

# CWFS NOVOZYMES JUMPSTART PRODUCT TRIALS - TRIAL

## Key Messages

- Jumpstart seed inoculant did not increase the yield of treated crops in 2009.
- Jumpstart seed inoculant increased the early vigour of the crop.

## What is Jumpstart?

Jumpstart is a seed inoculant containing a naturally occurring soil fungus *Penicillium bilaii*, which grows on the roots of plants. The fungi is claimed to create an acid root zone that makes more phosphorus in the soil available to the plant.

## How was it done?

Three replicated and randomised small plot trials were sown at Tottenham, Weethalle and Wirrinya. The treatments compared a nil treatment and three fertiliser rates sown with and without Jumpstart seed inoculant. Due to poor seasonal conditions, the trial at Wirrinya failed and was not harvested. The trial at Tottenham was discontinued due to a mechanical breakdown of the small plot seeder half way through the sowing of this trial.

## Background

### Weethalle Site

Hosts Paul & Brenda McKinnon  
Location "Labertouche"  
Paddock history Long Fallow  
Soil Type Red Clay Loam  
Soil fertility pH (1:5 water) 6.1  
Colwell P 25 mg/kg  
Nitrate Nitrogen 7.3 mg/kg  
Sulphate Sulphur 1.6 mg/kg  
Zinc (DTPA) 0.36 mg/kg  
Sowing Date 12<sup>th</sup> June 2009  
Harvest Date 16<sup>th</sup> November 2009  
Plot Size 13m x 1.8m  
Seeding rate 40 kg/ha of Gregory wheat  
Fertiliser rate MAP at 0, 25, 50 & 75kg/ha  
Seed inoculant Novozymes Jumpstart  
Herbicide Site treated 2L/ha Roundup 450 and 1.5L/ha Triflur Xcel at sowing.  
Design Block design with three replications and fully randomised  
Measurements Establishment, vigour, yield, protein, screenings, test weight and moisture

**Table 1. 2009 rainfall data for Weethalle, NSW**

Weethalle Rainfall 2009												
J	F	M	A	M	J	J	A	S	O	N	D	Total
15	15	35.5	41.5	6	98	16	4	16	10	29	70	356

Bureau of Meteorology, [www.bom.gov.au/nsw](http://www.bom.gov.au/nsw)

## What happened?

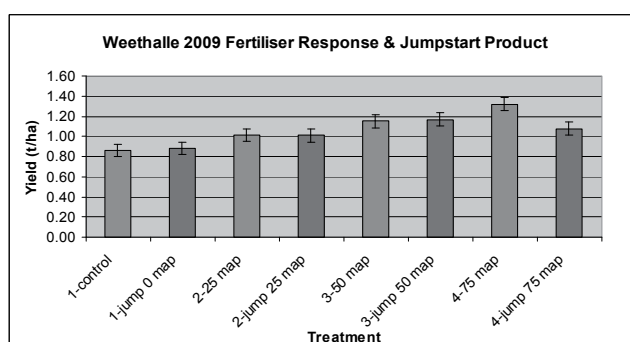
The trial established evenly and plant numbers were consistent across all plots. There were visual differences in vigour, plants being taller, correlating with the increased fertiliser rates as well as a visual advantages between the plots inoculated with Jumpstart and those without. This was evident in both the Weethalle and Wirrinya trials.

As the season progressed and the trials became moisture stressed, this vigour became less evident between treatments sown with and without Jumpstart. Treatments of different fertiliser rates could still be distinguished.

At the Weethalle spring field day there were obvious signs of severe moisture stress in these trials.

## Results

**Figure 1. Yield response to fertiliser and Jumpstart treatments (error bars represent the LSD)**



## What does this mean?

The trial was sown into soil shown to be very low in phosphorus. Despite the lack of soil moisture, the treatments gave an obvious fertiliser response. This response can be seen in the blue bars on Figure 1 where yield increased with increasing rates of MAP. When Jumpstart seed inoculant was added to these treatments, displayed as the red bars in Figure 1,

yields did not increase. There are several factors that may have influenced the results of this trial. The early vigour displayed in the Jumpstart treatments earlier in the season may have used soil moisture more rapidly to produce biomass but failed to convert this into yield as the season ran out.

There was no significant difference between any of the treatments for screenings or protein percentages.

Further trialling in different seasons and on different soil types will give a better field of results to make a critical assessment on this product.

## Acknowledgements

Thanks to all the co-operators, hosts, district agronomists, seed and product suppliers and CWFS staff for assistance with our trials throughout the year.

**Brad Davis**

Central West Farming Systems



## VARIETIES FOR 2011



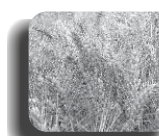
**Livingston<sup>®</sup>**  
milling wheat

Combining high yield with an excellent disease resistance package



**Naparoo<sup>®</sup>**  
dual purpose wheat

Awnless feed wheat for grain and grazing



**Kord CL Plus<sup>®</sup>**  
Clearfield<sup>®</sup> wheat

providing improved levels of tolerance to imidazolinone herbicides



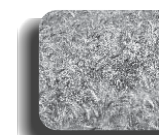
**Merinda<sup>®</sup>**  
milling wheat

Main season AH with high yield potential



**Gladius<sup>®</sup>**  
milling wheat

Specifically bred to assist managing in-season drought risk



**Espada<sup>®</sup>**  
milling wheat

Widely adapted, delivering reliable yields