Is Time of Sowing as Important in a High Decile Season?

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Location
Minnipa Ag Centre

Rainfall
Av Annual: 325 mm
Av GSR: 242 mm
2009 Total: 421 mm
2009 GSR: 333 mm

Yield
Potential: 5.2 t/ha (W)
Actual: 2.8 - 5 t/ha Wyalkatchem local TOS1

Key messages

- **Minnipa Agriculture Centre results showed significant yield advantage with earlier sowing in trial data even in a great season.**
- **Weeds can have a large effect on early sown crops, but most farmers try to have some paddocks set up to sow early.**
- **If early sowing is an option take advantage of it.**

Why do the trial?

After debate amongst the MAC researchers on the importance of time of sowing in a high decile season, the yield data for the Minnipa Agricultural Centre farm and time of sowing for 2010 were collected. The data from the time of sowing trial for Wyalkatchem was also analysed. Wyalkatchem wheat was selected as it is the main variety grown and has an early-mid maturity range.

How was it done?

Minnipa Agricultural Centre Farm data

The farm yield data for paddocks sown with 50 kg/ha Wyalkatchem wheat were collected. Seeding dates ranged between 27 April and 13 May.

Minnipa Agricultural Centre Time of Sowing Trial

The Wyalkatchem data only is used in this section and was taken from the Time of Sowing trials conducted at MAC which included five varieties and two different soil types (see article 'Responsive Farming Using Wheat Agronomy' for more information).

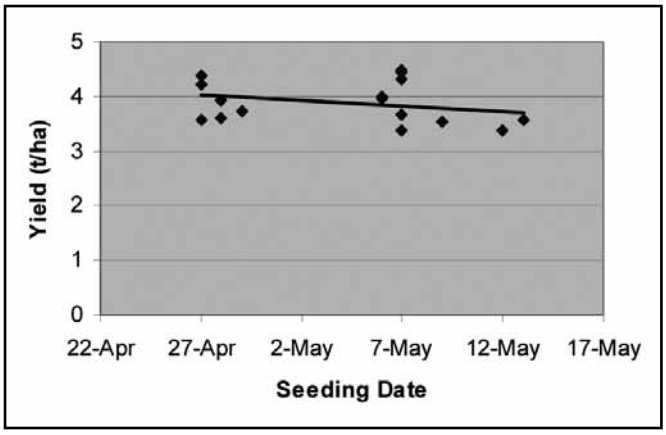

Figure 1 MAC Seeding date and yield (t/ha) 2009

The first rain for the growing season was 25 mm in late April, allowing TOS 1 to happen on the 4 May. TOS 2 occurred following 30 mm of rain on the 26 May. 60 mm of rain fell between 6-16 June with TOS 3 taking place on 18 June.

What Happened?

Minnipa Agricultural Centre Farm data

The farm paddock data shows a trend of a yield decline in paddocks even within a 3-4 week sowing period (Figure 1).

Minnipa Agricultural Centre Time of Sowing Trial

The results show even in a high rainfall season there was a significant yield penalty with later sowing. The early sowing resulted in the highest yield on both the good and medium soil type (Table 1 and Figure 1)

Farmers on the upper Eyre Peninsula were asked if they experienced any yield variation this season due to time of sowing. As this season was good many farmers felt the time of sowing was not as important and were happy with the yields. Many were able to sow the entire crop in a three to four week period and in some cases Wyalkatchem was sown within a week. Several could not quantify any difference or were not aware of any significant difference as other agronomical issues could have been factors. Weed control of Brome and Barley grass was cited as a real issue in some early sown crops (see article 'Barley Grass, an Emerging Weed Threat' – the impact of barley grass at time of sowing reduced yield from 4.16 t/ha to 2.53 t/ha).

Table 1 Medium soil type

Date sown	Yield (t/ha)	Protein (%)	Screenings (%)
4 May	5.0	11.8	1.0
26 May	4.1	11.9	1.0
18 June	3.5	12.6	0.8
Average Yield	4.2	12.1	0.9

Table 2 Good soil type

Date sown	Yield (t/ha)	Protein (%)	Screenings (%)
4 May	4.7	11.0	0.9
26 May	3.8	11.4	0.5
18 June	2.8	10.9	1.0
Average Yield	3.8	11.0	0.8

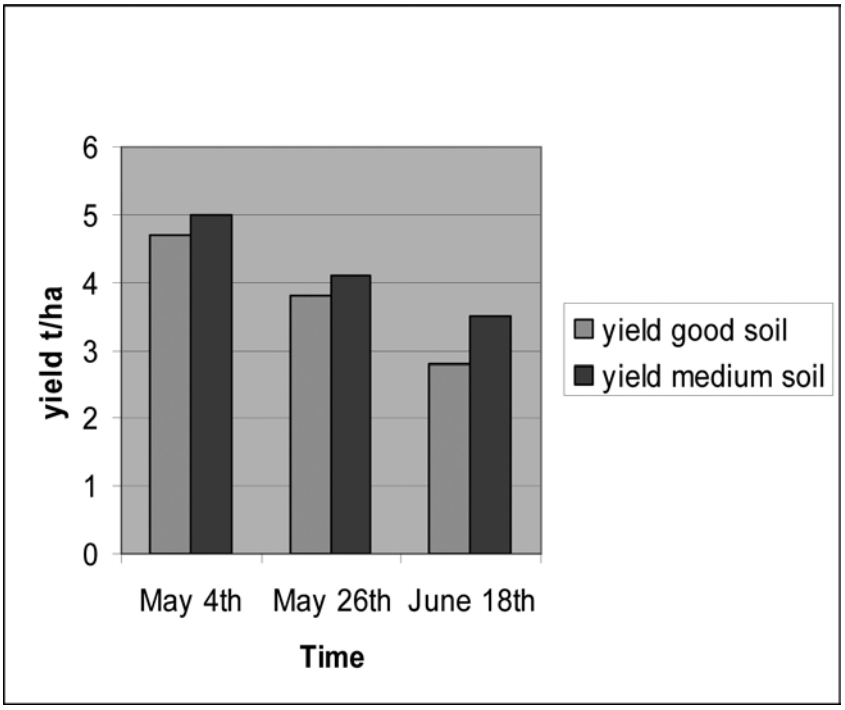

Figure 1 Time of sowing of Wyalkatchem, Minnipa 2009

Comments from different areas and individual farmers

Coorabie: Early March rains in the west created subsoil water and allowed earlier sowing than normal. Crops sown towards the end of April were still the highest yielding even though good follow up rains were sufficient throughout the year for crops sown into May.

Lock: "No significant difference. Sowed one farm first, the later had higher yielding crops but different soil type". "Earlier sown crops had a definite advantage with yields ranging from 4 t/ha (early sown) to 2 t/ha although the last sown was not the worst. This year was less stubble than expected for yield. Extra nitrogen was needed to realise full yield potential on continuous cropped ground."

Buckleboo: "We now include Axe and Gladius in the mix so wholesale sowing of Wyalkatchem has been reduced. In this situation timing not so much of an issue as the Wyalkatchem is sown in a few days." Rather an awareness of sowing varieties to capture their potential has become a focus.

Wharminda: "Early sown crops, weeds were an issue and impacted on yield. Clean crops produced best yields, early sowing wasn't the issue". "Early sown weeds can be an issue but try to set up a portion of cropping land that can be sown early. Overall this season not a lot of difference in time of sowing compared with the last three".

Wudinna: "The first paddock was the worst as it had a greater weed burden than anticipated. Overall the crops were reasonably even but would always advocate early sowing where possible."

Minnipa: "I deliberately sow Wyalkatchem first even though touted as a shorter season variety it adjusts with better seasons. Sowing early doesn't limit yield potential in a good season. I started sowing on 26 April and finished sowing on 10 May. Wyalkatchem was sown first and gave the best crop with a yield decline experienced from 4.3 to 3.7 t/ha from early to late sown (there could be some other agronomic factors with this as well)". "With Wyalkatchem out-yielding Axe in the last 2 seasons poor and good it has been suggested Wyalkatchem will remain a prominent variety."

What Does This Mean?

Although it was hard for farmers to quantify specific yield advantages many saw the early sown crops still had an advantage even with better growing conditions. Weeds were cited as a problem not only in the early sown crops, as weed germination continued to occur over a long period regardless of sowing date. Understanding the size and type of the weed seed bank, potential root disease, soil nutrition status and varieties all need to be considered before sowing.

The ability of many farmers to sow large quantities of hectares in a short period allows a greater optimum sowing time. The question "how early?" remains relevant and indications are that even in a better season the earlier sown still performed the best.