

Evaluation of superior organic yield enhancer – VIGORE in transplanted & direct seeded rice Indian Institute of Rice Research, Hyderabad



Details of Project –

Vigore is a Nano Technology product which includes all the nutrients required for complete and healthy development of the plant. It is an eco-friendly product & non toxic for human, animals & plants as it has been prepared from substances found in nature. It is an effective complete plant food without any health risk to farmer.

Experiment details:-

Year of experiment: Kharif 2012 & 2013 and Rabi 2012-13 & 2013-14

Variety tested: Vasumathi and DRRH-3

No. of treatments: 12

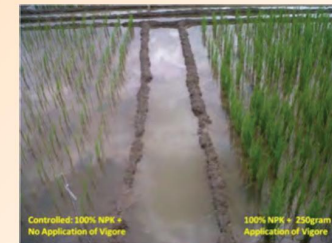
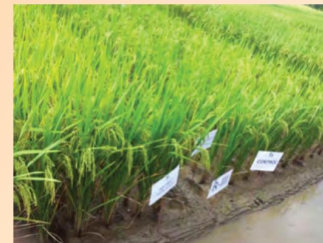
Total no. of treatments: 12 x 3 = 36 for each variety.

Parameters	Dosage	Control	Vigore applied plot	Yield increase (%)
Grain yield T/Ha Average four season trials in two years.	RDF 100% + Vigore 625 g/ha	4.49	5.49	22.31%

Conclusion:

Based on two years research field trials conducted in clay loam soils of the IIRR farm in Kharif and Rabi seasons:

- 1) Identified the potential of Vigore in enhancing the grain yield in both Kharif and Rabi season 13-23 percent higher grain yield over the recommended dose of fertilizers i.e., 120:60:40 kg of NPK/ha. The performance is slightly superior in Rabi season as compared to Kharif season due to better growing conditions as well as higher light intensities.
- 2) The increased yields were due to better growth parameters, total dry matter as well as yield attributes and Harvest index values.
- 3) **The product Vigore was found promising in single application irrespective of the varieties tested and seasons.**



Yield maximization of Rice through different sources of nutrients  
ICAR-Indian Institute of Rice Research, Hyderabad (IIRR)



All India Coordinated Rice Improvement Project - AICRIP



Location	State
Aduthurai	Tamil Nadu
Coimbatore	Tamil Nadu
Chinsura	West Bengal
Ghaghraghat	Uttar Pradesh
Kanpur	Uttar Pradesh
Mandya	Karnataka
Moncompu	Kerala
Pantnagar	Uttar Pradesh
Puducherry	Pondicherry
Titabar	Assam

Experiment details-  
Year of experiments: 2014-2015  
Treatments No- 8  
Crop- Rice  
Experimental Design- RBD  
Product - Vigore

Treatments Details	Panicle no/m <sup>2</sup>	Panicle weight (g)	Grain yield t/ha	% GY increase
Recommended dose of fertilizer (Recommendation of that region)	275	3.18	4.82	
T1 + Vigore application @ 625 g/ha as basal application	293	3.29	5.42	12.61
T1 + Vigore application @ 625 g/ha as basal application + spray @ 1.25 g/l at panicle stage	303	3.42	5.59	16.14

**Conclusion-**

To test and assess the performance of different nutrient products in enhancing the grain yield of Rice, a trial was initiated and conducted at 10 locations. Recommended fertilizer along with Vigore @ 625 g/ha as basal application and spray @ 1.25 g/l at panicle stage was found to be the best treatment across all the locations. The highest overall mean was 5.59 t/ha.



The trial to evaluate the new fertilizer product - "Vigore " an Agro-Nano Technology product in transplanted rice was conducted during Kharif 2014 & 2015 at different locations across the country

All India Coordinated Rice Improvement Project - AICRIP



Rice research station,  
Aduthurai, Tamilnadu

Crop: Paddy

Product: Vigore

Crop	Dosage	Yield	% increase
RICE	Control : RDF 100%	5.07	
	RDF 100% + Vigore application @ 625g/ha as basal application + spray @ 1.25 g/l at panicle stage	5.59	10.26

Rice research station, Chinsurah



Crop: Paddy

Product: Vigore

Crop	Dosage	Yield	% increase
	Control : RDF 100%	4.87	
RICE	RDF 100% + Vigore application @ 625g/ha as basal application + spray @ 1.25 g/l at panicle stage	4.35	11.95



Tamil Nadu Agricultural University  
Coimbatore

Crop: Paddy

Product: Vigore

Crop	Dosage	Yield	% increase
	Control : RDF 100%	5.59	
RICE	RDF 100% + Vigore application @ 625g/ha as basal application	6.54	16.99
	RDF 100% +Vigore application @ 625g/ha as basal application + spray @ 1.25 g/l at panicle stage	6.76	20.93



Crop Research Station  
Ghaghraghat

Crop: Paddy

Product: Vigore

Crop	Dosage	Yield	% increase
	Control : RDF 100%	2.47	
RICE	RDF 100% + Vigore application @ 625g/ha as basal application	2.94	19.03
	RDF 100% + Vigore application @ 625g/ha as basal application + spray @ 1.25 g/l at panicle stage	3.27	32.39





**C.S. Azad University of Agriculture  
Kanpur**

Crop: Paddy

Product: Vigore

Crop	Dosage	Yield	% increase
	Control : RDF 100%	15.14	
RICE	RDF 100% + Vigore application @ 625g/ha as basal application	15.77	12.26
	RDF 100% + Vigore application @ 625g/ha as basal application + spray @ 1.25 g/l at panicle stage	15.92	15.18



**Rice research station , KAU  
Moncompu**

Crop: Paddy

Product: Vigore

Crop	Dosage	Yield	% increase
	Control : RDF 100%	3.71	
RICE	RDF 100% + application @ 625g/ha as basal application + spray @ 1.25 g/l at panicle stage	4.51	21.56



**Perunthalavar Kamaraj Krishi Vigyan Kendra (PKKV)  
Kurumbapet, Puducherry.**

Crop: Paddy

Product: Vigore

Crop	Dosage	Yield	% increase
	Control : RDF 100%	4.62	
RICE	RDF 100% + application @ 625g/ha as basal application + spray @ 1.25 g/l at panicle stage	6.22	34.63



**Assam Agricultural University,  
RARS, Titabar**

Crop: Paddy

Product: Vigore

Crop	Dosage	Yield	% increase
	Control : RDF 100%	5.33	
RICE	RDF 100% + application @ 625g/ha as basal application + spray @ 1.25 g/l at panicle stage	5.93	11.26



University of agriculture science,  
Mandya, Bangalore

Crop: Paddy

Product: Vigore

Crop	Dosage	Yield	% increase
	Control : RDF 100%	5.5	
RICE	RDF 100% + Vigore application @ 625g/ha as basal application + spray @ 1.25 g/l at panicle stage	5.94	8.00



G. B. Pant University of Agriculture & Technology,  
Pantnagar

Crop: Paddy

Product: Vigore

Crop	Dosage	Yield	% increase
	Control : RDF 100%	6.37	
RICE	RDF 100% + Vigore application @ 625g/ha as basal application + spray @ 1.25 g/l at panicle stage	6.91	8.48

# University Trial Report of TABSIL

Effect of foliar & root application of Tabsil in Rice,  
Indian Institute of Rice research, Rajendranagar, Hyderabad



**Experiment details :**

Year of Experiment: Rabi 2013-14

Experimental design: RBD, 6 treatments x 3 replications

Crop: Paddy

Variety: Krishnahamsa

**Effect of silicate tablets on grain yield and straw yield in transplanted rice**

Treatments	Grain yield (tons/ha)	Straw yield (tons/ha)	Harvest index	% Grain yield increase
T1-RDF 100% + Silica Tabs 2.5 Kg/ha	5.28	5.69	48.15	16.5
T2-RDF 100% + Silica Tabs 5 Kg/ha	5.42	5.55	49.39	19.5
T3-RDF 75% + Silica Tabs 2.5 Kg/ha	5.14	5.49	48.39	13.5
T4-RDF 75% + Silica Tabs 5 Kg/ha	5.09	5.51	48.02	12.4
T5-Control – RDF 100%	4.53	4.69	49.17	0.0
T6-Vigore – Foliar application at Seedbed, tillering stage, panicle stage and flowering stage	4.89	5.21	48.43	7.9

**Conclusion:**

The grain yield parameters such as number of effective tillers, length of the panicles, test weight of grains were significantly improved with addition of Silica tablets application @ 2.5 kg and 5 kg/ha. The crop in these treatments was robust with better growth parameters. Further the reduction of the RDF to 75% did not reduce the grain yield when silica tablets were applied. The study clearly indicated the superiority of the application of the silicate tablets. The grain yield ranged from 4.43 – 5/28 t/ha in the treatments tested. The effect of silicate tablets was promising and the percent yield increase ranged from 14.4-19.5%. The yield reduction was not significant when RDF was reduced to 75% along with silicate tablets.

Effect of foliar and root application of Tabsil (SiO<sub>2</sub>) in transplanted Rice  
Indian Institute of Rice Research, Rajendranagar, Hyderabad



Crop- Rice

Season - Kharif 2014

Treatments No- 9

Experimental Design- RBD

**Effect of Silicate tablets on yield attributes in Transplanted (NTP) in Kharif 2014.**

Treatments	No of tillers/ m <sup>2</sup>	Straw yield (t/ha)	Harvest index	Grain yield (t/ha)	% Grain yield increased
T1- RDF 100%+ Tabsil 2.5 Kg/ ha (30 DAP)	333	6.57	47.02	5.83	16.6
T2- RDF 100%+ Tabsil 2.5 Kg/ ha (40 DAP)	280	6.51	45.96	5.54	10.7
T3- RDF 100%+ Tabsil 2.5 Kg/ ha (50 DAP)	340	6.62	45.89	5.61	12.2
T4- RDF 75%+ Tabsil 2.5 Kg/ ha (40 DAP)	319	6.50	45.97	5.53	10.6
T5- RDF 100%+ Tabsil 5Kg/ ha (35-40 DAP)	394	6.65	45.31	5.73	14.6
T6- RDF 75%+ Tabsil 5 Kg/ ha (35-40 DAP)	301	6.28	47.06	5.57	11.3
T7- RDF 100%+ Tabsil 10 Kg/ ha (40 DAP)	365	6.62	46.06	5.66	13.1
T8- RDF 100%	259	5.99	45.44	5.00	
T9- Control without Fertilizer	228	4.50	42.81	3.37	-32.5

**Conclusion-**

The yield parameters such as numbers of tillers, length of panicles, test weight were significantly improved with addition of Tabsil @2.5 kg and 5 kg/ ha. The studies clearly indicated that superiority of Tabsil- Silicate tablets along with RDF for enhancing the grain yield to the tune of 10.6-16.6%. Further the reduction of RDF up to 25% did not affect grain yield when silica tablets were applied.

Effect of foliar and root application of Tabsil (SiO<sub>2</sub>) in transplanted Rice  
Indian Institute of Rice Research, Rajendranagar, Hyderabad



Crop- Rice  
Season - *Rabi* 2014-15  
Treatments No- 10  
Experimental Design- RBD

Effect of Silicate tablets on yield attributes in Transplanted (NTP) and Direct Sown rice  
in *Rabi* 2014-15.

Treatments	Transplanted (NTP) Rice ( <i>Rabi</i> 2014-15)		Direct Sown (DS) Rice ( <i>Rabi</i> 2014-15)	
	Grain yield t/ha	% GY increase	Grain yield t/ha	% GY increase
T1-RDF 100% + Tabsil 2.5 kg/ha at 20DAP	5.76	13.83	5.62	10.85
T2-RDF 100% + Tabsil 2.5 kg/ha at 30DAP	5.4	6.72	5.48	8.09
T3-RDF 100% + Tabsil 2.5 kg/ha at 40DAP	5.57	10.08	5.2	2.56
T4-RDF 75% + Tabsil 2.5 kg/ha at 30DAP	5.35	5.73	5.37	5.92
T5-RDF 100% + Tabsil 5 kg/ha at 25-30 DAP	5.72	13.04	5.45	7.50
T6-RDF100% + Vigore D - Saffe spray at 25,45 & 60 DAP	5.44	7.51	5.55	9.47
T7-RDF75% + Tabsil 5 kg /ha (25-30 DAP)	5.18	2.37	5.18	2.17
T8-RDF100% + Tabsil 10 kg /ha (30 DAP)	5.27	4.15	5.35	5.52
T9- Control Plot +RDF 100%	5.06		5.07	
T10-Control without fertilizer	3.97		3.14	

**Conclusion-**

Above data indicates that Tabsil application (foliar and root) affects on yield of rice crop. When silicate tablets used in *Rabi* Season T1 - (RDF 100% + Tabsil 2.5 kg/ha at 20DAP) gave highest yield increase 13.83% and 10.85 % in normal transplanted (NTP) and direct sown (DS) method respectively, while T7 - (RDF75% + Tabsil 5 kg /ha (25-30 DAP) showed minimum increase of 2.37% and 2.17% yield increase in both methods respectively. Overall study indicated that used of Tabsil in rice crop is beneficial for increasing yield in rice field.

Effect of foliar and root application of Tabsil (SiO<sub>2</sub>) in transplanted Rice  
Indian Institute of Rice Research, Rajendranagar, Hyderabad



Crop- Rice  
Season - *Kharif* 2015  
Treatments No- 10  
Experimental Design- RBD

Effect of Silicate tablets on yield attributes in Transplanted (NTP) and Direct Sown rice  
in *Kharif* 2015.

Treatments	Transplanted (NTP) Rice ( <i>Kharif</i> 2015)		Direct Sown (DS) Rice ( <i>Kharif</i> 2015)	
	Grain yield t/ha	% GY increase	Grain yield t/ha	% GY increase
T1-RDF 100% + Tabsil 2.5 kg/ha at 25DAP	6.15	10.61	4.86	10.20
T2-RDF 75% + Tabsil 2.5 kg/ha at 25DAP	5.82	4.68	4.75	7.71
T3-RDF 100% + Tabsil 2.5 kg/ha at 40DAP	5.85	5.22	4.83	9.52
T4-RDF 100% + Tabsil 2.5 kg/ha at 50DAP	5.80	4.32	4.73	7.26
T5-RDF 100% + Tabsil 5 kg/ha at 25DAP	5.97	7.37	4.66	5.67
T6-RDF100% + 2 Applications of Tabsil Multi application 2.5 kg /ha at 15 and 45 DAP	5.81	4.50	4.80	8.84
T7-RDF100% + Tabsil Multi application 2.5 kg /ha at stem borer infestation stage	5.90	6.12	4.73	7.26
T8-RDF100% + Tabsil Multi application 5 kg /ha at stem borer infestation stage	6.10	9.71	4.68	6.12
T9- Control Plot +RDF 100%	5.56		4.41	
T10-Control without fertilizer	3.21		3.06	

**Conclusion-**

Above data indicates that Tabsil application (foliar and root) affects on yield of rice crop. When silicate tablets used in *kharif* season T1 (RDF 100% + Tabsil 2.5 kg/ha at 25DAP) shows highest yield increased 10.61% and 10.20% respectively, while T4-(RDF 100% + Tabsil 2.5 kg/ha at 50DAP) and T5 - (RDF 100% + Tabsil 5 kg/ha at 25DAP) lowest yield increase 4.32% and 5.67 % in Transplanted and Direct sown methods respectively. Overall study indicated that used of Tabsil in rice crop is beneficial for increasing yield in rice field.



The trial to evaluate the new fertilizer product - "Tabsil " silicon effervescent tablets in transplanted rice was conducted during Kharif 2014 & 2015 at different locations across the country

Tamilnadu Rice Research Institute, Aduthurai



Crop: Paddy

Treatment: T1 + Tabsil - RDF 100% + Silicate tabs SiO<sub>2</sub>-2.5 kg/ha (25 DAT)

Product: TABSIL

Crop	Dosage	Yield	% increase
	Control : RDF 100%	5.07	
RICE	RDF 100% + Silicate tabs SiO <sub>2</sub> - 2.5 kg / ha (25 DAT)	5.76	13.61



Rice research station,  
Chinsurah

Crop: Paddy

Treatment: T1 + Tabsil - RDF 100% + Silicate tabs SiO<sub>2</sub>-2.5 kg/ha (25 DAT)

Product: TABSIL

Crop	Dosage	Yield	% increase
	Control : RDF 100%	4.35	
RICE	RDF 100% + Silicate tabs SiO <sub>2</sub> - 2.5 kg/ha (25 DAT)	4.73	8.74



Tamil Nadu Agricultural University  
Coimbatore

Crop: Paddy

Treatment: T1 + Tabsil - RDF 100% + Silicate tabs SiO<sub>2</sub>-2.5 kg/ha (25 DAT)

Product: TABSIL

Crop	Dosage	Yield	% increase
	Control : RDF 100%	5.59	
RICE	RDF 100% + Silicate tabs SiO <sub>2</sub> - 2.5 kg/ha (25 DAT)	7.08	26.65



Crop Research Station  
Ghaghraghat

Crop: Paddy

Treatment: T1 + Tabsil - RDF 100% + Silicate tabs SiO<sub>2</sub>-2.5 kg/ha (25 DAT)

Product: TABSIL

Crop	Dosage	Yield	% increase
	Control : RDF 100%	2.47	
RICE	RDF 100% + Silicate tabs SiO <sub>2</sub> -2.5 kg/ha (25 DAT)	2.82	14.17





**Perunthalavar Kamaraj Krishi Vigyan Kendra (PKKV)  
Kurumbapet, Puducherry.**

Crop: Paddy

Treatment: T1 + Tabsil - RDF 100% + Silicate tabs SiO<sub>2</sub>-2.5 kg/ha (25 DAT)

Product: TABSIL

Crop	Dosage	Yield	% increase
RICE	Control : RDF 100%	4.62	
	RDF 100% + Silicate tabs SiO <sub>2</sub> -2.5 kg/ha (25 DAT)	6.85	48.27



**G. B. Pant University of Agriculture & Technology,  
Pantnagar**

Crop: Paddy

Treatment: T1 + Tabsil - RDF 100% + Silicate tabs SiO<sub>2</sub>-2.5 kg/ha (25 DAT)

Product: TABSIL

Crop	Dosage	Yield	% increase
RICE	Control : RDF 100%	6.37	
	RDF 100% + Silicate tabs SiO <sub>2</sub> -2.5 kg/ha (25 DAT)	7.07	10.99



**University of Agriculture Science,  
Mandya, Bangalore**

Crop: Paddy

Treatment: T1 + Tabsil - RDF 100% + Silicate tabs SiO<sub>2</sub>-2.5 kg/ha (25 DAT)

Product: TABSIL

Crop	Dosage	Yield	% increase
RICE	Control : RDF 100%	5.5	
	RDF 100% + Silicate tabs SiO <sub>2</sub> -2.5 kg/ha (25 DAT)	6.17	12.18



**Rice research station, KAU  
Moncompu**

Crop: Paddy

Treatment: T1 + Tabsil - RDF 100% + Silicate tabs SiO<sub>2</sub>-2.5 kg/ha (25 DAT)

Product: TABSIL

Crop	Dosage	Yield	% increase
RICE	Control : RDF 100%	3.71	
	RDF 100% + Silicate tabs SiO <sub>2</sub> -2.5 kg/ha (25 DAT)	4.27	15.09