Later and late sowing of the Winter Crop

On the seasonal calendar for winter cropping enterprises, there is no more anticipated event than the autumn break and opening rains. The timing is significant at every level and determines the suitability of the crop type, the selected variety, the yield prospects, weed management strategies, disease management strategies and also impacts on decisions such as sowing rate and fertiliser rates.

An autumn break which occurred in April was traditionally regarded as early, especially if it occurred prior to Anzac Day. But there has been a trend to earlier sowing by growers in the seasons which have followed the millennium drought. Earlier sowing has been a complementary practice with crop choice and varietal choice in the last decade and can capitalise on the stored soil moisture associated with no-till sowing systems.

Growers have long understood the importance of timely sowing and how crop types and crop varieties are influenced by rather mysterious yield functions of day length, photoperiod responses and vernalisation needs. While the timing of the autumn break is incredibly significant, the rain which falls after it and day temperatures, frost events and heat stress events all temper the final outcome of crop yield and quality.

However, the greatest management skill which Riverina grain-growers possess is flexibility and the capacity to adapt quickly to changing circumstances. When the autumn break arrives is out of our hands, however the potential costs of a late or later break can be minimised by more strategic decisions as the sowing window narrows. In other words, we can’t change what happens in a rain-fed farming system but we do have the capacity to respond to climatic events such as rainfall differently.

Considering a wide range of crop types on offer, the crops traditionally regarded as the early sowing options have included oats and lupins.

Dual purpose options of winter wheats and winter canola are also popular choices for early sowing opportunities, especially when the farming system includes livestock enterprises and there is value to be gained by filling a feed wedge and lengthening the grazing window.

As April draws to a close, we approach the month of May when there are still many choices available. Yes, there are critical points on the calendar when yield prospects start dropping significantly. The longer we wait for the break the more likely it is that these critical points will be questioned, even debated. Although, a day on the calendar beyond which yield declines is not a cliff-face and shouldn’t be seen in that way.

Take the early sowing option of lupins for example. If lupins is the major source of protein for supplementary feeding your prime lambs (along with oats or barley for energy) and the lupins seed has already been stored for more than one season (so germination % will be dropping), then it is still sensible to sow lupins in May, but as soon as possible in the window available. It becomes pointless to point out that something ‘should have happened’ in April when circumstances didn’t permit it. Despite the frustrating delay in sowing, we can use this time to test our seed for the germination and viable seedlings percentage, plan our weed management strategy.
The Short Straw

and re-address our paddock choice, if necessary.

Uncertainty over when the break will come, makes decisions on varietal choice more interesting but complex because growers can’t keep seedlots of the best variety for every given situation.

It is important to remember that we select varieties which perform the best over any number of sowing timings, soil types, locality climates and disease scenarios.

For decades, we have been reminded that we (the advisor and grain-grower) should not select a cultivar on the isolated performance of a single season or two and how careful evaluation considers yield and quality performance across sites and across seasons.

The rigour of National Variety Trial evaluation uses the biometric scrutiny of data from thousands of plots across a coordinated series of trials, you can view them [here](#)

Grain-growers have never had so much choice, with the list of varieties on offer growing in number (in each new Winter Crop Variety Sowing Guide). Dare I say that I can remember when everyone I knew in a certain locality grew Vulcan, at another point in time – Janz, then Chara, and then to an extent, EGA Gregory. The point however is that even though the sowing window is getting later, there are many robust varieties in our farming system which can withstand the later sowing.

Wheat production is a very successful dryland winter crop enterprise.

Up until the end of the second week of May, options such as Bolac, DS-Pascal, Forrest, Kiora, Sunzell, Suntime and Yenda (Biscuit wheat) are also suited by sowing date alone.

By the third week of May, we are still situated within the optimum sowing time for a great many cultivars (described in the Winter Crop Variety Sowing Guide under suggested sowing times for the south) including: Coolah, DS Faraday, EGA Gregory, Flanker, Gazelle, Lancer, Beckom, DS Darwin, Estoc, Sunguard, Suntop, Sunvale, Sunvex, Longreach Trojan, Corack, Elmore CL PLUS, Grenade CL Plus, Longreach Impala (Biscuit wheat), Janz, Merinda, QALBis (Biscuit wheat), QAL2000 (Biscuit wheat), Longreach Reliant, Scepter and Wallup.

As we move into the third week of May and beyond we have a group of wheat varieties on offer ideally suited to later sowing, including: B53 (Feed), Condo, Crusader, Emu Rock, Livingston, Spitfire and Sunmate.

If we have seed of Winter Wheat varieties such as EGA Wedgetail, Longreach Kittyhawk, Manning (Feed), Naparoo (Feed), Rosella or SQP Revenue (Feed) then sowing in the third week of May is later than ideal but still acceptable on the Slopes. ‘Still acceptable’ means that it is debatable whether lower yields will be realised and also that the juggle between sowing dates which consider frost risk versus heat stress is also acceptable.

The reality is that we select varieties on a host of traits and attributes, but if sowing date was the only determiner of yield, then May sowing is still suitable for many. In the past growers used to select a couple of varieties for different traits, and sometimes this was on the basis of their suitability for sowing earlier or later than normal.

Many of the Spring Wheats have a six week sowing window (including optimum and acceptable) of preference while the Winter Wheats have a ten week sowing window, of which seven have now lapsed up to this point in April as we enter the fourth week.

Barley is also a suitable and profitable later and late sown option for dryland cropping.

There is merit to sowing barley as well, as the season becomes later. Historically barley was always very well regarded for its faster maturity than wheat, as it requires less growing days than wheat to reach flowering and

Riverina Local Land Services, April, 2018

2
grain fill. In Felicity Harris’s words (NSW DPI researcher) “Barley gets things happening quickly for grain-filling, it is just driven by photoperiod or day length.”

A new barley variety RGT Planet is of interest to researchers and growers alike for its high yielding characteristics, being the highest yielding barley cultivar in NVT trials in 2016 and 2017 and having an international profile (currently being grown or evaluated in 44 countries). In an analysis of NVT data across a range of growing season rainfalls (GSR) the two varieties of La Trobe (Malt accredited export barley, early-maturing, high yielding) and RGT Planet were compared. RGT Planet was shown too significantly out yield La Trobe in 50% of sites with a GSR of over 150mm, with this yield advantage increasing as the GSR increased to 300mm and higher.

The area sown to RGT Planet is expected to increase significantly this growing season as it has successfully gone through the first year of the Malt accreditation process and is well known for its malt status in the European Union.

A recent project by NSW DPI’s David Burch and GRDC on the Optimal sowing dates for 16 new barley varieties in central western NSW showed that La Trobe is a benchmark barley variety for growing in low yield environments. Out of three selected sowing dates (24-Apr-17, 12-May-17, 25-May-17) in the trial, it was the mid season sowing date of May 12 which offered the greatest grain yield at Condobolin (the 2017 growing season was impacted by below average rainfall and 85 nights with temperatures below 2°Celsius, of which 49 were below zero and 25 of these were below -2°C). The barley variety of Fathom (a Mid-Fast Spring type) sown later at Condobolin on the 25-May did not incur a yield penalty. The research also determined that the target flowering date for barley sown in central west NSW is the last week of August to the first week of September.

Research by Felicity Harris (and team) of NSW DPI at Wagga Wagga and funded by GRDC evaluated what’s driving phenology in cereals? This research investigated the effects of photoperiod response and the requirement for vernalisation on a variety’s yield response in a given season over a range of sowing dates. It is an interesting area of research as growers seek to better understand a new or current variety’s phenology for different sowing times.

This barley research took place on trial sites at Matong and Wagga Wagga between 2014-2016 where the mid May sowing (10 May) was shown to be optimal for optimising grain yield. As we knew less about how the new variety RGT Planet will perform in our climate, and also La Trobe, which is quickly replacing Hindmarsh, the research is very pertinent offering useful comparisons.

The research showed that if we sow RGT Planet as late as the third trial time of sowing (25-May or 26-May in different years) then because it has a weak photoperiod response, it can suffer and yield less according to Felicity Harris (than when sown at the second trial time of sowing or mid May). To sum it up RGT Planet is described as a Slow Spring type, with a minimal vernalisation response and a weak photoperiod response. Knowing this, for southern NSW, sow the new RGT Planet around mid-May to optimise its excellent yield potential. In comparison, La Trobe is a Fast Spring type with no vernalisation response and a moderately strong photoperiod response. If sowing gets very late in later May or early June then La Trobe would be better suited than RGT Planet.

Growers seeking Clearfield lines also have Spartacus CL on offer with Malt accreditation, IMI tolerance, high yields for an early maturity line, and slight improvements in straw strength, head retention and grain plumpness compared to its replacement, Scope CL.

Some incidences of Barley loose smut were detected in a number of popular barley varieties in South Australia between 2014 and 2017. Barley growers in southern NSW are advised to ensure an effective seed treatment is applied with good coverage every season. Check your seed treatment label, but there are at least three registered seed treatments available that offer control of Barley loose smut.

In conclusion, the ways in which soil moisture is preserved by practising summer weed control and stubble management ensure that we go into a new season with as much soil moisture as possible, even if that is less than ideal. Timeliness will always be important, but exercising flexibility now as we consider crop choice in the rotation
and varietal selection is important. Take advantage of recent knowledge about new varieties with pertinent research on the phenology of wheat and barley varieties from NSW DPI and GRDC.

More Information

Please send any queries about this article to agronomist Lisa Castleman at lisa.castleman@lls.nsw.gov.au or telephone on (02) 6923 6359.

Comments or inquiries regarding The Short Straw article of an agronomic nature can be sent to lisa.castleman@lls.nsw.gov.au
knowledge, users are reminded of the need to ensure that the information upon which they rely is up to date and to check the currency of the information with the appropriate officer of Local Land Services or the user’s independent adviser.
For updates go to www.lls.nsw.gov.au