; and
- The value of fodder beet as a low protein feed to reduce the total N consumed by the cow to reduce the total nitrogen in the system.

### Conclusions

A great turnout and discussion, about 40–50 farmers with good engagement and lively debate and some good questions, particularly on the pros and cons of Fodder beet.

Currently catch crops following fodder crops look like the most straightforward option with potential for significant reductions in N loss, as long as ground conditions allow these to be sown.

Plantain works in many different ways to reduce N loss and the potential of this species looks impressive. However, more work needs to be done on crop agronomy and sustaining plantain component in swards.

The DairyNZ team saw a lot of value in fodder beet as a means of reducing N loss across the whole farm, although losses on fodder beet blocks grazed in situ can be very high. However, several mitigating factors were raised in discussion:

- N loss from mineralisation of soil organic N from FB seedbed preparation;
- High concentration of cows in small area, usually light soils during wet periods gives blocks with very high N loss rates. We believe that any solution should consider the effect of location on immediate ground water quality rather than whole farm N loss figure; and
- Welfare issues.

Overall, these mitigation practices, particularly catch crops and plantain are very encouraging, but mitigation strategies will only go so far, the fundamental issue remains very high nitrogen concentrations in urine patches which are leached in autumn.

There is no 'Silver Bullet' available or likely to be in the future to reduce N losses. A farm by farm approach looking at a range of mitigation and management options will be required for some time to come.

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