Crop Action

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Editor's note

May continues to be dry in Canterbury, and irrigators are a common sight on autumn-sown crops. Reports from other regions are that things are progressing smoothly, with slightly warmer temperatures accelerating early crop for some. FAR staff have been keeping a close eye on trials, as many require inputs at specific growth stages, which in some cases have been earlier than anticipated.

Update on Chertsey Future Farm Project

Significant progress has been made at both the Chertsey Arable Site south of Rakaia and the Knapdale site in Southland, north of Gore. In this Crop Action report, we will focus on the Chertsey demonstration and visit Knapdale in the next edition.

The Chertsey Future Farm demonstration was planted into perennial diploid ryegrass 'Three60' on 10 April, 2025. The focus of the 2025/26 season was the use of drone application for all inputs from spring onwards to create a paddock without tramlines, with the added benefit of variable rate PGR and nitrogen application.

After problems with drone applications in wheat during the 2024/25 season, we were hopeful that things would work better this time around. However, this was not the case. We experienced issues with importing variable rate maps, applying variable rate Moddus® Evo (Figure 1) and herbicide applications. This resulted in uniformity issues in the Future block (Figure 2), which persisted through to harvest. However, fertiliser application remains a good drone option, and uniformity has proven acceptable when conditions are suitable.

This work has highlighted the limitations of current drone applications in a broadacre setting. It seems that the method we used for variable rate chemical application by drone is not reliable enough at this stage. This isn't a failure...the Future Farm trial is about us testing new technology so you don't have too. We've learned what drones can and can't do right now and will move away from full drone application for now, using them only when needed to solve specific issues.

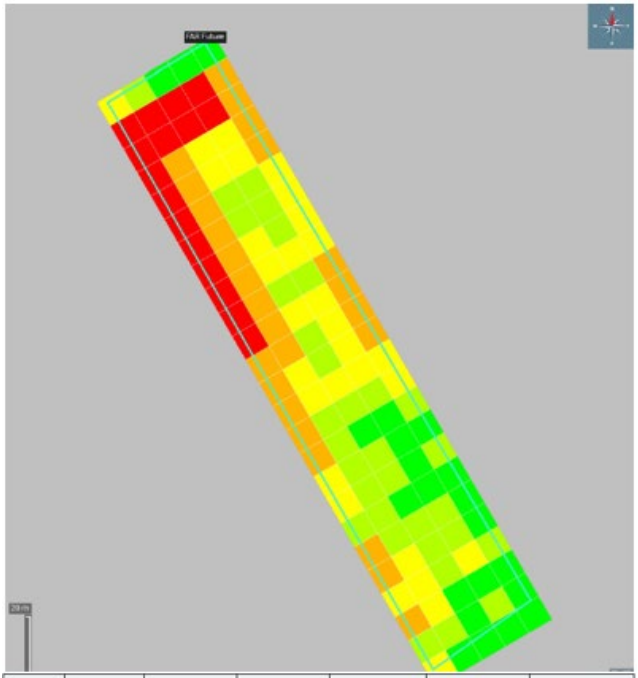
Yields from the ryegrass were lower than anticipated. Dressing loss and final yields have not yet been fully analysed, but indications suggest the Conventional block will yield close to 1 t/ha, with the Future block closer to 700 kg/ha; well short of the ≥1500 kg/ha anticipated. This was predominantly caused by limited plant populations and large bare areas resulting from establishment issues (due to direct drilling and slug damage). Uneven herbicide and PGR application caused further damage. In addition, hail on 28 December 2025 damaged seed heads and removed some spikelets, further decreasing yield on both sides of the block.

At harvest, the most noticeable differences between the two blocks were yield and dressing loss. The Conventional block had an average dressing loss of 23.3%, with only a small proportion of weed seed present, mostly wheat and *Poa annua*. In contrast, the Future block had a dressing loss of 32.7%, with 16 weed seed species identified in the sample, including wheat, hairgrass, soft brome, spiny sowthistle, fathen, *Poa annua*, speedwell, scarlet pimpernel, and hedge mustard.

This high level of weed contamination was very evident in the Future block and was driven by the poor application of the late-season herbicide application on 7 November 2025 of NuFarm Image® (120 g/L bromoxynil + 120 g/L ioxynil + 360 g/L mecoprop-P) + Versatill™ PowerFlo™ (600 g/L clopyralid) due to unfavourable spray conditions when the drone was flying. The high weed pressure was offset, to some extent, by careful use of combine settings, but ultimately the presence of weed seed in the field dressed yield led to increased dressing costs.

The ryegrass crop has been retained post-harvest to provide winter grazing (Figure 3). However, at 1–7 grubs/spade square, grass grub numbers are above the damage threshold (6 grubs/spade square) and damage is becoming evident. In the Future block, a large number of crowns were dislodged by cattle during grazing (Figure 4). No obvious damage was observed in the Conventional block following grazing.

The trial area is destined for a radish seed crop in the 2026/27 season. The Conventional block will be established using full cultivation, while the Future block will be planted using strip-till.



Zone	Area [ha]	Rate [L/ha]	Amount [L]	Mean index	Deviation [%]	Coverage [%]
	0.130	0.40	0.05	0.24	-27.92	12.80
	0.203	0.80	0.16	0.30	-10.48	20.00
	0.243	1.00	0.24	0.34	+1.40	24.00
	0.259	1.20	0.31	0.36	+8.61	25.60
	0.178	1.60	0.29	0.39	+17.79	17.60
×	0.000	-	-	-	-	0.00
Total:	1.012	1.04	1.05	0.33	-	-

Figure 1. Variable rate prescription map and table for Future Farm block at Chertsey, Mid Canterbury for Moddus® Evo application in November 2025. Application rates range from 0.4-1.6 L/ha at approximately GS 32.

Figure 2. Drone image taken 24th December of the conventional (left) and future (right) demonstration blocks at the Chertsey Research Site.

Figure 3. Calves grazing Future Farm Demonstration, April 2026.

Figure 4. Evidence of grass grub damage post grazing on
the future farm demonstration block in April.

Crop management

General

Dry soils – ongoing impact

Conditions in Canterbury continue to be very dry; the Chertsey weather station in Mid-Canterbury has only recorded 4.2mm of rainfall since 20 April. In some ways this is good news – slug pressure tends to be lower in these conditions, and there have been no issues with getting machinery onto paddocks that in previous seasons might have been waterlogged. However:

- Many pre-emergence herbicides are less effective in dry soils and follow-up weed control may be needed. Some growers in recent years have begun to investigate the use of tine weeders (see below).
- Moisture probes need rain or irrigation to bed in properly, so allow for this in your planning if you have newly-installed probes.
- Irrigating at this time of year can cool down soils and slow crop growth. However, this may not be a major problem for those crops which have been moving through their growth stages quite quickly.

Slugs

Even in dry regions, slugs should still be considered a risk to newly-sown crops, especially clovers and brassicas. There are a few new slug management products on the market since this time last year, so check out the updated list here.

Cereals

Aphid monitoring – we are in a risk period

Aphid numbers remain high in all currently monitored regions, and the good growing conditions mean that earlier-sown cereals are now tillering. This means that insecticide seed coating protection can no longer be counted on, and so **we are now in a risk period** for those crops that have reached GS 21. Most monitoring sites have good numbers of beneficial insects around, so growers should consider using an insecticide that is specific to aphids if they are considering an application. A list of these can be found at the Aphid Chat website, along with all the latest in aphid monitoring data for your region. Note that there are still a few locations not online yet, especially in Southland.

Post-emergence weed management

The basis of most weed management programmes in autumn-sown cereals is the application of pre-emergence herbicides. In dry conditions some of these may lose some of their efficacy, and even in ideal conditions there are usually escapes, and so post-emergence herbicides should be considered.

1. Walk your paddocks to get a sense of problem areas and what weed species are coming up.
2. For assistance in identifying weeds (which can be difficult when they are small), FAR's handy "ute guides" are available here and here.
3. Be wary of overusing Group 2 chemistry (e.g. Glean®, Hussar®, Othello®), especially if no other herbicide or weed control is used on the crop. Grass weed resistance to these herbicides is becoming more common on New Zealand arable farms.
4. Consider the use of non-chemical weed management techniques such as tine weeders. More information can be found here.

An incomplete selection of post-emergent herbicides approved for use in wheat is shown below.

Product	Active ingredient	Weeds controlled[1]	Mode-of-Action group(s)
Duplosan® Super	Mecoprop + dichlorprop + MCPA	Broadleaf weeds	4
Glean® and generics	Chlorsulfuron	Broadleaf weeds	2
Hussar®	Iodosulfuron	Broadleaf weeds and grasses	2
Image®	Mecoprop + bromoxynil + ioxynil	Broadleaf weeds	4 + 6
IPU 500 Twister™ Protugan®	Isoproturon	Broadleaf weeds and grasses	5
Kamba® and generics	Dicamba	Broadleaf weeds	4
Othello®	Diflufenican, mesosulfuron + iodosulfuron	Broadleaf weeds and grasses	2 + 12
Paradigm™	halauxifen-methyl + florasulam	Broadleaf weeds	2 + 4
Puma® S	Fenoxaprop	Wild oats, lesser canary grass	1
Pulsar® Quasar™	Bentazone + MCPA	Broadleaf weeds	6 + 4
Quantum™	Diflufenican	Broadleaf weeds	12
Rexade™ GoDRI™	Halauxifen-methyl + pyroxsulam	Broadleaf weeds and grasses	2 + 4
Saxon™	Mecoprop-p, MCPA luroxypyr	Broadleaf weeds	4
Stratos™ Crusader™	Flamprop	Wild oats	0
Trimec® and others	Mecoprop, MCPA & dicamba	Broadleaf weeds	4
Twinax® XTRA	Pinoxaden	Wild oats, phalaris and ryegrass	1
Multiple generics	2,4-D	Broadleaf weeds	4
Versatill™	Clopyralid	Broadleaf weeds	4

Herbage

Closing dates in cocksfoot and tall fescue

A range of approaches can be used for closing tall fescue. Some growers build up autumn bulk and make balage in late May, using this as their closing. Others graze through early winter and close in July. Both approaches work with many cultivars. Cocksfoot grazing often continues to mid-July, but later closing, e.g. August, can depress yields (Table 1).

Further information can be found in FAR's recent publication, FAR Focus 16: Cocksfoot Seed Production.

Table 1: Seed yield following three closing dates in cocksfoot cv. Savvy at Methven, 2016-17.

Closing	Date	Seed Yield (kg/ha)
EARLY	Mid-July	650
MID	25 August	490
LATE	14 September	450

Maize

Cover crops following maize grain and silage

FAR supports the use of cover crops following maize grain harvest. The benefits of cover crops can include:

- Retention of soil nutrients
- Prevention of soil erosion
- Improvement of soil quality
- Addition of N to the soil (if legumes are used)
- Conservation of soil moisture
- Weed suppression
- Addition of forage to the system

Maize silage growers generally use annual ryegrass as a cover crop, sowing immediately after harvest. However, as maize grain crops are harvested later and leave a lot of residue in the paddock, other, more easily established, cover crop species are favoured. Nitrogen in the long-term establishment trial (post-harvest) at NCRS ranged from 30-132 kg/ha. With an average of 78 kg/ha. Without a catch crop, this N could be lost to leaching over winter.

- Winter-active choices, such as annual ryegrass and cereals like oats, allow excess nutrients to be taken up rather than lost to leaching.
- Vetch is an attractive choice for its performance, but the seed cost will put most growers off.
- A lupins/oats mix is another option as a cover crop post-maize grain, but should be terminated early before the biomass gets excessive.

Recent research by FAR and AgResearch has also shown that cover crops can reduce herbicide inputs by providing weed control, also reducing the risk of herbicide resistance developing. In a maize grain system weed control was achieved with only two herbicide applications – glyphosate to terminate the cover crop, followed by a post-emergence herbicide application. Read a full report on this research in Cover crops for weed management – Arable Update 88.

FAR conducted an on-farm trial in the 2021-22 and 2022-23 seasons to investigate different cover crops following maize silage using different establishment methods (cultivation, strip-till or no-till). Table 1 shows yield and gross margin data averaged across both years of the study.

Table 1: Average dry matter yield and gross margins for cover crop treatments in the cover crop by establishment trial at the FAR on-farm trial at Colin Jackson's, Waikato, after planting with either cultivation, strip-till or no-till in 2022-22 and 2022-23 (i.e. a two-year average).

Cover crop		Dry matter yield (t/ha)			Gross Margin ($/ha)		
	Maize establishment	Cultivation	No-till	Strip-till	Cultivation	No-till	Strip-till
Perennial Clover		0.71	0.85	0.75	-204	-169	-196
Perennial ryegrass		3.93	3.66	3.43	372	304	246
Perennial ryegrass + clovers		3.70	3.84	3.52	307	343	263
Woollypod Vetch + faba bean		2.95	3.25	3.32	-103	-6	-21
P value (establishment)		0.738			0.575		
P value (cover crop)		<.001			<.001		
P value (establishment x cover crop)		0.338			0.445		
LSD (p=0.05) (cover crop)		0.976			236.6		

Note. Treatments highlighted yellow were amongst those with the greatest cover crop yield or gross margin. The perennial clover treatment included a mix of red and white clover while the mix of perennial ryegrass and clovers included a mix of Crimson and Berseem clovers.

Further resources:

- Maize Update 93: Making the most of long-term reduced tillage data
- On-farm field day booklet Spring 2024
- 2019/20 FAR annual research results

Oilseed rape

Winter weed and disease management

Oilseed rape (OSR) crops are useful for managing problem weed populations that can arise when cereals and grass seed crops dominate the rotation, but getting your herbicide programme right is vital. Herbicide programmes in OSR are usually based around propyzamide (Kerb®, Polka® and others), a Group 3 herbicide, with or without clethodim (Group 1).

Grass weeds have been detected in New Zealand with resistance to Group 1 herbicides, and while clethodim generally remains initially, it often loses efficacy in a few years where weeds display tolerance to other Group 1 herbicides. In this context propyzamide becomes even more important.

Some key considerations when applying propyzamide are listed below:

- Cold (even frosty) weather is recommended when applying propyzamide. Soil temperatures should be below 10°C.
- Imminent or actively falling rain (ideally 15-20mm) will help move the active ingredient into the root zone.
- Use 2L/ha, increasing to 2.5 L/ha if there is a known grass weed issue, but ensure OSR plants have a minimum of three true leaves before application to avoid crop damage.
- A FAR/PureOil NZ study in 2025 showed that late-May application of propyzamide was just as effective at controlling ryegrass and hairgrass as June or July application; especially if clethodim was also a part of the herbicide programme. (Note that hairgrass is suppressed, but not controlled, by clethodim.)

Now is also a good time to consider OSR disease management. The two major diseases to be aware of at this time of year (see below) are light leaf spot (caused by *Pyrenopeziza brassicae*) and *Phoma* leaf spot (caused by *Phoma lingam*). The fungicide of choice for both diseases is usually tebuconazole (Group 3 fungicide, e.g. Folicur® and others). This active ingredient not only controls these diseases in their early stages, it also provides some growth regulation activity which can increase yield. Apply at the first sign of light leaf spot, or when 10-20% of plants show signs of *Phoma* leaf spot.

Some growers have reported good results using a different fungicide in May, such as Amistar® or its generics (azoxystrobin, a Group 11 fungicide). This product is not on-label for OSR in New Zealand, but in the United Kingdom it is listed as controlling *Sclerotinia* and *Alternaria* diseases. A follow-up fungicide application will usually be applied in late winter/early spring, usually based around a different fungicide such as prothioconazole (a Group 3 fungicide).

Light leaf spot
Initial bleached or pale green leaf lesions eventually develop a characteristic outer edge of white spores

Phoma leaf spot
Once leaf symptoms are seen, a grower has only 7-10 days to apply a fungicide before infection spreads to the stem base

(Photo credit: PureOil NZ)

Weather Updates

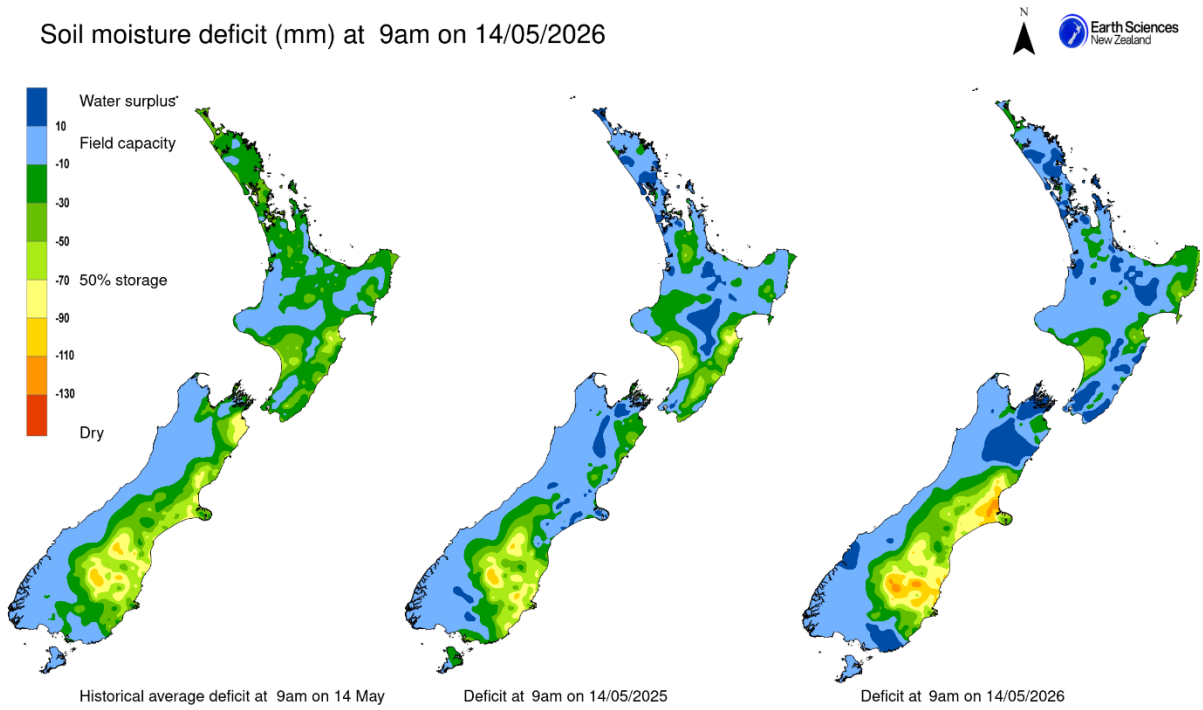
Seasonal climate outlook

According to NIWA's outlook summary for May-July, dry conditions are expected to continue, with no regions expecting more rainfall than normal except the South Island's West Coast. Other areas are forecast to be either near or below the average. Soil moisture levels will likely remain relatively low. Temperatures are expected to be near or below average for all regions except the north and east of the North Island, where temperatures close to the historical average are expected. Expect some cold snaps also. A significant proportion of the weather systems will be from the south to south-west during the three-month period in question.

FAR weather tool

The FAR online weather tool is a great way to track weather patterns and to compare the current season's conditions with those of previous years. There are also a number of tools available to help with predicting disease and pest pressure. You can check it out here. Click on the link and select the weather station closest to you from the drop-down box at the top right of the screen. Please contact us if you have any queries about the tool, or suggestions on how to make it better.

Soil moisture data: see more from NIWA here.



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