

Precision Agriculture in the paddock – grower experience

Owen Rasmussen, 'Jadma' Duaringa, Queensland.

Owen has his own contracting business and has also been managing Peter Dunne's properties 'Jadma' and 'Gordon', for 10 years.

Farming area: 1850 hectares (ha) at 'Jadma' Duaringa and 2500ha at 'Gordon' north of Dingo.

Crops: Summer is mungbeans, corn and sorghum. Winter is wheat and chickpea using an opportunity cropping approach.

What changes have been made?

When Owen was first employed by Peter he used a tyne planter and airseeder. They then upgraded to a disc planter with an airseeder before purchasing a 12m 11 row Precision Planting double disc planter, built by RBE, to plant sorghum with three years ago, but kept using the airseeder to plant their other crops.

Two years ago Owen then invested in an RBE designed 12m, 22 row double disc planter with Precision Planting V-drive and Boss row units.

The double disc allows the individual units to follow the soil surface, improving the uniformity of planting depth and seed spacing. The planter also features individual row shut off.

'It allows me to shut off rows so that I can plant 11 rows on 1.1m spacing for sorghum and corn and 22 rows on 0.5m spacing for wheat, chickpea and mung beans,' says Owen. 'The design of the planter also allows me to move the row units around as required.'

'I decided on the Boss row units due to their solid construction and the ease of making adjustments to the row units which I can do by hand.'



Figure 1: 22 row RBE designed Precision Planting double disc planter. Photo: Owen Rasmussen.

Features

Originally Owen had Precision Planting SeedFirmers before adding Precision Planting SmartFirmers. This ensures better seed to soil contact in the seed trench and monitors ground temperature, moisture and organic matter in the furrow.

The planter is also fitted with Precision Planting DeltaForce which controls row unit ground contact, aiding in plant emergence and crop uniformity.



Figure 2: SmartFirmer which pushes seed into the furrow to access optimal moisture. Photo: Owen Rasmussen.

Benefits

Owen said the most valuable benefit from moving to a precision planter has been the savings made in seed.

'In sorghum we have reduced the planting rate from 65,000seeds/ha using the airseeder to 50,000seeds/ha using the Precision Planting V-drive' says Owen. This has reduced seed by 23% whilst keeping the same number of emerged plants/ha, saving Peter \$5/ha.

'We also planted mung beans last year for the first time with the precision planter, dropping the rate from 20kg/ha to 15kg/ha'. This is a 25% reduction in seed, saving Peter \$6000 or \$10/ha.

As well as this, there are further yield gains and cost savings in seed due to reduced overlap. The individual row shut off ensures there is no double planting, reducing plant competition for moisture, meaning the area planted is smaller but yield is better.



Figure 3: Individual Row Shut off in Mungbeans at Daringa. Photo: Owen Rasmussen.

The individual row shut off has also been important in the maintenance of his machine; being able to turn rows off means there is less wear which is important as each row costs \$6,000.

The double disc planter has also allowed for improved capture of grain when harvesting mung beans and chickpeas compared to when using the tyne planter. The discs reduce furrows between rows, causing less disturbance which allows the harvester to cut closer to the ground.

Owen's planter cost him \$250,000. However, as a manager he doesn't see the payback like the owner.

'It would really depend on the season as to how long it is going to take to pay it back.'

Issues

Owen has been fortunate and has not had any issues.

However, there are more electrical components that need to be maintained. As a result it needs to be stored in a shed to protect it from weather and wildlife, otherwise there may be more maintenance involved than in a regular planter.

Future opportunities

The next area of improvement being considered is adding DeltaForce onto his 11 row planter.

He is also looking at trialling different row spacings. 'I want to trial 16 rows which will allow me to plant all sorghum, beans, chickpeas and corn on 0.75m spacing.'

He has also planted wheat with his 22 row precision planter for the first time. Owen and Peter are excited to see the results come harvest.

'I have trialled 33, 35 and 43kg/ha. So far the 33kg/ha rate is looking best'.

Recommendations

'It is important to do your homework because if you're going to spend the money on a planter then you don't want to spend twice.'

He recommends talking to a variety of people as not everybody is going to want the same thing and if you have the opportunity to have a look at the machine working in the paddock then go for it.

He has also never regretted spending the extra money on products of a higher quality.

'It is important that you are happy with the end result because you could have this machinery for the next 10 years'.