

Agronomy Update

November 2011

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Introduction

As headers have started to roll again, there is a sense of disbelief that we may face two wet harvests in a row. Whilst, presently not comparable to last year, in volume and affect, nonetheless the wet weather is resulting in significant quality issues in wheat. Whilst the level of affect is still not clear for most, wheat is on the cusp of being harvested or still another week or so away, and there is still anticipation that the weather may be on the improve and the quality issues confined.

Canola yields have been very good across the entire district with many reports of outstanding oil levels as well. This has been a very pleasing result on the back of what was a below average growing season rainfall year.

Given that a large volume of grain will be stored on farm, it is worth re-visiting the options for successful grain storage, to ensure that all the hard work of growing the crop is not ruined further by insects post harvest.

Whilst the focus has not yet shifted to next year, stubble and fallow management will need to be considered during the summer, to improve efficiency at sowing and to store moisture for the 2012 crop.

Stored Grain Insects

Over the last couple of seasons there have been an increasing number of reports of grain treatments failing to protect grain for the periods claimed on label. The reason for this has two main causes. Firstly, poor hygiene and ineffective clean up of insects prior to harvest, and/or, as a result of insects developing resistance to the chemicals commonly used to treat stored grain.

There are only a limited number of options which are effective in treating stored grain, and with no new products expected to be released in the near future, it is extremely important that we take an integrated approach to ensure the longevity and effectiveness of current options is maintained.

Key Steps to Successful Cereal Grain Protection:

1. Ensure good pre-harvest hygiene by treating all storages, headers, and bins with the appropriate insecticide. This step is crucial. If you start off clean, your chances of staying insect free are much higher. The preferred treatment for disinfesting these areas is Dryacide® Sorptive Dust. Dryacide® is an alternative to standard insecticide treatments. It has an amorphous silica base and will control organophosphate tolerant strains of insects. Alternatively Dichlorvos® may be used to clean storages and equipment, however, some insects may already have developed resistance to this chemical.
2. Treat grain to be stored for periods of 3-9 months with Reldan Plus® IGR Grain Protector. Reldan Plus® has a nil withholding period when used as directed and combines two modes of action to give broad spectrum insect control.

Where there have been insect problems in previous seasons Dichlorvos® should also be added. WHP is 28 days.

3. Ensure that equipment used to treat grain is correctly calibrated prior to use, and that application gives adequate coverage of grain.
4. Monitor grain regularly to ensure that a clean saleable product is maintained. There were many comments last year on 'large insect surprises' when the silo was inspected. Regular inspection will avoid these surprises.

Phosphine should only be used to treat grain stored in sealed silos because the gas requires time to kill the egg and pupal stages of insects. Poorly sealed storages allow gas to escape too quickly and poor control of insects will result.

If **re-treatment** is required to disinfest stored grain, Dichlorvos® should be sprayed on grain as it is moved between storages. Phosphine may be used to fumigate grain in gas tight storages only. **Do not treat grain in transit.**

Resistance should be suspected if insects appear before the end of the storage period claimed on the label and the protectant was applied evenly at the label rate, especially if surviving insects are of one species only. If this occurs, use a different chemical if available for future treatment.

If you suspect resistance to insecticide treatments please send live insect specimens to your nearest Delta branch. Please include all your contact details and details of previous treatments with the insect specimens. This is a free service which is intended to improve management of resistance. Aim to include as many live insects as possible in a sealed container with some grain.

Important notes

- Before using any grain treatment the user should be aware of what treatments will be accepted by specific markets. Some markets do not accept grain treated with Dichlorvos-contact Phil McGeoch at Delta Ag Harden.
- Chlorpyrifos (active in Reldan & Reldan Plus) cannot be used to treat malting barley.
- Dryacide® can only be used to treat grain to be used on farm, hence should only be used

for storage clean up so market options are not limited.

Stubble Management.

With a high level of stubble produced by most crops across the region, consideration needs to be given to how stubbles will be managed during and post harvest, as this has significant implications for what happens over summer as well as for planting, establishment and weed and disease management for next year's crop.

Retaining stubble to maintain groundcover is recognised as a key management target. Where groundcover is maintained, both moisture and the highly fertile, biologically active topsoil are conserved. This will potentially be of greater importance this coming summer to protect the topsoil from erosion due to summer storm events. Higher levels of retained stubble do also help to reduce the level of summer weeds.

There is no black and white answer as to how to best manage stubble on every farm or paddock. This is an area where there is a substantial amount of research work, both completed and currently being conducted. Putting a management strategy in place across the farm is a complex process as there are many variables to consider beyond those covered in this newsletter. However, it is worth re-capping on some of the options available so that management decisions can be made in a timely fashion.

In paddocks with high weed burdens, particularly late emerging populations of wild oats, ryegrass and wild radish, leaving the straw spreaders off to produce a concentrated windrow for subsequent burning is well worth considering. It would be best to keep stock off these paddocks to prevent foraging in the windrows and trampling of weed seeds into the soil surface.

As we move through the coming summer months, paying attention to ground cover levels and removing stock before paddocks are bared out will be important. Most of the research shows that stock will get an initial benefit out of the stubble, relative to the amount of grain left and green material growing in the paddock, once this is consumed stock will lose weight very quickly. Removing stock when the surface soil is wet is also

recognised as an important way to help maintain moisture infiltration rates during rainfall events.

Using stubble harrows, mulchers, disc chains, prickle chains or heavy grazing with stock to get the stubble flat on the ground will assist with the rate of decomposition. The key driver for decomposition is microbial activity, combined with warm moist soils. The recent rains and the projections for a mild La Nina conditions over summer will enhance stubble breakdown opportunities.

Of course those that are sowing on wider rows and inter-row sowing will aim to maintain standing stubble. Those growers who are inter-row sowing into standing stubble typically do not have stock (and/or minimal levels) and /or avoid stock on stubbles to allow for easier sowing operations.

Ryegrass Alert; Ryegrass Alert; Ryegrass Alert

Annual Ryegrass has been a major weed in both crops and establishing pastures for a long time. It is a very resilient and adaptable plant that is constantly evolving to maintain its place in our cropping and mixed farming systems.

There is now widespread herbicide resistance to a wide range of herbicides including Logran®, Verdict®, Atrazine, Roundup® and increasingly to Select®, right across our region. This season the level of ryegrass coming through weed control strategies has been testament to this situation.

The key to managing this weed is to integrate a range of control measures across the season to ensure that no seed returns to the seed bank. Over a period of three seasons the seed bank can be depleted to insignificant levels.

There are two key strategies that can be employed at this time of year to manage this weed.

- 1. Resistance Testing**
- 2. Seed Collection & Destruction**

Now is the time to be collecting samples of seed for resistance testing over summer. Whilst it is generally a given that group B (Logran®) and

group A (Verdict®) are widely resistant, a clear position on the status of Select®, Atrazine, Treflan, and even Roundup® would be very valuable moving forward.

Growers are strongly encouraged to collect their samples (please call for sampling protocol) and drop them into their branch for collation and forwarding on to the testing service provider. If you are unable to collect your own sample please notify your Delta or LFR advisor if you would like a sample collected on your behalf.

Research, primarily from WA has shown that a high proportion of the seed from weeds present in a crop at harvest will go through the header. This represents an opportunity to manage the contribution to the weed seed bank. Three solutions have been identified:

1. The seed can be collected in the chaff fraction using a chaff cart,
2. Dropped into a concentrated windrow for subsequent burning.
3. Processed through a machine that will destroy the seed - the Harington Seed Destructor (HSD)

In Spring FarmLink ran a workshop, presented by researchers and growers from WA, to discuss these solutions. A review of this information was then discussed on our Delta Ag Spring Bus Trip. Several growers have subsequently decided to trial the windrow burning concept and have removed the spinners from the header.

At the same time a very positive initiative has been undertaken by the WA research group to extend their message to the eastern states. They are touring with their header, set up for windrowing stubbles and with a Harington Seed Destructor. The Delta agronomy team and FarmLink are co-ordinating 2 trials in the Harden/Young region.

*Weather permitting these demonstrations will be run on the **18th and 19th of December**. We would be very keen for as many growers as possible to attend these demonstrations and will keep you informed as to the exact details around locations and times closer to the date.*

Disclaimer: This newsletter is for the benefit of clients. It is not intended to be a complete analysis of all issues raised in the newsletter. As individual circumstances can vary, further professional advice should always be sought before any course of action is undertaken.