# Crop Action

## Issue 15 Sunday 17 August 2025

***In this issue of Crop Action:***



## Editor's note

Spring is creeping ever closer, and on some farms, spring sowing will start in August. At FAR's Chertsey Arable Site, we are collecting post-winter soil samples to guide spring nitrogen decisions and fertiliser orders. Winter has been both wet and cold, following the significant April rainfall event (165 mm at Chertsey), which left fields at field capacity for much of the season. While July and August brought a brief reprieve from large rainfall events, soils remain sodden and vehicle access is still challenging.

At Chertsey, autumn cereals are showing the effects of the tough winter. Septoria is present on lower leaves of some wheat cultivars (see below, wheat GS 25) causing chlorosis across the trial. There are clear differences between cultivars. Although these leaves will begin to die off soon, they are not major yield contributors, so the overall effect should be minimal. FAR does not apply fungicides to our autumn wheat trials at T0 timing, but if you are interested in finding out more about whether applying fungicide at this time is right for you, the next issue of Crop Action will have more information.

Wet conditions, along with likely low nitrogen and sulphur levels, mean crops are ready for a boost. Ammonium sulphate will be applied to the cereal and ryegrass trials shortly, but further spring nitrogen decisions will be based on tools such as mineral nitrogen testing and potentially available nitrogen assessments. One benefit of the wet winter has been the strong performance of pre-emergence herbicides, with very few broadleaf weeds establishing.

Ryegrass trials, covering time of closing and PGR management in new genotypes, and stem rust control in turf ryegrass, have come through the winter in good condition. Small areas of crown rust are present (particularly in the turf variety). Without stock on site, simulated grazing has been used to manage bulk in the forage ryegrass. Nitrogen applications are planned to support strong growth as temperatures rise and day length increases.

Overall, the Chertsey site is in good shape, with a wide range of trials already established. Spring cereal trials will be sown late August to early September. We are looking forward to the season ahead and to showcasing the site at ARIA on 26 November.

## Regional Updates

### *Southland*

Fertiliser plans are being reviewed ready for application to autumn-sown crops over the next few weeks, while spring crop options are being finalised. Soil conditions have been favourable and some growers have been able to start prepping ground for spring. Quite the opposite to last year!

It was great to see a good turnout in Riversdale last week for the wintering event in collaboration with Beef and Lamb NZ. This event was delivered in response to a request from a grower. Make sure you reach out if you see a gap (nicole.foote@far.org.nz). *Nicole Foote, FAR Regional Facilitator*

### *South Canterbury/North Otago*

Spring cultivation has begun in some drier paddocks. In some areas, the ground is still too wet to work, creating a backlog of cultivation and sowing. Some crops have suffered damage from the wet weather and pest pressure and also need re-drilling; a decision many are weighing carefully given the current returns. Autumn crops are later than usual due to persistent wet weather, with spraying also delayed.

The focus is firmly on reducing input costs. Fertiliser and other inputs remain expensive, prompting many to reassess their budgets and look for savings wherever possible. For now, growers are getting paddocks ready, watching the skies, and preparing for both the promise of some warmer weather and the possibility of a dry summer ahead. *Jo Fearn, FAR Regional Facilitator*

### *Mid Canterbury*

Growers are hoping for sun to dry out waterlogged paddocks. Spring planting is behind due to the wet weather, but with fine weather this should be completed in the next couple of weeks. Spray programmes are underway for autumn sown crops. Post-spray walks to check for efficacy are highly recommended. Some growers have had problems controlling chickweed this season. It's time to think about soil testing and getting soil moisture probes installed in time for spring. *Cindy Lowe, FAR Regional Facilitator*

### *Northern South Island*

A good turnout for the herbicide resistance field day at Ellesmere Showgrounds highlighted that growers are aware of the impact that herbicide resistance can have on their businesses. Resistance is a naturally occurring trait that our farming practices are selecting for, so growers are encouraged to be very active in monitoring crops for weeds, and if in doubt treat them as if they are resistant. There may still be time to apply post-emergent herbicides in some situations. Monitoring after any herbicide application is also important as further actions may be needed to stop weeds setting seed – rogueing, spot spraying or choosing to silage areas of paddocks were all discussed. If you have any questions or need advice in managing resistance issues contact FAR staff or your agronomist/ company rep, the earlier the better.

On-farm spring fertiliser programmes are underway with base fertiliser and spring nitrogen being spread. There is still time to get soil N tests completed to help calculate your total nitrogen needs for the season, especially following a wet autumn. FAR's soil N supply calculator can help you convert your lab results and estimate fertiliser needs.

Stock are finishing winter feed paddocks so groundwork and planting of spring crops has started where ground conditions allow. A run of bright sunny weather has helped this, along with improving the moods of man and beast! *Donna Lill, FAR Regional Facilitator*

## Crop management

## General

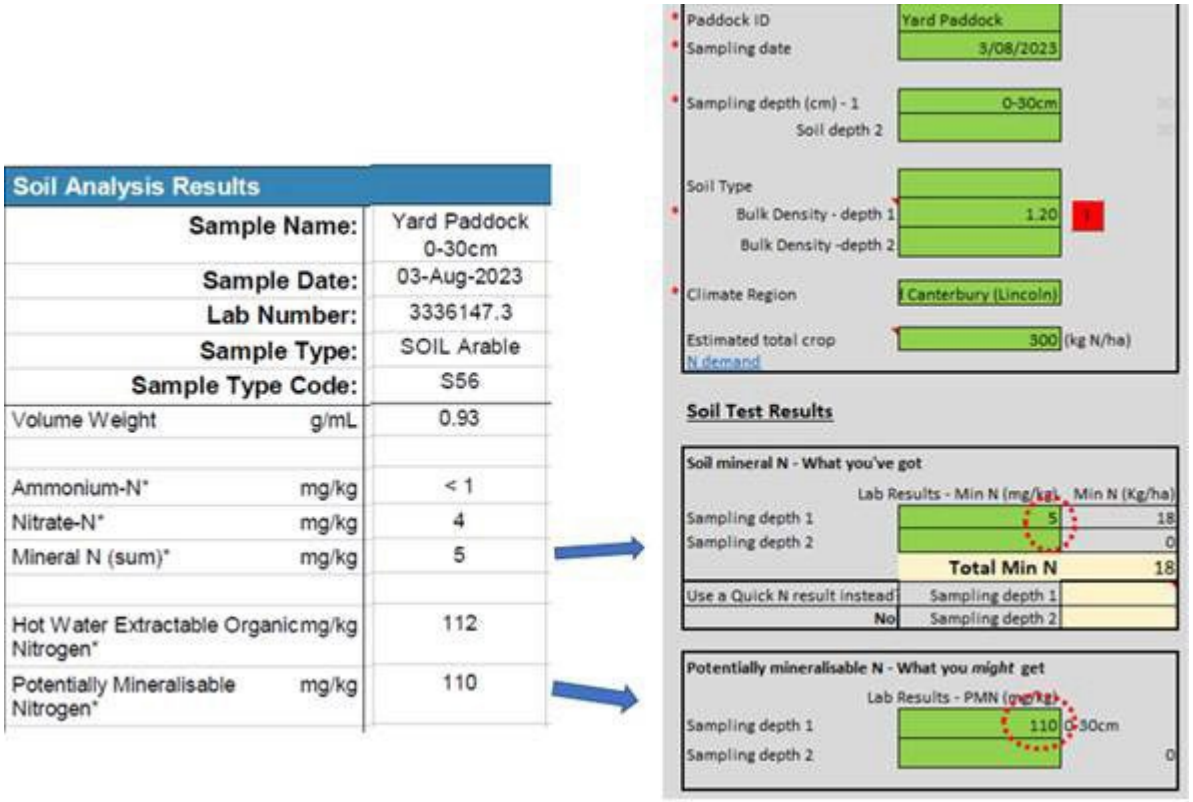
### *Soil sampling tips and tricks*

To find out how much plant-available nitrogen (N) is in your soil after winter, you'll need a **soil mineral N test**; either from a lab or using a DIY quick N test (here).

If you also want to estimate how much extra N your soil will release during the growing season, add a **potentially mineralisable N (PMN) test**. PMN can be done any time of year and doesn't need to be repeated every year.
**Tip:** Only measure PMN in the **top 0–15 cm** or **0–30 cm** of soil – no deeper.

Whether you're using just mineral N, or both mineral N and PMN, FAR's **Soil Nitrogen Supply Calculator** (here) can help you work out the right fertiliser rate to hit your target yield.

**Example:** For a 12 t/ha wheat crop, the calculator works out how much fertiliser N (kg/ha) to apply based on your total N requirement and your soil's N supply.
If you're including PMN, you'll also enter the crop's active growing months (so only the N it will use is counted) and whether irrigation is used (which affects mineralisation rate).



| Soil Analysis Results | | |
|---|---|---|
| **Sample Name:** | | Yard Paddock 0-30cm |
| **Sample Date:** | | 03-Aug-2023 |
| **Lab Number:** | | 3336147.3 |
| **Sample Type:** | | SOIL Arable |
| **Sample Type Code:** | | S56 |
| Volume Weight | g/mL | 0.93 |
| Ammonium-N* | mg/kg | < 1 |
| Nitrate-N* | mg/kg | 4 |
| Mineral N (sum)* | mg/kg | 5 |
| Hot Water Extractable Organic Nitrogen* | mg/kg | 112 |
| Potentially Mineralisable Nitrogen* | mg/kg | 110 |



| | | |
|---|---|---|
| **What you've got** | Soil mineral N available | 18 kg N/ha |
| **What you *might* get** | Total estimated N mineralised in growing season | 55 kg N/ha |
| | **Total estimated soil N supply over growing season** | **73 kg N/ha** |
| **What the crop needs** | | 300 kg N/ha |
| **Difference between crop need and estimated soil N supply** | | 227 kg N/ha |
| **"Confidence" factor** (How much of the potential soil N supply estimate to includ | | 100 % |
| **Revised fertiliser N requirement** | | 227 kg N/ha |
| **N fertiliser saving** | | 73 kg N/ha |

Growers wanting to sense check these numbers on farm have been using small, low or no N areas (as small as you want) to check how crops perform without fertiliser N. On-farm try outs like these can help you to build knowledge and confidence around how to incorporate soil nitrogen estimates into crop nutrient planning.

More information can be found in FAR's publication, Nitrogen: the confidence to cut back.

Also check out this video from FAR's Dirk Wallace showing you how to take a soil sample.

### *Wild oats*

Growers, particularly in Cantebury, are increasingly aware of herbicide resistance. While ryegrass species remain the number one concern in terms of frequency of cases across New Zealand, wild oats (*Avena fatua*) are not far behind. In herbage seed crops must have NO wild oats in the field at crop inspection (tetraploid ryegrass and brome species) or in seed samples at seed testing.

Cool, moist conditions promote maximum wild oat emergence. Management starts in early spring, but planning should begin now. The key to managing wild oats is an integrated approach; start by walking your crops in early spring. If plants are identified, rogueing is an effective way of reducing wild oat pressure.

The most effective herbicide options are generally those containing Group 1 Mode of Action active ingredients such as pinoxaden (Twinax® XTRA) and fenoxaprop (Puma® S and others). While these products remain effective if used correctly, in most cases, herbicide resistance to Group 1 chemistry in wild oats has been detected at numerous locations across New Zealand in random surveys. Anecdotal evidence suggests it is widespread, particularly in Canterbury, so growers need to have a plan for how to deal with escapes.

Post-emergence options for wild oat control in ryegrass seed crops are limited. Fenoxaprop (Mode of Action Group 1) has been the main go-to, but if resistance is known or suspected, few alternatives exist. Products containing the Group 0 active flamprop (Crusader™, Stratos®) are registered for use in ryegrass, but there are reports of reduced effectiveness in this situation, which may or may not be due to evolved resistance (this has not been tested).

Remember that your best weapon against herbicide resistance is a robust rotation that allows the use of other herbicide modes of action. In the case of wild oats, trifluralin and propyzamide are effective, so crops like oilseed rape or peas can help control a wild oat resistance issue.

Click here to see a list of herbicides registered for use on wild oats in cereals, pulses and ryegrass.

### *Apahanomyces testing*

If you are spring sowing peas this year, you should be ordering seed and soil disease tests. Order your seed now, especially if you are planting in September and soil test to check for the level of the soil-borne pathogen *Aphanomyces*. High levels of spores in the soil could make growing peas unprofitable, and these tests can take up to six weeks, so getting in early is crucial. The Making Peas Pay publication has information on both of these topics, as well as other useful tips.

## Cereals

### *Cereal grazing*

FAR has received a few comments and inquiries about grazing of wheat crops being grown for grain. While this is not common practice in New Zealand, anecdotal evidence suggests more growers are deciding to give it a try. Wheat can provide a valuable source of high-quality forage during winter when other options are limited. FAR has conducted little research on this topic, but if you'd like to give it a go, there are some things to keep in mind:

- Grazing should be before GS 31 (stem extension). When this guideline is followed, some overseas research has shown that grain yields may even be improved.
- Other possible benefits include improved weed control and a reduction in the incidence of some diseases. Soil quality may be improved in some situations.
- Some cultivars may be more suited to grazing than others. Talk to your agronomist or seed company representative if you are unsure.

Further resources that may interest you:

- Grazing of the wheat grain crop
- British article on grazing wheat to keep down brassica volunteers

### *Planning for spring sowing*

The latest edition of FAR's Cultivar Performance Trial (CPT) booklet is out now – containing results for spring-sown cultivars. You can read it here, if you haven't already. When it comes time to plant, it is important to get the best out of establishment. Some common establishment issues management tips are listed below.

- **Seed bed:** A trashy seedbed may reduce seed/soil contact, and thus germination, while a compacted seedbed may restrict emergence. Cloddy seedbeds may result in seedlings becoming deformed (and therefore weakened) as they attempt to emerge.
- **Sowing depth:** Sown too shallow, seed may be susceptible to bird damage and to drying out. If sown too deep, young plants will struggle to emerge and may be weak, prone to disease or deformed. Check that your drill is placing seed at its optimum depth.
- **Nutrition and moisture:** Plant roots follow the easiest path for growth, so nutrition should be placed near the roots. Some fertilisers, however, will "burn" seedlings, so they must be placed out of direct contact with the seed. Moisture is essential for seed germination. Once germinated, the young seedling is also very fragile and may dry out rapidly if there is insufficient moisture in the root zone. Too much moisture (waterlogging) will mean oxygen starvation, which will lead to germination failure or seedling death.
- **Weeds, diseases and pests:** Weeds will compete with the crop for light, moisture and nutrients. Weeds may be more of a problem in thinly sown (or poorly established) crops. The main disease problem for emerging seedlings is fungi affecting the new roots; these are more likely to occur in a cool, damp environment when seedlings are less vigorous. Seed treatment with fungicides may be beneficial if seed-borne diseases are a concern, but these treatments may also delay emergence. A wide range of pests, slugs, weevils, grass grubs, etc can cause problems. If these are present, control options need to be evaluated.

### *Silo maintenance*

FAR has received some reports of growers concerned about insect infestations in silos. Check stored grain now, so you can identify any problems before your grain is delivered. Getting rid of them and preventing future infestations requires good hygiene, monitoring and targeted treatment.

One option is to fumigate, which requires using a licensed fumigator. Fumigants will provide knockdown, and perform best in airtight units, which aren't as common in New Zealand as they are in Australia.

Another option is to move grain to a clean grain store or silo. Movement can help with air circulation, which helps bring down the grain temperature if it has crept up over the winter. Consider surface treating the empty grain store or silo first. Remember to check all the surfaces, including any augers and equipment, as some insect species can survive for long periods in small pockets of spilt or residual grain, and can travel from one grain store to another. You may also wish to re-treat grain as it is augered into the new silo. Aeration cooling can also help, and while it may not eliminate the need for chemical insect

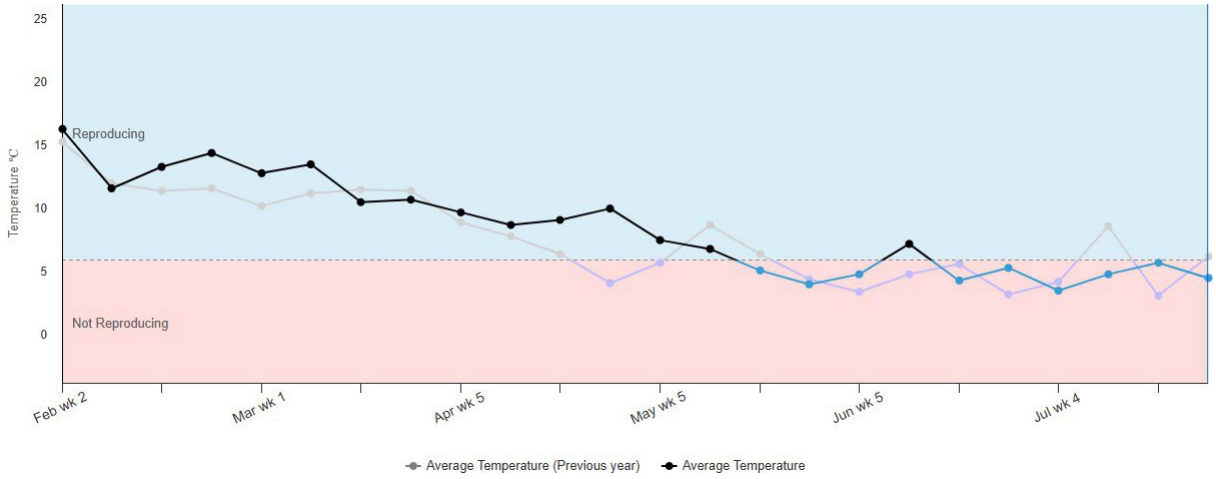
control, it will slow insect development and help maintain grain quality. The longer grain is in storage, the higher the risk, so make sure to monitor.

You can find out how to identify and monitor for grain storage pests here.

Options for treating stored grain can be found here.

### *Aphid monitoring*

The weather still remains too cold (and wet) for aphid reproduction, as can be seen on the graph below for Balfour, Southland. You can access graphs like this for your own region at Aphid Chat. Monitoring in all South Island regions is still in the maintenance phase (monthly), but this will change to fortnightly once the weather begins to warm up. Come spring, monitoring will be occurring somewhere in the South Island every week, with weekly reports available on the website. Planning is also underway for North Island monitoring.




## Herbage

### *Nitrogen on ryegrass seed crops*

Soil testing should be happening now in ryegrass seed crops. A ryegrass seed crop needs a total of about 172 kg N/ha (applied N plus soil mineral N), but this can be reduced by 20-30 kg/ha if there is adequate potentially mineralisable N in the soil. Avoid applying large amounts of N fertiliser to ryegrass seed crops too early, as this can lead to lodging. For more information, check out the resources below.

- Nitrogen: The confidence to cut back, FAR Focus 14
- Nitrogen use on ryegrass seed crops

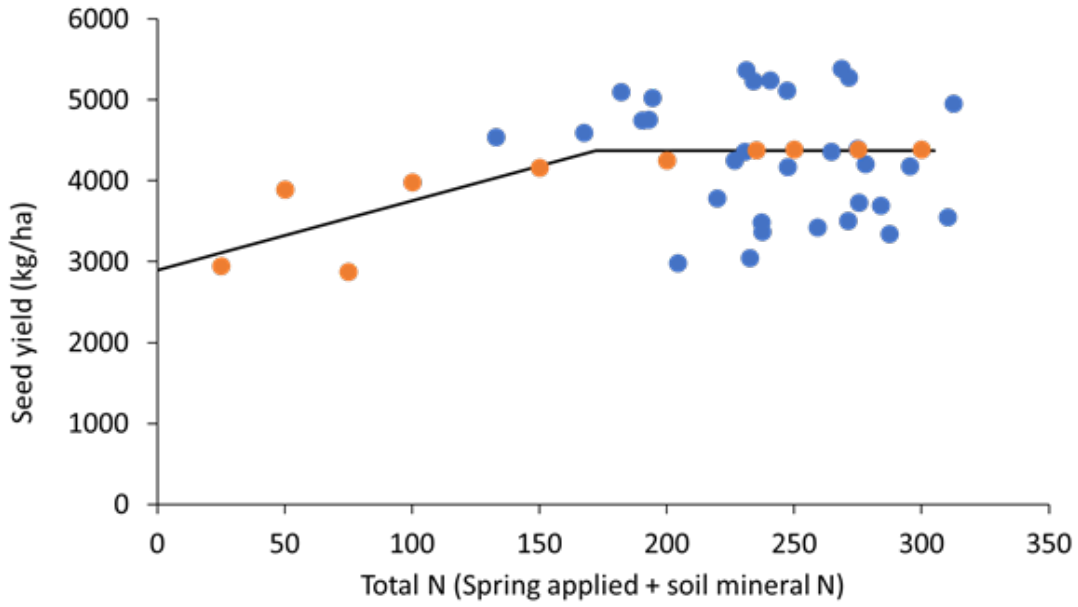
### *Oilseed rape*

Early spring is the time to apply nitrogen, ideally in the form of sulphate of ammonia (SoA), to the oilseed rape crop. SoA has advantages over urea when applied at this time of year:

- It is less prone to leaching.
- It is more resistant to volatilization.
- It supplies sulphur (S) to the crop.

Oilseed rape requires more sulphur than most crops (about 40-50 kg/ha); about double the requirement that wheat has, for example. The amount applied depends on the Green Area Index (GAI) of the crop. If the crop has a GAI of less than 1 (see here for advice on how to calculate this) more (between 200 and 250 kg/ha) SoA can be added, or urea can be added to the standard SoA rate of 100 to 125 kg/ha. Earlier application is also advised.

The total N requirement for an oilseed rape crop in spring is approximately 170 kg/ha, where this total is made up of both applied N and soil mineral N. The figure below shows seed yield from the South Canterbury Monitor Farm Study (MFS) paddocks in blue plotted against total available nitrogen calculated as the sum of the applied and mineral N. The orange points show the OSR seed yield response to nitrogen in small plot trials when three trials are averaged together. The response is 8.5 kg seed per unit of N up to ~170 kg N/ha. The average applied N rate in the MFS paddocks in the most recent year for which data is available was approximately 175 kg N /ha, compared to 190 kg N/ha the previous year. Nitrogen use by growers in this study has been steadily falling over the course of the study, and there may be some room to reduce N rates further based on soil mineral N values. However, it is important to apply early spring N to help increase canopy size if plants are small and have reduced leaf area compared with other seasons.




Potassium (K) will also be needed by the crop in early spring – know your soil levels and add extra K as needed. Consult your agronomist for further information.

## Maize

### *Terminating cover crops*

Termination needs to be managed to prevent the cover crop competing with the maize for resources. If the cover crop is being retained (not harvested), there can be challenges planting into residue as the mat can affect planting and seedling emergence, and residue can 'hair-pin' in seed trenches affecting slot closure and seed-to-soil contact.

Herbicides are the main method of termination and are usually applied four to six weeks before planting. Other considerations that could change this timing include:

- C/N ratios. Generally, cover crops with high dry matter and high C/N ratio (annual ryegrass, oats) should be terminated earlier, while low C/N ratio cover crops (legumes) can be terminated closer to planting. A short duration between terminating high C/N cover crops and maize planting often results in a 'yield drag'. The reasons for this are not fully understood, but FAR research indicates that applying N is not an effective workaround.
- Early termination supports root breakdown and can help avoid nutrient tie-up, especially nitrogen. Root breakdown also supports effective cultivation.
- A 'brown bridge' period helps minimise insect populations and risk where insect pests are a potential issue.
- Mineralisation from cultivation can reduce the time required between termination and planting.

Find out more about cover crops here. You also might like to check out the booklet from 2023's "Beyond First Principles" workshops, here.

## Weather Updates

### *Long-term climate outlook*

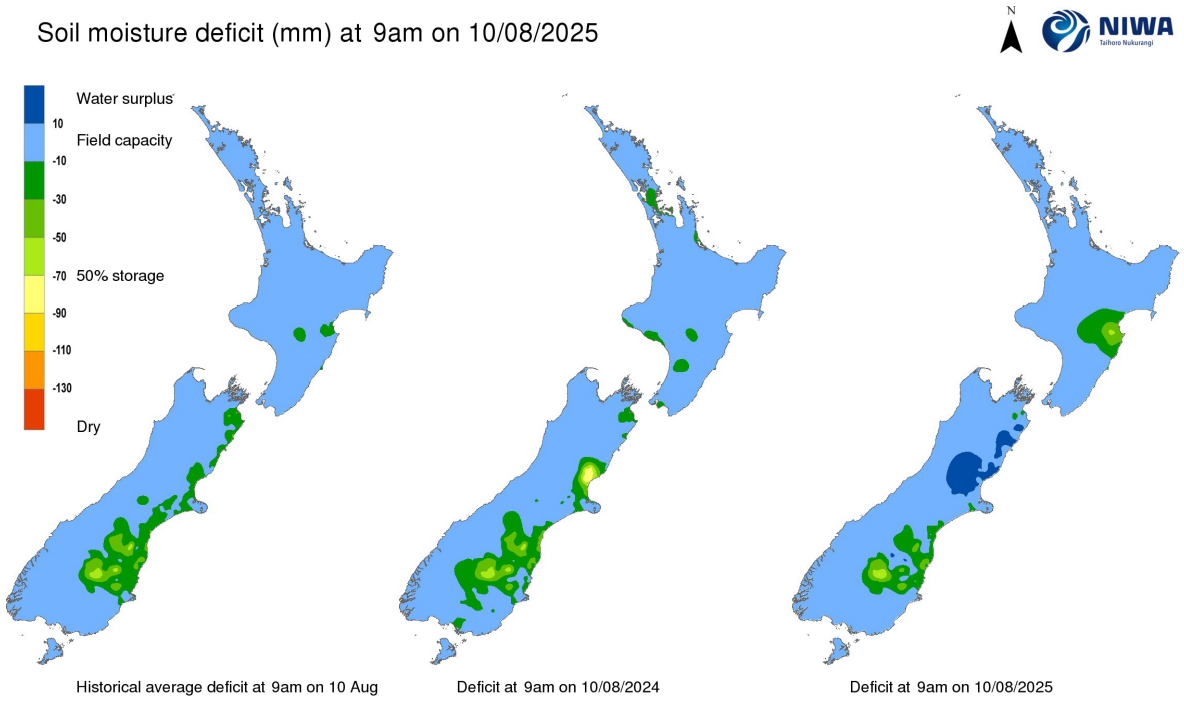
The August to October outlook summary from Earth Sciences New Zealand (formerly NIWA) notes a slight increase in the chances of a La Niña system developing by the end of the year, but overall the chance remains low. This means that the most commonly experienced systems for this three-month period will be those that bring north-easterly to easterly air flows, with an increased likelihood of heavy rainfall events. Above average temperatures are expected for all of New Zealand, except for the east of the South Island, which is likely to be either average or above average. Frosts and cold snaps will be less frequent. Rainfall levels are anticipated to be above normal for the north and east of the North Island, while the west of the South Island is equally likely to be average or below average. The rest of the country will be either normal or above normal in terms of rainfall.

### *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. 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.

Soil moisture deficit (mm) at 9am on 10/08/2025

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