

Triticale: grain production guide

The Seed Professionals

Grazing for optimum grain recovery

When a dual purpose triticale is grown with the intention of providing winter grazing and then optimising grain production the time of stock removal or lock-up is important.

The crop must be monitored regularly (at least twice each week) for stem elongation and the appearance of the first node.

This indicates the plant has gone into reproductive mode and grazing from this time onwards will reduce grain yield. Once the crop reaches this stage grazing should cease.

See **Triticale: grazing guide** for a detailed description on identifying the start of stem elongation.

Nitrogen for grain production

Additional nitrogen is likely to be required for maximum grain yield, particularly if the crop has been grazed.

Each tonne of triticale harvested will remove approximately 23 kg N per ha from the paddock. For example, when targeting 3 t per ha a minimum of 69 kg N per ha should be applied, just to cover removal. If grazing is also included or soil nitrogen levels are low, additional N should be applied.



Photo: Warwick Holding

Application can be split between sowing and top-dressing between first and second grazing, or post-grazing during stem elongation stage (soon after Zadoks 31).

Table 1 lists the concentration of nitrogen and phosphorous in common fertilisers. Use this to calculate total quantity of fertiliser to apply. In the example with a requirement of 69 kg N per ha this could be achieved by applying:

- 100 kg MAP per ha or 10 kg N per ha, plus
 - 130 kg urea per ha or 59.8 kg N per ha
- supplying a total of 69 kg N per ha for the season.

Table 1 Nitrogen and phosphorous content of common high analysis fertilisers

| Product | Phosphorous | | Nitrogen | |
|---------|----------------|-------------------|----------------|-------------------|
| | kg /kg product | kg/100 kg product | kg /kg product | kg/100 kg product |
| MAP | 2.2 | 22 | 1.0 | 10 |
| DAP | 2.0 | 20 | 1.8 | 18 |
| Urea | 0 | 0 | 4.6 | 46 |

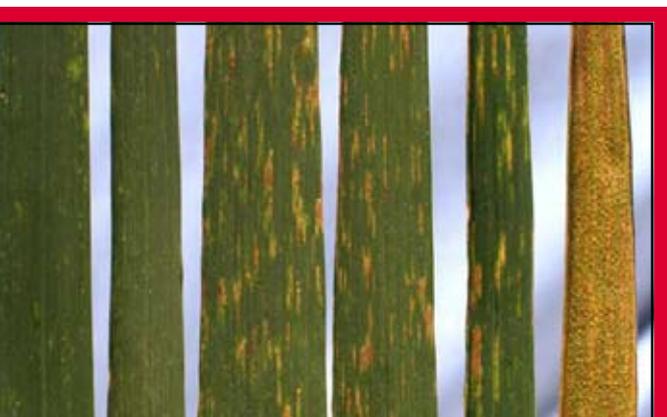
Stripe rust management for grain production

The key to stripe rust management is variety choice. Avoid growing highly susceptible varieties—replace susceptible varieties with a moderately or highly resistant variety.

Usually changing to a more stripe rust resistant variety also gives a yield advantage. For example changing from Jackie to Endeavour makes good sense. Endeavour offers a 15% yield increase over Jackie, has excellent dry matter production for early grazing, and is resistant to all current strains of stripe rust.

Seek local advice on managing stripe rust in triticale.

Remember that just because a variety is rust resistant does not mean it will be completely free of stripe rust. Under very



A range of stripe rust symptoms from resistant (left) to susceptible (right)

Photo: University of Sydney

high disease pressure, isolated leaves of resistant varieties can be infected. This does not automatically mean the resistance has broken down or that the crop needs spraying. In these cases rust samples should be sent to:

Australian Cereal Rust Survey
Plant Breeding Institute
Private Bag 4011
Narellan NSW 2567

Dispatch forms are available at:
http://www.agric.usyd.edu.au/documents/pbi/cerealarust_dispatch_form.pdf

In-crop insect management

Monitor seedling crops for lucerne flea, red legged earth mite and blue oat mite. Seek local advice to determine if application of insecticide is warranted and ensure grazing withholding periods are met.

Aphids can infest early sown crops and then again in spring. Early in the season they can spread viral disease while in spring they can cause yield damage. Seek local advice on thresholds and management options.



Photo: Di Holding

Grain storage

Triticale is extremely sensitive to grain insect infestations, far more so than wheat, and even more so than barley.

When storing triticale it is critical to pay attention to:

- Truck, auger, silo or storage bin hygiene

- Grain temperature
- Grain moisture content
- Grain insecticide treatment
- Monitoring the storage regularly.

Seek professional advice about storing triticale to reduce the risk of insect infestation and significant grain losses.

Hygiene

Always thoroughly clean trucks, augers and storages prior to storing triticale. Dust and grain from previous years grain should all be totally removed to avoid rapid infestation with stored-grain insects.

Moisture content

Triticale should be less than 12% moisture when stored, but the lower the moisture content the better. Storing grain at levels less than 12% does not eliminate the need for treating it with insecticide, however it does avoid spoilage from mould and fungus growth.

Insecticide treatment

There are three options for insecticide treatment:

- Chemical protectant: applied directly to the grain; used to treat uninfested grain; protect for three to nine months depending on product
- Fumigation: only in a sealed silo; fumigant in tray or sachet in head-space of silo not in contact with grain; residue free; minimises insect resistance to chemicals
- Aeration cooling: residue free; lowers temperature of grain; reduces potential of insect infestation.

It is recommended to use a protectant when storing triticale post-harvest. Aeration is recommended when storing triticale.

Monitoring

Check the grain regularly during storage for signs of grain insect activity and be prepared to deal with an infestation if it occurs.

Further information

Waratah Seed Co Ltd, 'Avondale', Henty NSW 2658.

To find your closest Waratah Seed Co Ltd member:

Email: info@waratahseeds.com.au or

visit our website: www.waratahseeds.com.au

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