

FINAL REPORT

SYN00008

Early seeding - a knowledge gap strategy for very early season starts

PROJECT DETAILS

PROJECT CODE: SYN00008

PROJECT TITLE: EARLY SEEDING - A KNOWLEDGE GAP STRATEGY FOR VERY EARLY SEASON STARTS

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END DATE: 31.03.2016

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Summary

Eastern areas of the western Australian grainbelt are receiving significant 'out of growing' season rainfall, providing growers with early sowing opportunities in approx. 50% of years (source: Bureau of Meteorology (BoM))

This project attempted to validate grower practice, especially in relation to wheat in regard to April sowing. This project aimed to look at three times of sowing (TOS) by four crop types by two varieties of each crop type, aiming for a 'standard' variety such as Mace^{db} wheat, Hindmarsh^{db} barley, ATR Stingray^{db} canola and Carrolup^{db} oats against one of the earliest sowing options for all of those crop types.

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Conclusions

This project successfully showed that earlier TOS is less risky in many environments than delaying sowing, for whatever environmental risk factor is taken into consideration e.g. drought, frost or heat.

The season favoured the early sown crops, but it was not unusual in medium to lower rainfall zones to experience late season terminal drought.

Varietal attributes which are often not observed with normal TOS were evident when given a longer growing season e.g. with a Yitpi[®] photoperiod.

If dry spells in winter are now common, it appears that early sown crops with good root structures are more resilient in these situations, compete better with weeds and although visually may appear more stressed during certain times of the year, are not overly affected.

Recommendations

It is recommended:

- Continue extending the project results.
- This work is repeated as soon as possible.
- Link in with frost work through the National Frost Initiative (NFI).

Outcomes

Growers require validation that medium term trends of earlier sowing, combined with sound financial performance, are applicable across all crop types, especially wheat and barley, the two major crops grown by area.

Most growers are aware that variation in seasonal rainfall, winter droughts, tight finishes, heat and frost are driving earlier sowing times. This work reinforces that this grower practice is not limiting overall profitability by any significant measure, but is indeed maintaining and increasing enterprise profit but removing some of the mid season and late season risk factors that can affect profit such as frost, drought and heat.

Achievements/Benefits

This project was established successfully over three TOS (13/4, 21/4 and 21/5). Crop emergence reflected the actual TOS treatments. Strong visual differences between both crops and TOS provided significant statistical differences at harvest time.

Emu and bird damage impacted heavily on trial results.

The two four-week winter dry spells experienced in 2015 (which are common) highlighted these differences that even though early sown crops can visually show more stress, they are more hardy and this was represented in the final data. The tight finish to the season with limited spring rainfall (September 8mm) highlighted that well established early sown crops are quite resilient. Varietal attributes, such as photoperiod and vernalisation, etc., are often not observed with traditional TOS work. However, expression of some of these traits, especially photoperiod in Yitpi[®] wheat, was observed when given a very early sowing. This trait is not often seen when sown at traditional May seeding times.

It also highlighted that some of the long season and even short season varieties do have significant yield potential higher than wheat, especially with early sowing.

Growers are quite comfortable with early sowing canola and now also oats, due to the grain price. They are sown quite early, especially in frost prone areas of the state. This trial work highlighted that even with early sowing, a shift two weeks early is still a valid strategy and should be considered.

There was a limited downside risk to early sowing, however late sowing risk was very high.

Trial data analysis showed \$600/ha differences in gross margin (GM) performance between early and late TOS.

Other research

Repeat this trial work in the same paddock but one higher in the landscape and one lower in a frost prone area to assess any frost and TOS interactions further.

Additional information

Attachments

Time of Sowing x crop type Hyden WA.