

Discs offer 'total package' for Riverton farmer benefits

MIKE ROBERTS

A change from tines to disc seeding is providing benefits at both ends of the season for Riverton farmer Andrew Bruce, who farms Sulby Farm with his wife Jackie and mother Pat.

They work 2,250ha of 450-550mm rainfall country, 500ha of which they share farm, with slopes ranging from gently undulating to hilly. Their soils are mainly red-brown earths with some heavy black ground.

Rotations tend to be a couple of wheat crops followed by a pulse or canola break crop and they run a 1,000 ewe Merino flock on pastures sown mainly on limestone and ironstone paddocks. Other paddocks are grazed to help control ryegrass levels if required and stubbles are grazed only lightly to avoid damage to the soil.

Andrew has a 20-year history of no till but jokingly says he can remember "once upon a time when we all had a combine. Like everyone else, we used to rip everything up and work it back and harrow it and then sow it when it was really wet!"

Like many farmers in the early 1990s the Bruce family changed to an airseeder, their first a Shearer 4150 with an Alfarm box. A John Deere with a Horwood box in 2000 and a Flexi-Coil followed in 2006. Just prior to sowing in 2014 they made the decision to purchase a 12m wide Morris RAZR disc bar.

Disc option

"There were several factors moving us toward discs, not just speed of sowing which people often say is the reason," Andrew said of their research leading up to the decision. We saw quicker seeding as a plus, but the real problem was that the tined implements were always held back by the amount of trash they could handle. That meant crops had to be cut much lower at harvest to avoid having to come back with the slasher prior to seeding, which slowed down harvest at a time when they wanted to get the grain off quickly to minimise the risk of a weather event interfering.

"I was really trying to save time and the number of operations throughout the season.



THE DISC SCRAPERS HAVE BEEN MODIFIED TO HANDLE THE CONDITIONS ON SULBY FARM AND NOW WORK WELL. MODIFIED SCRAPERS WILL BE FITTED TO TWO OTHER RAZR DISCS OWNED BY OTHER MID NORTH FARMERS.



HIS NEW DISC SEEDER IS PROVIDING BENEFITS AT SEEDING AND HARVEST FOR RIVERTON FARMER ANDREW BRUCE.

"If we were going to sow with a disc seeder we could harvest just the heads and save time, cut down our contract harvester's hours and save money. We harvest some ourselves but still get someone in to speed up the whole operation."

Because the limitations of the tined machine often slowed seeding the Bruces would sometimes end up sowing crops,

particularly beans, a bit too early. The ability of a disc to seed accurately at a higher speed than the tined seeder and to handle more trash without blocking offered the possibility of shortening the sowing window to better match optimal sowing times for the varieties they were using.

Andrew travelled to Moree in early May last year to watch a Morris bar in action and was quite impressed.

"It's a single disc on a parallelogram with hydraulically controlled pressure and a combined press wheel/closing wheel at the back. It has a reasonable sized disc, not small, and each disc assembly is individual and has 450mm of operating travel, allowing it to follow the ground. The machine is also quite heavy, which gives us better penetration. We wanted to be able to retain our stubbles and sow into them without having to handle process them too much."

Row spacing

Andrew's choice of disc seeder was also influenced by a desire to return to narrower row spacing. His Flexi-Coil



ANDREW'S NEW DISC SEEDER IS MAKING IT POSSIBLE FOR HIM TO REDUCE HIS ROW SPACING AND COMPLETE HIS SOWING PROGRAM IN LESS WORKING HOURS THAN WITH A TINED MACHINE, THOUGH DAMP CONDITIONS CAN HOLD UP SEEDING WITH THE DISC.

tined seeder was on 225mm spacing but he wanted to get back to somewhere between 150 and 175mm if possible. The Morris is set up for a row width of 187.5mm.

“We knew closer rows would help with weed competition. Research tells us that yield is decreased by 1% for every 25mm increase in row spacing over 175mm. We went from 150mm with the old 4150 machine out to 225mm with the Flexi-Coil. That meant a loss of yield because we went to wider row spacing in our higher rainfall conditions. New wheat varieties might offer a 2% or 3% increase in yield potential but we were losing that much from having wider row spacing. Research data suggests returning to a row spacing closer to 175mm could increase our yields.”

The Bruces looked at a variety of well-made machines, each with their own standout characteristics, but the row spacing issue was the key.

“The big thing for us was getting a seeder that would allow us to go back to narrow enough row spacings and that was hard to find. Of those I thought would do the

job, the Morris was one I could take back to an even narrow-row spacing suitable for inter-row sowing.”

Andrew plans to upgrade his guidance system in the next couple of years to make inter-row sowing possible.

In the paddock

They kept the Flexi-Coil in the shed “just in case the disc didn’t do what we hoped. I’d heard that discs don’t work in wet conditions and sticky soil so I was a bit nervous because we can certainly experience those conditions here. However, this was the wettest year we have had and we didn’t have to go back to the Flexi-Coil.”

Although still on a learning curve with the Morris machine, it worked ‘pretty well’ and gave Andrew confidence that he made the correct decision, although there was a level of stress this season due to issues related to stubble management prior to its purchase.

“I bought the Morris disc a year earlier than I expected to and we probably didn’t pay enough attention to our harvest and straw spreading operation. We had some

hair-pinning problems when it was wet but that really stemmed back to how we managed the stubble at harvest.

“We did cut up high but should have paid more attention to spreading the cocky chaff out of the back of the header. The disc cuts the long lengths of straw but the chaff is a problem when it is too concentrated.”

Additionally, ridging left by the press wheel on the Flexi-Coil last year interfered with operation of the gauge wheel on the Morris, with the seed not sown deep enough where the gauge wheel was in line with a ridge of soil. Andrew dealt with the problem by sowing at about 15 degrees to the previous line of sowing and that seemed to work well.

Ryegrass is the major weed in the Riverton district but Andrew says it is not a huge problem for him. However, switching to a disc seeder has meant changing the way he uses herbicides.

“We can only put on some of our pre-emergents after sowing now because, unlike tines, the discs leave concentrations of chemicals like Boxer Gold too close to the seed.

“We can still use the chemical but rely on rainfall to make it work, and need to get it on early. If ryegrass is bigger than 1.5 leaves then Boxer Gold won't work well if it is not washed in. We are relying on the weather more now than we did before we started with the disc.”

Fine tuning

Andrew says his priority is to get the harvest process right and try to eliminate the concentrations of straw and cocky chaff left on the ground. He is aware of residue managers designed to clear surface residue including chaff trash from ahead

of seeding units but doesn't think they are available for the Morris disc. If wet conditions make it difficult to sow they may just have to allow time for things to dry out.

“We still have a long way to go to get the process right,” he said.

“Morris have been great in helping us make changes to seeding boots that were catching too much residue and modifying the mud scrapers on the disc to better suit our climate and soil conditions. We have already trialled some of the modifications with barley that was late sown after our



MODIFICATIONS TO THE ORIGINAL SEED BOOTS ON THE RAZR DISC HAVE SIGNIFICANTLY IMPROVED TRASH CLEARANCE.

canola was affected by a virus and they seem to be working well.”

Morris made the changes to the boots and scrapers specifically for the Bruces, but two other Morris machines in the district will be retrofitted with the same modifications based on their performance on the Bruce farm.

Overview

In the long run Andrew believes that changing to the Morris disc will save him time, although that wasn't the case this year. “We sowed more hectares per hour but our hours were restricted by damp weather. When it was wet we couldn't cut the straw and we went home.”

In terms of dates, the sowing window with the disc this year was the same as with the tined machine last season but sowing was completed in far fewer working hours. “Normally we would start at 4:30am and go through to 11pm. With the disc machine we sowed the same number of hectares even though we weren't able to start until 9am or 10am and had to finish by 6pm because it was too damp.

“It's not just about sowing speed and accuracy for us. It's really a package of things that will help make our harvest quicker, save fuel, enable us to maintain more stubble and not have to worry about whether we will be able to get through the residue at seeding time.”

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