The lead up to harvest is an important time to monitor crops and identify diseases. This can assist planning to minimise their impact next season.

In this edition we reflect on pests and diseases reported in crops throughout Australia this season.

With this in mind we recommend a seed treatment trio of Rancona® Dimension, Guardian® and Zincflo® Plus to get your 2017 wheat or barley crop off to a flying start. Using these in combination not only protects against root diseases, but promotes plant vigour and gives early protection against insect pests.

We also take a look at the role of zinc in plant health, the outbreak of Russian Wheat Aphid in Australia, and minimising insect pests in stored grain.

Make sure to take up the opportunity in the enclosed flyer and enter seed and/or grain in the Royal Adelaide Show - growers receive free grain testing results from entries and will be in the running for some great prizes at the 2017 Show.

Enjoy the read.

Brett Heath
Commercial Manager

FLEXIBLE PROTECTION AGAINST DISEASE

Since its introduction in mid 2014 Rancona® Dimension has cemented itself as a market leader in managing the damaging root diseases of crown root, rhizoctonia and pythium in wheat and barley.

These three root diseases currently result in $185 million in losses to wheat and barley crops across Australia; and have the potential to cause losses of up to $778 million if not managed effectively.

Rancona Dimension is registered for crown rot and rhizoctonia suppression in wheat and barley, and control of pythium, smuts and bunt.

It’s unique Micro-Emulsion formulation provides extremely low dust off at application and easy clean down of machinery.

Trial results (in WA, SA, VIC and NSW) since 2012 show Rancona Dimension to be:

• Superior to the untreated control, with yield benefits of up to 30%.
• Comparable to, or better than, the industry competitor seed treatment products in terms of efficacy and yield benefits.
• Comparable to in-furrow rhizoctonia fungicides in many cases.

Rancona Dimension gives you the flexibility to protect against yield robbing diseases – just dial the application rate up or down according to your crop protection needs.

Crown rot has been widely reported at low levels in many WA wheat crops this season. Identifying disease pre-harvest assists with critical paddock management decisions for next year’s cropping program. If crown rot was evident this year, consider using Rancona Dimension next season or resting the paddock from cereals.

Consider adding Zincflo® Plus to improve the ability of the plant to resist attack by both crown rot and rhizoctonia, helping to reduce yield loss.

Lynton Barrett, Lameroo SA, has been using Rancona Dimension and Zincflo Plus on his seed for the last couple of years, as one component of a disease management strategy.

“Rancona Dimension is an excellent product and it has altered the way I can crop my sandy loam country; this is because we are on a two year rotation which means rhizoctonia has always been a consideration, as it causes yield losses.”

“I also use Zincflo Plus on my seed because zinc is a given in the Mallee soil - low in zinc and with rhizoctonia issues - in order to produce a good crop that yields well,” he said.

For the best results Hannaford suggest taking an integrated approach to managing the root diseases of crown rot, rhizoctonia and pythium.
**DISEASE & PEST ROUNDUP**

**SMUTS & BUNT IN CEREAL CROPS**

Smuts and bunt have been detected again in many cereal crops this season, mainly loose smut and flag smut. Smuts will generally only be found where no seed treatments have been used; the incorrect seed treatment is used; or farmer’s cut treatment rates. For example, loose smut has been found in barley crops where only fluquinconazole based seed treatments were used.

If using fluquinconazole on barley you should combine this with another seed treatment to control the smuts and bunt. If using in-furrow fungicides, a base seed treatment such as Rancocon C or Vitaflo ongoing protection the crop against smuts and bunt - in-furrow fungicide products DO NOT control smuts and bunt. Smuts and bunt can mean the grain is subject to rejection at the silo if they are discovered in the sample.

**ROOT DISEASES IN CEREAL CROPS**

Both rhizoctonia and crown rot have been detected in many crops this season, resulting in significant yield losses in some crops. Root lesion nematode (RLN) numbers are increasing in most cropping areas, which can increase the damage caused by rhizoctonia and crown rot. If RLN is not managed correctly it may impact on the effective management of rhizoctonia or crown rot. If RLN is not managed correctly it may impact on the effective management of rhizoctonia or crown rot.

If RLN is not managed correctly it may impact on the effective management of rhizoctonia or crown rot.

**OTHER DISEASES EVIDENT BY CROP**

The diseases seen in this year’s canola, lupin, field pea, lentil and chickpea crops are a result of the wetter winter and spring, and the reduced amount of seed treatments used on these crops this season.

**INSECT PESTS**

**Aphids**

- Aphids were found in significant numbers early in the 2016 cropping season. Aphids reported included: corn, oat, wheat, green peach, blue-green, turnip and grey cabbage. Early infections resulted in feeding damage to crops as well as the transmission of the following viral diseases:
  - Cereals: Barley yellow dwarf virus (BYDV) and Cereal yellow dwarf virus (CYDV)
  - Canola: Turnip yellows virus (TuYV), Cauliflower mosaic virus (CaMV) and Beet western yellow virus (BWYV)
  - Pulses: Bean yellow mosaic virus (BYMV), Cucumber mosaic virus (CMV), Beet western yellow virus (BWYV), Alfalfa Mosaic virus (AMV), Bean leafroll virus (BLRV) and Sulphurblume clover stunt virus (SCSV)

- Reports of the Green peach aphid developing tolerance/resistance to some insecticide groups highlights the importance of using a multi-plied attack.

- Refer to the GRDC fact sheet “Resistant Management Strategy for the Green Peach Aphid in Australia Grains”.

**Mites**

- Mites were found in significant numbers early in many crops, resulting in feeding damage. The presence of the wheat curl mite also resulted in some crops being infected by the Wheat streak mosaic virus (WSMV), with some yield loss occurring as a result.

- **Grain pest seeds**

  - Grains in grain are an increasing problem in most grain growing regions. There has been increasing levels of documented resistance occurring in stored insects to the currently available insecticides.

- **Rhizoctonia or crown rot.**

  - If RLN is not managed correctly it may impact on the effective management of rhizoctonia or crown rot. If RLN is not managed correctly it may impact on the effective management of rhizoctonia or crown rot.

  - When RLN is detected in the sample.

  - **Grain is subject to rejection at the silo if they are discovered in the sample.**

  - **Grain is subject to rejection at the silo if they are discovered in the sample.**

**PLANT HEALTH**

**Zinc for Plant Health**

- Zinc is one of the essential micronutrients required for optimum crop growth.

- Zinc has several important functions in plants, including major roles in enzyme reactions, photosynthesis, DNA transcription and auxin activity. Additionally, adequate zinc levels in the plant have shown to reduce the impact of both crown rot and rhizoctonia.

**Grain is subject to rejection at the silo if they are discovered in the sample.**

**FACTORS AFFECTING ZINC AVAILABILITY**

- **Soil pH:** Zinc is most soluble and therefore available to the plant at a pH of 5 to 7.

- **Zn/P Balance:** High levels of soil P are commonly responsible for Zn deficiencies.

- **Zn/Cu Balance:** Plant roots absorb Zn and Cu by the same mechanism, causing interference in the uptake of one when the other is in excess in the root zone.

- **Root disease:** Crown rot and rhizoctonia reduce plant root area and can affect the uptake of zinc.

**INTRODUCING PETER & KAREN AGARS IN WA**

Hannaford welcomes Peter and Karen Agars as the new seed treatment specialist in the Ravensthorpe, Lake King and Newdegate areas.

- Peter and Karen have had a long association with farming. Operating a family farm for 25 years has given them a great understanding of managing their own business, and the hard work required to run an organisation.

- Peter and Karen intend to handle most of the infield operations with the Hannaford seed grading machinery. Haiden will provide support when required and Karen will handle the office and administration side of the business.

- “We’re excited about continuing the long standing reputation Hannaford has with farmers throughout Australia,” said Peter.

E: hannaford.ravensthorpe@gmail.com P: 0427 266 136

**CHOOSING A SOURCE OF ZINC**

- There are various forms of zinc micronutrients, most commonly oxides and chelates. The main difference between the two forms is that oxides are generally less soluble than chelates, meaning that chelates are in the most readily available form for uptake into the plant.

- These sources can be grouped as:
  - Organic chelates (such as Zincflo® Plus) are more plant available than inorganic forms. Not all sources of zinc are as effective as each other, and the effectiveness depends on:
    - Water solubility
    - Method of application
    - Concentration of zinc in the product
    - How finely the zinc is ground

- Zinc oxides and oxysulphates are slow release forms for build up purposes. For in-row applications or for immediate uptake, zinc sulphydrate or chelated and/or complexed zinc should be used. For seed treatments chelated zins are the most effective.

- When chelated zinc is applied as a seed treatment, the chelate enables the zinc to remain available to the plant longer than an oxide form. Chelates have the ability to bind to insoluble forms of zinc in the soil, which in turn increases the nutrient availability for plants. Zinclo Plus can be mixed with other seed treatments to increase the zinc availability by sequestering the zinc from the soil, making it available to the plant.
THE HANNAFORD TRIO PACKAGE

**GIVE YOUR 2017 WHEAT OR BARLEY CROP A FLYING START**

- **1. Rancona Dimension**
  - Protect against crown rot, rhizoctonia, pythium, smuts and bunt.

- **2. Guardian**
  - Control pest aphids (Russian Wheat), mites (RLEM & Blue Oat), barley yellow dwarf virus, and stored grain pests.

- **3. Zincflo Plus**
  - Improve plant vigour and disease resistance, and supplement zinc deficiency.

**BENEFITS:**

- **Starts working the moment the seed is planted** - protecting the seedling during the vulnerable establishment stage.
- **Faster emergence.** Excellent seedling establishment, healthier and more vigorous plants – for maximum yield potential.
- **Protect against yield-robbing diseases.**
- **Control pests** - no need to apply soil or foliar applied insecticides as a separate operation at, or just after, sowing.
- **Easy to apply** low dust formulations.
- **Improves plant vigour and enhances disease resistance.**

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**Australia’s Specialist Range of Seed Treatments**

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<th>Fusarium</th>
<th>Blackleg</th>
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1. Suppression
2. Soil borne
3. Seed borne
4. Refer to label for additional registrations

ALWAYS REFER TO REGISTERED LABEL FOR FULL INSTRUCTION

**Rancona, Vitaflo, Foliarflo, Quantum, Zincflo, Xillio, Thirafo, Evershield & Guardian**

are all registered trademarks of Arysta LifeScience Australia Pty Ltd and

MacDermid Agricultural Solutions Australia Pty Ltd.
STORED GRAIN PESTS AN INCREASING PROBLEM

In most grain growing regions stored grain insect pests are becoming a major problem, and in many areas resistance to insecticides used by the industry is occurring. Farmers are urged to practice adequate grain hygiene (see check list) and use IPM programs, including the appropriate use of insecticides. Refer to the GRDC stored grain web site (http://www.storedgrain.com.au/).

Remember that the three main groups of insecticides (pyrethroids, organophosphates, and insect growth regulators) used for controlling stored insect pests all have some level of resistance to them, and should be used in combination to give the most effective control.

Hannaford’s Guardian® is registered to control stored grain pests. At this stage there is no known resistance in stored grain insect pests to this insecticide.

MINIMISING INSECT INFESTATION - GRAIN STORAGE CHECK LIST

A combination of meticulous grain hygiene plus well-managed aerial control generally overcomes 85 percent of storage pest problems. Some guidelines include:

- Apply more than one insecticide group for effective stored insect pest control.
- Remove all split grain around silos and field bins, and dispose of away from the storage area.
- Clean grain handling equipment once the current grain handling job is complete.
- Treat the inner and outer surfaces of silos and field bins with a registered insecticide.
- Control weeds under and around the grain storage area (weeds can harbour grain pests).
- Grade grain as soon as possible to remove cracked grain, dust and weed seeds (these attract grain pests), and treat with an appropriate seed treatment containing an insecticide.
- If not grading grain straight after harvest, apply a registered grain insecticide.
- Retread grain if storing for long periods (most seed treatments protect for three months).
- Inspect your stored grain monthly for insect infestations and treat if necessary.
- Monitor: insect pests; grain temperature; grain moisture content; grain quality and germination; 
- Store grain at low moisture contents, < 12% for cereals and < 9% for oilseeds.
- Use of sealed and pressure-tested silos can help exclude insects from the silo and allows for effective aeration to both lower temperature and moisture content of the grain.
- Freshly harvested grain usually has a temperature around 35°C - an ideal breeding temperature for storage pests. Aim for storage temperatures of < 23°C in summer and < 15°C in winter. Effective aeration is critical to both lower temperature and moisture content of the grain.
- White painted silos lower internal temperatures by up to 5°C.
- Turning grain in storage can even out grain temperature and moisture contents.

RUSSIAN WHEAT APHID FOUND IN AUSTRALIA

The Russian wheat aphid (RWA) Diuraphis noxia was found in Australia during the 2016 season.

Initial outbreaks occurred in South Australia in May, and by mid July it had been detected in Victoria and areas of southern New South Wales. As yet there have been no reports of RWA from Western Australia.

WHAT IS THE RUSSIAN WHEAT APHID?

- Approximately 2mm long, pale yellowish green with a fine waxy coating and an elongated body compared to other cereal aphid species.
- A soft bodied insect feeding mainly on wheat and barley, but can attack most cereal crops, and as such poses a major threat.
- Remains on small grains or grasses all year long and unlike other aphids, never moves to a woody host.
- Spread easily by the wind, or by ‘hitchhiking’ on machinery, clothes or plant material.
- Can act as a vector for viruses, including barley yellow dwarf virus (BYDV) and Cereal yellow dwarf virus (CYDV), although it does not seem to be a good transmitter of viruses.
- As the RWA feeds it injects a toxin into the plant tissue resulting in damage and yield loss. In cool weather it is only found on lower leaves and in their leaf sheaths, but are more broadly distributed over plants during fine weather. If not controlled RWA can cause up to 75% yield loss in wheat and barley.

Damage Symptoms Include:

- White, purple or yellowish leaf streaks
- Longitudinal rolling of leaves, forming a hollow tube inside of which aphids shelter
- Stunted crop growth, and plants may appear flattened (tillers almost parallel to the ground)
- Bleached heads with small grains
- Possible BYDV infection

RECOMMENDATIONS AND MANAGEMENT:

1. FIND – look for characteristic leaf streaking or rolling symptoms on cereal crops and grasses.
2. IDENTIFY – positively identify RWA in consultation with an industry specialist.
3. THRESHOLD APPROACH – consider international thresholds for control, factoring in crop growth stage, crop yield potential and potential yield losses - the USA currently recommends a threshold guideline of 20% seedlingsusted up to the start of tillering, and 10% of plants infested thereafter.
4. SNAG an appropriate management strategy that, where possible, encourages beneficial insects. Protect the three major yield-contributing leaves – flag, leaf two and leaf three – and major yield loss can also occur from growth stage 30 onwards.

Treat your seed with a seed treatment containing imidacloprid prior to sowing, such as Hannaford’s Guardian® at 120mL/100 kg.

Seed treatments containing 600 g/L imidacloprid are now listed for control of Russian wheat aphid under Emergency Use Permit APVMA 82304. Generally, seed applied insecticides are safer and have less impact on predatory insects than do folic applications of insecticides.

The best strategy is to use an integrated pest management program.

Chloropyrifos and pirimicarb are chemicals that are now listed for control of Russian wheat aphid under Emergency Use Permit APVMA 82792.

RWA is a DECLARED pest, contact Plant Health Australia if detected - 1800 064 887

HANNAFORD NATIONAL AWARD WINNERS

Simon and Kristy Roper of Esperance WA were recently awarded Hannaford’s National Business Excellence Award for 2015-16 as ‘Best Franchise in Australia’. This makes it consecutive National award wins for Simon and Kristy following their 2013-14 win. The back-to-back win further acknowledges the hard work they have put into growing the Esperance franchise and their ongoing commitment to achieving consistently high standards in business operations.

“We’re honored to receive this award,” said Simon. “We strive to do the best by our customers, which we hope is reflected in our business and in the service we provide.”

The awards were presented in August during the Hannaford National Franchise Conference in Hahndorf, South Australia, an event held every two years and a key networking and training forum for Hannaford franchises. Guest speakers at the two-day event were Jason Gehrie of Franchise Advisory Centre, James Friley of Neil Clark and Associates, Michael Wilkinson of Wilkinson Insurance Brokers, and Rico Christensen, President North America and Australia for Anysta LifeScience. Awards were also presented to David and Karen Harris of Naracoota SA, for Best Franchise in Southern region, and Jon and Margaret Schutz of Point Pass SA, as Best Franchise in Southern region.

David and Karen Harris were also recognised for the best results achieved in our customer satisfaction survey, and Terry and Kelly Jackson of Strathalbyn SA for the excellent results achieved in their first year of operation. David said, “The ultimate goal is customer satisfaction, so we’re thrilled to receive recognition within the business based on feedback from our customers."

“We congratulate this year’s award winners,” said Brett Heath, Commercial Manager Hannaford, “and we thank all of our franchises for their hard work and dedication in providing farmers with a professional and reliable service.”
The information and recommendations set out in this Newsletter are based on data believed to be reliable at the time of publication. Results may vary, as the use and application of the products is beyond our control and may be subject to climatic, geographical or biological variables, and/or developed resistance. Any product referred to in this newsletter must be used strictly as directed, and in accordance with all instructions appearing on the label for that product and in other applicable reference material. So far as it is lawfully able to do so, Arysta LifeScience Pty Ltd accepts no liability or responsibility for loss or damage arising from failure to follow such directions and instructions. ® Registered Trademarks

FREE Seed Germination Test

*For Hannaford customers only.

The Seed Protection Specialists

Proudly supporting local communities via FRRR

Foundation for Rural & Regional Renewal

Rancona DIMENSION® Treatment

The Seed Protection Specialists