

Cereal supercrops give cotton benefits

By Brian O'Connell

Donald McMurrich is an agronomist for Cotton Grower Services at Gunnedah in the north west of NSW. Working in Gunnedah, he is about as far from home as it is possible to be.

Donald is Scottish — his name hints at this, and it becomes very obvious as soon as he speaks. He was raised on the family farm in Scotland and he went on to study agriculture, manage farms, travel extensively and ultimately become a commercial agronomist.

He arrived in this part of the world three years ago and was surprised to find that we seemed largely unaware of European crop production systems. Systems that deliver the high wheat yields that we can only marvel at.

Donald knew that on this dry continent water was an obvious constraint — but he didn't realise that we were also significantly yield-challenged by the genetic potential of our available cereal varieties. And that we tended to discard varieties that demonstrated yield potential but are disease susceptible, seemingly ignoring the proven agro-economic benefits of crop protection and management products in regular use around the rest of the world.

The holy grain grain

We have a history of pursuing the holy grain grain. Understandably perhaps, we are all looking for a variety that is:

- Of superior milling quality;
- Resistant to all known diseases; and,
- Will yield tonnes and tonnes.

Maybe we are asking a little too much of our plant breeders?

According to FAO statistics, in the past 40 years Australia's average wheat yield per hectare has increased by around 50 to 60 per cent (Figure 1). But over the same period, the average German wheat yield has increased by over 130 per cent while yields increased by 100 per cent in both the UK and New Zealand.

As the milestones on Figure 1 indicate, the increase in German yields did not come overnight. The regular introduction over four decades of new nutritional programs, crop protection and management products — and varieties — contributed to a steady, but marked, improvement.

Putting super ideas to the test

A grower friend of mine put some of Donald's ideas to the test on a paddock



H45 wheat at Calrossie. The seed was broadcast onto a cotton field. When the crops lodged the retained hills made it difficult for the headers. They couldn't get down low enough to properly lift all the crop. Despite all of this, yields and margins were impressive.

scale last season. My friend farms on 'Calrossie', Boggabri, where rainfall is less than is common across Britain. But he does have irrigation so water was not a constraint.

What caught his attention was the attention to detail that the production system called for. This, he believed, had practical dryland application well beyond his irrigated paddocks.

The farmer was paying for the trial, and it was his crop at risk, so he cut a few prag-

matic corners with ground preparation and planting — but the 8.6 tonnes per hectare result certainly got his attention.

The yields were pretty good, the margins were pretty good, and having a disease break and a whole heap of organic matter was also pretty good. All in all, my friend felt that the whole exercise had been pretty good.

We have asked Donald McMurrich to provide a brief overview of the approach they used at Boggabri (see next article). 🌱

FIGURE 1: Effects of improved production technology on wheat yields

