

**Details of the
Best **OFTs** conducted
during last year along with
action photographs
2025-26**

Assessment of biofortified rice varieties for enhancing food and nutritional security.

No. of Trials & Area	07 & 1.00 ha
FP	NAVEEN, MTU-1001
TO ₁	CRDHAN 311 (MUKUL)
TO ₂	CR DHAN 315
TO ₃	DRR DHAN 48
Characteristics of technology	TO₁: CRDHAN 311 (MUKUL) (It has high protein content (10.1%) and moderately high level of Zn content (20 ppm) in polished rice. medium duration (120-125 days), semi-dwarf plant type (110 cm) with long bold grain and good cooking and eating quality. It is suitable for irrigated and favorable shallow rainfed areas. National average of grain yield is 4.3 t/ha⁻¹ and in Odisha it is 5.5 t ha⁻¹. Source: (NRRI, CUTTACK 2022)
	TO₂: CR DHAN 315 (Duration 125-135 days, Medium slender, Long and dense panicle, Rich in Zinc (20-26 ppm) in polished grain compared to 12-16 ppm in popular varieties. grain yield is 5.0 t ha⁻¹ . Resistant to leaf folder, moderately resistant to stem bore, moderately tolerant to leaf blast, neck blast and brown spot. Source: (NRRI, CUTTACK 2022)
	TO₃: DRR DHAN 48 (It is a biofortified, high-yielding rice variety enriched with zinc, known for its high zinc content (22 ppm in polished rice, 27 ppm in brown rice) and suitability for water-stressed regions. Duration 135-140 days (seed to seed). It is a semi-dwarf, medium slender grain variety. Grain yield is 5.5 t ha⁻¹ It has low glycemic index of 51.1. It has good cooking quality with desirable amylose content (20.7%). It is moderately resistant to bacterial blight, blast, sheath rot and rice tungro virus. Source: (IIRR, HYDERABAD, 2015)

Treatment s	Plant height(cm)	No of effective tillers/m ²	No of filled grains/panicle	Grain Yield (q/ha)	Gross Return (Rs/ha)	Cost of cultivation (Rs./ha)	Net return (Rs./ha)	B:C
FP	102.12	9.62	98.74	37.91	87,193.00	58,451.00	28,742.00	1.49
TO ₁	108.37	12.71	107.52	42.36	97,428.00	58,451.00	38,977.00	1.66
TO ₂	110.78	13.40	116.60	44.12	1,01,476.00	58,451.00	43,025.00	1.78
TO ₃	103.84	11.0	103.51	39.24	90,252.00	58,451.00	31,801.00	1.54
S.E(m) ±	0.681	0.355	1.295	0.698	-	-	-	-
C.D (p=0.05)	2.040	1.062	3.87	2.090	-	-	-	-

***Selling price of grain Rs 2300/- per quintal**

Recommendation: The present study after analyzing the growth and yield parameters of the different cultivars concludes that zinc fortified rice variety CR DHAN 315 performed better than the other varieties in terms of grain yields and in economic returns. For effective dissemination and building long-term trust among farmers is crucial for the wide spread adoption of biofortified rice varieties. However multiple location trial will enhance the effectiveness of the programme and ensure their alignment with nutritional security goals .

Photographs of Assessment of Biofortified rice varieties



Seed Distribution



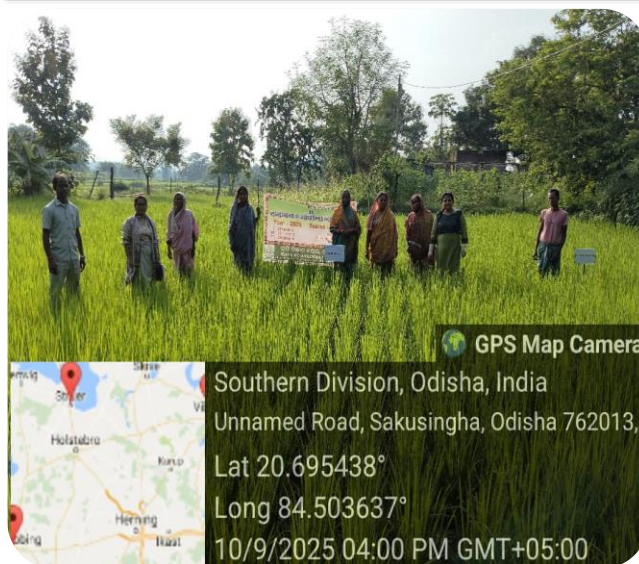
Input distribution



Uprooting of seedlings



Rice transplanting



Field visit



Field observation

Assessment of Biofortified rice varieties



TO₁: CR Dhan 311



TO₂: CR Dhan 315



TO₃: DRR Dhan 48





Field Visit & Crop harvesting of Bio fortified Rice



TO₁: CR Dhan 311

TO₂: CR Dhan 315

TO₃: DRR Dhan 48

Assessment of high yielding varieties of green gram for rice fallow condition.			
Season & Year	Rabi- 2025-26	No. of Trials & village	07 & Nuapada,Badhigaon, Amthapada
Crop	Greengram	Farming Situation	Rice-fallow, Irrigated medium land
Problem Diagnosed	Low yield due to unavailability of suitable variety.	Spread & Intensity of Problem	675ha (21%)
FP	Cultivation of local varieties (Chaiti muga)	Source of technology	(IIPR, KANPUR, 2020)
TO ₁	IPM 312-20(Vashudha):		
TO ₂	OUAT Kalinga Greengram 1((Shreejan) (OBGG 58		(OUAT,BHUBANESWAR 2023)
Characteristis of Technology	FP: Cultivation of local varieties (Chaiti muga) TO ₁ : IPM 312-20(Vashudha): It is a high-yielding and disease-resistant variety of green gram. Yield Potential: 8-10 q/ha Days to Maturity: 65-80 days. Highly resistant to MYMV and Cercospora Leaf Spot, leaf crinkle and leaf curl diseases.Green,shining and attractive seeds with a 100 seed weight of 3.9grams. TO ₂ : OUAT Kalinga Greengram 1((Shreejan) (OBGG 58):Yield Potential: 8-9q/ha. Days to Maturity: 70 days. Resistant to MungbeanYellow MosaicVirus, leaf crinkle virus, moderately resistant to web blight, anthracnose, root rot, powdery mildew, Resistant against white fly and pod borer.		

RESULTS	Plant height(cm) at harvest	No of pods/plant	No of seeds/pod	Yield (q/ha)	Gross Return (Rs./ha)	Cost of Cultivation (Rs./ha)	Net Return (Rs./ha)	B:C
FP	51.91	17.28	9.86	5.01	42,585.00	20,251.00	22,334.00	2.10
TO ₁	48.73	13.32	10.76	8.61	73,185.00	25,235.00	47,950.00	2.90
TO ₂	50.92	11.61	10.21	7.12	60,520.00	25,235.00	35,285.00	2.40

Recommendation

Based on the results, **TO₁** is recommended as the most promising treatment for wider adoption. Although FP recorded higher plant height and number of pods per plant, TO₁ produced more seeds per pod (**10.76**) and the highest yield (**8.61 q/ha**). It also generated the highest **gross return (₹73,185/ha)**, **net return (₹47,950/ha)**, and **B:C ratio (2.90)**.

Therefore, **TO₁** can be recommended to farmers as an economically viable and profitable treatment, offering substantially better returns than FP and TO₂. TO₂ may be considered as a secondary option, while FP can be retained as the existing practice for comparison.



Input distribution



Field preparation for sowing



Field visit



FP: Chaiti muga



TO₁: Vashudha



TO₂: Shreejan



Observation of data



**TO₁: IPM 312-
20(Vashudha)**



**TO₂: OUAT Kalinga
Greengram1((Shreejan)
(OBGG 58)**

Assessment of IDM for sheath Blight management in Rice

No. of Trials & Area	07, 1.0 ha
FP	Low yield and Indiscriminate application of spurious chemicals with improper dose.
TO ₁	Seed treatment with <i>Trichoderma viride</i> @ 10g/ lit water and 2-3 sprayings of <i>Trichoderma viride</i> @ 10g/L at 10-15 days interval . Source : OUAT SLREC proc. 2018
TO ₂	Seed treatment with <i>Trichoderma viride</i> @ 10g/L water and Spraying of the combination fungicide (Azoxystrobin + Difenconazole) @ 1ml/L twice at 15 days interval starting from initiation of the infection . Source : IIR Annual report 2020
Characteristics of technology	<i>Trichoderma viride</i> is an antagonistic agent against bacteria, which can be employed as PGPR which induces Induced Systemic Resistance and combination fungicide (Azoxystrobin + Difenconazole) is a broad spectrum systemic and contact bactericide inhibit the murien synthesis in bacterial cell wall and ultimately kill the cells.



Observation to be taken.	Yield (q/ha)	% Change in Yield	Disease incidence %	No of affected hill/ m ²	Net Return (Rs./ ha)	B:C
FP	35.6	-	27	06	41,130.00	1.4
TO ₁	43.9	23.31	07	02	56,404.00	1.7
TO ₂	47.7	33.9	04	01	63,468.00	1.8
S.E(m) ±	0.324	-	-	-	-	-
C.D (p=0.05)	1.008	-	-	-	-	-