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# AG NOTE

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## *Introduction*

Welcome to the summer edition of our newsletter which we hope you once again find informative.

This year has been a particularly tough one due to low rainfall and, in some areas, frost as well. The Wimmera Mallee has received less than 200mm of growing season rainfall (GSR) in many areas and the Western District between around 250 to 300mm GSR. On the positive side, some of the soil water to grain conversion efficiencies have been very high due to efficient agronomic practices and grain prices are relatively strong.

Production cost management will be a focus in many plans next year and certainly unutilised fertiliser will carry over in a low production year. It is often harder to trim seed, crop protection and machinery costs.

Quality production planning allows savings to be identified and to develop strategies that maximise

profit without unacceptable impact on longer term productivity. It takes experience to do this well and being the largest and most experienced independent private agronomy team in Western Victoria we believe we can really help in this area and encourage clients to start planning early.

On the input supply side of our business we have been working closely with our suppliers to make available early pricing on fertiliser and crop protection products. In a number of cases we have been able to negotiate some excellent pricing positions and extended payment terms.

In the meantime from everyone at Western AG thank you for your support in 2014 and all the best for the 2015 season. We would also like to take this opportunity to wish you and your family a Merry Christmas and a safe and relaxing holiday time.



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## *Company Developments*

This year has been a very busy time for Western AG and we have been boosting our capacity across our entire network with both increased infrastructure and personnel.

We are very pleased to announce the employment of a number of new staff members which include an Administration officer at our Horsham branch, three Agronomists and an Animal Health and General Merchandise specialist.

These developments are a direct strategy to ensure we will continue to provide the very best services to our clients.

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## *New Staff Members Joining Western AG*

Jacky Polack has replaced Robina Flack at our Horsham branch as an Administration Officer. Robina has recently relocated to NE Victoria due to her husband being transferred with work. Jacky and her husband farm at Katyl North of Horsham and Jacky has a high level of agribusiness experience working in administration and merchandise sales positions previously with IAMA and Landmark both at Horsham and Warracknabeal. Jacky has two primary school aged sons and her interests outside of work include dressage horse competition.

Annabelle Jacka will be joining us early in the new-year as an Agronomist based in Nhill. She has recently completed an Advanced Diploma of Agriculture and Diploma of Agronomy from Longerenong Ag College. Annabelle is from a farming family at Kaniva and has extensive practical experience in cereal, pulse and canola production. Her personal interests include endurance horse riding, netball, hockey and rowing.



**Annabelle Jacka**

The second new Agronomist for the Wimmera/Mallee area is Nicholas Zordan who has also recently completed a Diploma of Agronomy from Longerenong and will be based at Horsham. Nick has held Farm Manager and Farm Hand positions in the Wimmera/Mallee since 2007 plus he has worked in the UK harvesting broadacre crops. His experience includes cereals, pulses and canola and he has worked for a number of leading farming businesses.

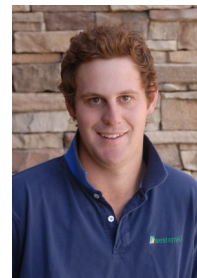


**Nick Zordan**

Nick's interests are wide and include photography (he previously worked as a photographer for the Weekly Times), travel, music and camping.

The new Agronomist for the Derrinallum and Willaura areas is Braydn Robertson. Braydn completed a Bachelor of Agriculture at Charles Sturt University in 2013 and is from a farming family at Edenhope. Braydn also has a strong practical agricultural background from working on his family's property and also with work on farms in the NSW Riverina while completing his studies.

Braydn has spent time traveling more recently and working in South America and plans to resume playing football next year.



**Braydn Robertson**

Jackie Elliot will also be joining us in an Animal Health and General Merchandise specialist role primarily working from our Willaura location. Jackie graduated from AACC Emerald Campus in 2010 with a Diploma of Agriculture specialising in Beef Production. Jackie's family operate a Beef and Prime Lamb enterprise at Byaduk, south of Hamilton. Jackie has been showing beef cattle for 15 years and is representing the Australian Beef industry on a three month study tour of North America in 2015 as the recipient of the Matthew George Young Stockman Award.

Jackie has considerable experience in animal health and will be based at Willaura providing advice with animal health and farm merchandise, plus in a general client service role in the area.

## *Willaura Update*

The area of operation of a number of our existing Agronomists has been widened to include the Willaura and surrounding areas after the resignation of Brad McLean.

Michaela Alexander is now working with clients South of Willaura, Matt Barber with clients West and North and James Jess with clients to the East. In addition to this, Braydn Robertson will also be spending part of his time in the area.

Michaela, Matt and James have a combined experience level of over 25 years as agronomists in crop and pasture production systems. All three are already providing agronomy services to leading farmers in the Western District and will certainly bring new ideas to farmers in the area.

Our plans to develop our Willaura location to include a shop front and

outside merchandise storage area are waiting final shire approvals and it is anticipated the upgraded premises will be in operation early next year.

The increased agronomy presence in the area, and the employment of Jackie to manage the new Willaura premises, will result in a significant increase in the level of service we are able to offer all our clients.

### **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.

## 2015 Wimmera/Mallee Cereal & Canola Options (by Tim Hofmaier)

The start of the 2014 season was one of the best in the last ten years but, unfortunately then fell away in late Winter and Spring. Given the low rainfall, crop yields in many cases were actually up on what was expected and the benefits of early sowing and good weed control were very apparent. Typical results have been faba beans and lentils 0.8-1.2t/ha, canola 1-1.5t/ha and wheat and barley 1-3t/ha. Thoughts have now turned to next year and below is a list of the preferred new varieties for next season.

### BARLEY

**Latrobe** (Intergrain) – 2014 was the first year of release with many clients bulking up for next year. Generally speaking Latrobe has performed very well and is stacking up compared to Hindmarsh. As a potential Hindmarsh replacement it yields well in the low to medium rainfall environments and has potential malting characteristics well suited to the export brewing industry. La Trobe is waiting for final malt accreditation which is likely in March 2015.

**Compass** (Seednet)- Has the potential to be the number one variety grown in the Wimmera/Mallee over the next five years. It has topped NVT trials in yield over the past eight years in all areas. Compass is the new standard in seed size, with lower screenings and superior grain plumpness. It has very good straw strength and is of a medium height, its improved lodging resistance makes it suited to early sowing.

Compass has the additional advantage of having a long coleoptile meaning that it can be sown deeper into moisture and is less susceptible to the effect of seed dressing. Domestic and export malt accreditation is not due until March 2016. Seed is in **short supply for next season** so please contact your Western AG agronomists to secure product.

### WHEAT

**Emu Rock** (Intergrain) – Has been in the top five varieties for yield in NVT trials in the last four years with many clients bulking up this year. It is a AH variety, has large grain size and useful yellow leaf spot resistance. It's a short season nature allows for later sowing and the increased effectiveness of knockdown herbicides.

**Corack** (AGT) – APW category and also in the top five varieties for yield in NVT trials. It has very good yellow leaf spot and CCN resistance making it a good option for wheat on wheat. Corack is susceptible to black point which may be issue in longer season areas. Not being AH classification makes it a better fit in low protein outcome situations.



Wheat Crop

### CANOLA

All TT varieties have performed well this year and, in particular, Nuseed have had several varieties that have yielded well in the conditions and are most likely to be preferred option for next season;



**ATR Stingray** (Nuseed) – Is an early maturing variety that is well suited to both low and high rainfall areas. Stingray has consistently produced good yields and oil even in under tight finish conditions. It is a good variety to grow in combination with something later maturing to manage season risk.

**ATR Bonito** (Nuseed) – Is a highly adaptable early to early mid variety that has done exceptionally well in NVT Trials. It is approximately one week earlier in flowering than ATR Gem. It is well suited to North and South Wimmera areas and has produced oils of around 44% this year. MR (provisional) rating for Blackleg.

**ATR Gem** (Nuseed) – An early to mid-season, medium plant height, very high oil content and consistent yield. Rated MR for blackleg, but increased levels has been found in some trials this year making it a potential risk for planting next season.

## 2015 Variety Best Bets for the Western District (by Michaela Alexander)

At the time of writing, the majority of canola has been harvested with yields ranging from 1.5-3.0t/ha and oils in the low to mid 40's which is quite positive considering the season. Early indications are that wheat, barley and oats will also exceed yield estimates. As with the Wimmera/Mallee, the time of sowing has been crucial in maximising yields.

Following is a list of the main variety options for next season.

### FEED WHEAT

**Beaufort** - Long season feed wheat without the cold requirement that true winter wheat varieties need to switch

from vegetative growth to reproductive growth. It's a good option in the lower rainfall areas of the Western District.

**Revenue** - Long season winter wheat suited to mid- April planting. Consistent high yield's achieved with early sowing and appropriate nutrition. Having late maturity and an inherent hardiness may have enabled it to make use of late rains this year if it has not been cut for hay.

New feed varieties include two longer season types, **Manning** which is white grained and can potentially offer a marketing advantage over red grained varieties and **Scenario** which is similar to Frelon.

### WHITE WHEAT

**Kiora**, a potential Bolac replacement is an AH variety which is slightly earlier in maturity and has improved grain size.

**Trojan** - Released in 2014 is an APW quality mid-long season variety suited to medium-high rainfall areas. Yielded 10t/ha in 2013 NVT trial sites with a 'kind spring', it will be interesting to see results this season for Trojan. A possible replacement for Derrimut.

**Phantom** - Also a possible replacement for Derrimut and of similar maturity to Trojan. It is deliverable as an AH, but is probably slightly behind Trojan in yield.



## 2015 Variety Best Bets for the Western District cont... (by Michaela Alexander)

### CANOLA

Before deciding on canola varieties for 2015, check both blackleg ratings and blackleg groups and try and avoid sowing similar rated varieties next to, or even close to, the previous year's crop. Canola is automatically at higher risk to blackleg with high rainfall and the intensity of canola being grown in the area.

#### **Roundup Ready (RR)**

**45Y25** – New in 2015 and is intended to replace 45Y22 which has performed well in the past. Farmer experience and early indications from the Hamilton NVT trial this year are very positive for this variety.

**Hyola 500** – Is a mid to early maturity and **Hyola 600** mid to late maturity both of which are well suited to the HRZ. Hyola 600 is one the first of Pacific Seeds RR 'S' Series Hybrids that are claimed to be more competitive and produce higher biomass and hence yield.

#### **Roundup Ready and Triazine Tolerant (RT) Combined**

'RT' is an exciting new herbicide technology first made available this year and with reasonable amounts of seed available for 2015. Atrazine is typically added to the second Roundup spray making it an excellent option to clean up dirtier paddocks. Varieties include **Hyola 525** which is mid to early maturing and **Hyola 725** a mid to late maturing variety. Hyola 725 is also part of the "S" series of new hybrids.

RR & RT do offer significant advantages in weed control over the TT system with increasing levels of Clethodim resistance. It is hoped additional receival points will become available with increased area planted.

#### **Triazine Tolerant (TT)**

Two new hybrid varieties will be available in good supply next season. Hyola 559, an early to mid in maturity, and Hyola 650, a mid to late maturity. Both varieties out yielded non hybrid TT's in the Hamilton NVT trial this year. The increased vigour of a hybrid offers great seedling establishment benefits.

**Wahoo** which is mid maturity has performed well compared to Thumper this year. Thumper is being discontinued and therefore no new seed is available. Bonito and Stingray have a fit if planting is delayed. Our advice is to not plant Gem due to blackleg risk.

#### **Clearfield**

Past years trial data has shown little difference in the four leading varieties, Hyola 575 is mid-season, Hyola 577 mid to late, 45Y86 mid-season and 45Y88 also mid-season, but slightly later than 45Y86. Our preference would be for Hyola 577 and/or 45Y88 planted early.

#### **Conventional**

**Garnet** – An old mid-maturing open pollinated variety that still often produces the highest yield and oil combination. Blackleg risk is there but, crops are still standing up well making this variety a relevant option for clean paddocks.

**Victory 3002** - A mid-maturing conventional hybrid with high oleic specialty oil. Victory is available from Cargill/ AWB in a "closed loop" contract. With a \$100/t bonus being paid, this now makes this an excellent alternative to Garnet.

**Diamond** – A new early-mid maturing hybrid from Nuseed expected to outperform Garnet. It has adaption to both short and long season environments.

### FABA BEANS

Most plantings in the area are either Rana (large seed sized) or Aquadulce (broad bean) which are both late maturing. Yields so far have been comparable to canola, combine this with the current high prices, rotation and stubble grazing benefits makes faba beans an attractive option.

New in 2015 is **PBA Samira** which is best suited to the lower rainfall areas of the HRZ. It is medium seed sized and has both yield and disease advantages. A longer season currently un-named variety is due to be released over the next year or two.



**Faba Bean Crop**

### LINSEED

**'Wintalin'** – Winter type linseed of European origin suitable for sowing in Autumn, like a winter wheat it has a cold requirement before it flowers. Yield estimates for crops sown this year are in the 1.2 to 1.5t/ha range with prices around the \$800/t.

### BARLEY

Barley crops have been yielding very well and due to limited area planted barley is commanding price premium prices over wheat. **Westminster**, a malting variety of mid-late maturity and **Oxford** a long season feed variety are proving hard to beat in the HRZ.

## Summer Crop Reminders (by Matt Barber)

High damaging numbers of diamond back cabbage moth (DBM) larvae have been detected in summer crops this year. Counts have been as high as 120 larvae per 10 sweeps and most crops have had populations in the 30-50 /10 sweeps range.

Many forage crops have had to be grazed early to control DBM, or paddocks have been sprayed to avoid losses. Products such as Affirm and Electra have produced

good results on DBM, which are often resistant to SP insecticides, for costings of under \$15/ha.

Stock often take time adjusting to a forage crop and can be observed to initially selectively feed on grasses. Animal adjustment can often be improved by making available roughage such as hay positioned near watering points. All the summer crops are best rotationally grazed.

On a final note, there are a number of clients who have sown winter canola this spring. Winter canola has the potential to offer grazing value over summer, the ability to plant under conditions when slug and insect pressure is lower, to avoid winter water logging and produce higher yield due to genetic advantages over spring varieties.

## *Summer Weed Control Strategies* (by Matt Witney & Gerard O'Brien)

Summer weed control is a crucial tool enabling growers to keep weed seed banks low whilst also conserving moisture and nutrients. Allowing summer weeds to grow can extract many dollars worth of valuable nutrients, especially Nitrogen and Phosphorus. These summer weeds can also leave toxic residues in the soil effecting next year's crop establishment, particularly with heliotrope and hogweed in the Wimmera/Mallee and hogweed and loosestrife in the higher rainfall zones. Summer weeds can also increase root disease for the following crop, harbour pests such as snails, slugs, mice and aphids, and also weeds such as heliotrope and lesser loosestrife can also be toxic to livestock if stubbles are grazed. If weeds are present, summer spraying can be one of the best Returns On Investment.

All the relevant spray parameters have combined effects on the success of the spray situation. Growers should address timing, weather conditions (Delta T), nozzle selection, sprayer speed, water quality, herbicides, adjuvants, surfactants, pH buffers and AMS for every spray job.

The leaf surfaces of individual weeds have a protective coating made up of fats, lipids and waxes. This layer is hydrophobic and repels water and soluble molecules such as glyphosate. To penetrate this barrier we can use glyphosate based products, with quality surfactant/adjuvant packages. AMS is also needed with summer spraying, acidifier's generally help and crop oils such as Infiltrator @ 0.5% can help with hard to kill weeds such as melons.

'Bazooka' is a high quality granulated high load 800g/kg glyphosate product containing quality AMS, acid neutralizing technology, and superior adjuvant package, all in the one easy to use 15kg bag. When factoring in the surfactant package and AMS, Bazooka is priced comparative to a shuttle price of a traditional Glyphosate 450. However, you don't have to buy a shuttle to get "shuttle pricing". No additions are required if using pipeline or rainwater, but if using hard, high pH bore water, add 0.4% AMS + 150gms / 1000Lts water of Citric Acid. The extra AMS will help deal with the calcium in bore water and the Citric Acid will help with minerals, such as sodium, which can effect glyphosate efficacy as well as help get the pH down further which is harder to do in bore water.

Options, if using a standard Glyphosate 450, include a new product called Kombo 950, an All in 1, AMS + Citric Acid + Quality (Polymer) wetting agent generally applied at 500gms/100 Lt of water. There is also VC700, Companion, Quatrabuff, organosilicone, and other oils and wetters, so contact your agronomist to ensure the right adjuvant is being used.

It is always important to check plant back restrictions and stock withholding periods when choosing knockdown spikes for glyphosate, and the following is a guide only, dependant on the size and age of weeds, seasonal conditions. And, as with adjuvants, please consult your agronomist for the best advice.

The following "Standard Mix" assumes rain water and Glyphosate 450 is used.

### **Standard Wimmera Mix**

AMS @ 4kg/1000L Water, Glyphosate 450 @ 1.5L/ha, VC700 @ 250ml/100L Water:

This mix is suitable for most grasses and self-sown cereals. However, use 2L/ha+ for Couch Grass + Spiney Burr Grass and Heliotrope (<15cm and not too stressed). For bigger Heliotrope, Quena, Cudweed, Vol Canola, Thistles, Roly Poly, Bindii, Stinkwort, Wild Radish, Turnip and Lesser Loose strife, the addition of Estericide 680 @ 500ml/ha is advisable.

For Melons, the addition of Garlon Fallowmaster @ 50-80ml/ha is advisable, however, substitute the VC700 for Infiltrator oil @ 0.5%, or use 80-120ml/ha (Garlon Fallowmaster) without the Estericide Xtra 680 and Oil. Vary rates depending on size of weeds and species of melon.



For hogweed, wild vetch/tares, medic, clover, cress and thistles, the addition of Kamba 500 @ 150-200ml/ha to the basic mix could improve the result and for Bindii, Capeweed, Erodium, Shepherds Purse, Milk Thistle, Volunteer Canola, Radish, Hogweed and Marshmallow, consider adding Valor @ 30g/ha + Hasten Oil @ 0.5% to the basic glyphosate mix.

As an alternative spike for Marshmallow control, the addition of Oxyfluorfen 240 (Goal or Striker), Flagship (Starane) or Ecopar can be used with good success. If skeleton weed is a problem, a better option is Amicide Advance 700 @ 1.25 to 1.5L/ha.

### **Standard HRZ Mix**

Generally, in the HRZ, the weed spectrum is a little less complicated than the Wimmera/Mallee. Weeds typically include volunteer canola and cereals, thistles (predominantly scotch and milk), prickly lettuce or whip thistle, wild radish, hogweed and lesser loosestrife.



**Wild Radish**

Granular glyphosate may be used but typically Roundup DST @ 1.5-1.7lt/ha with perhaps the addition of 350 to 500mls/ha Estericide Xtra 680 or Associate (Metsulfuron) depending on plant back restrictions for intended 2015 crop. As for the 'Wimmera Mix' the addition of 1% AMS + VC700 @ 0.25% or BS1000 @ 0.2% would be advisable. This would cover off on all the above weeds and, if marshmallow were an issue, similar spikes to the glyphosate would exist as listed for the Wimmera.

It is important to note that there is an occasional growing population of fleabane now appearing and this really requires the double knock approach as it is difficult to kill with glyphosate. Typically 1.5-2.0lt/ha DST + Amicide Advance 700 @ 800mls/ha + VC700 @ 0.5% + AMS 1%, followed by Nuquat or Gramoxone at 1.5lt/ha, 10 to 14 days later.

Once again, always consult with your agronomist regarding knockdown rates and spike choice as weed size & age and environmental conditions will influence the chemical decision and corresponding rates.

## *Seed Quality Reminders* (by Trudy McCann & James Jess)

### CANOLA

#### **Open pollinated (OP)**

Retaining Triazine tolerant (TT) canola seed is once again this year a topic of conversation amongst growers.

Typically our TT varieties are open pollinated with greater adaptability to retaining seed for the following season. Whilst savings can be 5% of the overall variable input costs, there are risks associated with the retention of open pollinated canola. Fresh seed offers a guarantee on purity, germination percentage, weed contamination and quality seed treatment.

Growers need to be aware that canola plants have the ability to cross-pollinate in ideal conditions at flowering. Once outcrossing occurs the original qualities can tend to deteriorate and regress to more undesirable characteristics. The outcrossing can occur at a rate of 30%, changing the characteristics from one generation to another known as 'genetic drift' (2013 Birchip Cropping Group trials). Therefore, it is important to maintain a level of fresh seed coming through the system if you're 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.

It is strongly advised that growers do not use pre windrow glyphosate treated paddocks to retain seed for the following year as germination percentage and vigour may be jeopardised as a result.

#### **Hybrid canola**

Hybrid canola seed should **NOT** be retained under any circumstances. This includes the newer TT hybrid canola varieties that are entering the market. 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 improvements in traits such as 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 loss of herbicide tolerance, plant uniformity, black leg resistance, yield and oil. Therefore the level of variability in the second generation (F2) will be representative of how different the parent lines were originally. In addition to that one in four second generation (F2) canola plants will be male sterile which will require ideal conditions during flowering for cross-pollination or yields will be further reduced.

### CEREAL & PULSE CROPS

Some Seed Quality Reminders for Cereal and pulses:

#### **1. Select seed only from 'healthy' high performing areas:**

SA Research & Development Institute research leader Dr Nigel Wilhelm has found larger seeds with high nutrient content supported better growth in young seedlings.

#### **2. Grading for seed size in Faba beans is particularly important:**

Sowing small seed can promote genetic drift resulting in smaller grain size at harvest.

#### **3. When harvesting pulse's for seed, it should be done early in the program:**

Germination rates are improved if grain is harvested at 12%-14% on the "dry down" before storing in aerated silos.

#### **4. Avoid paddocks with known weed issues** such as radish or ryegrass as well as areas with known herbicide resistance.

#### **5. Avoid using damaged grain:**

Seed will be more vulnerable to damage once stored if weather damaged before harvest. A wet harvest can have a large effect on seed quality and the suitability for retaining seed. Generally, when pre-harvest moisture is significant the seed will swell, causing the grain to absorb moisture allowing greater access to oxygen and start the chemical process encouraging germination to proceed at a faster rate (GRDC Fact Sheet 2011). If sufficient moisture is available the grain embryo will shoot completing the germination process.

Any weather damaged grain should **NOT** be retained for seed as it is far more susceptible to poor germination, lower vigour and degradation during storage and handling.

#### **6. Test the suitability for resowing:**

Commercial seed testing analyses the germination percentage, seed vigour and the seed weight which can then be used to determine optimal sowing rates. Germination 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.

### PLANT DENSITY

With any crop variety, it's important to also 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.

#### **Target your plant density:**

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

Sowing rate (Kg/ha) =

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

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

Ideal target plant densities can vary between rainfall zone and crop type. For example, wheat planted in a 450 to 550mm rainfall zone should be targeting around 190-220 plants/m<sup>2</sup> to achieve a desired yield potential.

Having the correct plant population is critical to the success of the crop. Sowing seed with low germination and vigour can be made worse by pre-em herbicides and seed dressings that place additional establishment stress on the plant. Speak to your agronomist for more information on target plant densities and seed quality tips for the 2015 season.





## Grain Treatment Reminders (by guest editor, Kerry Miles - Grain Storage Solutions)

There are increasing incidents of finding insects a few months after treating grain using Fenitrothion and Methoprene IGR. This is due, in most cases, to resistance to Methoprene IGR by the lesser grain borer.



### Lesser Grain Borer

There are also cases of growers who store their grain without applying any chemicals and attempt to fumigate grain in unsealed silos to enable marketing grain as pesticide residue free.

This can require growers having to 'bomb' their silo 3 and 4 times through the year with phosphine and sometimes just before loading in the hope that they will not be rejected for presence of live insects. Often, additional problems of phosphine still being detected in the truck can arise.

The best option is to simply switch to effective grain treatments such as either Fenitrothion and K-Obiol Combi, Reldan and K-Obiol Combi or Conserve On-Farm.

It is very important to be aware that the end use of grain can restrict the use of certain products. For example Reldan (Chlorpyrifos-methyl) cannot be used on malt barley.

Below is a chart that summarises the main grain treatment options.



### The Importance of Grain Moisture.

Unless a dryer or large aeration system is available, please don't be tempted to harvest grain over 12% moisture content (MC) for the following reasons:

- ◆ Grain is not deliverable into the bulk handlers or container trade if the MC is over 12.5%.
- ◆ Grain over 12.5% MC is much more likely to sweat, creating heat and internal 'silo rain'.
- ◆ The higher the MC of the grain the faster the degradation of grain
- ◆ protectant chemicals such as; Fenitrothion, Methoprene IGR and K-Obiol etc.

Drying of grain needs to be conducted properly. Without either a RIMIK, Customvac or mDhT aeration controller, the use of aeration is more likely to do more harm to your grain than good. One day of running aeration fans under the wrong conditions can undo two weeks of running fans during correct times!

## Chemical Use and Effectiveness

Category*	Chemical	Full Rate Litres / 100 Litres	Full Rate PPM	Withholding	Malt Barley (Domestic)	Milling Wheat (Domestic)	Feed (Domestic)	Wheat - Starch / Gluten (Domestic)	Lesser Grain Borer	Rice / Granary Weevil	Flour Beetle	Sawtoothed Grain Beetle	Flat Grain Beetle	Moths
A	Fenitrothion 1000	1.2 litres	12 ppm	3 months	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓
A	Reldan	2 litres	10 ppm	1 Day	✗	✓	✓	✓	✗	✓	✓	✗	✓	✓
A	Actellic	0.45 litres	4 ppm	1 Day	✗	✓	✓	✗	✗	✓	✓	✗	✓	✓
B	S-Methoprene IGR	Rizacon - 0.2 litres IGR 200 - 0.25 litre	0.6 ppm 0.5 ppm	1 Day	✓	✓	✓	✓	Resistance in most areas	✗	✓	✓	✓	✓
B	K-Obiol	2.0 litres	1 ppm	Nil	✓	✓	✓	✓	✓	Some resistance	Potential for resistance	✓	✓	✓
A&B	Reldan Plus S-Methoprene IGR + Reldan	2.0 litres	Reldan 10 ppm Methoprene 0.6 ppm	1 Day	✗	✓	✓	✓	Resistance in most areas	✓	✓	✓	✓	✓
A&B	Conserve onfarm Reldan, S-Methoprene IGR & Spinosad		Reldan 10 ppm Methoprene 0.6 ppm Spinosad 0.96 ppm	1 Day	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Divap 1140	1.05 litres	12 ppm	28 Days	✓	✓	✓	✗	Resistance in most areas	Some resistance	✓	✓	✓	✓
	Phosphine		1.5g/m3	3 days	✓	✓	✓	✓	Increasing resistance	✓	✓	✓	strong resistance through NSW / QLD	✓
	Profume				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

\* Always mix an 'A' chemical with a 'B' Chemical as per table above.

Before applying any treatment, ensure you check the treatment is suitable for the intended market for the grain.

For more information on residue tolerances for domestic or international markets contact Grain Storage Solutions or check the Grain Trade Australia web page