RISK AND REWARD EARLY SOWN CANOLA

GRDC
GRAINS RESEARCH & DEVELOPMENT CORPORATION

WESTERN
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Grower case study: Dylan Hirsch

Dylan Hirsch with early sown canola crop in stripper stubble.

Photo: Dylan Hirsch

SNAPSHOT

Grower: Dylan Hirsch
Location: Latham, north-eastern Western Australia
Average rainfall: 290mm
Farm size: 5800ha
Enterprises: wheat, canola, lupins and barley
Soil types: sandy loam to deep red sand

For Latham grower Dylan Hirsch, canola was once just an occasional crop. It has now become a large and integral part of his rotation, representing on average 35 per cent of his cropping program.

Dylan and his family farm 5800 hectares near Latham in WA's north-eastern wheatbelt. The family farming enterprise was previously a cereal-dominated system; however, over the past 12 years the Hirschs have added and increased their canola program, with 50 per cent of it going to canola in 2021.

The Hirschs have also developed the confidence to sow canola earlier and earlier; they now have everything ready to go by 20 March in case an opportunity arises. In the past three years, they have had canola in the ground in March and have had pleasing results more often than not.

Through this ongoing learning process over the past 12 years, the Hirschs have developed some clear rules of thumb that support objective decision-making for seeding canola in their business.

Paddock and rotational planning are important in identifying the paddocks that

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will suit canola for the coming season, taking into account soil type and weed burden. Canola will always be seeded into a cereal stubble.

Their seeding decisions are based on soil moisture and rainfall targets. Dylan notes that from 20 March, "we want to see a 10-millimetre minimum rain event, if we have had a minimum of 60mm summer rainfall to ensure subsoil moisture. Otherwise, we need to have confidence in a 20 to 30mm rainfall event occurring".

"I want to be seeding before that opening rain, but I want confidence in that forecast, especially if we don't have subsoil moisture. We will wait to be confident in forecasted rain, usually three days out, and then go hard seeding."

Dylan uses a website that compiles various weather models and if all the models agree on more than 10mm, he is confident to start seeding.

"Sowing early is a risky decision, but if everyone in the team knows the targets we want to hit, it's easier to stick with a decision."

IMPORTANCE OF UNDERSTANDING SUBSOIL MOISTURE

Recording and mapping summer rainfall across different areas of their farm allows the Hirschs to have a clearer understanding of subsoil moisture and to use it when making seeding decisions. In 2022, one area of their farm had more than 120mm of summer rain, while other areas had none.

They are also involved in the Liebe Group's 'Soil moisture probe and weather station' project, where they have installed two moisture probes and an automated weather station. Over the past two seasons they have been learning how to interpret the data and use this information confidently.

TRUSTING THE TARGETS AND EXPERIENCE

Experience plays a huge part in on-farm decision-making. Speaking about how growing canola has changed for them over the past 10 years, Dylan notes how hard it was at the beginning to get their heads around the cost of seeding and target seed rates.

"It felt like an expensive investment and one with a lot of risk. But now we have confidence in growing canola, we have reduced our seeding rates a little bit in the last few years. Gravel and heavier soils average one kilogram per hectare, while sands are around 2kg/ha."

The Hirschs have experienced another big attitudinal shift in the past 10 years in how they manage risk with early sowing, which has meant displacing some of the cost risks. The main cost they have moved is their starting fertiliser.

"We are happy to try get seed in the ground ahead of the rain, and then we will apply fertiliser once established," Dylan says.

"Logistically and cost-wise it makes sense for us. We would rather invest in risking seed in front of a rain event and then getting nutrition on it later.

"Sometimes we only get one or two chances to germinate canola in a timely window. We want to make sure if we get the opportunity, we take that, but if germination fails, we will come back and sow to cereal or turn to fallow. Hence why we don't want to risk fertiliser costs up-front.

"Most of our canola goes in without fertiliser, with the exception being our rule of thumb that, if a paddock has a Colwell P below 30 then we will use starting P."

OTHER CONSIDERATIONS FOR SEEDING EARLY

In terms of early sowing, there are some well-suited varieties. However, seed supply issues in 2022 meant the Hirschs were sowing whatever was available to them at the time. Going forward, their plan is to target sowing windows with the right varieties.

Seed depth is another consideration when seeding early. Dylan says that they probably seed deeper than others would target with early seeding.

"We try to place the seed at 25 to 30mm to chase moisture and protect the seed from high temperatures, and in our experience the deeper-sown crops have come up better at this time. When we are seeding into cooler, moister soil we will bring this up to 10 to 15mm."

Another reason to go early with canola is to avoid the heat stress at the end of the season.

Dylan notes that if they can get canola flowering in July, rather than August, it will not be exposed to as much heat stress at the end of the season.

WHEN THERE ARE NO EARLY SOWING OPPORTUNITIES

If the early seeding moisture and rainfall targets are not met, the Hirschs will wait until 20 April to dry sow canola and reduce their program to as low as 10 per cent. Canola will then be replaced with a cereal in the rotation or a chemical fallow, depending on the paddock conditions (for example, weed burden).

The Hirschs also sow canola with a dedicated disc seeder at 600mm row spacing. By having one machine dedicated to canola, it enables them to manage logistics if and when cereals need seeding at the same time.

HARVEST

For the 2022 harvest, the Hirschs experienced an uncommon challenge for their farming area that resulted in a slight change of practice.

"The late-season rain meant we had patches of sandplain that stayed quite green, which we don't have too often! We actually had to do a bit of moisture management when harvesting to blend it with some dry canola to get it off in time."

Apart from that, the Hirschs' harvest was relatively smooth, aided by having multiple varieties that enabled a manageable harvest plan. "We had a fair balance of InVigor® R 4022P Pod-Guard variety in, which made it easier in that we weren't rushing to get through our canola program before we experienced shattering.

"We were then able to prioritise our high-risk shattering varieties such as Hyola® 410XX first, followed by Hyola® Battalion XC and Hyola® Garrison XC and then finished off with Nuseed® Emu TF, Pioneer® 44Y30 RR and lastly InVigor® R 4022P."

Dylan observed no major differences between the varieties, but rather any differences were related to nutrition, paddock history and/or time of sowing. He notes this observation was also seen in Liebe Group's early sown canola trial in 2022.

"The data from the early sown canola trial backs up what we are seeing anecdotally on-farm, which is that time of sowing is more important than variety selection for our region."

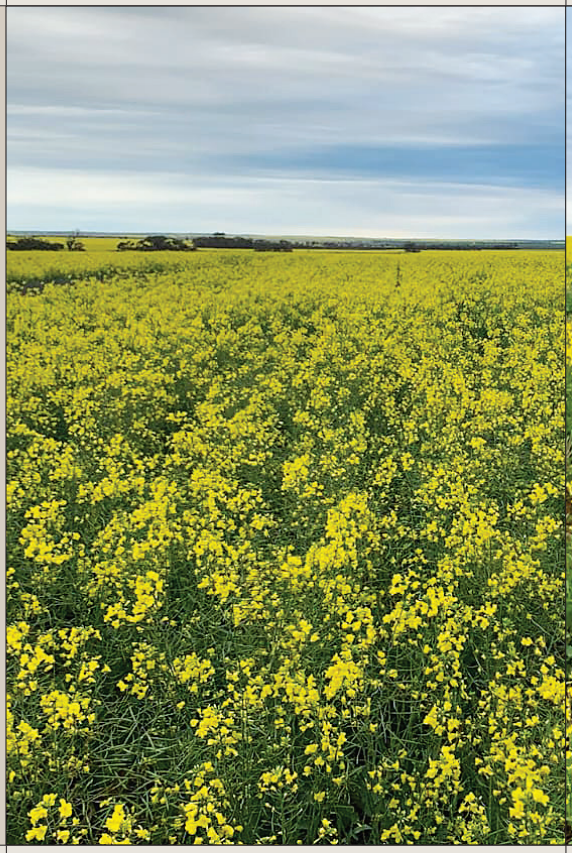
PLANS FOR THE FUTURE

The Hirschs will continue to sow early if the opportunities arise; however, it will depend on summer rainfall and how prepared they are.

"Until we see how much summer rain we have over harvest, January and February, that will determine how bullish we will be with our canola program," Dylan says.

In terms of new varieties, the Hirschs are keen to try an Optimum GLY® variety as well as a new XC canola variety from Pacific Seeds on their newer country. The XC variety has the ability for imidazolinone Group 2 chemistry to be applied in-crop or for the seed to be planted into soils with IMI soil residues.

Going forward, one area that Dylan is keen to investigate is the role of early season fertiliser in canola, in terms of fertiliser toxicity, potentially looking at different placements and/or types. But for now, the Hirschs will continue their standard practice of fertilising their canola program post-emergence.

	Time of sowing 1 (early)	Time of sowing 2 (normal)
Paddock name	G16	G12
Variety	InVigor® R 4022P	Nuseed® Emu TF
Sowing date	2 April 2022 (two days after rainfall, 30mm deep, onto stripper stubble)	10 May 2022 (seeded dry, 15mm deep, before 10mm rain, draper stubble)
Rainfall at seeding	76mm	119mm
Comments (26 May 2022)	Better than expected emergence – about 65-80% germination	Seems to have come up OK
	Currently at 8-leaf stage – vegetative	Currently at cotyledon to 1-leaf stage
Comments (29 July 2022)	Crop went through a couple periods of moisture stress prior to June and July rains. However, now looks good and is in full flower. Has had 80 units of nitrogen. Medium levels of DBM in crop, which is common for early sown canola for us.	Has just started flowering, which is pleasing. Has had less nitrogen (40 units) than G16 due to perceived lower yield potential. Cabbages not as big as G16 but has just filled in between rows.
Photos taken 29 July 2022		
Yields (t/ha)	1.55t/ha	1.15t/ha

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GRDC PROJECT

LIE2204-002SAX

The Liebe Group growers identified a lack of data in sowing canola before mid-April in the north-eastern grain growing region of Western Australia. To address these concerns, GRDC invested in a two-year 'NGN risk and reward of very early canola' project to help growers better understand the risk and reward of sowing canola early and the decision-making process and logistical challenges with sowing times and varietal choice. As part of the project, trials were set up in 2022 and three growers (Mike Dodd, Dylan Hirsch and Boyd Carter) recorded their trial results.

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