

AUSTRAL PLUS for prolonged pest & disease protection in wheat, barley & oats

TECHNICAL UPDATE

June 2007

In Brief

- The only seed treatment for control of seed borne diseases, wheat bulb fly and wireworm
 - Consistent and proven wheat bulb fly and wireworm control
 - Broad spectrum seed borne disease control
- Improved seed coverage and reduced dust-off
- Longer-lasting disease and pest protection
- Highest possible level of seed-borne *Fusarium* control
- Highest possible wireworm and wheat bulb fly control from a seed treatment



AUSTRAL PLUS

A new Syngenta Seed Care seed treatment offering prolonged pest and disease protection in barley, wheat and oats.

Combines new formula fludioxonil, plus tefluthrin, to provide all the usual benefits of the popular BERET range, but with improved seed protection activity.

Formulation Innovation

Unlike previous formulations of tefluthrin, AUSTRAL PLUS is a co-formulated water based seed treatment providing improved seed coverage with reduced dust-off. This ensures longer-lasting protection, improved crop safety, increased seed viability and vigour.

Active ingredients

[1] Fludioxonil

Fludioxonil provides excellent, broad spectrum disease control of:-

- Seed and soil borne bunt (*Tilletia caries*)
- *Septoria nodorum*
- Covered smut (*Ustilago hordei*)
- Leaf spot (*Pyrenophora avenae*)
- Leaf barley stripe (*Pyrenophora gramineae*) (partial)

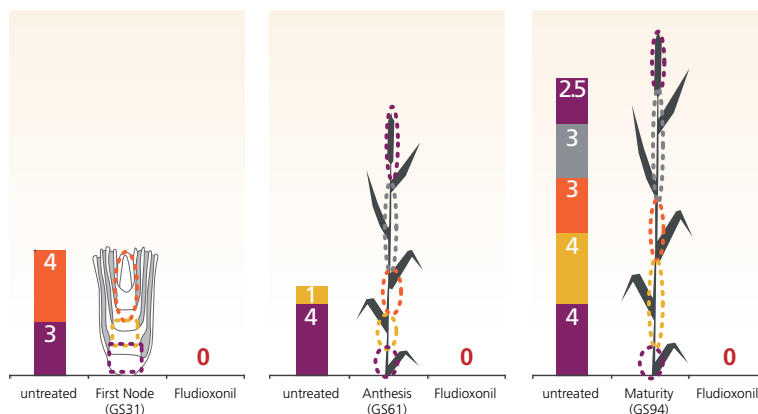
In addition, fludioxonil can remove seed borne *Fusarium* as a source of inoculation for stem and ear infection.

In laboratory studies – with plants protected from aerial contamination – fludioxonil minimised movement of *Fusarium* from the soil or seed onto the developing plant. This effect lasted right through to ear formation providing grains at harvest that were mycotoxin free.

While fludioxonil helps reduce seed borne infection of *Fusarium*, it **does not** eliminate mycotoxins as seed is only one of a number of sources of infection. Growers will need to maintain their guard against *Fusarium* by utilising appropriate in-season fungicides to protect the plant and developing ear.

PCR analysis at different growth stages:

Key: 0 = no *Fusarium* 4 = high *Fusarium*



Fludioxonil prevents movement of *Fusarium* from seed to ear, where fludioxonil was used no *Fusarium* was seen.

Product Summary

Active ingredients

Fludioxonil 10 g/l & tefluthrin 40 g/l

Rate

5.0 litres per tonne

Crops

Winter and spring crops of wheat, barley and oats

Disease Spectrum

- *Fusarium* spp
- Seed and soil borne bunt (*Tilletia caries*)
- *Septoria nodorum*
- Covered smut (*Ustilago hordei*)
- Leaf spot (*Pyrenophora avenae*)
- Leaf barley stripe (*Pyrenophora graminea*) (partial)

Pest Spectrum

- Wireworm
- Wheat bulb fly



Active ingredients

[2] New Variant tefluthrin

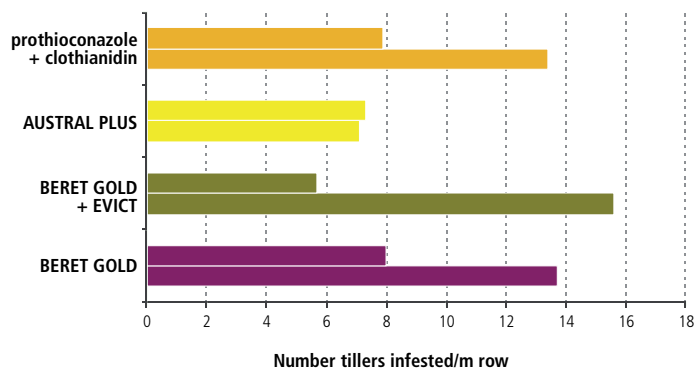
Set to become the UK's leading seed treatment insecticide for wheat bulb fly and wireworm, new variant tefluthrin provides the highest level of pest control seen from a seed treatment.

This includes unbeatable control of wireworm in both winter wheat and winter barley providing improved plant establishment.

In winter wheat trials, new variant tefluthrin in AUSTRAL PLUS has increased yields over competitor products by 0.9 t/ha a 13% advantage, as a result of maximising plant establishment in the presence of wireworm.

Winter wheat bulb fly control

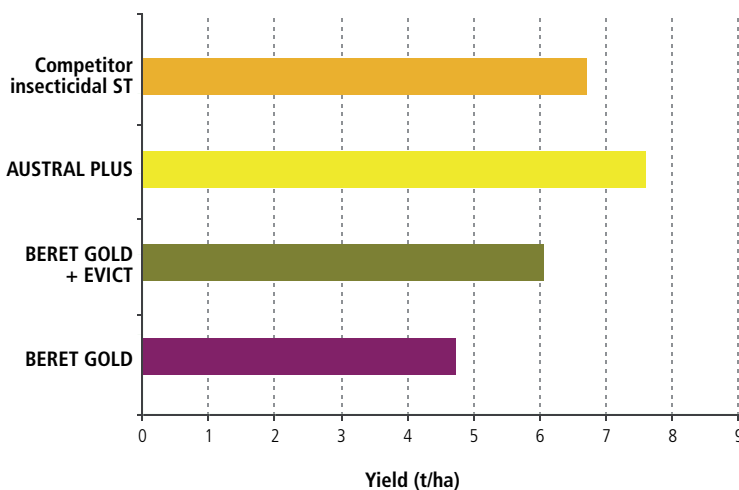
ADAS Trial 2006 – winter wheat



Source: ADAS 2006. LSD: 5.57, 4.88. Assessed 28/03/06 and 04/04/06

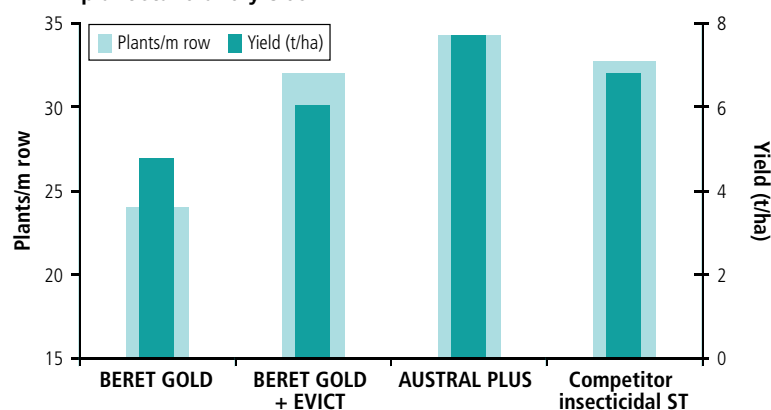
As a result, growers can be confident that, with the inclusion of new variant tefluthrin within AUSTRAL PLUS, early season pest damage can be minimised.

Winter wheat wireworm control



Source: Syngenta 2005, cv Clare, LSD 1.84

Effects of seed treatments on increased winter barley plant stand and yields.



Similarly in winter barley, AUSTRAL PLUS again provides yield benefits through minimising the damage from wireworm of up to 0.4 t/ha in trials.

New variant tefluthrin also offers improved control of wheat bulb fly, outperforming the current industry standard.