

CASE STUDY: SOUTH PACIFIC SEEDS

Drip irrigation vital for hybrid onions

One company investing in highly-efficient drip irrigation is South Pacific Seeds (SPS), a vegetable seed producer based in Methven, Mid Canterbury.

The company grows a variety of vegetable seeds, for mainly European and Asian customers, using farmland throughout the region for seed multiplication.

Irrigation is critical to the success of their crops and drip irrigation suits the requirements of some varieties, in particular hybrid onions which prefer even soil moisture and can be susceptible to disease if leaves remain wet for too long.

In Waipara, North Canterbury, South Pacific Seeds has used drip irrigation on five farms for around six years. Trial and error has helped the company improve the way it handles drip. In the early days the irrigation system was buried "but we soon learned that putting it underground was not a good idea as you can't easily get it out again," says SPS's field agronomist for North Canterbury, Steve Dunlop.

Installing drip irrigation involves a lot of manpower early in the season, so the company moved the timeline forward to ensure staff can get it ready before peak irrigation season starts.

The company has also moved away from re-usable drip tape as the labour and time costs of removing and re-applying at different locations proved un-economic. "In our first season we rolled up two rows at once and it took us two weeks to pull up four hectares. Now because we are taking the tape to the recyclers (rather than re-using) we can roll up six rows at once and it's taking around a day and a half to do five hectares. This is substantially faster," says Steve.

While drip tape can be recycled, cleaning it is an issue, and South Pacific Seeds has unfortunately had to dump tape in three out of five seasons.

In the meantime, companies like South Pacific Seeds face a significant upfront cost every season if re-usable drip tape isn't used.

"It's expensive to set up so you need to have a high value crop to make it pay. As long as the onions are doing well it pays for itself. But it is still much more expensive than normal overhead irrigation."

South Pacific Seeds investigated drip irrigation with other vegetable seed varieties but the results were variable as it's very difficult to remove from the crop before harvest. "The harvester will chop it up."

However, Steve says the company hasn't given up and some stock seed production is currently underway using drip and they are also watering a trial site with drip irrigation at Methven for the first time this season.

Drip irrigation can be prone to blockage depending on the quality of water supply and difficult to fix once blocked. But its disadvantages need to be considered against the benefits of focused application. "It's tremendously efficient with water and very targeted," says Steve.

South Pacific Seeds uses filtering systems to improve the water quality and don't have any issues with dripper blockage using the tape for one season.

Hybrid onions are a niche corner of the global onion market and demand exacting conditions. "Not all places in the world can grow these varieties. Hybrid onions are hard to pollinate and they require different day lengths for growth," says Steve.

The onion market however is vast, and with Japanese and Dutch customers placing orders for New Zealand hybrid onion seed this season, South Pacific Seeds will continue with the crop.

"Waipara is good for onions because it's a little hotter and drier than other parts of Canterbury and it doesn't get the cool, damp nor-east conditions."

While Steve says drip irrigation comes with complications, it is also a technology that overseas customers recognise and respond to. "With onions it's a long term investment. As long as we are growing onions we will use drip irrigation as it works for us. Our customers say about 70% of their crops are grown using drip irrigation so they almost expect it."



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