Smart Water Use on Dairy Farms

Short Form Action Plan

There are lots of things that can be done on the farm to use water efficiently and reduce water loss in operations. DairyNZ has produced a number of resources to help farmers interested in working on this. This *Short Form Action Plan* highlights the key issues and is designed to make planning easy.

Smart water use... Steps to success

1. **Assess opportunities for improvement.**
2. **Prepare a plan (easy things you can do over the next while).**
3. **Get everyone on the farm involved.**
4. **Review progress from time-to-time.**

See details inside.

Four reasons for smart water use

1 *Saves money.*

Farms on council-supplied water have much to gain from smart water use. All farms can save power costs for pumping water into storage, down the farm, wash-down and pumping effluent through efficient use. If animal health remedies are delivered by an in-line dispensing system, leaks or losses out on the farm will mean your stock won't receive the right dose at the right time and you will have greater animal health costs.

2 *Part of good farm management.*

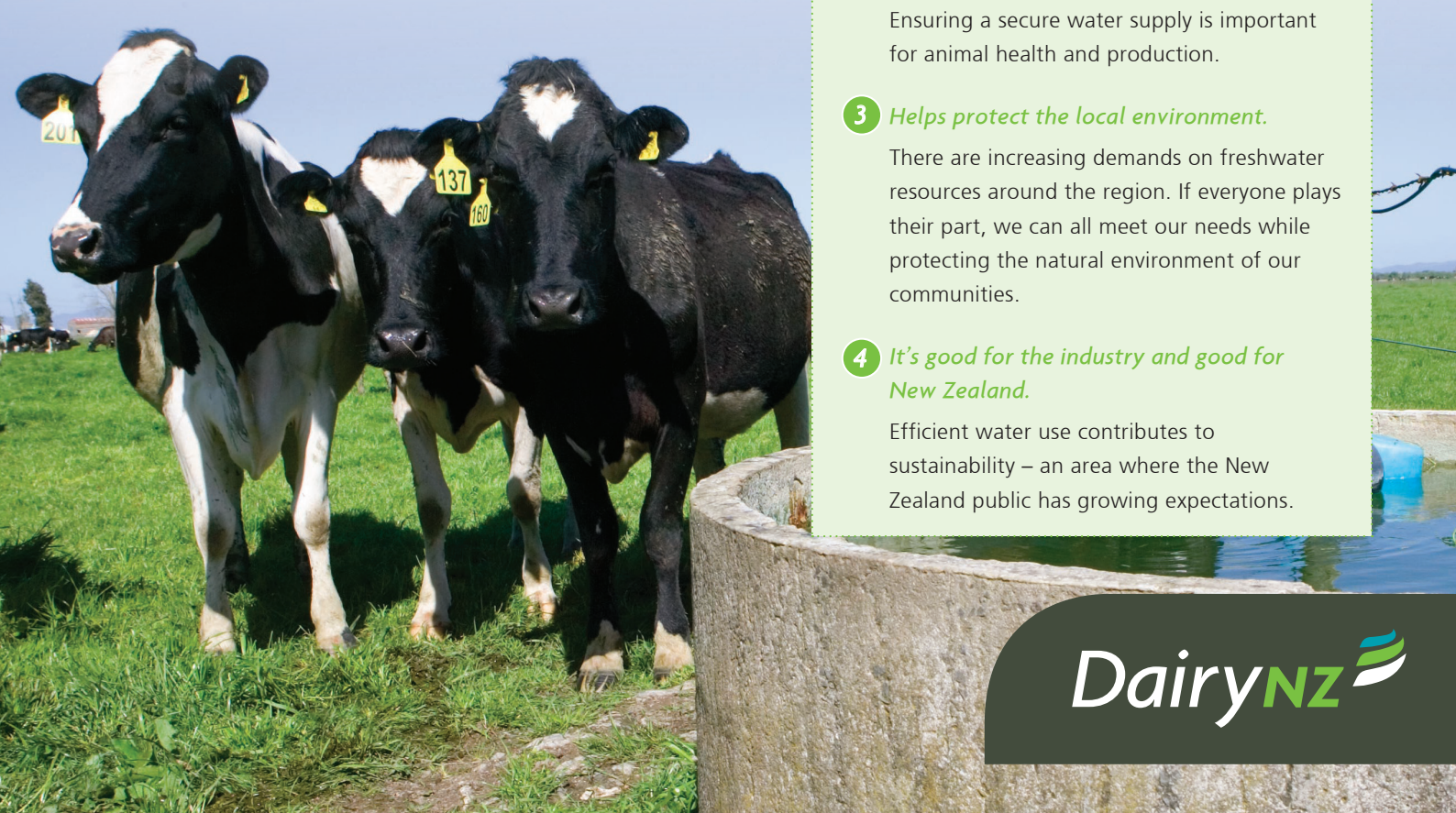
Proper attention to fertiliser use, effluent management and many other issues are all part of good farm management. Careful use of water – as an essential resource for farming – deserves a place on this list. Ensuring a secure water supply is important for animal health and production.

3 *Helps protect the local environment.*

There are increasing demands on freshwater resources around the region. If everyone plays their part, we can all meet our needs while protecting the natural environment of our communities.

4 *It's good for the industry and good for New Zealand.*

Efficient water use contributes to sustainability – an area where the New Zealand public has growing expectations.



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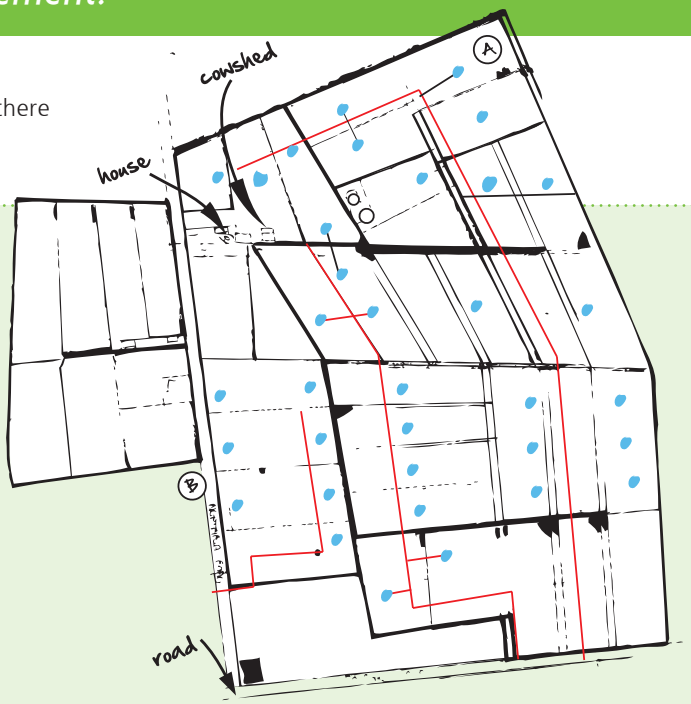
Smart water use... Steps to success

Step 1: Assess opportunities for improvement.

A quick assessment of your system and operations will show if there are any areas with room for improvement.



Map and Document

Use a farm map to mark on key components of your water system. The map could be as simple as a sketch of the farm plan or as sophisticated as GPS mapping. You can include locations of storage tanks, pumps, the farm dairy, water lines and troughs, and isolation valves (with paddocks covered).

Mapping and documenting your system can get you thinking about things that could use some work. Use the lists below to ✓ anything that might need attention. Add any other items particular to your farm.

Farm Water System

	Needs Attention
Reticulation	
Sections of old pipes	
Old copper connections deteriorating	
Pipes on the surface	
Pipes under races/across drains unprotected	
Farm dairy	
Water cylinder/CIP drum filling auto shut-off	
Primary cooler pump controlled with milk pump	
Once-through cooler water more than yard wash down needs	
Hot water reused to clean buckets, etc.	
Rainwater captured for yard wash down	
(Semi)-auto system for yard wash down	
Monitoring/managing use	
Meter(s) on the system	
Alert system(s) in place	
Isolation valves	
Other	

Farm Operations

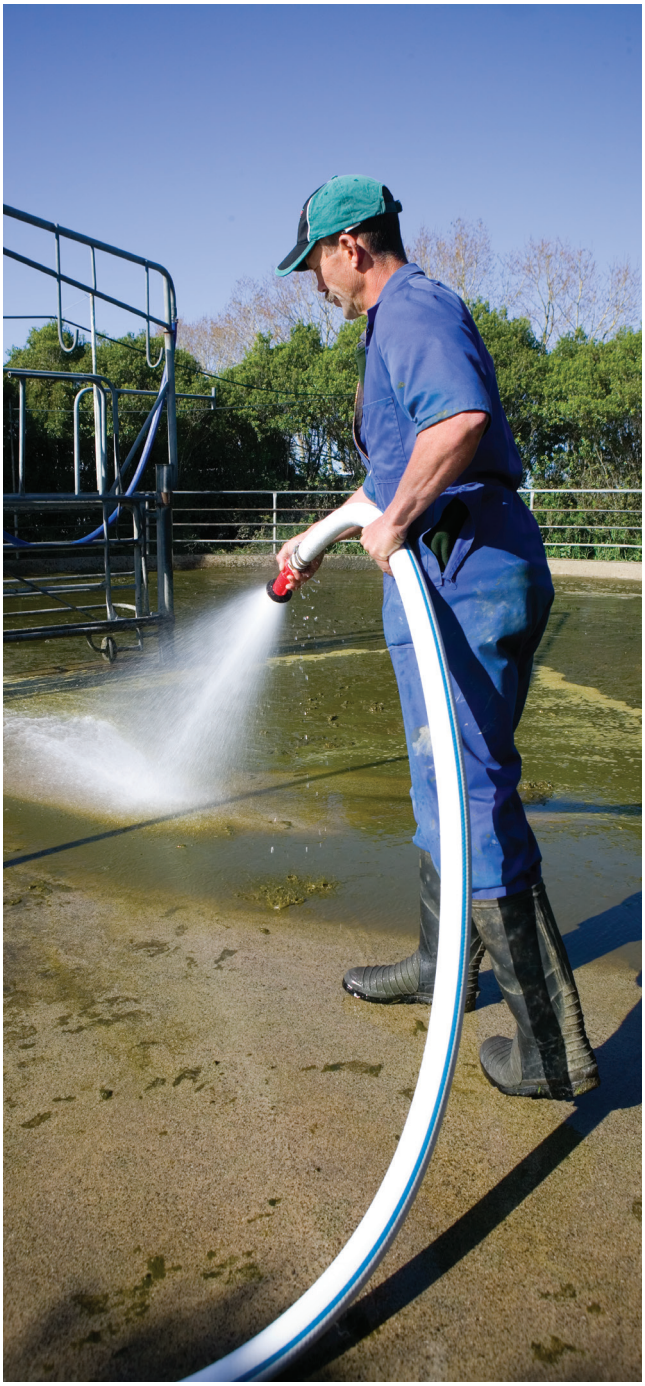
	Needs Attention
Monitoring Water Use	
Meter reading	
Meter read the same time/day schedule	
Meter read night/morning at least monthly	
Recorded to track seasonal/yearly trends	
Preventing losses, reducing use	
Water-loss 'alert' system	
Procedure in place for checks	
Procedure in place for reporting/repairs	
Out on the farm	
Check water flowing into troughs when cows come in	
Regular check of troughs when driving past	
Periodic thorough maintenance of troughs	
Watch for leaky pipes/"weak" spots	
In the farm dairy	
Floats in tanks set at a level to avoid waste	
Look out for tank/water cylinder overflows	
Daily check of water pressure in hand hoses	
Double check taps turned off after milking	
Other	
Regular maintenance of pumps, dispensers, etc	

Step 2: Prepare a plan.

It helps to write things down, so use the Sustainable Farm Water Use Plan form to note the changes you intend to make.

Review all the items that got a 'Needs Attention' ✓ in Step 1. Decide on those you think you could address over the next 12 months. Consider both the time and costs involved and set some priorities.

Note rough target dates for each one. You could also make a list of materials and supplies you'll need and who will be involved to help get it done.



Step 3: Get everyone involved.

On small farms, communication is easy and you can just get on with it. In larger operations with a number of farm staff, it will be important to take active steps to gain support, provide guidance and instill responsibility for smart water use efforts. Your own situation will determine the best approach.

Here are some ways to help put your plan into action:

- Review the farm water system and operating procedures with all staff.
- Do the same with new workers as soon as they start.
- Post the farm map with water system features noted on it in a prominent work area.
- Use the Smart Water Use posters and stickers if you think they will be helpful reminders.
- Mark "weak" spots in the water system out on the farm with permanent signage.
- Mark isolation valves around the farm with flags or signs so they are easy to see.
- Review yard wash-down procedures and agree a method that uses water efficiently.
- Establish a clear, step-by-step procedure for dealing with leaks and losses in the system.

For smart water use success, all farm workers need to be on board. Give gentle reminders for key actions – and reward good efforts.

Step 4: Review progress from time-to-time.

Repetition never hurts, so it's a good idea to review the water system and operations with staff at least once a year. Going into the summer season is a good time for this. It's a chance to review and update your farm water use plan and discuss, check and remind everyone of preferred practices.

Save water, save money

If you did one thing...

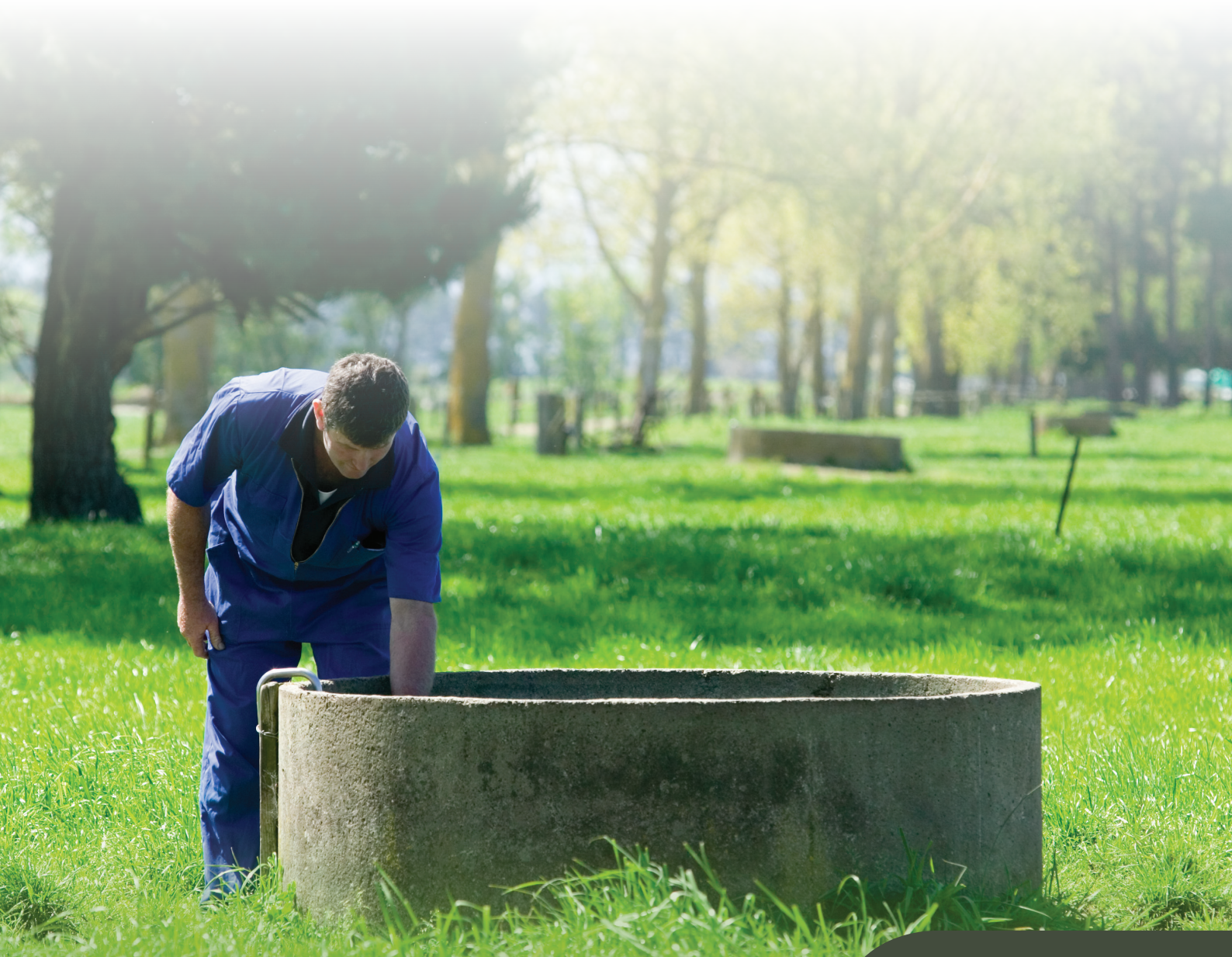
Overflowing stock water troughs lose a lot of water. So do leaks in water lines if they are not repaired promptly. An 'alert' system to let you know water is running in the lines when it shouldn't be can help you fix it fast. The alert could be a pilot light on a pump or pressure gauge on the water line. Checking the 'alert' regularly can help you save water, save power and save money. This is especially important on unmetered farm water systems where there may be no other way to identify small (possibly even long-term) leaks.

Water loss in litres

Leak this size	Loss per day	Loss per month
●	14,074	422,220
●	19,530	585,900
●	30,185	905,550
●	31,749	952,470

1000 litres = 1 cubic metre

It's easy to lose lots of water fast - about 14 cubic metres a day, for example, through a hole the size of a small nail.



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