



Phil Hawker
0427 367542

AG NOTE

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DERRINALLUM (Head Office)

P (03) 5597 6622 F (03) 5597 6773
E admin@westernag.com.au
W www.westernag.com.au

BANNOCKBURN

(03) 5281 2840

WILLAURA

(03) 5354 1585

HORSHAM

(03) 5382 2488

NHILL

(03) 5391 3386

KANIVA

(03) 5392 2911

GOROKE

(03) 5382 2488



Gerard O'Brien
0419 801485

Introduction

Hello to all our clients from the Western AG team. We hope you enjoy the winter 2016 edition of our newsletter.

It is fantastic to hear that the start to this season has been as good as or better than any start we have had in the last 15 or 20 years. Good rainfall and relatively warm conditions have meant that crops and pastures have established rapidly and evenly, and soil applied pre-emergent herbicides are working well.

Rainfall models for Victoria are predicting average in the SW region and grading to above average in the Wimmera Mallee areas out to August.

At the time of writing, we are experiencing firming wheat and canola pricing and relatively cheap urea, which is really promising.

Slugs which are a major and costly pest in high rainfall areas have been down in numbers enabling savings in treatment costs. Unfortunately, we are seeing elevated levels of earwigs, slaters and/or millipede populations which have proved to be challenging in some situations.

An alarming discovery this year has been the Russian Wheat Aphid. This issue, and more, will be covered in detail in this edition.



Ashley Perkins
0458 822066



Western AG is celebrating 10 years in business this year.

Our promise to you is to continue to provide the latest farm production technology and best possible service.

We thank you very much for your support.

Western AG Values

At Western AG, we are passionate about Agriculture and aspire to be the market leader in providing excellent service to our farming clients.

We understand that our industry is extremely fast moving technically and we need to solve problems in the paddock immediately and be at the forefront of best farming practice.

We also understand that we grow products in a free market economy and sell them into volatile domestic and international markets, without support mechanisms from government which many of our competitor nations enjoy.

At Western AG we are continuously looking at how to improve farming practices and better ways of doing things. We have a unique, high performing, highly focused and disciplined team. Our people are empowered to make optimal decisions for our clients.

As a group, over the course of the last 6 months, we have examined the **VALUES** that drive our decisions and actions.

The whole Western AG team helped to evolve our values, which means that we truly believe in them and live by them. We are passionate about these values and they reflect how we care about our farming clients and the communities we work in. We are proud to share these words with you and invite you to provide us with feedback.

KNOWLEDGE

Our focus is to solve problems, to overcome production limitations and to maximise profitability for our clients.

INNOVATION

Discovering new and more efficient farming practices. We will strive to bring innovation to the table and integrate it into your business profitably.

RELIABILITY

We say what we mean, mean what we say and will deliver on what we set out to do.

COMMITMENT

We will not accept mediocracy or second best and will go the extra mile for our clients every day.



James Jess
0419 801650



Matthew Barber
0488 298170



Trudy McCann
0438 725008



Karl Drever
0438 397544



Matt Witney
0488 298621



Tim Hofmaier
0488 298222



Edwina Simpson
0439 622867



Nick Zordan
0427 823062



Braydn Robertson
0438 976557

Staff Update

In the coming weeks we are fortunate to have three quality individuals joining the Western AG team.

Karl Drever

Karl has been involved in the agricultural industry for well over 22 years. Being brought up on the land, Karl started in the industry with Stephen Pasture Seeds and, after 18 years there, ended up in a Sales Manager role with experience in all regions of Victoria and the South East of SA. The past 5 years has seen Karl work as a Pasture Specialist in the Ballarat Region.

He currently lives in Ballarat with his wife Janene and their four kids. He is also the junior director at the Ballarat Football & Netball Club where all his kids play.

Karl will be the Branch Manager at our new Ballarat store and will be undertaking an agronomy role as well. He brings a wealth of knowledge to Western Ag and is keen to build on, and develop, lasting relationships with growers in the local area.



Karl Drever
0438 397544

Katrina Ridgway

Katrina Ridgway has been involved in the rural industry for the past 23 years and started her working career in the rural industry with on-farm bookkeeping, before taking on a livestock secretarial role for a Tasmanian meat processor. After taking a short break to start a family, she recommenced her career working in rural merchandise and sales for TP Jones in Tasmania. In 2011, the family moved to the mainland, where she continued work in the rural merchandise segment whilst taking on a sales rep position in Naracoorte and Kingston SE in South Australia.



Katrina Ridgway
0409 741427

Katrina lives on a farm at Beaufort with her husband and two daughters. The family are community orientated being involved with a local netball club and other associations.

Katrina is excited to become a member of the Western AG team at the new Ballarat store and looks forward to meeting clients and assisting in any way possible.

Anna Fry

Anna Fry has worked for Swan Hill Chemicals since October 2014 in both broadacre and horticultural crops. Prior to this, she worked as a broadacre Agronomist in Saskatchewan, Canada. Her experience includes cereals, pulses and oil seeds as well as potatoes and speciality tree crops. Anna will be based in Derrinallum and be providing agronomic services to clients locally as well as clients in the Ballarat area.

Anna, originally from Camperdown, has a Bachelor in Agriculture from Melbourne Uni. Her interests outside of work include netball and triathlons. She has been recognised for numerous academic and sporting achievements. Anna brings considerable experience gained in a similar business that specialises in the provision of agronomic services. Her knowledge base has been greatly increased with her agronomic international work and she will be an excellent addition to our agronomy team and will further enhance the client services we provide.



Anna Fry
0428 976555

Company Branch Update

Ballarat Branch

The new Ballarat store development is well underway at present and still on track for the scheduled early August opening date.

This store will not only greatly enhance our storage capacity with all inputs and products available but, more importantly, allow us to further deliver the high quality of service we are renowned for to the entire farming region.

We look forward to starting operations and will keep all current, and potential, clients updated with how things are progressing.



Seasonal Outlook for SW Victoria (by Trudy McCann)

The science of seasonal forecasting relies on a set of indicators known to have an influence on the climate for a particular region, and considers past trends and their impacts on that region as the best indication of what is likely to occur in the future.

For south eastern Australia, the main seasonal indicators used to provide an outlook are as follows:

- Sub-tropical ridge
- El Niño-Southern Oscillation (ENSO)
- Indian Ocean Dipole (IOD)
- Southern Annular Mode (SAM)

Sub-tropical ridge (STR)

The sub-tropical ridge is an extensive area of high pressure. It is a major feature of the general circulation of our atmosphere and a major influence on the southern Australian climate. Its position varies with seasons, allowing cold fronts to pass over Vic in the winter, but pushing them south in summer.

ENSO

The El Niño-Southern Oscillation (ENSO) is a major influence on our climate. The ENSO is the irregular oscillation between El Niño and La Niña conditions, which describe the position of warm and cool water, wind strength and the atmospheric pressures in the Equatorial Pacific Ocean region (SOI).

IOD

The Indian Ocean Dipole (IOD) is a measure of changes in sea surface temp patterns in the northern Indian Ocean. These changes contribute to the formation of rain-producing systems. The IOD is derived from the difference in sea surface temps between the western Indian Ocean, near Africa, and the eastern Indian Ocean near northern Australia. When the IOD is positive, waters are warmer than normal near Africa and cooler than normal near Australia. Cloud near Australia reduces, resulting in less rainfall. When the IOD is negative, waters are cooler than normal near Africa and warmer than normal near Australia. Warmer waters near Australia, particularly near Indonesia, can result in more rainfall. IOD events can be related to ENSO events. Positive IOD events sometimes occur during El Niño events, usually resulting in less rainfall over Vic. Negative IOD events sometimes occur during La Niña events, usually resulting in increased rainfall over Victoria.

SAM

The Southern Annular Mode (SAM) describes a north-south movement in the

belt of strong westerly winds across the south of Australia. This region of strong westerly winds is associated with cold fronts and storm activity, and influences weather in southern Australia. The mode can be in a positive or negative phase depending on the pattern of westerly wind flow and pressure to the south of Australia. In autumn and winter, a positive SAM phase results in fewer storm systems and less rainfall across the southern coastal regions of Australia. The negative phase is associated with a northward shift in the belt of strong westerly winds. In autumn and winter, this can cause more storms and increase rainfall for southern Australia.

So, what's the outlook for 2016?

Sub-tropical ridge (STR)

In the past 30 days, the STR of High Pressure was positioned higher up than normal around the top of the Bite. This is close to the normal winter position and was allowing fronts through.

ENSO

Currently a large wavy track of cooler water across the equatorial Pacific Ocean (refer Fig. 2) is present. This is similar in appearance to previous early stages of La Niña. All seas to the north of us remain very warm, resulting in extra moisture evaporation as a source for Vic. The SOI rose from negative to normal in May. Both Darwin and Tahiti air pressure have normalised. Trade winds through May were close to normal, pointing that the ENSO indicators are currently neutral.

IOD

The Indian Ocean Dipole Mode Index (DMI) is neutral but is possibly showing its first negative trend. Warm ocean temps to the northwest of Australia (Refer Fig. 2) can be associated with a negative IOD, especially when they occur at the same time as cooler than usual ocean in the tropical western Indian Ocean, near the African coast. Climate models and current obs suggest a negative IOD may be in the early stages of development. Negative IOD events typically bring higher than usual winter and spring rain to southern Aust.

SAM

SAM is predicted to go moderately positive over the next 14 days. Recent observations and climate model forecasts continue to suggest La Niña may develop in the coming months. La Niña is typically associated with higher than usual winter and spring rainfall over northern, central and eastern Aust, and cooler than normal daytime temps south of the tropics. If La Niña does develop, climate models suggest it is unlikely to reach levels seen in the most recent event of 2010–12, one of the strongest La Niña events on record.

Forecast Models

A summary of seasonal forecast models developed and used by climate bureaus around the world to predict the likely seasonal outlook based on current indicators is outlined in the following tables. The tables have been sourced from The Fast Break Newsletter (Volume 11, 5th May), compiled and circulated by Agriculture Victoria, DEDTJR.

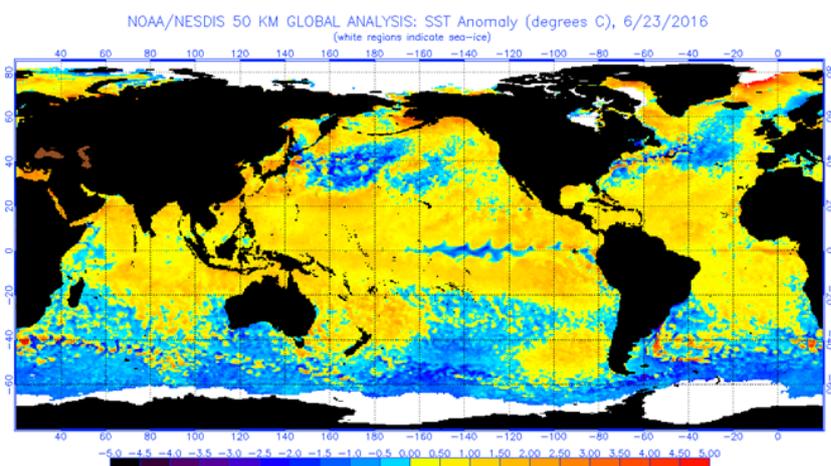


Figure 2. Global Sea Surface Temps (SST) Map (BOM)

Seasonal Outlook for SW Victoria continued.....

On balance, most models suggest an average/slightly wetter rainfall for the period June-August (See Table 1 below). Most models predict average to warmer temperatures for winter. Model skill and accuracy is starting to get better at this time of the year. Also, the majority of models are predicting wetter rainfall and average to cooler temperatures for the period Sep-Nov (See Table 2 below).

Growing Season Rainfall (GSR) to date and soil moisture in SW Victoria

Rainfall for May has, in general, been above average in SW Victoria following a dry April. The Rain and Grain project, with the use of Soil Moisture Monitoring probes, provides real time soil water content data.

The monitoring sites have been placed in cropping regions throughout Victoria by the Dept of Economic Development, Jobs, Transport and Resources (DEDJTR). They record soil water content at one source point from 30cm down to 1 metre as a reference point for a paddock. There are two sites in SW Victoria, at Lake Bolac and Hamilton.

Both these sites indicate that soil moisture levels, particularly at Hamilton, have increased in the last month and are above the levels at this time last year. The charts show that soil moisture conditions at Hamilton (see Chart 1 below) are now quite wet, whilst there is still a way to go at Lake Bolac (see Chart 2 below).

Whilst season forecasting is not an exact science and should be used with a degree of caution, it does provide us with a good opportunity to make informed decisions about what is most likely to happen in the coming season, based on what we have seen in the past. In any event, the start to the season has been a good one with soil moisture and warmer soil temps allowing crops to emerge and establish quickly. The outlook for the remainder of Winter and Spring appears to be positive, which is a pleasant change from the doom and gloom of the last two seasons.

Table 1. Model Distribution Summary for the next 3 Months, June-August.

Rainfall	Wetter	Wetter-Average	Average	Average-Drier	Drier
No. of Models	3	4	4	0	0
Temperature	Cooler	Cooler/Average	Average	Average/Warmer	Warmer
No. of Models	0	1	3	2	3

Table 2. Model Distribution Summary for the next 4-6 Months, Sept-Nov.

Rainfall	Wetter	Wetter-Average	Average	Average-Drier	Drier
No. of Models	7	0	1	0	0
Temperature	Cooler	Cooler/Average	Average	Average/Warmer	Warmer
No. of Models	1	3	2	0	2

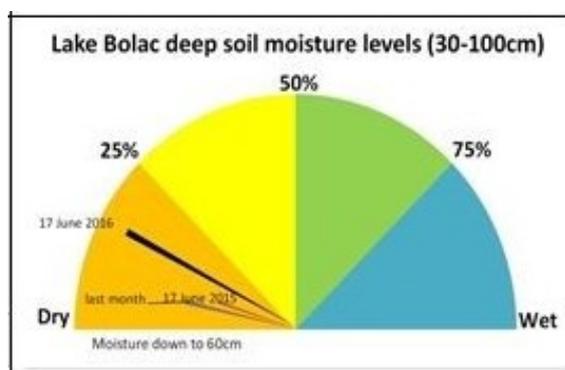


Chart 1. Lake Bolac Soil Moisture Levels

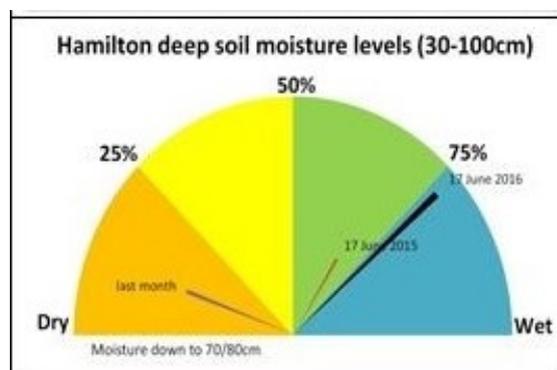


Chart 2. Hamilton Soil Moisture Levels

Seasonal Outlook for Wimmera / Mallee (by Matt Witney)

It has been a great start to most areas of the Wimmera Mallee, with most areas at or above Average Growing Season and average Annual rainfall. With a neutral to positive SOI for over a month now and a negative IOD for a few months, BOM are predicting a 70% chance of La Nino by spring. This is a lot more positive than this time last year, but we'll wait and see.

Horsham

Horsham has had approximately 182mm from January to June which is 110% of the average annual rainfall, and 112mm of Growing Season Rainfall (GSR) which represents 115% of average GSR. By using GSR data, we can estimate potential yields using a predicting model devised by the individuals French and Schultz. This model assumes good farming practice have been used, and can be used as a guide for benchmarking. Therefore; $115\% \times 243\text{mm}$ (Average Horsham GSR) = 280mm (Potential rainfall, assuming season continues at 115%)

Then, $280\text{mm} + 30\text{mm}$ (estimated stored moisture) less 110mm (evaporation for Wheat) $\times 20\text{kg/mm}$ (good farming practice water use efficiency figure) = 4000kg/ha potential Wheat yield.

Nhill

Nhill has had the same rainfall as Horsham for the year, but this represents 128% of the average annual rainfall. Nhill has had 96mm this growing season which is also 115% of average GSR. Therefore; $115\% \times 207.6\text{mm}$ (Average GSR) = 239mm (Potential Rainfall) Then, $239\text{mm} + 30 - 110 \times 20\text{kg/mm} = 3180\text{kg/ha}$ potential Wheat yield if the season continues at 115% of average.

Edenhope

Edenhope has had 232mm of Annual rainfall from January to June, which is 102% of annual rainfall to date. There has been 164mm of GSR, which is 105% of average GSR for the area. Therefore; $102\% \times 422\text{mm}$ (Average GSR) = 430mm (Potential Rainfall) Then, $430\text{mm} + 30 - 110 \times 20\text{kg/mm} = 7000\text{kg/ha}$ potential Wheat yield.

These calculated figures are based on yield potential from rainfall only. Adequate nutrition and other agronomic issues, including time of sowing, summer weed control, insect and disease control, new varieties etc., all play an integral role in achieving good yields. As expected, rainfall figures will vary substantially across areas.

For instance, areas surrounding Warracknabeal are tracking positive for GSR, but Kaniva is a bit on the drier side. Therefore, use individual farm records for a more accurate estimation of "Potential Yields".

Further credibility to the predictions can be assisted with soil tests. These have the ability to use stored N values combined with mineralised N, identifying Organic Carbon whilst cross referencing rainfall. Other elements critical to crop yield should also be looked at because if there is a deficiency, the crop will not reach its' potential. Sap and Tissue testing can be used to look at where the plant is in relation to all nutrients when assessing crop yield potential and Deep N testing can also be carried out to get an accurate measure of soil nitrogen (N).

If the season keeps positive, fungicides will also play a huge part in achieving good potential yields coupled with other sound agronomic practices. Remember, it is important to give the crops the best possible chance. Despite two very dry years, it will still be important not to drop our guard. Here's looking forward to a positive 2016 season.

The "Great Sakura Sign-Up" Competition Winners

This season, Bayer ran a competition called 'The Great Sakura Sign-Up' with the promotion starting March 1st and running until the May 31, 2016.

Each Western AG grower that purchased Sakura for the 2016 season was eligible to get a Sakura 'The Sign of a Great Farm' sign from their agent. Growers had to put the sign up somewhere on their farm and take a photo of the sign to be in the running to win some terrific prizes.

The growers who took the most creative and engaging photos had the chance to win one of the following prizes:

- 4 major prizes - DJI Phantom 3 Advanced Drone Kits (\$2,600 RRP)
- 20 secondary prizes - GoPro® HERO4 Session cameras (\$450 RRP).



Congratulations to the winners Alan and Murray Witcombe from Inverleigh (pictured below with "Jimmy" and Bayer TSM, Paul Crack). They actually sent in two photos and were lucky enough to win two great prizes.



Crop Health & Micro Nutrients (by Tim Hofmaier)

What an excellent start to the cropping season it has been for the Wimmera/Mallee. Between 60mm and 80mm of rain has fallen for the month of May. This the highest total of rainfall for the last 10 years. Combined with earlier warm soil temperatures this has allowed the crops to jump but, as a negative, the positive start has also been the perfect condition for broadleaf weeds to proliferate in winter cereals.

It has been highlighted before in earlier newsletters about the importance of good crop nutrition for maximising potential yields. Too often, we primarily focus on the macro nutrients, but neglect some of the micro nutrients that are essential for specific plant and seed development. Some of these nutrients can be applied with the starter fertilizer or alternatively as a seed dressing, but a "top up" foliar application can be applied often with a partner herbicide.

In the past, Western Ag has supported Spraygro as a major supplier of foliar nutrients. We have created a custom mix that has been developed to deliver what we believe has a good fit for deficiencies in some of our soils. Firmrite CM 9211, a Spraygro product that has been used now for about 5 years, has exhibited excellent results on both cereals and legumes. It contains 5.6% N, 3.8% K, 3.4% Ca, 0.9% Mg, 1% Zn, 0.6% Cu, 0.8% B, 0.2% Mo and is usually applied at rates of 3lts to 4lts/ha. This may need to be applied twice depending on how the season is looking. The cost of this product is around \$3.00 per litre. This allows you to use all the nutrients that are required to grow healthy plants in a singular mix instead of 4 individual products that may not necessarily be compatible if supplied in different forms (i.e. oxides v sulphates v chelates). Furthermore, it is very compatible with most herbicides, with the exception of Amicide Advance 700. As for any spray mix, please consult your agronomist for compatibility and mixing requirements.

Individual spray mixes can also be specifically formulated if a nutrient needs more attention, or if one listed is not identified as a problem in your area. Always consult your agronomist if a specific custom mix needs to be formulated.

The following lists some of the key nutrients in the custom mix and the key roles they play in plant growth.

Calcium (Ca) is the most important secondary nutrient because it creates part of the cell walls, which in turn, strengthens the plant structure, which interestingly is the same as humans require Ca for bone structure as well. Calcium deficiencies often occur in acid and sandy soils whereby Ca leaches via rain. When applied to Faba Beans for example, this helps keep the flowers on the plant when the warmer weather arrives (fruiting time) and consequently produces more beans at harvest (yield).

Zinc (Zn) is involved in the synthesis of plant growth substances, enzyme systems and is essential for promoting certain metabolic reactions. It is necessary chlorophyll production and also carbohydrates. Zinc is non mobile in the plant and hence deficiency is first seen in the young leaves, exhibiting yellow stripes through the veins. As zinc is virtually immobile in the soil, ideally a crops requirements are best applied prior to, or at planting. The plant roots need to physically intercept zinc in the soil to allow uptake. Applying zinc to your fertiliser and on the seed is the best way to maximise this nutrient. A foliar application can band aid the deficiency symptom but not really remedy the problem.

Copper (Cu) is required for chlorophyll formation in plants and is a catalyst for a number of key reactions within the plant for normal growth. Plants with copper deficiency are often weaker in the cell walls, lower in proteins, fail to flower and may be more prone to fungal attack. Copper, like Zn, is usually applied to the soil prior to or at planting to ensure the emerging plant roots are able to access available copper for uptake. Copper is always beneficial in cereals late in the season for improved grain fill.

This season, resulting from previous tissue testing results, **Molybdenum (Mo)** has been added to the mix. Molybdenum is needed by plants for chemical changes associated with nitrogen nutrition. Molybdenum is an essential component in two enzymes that convert nitrate into nitrite (a toxic form of nitrogen) and then into ammonia

before it is used to synthesize amino acids within the plant. It also needed by symbiotic nitrogen fixing bacteria in legumes to fix atmospheric nitrogen. Plants also use molybdenum to convert inorganic phosphorus into organic forms in the plant. Molybdenum is needed in smaller quantities than any of the other micro nutrients. As little as 50 grams of molybdenum per hectare will satisfy the needs of most crops. Where the plant has insufficient molybdenum the nitrates accumulate in the leaves and the plant cannot use them to make proteins. The result is that the plant becomes stunted, with symptoms similar to those of nitrogen deficiency. The normal range for most plant tissue is 0.3-1.5 ppm. Like any nutrient deficiency or toxicity, it needs to be corrected before there is a negative impact on crop growth/quality.

Potassium (K), whilst not a micro nutrient, is also a very important nutrient that is often overlooked. It has important functions in plant metabolism, plays a part in the regulation of water loss, and is necessary for adaptations to stress (such as drought and cold). Plants that are deficient in potassium may exhibit reductions in yield before any visible symptoms are noticed. These symptoms include yellowing of the margins and veins, crinkling, rolling of the leaves and reddening. An excess, meanwhile, will result in reduced plant uptake of magnesium, due to chemical interactions. If K is known to be deficient in an area, the addition of 2lts/ha of K-Blast (36% K) can be used to increase potassium levels in the plant. A tell-tale sign of Potassium deficiency is where stubble windrows have been burnt, there is often very green strips indicating that the burnt areas have contributed K back to the soil indicating a potential deficiency within the paddock.

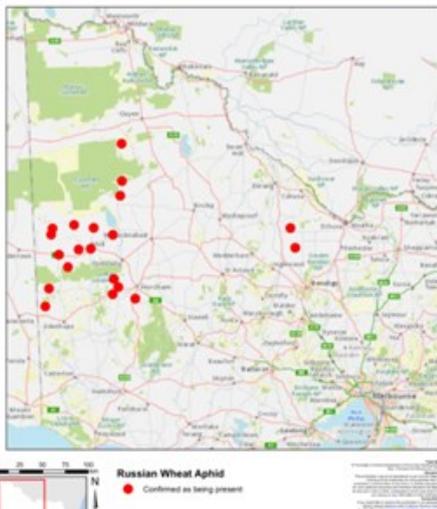
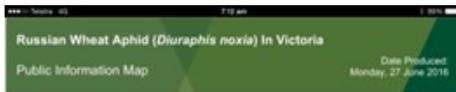
Sometimes you can have singular or even multiple deficiencies and the signs can often be similar in plant appearance. Leaf testing is a good tool to establish deficiencies or, on an individual paddock scenario, some very basic test strips of numerous varying nutrients will show up problems very quickly.

Remember healthy plants are happy plants!!!

Be Alert but Not Alarmed! (by James Jess)

RUSSIAN WHEAT APHID (RWA)

There has been plenty of hype recently surrounding the discovery of RWA throughout South Australia and Victoria. RWA is a major pest of wheat, barley and some grasses and can cause significant yield losses if left undetected. RWA is commonly found in all major cereal growing regions across the world however never previously in Australia. Certainly, this is alarming and reasons surrounding how it came to be detected in SA and Victoria are still unclear.

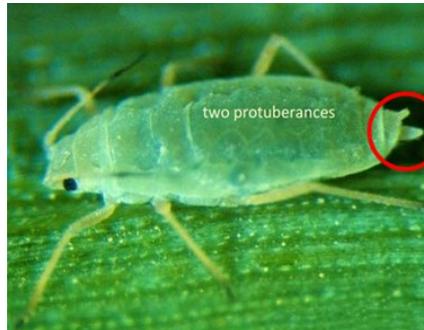


Adama field focus fact sheet
(courtesy Ashley Pilkington, Adama)

RWA can be very damaging to newly emerged crops. It injects the plant with a salivary toxin when feeding which retards growth and in some cases of heavy infestation causes plant mortality. The salivary toxins injected by the RWA damages chloroplasts, resulting in reduced photosynthesis, tillering capabilities and shoot and root biomass.

The aphids are very similar looking to a cereal aphid although, they have two tails at their rear end. RWA lack the usual excretion tubes known as exhaust pipes, on the top of the rear end of the body when compared to common cereal aphids.

They are approx. 2mm in size and best examined in a magnifying glass to make out the key features.



Picture: Agriculture Victoria, 2016

For now the risk of infestation is low due to the colder wintery weather we are currently experiencing as the toxic saliva which is damaging to the plant will wash off in rainfall giving the plants some relief from symptoms. Although from as late as early boot to soft dough stage RWA feeding on the upper leaves, leaf sheath, and next to the developing head can cause direct yield loss (Govt. of SA, PIRSA, 2016). Therefore, agronomists and growers alike must remain vigilant in checking crops for signs of damage.

The most appropriate way to respond to a suspected RWA infestation in your paddock is:

Inspect, Report, send in a sample for confirmation and ensure you follow bio-security measures to avoid spread to the neighbouring properties.

Symptoms to look for are listed below and should be referred to if there is any suspicion of aphid infestation in your paddocks:

- Noticeable loss of green colouration across the crop; this could look like herbicide damage.
- White, yellow, purple / red streaking combined with leaf curling;
- Symptoms often moving in from the edges of crops where aphids often will colonise first.
- Aphid damage symptoms near the base of newly emerged leaves



Picture: PIRSA, 2016.

Samples of RWA are required for the appropriate confirmation of the pest as it progresses. Plants showing symptoms must be examined closely for the presence of aphids and only samples with aphids present should be sent in. Samples of at least 10 young plants taken over a representative area should be wrapped in damp paper then placed in a plastic bag and sealed. Clearly label the bag with the paddock address and preferably the GPS location, crop types, variety and farm owner.

Samples can be sent to:

**Crop Safe Diagnostic Lab
DEDJTR, Grains Innovation Park
110 Natimuk Road, Horsham**

For any further information regarding diagnosing symptoms and control measures, please contact your western AG agronomist.

References and further reading:

Government of South Australia PIRSA website http://www.pir.sa.gov.au/biosecurity/plant_health/exotic_plant_pest_emergency_response/russian_wheat_aphid

Agriculture Victoria website: <http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds/plant-diseases/grains-pulses-and-cereals/russian-wheat-aphid>

Disclaimer

The information contained in this AG Note is to be used as a guide only and specific information needs to be sought from the authors regarding individual situations. Western AG Supplies takes all care in compiling this information. However Western AG Supplies accepts no liability for any loss or damage suffered by any person who relies on this information.

Lucerne Winter Cleaning Options (by Matt Barber)

In the next few weeks, farmers will be looking at winter cleaning their lucerne paddocks, if it hasn't been done already. The standard winter clean for lucerne is usually a hard winter grazing by sheep, followed by a chemical mix to remove all grass and broadleaf weeds in the lucerne stand. This practice occurs between June to August depending on the season and rainfall conditions. The reason for the hard grazing is to reduce the leaf matter on the lucerne stand so there is minimal amount of burning and damage to the lucerne plant and it also allows a quick regrowth for future winter grazings, or getting the paddock ready for silage/hay production in the Spring.

Most chemical winter cleaning methods of lucerne consist of a Sprayseed (135g/L Paraquat and 115g/L Diquat) and Diuron (900g/kg Diuron), usually with a spike of Hammer (400g/L Carfentrazone-Ethyl). This chemical mix works extremely well for winter cleaning, but there are issues with the Sprayseed burning the grass weeds and then some regrowing in the following weeks, especially barley grass. If silver grass is an issue in the lucerne stand, apply Simazine 900DF (900g/kg Simazine) with the Sprayseed/Diuron mix. The addition of the Simazine helps reduce the plant numbers, whilst not damaging the lucerne plant. Rates can vary depending on silver grass size and numbers.

Currently, with many lucerne stands, there are some issues with barley grass resistance to Sprayseed, which is usually found after the winter clean has been done! Barley grass in lucerne stands when lambs are grazing late Spring is not favourable due to seed-eye infestation problems. To overcome this, a good strategy is to apply Verdict (520g/L Haloxyfop) as a grass only selective, although it does some control on *Erodium* spp as well.

Verdict is part of the "Fop" chemistry, is a cheap option at around \$5.30/ha, and should be applied between 80 to 100ml/ha. This is usually sprayed 3 to 4 weeks after the winter cleaning application when the lucerne crop has recovered and barley grass is recovering or new plants emerging. Alternatively, if the broadleaf weeds aren't shadowing the barley grass, it can also be applied first up. If so, allow a couple of days and then apply the Sprayseed/Diuron mix. Both work extremely well.

New herbicide chemistry which will be registered in the coming years for winter cleaning lucerne is Sharpen from BASF and Terrain from Nufarm. Both these herbicides are available currently, but have no registration for lucerne. They are likely to be added with Sprayseed and Diuron when registration comes through. If Marshmallow is an issue, the best spike still is Hammer (400g/L Carfentrazone-Ethyl). But, for general broadleaf options, both new registrations will be worth considering.



If farmers have made the decision to sow early autumn lucerne and there are weeds starting to emerge through crop, there are different herbicides which will be used. Before spraying any paddocks of lucerne, it is best that plants have a minimum 3 to 4 true trifoliate leaves, allowing for quicker recovery from any herbicide setback.

For grass weeds in newly sown lucerne, consider Status or Platinum (240g/L Clethodim) and, if there is resistance issues with ryegrass, consider adding Factor WG (250g/kg Butoxydim) to the mix with the Clethodim. If using Factor WG, make sure that the newly sown lucerne is at 4 to 5 trifoliate leaves, otherwise small amounts of damage will be visible. Always add Supercharge Oil when using this mix.

If broadleaf weeds are an issue in a new stand of lucerne, consider using Jaguar (250g/L Bromoxynil, 25g/L Diflufenican) as a selective herbicide. This herbicide will control a wide range of broadleaf weeds in lucerne stands but, be aware, it will leave the crop looking a yellow bleached colour, from which it will recover. Rates over 750ml/ha with this product will cause severe bleaching as it is too hard on the new plant and recovery times are long. Ideally, the weeds need to be relatively small for this product to work best or, alternatively graze afterwards. The grazing WHP of 14 days for the Bromoxynil needs to be strictly adhered to.

Broadstrike (800g/kg Flumetsulam) is also another herbicide which can be used for broadleaf control in new and older stands of lucerne. It controls a wide range of broadleaf weeds and is mixed either with Uptake Oil or a non-ionic wetting agent such as BS1000 or Chemwet 1000. It is commonly mixed with Buttress to cover off on a wide range of weeds when temps are warmer.

With any lucerne spraying, whether it is an old stand or a newly sown stand, the water rate (TWV) is critical for chemical spray performance. The TWV needs to be a minimum of 80lts/ha, but up to 100lts/ha will provide a superior job. If you require any further information on cleaning new or existing stands of lucerne, be sure to consult with your Western AG agronomist.

Publications Distribution

As discussed in our last newsletter, we are aiming at providing our AG Notes to as many customers possible via email moving forward.

If you are happy enough to provide your current email address details to your closest Branch, or to your agronomist,

we can then ensure you receive all our publications in the most efficient manner possible.

However, you can still choose to have them mailed if this is your preference.

Let us know.....!!!



Spreading your fertiliser \$\$\$ wisely (by guest editor Craig Farlow - IPL)

Each year thousands of tonnes of fertiliser are used to topdress Nitrogen (N) hungry winter crops across southern Australia and yet noticeable scope for improving accuracy of N supply in the paddock remains. With variable seasons, nitrogen management remains one of the more tricky decisions for grain growers to get their head around to ensure the best return on their investment.

Nitrogen application rates continue to increase under continuous cropping systems, bringing with it higher scrutiny on the efficiencies and the economics of N use. Application of N decisions swing mainly on how much does the crop need and when does it need it. However, ensuring the right placement as well as the form of N fertiliser should not be overlooked. Determining the right rate of N for a specific crop for a specific season requires some degree of N budgeting. Put simply, matching crop N demand for a given target yield to the supply of N from the soil, the difference being the fertiliser N requirement.

There is no need to make the N budgeting process too complex. For wheat, targeting grain protein at 11% protein will ensure yield is maximised. Yield targets can be set for lower and upper limits based on current moisture and weather forecast, applying 40 kg/ha of N per tonne of grain yield.

Tools for fine tuning in-crop N decisions include deep soil testing, N rich strips, soil moisture monitoring, tiller counts, NDVI and previous crop performance. Bottom line is, you can't manage what you don't measure. The use of deep N soil testing varies from very little, maybe a few paddocks to get a feel for current soil levels, to testing every paddock and even zones within paddocks for developing variable rate fertiliser programs.

New precision spreaders and boom sprays have made variable rate applications an option for even the least tech savvy operator. This allows fertiliser savings in less productive areas and a lift in production from applying more N to more responsive sections of crop.

The latest and greatest precision spreader does not, however, guarantee even spread of fertiliser across the paddock. An incorrectly set up spreader can result in under and over application of N, costing yield not always visible to the eye.



Factory settings are no substitute for spreader testing in the field. Individual spreaders, operator know how, physical properties of different products and spreading conditions have a significant impact on the even distribution of fertiliser.

Case in point, a recent spreader trial using two spreaders, one trailing and one linkage, both of the same make, same spinner type and vane set up produced substantially different spread patterns. Why?

Firstly, operator error – swapping the linkage spreader onto a smaller tractor without recalibrating for wheel size. The vane position was also set incorrectly from the back rather than the front edge. The machines were being operated at slightly different spinner speeds (540 vs 580 RPM).

The spinners on the trailing unit had also just been replaced due to wear and tear. New or old, each machine is unique and subtly different, a point regularly highlighted in spreader clinics and on-farm testing where many more spreaders are shown to be incorrectly adjusted then not. In the spreader trial mentioned, the machines needed to be operated at different vane settings to achieve desired swath widths for spreading urea. Using the same urea vane settings for spreading Gran-Am, the maximum spreader swath was reduced from 33m to 15m.

The outcome was similar for ExtraSul, a 50:50 urea blend urea: Gran-Am (see Figure 1). Spreader adjustment improved the spread width of Gran-Am to 27m and using the same settings, ExtraSul spread to 26m, i.e. quite different to urea despite representing 50% of the blend.

Spreader technology continues to develop at a rapid rate with potential to spread beyond 36-42m under ideal conditions. That said, when pushing the limits on spread swaths, growers need to consider conditions are rarely ideal.

In addition to in crop agronomy, checking machine set up is right through on-farm spreader testing, using fertilisers commonly applied under field conditions, will assist in ensuring fertiliser dollars are spread accurately and efficiently.

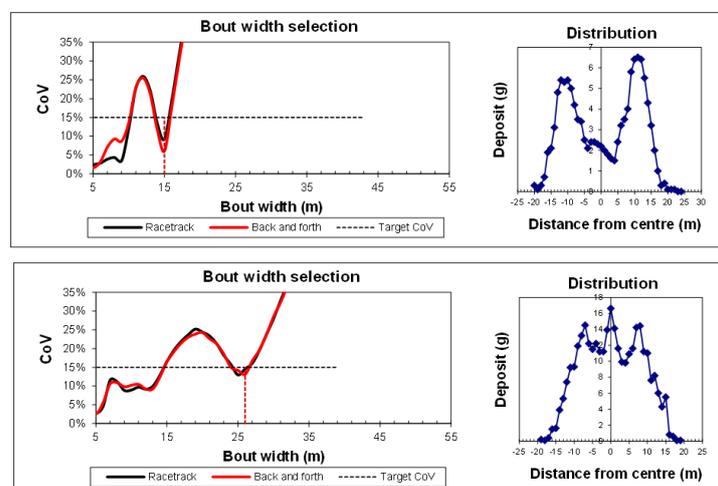


Figure 1 – ExtraSul distribution and coefficient of variation at vane setting short 18 long 50 (top) compared with short 5 long 40 (bottom).

July Disease Update (by Edwina Simpson)

There are many factors contributing to the disease outlook for cereals, canola and pulses for the 2016 season. The time of sowing, summer rainfall and dry conditions during 2015 all play a role in the disease pressure for the remainder of the season. Further to possible disease pressure, early sown crops could be at increased risk of frost.

In terms of root disease, it could be possible that as a result of dry conditions last year, nematode numbers will not have increased. However, an increased incidence of 'Take-all' has been seen across Victoria and is something that should be taken into consideration in a "cereal on cereal" rotation.

CEREALS

It is expected that stubble borne diseases will be an issue this season, particularly where crops have been sown back onto the same crop as last year and/or where stubble from the last two years' has yet to break down. It would be advisable to check cereal crops for the early signs of stubble borne disease such as Spot Form of Net Blotch (SFNB) as it has already begun to develop in some early sown barley crops. Given that the new strain of Leaf Rust has overcome Revenue wheat, growers of this variety should now be

vigilant in monitoring for breakdown. Reports have already been detailed in the Gippsland region. This new strain apparently appears earlier in the season and has a much wider range of cultivars that it affects. It is a good idea to review a current Cereal Disease Guide for the resistance ratings of your cereal varieties with your Western AG agronomist.



Barley Spot Form of Net Blotch (SFNB)

CANOLA

In canola, we should continually watch for symptoms of Blackleg. This includes stem and branch cankers. The risk of blackleg increases with higher rainfall zones, %age of area sown to canola in your region and rainfall prior to sowing. Areas with more than 500mm annual rainfall, more than 15% area sown to canola and 100mm+ rainfall received prior to sowing (March to May) are considered to have high Blackleg risk.

The most effective way to reduce blackleg risk is by carefully selecting your cultivar. Other factors, such as the distance from last year's canola stubble and fungicide use where necessary can help reduce the risk of yield loss from cankers. For high risk blackleg areas it's recommended that you grow cultivars with different blackleg resistance genes. Overtime, growing cultivars with the same blackleg resistance genes has led to changes in the blackleg pathogens' virulence, enabling it to overcome cultivar resistance.

Given the positive rainfall received thus far, and indications of a favorable Winter/Spring, it is imperative to keep a close eye on canola stands over the next couple of weeks. There appears to be definite signs of seedling blackleg already in numerous canola fields so variety blackleg grouping, resistance status, seed dressing applied and frequency of canola rotations should all be considered and decisions made as to whether a fungicide should be applied.

For more information relating to blackleg in canola and related R&D publications: <https://grdc.com.au/Research-and-Development/GRDC-Update-Papers/2016/02/Blackleg-stem-branch-cankers-and-fungicide-tolerance>.

Animal Health & General Merchandise Update (by Troy Kollegger)

Winter is well amongst us and the good rainfall around the state has certainly provided some relief to a lot of growers. Pastures have hopefully experienced some growth, dramatically reducing the amount of grain being fed, which has been a burden for many producers over a long period of time. Fingers crossed, some more good falls could fill the soil profile and a few dams over the winter months as well.

As you all may or may not be aware, Western AG has a wide range of A.H. and General Merchandise products stocked across all our stores. Our ability to provide quality materials to clients at competitive prices has seen Western AG increase its' market share in all these segments. With key personal at every location throughout Victoria, there is someone who can deliver sound service in a timely manner. The details following are some of our offerings available at very competitive pricing.

Over the next few months, a lot of lamb marking will be done and Western AG now has the ability to procure and sell **Tri-Solfen**. Being a key partner of Bayer Animal Health, the opportunity to stock this product is great news to the growers supporting our business. The Tri-Solfen is an anaesthetic and also an antiseptic solution for pain relief in lambs post mulesing. It provides fast and long lasting pain relief, reduces bleeding and promotes wound healing by reducing risks of bacterial infections.



Other key fencing partners include **Onesteel, Waratah and Cyclone**, all of which supply quality fencing materials nationally. We are proud to support these Australian based businesses. Periodically, these suppliers run various 'cash back' promotions for the end users aiming to maximise savings. Phone your nearest Branch to get all the details to save money on your fencing requirements.

Finally, with some rain starting to regularly fall, it may be time to consider purchasing a rainwater tank. **Clark Tanks** from Echuca, have recently come on board with Western AG. They supply quality tanks at great prices, with a 25 year warranty on a majority of products. Currently, buy a 5000Gal water tank and you can choose either a RM Williams voucher (value \$250) or a Claytech water pump (RRP \$355). Many customers have already ordered from this promotion, so contact one of our Branch locations but only **while stocks last**.