

Grower experience with corn in the cotton rotation



Johannes Roellgen, of Brookstead.

Johannes Roellgen, Brookstead

Corn is the major option to grow in rotation with cotton on the property of Johannes Roellgen at Brookstead on the Central Downs and works well for paddock weed control. "It is a good fit," Mr Roellgen said. "It is easy to get broadleaf weeds out of corn and, vice versa, to control grass weeds in cotton." The earlier planting date of the corn helps with time and water management and also provides the option to work the corn ground early after harvest, in readiness for the cotton crop.



Steve and Henry Perry, Brookstead.

Steve Perry, Brookstead

Steve Perry, who farms near Brookstead on the Central Downs said he will put cotton back into field that had contained corn with the two crops working well in a rotation.

"We have found the cotton does well after the corn and the corn does well after the cotton," Mr Perry said. The ability of corn to be planted in early September also provides options for both time management and to spread risk. "We do a lot of contract cotton picking and can get the corn off before we go picking," he said.



Rob Kingston, Millmerran.

Rob Kingston, Millmerran

Corn on the property of Rob Kingston of Millmerran is grown in conjunction with cotton, with both crops scheduled to complement each other for planting, watering and harvesting. Mr Kingston said September would be an ideal time to plant corn as it could be watered before the larger irrigation needs of the cotton are required.

Corn and cotton rotation - The benefits

- High gross margins
- Higher value summer grain
- Multi-markets: feed, grit, waxy and other processing types
- Excellent yields/ha
- Excellent yield/mL
- Shifting your peak times for labour, irrigation and harvest
- Early planting or late double crop planting
- Choose from quick to mid season hybrids to suit your schedule
- Change your summer herbicide package to clean-up difficult weeds
- Rotating your cotton paddocks where disease is an issue
- Harvesting early (or late) and get your paddock back into production for the next crop
- Higher yielding subsequent cotton crops (see CSC research).

For your local DuPont Pioneer Area Manager for further information

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Corn and Cotton Crop Rotation

Why you should consider corn on your cotton farm

- Strong commodity prices due to strong export demand
- Flexible planting dates – September to January
- Flexible harvest dates
- Short growing season
- Ability to germinate and emerge in cool soil during the early spring period.
- Reduces the potential for high risk water scheduling in late summer.
- Potential cash flow in January/February/ March
- Diverse marketing options – silage, feed grain, processing grain (chips, flour, waxy, high amylose)
- Evidence of improved cotton yields after a corn crop which is most likely due to increased organic matter and better soil structure.



Evidence of yield improvements

- South Burnett (2005) – 10-12 bales/ha (cotton-corn) compared to 7.5 bales/ha (back-to-back cotton)
- Dalby and Moree growers have reported up to 25 % cotton yield increases in fields coming out of corn compared to continuous cotton

CRDC research, Gatton (2007-08) – key findings

- Soil water extraction is greater in cotton compared to corn – More soil water is available to the following cotton crop
- Corn generally has a higher root mass than cotton – Increased number of macropores meaning better soil drainage and water availability

Long-term rotation trial study, Narrabri – recent results

- Root density is higher in rotations that include corn
- Potential improvements in soil porosity and structure in following cotton crop



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Rowan Bennett, Narrabri

Corn provided a successful rotational option for Rowan Bennett on an Auscott property, north-west of Narrabri, in northern New South Wales. Mr Bennett said they were looking for an option to provide a high return per megalitre of water and a break crop that would benefit cotton the following year. The advantages of corn as the rotational option on the property included its ability to be planted very early in the summer crop season and receive the majority of its water requirements prior to the cotton. Mr Bennett said corn also added organic matter to the soil and there was evidence that the yields of the following cotton crop could be increased by up to a bale per hectare by using corn in the rotation.

He said, while cotton was the priority crop for the company, the success of corn last season meant it will be planted to a further 200 hectares this year. Pioneer® hybrid 32P55 produced an average yield of 12.84 tonnes per hectare and made the top grade in a processing end use market without any cracked or ruptured kernels. The corn was sold for \$285 per tonne which provided a net return of \$2081 per hectare. Mr Bennett said the return was not too far behind cotton and he believed by increasing the population establishment and by improving management and harvesting, it could be as profitable as cotton if commodity prices remained stable.



Auscott Narrabri agronomist, Rowan Bennett, and assistant agronomist, Bill Back.

Glenn and Shawn Fresser, Dalby

A crop of corn produced some big yields, without the need for irrigation last year on the 'Mayfield' property of Glenn and Shawn Fresser near Dalby. Shawn said they normally put in one or two fields of corn each year as a rotational option with cotton and last season the majority of the crop was Pioneer® hybrid 32P55. He said the intention had been to fully irrigate the crop, however the good rainfall which fell after the corn was planted in late September and continued through most of the season, meant no waterings were required. Shawn said

that it just kept raining and the corn crop thrived under the conditions and produced an average yield of 9.5 t/ha. Corn has provided good returns on the property for many seasons and has become an integral part of the crop rotation with cotton. Shawn said they would plant corn any time from mid-September which worked in well with the later-planted cotton crops. "We get the corn out of the way before we have to worry about the cotton, and cotton crops which followed corn have traditionally done better" he said.



Shawn Fresser of "Mayfield", Dalby.

Corn a handy break option at Brookstead

Corn was a handy break option to cotton on the Porter property at Brookstead on the central Darling Downs.

Brett Porter said they had a 30-hectare paddock that had grown cotton the previous year and been flooded which was also showing signs of cotton fusarium disease.

He said there was moisture available early in the season so they made a decision to plant Pioneer hybrid 32P55 to the strip in September.

Mr Porter said the corn was given just two waterings through the season and said, while there was not a lot of rain in the year, it fell at the right time to benefit the crop.

At harvest, the 32P55 produced an average yield of 10 t/ha, although a yield test conducted in a better part of the paddock demonstrated its potential under the right conditions.

The weigh-bin test produced a yield of 13.65 t/ha in a very good result.

Grain quality from the hybrid was very good, and was able to be sent to gritting markets after harvest, and command a premium price over feed corn options.

Corn provided a good option on the property because it could be planted early in the season before cotton or sorghum.

The crop is well suited to the cooler conditions in early September and the two irrigations received did not conflict with the irrigations needed by the cotton grown on the property.

Mr Porter said the corn was ready to be harvested well before the cotton, so worked in well from a time management point of view.

Importantly the year away from cotton in the paddock has allowed a good clean break for diseases such as fusarium in corn.



Glen and Brett Porter, Brookstead

Pioneer hybrids fitting the grade at Woods Grain

A range of Pioneer® brand hybrids have proven to be well suited for both the farming and marketing enterprises of Woods Grains, based in Goondiwindi, in southern Queensland.

Angus Woods, from Woods Grains, said he had been impressed with the performance of the Pioneer® hybrid 32P55 corn, which had been grown and also marketed by the company.

He said 32P55 had done very well on dryland, semi-irrigated and full-irrigation situations in the region and in a range of planting times and seasonal conditions.

"It has proven a very versatile hybrid," he said. "Corn as a crop has also become more of an option in recent seasons as well."

Mr Woods said corn worked particularly well in rotation with cotton in the region and provided a range of benefits in the rotation.

He said corn was an excellent disease break with cotton often performing particularly well in a

paddock that had the grain crop in it the previous year.

"It seems good for soil health and is also a quicker crop to grow than cotton."

Corn can often be planted at the start of September in the region, prior to the traditional cotton plant in October, and then can utilise irrigation water earlier and also be ready to harvest sooner.

Alternatively, successful crops of corn have been achieved with planting dates as late as January.

Mr Woods said 32P55 was a well-accepted hybrid for growers in the region because of its excellent agronomic performance and it was also sought after by export markets.

He said the keen interest in export corn meant Woods Grains were seeking growers this season, and for the longer term, to supply corn for key international markets.

Mr Woods said they had formed a strong relationship with Pioneer which included the



Angus Woods of Goondiwindi, in southern Queensland, had good results after a first-time attempt at corn

opportunity to assess new corn hybrids coming through their trial programs.

He said they had been encouraged by the grain samples of the new Pioneer® hybrid P2080 corn and looked forward to the release of these and many more varieties in the future.

Brookstead grower wins RASQ irrigated corn competition

Mitchell Clapham of 'Lone Pine' Brookstead in the central Darling Downs of Queensland took out the 2011 RASQ irrigated maize competition with a crop of Pioneer® hybrid 32P55 which yielded 13.65 t/ha.

A separate 32P55 corn crop on the property was placed second with a yield of 13.04 t/ha.

Mr Clapham said some of the corn received a watering early, although the majority of the corn did not need to be irrigated due to the favourable conditions of the year.

"If you wanted to order a corn growing season, that was it," he said. "It was the best year we've had in three generations of growing corn. Our farm average was close to 13 t/ha."

The corn crop was planted at the start of the planting window in early to mid-September of 2010 and was well established by the time the rainfall hit in late December and early January.

Flood water was detrimental to the cotton crops on the property, but favoured the corn despite it being up to the bottom of the cobs in places.

"There was half a metre to a metre of water through the corn fields," Mr Clapham said.

The corn has proved an excellent rotational tool with cotton over many years and last season proved a better option due to the rainfall.

"It was a good thing we had the corn."

Mr Clapham said there were some fields that they did not grow cotton in due to the risk of fusarium disease in those areas and corn was the crop used there.

He said corn also worked well from a time and water management perspective as it was planted well before cotton and also utilised water at different times.



Mitchell Clapham and family, Brookstead

"We find it spreads out the workload," he said. "The corn is finished before most of the cotton needs watering."

Last season 32P55 was planted to a large area on the farm and impressed with its high yields under the conditions of the season.

"32P55 is a very good variety," Mr Clapham said. "We had others but it was by far the best."

Success with first attempt at corn at Edgeroi

A first attempt at corn proved to be very successful last season for **Alex Murray** at Tarlee, Edgeroi.

Mr Murray said they planted just over 100 hectares of corn in September last season and were very pleased with a yield of more than 7 t/ha across the area.

He said the yield was more than anticipated, particularly because the crop was sown in a single-skip configuration (two rows in, one row out) to fit in with the machinery.

There were also some establishment issues as a result of wet conditions and planting into stubble from the previous winter crop.

"It was a fairly uneven soil type," Mr Murray said.

The corn area was made up of Pioneer® hybrid 31G66 and the new Pioneer® hybrid P1813-IT with both performing well under the conditions.

"There didn't seem to be a great deal of difference between the two."

Mr Murray said corn was planted for the first time because there was a good moisture profile and the figures on the crop looked good.

It worked in well as a planting partner to cotton because it was able to be sown earlier, and also harvested earlier, in the season.

Mr Murray the crop received some 16 inches of rainfall just as it was drying down, and he was surprised by the way it continued to stand through the severe conditions.

"It didn't seem to affect the quality at all," he said.

At the same time other summer crop options were badly affected by the rain.

The corn was harvested and quickly rotated into a winter crop to take advantage of the stored moisture.



Alex Murray, Edgeroi

Mr Murray said corn has a good fit because it could be planted early and have any fertiliser and herbicide applications conducted at the same time.

"It's done and dusted before we plant cotton and harvested well before the cotton."