

## Thiamethoxam's Vigor effect made clear

After more than 10 years of research in the US, Europe and Brazil, scientific investigations have revealed why thiamethoxam, the active ingredient in Cruiser and Actara, offers such robust and vigorous plant stands.

According to Prof. Thomas Schmülling from the Institute of Biology/Applied Genetics, FUB University in Berlin/Germany, "Thiamethoxam regulates the expression of functional proteins that are associated with different stress responses in the plant."

This results in a plant, which has more effective defence against a number of environmental conditions. More specifically, thiamethoxam has been shown to enable plants to better cope under conditions such as:

- Drought;
- Low pH;
- Protein degradation resulting from heat stress;
- High soil salinity;
- Wounding from pests, wind, hail etc; and,
- Toxic levels of aluminium.

As thiamethoxam helps the plant defend itself against these adverse environmental factors, it increases the crops ability to reach more of its genetic yield potential under a broader range of field conditions.

Thiamethoxam's increased vigour is evidenced by faster crop emergence, greater plant stands, earlier canopy and increased root mass.

Dugald Spenceley, Syngenta's Australian Seed Care Business Unit Manager says that throughout the world, Cruiser and Actara are registered for use in more than 50 countries, in more than 100 different crops for protection against more than 150 pest species.

He said, "In Australia, Cruiser is registered for treatment of cotton, sorghum, maize, sweetcorn and sunflower seed, to control pests such as Eastern False Wireworm, Southern False Wireworm, Striate False Wireworm, Cotton Seedling Thrips, Tomato Thrips and Cotton Aphid; and to protect seedlings from attack from Sugarcane (True) Wireworm and Black Field Earwigs in Sorghum."

Syngenta researchers have determined that the Thiamethoxam Vigor effect is more pronounced when thiamethoxam is applied as a seed treatment.

**According to Dugald Spenceley, Syngenta's Australian Seed Care Business Unit Manager, thiamethoxam's vigour effect helps the plant defend itself against various stress.**

## The future just got a whole lot brighter

For Australian cotton growers, the management of Fusarium Wilt and Black Root Rot is set to take an important leap forward with the registration of BION. From Syngenta Crop Protection, BION is the only seed treatment to actively stimulate the plants natural defenses, helping better protect it from these potentially yield ravaging diseases.

The inclusion of BION can only strengthen the tools available in an integrated approach to managing these diseases.

BION is a plant activator that turns on the natural defenses of the plant before disease takes hold. It really is exciting new technology that bridges the gap between genetic resistance and conventional disease control.

In trials, BION has shown to significantly decrease both the incidence of Fusarium Wilt (by up to 42 per cent) and severity of Black Root Rot (by up to 50 per cent).

And BION seed treatment has shown that it not only assists in disease control whilst the stand is establishing, the benefits continue on throughout the season.

Trials in 2004-05 recorded — in the presence of Fusarium Wilt — up to 37 per cent increase in total plant survival when BION treated crop was compared to the standard treated seed.

Reducing the effects of Fusarium Wilt and black root rot and establishing a healthier stand with BION seed treatment can lead to benefits through to harvest, with yield increases recorded in many trials.

Syngenta advise BION treated seed will be available through Cotton Seed Distributors (CSD) and that at the time of publication, Bion is not registered. An application for registration is being assessed by the APVMA.



**Moree based Cotton Seed Distributors Extension and Development Agronomist, James Quinn, (left) with Bill Adams from Syngenta Crop Protection. James says BION has an important role to play as part of the Fusarium Wilt and Black Root Rot management package and it is going to be a key feature in the growers**

