



PEARSONS

Pearson's Grain and Transport
Swan Hill Stockfeeds

Agronomy News February 2017

Where do we go from here?

We can summarise 2016 in three simple sentences- big yields, low cereal prices, high pulse prices.

The reality is we have cash tied up in unsold grain, but we should not compromise sensible management going into the new season.

Rotations

The coarse grain market is obviously oversupplied at present, and will take some time to run this down given more corn and barley will be planted in the northern hemisphere in March.

Pulse production is very attractive in the Mallee at the moment- lentils have a break-even yield of around 0.65t/ha, and with low fertiliser requirements and early flowering date make them quite reliable.

Canola will become very attractive, especially if we receive summer/autumn rains. Most paddocks will have IMI herbicide residues from 2 years ago, so the pick of varieties are **Banker CL** (where available) and **44Y90** (where available). Break even yield for canola is around 0.85t/ha.

Chickpeas returned fantastic gross margins in 2016, but if root lesion nematode (RLN) numbers are too high, the chickpea stubbles may need to be planted to barley rather than wheat.

Predicta-B soil DNA root disease tests should be applied to second/ third cereals in the rotation for rhizoctonia (especially barley), as well as coming out of canola or chickpeas for RLN.

Soil Fertility

Many cereal paddocks last year exported 10-11 kg of phosphorus per hectare, so replacement strategies will be the equivalent of 50kg/ha MAP or 70 kg/ha 70:30 MAP/Urea blend.

Naturally brown manure crops from 2016 will be very well supplied with N, but we are seeing cereal stubbles (even 1 year after a legume) are low in available N due to grain exports and low mineralisation over summer.

Consider using SHSF for deep N testing and surface nutrient testing to best allocate expenditure on fertiliser

Lentil growing tips

There were some seriously profitable lentil crops last year, and with basic crop inputs and well timed operations.

Assuming a more “normal” season for 2017, stick to these guidelines.

Varieties: PBA Bolt and PBA Ace are the pick of the “conventional” varieties. PBA Hurricane XT is the stand out IMI tolerant variety

Sowing date: Early May is the best compromise between flowering in cool conditions and avoiding frosts.

Seed treatment: **Evershield** is a must. Controlling seed borne ascochyta will be imperative- asco carries over on not only stubble, but seed retained from last year needs to be disease tested.

Inoculation: Inoculation with slurry methods can fail with dry sowings or lack of seed coverage. Where possible, experienced lentil growers are spreading superfect on sandy soils for sulphur, and using the second seed box for granular inoculant.

Pre-emergents: Medic and sowthistle were a headache last year, and the sowthistle seeds will have spread widely via the wind. **Terbyne Extreme** IBS picks up medic and sowthistle as well as mustards/turnips. Terbyne is very safe on chickpeas, but can affect lentils on sandy soils- talk to us about this.

Blue green and Cowpea aphids- Sow thistle was a common infestation in both legume and cereal crops last year, so there is a strong likelihood of an outbreak in BGA and/or cowpea aphid. Early aphid management is important to prevent the spread of **Cucumber Mosaic Virus (CMV)** and **Alfalfa Mosaic Virus (AMV)**. AMV was a problem in the prime lentil growing regions of Yorke Peninsula and mid-North of SA last year, and CMV is very common to us locally each year due to melons growing over summer, lupin/vetch/lentil crops as well as horticultural plantings.



Left- A CMV patch is lentils, which expands and spreads across paddocks via aphids

Dimethoate is extremely effective on aphids as it is fully systemic, and works well in cold conditions

Pirimicarb offers predator friendly aphid control, however this permit expired 2015

Disease management- order fungicides at sowing time! There will be even more demand pressure on fungicides as pulse areas increase in 2017

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Russian wheat aphid

Given the current coarse grain market the area sown to barley will retract somewhat, but the barley crops that are to be sown need to be managed for Russian wheat aphid. The reason for this is barley reacts with farm more damage when infested with RWA than wheat.

RWA outbreaks early to mid-season will cause reduced tillering, and outbreaks at stem elongation will reduce grain number set in the head, even before the booting stage.

The first (and best value) management action is to treat barley seed with **imidacloprid** insecticide seed dressing (600g/L formulations). Imidacloprid grows with the seedling and migrates into the new plant tissues, effectively giving several weeks control of RWA, and other cereal aphids. The APVMA permit PER 82304 allows imidacloprid to be used at 1.2L/t, which works out to \$1.44/ha at a 50kg/ha seeding rate.

If we were in a high yield potential situation, we would consider using the 2.4L/tonne rate (registered for corn aphid and "wheat aphid") which would provide extended control to later in the season (more like heading). A must-do is to ensure thorough seed coverage; a total solution rate of 4L/tonne of seed.



An early season RWA infestation in barley causing reduced tillering



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Zinc seed dressings:

Just a reminder that most zinc seed dressings will not provide a full supply of zinc- a 2.5t/ha wheat crop removes 75 grams of zinc per hectare.

Zinc seed dressings do provide a valuable kick start for the seedling trying to produce a primary root system, and the result is slightly improved *rhizoctonia* tolerance.

Product	Formulation	Rate	Zinc per ha @ 50kg/ha	Cost per ha (@50kg)
Zintrac	70% oxide	4L/t	140	\$2.20
Smart Trace Zn	10% chelate	5L/t	25	\$0.95
WL Zinc chelate	11% chelate	5L/t	28	\$0.91
Vincit Zinc	8.6% chelate	4L/t	17	\$1.00

Zintrac is a useful zinc seed amendment as it is highly concentrated, and zinc oxide formulations are slow release. The downside is that the coating does reduce the flow and bulk density of the seed somewhat.

Vincit Zinc is of course a pickle that controls smut and bunt, and is great value for money.

With the lower spec chelated products the balance of the zinc requirement must come from fertiliser sources, or a follow-up zinc foliar application in season.

Oats for Export Hay

Last week we talked about the key varieties that most reliably meet export hay standards. Always remember regarding export hay we are achieving *quality first*, and yield is a much lower priority.

Contamination management: Paddocks earmarked for oaten hay must be scouted and emu-bobbed for wire, stones, animal bones, twine and any other non-crop materials and objects.

Pre-Emergent herbicide package: Ryegrass control and brome suppression- **Diuron + Clincher Plus** is the only option, applied PSPE and after rolling.

Nutrition: High available nitrogen is undesirable (lowers sugars), and oats as second cereal crop in the rotation is common.

Residues: Imazapic and imazapyr (and imazamox) are key watch outs. 250 mm of pre-sowing rain required.

Varieties: the aim is to pick oat varieties that meet nutritional and colour standards, not yield- Wintaroo, Yallara, Brusher, Tungoo, Mulgara

Here is a typical grading system for Pentarch east coast hay standards:

Grade	EC Super Premium	EC Premium	EC Standard	EC Beef grade
Water soluble carbs (min)	24%+	22%	20%	15%
Digestibility (DDM%) (min)	63%	60%	58%	54%
ADF (max)	30%	32%	33%	38%
NDF (max)	55%	57%	58%	64%
Smell	Dry sweet	Dry sweet	fresh	pleasant
Rain Damage	Nil	Nil	No visual damage	(Some) damage
Colour (min)	Green	Green	Green	Not green
Stem size	Thin <8mm	Thin <12mm	Thicker stem	Thicker stem

When you see a chart such as this you can appreciate the importance of using an oat variety that exhibits strengths in quality characteristics rather than yield. Also the use of narrow row spacing and seed rates calculated on seed size to manage stem diameter is vital.

Healthy soils, wealthy chequebook!

The first outcome from direct drill farming is retention of cover on our soils, preventing erosion and minimising soil moisture evaporation.

Our next outcome will be building soil organic carbon (SOC) levels, and the resultant benefits from nutrient storage capacity. Strangely SOC has actually been declining with direct drill farming! This is for two reasons- the high cereal crop frequency increases nitrogen exports over time, but the other issue is the inefficient conversion of crop stubbles into SOC.

The poor SOC conversion is possibly due to a lack of macro-nutrients. We must remember SOC is actually the remnants of micro-organisms that decompose/convert organic matter. These organisms need proteins (nitrogen and sulphur) to live and multiply.

Dr. Clive Kirkby (CSIRO) has pinpointed some macro element ratios that are important to soil biology. He has measured and recorded ideal C:N:P:S ratios in healthy soils in Australia and worldwide. In everyday terms, it is easier to say that one tonne of carbon sequestration requires 83 units of N, and 14 units of S.

In short, to convert stubbles into SOC, ensure nitrogen and sulphur are supplied *in excess of crop demands*.

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