

## Moving to discs

**B**ruce and David Mclagan purchased a JD 1890 Disc Drill and a JD 1910 Air Seeder prior to the commencement of the 2005 season. It is pulled by their Caterpillar 85D tractor. They purchased a disc seeder in order to minimise clumping of straw in the paddocks, which was also causing damage to the spraying equipment throughout the season.

The JD1890 disc module consists of single disc offset on a seven degree angle, with a rubber depth gauge wheel, followed by the press and closing wheels. There are 67 disc modules on the machine, each at seven and a half inch spacings. Total seeding width is 42½ feet. Seed placement is done through a cast iron seed boot delivering both the seed and fertiliser through a single shoot arrangement.

### The benefits of discs

Both Bruce and David agree that the stubble-handling ability of the discs is far superior to the tynes.

“With years of stubble retention and no sheep to thin it out, we were finding that the tyned implement couldn’t cope, causing clumping straw and dragging dirt into dense heaps,” Bruce said.

“These heaps decreased crop emergence and caused damage to our spraying and harvesting equipment. With the reduction in soil clumping we have seen a marked reduction in the amount of contamination in the harvest sample.

“After several seasons now of seeding a range of crops including wheat, barley, canola, lupins and fieldpeas, we have never had a residue blockage,” says Bruce.



David Mclagan points out a problem their soils can cause when ‘sticky’. The mud can collect within the gauge wheel and stall the disc.

### AT A GLANCE

Disc seeders have less stubble blockages because they roll through the crop residue. Discs have minimal soil disturbance, reduced draft requirements and make narrower plant spacings easier. In the past, purchase cost and some operational issues to do with penetration, compaction and seed placement restricted uptake. But new disc seeder designs and various modifications have addressed these issues.

**Farmers:** Bruce and David Mclagan.

**Location:** Miling, WA.

**Annual rainfall:** 330 mm (growing season – 270 mm).

**Farm size:** 4400 ha (2200 ha of arable land continuously cropped). Heavier soil type.

**Enterprises:** Wheat, barley, canola and either peas or lupins.

Another positive side-effect of moving to discs has been the reduction in fuel consumption. “Even with the disc seeder weighing almost 11 tonnes, which is almost twice the weight of the Flexicoil bar, it takes less energy to pull,” said Bruce. “We currently use a Challenger 85D (350+ horsepower) which is probably overkill. But a good sized front-wheel-assist would do the job, so in the future we could decrease the power of the seeding tractor, which would ensure additional savings.”

The ability to adjust depth to hunt for moisture is easy and David is able to modify the discs’ heights quickly and easily. “To adjust the depth of all the discs takes less than 10 minutes,” he said.

“When the depth gauge wheels are adjusted up, the highway transport wheels are off the ground. There is a provision for adding bar weights, but we think that that may be a little extreme.”

### The limitations of discs

The main problem faced during the wet 2005 season was the disc modules accumulating clay within the gauge wheel.

“On our heavier soils the clay builds up and inhibits disc movement, causing the discs to skid,” said Bruce. “These modules take almost a day to clean and the only solution we found was to stay off these stickier soil types for several hours after rain. If the soil is damp through the profile we have fewer blockages than when just the surface is sticky.”

Changing discs is a time-consuming job, requiring other components to be removed to allow for disc fitting. Access is very restricted underneath the centre section of the bar. It takes one man about four to five days to do all 67 discs.

“The life of a disc is about the same as a knife point,

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doing the same work, but the discs cost a lot less,” David said. “This is a good summer job! Modules are also a great home for spiders – we use a lot of fly spray.”

“The disc seeder has no levelling ability on paddocks with old wheel ruts or bumps. It just neatly seeds over them leaving them there. It would have been useful to drag a prickle harrow over the paddocks to level ruts as a once-off treatment when moving from tynes to discs.”

**Looking ahead**

“Because we want to be a bit more aggressive when seeding conditions are on the dry side, we’re about to fit larger diameter discs to the 1890. We’ll increase from 18 inch to 20 inch diameter,” Bruce said.

“We’re also looking at purchasing a second hand tyned seeder to hook behind the air cart in case we have persistently showery weather over seeding.”

Like most growers across southern Australia, ryegrass control is a big issue for Bruce and David.

“For two years we burnt no stubble at all, and then in 2005 we burnt some of our paddocks where the ryegrass was thick. These turned out much cleaner and yielded better due to less weed competition,” Bruce explained. “This seeder handles any amount of straw, but unfortunately we will continue to burn where there is too much ryegrass. Where ryegrass is not a problem, we will retain stubble.

“Considering the overall system, the JD1890 Disc Drill seems equal to any good tyned cultivator for planting.”

**For more information, contact Bruce and David McLagan on ph/fax: (08) 9654 1027**

**Information supplied by the Western Australian No-Tillage Farmers Association.**

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**NEW WANTFA PUBLICATION**

Disc seeding systems are an integral tool in the implementation of conservation cropping. Disc planters have a positive impact on seedbed moisture conservation, cause less weed seed stimulation and soil disturbance and improve crop water use efficiency by enabling maximum crop residue retention. Equally, the performance of a disc seeding system improves with farming systems that promote better soil structure and biology and a faster rate of residue breakdown – such as controlled traffic.

A new publication – *Disc seeding in zero-till farming systems: A review of technology and paddock issues* – is about to be released by WANTFA and the University of SA. It reviews many practical, agronomic and economic benefits that are associated with disc seeders as well as the many challenges associated with the operation of disc seeding systems.

**Launch of iNEX**

February sees the launch of the Leica iNEX guidance and mapping display system from Leica Geosystems. This large, full function colour touch screen encompasses a wide variety of features and extends the capabilities of the mojoRTK platform to include much more than straight line RTK auto-steer.

“Having launched our bare bones mojoRTK auto-steer platform at the start of 2008, I’m delighted to announce the release of our new iNEX display in February 2009,” says Leica Geosystems business manager Agriculture for Australia and New Zealand, Glenn Clark.

“This new product is the first of many new developments customers can expect from the recent acquisition of Rinex Technology by Leica Geosystems. By combining RINEX’s strengths in data management and advanced guidance with Leica Geosystems’ expertise in GPS technology, we are able to offer customers increased functionality, while still adhering to the core values of simplicity, reliability and value for money.”

Complete with full-colour mapping, data recording, and advanced guidance options such as adaptive contour and A+ Heading, the Leica iNEX display unit integrates seamlessly with mojoRTK. It is also available as a standalone unit for use with other GPS receivers and guidance options, from sub-metre to 2cm RTK.

The iNEX comes with a number of modular software options including Advanced Data Recording (ADR), FieldNET and AutoSPRAY. When connected to the mojoRTK these upgrades can be instantly uploaded onto the user’s system using Leica’s unique remote support tool, *Virtual Wrench*.

“Options such as ADR and FieldNET can really help to streamline your operations from planting through to harvest and eliminate human error by automatically recording and storing all paddock, application and vehicle data,” says Chris Slade, Leica Geosystems national sales manager.

ADR enables the user to manage all farm data from the iNEX interface and keep track of all paddocks, products and vehicles automatically, while FieldNET is the only system in the world that allows you to monitor the guidance, mapping and automated section control

on multiple vehicles working together in the same paddock.

**More information visit [www.mojoRTK.com.au](http://www.mojoRTK.com.au) or call 1800 836 656.** ■



**The large, full function colour touch screen of the iNEX system extends the capabilities of the mojoRTK platform.**