EPARF Member Technical Newsletter

July 2019

Most crops on EP currently have adequate soil moisture levels for growth but there are still regions where crops and pastures are living from one rainfall to the next.

Early cereal crops at GS31 (1st node evident) and canola is beginning to flower. Grasses are well tillered in pastures and pulses and need to be controlled as soon as possible for optimum results.

Foliar diseases are starting to be detected in cereals and pulses. Make sure you implement your foliar disease plan now. Delaying will impact on yield as fungicides are good at protecting leaf area from disease, but generally poor at controlling existing infection.

Weed Control

The first round of weed control has been completed in nearly all paddocks on EP. Controlling weeds in 3-5 leaf cereal crops is cheaper and more effective than waiting until late July or August.

As many crops have now finished tillering, the number of herbicide options available for weed control decreases. 2,4-D amine (plus some mix partners) is the product regularly used once crops have reached GS30. Check your labels carefully before applying herbicides to crops from now on to avoid damaging crops or achieving poor weed control. Carefully consider the likely impact of applying herbicides with residual properties on following crops and pastures.

Grass weeds should all be controlled in pulses and pastures by now. Some crops will require a second spray for newly emerged grasses. Check all crops for grass weed control failures.

Paddock Observations

1. Rhizoctonia in cereal crops is quite severe on some farms.
2. Blackspot is evident in early sown peas without a structured fungicide program.
3. Some downy mildew is also present in peas this season.
4. Net blotches can be found in barley not treated with premium seed dressings or with an early fungicide.
5. Herbicide residue effects from the “imi” chemicals have been common in legumes.
6. Excellent pre-emergent weed control when appropriate herbicides have been used – in general the premium rates and products are providing the best results.
7. Great information is being generated on a paddock scale where farmers have trialled different fertiliser rates in the same paddock.
8. Cereal crops on pulse stubbles and those with sound N, P and S nutrition are really standing out with good tiller numbers and overall health.

Why Do My Cereal Crops Have discoloured leaves/tips?

There is no single answer to this question. Think about what factors might be causing the crop to express undesirable leaf symptoms – is it something you did, something the environment has caused, or a combination of management and environment? The following list contains some of the common causes of crop discolouration on EP:

- N deficiency – lower leaves
- S deficiency – e.g. upper leaves erect with yellow tips
- Mn deficiency – e.g. pale and floppy leaves

- Zinc deficiency – e.g. often middle leaves with lesions/yellow in middle of leaf
- Frost damage to vegetative growth
- Rhizoctonia or other root diseases impacting on crops ability to take up nutrients and water
- P deficiency
- Insects like mites
- Waterlogging
- Herbicide residue
- Foliage burn due to herbicide/fungicide/foliar nutrient application or combination of these
- Leaf disease (yellow leaf spot, net blotches, Septoria)
- Dry soil

Tissue Tests

It is not too late to tissue test crops. Ideally tests are taken at 3.5 leaf to mid tillering, but later tests can still be valuable if they are interpreted correctly. Speak to your agronomist and ensure you sample the correct leaf and avoid contamination. Gloves are essential.

Nodulation

Check all legume paddocks to ensure crops have adequately nodulated. Lack of nodulation can be due to many factors (including herbicide residues, poor inoculation techniques or rhizobia survival, low soil pH, etc). Nodulation assessment can help guide nitrogen decisions for 2020 crops and enable you to improve inoculant use in the future.

Nitrogen

The demand for N is starting to peak in some of the earlier sown crops. Crops that are just tillering have a low demand for N. As biomass increases and they get closer to reproductive mode, nitrogen uptake increases dramatically. As crops progress through stem elongation, the economic benefit from additional N diminishes the later you apply it. There are however, instances where later N application can still be economic. Speak with your advisor regarding late nitrogen priorities.

Nitrogen Basics

Be realistic in your yield targets. If you don't have a yield target, an understanding of your starting soil nitrogen and stored water levels, you cannot decide if you need to apply more nitrogen.

You need approximately 40 kg/ha nitrogen (87 kg/ha Urea) to support the growth of a wheat crop that can yield 1 t/ha. This N has to come from the soil, starter N applied at seeding, additional N applied in crop, or from soil mineralisation. If you are targeting 1.8 t/ha, the crop needs to access 72 kg nitrogen. If you are targeting 2.5 t/ha, you need approximately 100 kg/ha N in the system.

It is highly unlikely that you will ever measure a yield response to small additions of N like some are applying e.g. 10 L/ha UAN providing only 3 kg/ha Nitrogen to the system. You would likely have to repeat this application several times before you could measure a yield benefit!

Fertiliser Toxicity Trials

Mandy Cook (SARDI) has been conducting a number of excellent trials to quantify the impact of fertiliser toxicity on wheat crop emergence and plant numbers. Different soil types have been selected, with crops sown into varying soil moisture levels. Fertiliser at "normal" rates (60 kg/ha DAP) was placed with, below, or half with and half below the seed. To back up the field trials, Mandy has also replicated the trial in a controlled environment in seed trays with known starting moisture levels. The results from these trials show that fertiliser toxicity is having a larger impact on crop emergence and health than most realise. Results will follow in a future newsletter.

Upcoming Events

GRDC Rhizoctonia Workshops

In paddock workshops are planned for Cowell (1.30-3.30pm 29th July) and Kalanbi (2pm-4.30pm 30th July). These practical workshops with expert scientific input will expand your knowledge of managing this disease. Bring along plants with intact roots for disease scoring.

GRDC Grain Research Updates

Minnipa Ag Centre 9am -1pm 31st July featuring the latest updates on sandy soil management, herbicide resistance, profit drivers, on farm grain storage and wheat and barley agronomy.

Repeated at Cleve District Hall 9am – 1pm August 1st.

GPSA

Meeting following the GRDC updates with a focus on the Grains Industry Blueprint and the CFS Harvest and Stubble burning codes of practice. Minnipa Ag Centre 1.30 – 4pm and Cleve District Hall on the 1st August 1.30-4pm.

Useful Factsheets

- **Water Quality Fact Sheet**

https://grdc.com.au/__data/assets/pdf_file/0023/378140/GRDC_FS_Spray-Water-Quality1902_07.pdf?utm_source=website&utm_medium=download_button&utm_campaign=pdf_download&utm_term=National&utm_content=Spray%20water%20quality

- **Herbicide Decontamination Guide**

https://grdc.com.au/__data/assets/pdf_file/0014/334211/7.GRDC-M7-Mixing-and-decontamination.pdf

- **In crop herbicide use fact sheet**

https://grdc.com.au/__data/assets/pdf_file/0019/152443/grdc_fs_spray-in-crop-herbicide_low-res-pdf.pdf.pdf