

CASE STUDY: COLDSTREAM ESTATE

Realising the benefits of new irrigation technology on the farm and in the garden

Henrietta Jackson talks with Alastair Studholme from Coldstream Estate, on his ideas of SMART water use and SMART technologies

On the plains of Canterbury bordering the Rangitata River, Coldstream Estate now owned by Alastair Studholme has been in the family since the 1860's. Cropping and sheep farming existed from the very beginning. It was Alastair's father who preferred dryland cropping, however Alastair really sought the benefits of irrigation when he took over in 2004. The 800 ha farm now consists of two deep wells, which feed three pivots and a roto rainer and several fields of border dykes supplied from the RDRML scheme. Water has become a necessary resource for Alastair as he now irrigates potatoes, peas, carrot seeds, grass seed, wheat, barley, oats, rapeseed and silage.

Alastair now understands how easy it can be to be efficient with his water use both on the farm and in the home garden because of new technology that has come about. On the farm Alastair employs HydroServices to carry out soil moisture readings. Alastair explains, "this is not necessarily about trying to save water it's more about allocating water correctly depending on the crop's needs". He therefore sends information on how much rain he has had to HydroServices and they bring a neutron probe out onto the farm every week to ascertain information on the soils needs. "Using your own is not nearly as accurate and takes a lot of time. They use the latest and greatest technology so it is well worth it in the long run".

Alastair has adopted SMART technology in his pump shed to maximize his pumping efficiencies and to save time and effort in working out the allocation of water. His pump control system is designed around a 'Master/Slave' configuration, where the primary pump (the master) is controlled via variable speed drive and monitors at pressure to match flow to requirements. If multiple irrigators are in use and the primary pump cannot maintain sufficient pressure, it sends a command to the secondary pump (the slave) via radio link to start. The secondary pump is controlled by a soft start so will run at full capacity while the primary pump

will carry its speed to match requirements. "There's really no need to go near a pump shed with this sort of technology", Alastair highlights.

On a smaller scale, Alastair has employed some water saving techniques throughout his vegetable garden and in the native areas of his farm. After purchasing some drip irrigation tape from RX Plastics to water a newly planted hedge along the roadside and a native area on his farm, Alastair plans to do more with this as he can see the benefits of it and how much time it saves during the summer months when he is harvesting. He also states that "the big advantage is you're giving the water only to the plant so because you're being that efficient with water it can get what it needs. You're also not getting weeds growing around it, which is a huge advantage". In regards to his native area, Alastair now has 90 natives establishing on drippers, where the water is being provided via a solar pump. "Now I can see the benefits of this, I might even go and do whole shelter belts. I've seen farms with the whole shelter belt drip irrigated".



In regards to Alastair's future plans for irrigation his strategy is to keep intensifying. "If we could water all of it that would be great but it all depends on what's available. We're just trying to get better with irrigation and even though it changes your whole business, your farm is actually easier to farm with it". In the end the costs are big surrounding irrigation so Alastair really doesn't want to be wasting the water he gets.



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