

Appendix 4: Draft Farm Plan template - Dairy Farm example

Irrigation Management

Our objective for best practice irrigation management is to use water efficiently, minimising runoff and drainage.

The problems that we will avoid, remedy or mitigate include:

Wasteful use of water e.g.

- irrigation during/after rainfall, or when significant rain is forecast
- ponding of irrigation water
- inefficient application
- drainage to other properties

We undertake to comply with CPWL's specific requirements	Planning - state policies and actions Describe what / how / when, & what records you will keep or how you will show your achievements	Farmer Review Say what you have actually done. If different from plan, then explain why changes have been made.
1. Compliance with Canterbury Regional Council consent conditions for the Scheme (see Appendix Error! Reference source not found.)		
2. Design of Irrigation Infrastructure 2.1 All new on-farm irrigation infrastructure to be designed by an Irrigation New Zealand (INZ) accredited designer to meet INZ design standards and any CPW design requirements (Appendix Error! Reference source not found.)	N/A	
3. Evaluation of Existing Irrigation Infrastructure 3.1 Existing irrigators to provide CPWL with an evaluation report prepared by an Irrigation NZ accredited evaluator according to the INZ Irrigation Evaluation Code of Practice within 12 months of receiving scheme water. The report must set out the system performance, and the timelines for upgrades, if required, to meet scheme requirements (Appendix Error! Reference source not found.). All upgrades to be completed as soon as practical but no later than 36 months after first receiving scheme water.	North Block – Evaluation completed by xxx (date), see yyy file South Block - Evaluation completed by xxx (date), see yyy file	On waiting list with xxx for follow-up evaluation, after making adjustments

We will use best practice irrigation management for our land and farm activities in order to	Planning - state policies and actions Describe what / how / when, & what records you will keep or how you will show your achievements	Farmer Review Say what you have actually done. If different from plan, then explain why changes have been made.
<p>4. Apply correct amounts of water for plant growth requirements by</p> <p>4.1 Knowing soil water-holding capacity & target soil water content</p> <p>4.2 Knowing soil moisture levels prior to irrigation</p> <p>4.3 Considering climatic conditions (e.g. ET and rainfall)</p> <p>4.4 Monitoring crop / pasture to match water application (timing & amount) to plant needs</p> <p>If there is more than one system (e.g. pivot & K line) provide info on scheduling for each.</p>	<p>3 soil types are monitored separately in blocks S8, N7, N11 using neutron probe technique provided by xxx (see map). Now backed up by Aquaflex system in S7, N1 and N9.</p> <p>Soil moisture deficit trigger points have been established to commence irrigation (see file bbb)</p> <p>Forecast predictions of rainfall are used to modify scheduling of irrigation</p> <p>Combination of neutron probe (weekly information), daily information from Aquaflex and projected weather patterns from Fencepost website.</p> <p>Aim to stay below field capacity even after irrigation to give space for rainfall and maximise pasture production.</p>	<p>Aquaflex printouts confirm applications.</p>
<p>5. Avoid regular ponding of irrigation water and drainage of irrigation water to adjacent properties or to groundwater</p> <p>5.1 Any exceptions to be recorded and reasons noted</p>	<p>A7, A8 - Irrigation application rate is matched to soil infiltration rate by irrigation system design, the centre pivot irrigators allow a 24 hour return period averting the need for high water applications.</p> <p>Irrigating within a soil moisture band between field capacity and stress point which allows capacity for rainfall</p> <p>Record exceptions and note reason. If ponding occurs regularly in same place review irrigation scheduling.</p>	<p>No problems.</p>
<p>6. Fix any problems that arise so that water is used efficiently</p> <p>6.1 Show how problems have been dealt with or risk of recurrence minimised</p>		<p>No problems</p>

List future actions for irrigation management	Person responsible	Timeframe for completion	Completed (include date)
1. Design and evaluation Get follow up evaluation done, now adjustments have been made	RC	Dec 2007	
2. Water (& effluent) application, including planning and scheduling Further work on Aquaflex to make this the main source of daily decision making	RC & LL	Nov 2007	
3. Ponding and drainage matters			