Rice

Seed Priming

RESULTS OF BSN SEED PRIMING FERTILISER ON RICE

Evaluation Trials conducted in Bangladesh

3rd September 2015

Rural Liquid Fertilisers

PER9

LAL TEER SEED LIMITED
(First Research Based Seed Company in Bangladesh)

www.ruralliquidfertilisers.com

INTRODUCTION

During January 2015 to April 2015 several trials were conducted at the Research and Development Farm in Bashon, Gazipur, Bangladesh. These trials were carried out by RLF's partner in Bangladesh, Lal Teer Seed Limited (a division of Multimode), and the map plots the location of the R&D Farm. This area historically receives approximately 90mm rainfall during these four months from an approximate number of 10 rain days. The trial crop under review in this Product Evaluation Report is Rice.

DESIGN OF THE TRIAL

The field experimental trial was specifically designed and conducted to judge the effectiveness of two RLF Seed Priming products.

- **BSN Ultra**, and
- **BSN Superstrike**

The variety of Rice selected for the experimental trial was **BRRI Dhan-29** and it was treated as follows :

- **BSN Ultra** at 6ml per kilogram of seed
- **BSN Superstrike** at 5ml per kilogram of seed

The seed was set on 13th February 2015.

It was soaked for two days and then sown in seed beds on 15th February 2015.

DESIGN OF THE TRIAL

On 16th March 2015 after 28 days of establishment, the seedlings were transplanted into the experimental plots.

The trial design was in accordance with the documented framework for trials using a Randomised Complete Block Design (having the same number of blocks as replicates) with three replications. The plot size was 2.5m x 1.6m.

The field treatments were assigned as follows :

T1	Cow dung + conventional fertiliser	
T2*	**BSN Ultra** @ 6ml + 6ml water/kg seed.	**Results removed from this report as the parametres of this trial protocol are outside of product performance specifications.*
T3*	**BSN Superstrike** @ 5ml + 5ml water/kg seed	**Results removed from this report as the parametres of this trial protocol are outside of product performance specifications.*
T4	Cow dung + conventional fertiliser + **BSN Ultra** @ 6ml + 6ml water/kg seed	
T5	Cow dung + conventional fertiliser + **BSN Superstrike** @ 5ml + 5ml water/kg seed	
T6	Conventional fertiliser + **BSN Ultra** @ 6ml + 6ml water/kg seed	
T7	Conventional fertiliser + **BSN Superstrike** @ 5ml + 5ml water/kg seed	

Photographs taken at the Seedling Stage of the Trial

Fig. 1 : Overview of the seedling plots.

Fig. 2 : Seedlings of non-treated seeds.

Seedlings of non-treated seeds.

Fig. 3 : Seedlings of **BSN Superstrike** Treated Seeds.

Soaking the seed with **BSN Seed Primer** shows positive impact on the colour and vigour of seedlings (as can be seen in the above photographs).

Fig. 4 : Seedlings of **BSN Ultra** treated seeds.

FERTILISER APPLICATION RATES

Conventional doses of chemical fertilisers and cow dung used in the experimental plots were equally applied and equivalent to :

- Cow dung = 4000 kg/ha
- N2 = 25kg/ha
- P2O5 = 62kg/ha
- K2O = 80kg/ha
- Ca = 7.2kg/ha
- Zn = 2.35kg/ha

Full dose of phosphorus, calcium, zinc and one third of nitrogen and potassium were applied as basal dose.

The remaining two-thirds of nitrogen and potassium were applied in two splits.

Photographs taken at the Vegetative Growth Stage of the trial crops were as follows :

Fig. 5 : Overview of the experimental plots at Vegetative Stage.

Photographs taken at the Vegetative Stage of the Trial

Fig. 6 : Plants of non-treated seeds.

Fig. 7 : Plants of **BSN Superstrike** treated seeds.

Consequently better vegetative growth was also observed from the **BSN Seed Primer** treated plots (as can be seen in the above photographs).

Fig. 8 : Plants of **BSN Ultra** treated seeds.

PERFORMANCE DATA OF THE TRIAL RESULTS

Data on yield and yield contributing characters are given in the Table that follows :

Effect of BSN Seed Primer on the Yield and Yield Contributing Characters of Rice

Treatment	Plant height (cm)	Effective Tillers/Plant (number)	Panicle length (cm)	Filled grain/panicle (number)	Unfilled grain/panicle (number)	Yield (tonne/ha)	% yield increase over control
T1	105	10	29	124	88	3.58	0
T4	104	9	29	125	53	4.00	11.73%
T5	102	10	29	113	578	3.80	6.14%
T6	102	10	29	136	49	4.00	11.73%
T7	**102**	**10**	**29**	**142**	**46**	**4.32**	**20.67%**

These numbers and characteristics are supported by the photographs that follow :

Fig. 9 : Overview of the experimental plots at Ripening Stage.

Photographs taken at the Ripening Stage of the Trial

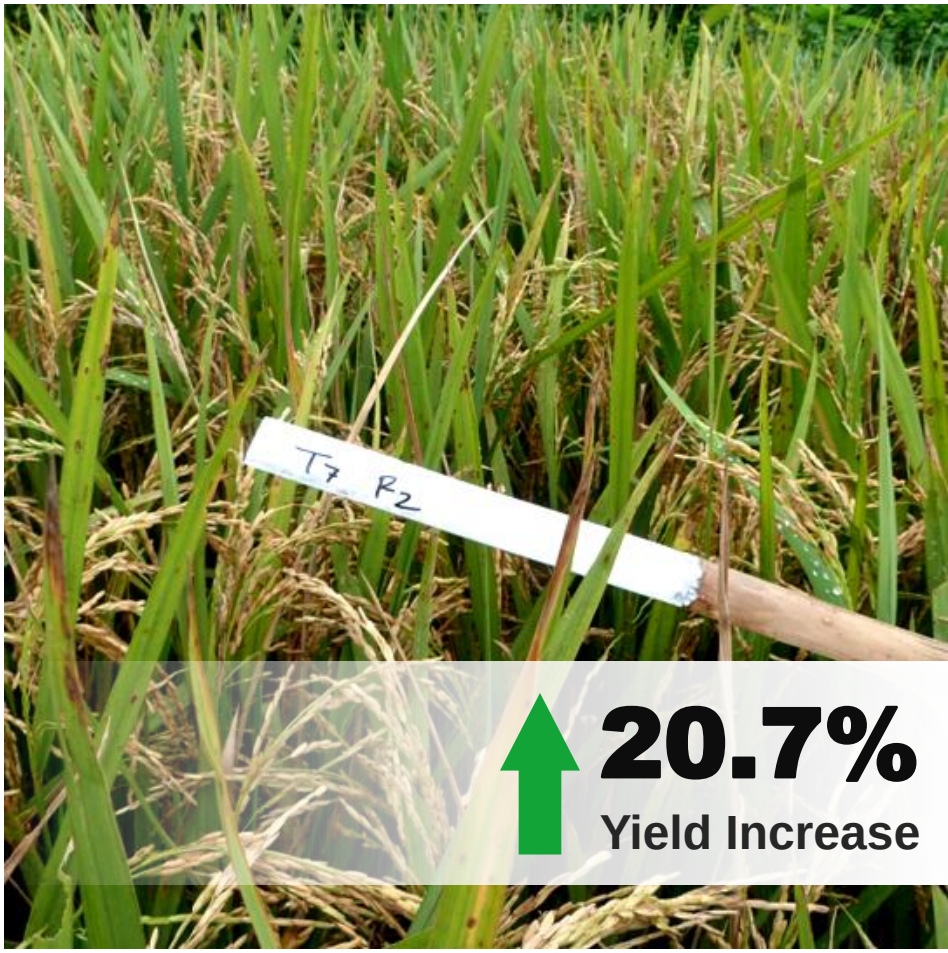

Fig. 10 : Matured plants grown from non-treated seeds.

Fig. 11 : Matured plants grown from seeds treated with **BSN Superstrike**.

BSN SUPER STRIKE

Matured plants grown from non-treated seeds.

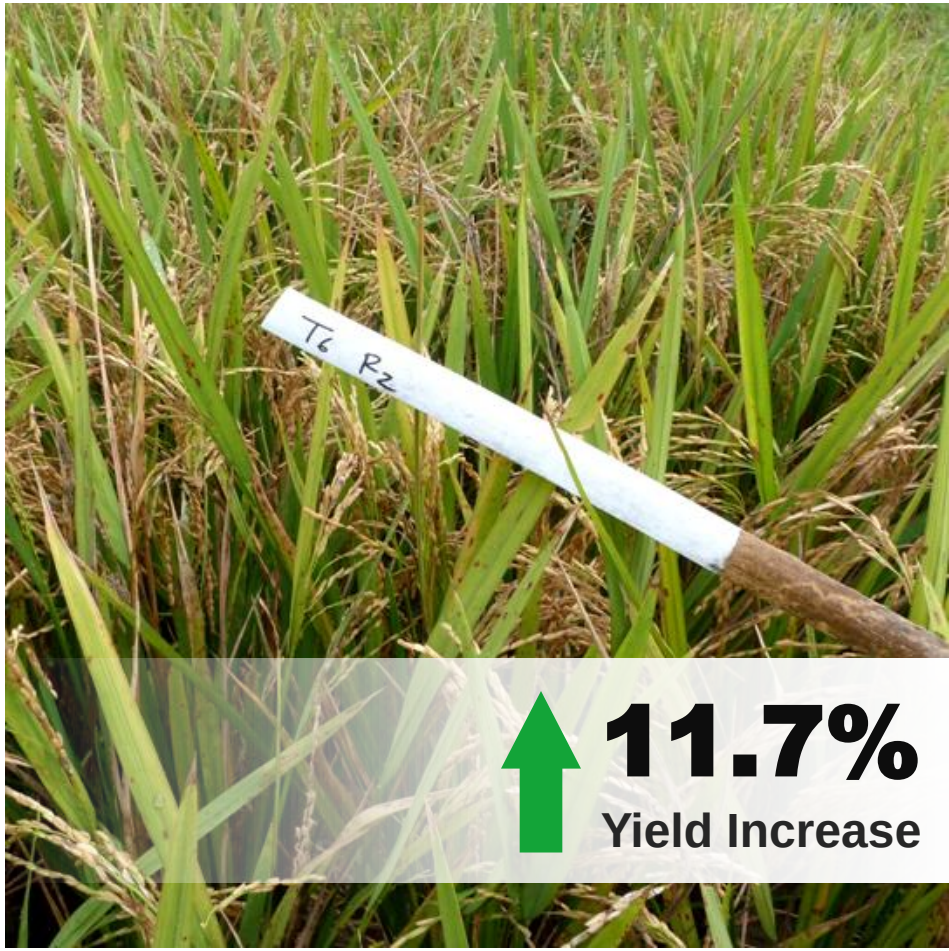

Fig. 12 : Matured plants grown from seeds treated with **BSN Ultra**.

SUMMARY

T4 BSN Ultra Seed Priming Fertiliser

Results

T5 BSN Superstrike Seed Priming Fertiliser

Results

T6 BSN Ultra Seed Priming Fertiliser

Results

T7 BSN Superstrike Seed Priming Fertiliser

Results

THANK YOU FOR VISITING OUR PRESENTATION

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AUTHOR AND CONVENORS OF THIS TRIAL :

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Dr. Kamal Hymayun Kabir, EC-CCSBL and in charge (Plant and R&D)