

"I took the machinery, because growing crops is the part of farming that I enjoy the most," he said. "That's why I pay more attention to sowing machinery and the job that seeders do in general.

"We're looking to get back into farming in the next few years, but having a rest from it is probably the best thing we've ever done. It's given us time to collect our thoughts and work out what we really want to do and how to do it. I'm still learning.

"One of the gratifying things is that the year we exited farming, everything was coming together, particularly with our livestock. We had our production systems set up; we were probably closer than we thought. After we sold our livestock I heard reports that the lambing percentages were really high and they lambed in four weeks. That's what we'd been working on.

"That's given me confidence, because I now know exactly how to run my sheep and cropping enterprises."

Most of Nathan's contract clients were initially more comfortable with the tine seeder, with many of the properties not set up for the 381 mm row spacing of the disc seeder and many of the farmers seeing the wider rows as a disadvantage. He also found that the Linkage disc seeder wasn't well suited to navigating paddocks with a lot of trees; a common situation on farms in the South East.

He sold the Linkage machine in 2010 and replaced it with a nine-metre Excel single disc seeder. "The trailing machine gave

a lot better ability to turn corners and negotiate trees," he said.

The Excel is set up on 254 mm spacing, a precedent set by other no-till contractors in the area. Nathan said this spacing system works well for sowing pastures, which make up 60% of his business.

"It was a safe bet to go to 254 mm spacing. Spacing of 304 mm is a bit wide for pastures but good for crops, while 177 or 203 mm is good for pastures but not as good for crops because of stubble-handling issues."

His contracting work has revealed the ability to handle chaff as an issue with disc seeding, he said.

"One of the biggest problems I've got as a seeding contractor is that the harvesters don't do a very good job of spreading the chaff. Often it's spread only a third of the width of the header front.

"In many paddocks we have to sow into chaff trails 5 cm thick and standing stubble with bare ground between in the one pass.

"If you sow canola 2 cm deep where there are 5 cm of chaff you're sowing the seed into chaff, not soil.

"Spreading chaff has always been an issue with harvesters. It's even more important than ever to get it right now with no-till and zero-till systems because it can really impact on crop establishment and ultimately yield."

Manage weeds for the best start to disc seeding

SARAH JOHNSON

Good weed management is the key to a successful start to disc seeding, according to South East farmer and cropping consultant Nick Hillier.

"Make sure your paddocks have a very low weed population. That's the secret to disc seeding," said Nick.

"Work out a crop rotation that is most suited to managing annual ryegrass and set up your paddocks four or five years in advance.

"It's important to reduce your ryegrass to an absolute minimal level, so your pre-emergent herbicide can manage it.

"If you don't do the lead-up work you'll probably have a fairly big failure in the first year.

"If you have your weed management right you'll find a disc machine will help maintain or decrease that weed seed problem."

This was the case on the Hillier farm,



NICK HILLIER AND HIS SONS CHARLIE AND EDDIE IN A ZERO-TILL CROP Paddock.

where weed control was 'less than ideal' when a disc seeder was first used on the 2,200 ha property four years ago.

The family – Nick and his wife Jackie, Nick's parents Gerald and Sue and his sister and brother-in-law Jane and Alistair – now use a variety of methods to control ryegrass.

"We don't try to battle it with just chemicals," said Nick. "We always have a legume in the cropping rotation and if a paddock is getting out of hand it goes out of rotation into the pasture phase, where we also cut hay."

"Sub clovers fit into our rotation really well because we get to use them for stock feed as well as harvest them."

The Hilliers' farm is spread over several blocks, with two properties north of Bordertown, one at Hynam, were Nick is situated, and leased country south of Frances.

The family operates a mixed farming business, running 2,000 Merino ewes and a prime lamb enterprise and cropping 50% of their land.

Nick believes they have devised a good strategy for integrating cropping and grazing, based on growing clover seed crops, which are grazed for eight months of the year then harvested. "Grazing helps us control weeds and manage the canopy, then we let the clover go to seed. We harvest the sub-clover seed with a clover harvester and direct head the balansa clover.

"Sub clovers fit into our rotation really well because we get to use them for stock

feed as well as harvest them."

The family operated a no-till farming system for 10 years before graduating to a disc seeder four years ago.

They contract all of their seeding, using Nathan Craig on their Frances property and Michael and Roger Hunt near Bordertown. Both contractors use Excel single disc seeders.

When Nick started farming 20 years ago the family was using conventional methods, but soon saw the potential of no-till for the sustainability of the land and their operation.

"We could see the degradation of the soil. My father wanted to retain more and more stubble, so we started developing machinery and new ways."

Nick's work as a private cropping consultant has supported the family's progression to a zero-till system. He has 35 clients in the South East and has gained insight into a variety of sustainable farming practises, from protecting the soil to handling stubble, though his consultancy work.

The Hilliers have also learnt about stubble management through trial and error on their own properties, with hair pinning an issue in the first two years of disc seeding.

"Some people try to harvest as much straw as possible then smash the standing stubble up with slashers and drop it on the ground. I think you've got to cut it as high as you can and keep it off the soil as much as possible so there's no hair-pinning," Nick said.

"We had a lot of hair pinning in the first couple of years. It causes the seed to be sown in the stubble base, which is full of air and as a result the seed doesn't germinate. We experienced between 20 and 30% hair pinning in those first two years.

"Now we leave the stubble longer and make sure we spread the header residue the full width of the comb at harvest time.

"That's probably one area we've made savings – not having to deal with stubble. We harvest at a reasonable height and leave the stubble standing so when we sow into a paddock we know the seeder will go straight through it."

Nick cautions that disc seeders are 'not the answer to everything', but is satisfied with the results so far.

"I think the weed management is working well. There's no soil disturbance, so you're not encouraging the weed seeds to germinate in the inter-row.

"Secondly, I think we're getting great seed placement with the disc. The seeding depth is spot on and because the press wheels consolidate the soil around the seed, moisture is drawn up from the subsoil through capillary action."

This effect was particularly evident during seeding last year, when the top soil had dried out.

"It was that dry and dusty that we couldn't see the air seeder box from the tractor cab

"Make sure your paddocks have a very low weed population. That's the secret to disc seeding."

and yet the crop came up 10 days later," he said. "We had very wet subsoil from the wet summer and I think by the disc compacting the soil around the seed, it actually drew the moisture up.

"With a tine machine in those conditions it probably wouldn't have come up for two to three weeks."

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