



Phil Hawker
0427 367542



Gerard O'Brien
0419 801485



Ashley Perkins
0458 822066



James Jess
0419 801650



Michaela Alexander
0428 976555



Matthew Barber
0488 298170



Trudy McCann
AgInvest
0438 725008



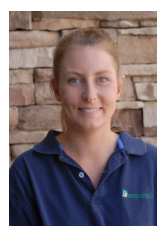
Matt Witney
0488 298621



Tim Hofmaier
0488 298222



Edwina Simpson
0439 622867



Annabelle Jacka
0409 741427



Nick Zordan
0427 823062



Braydn Robertson
0438 976557

AG NOTE

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westernAG
The Best in Agronomic Advice

DERRINALLUM (Head Office)

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

HORSHAM

P (03) 5382 2488 F (03) 5382 3288

BANNOCKBURN

P (03) 5281 2840 F (03) 5281 2894

NHILL

P (03) 5391 3386 F (03) 5391 3584

KANIVA

P (03) 5392 2911 F (03) 5392 2380

Introduction

From all of us at Western AG welcome to the first edition of our newsletter for this year. Hopefully, you have been able to have a break from work over summer and a chance to recharge the batteries for the season ahead.

Most areas in South West Victoria, the Wimmera and Mallee have received around 50mm of rainfall year to date, this rainfall has been associated with storms and therefore quite variable with some farms receiving in excess of 125mm. Germinations in cropping paddocks have become noticeable and it is important that weeds are not allowed to grow and use valuable moisture and nutrients and potentially block seeding equipment. Best results for summer spraying are usually achieved 2-3 weeks after rain while weeds are small in size and not stressed.

Rainfall prediction at this time of the year is low in reliability; however forecast models are predicting we will have above average rainfall for both the February to April period as well as winter in Victoria.

The latest Bureau Of Meteorology (BOM) prediction is actually for 65-75% chance of above average rainfall for the February to April period! The main drivers of this are a weakening El Nino and a warm Indian Ocean. Interestingly, there has been significant inland rainfall in with Lake Eyre having the largest inflows since 2011, anecdotally this linked to favourable rainfall for us.

In this edition, we have articles on seed quality, crop variety selection, pasture management, fertiliser decision making and livestock Management. We hope you find the information timely and useful and wish you all the best for the 2016 season.

As always, please talk to our Agronomists, Animal Health & General Merchandise Specialists and/or Branch Managers for any further details.



**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.

Business Update

In recent months, we have made a number of significant investments including a new office building for our Kaniva location and the addition of an outside storage area at Willaura. We are pleased to announce our Kaniva location now has internal pallet racking storage, a farm merchandise display and a fully furnished office. These developments have been slower than hoped due to planning requirements, but will ultimately enable us to continue to lift the level of service for clients.

Fertiliser and chemical pricing is relatively stable at the moment and has provided limited incentive for early purchases this year. This has meant that we are behind in our delivery schedule compared to an average year. There are significant gains to be made in sowing crops and pastures early with programs starting as early as the first week of April. This leaves just eight weeks to complete farm plans and to organise inputs, time is quickly running out.

Fertiliser Decisions after a Dry Year (by Matt Witney)

There are many factors that may influence fertiliser decisions for season 2016.

Following a very dry 2015, we need to consider cash flow and take into account nutrient removal by crops or hay, as well as fertilizer applied, to see if there is a surplus or deficit for this coming year's crop. Only then can we make an informed decision about fertiliser rates moving forward.

The following is an example of a budget looking at Phosphorus (P) removal vs. Phosphorus applied in the 2015 season. MESZ (12:18:0:10 1%Zn) @ 80kg/ha, applied at sowing = 14.4 Units of P/ha. If we compare two examples, wheat yields of 2t/ha and 4t/ha harvested. At 2t/ha = 6 to 8 units of P removed and at 4t/ha = 12 to 16 units of P removed. Therefore, 14.4 less 6 = 8.4 units of P left over, or at 4t/ha = 2.4 units surplus (working on lower amount used by crop). However, this is a very simple calculation which doesn't take into account tie up or losses of P in the system which are, in most cases, hard to assess. Therefore, it should only be used as a guide to understand how much of the applied P from last year could be potentially available to this year's crop. In this example, it would be suggested that fertiliser rate reduction may be an option to utilise the remaining P in the soil.

Remember, it's absolutely critical to never be deficient in Phosphorus.

Soil testing is the best way to get an accurate measure on how a paddock is performing. It allows you to get a measure on the soil pH, magnesium and sodium levels which help make decisions around soil structure through the application of Lime, Dolomite and Gypsum. While Gypsum can be used to help ameliorate the soil, it can also supply adequate sulphur to sustain the crop throughout the season.

Liming is especially important as neutralizing soil pH has a huge influence on plant nutrient availability and uptake. A standard 0-10cm soil test can measure all the macro nutrients including N:P:K:S and be used to estimate the potential yield, taking into account the average Growing

Season Rainfall (GSR) and mineralised nitrogen. These tests also include micro nutrients including Zinc (Zn), Copper (Cu), Manganese (Mn) and Boron (B) which are equally important and must not be forgotten.

"...Remember, it's absolutely critical to never be deficient in Phosphorus."

If protein has been high in cereals, or canola oil has been low, there is a good chance that there is already a nitrogen (N) surplus ready to help kick this year's crop along. This is only assuming summer weeds are controlled. Deep N soil testing is the only true way to get an accurate measure of what N is available.

Custom blends of Sulphate of Ammonia (SOA) for N and S, or a muriate Sulphate of Potash (SOP) blend for Potassium (K), also Zn and Cu with standard P fertilisers are all options to address deficiencies indicted on a soil test and can be tailored to a client's preference and budget. Consideration must also be given to premium, high analysis fertilisers such as MESZ (12:18:0:10 +1%Zn), which have an even distribution of nutrients (N, P, S and Zn), throughout every granule and are known as a compound product.

When looking at the ideal time to apply nutrients, it is best to understand crop requirements at various stages. Growing cereal hay, for example, will typically mean an early application of N which will in turn stimulate high tiller numbers, and a larger leaf area, whilst also improving potential hay yield.

Research has shown that adequate nutrition is required to set up a sound foundation for yield, combined with split applications of granular and/or foliar applied nutrients throughout the season may be the best way to feed a crop destined for grain production.

Continually assessing and updating crop yield potential, using soil and SAP tests, along with GSR and water use efficiency models, will ensure that you are well informed throughout the entire season. Closely monitoring the season allows you to implement a strategy that uses inputs to manipulate the canopy to maximise growth potential during the entire year.

Later in-crop tissue/SAP testing can be used to assess the crop's needs which goes hand in hand with understanding the visual symptoms of common deficiencies in N, P, Magnesium (Mg), Calcium (Ca) and S. Deficiencies amongst the micro nutrients Zn, Cu, B, Moly (Mo) and Mn are also very common, although, a lot of the time only detectable through tissue testing. We can foliar spray these nutrients in-crop, depending on what the plant needs are without relying on rainfall to wash it in.

It is important to talk to your agronomist during planning to custom suit your fertiliser needs. Soil tests are more crucial than ever to make informed and accurate decisions regarding a fertiliser strategy for this year. Remember, Western AG can organise collection of soil tests and also, now through the addition of a mobile sampler, also perform Deep N tests in the Winter periods.



Deep N Soil Sampling Machine

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.

The Importance of Seed Quality (by Nick Zordan)

As the saying goes, from small things, big things grow. However, we must sow the best quality seed to grow big things in 2016. Retaining seed is something we do every year, although thinking about seed quality in terms of germination percentage, seeding rates, contamination, grading, residue and desired plants per square metre is a means to ensure that the 2016 crop gets off on the right foot.

Target your plant density:

Having the correct plant population is critical to the success of the crop. Sowing seed with low germ and vigour can be made worse by Pre-em herbicides and seed dressings that place added establishment stress on the plant. A germ test can help growers assess the viability and vigour of seed whilst also helping to work out the appropriate seeding rate. It's also important to do a "1000 grain weight" test, especially after a difficult season, as grain retained may be small with a risk of sowing too heavy. Generally, for optimum weights we require between 38 to 45 grams per 1000 seeds, so get counting!

Ideal target plant densities vary between rainfall zone and crop type. For example, wheat planted into a HRZ (450-550mm) should be targeting 190-220 plants/m² to achieve desired yield potential. In a low to medium rainfall zone (250-350mm), this would be more like 150-160 plants/m². Factors such as rainfall, variety, soil type and target yield can vary this dramatically. With all the data, we can create an accurate seeding rate for this upcoming season.

The formulae for calculating sowing rate (kg/ha) is:

$$\frac{\text{Target plants/m}^2 \times \text{Seed Wt (gms/1000 seeds)}}{\text{Expected germination \%}}$$

(*We can assume a germination % of 85% if the germination % data is not available).

Seed testing is imperative and analyses the germination percentage, seed vigour and the seed weight which can then be used to determine optimal sowing rates. Germ tests can be done at home on cotton wool, however, the most accurate way is to use a commercial testing service. These services are quick and relatively inexpensive.

Speak to your agronomist for more information on target plant densities, germination percentage and seed quality tips for season 2016.

Key seed quality reminders for Cereals and Pulses:

- Select seed from 'healthy' high performing areas. SARDI research leader Dr Nigel Wilhelm has found larger seeds with high nutrient content supported better growth in young seedlings.
- Grading for seed size in Faba beans is particularly important. Sowing small seed can promote genetic drift resulting in smaller grain size at harvest. When harvesting pulses for seed, it should be done early in the program as germ rates are improved if grain is harvested at 12% to 14% on the "dry down" before storing in aerated silos.
- Avoid paddocks with known issues such as radish or ryegrass, as well as areas with known herbicide resistance.
- A wet harvest can have a large effect on seed quality and the suitability for retaining seed. Any weather damaged grain should **NOT** be retained for seed as it is more susceptible to poor germ rates, lower vigour and degradation during storage and handling.
- It's also important to remember that in any given year grain size can vary depending on the seasonal conditions. Grain weight is an important and simple measure to ensure you get the planting density that you're after.
- When storing retained seed, growers need to remember that they are storing living organisms that release moisture. Therefore, it is vital to control temp, moisture & pests to preserve the quality.
- When selecting grain for seed, consider the disease levels, nutrition and general health of the parent plants as healthy plants produce healthy grain.
- Retaining seed from crops which have been spray-topped with glyphosate will affect the germination and vigour and is unacceptable for use at seeding.

Open Pollinated (OP) Canola

Farmer retained canola vs. certified canola has been a big issue for some time now. The advice to use only certified seed has been well adopted and resulted in 85-90% of growers using fresh seed. However, some farmers are still using retained seed in order to reduce costs. This can be extremely tempting in tough years and, whilst savings can be 5% of the overall variable input costs, there are risks associated with the retention of OP canola.

Fresh certified seed offers guarantees on purity, germ percentage, minimum weed contamination levels and quality seed treatment.

Growers need to be aware that in ideal conditions, canola plants can cross-pollinate at flowering. Once outcrossing occurs the original qualities can tend to deteriorate and regress to more undesirable characteristics. Outcrossing can occur at a rate of 30%, changing the characteristics from one generation to another known as 'genetic drift' (BCG,2013). Therefore, it is important to maintain a level of fresh seed coming through the system each year if you are considering retaining canola seed for the following season. Select your best paddock, ensuring that the seed is not weather damaged and is of good seed size. Keep the paddock weed free and ensure that harvest and storage equipment is clean. Make sure moisture content is low and storage is dry and cool. It is especially important to test for germination and vigour, and always treat seed.

Hybrid Canola

Hybrid canola seed should **NOT** be retained under any circumstances. This includes the newer TT hybrid canola now entering the marketplace. Unlike OP canola, hybrids rely on the cross pollination of two distinctively different parent lines, both male and female to achieve F1 seed. This process allows for improvements in traits such as increased vigour, disease resistance, herbicide tolerance, lodging resistance and oil content. If hybrid canola is retained for seed, the crop grown from that second generation (F2) will be inconsistent with these known traits resulting in a large loss of herbicide tolerance, plant uniformity, black leg resistance, yield and oil. Therefore, the level of variability in a F2 generation will be representative of how different the parent lines were originally. In addition, one in four F2 canola plants will be male sterile which will require ideal conditions during the flowering stage for cross-pollination or yields will be further reduced. (GRDC,2010).



Are Faba Beans here to stay, South of the Divide? (by Michaela Alexander)

Although there has always been a small percentage of loyal Faba bean growers in the south west, recent gain in popularity has meant uptake on farm has rapidly increased due to high market prices and increased overseas demand. Despite lower yields over the past two years, mainly due to two consecutive dry springs, there is no doubt that Faba beans are here to stay in our farming rotations.

Pulse breeders and marketers have indicated a huge potential for growth in the commodity with investment in new varieties, localised delivery sites, trial work and government funded projects as well as providing up to date agronomic and marketing information. New varieties are continually being released and bred specifically for the high rainfall regions of the south west of the state which is excellent news for Western District growers.

On a global scale, Australia is at the tail end of the world harvest with the likes of Canada and Europe harvesting their crop and marketing it well before us.

However, our beans are still highly sought after in the Middle East for human consumption due to product colour and size.

Marketing aside, the agronomic benefits of Faba beans include:

- Nitrogen fixation; keeping in mind the amount of nitrogen fixed in the soil for the following crop will depend on the Faba bean crop yield and biomass
- Root and foliar disease break; Faba beans do not host the same diseases as cereal and grass crops. Grass weeds will need to be adequately controlled in crop for the full benefit
- Ryegrass control; use of Pre-em, in-crop and crop-topping strategies can be implemented
- Excellent grazing on stubbles over summer for sheep

2016 is the International Year of the Pulse. Its' focus is based on enhancing the global profile of the pulse industry and recognising the significant role it plays in terms of nutrition, sustainable food production and crop rotations.

The ability to 'grow your own nitrogen' has a high level of appeal as the cost of granular applied nitrogen becomes increasingly more expensive.

There is no doubt that Faba beans are a more intensive crop with a strict management regime required to attain a high yielding and superior quality product. Therefore, growers need to be committed to following application recommendations in a timely manner. Speak with your agronomist for more information regarding varieties and suitability for your farm.



Faba Bean Crop

Keep the Water Flowing (by Aaron Starick)

As the dry weather continues, water seems to be an ongoing issue for most farmers in Western Victoria. Although some places had some nice rains during January, there is still the problem of dams drying up.



Polymaster have a wide range of tanks, troughs, and other poly products. They are well known for being of high quality at very competitive prices. Each month, Polymaster run specials on various different products, with tanks being a major feature in these specials.



Rhino Tanks are a major producer of Galvanised and colour bond tanks. With sizes ranging from 26,000 litres to 261,000 litres. These tanks come fully installed on your property and are a very affordable option for water storage on your sheds.



When looking for permanent troughs in your paddock, concrete is the way to go. Tumby troughs produce high quality coffin style troughs with a removable concrete lid to protect your float valves. These troughs vary in size and length from a dog trough to a 5ft, 8ft, 12ft or 14ft. They also provide fire proof copper risers and stainless steel float valves for added protection.



DM Plastics supply us with a Premium grade rural poly pipe. This pipe comes in many different sizes ranging from 20mm up to 125mm. Goldline metric pipe is also available in different sizes. DM Plastics also produce Windmill column Pipes and threaded poly risers as well as fencing droppers.



Aussie Pumps supply a huge range of pumps from fire fighting to water transfer, chemical pumps, submersibles and also pressure washers. All these products are backed with warranties and genuine Honda, Yanmar and Kubota motors.



Formerly known as Rapidspray, TTI produce quality water and diesel cartage tanks. These tanks are made in different shapes and sizes to suit all applications. Capacity can vary from 100lt all the way up to 25000lt. TTI also make spray tanks and complete fire fighting units.

These are just some of the companies that Western Ag deal with, so If you are looking at water storage or anything to do with moving water around your property, please give your nearest Western Ag store a call, and keep up to date with all the monthly specials.

Canola Varieties for the High Rainfall Zone (HRZ) (by Ashley Perkins)

When selecting a suitable canola variety for your farm it is important that crop maturity, herbicide tolerance, weed spectrum, seedling vigour and also Blackleg resistance be taken into account. These five factors are what distinguishes one canola variety from the other and helps determine which is best for you. There has also recently been a number of specialty canola varieties released which have been grown in our region with increasing success. Monola (marketed by Nuseed) and the Victory lines (marketed by Cargill) have different oil profiles which are more suitable to the food industry and are therefore marketed in closed loop systems that attract premium pricing. Therefore, it's worth mentioning below a few varieties from the 5 herbicide tolerance traits, including the specialty lines, which have performed well in the HRZ over the past few seasons.

Conventional (Con) Varieties

AV Garnet (Nuseed) A variety that has been around for a few years now and has performed extremely well in the western district. A mid-maturity open pollinated (OP) canola suited to a late April / early May sowing with outstanding oil. Be aware that this has been a very popular variety for many years now and is now experiencing high levels of Blackleg pressure most years. Blackleg resistance Group A.

HYOLA 50 (Pacific Seeds)-Mid Early to mid-maturing hybrid which has been the benchmark in conventional varieties for many years now. This variety is suited for sowing early May and provides excellent seedling vigour. Blackleg resistance Group AD.

Nuseed Diamond (Nuseed) An early maturing hybrid which has been topping the Conventional NVT trials. This variety will be suited to a later sowing as it is an early to mid-maturing variety with good seedling vigour. An excellent alternative for growers who have been growing Garnet. Blackleg resistance Group ABF.

Victory V3002 (Cargill) A mid-maturing conventional speciality hybrid variety for sowing late April or early May. This variety can stack up nicely with good oil % results. Marketed by AWB under contract with premium pricing (high oleic, low linolenic oil). Contact your Western Ag agronomist regarding the premium pricing and conditions including delivery points for 2016/17. Blackleg resistance Group ABF.

Triazine Tolerant (TT) Varieties

ATR Stingray (Nuseed) An early maturing OP variety suited to later sowing and or re-sowing. This is by no means a showy crop. It won't grow very tall and doesn't look very pretty but, under good conditions, this variety will surprise you. It can yield exceptionally well given the right environment with reasonable oil % results. Blackleg resistance Group C.

HYOLA 650 (Pacific Seeds) This is one of the highest yield potential varieties for the HRZ and is suited for early sowing in mid April. HYOLA 650 is a Hybrid canola providing excellent early vigour suited to high to very high rainfall zones. Blackleg resistance Group ABE.

ATR Wahoo (Nuseed) This is a mid-maturing OP variety suited to an early May sowing. Over the past few seasons Wahoo has yielded very well south of the divide and it's expected to have a large % share of TT hectares in 2016. Blackleg resistance Group A.

ATR Mako (Nuseed) An early to mid-maturing open pollinated variety which will be suited to areas where Crusher TT and Gem has been sown in the past. It has good early seedling vigour. Blackleg resistance Group A.

Monola 515 (Nuseed) Monola 515 is a mid to late maturing OP variety that is adaptable for medium to high rainfall zones. It has a great oil profile which attracted a premium payment of \$95 per tonne in 2015. It can be sown where Gem has been sown in the past. Blackleg resistance group is unclear at this stage and further testing is required.

Clearfield (CL) Varieties

45Y88 (Pioneer) Has been one of the most popular varieties sown in the HRZ in previous seasons. A mid-maturing hybrid variety with high oil potential which has performed very well over the past season. If a Clearfield variety suits your program, this variety should be on top of the list with exceptional seedling vigour and excellent yield results. Blackleg Resistance Group A.

HYOLA 577 (Pacific Seeds) A High yielding mid-maturing hybrid variety adapted for the HRZ with a medium-tall height. The HYOLA 577 shows good seedling hybrid vigour and is ideally suited to sowing late April / early May. Blackleg resistance Group is unclear at this point. Further testing is required.

Roundup Ready (RR) Varieties

45Y25 (DuPont Pioneer) A mid maturing Hybrid which is reasonably short in height suited to the HRZ. This variety is best sown late April to early May and is one of the highest yielding hybrid RR varieties in the last few seasons throughout the HRZ. Blackleg resistance Group BC.

GT 50 (Nuseed) A Mid maturing hybrid which has performed very well since its release in 2012. High yielding with good oil and excellent early seedling vigour suited to sowing late April to early May. Blackleg resistance Group ABF.

HYOLA 600 (Pacific Seeds) Mid to late maturing hybrid suited to sowing mid April to very early May. It is a medium tall with excellent hybrid seedling vigour and very high oil suited to high to very the HRZ. Blackleg resistance Group ABD.

Dual Herbicide Tolerant (RT) Varieties

HYOLA 725 RT (Pacific Seeds) Mid to late maturity glyphosate and Triazine tolerant hybrid variety, best sown from mid-April onwards. It has excellent oil % and is suited to high to very high rainfall zones. Although the RR hybrids are among the highest yielding varieties on the market, expect some reduction in yield and vigour due to it also having the Triazine tolerance gene.



The canola varieties listed are only a select few of which have been grown successfully and performed well in the Western District over past seasons. There are many more to choose from so consult your Western Ag agronomist to determine exactly which variety suits your situation. This will also give you a chance to talk about Blackleg and the importance of rotating your resistance groups lessening the effect of Blackleg infection. Also, with reduced pricing of Flutriafol products (Intake / Impact), it would be wise to discuss this as an option to be applied to your fertiliser at sowing for upfront control in-furrow.

Cereal Varieties for the Western District in 2016 (by Matt Barber)

Following a challenging 2015 season, assessing and/or choosing a new cereal variety can be difficult. There are a large selection of different cereal varieties on the market so below is a brief summary of some of the performers last season as well as the new up and coming varieties which are no doubt going to be popular in 2016.

WHEAT VARIETIES:

Revenue - Revenue is a high yielding, late maturing winter wheat suited to early sowing. Good early seedling vigour combined with excellent growth rates means there's a grazing option up until stem elongation (GS30). Revenue has excellent stand ability and head retention and has performed remarkably well since its release. This variety is suited to the HRZ's (500mm+) where its' potential can be seen.

Disease Resistance:

Stem Rust: RMR, Stripe Rust: R, Leaf Rust: Sp, Septoria: MS, Yellow Leaf Spot: MS.

SF Adagio - This variety in 2015 showed excellent potential, considering the amount of rainfall throughout the year, and looked to have a yield potential higher than that of Revenue in certain areas. It is an awned red winter wheat, with high grain yield potential and maturity that is placed between Revenue and Beaufort. It has good BYDV resistance and excellent Leaf and Stripe Rust resistance although Stem Rust will need to be monitored and managed throughout the year. This variety is one of the new releases that should be considered in HRZ's, especially if you are looking for an alternative to Revenue.

Disease Resistance:

Stripe Rust: RMR, Stem Rust: SVS, Leaf Rust: MSp, Septoria Tritici: MR, Crown Rot: SVS

Beaufort is a mid-season feed wheat, which is suited to medium - high rainfall areas (400mm to 500mm+). Unlike Revenue and Adagio, this variety does NOT require vernalisation therefore sowing time is more suited to the last week of April - 1st week of May ideally. It has a good level of resistance to both Leaf and Stripe Rust, however Stem Rust will need to be controlled when the right conditions favour the disease. Septoria is especially severe in this variety and growers will need to be proactive in their

approach to fungicides understanding that prevention is better than cure.

Beaufort is a semi dwarf with good straw strength preventing lodging, although shattering can be an issue if crops are left standing for long periods post ripening.

Disease Resistance:

Stripe Rust: MR-R, Leaf Rust: MSp, Stem Rust: SVS, Septoria Tritici: S, Yellow Leaf Spot: MR-MS, Flag Smut: RMR, Crown Rot: S.

Trojan - This variety has been a huge standout across the western district this year with its final yield surprising many. Considering the amount of rain in 2015 it shows enormous promise in the years to come. It is a mid to long season variety with similar maturity to Derrimut, suited to medium to high rainfall areas. It has good yield potential and should be considered for 2016.

Disease Resistance:

Stem Rust: MR-S, Stripe Rust: MR, Leaf Rust: MR-MS, CCN: MS, Yellow Leaf Spot: MS-S.

Kiora - Kiora is an AH quality (HRZ) mid to late season wheat with high yield potential suited to high rainfall areas. Its maturity is classed as a mid to late reaching head emergence 1 to 2 days earlier than Bolac and 1 day later than EGA Gregory. It has good straw strength with a medium height, similar to Bolac. This variety is a good alternative to Bolac with excellent yields and quality recorded in 2015 where isolated rainfall was achieved in spring.

Disease Resistance:

Stem Rust: R-MR, Stripe Rust: R-MR, Leaf Rust: MR-MS, CCN: MS, Yellow Leaf Spot: MS-S.

BARLEY VARIETIES:

Westminster is one of the "preferred" Malt Barley varieties available for the Western District. It's a mid to late maturity with medium to tall height boasting an excellent disease package when compared to Gairdner. This variety is 2 to 3 days later in maturity than Gairdner, with good grain quality and consistently high test weights and grain retention. There have been some concerns regarding head retention late in the season with a number of paddocks showing high head loss at harvest. This highlights the importance of getting barley harvested as soon as it's ripe to avoid any excessive damage due to

windy conditions similar to what we experienced in 2015.

Disease Resistance:

Leaf Scald: R, Spot Form Net Blotch: S, Net Form Net Blotch: MSS, Powdery Mildew: R, Leaf Rust: MR-MS, BYDV: MR-MS.

Rosalind barley is mid-maturity, semi dwarf barley which is classed as feed. It has an erect growth habit and maturity which is later than LaTrobe and earlier than Buloke. This barley variety is exceptionally high yielding, possessing excellent physical grain qualities, good grain size and test weight, with seed plumpness similar to LaTrobe.

MILLING OAT VARIETIES:

Bannister - Bannister is a dwarf milling oat which is suited to the Western District and Southern Wimmera and is widely adaptable. It is approximately 13cm taller than Mitika oats and flowers 3 to 4 days later. Millers are showing a preference towards bannister due to its high quality and reliability. With prices at excellent levels, it's worth considering Bannister as an alternative to older varieties such as Echidna and Mitika.

Williams oats are a medium to tall milling oat suited to the medium to high rainfall zones. They are a high yielding variety, very similar to Bannister oats, although with slightly inferior grain quality, which can produce high screenings when grown in low rainfall areas. This variety does have the potential for a dual purpose crop with grain production and hay production both viable options. Grown under the right conditions in the HRZ, this is a very impressive variety producing a lot of bulk, although thicker stems mean it would need to be cut with a mower conditioner in order to cure the hay effectively.

Disease Resistance:

Stem Rust: S, CCN: S, Septoria: MR-MS

Remember to talk to your Agronomist if you require any further information on these varieties or any other varieties on the market.

Cereal Options for the Wimmera/Mallee in 2016 (by Edwina Simpson)

With harvest finished and farm planning underway, now is the time to consider variety selection for the coming season.

Every year we see new varieties entering the market and so it is wise to gather as much information as possible before making any decisions. Information from the National Variety Trials (NVT) can be a useful tool, however it is important to remember to view long term data as well as the current year and consider factors such as sowing dates, annual and growing season rainfall, disease and weed pressure, management practises and timing of frost events when selecting a new variety. Useful information about the grain quality can be found on the NVT website www.nvtonline.com.au in addition to yield comparisons.

WHEAT VARIETIES:

There are a several new varieties that will be available for the 2016 growing season. These include milling wheats Sceptor (AH) and Beckom (AH), both of which have been performing well in local trials.

Sceptor (AGT), is a successor to Mace, sharing characteristics that are very similar with added benefits of improved Leaf Rust and Stripe Rust resistance, and a slightly later maturity. Sceptor also boasts a higher yield and better quality grain than Mace, as well as being a stand out variety in the local NVT trials in 2015 out-yielding all other varieties at

Kaniva and Minyip, whilst being the 2nd highest yielding variety in the Horsham Trial.

Beckom, also from AGT, is a mid-season AH wheat that offers a level of boron and aluminium tolerance. In addition, a good disease package, including excellent CCN resistance and good Stem and Stripe Rust resistance, means that Beckom is proving to be an excellent planting option for a high yielding main season wheat in the northern areas of Victoria. There is some flexibility in growing season, with AGT claiming that growers should be confident sowing Beckom from the beginning of May right through to the end. Beckom has also been doing well in local NVT trials, especially in Kaniva and Horsham.



BARLEY VARIETIES:

Recent years have seen a noticeable swing towards new barley varieties like Compass (Seednet) and also LaTrobe (InterGrain) which seem to be performing well, even in the tough conditions of the last two seasons. With LaTrobe currently having malt accreditation and Compass

undergoing accreditation, Growers now have more options when chasing a higher yielding barley variety with the option of malt premiums where the segregations exist. However, Rosalind barley (InterGrain) is a high yielding semi-dwarf feed variety that has a mid-maturity, slightly later than LaTrobe. It has a good disease package with resistance to CCN, good resistance to Leaf Rust and Net Form of Net Blotch. Rosalind is a broadly adapted variety across all rainfall zone types and recommends May sowing for the best results in a low and medium rainfall environment. This is a variety which has performed well across local NVT sites and with the gap between malt and feed prices at the silo ever so slight may fit as a replacement to older varieties.

Whilst NVT data is an excellent starting point when researching new varieties, it's also wise to be cautious when interpreting the results. An excellent example comes from the 2015 trials where varieties that haven't performed well in long-term trials have been amongst the highest yielding. In almost every case, this is due to seasonal conditions favouring that variety. So use the data available to maintain a level of awareness of past performances of the variety to ensure you are well informed.

Summer Feed Mineral Supplements for Livestock (by Jackie Elliott)

Even with recent large rains, the Western District is still facing the challenge of minimal dry feed availability to carry stock through the Summer/Autumn. The main limitation of feed quality over this period is minimal protein made available in dry feed. Without protein, microbes become less populated in the rumen and are unable to function correctly to break down dry feed. Feeding the microbes correctly assists in livestock performance and utilises available feed. Basically, Less microbes = Less digestion = Less weight gains. It is crucial to understand the body condition score of your ewes, to assist in making decisions regarding feed supplementation requirements.

With some producers lambing down ewes in late Summer, early Autumn, ensuring ewes have adequate condition will reduce ewe mortality, affect the size

and strength of the lambs, impacting ewe survival; especially for multiple bearing pregnancies. A balanced diet of macro and micro minerals will improve the health of foetus and benefit the lambing process. Administering an annual booster vaccine to ewes leading up to lambing for prevention against Clostridial diseases is also very important.

When providing any supplements to livestock, it is important to find what suits your production stage. Selecting a suitable nutrient for the animal at the right time of the year will ensure you target key requirements in a palatable formula. These are important for lamb survival against disease, infection and development and will increase weaning percentages and daily weight gains, resulting in more profit from production.

The lamb requires trace minerals like Zinc, Manganese, Selenium, Cobalt (B12), Iodine and Copper for cartilage and bone development, cell division and appetite.

Producers that have minimal dry feed available and are planning to supplement livestock with grain, would also find it beneficial to use grain additives for mineral supplementation.

Western Ag stock a range of products including vitamin and mineral blocks from Farm Balance and WeatherPro loose lick from Performance Feeds. For assistance choosing supplements, pricing and availability, speak to the Animal Health and General merchandise team at your local store.

Pulse Varieties for the Wimmera/Mallee in 2016 (by Annabelle Jacka)

Pulses are an important inclusion for every rotation as they are a great break crop from cereals to decrease pathogen numbers, they give the opportunity to fix free organic nitrogen from the atmosphere back into our soils and they provide an opportunity for efficient weed management through unique chemical rotations resulting in excellent weed control.

Lupins grow well in a light sandy to medium soil type which is typically low in fertility where other crops tend to struggle. Showing a level of tolerance to acidic soils, lupins have an ideal pH range between 4.5-7CaCl meaning it can be very adaptable to the poorer areas of the farm. They have a low water-logging tolerance so are best suited to a low to medium rainfall area on soils which are free draining. Their low levels of starch and high levels of carbohydrates make them a highly desirable ruminant feed due to a low risk of acidosis. Lupins store well, are easy to handle and are readily accepted by most stock. Main diseases include Brown Spot which occurs in humid, moist conditions and requires regular monitoring. This shows the importance of fresh quality seed and good rotations where infection has been an issue in the past.



Field Peas grow best on light to medium soils preferring an acidic to neutral pH. Consider growing field peas if you are in a low to medium rainfall zone and have well structured, free draining soils as they have low water-logging tolerance. Avoid sowing in low lying paddocks as they are very sensitive to frosts. Diseases such as Sclerotinia, Botrytis Grey Mould and Black Spot should be monitored, although not prominent unless warm moist conditions prevail. Pea weevil is a prominent pest and an insecticide spray is a must at the first sign of flowers to avoid damage. When storing on farm, ensure that the grain is fumigated as the pea weevil can hatch after harvest from the seed.

Vetch can be grown on a variety of soil types from sands to clays and can be grown in low to high rainfall areas. On sandy soils, vetch can provide good ground cover and protection from erosion whilst offering versatility in grain or hay production, early grazing as green pasture or dry grazing and green manure. Vetch can occasionally get Botrytis Grey Mould in warm moist conditions and it's easily managed with fungicide. The market for vetch is widely distributed with its hay for stock feed and seed which has an appealing price.



Faba Beans thrive in clay loam soils that have a slightly acidic to slightly alkaline pH. They can be grown in a medium to high rainfall zone as they have high water logging tolerance. Once harvested, a bean stubble is great for grazing stock achieving impressive weight gains. Diseases such as Rust, Ascochyta Blight, Chocolate Spot and Cercaspora are common amongst Faba beans although with routine monitoring, can all be managed effectively with fungicide. Expect at least 1-2 fungicides per season combined with an insecticide for Heliothis when beans are podding.

Chickpeas prefer a heavier soil, so can be grown on a loam to clay, however, they do not like water-logging and are more suited to a low to medium rainfall zone in a soil with a pH above 5.5CaCl. Chickpeas are sensitive to Boron and saline soils, preferring a soil with good structure and good drainage. To avoid damage and yield penalties from Ascochyta, make variety selection a priority. Only sowing a paddock to chickpeas every 1 in 4 years will lessen the pathogen numbers, but still expect to spray fungicides at least once per season. Chickpeas secrete Malic Acid which makes them taste bitter therefore most pests find them unpalatable thus they're quite tolerant to attack from pests.

Lentils grow best on a heavy loam to clay soil type with a pH from neutral to alkaline. They're sensitive to Saline, Boron and Sodic soils so be cautious if these are characteristics of your farm. They are best suited to an area with a medium rainfall. Good soil structure is very important, so avoiding the paddocks that get waterlogged will improve yields remarkably as they are very sensitive to wet feet. The main diseases in lentils are Ascochyta Blight and Botrytis Grey Mould so monitoring and timely fungicide application are a must to ensure yield is not compromised. Expect to spray an insecticide for Etiella (Lucerne Seed Web Moth larvae) which can bore into the pods feeding on developing seed. It's also important to constantly monitor for Native Budworm from flowering through to podding as an infestation will downgrade quality. Lentils are sold mainly for export and the price over recent years makes them a very appealing pulse to grow.



Inoculating the seed is mandatory to achieve best possible nodulation, especially where the paddock has not had the specific legume in the rotation. There are dry inoculants that can be sown with the seed which eliminates the process of mixing peat inoculant and is a very effective inoculation method when sowing into dry soils.

Always consider the costs of extra machinery and/or the cost of hiring contractors before you make a decision to include a pulse in the rotation. Legumes are an essential part any rotation for weed control, disease breaks, fixing atmospheric nitrogen and feeding livestock. As expected, quality seed free of disease give plants the best chance in life along with timely applications for pest control and fungal diseases.

Seed Treatments (by Trudy McCann)

Large advancements in seed treatment technology mean a number of new options have entered the market over the last couple of years. Products now have greater spectrums for soil and foliar disease, insect control and longer activity. These advancements are making successful crop establishment more attainable and reliable due to better crop protection. Treatments play an integral role in successful crop establishment, particularly where added pressure is applied to rotations in continuous cropping scenarios. New generation seed treatment options also provide improved crop safety and minimise impacts on seedling emergence and viability.

WHAT'S HAPPENING IN CEREALS?

Systiva® – registered on barley. This is the first of the highly anticipated broad spectrum, long lasting treatments to hit the market. This product is unique in that it can move around the whole plant and redistribute as the plant grows, providing protection from a number of diseases from sowing through to flag leaf emergence (GS39). Limited volumes of Systiva are available for this season with full release scheduled for 2017. Diseases controlled at the recommended rate (150mL/100kg) include Spot Form of Net Blotch (SFNB), Net Form of Net Blotch (NFNB), Leaf Scald, Powdery Mildew, Leaf Rust and Loose Smut. It has suppression activity on Rhizoctonia.

EverGol® Prime – registered in wheat, barley & oats.

EverGol Prime contains a new active ingredient, Penflufen, and provides Rhizoctonia suppression in wheat, barley & oats when used at the highest label rate. EverGol Prime can be applied both in furrow and/or on seed. Diseases that are controlled at the recommended rate (40-80mL/100kg seed) include Bunt, Flag Smut & Loose Smut. EverGol Prime also has suppression activity on Rhizoctonia when applied at the highest label rate (40-80ml per 100kg seed, 60-120ml/ha in furrow).

Rancona® Dimension – registered in wheat, barley & oats.

The advantage of this product is that it is the only registered seed applied product with suppression activity on Crown Rot available. Major cereal yield losses are associated with a combination of disease levels and moisture stress at grain fill.

The diseases controlled at recommended rates (320mL/100kg) include Pythium Root Rot, Cover Smut (barley & oats), Loose Smut (wheat & oats), and Flag Smut (wheat) & Bunt (wheat). It also has suppression activity on Crown Rot and Rhizoctonia.

Vibrance® - registered in wheat, barley & oats.

One of the first Succinate Dehydrogenase Inhibitor (SDHI) fungicide treatments to hit the market, Vibrance has been available for a few years now. However, recent label extensions now include suppression of Rhizoctonia in barley and Fusarium in wheat. Paddock history, soil moisture, soil nutrition, planting date and disturbance at sowing all play a role in determining the extent of Rhizoctonia infection. Diseases controlled at the recommended rate (180mL/100kg) include Pythium Root Rot, Covered, Loose & Flag Smut, Net Blotch (barley seed-born) & Bunt. It also has suppression activity on Rhizoctonia in wheat, barley and oats and Fusarium in wheat when applied at the highest label rate (180-360mL/100kg).

Take-all is a soil borne disease that is not controlled by any of the above seed treatments. **Jockey® Stayer** applied at the recommended rate (450mL/100kg seed) is an effective, registered treatment option for Take-all in cereals. Fertiliser or in furrow applied fungicides add another dimension to crop protection options. These treatments include products that contain the active ingredient **Flutriafol 500g/L** (Impact, Jubilee) and more recently **Uniform®** (Azoxystrobin 322g/L + 124g/L Metalaxyl-M). Flutriafol, depending on the rate used, has activity on Stripe-rust, Septoria Tritici and Take-all in wheat, and provides good early protection from Powdery Mildew and Scald in barley. Uniform® (in furrow), depending on the rate used is registered for control of Rhizoctonia and Pythium in wheat and barley, and control of Stripe Rust and suppression of Yellow leaf spot in wheat. If using an in furrow product, a seed dressing treatment for the control of Smuts and Bunts is required.

CEREAL INSECTICIDE TREATMENT:

Seed insecticide treatments provide effective early control of insect pests when seedlings are vulnerable. They can reduce the spread of viral infections by controlling aphids and also form an

important part of an integrated pest management (IMP) strategy. The main options include:

Emerge®/Gaucha®/Senator® (600g/L Imidacloprid). For the control of red legged earth mite (RLEM), blue oat mite (BOM) and aphids (reducing spread of virus). At the registered rate these products provide up to 10 weeks control of aphids.

Hombre® Ultra (360g/L Imidacloprid + 12.5g/L Tebuconazole). This product contains an insecticide and fungicide so therefore controls aphids in addition to smuts and bunts in cereals. This is a good option when combined with one of the in furrow treatments like Flutriafol.

WHAT'S HAPPENING IN CANOLA?

In canola, crop protection options are tending to move away from the standard "Jockey + Insecticide" treatments due to the widespread use of Flutriafol in furrow treatments and much improved Blackleg resistance in new varieties.

Jockey® Stayer is still a good option in higher Blackleg risk situations that include growing susceptible varieties or shortened rotations.

Maxim® XL is a good fit for canola varieties with blackleg rating of MR-MS. It is registered for Blackleg (seedling), Pythium and Rhizoctonia. Improved seedling establishment is achieved without the risk of hypocotyl shortening.

Canola is very susceptible to insect damage at the crop establishment phase. Therefore the addition of insecticide seed treatment is critical. **Poncho® Plus** provides broad spectrum control of pests including wireworm, cutworm, aphids, Lucerne Flea, RLEM and BOM.

Cruiser® Opti is registered for early plant protection from Aphids, RLEM and Lucerne Flea.

The products listed above generally have activity on a variety of diseases and insects. Product choice and rate applied will vary depending on the perceived risk which is impacted by factors such as variety choice and paddock history. Your Agronomist will assist you with selecting the most appropriate product and application rates for your individual circumstance.

Pasture Options & Availability in 2016 (by Braydn Robertson)

With Autumn fast approaching, now is an excellent time to think about pasture options for this season, especially considering the availability of pasture seed has been somewhat effected by the dry 2015 season. **Balansa** clover production has been disastrous and stock is extremely short. Other pasture species are in good supply at present, however as always, as the season progresses popular varieties may become short in supply. It's best to speak with your Western Ag agronomist for variety options and possible replacements if desirable stocks are affected.

Adding a pasture phase in the rotation is an excellent way to create a disease break from the normal cereal canola phase whilst encouraging the fixation of nitrogen through the use of clovers. There are also some big benefits in terms of weed control, with high production Annual & Italian ryegrass' proving to out-compete the likes of Wimmera ryegrass. A hay or silage cut in the spring allows for zero seed set of our unwanted Wimmera ryegrass which can only be a good thing when aiming to put the paddock back into the cropping rotation. Below are some pasture options for growers which aim to provide an understanding of what pasture species best suits what paddock.

Perennial ryegrasses - If grown under good conditions, perennial ryegrass has the ability to produce high amounts of quality feed, hay or silage. Traditional growing season is between Autumn and Spring, however with adequate summer rainfall it can continue through summer. Mid to late heading date varieties are preferably suited to the higher rainfall areas. The key to choosing the right perennial ryegrass is understanding the effects that ryegrass staggers can have on stock. Endophytes are a naturally living organism that live in the plant and are directly related to the plants ability to survive, and persist. Alkaloids are produced and protect the plant which in turn can be toxic to animals. Therefore, 'ryegrass staggers' is very common in the highly persistent varieties such as **Victorian** which is commonly described as 'Hot' when it comes to the effects it has on livestock. For this reason, it is important to understand that there are different endophytes available which can help reduce the severity of staggers.

- **AR37** is an endophyte that currently provides the best balance of pasture production, persistence and performance with limited animal health issues. This endophyte can cause staggers although trials show that the frequency, duration and severity are markedly reduced when compared to a standard endophyte.
- **AR1** endophyte is commonly known as animal safe due to the fact it only produces the compound paramine. This endophyte is prone to insect attack with the paramine failing to protect the plant from damaging black beetle and root aphid. Remember, the standard endophyte Perennial ryegrass' are usually cheaper varieties and often very 'Hot' affecting the stock severely. Unfortunately, these varieties are naturally more persistent and getting the balance right between persistence and animal health means that a premium must be paid for better less toxic endophytes.

Italian ryegrass is a biennial short term ryegrass which generally persist for 1-2 years under good growing conditions. They typically have outstanding winter growth and are highly suited to a long season. Growers looking for the ideal hay or silage crop that will also provide excellent regrowth late into the season are advised to think about Italian ryegrass as an option. **Knight** (SPS) and **Awesome** (UMS) are both excellent varieties which would suit high rainfall areas 600mm+ or irrigation boasting very late maturity.



Annual ryegrass generally persists for one year. They are excellent at producing quick winter feed, with high quality silage and hay. Typically annual ryegrass is complemented with a Balansa clover which aims at producing high bulk quality feed which can be utilised in the paddock and is excellent quality feed in the bale. **Mach1** is a stand out annual ryegrass which is one of the latest varieties amongst the true Annuals. This is commonly 10-11 days earlier to heading than the Knight Italian ryegrass.

Phalaris is a deep rooted Perennial grass, suited to heavy soils. Phalaris is typically slow to establish and requires careful management in its early stages however, once it is established, is very persistent and able to tolerate heavy sheep grazing. **Holdfast GT** is a proven variety although be aware that there is a new Aluminium tolerant variety out which may be an option on soil types that have a very low pH.

Mediterranean Tall Fescues are suited to wet heavy soils showing incredible persistence once established. Not unlike phalaris, tall fescue is very slow to establish so care must be taken in its early stages. **Fletcha** is a summer dormant winter active variety which is suited to drier, hotter conditions compared to normal tall fescue varieties. It's an ideal alternative to phalaris with better winter activity and excellent salt tolerance.

Sub clovers are very important to the success of a mixed perennial pasture in the high rainfall zone. Their growing season is typically between Autumn and Spring and is best sown early with warmer temps and good moisture to aid germination. As a general rule, Sub Clovers should not be cut for hay in their first year as they need to set seed for future growth. **Riverina**, **Coolamon**, and **Goulburn** are all great varieties and are standards throughout the Western District.

Annual clovers are great for bulking up the legume portion of any annual pasture. They make excellent additions to grass or hay mixes and can add to feed quality. Annual clovers are also useful in cropping rotations as they provide a break crop for weed and disease control whilst offering a high value legume hay option. As mentioned previously, Balansa is a common Annual clover which is a standard when it comes to producing quality hay with rapid growth in late Spring adding bulk to the paddock once locked up.

