Technote

The best start

DIVIDEND® and EMERGE® deliver strong, healthy roots for the best possible start – and the best possible finish!

Better protection, root development and yields

DIVIDEND is the only seed treatment that protects emerging crops from Rhizoctonia, Pythium Root Rot, smuts, bunts and seed-borne Net Blotch. Its two active ingredients protect delicate root hairs from fungal infection, thereby improving crop emergence, root development and, ultimately, yields. Over 250 Australian grower trials have demonstrated an average DIVIDEND yield advantage over other seed treatments of over 7% in wheat and barley, thus protecting your return on investment.

Team up with EMERGE for an even better start

DIVIDEND delivers strong, healthy roots for the best possible start – and the best possible finish! And now there's something even better: EMERGE seed-applied plus DIVIDEND. EMERGE contains proven neonicotinoid chemistry that protects emerging crops against aphids and the spread of Barley Yellow Dwarf Virus (BYDV).

Improved plant vigour

By controlling insect pests in emerging crops, EMERGE delivers a beneficial effect on plant vigour as evidenced by faster emergence, improved plant stands, earlier canopy development and increased root mass. In most cases, this improved vigour usually results in higher yields – even in situations where there are no obvious symptoms of insect attack.

Understanding the "neonicotinoid effect"

Syngenta has been at the forefront of assessing the effects of neonicotinoid chemistry upon plant vigour and health. Syngenta and International researchers concluded that neonicotinoid chemistry affects the biochemistry of the plant and thus improve its ability to deal with difficult environmental conditions, such as drought, heat stress, low pH, high UV light, high soil salinity, excess aluminium or damage caused by insects, wind or hail. Neonicotinoids trigger the biosynthesis of specific functional plant proteins which assist the plant, even in the absence of attack by insects. As a consequence, treated plants are more tolerant of difficult growing conditions and are thus able to express more of their genetic yield potential.

DIVIDEND + EMERGE Yield Advantage 2009

Yield benefits from DIVIDEND can be further improved with the addition of EMERGE. A national Syngenta trial program during 2009, across 22 sites (WA - 7 sites; SA - 4; NSW – 8; Vic - 3), demonstrated an average yield benefit of four percent or 112kg/ha (Fig. 1).

Higher yield benefits, attributable to imidacloprid, have been reported elsewhere (GRDC Research Update 16 Sept 09) with an average yield improvement of 350 kg/ha achieved nationally across 42 seed treatment trials undertaken since 2003.

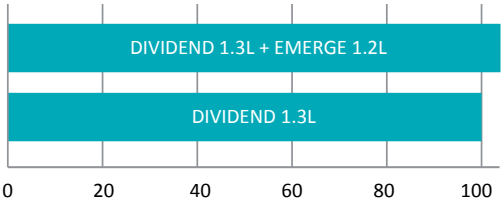

Fig. 1: Average yield advantage (%) *over 22 sites of combination of DIVIDEND + EMERGE over DIVIDEND alone [Note* average 112 kg/ha yield advantage)

In the presence of aphids yield advantage higher 2009

Aphids were prevalent in untreated plots at five trial sites and DIVIDEND + EMERGE was associated with an average ten percent yield benefit or 280kg/ha (Figure 2) or a ROI* of $44.50 /ha to the grower. Trials undertaken by Northern Grower Alliance in Northern NSW /Southern Queensland in 2009 returned similar results with an average net benefit of up to $36/ha (GRDC Advisor Update March 2010).

[Note: ROI* based on wheat @ $200/T and crop sown @70kg/ha]

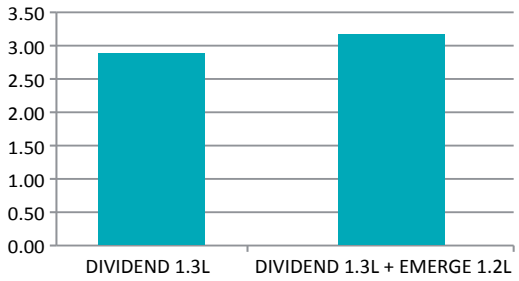

Fig. 2: Average yield (T/ha) across five replicated trials where aphid present where aphids present. *Yield advantage* of 280 kg/ha or ROI of $44.50/ha (* significant difference)*

Barley yellow dwarf virus (BYDV)

Aphids carry BYDV from plant to plant and even very low numbers of aphids can transmit the virus to many plants as they forage. Plants have reduced biomass and are less able to fill grain. Symptoms of BYDV are similar to those of heavy aphid infection and soil moisture stress. Thus effects of the disease are often overlooked. Early aphid control by EMERGE reduces the impact of BYDV by controlling spread of early infections.

Dividend® + emerge®

syngenta