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In this issue of Crop Action:

- [Crop management tips: Chertsey arable site update, and removal of moisture probes pre-harvest](#)
- [Cereals: Fungicide withholding periods and whole crop silage harvest timing](#)
- [Herbage: Fungicide use in ryegrass, determining seed moisture in ryegrass, white clover seed crop desiccation](#)
- [Weather: Long-term outlook, FAR weather tool and soil moisture data](#)

Editor's note

Harvest is progressing around the country, although growers in the deep south are yet to begin. This time last year, some North Island growers were dealing with heavy rainfall events, and two years ago, Canterbury growers faced the same challenge. To date this summer has been more typical, and growers are looking forward to a straight-forward harvest and a smooth transition into autumn plantings (touch wood!). At FAR's Chertsey arable site, cereal harvest is well underway, while the seed peas in the long-term cultivation trial was desiccated last week in preparation for harvest (the process peas were harvested by Talley's on Christmas Eve). See [below](#) for further details.

Crop management tips

General

Chertsey arable site update

Research trial results will be communicated to growers in the coming weeks. Dryland wheat is coming in around 10 t/ha, while the irrigated barley was in excess of 11 t/ha. There was little difference between the irrigated and dryland barley trial yields this season, due to timely rains keeping crops just above the water stress point. This stress point does not mean the crop cannot access water but that it will become harder for the plant to utilise. In the CPT dryland wheat trial some cultivars showed higher susceptibility to fungal diseases, and although the crop was often under water stress, good rain over grain-fill maintained growth.

Removal of moisture probes pre-harvest

Most crops have had their last irrigation, so most moisture probes have done their job. If possible, remove your moisture sensors (or get the provider to remove them) before you harvest, so you don't damage the combine harvester or the moisture monitoring gear.

If you're utilising the crop again after harvest (for instance for post-harvest grazing) and plan to leave the sensors in place, make sure they are well marked and easily visible!



The moisture probe trial at Kowhai farm, near Lincoln, photographed before harvest and before removal of probes

FAR's Kowhai moisture probe trial, in triticale, will be harvested soon. The neutron probes have been removed, and the moisture sensors will soon be removed as well. The probes will be replaced once the block has been drilled this autumn. More info on the trial to follow. You can see how the moisture probes tracked this season [here](#).

Cereals

Fungicide withholding periods for grain and forage in cereals

If you are using fungicides at this time of year it is essential to check that the withholding period for the product fits your intended harvest time (whether it is for a silage or grain crop). With standard crop management, there should be little risk of harvesting within the withholding periods listed for autumn sown crops. However, harvesting at the early end of the silage harvest window could put some crops at risk of not meeting the withholding periods from a GS 39-49 application of certain fungicides. Keep a record of application dates and calculate safe harvest times. Spring sown crops will generally have a shorter window from GS 39 to harvest, so extra care should be taken to ensure withholding periods are met. Withholding periods for common fungicide products used for cereal silage and grain production are listed below.

Table 1. Withholding periods for common fungicide products used for cereal silage and grain production.

Product	Active Ingredients	Withholding period for forage/silage	Withholding period for grain
Acanto®	Picoxystrobin	28 days	35 days
Adexar®	Fluxapyroxad + Epoxiconazole	28 days	42 days
Amistar®	Azoxystrobin	28 days	35 days
Aviator Xpro®	Bixafen + Prothioconazole	42 days	56 days
Caley® Iblon®	Isoflucpyram + Prothioconazole	42 days (Barley); 28 days (Wheat)	56 days (Barley); 42 days (Wheat)
Comet®	Pyraclostrobin	28 days	56 days
Delaro®	Trifloxystrobin + Prothioconazole	42 days	56 days
Elatus™ Plus	Benzovindiflupyr	28 days (Wheat only)	42 days (Wheat only)
Folicur® 430SC	Tebuconazole	28 days	49 days
Opus®	Epoxiconazole	42 days	42 days
Phoenix®	Folpet	28 days	None when used as directed
Proline®	Prothioconazole	42 days	56 days
Prosaro®	Prothioconazole + Tebuconazole	42 days	56 days
Protiva®	Trifloxystrobin	28 days	49 days
Revystar®	Mefenitrifluconazole + Fluxapyroxad	28 days	42 days
Questar™	fenpicoxamid	28 days	None when used as directed
Seguris Flexi®	Isopyrazam	28 days	42 days
Vimoy® Iblon®	Isoflucpyram	42 days (Barley); 28 days (Wheat)	56 days (Barley); 42 days (Wheat)

Whole crop cereal silage harvest timing

- The ideal harvest time is when the crop is 32-40% DM and grain has a cheesy-dough consistency.
- Harvesting too early will result in losses in yield and quality.
- Harvesting too late can create complications with stacking and ensiling, and grain losses with feeding out.
- Harvesting equipment and stack additives can help overcome some issues associated with harvesting outside the harvest window.
- Current NIRS testing of cereal silage using pasture standards does not provide accurate results for whole crop cereal silage and in general, underestimates ME (metabolizable energy) by an average of 1 MJ/kg DM.
- When undertaking a cereal silage feed analysis ensure that the lab is certified, and along with the feed constituents request a volatile fatty acid profile analysis to determine fermentation quality.

It is common for whole crop silage to be harvested too early when the grain is still watery or milky. Harvesting earlier than 32% DM is not recommended, as the crop has not yet reached its yield potential and feed quality will be poor, with little to no starch due to incomplete grain fill. At this stage, there are also likely to be ensiling issues (due to high pH) which can lead to yield and quality losses in the stack.

Grain consistency is a good way of determining if the crop is ready to harvest. At the ideal harvest, the grain will have a cheesy-dough consistency and the crop will be near peak dry matter yield. Grain yield in silage generally plateaus when grain moisture reaches 40% DM, but the grain does not always dry down at the same rate as the rest of the plant, so it's important to know the DM content of the whole plant at harvest. At between 40 and 46% DM, there can be problems with fermentation, leading to the silage going off quickly when opened. This can be counteracted by fine chopping (to a maximum of 20 mm) and adding urea at a 3% ratio to DM to create an ammonia-preserved feed.

Harvesting too late (>46% DM) is also problematic, as the straw will be too springy to compact. At this moisture, content yield is maximised, but the grain tends to be too hard for animals to utilise and will pass through the gut without being digested. There is also a greater risk of grain drop during harvest and feeding out. As silage quality components come from the grain, late harvesting can result in poor quality feed.

Other points to note:

- Applying a full-rate strobilurin-based fungicide at full flag leaf/head emergence will have the biggest impact on quality.
- All fertiliser must be on by GS 39 to avoid problems with fermentation.
- If baling, avoid barley or awned wheats, the heads of which can cause animal health issues.

For more information see [Arable Update 208](#).

Herbage

Fungicide withholding periods for ryegrass seed crops,

Stem rust (*Puccinia graminis* subsp. *graminicola*) control in ryegrass seed crops with fungicides can impact on your ability to graze or bale straw as an animal feed. As ryegrass seed harvest approaches, carefully consider the following options if fungicide treatment is required:

1. Do not apply a fungicide that contravenes the specified withholding period (see Table 2).
 - a. This may involve a yield loss if the disease is present.

2. If a fungicide is applied that contravenes the withholding period, either burn or incorporate all crop straw and seed, ensuring livestock cannot ingest crop residues.
3. Undertake a fungicide residue test, at the grower's cost, to ensure residues are at or below the maximum residue limit (MRL) for the product.

For all fungicide products, harvest is considered as cutting, not threshing.

Please check individual labels for generic formulations of common fungicide brands to make sure that the same label conditions apply. If in doubt, please contact your agrichemical supplier or the manufacturer directly.

Table 2: Fungicide withholding periods for products approved for use on ryegrass seed crops in New Zealand. Note that, for withholding periods, "seed" means that the seed crop should not be harvested within the period. "Grazing" means that stock cannot re-enter the paddock until after the period has ended, as long as straw has been removed. "Use in combination" means that it must be mixed with another, non-cross resistant fungicide recommended for control of the same disease.

Product	Active Ingredient	Resistance Management Group	Withholding period	Considerations
Opus®	Epoxiconazole	3	Seed – 21 days Grazing – 35 days	None
Proline®	Prothioconazole	3	Seed – 14 days Grazing – 35 days	None
Comet®	Pyraclostrobin	11	Grazing – 35 days	None
Amistar®	Azoxystrobin	11	Seed – 35 days Grazing – 28 days	None
Seguris Flexi®	Isopyrazam	7	14 days	Max. 2 applications of any Group 7 fungicide per season. Use in combination.
Elatus™ Plus	Benzovindiflupyr	7	Seed – 14 days Grazing – 28 days	Max. 2 applications of any Group 7 fungicide per season. Use in combination.
Vimoy® Iblon®	Isoflucypram	7	Grazing – 49 days Straw/stubble – 35 days	Max. 2 applications of any Group 7 fungicide per season. Use in combination. Apply up to GS61.

Determining seed moisture content in ryegrass seed crops

The determination of ryegrass seed moisture content (SMC) plays an important role in:

- Deciding if the seed is mature enough to harvest, and;
- Determining if seed is safe for storage.

FAR has produced a document on this topic for growers, outlining current best practice as well as some of the science involved. It can be found [here](#).

White clover seed crop desiccation

The time is approaching where growers will be considering their options for pre-harvest desiccation of white clover seed crops. A summary of recent FAR research on this topic can be found [here](#). The choice of desiccant can be affected by whether or not the crop will be used for stock grazing post-harvest.

Weather Updates

Long-term seasonal outlook

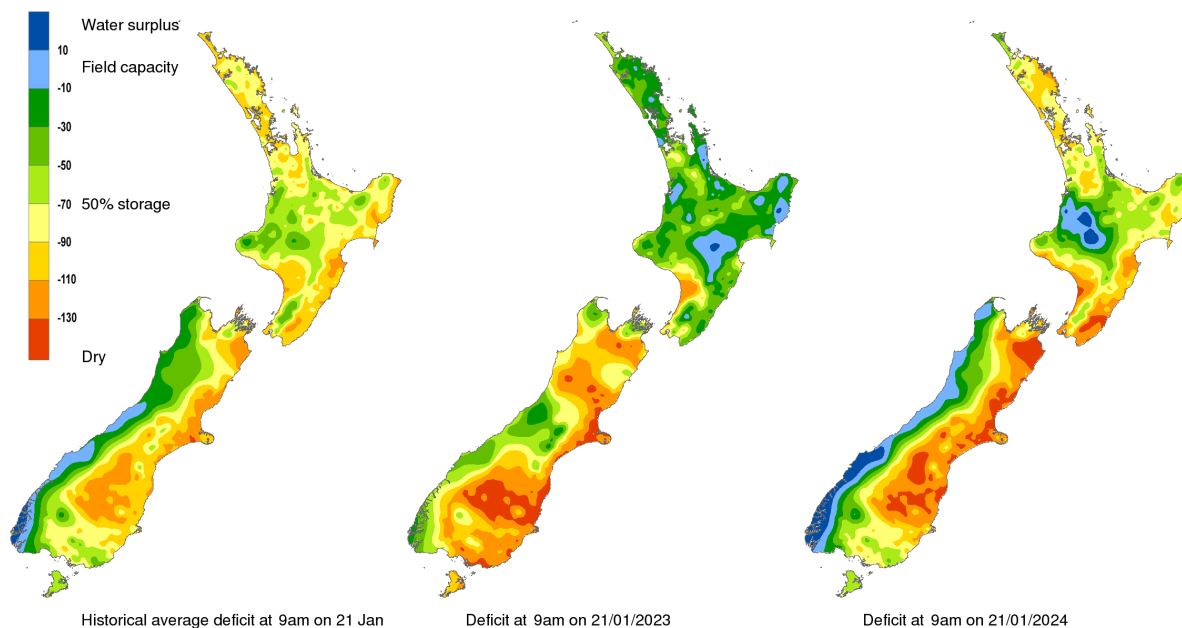
El Niño will continue to dominate through to at least the end of March. However, unusual ocean temperatures are also influencing the weather, meaning growers can expect more variable rainfall patterns than usual in an El Niño year, with heavy rain events possible in the second half of January, particularly in the North Island. Overall rainfall levels are mostly expected to be around normal for this time of year, except in Canterbury, Otago and Southland, where lower rainfall levels could be experienced. Some areas are experiencing unusual dryness already, and growers are encouraged to check out NIWA's [drought forecasting dashboard](#). All regions can expect above average temperatures and frequent north-westerly winds, some of which may be stronger than usual, especially in the South Island.

FAR weather tool

The FAR online weather tool is a great way to keep an eye on 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 region you're interested in 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 21/01/2024



Contact the editors



Ben Harvey

Ben.Harvey@far.org.nz



David Densley

David.Densley@far.org.nz

Alternatively, email one of our research leaders:

Cereals - [Jo Drummond](#)

Herbage and vegetable seed production - [Richard Chynoweth](#)

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