



# ANNUAL RESEARCH REVIEW WORKSHOP 2023-24



**XXVI REGIONAL STATION, SATKHIRA**

**BANGLADESH RICE RESEARCH INSTITUTE**

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## SUMMARY

The 2023-24 results from Regional Yield Trials (RYT) for T. Aman and Boro rice provide critical insights into advancements in rice breeding and its impact on Bangladesh's agriculture.

### 1. Performance Highlights of Rice Varieties

- **T. Aman Season:** The advanced line BR11869-5R-47 surpassed the currently cultivated varieties in farmers' fields (such as BRR1 dhan87 and BRR1 dhan75) in terms of yield and showed improved resistance to environmental stresses, providing farmers with greater resilience against unpredictable weather and diseases.
- **Boro Season:** Advanced lines like BR13113-4R-116 and BR7528-2R-19-16-RIL-52 demonstrated exceptional yield and stress tolerance, especially in saline environments. These lines have the potential to be vital in sustaining high productivity in difficult growing conditions, ensuring that Boro rice remains a dependable staple crop for the country.
- **Nutritional and Disease-Resistant Breeding:**
  - BR(Bio)10381-AC11-7-1 combines high yield with reduced amylose content, aligning with market demands.
  - Zinc-enriched advanced line like BR10855-3-2-5-2-5 address micronutrient deficiencies, contributing to public health improvements.
- **Integrated Crop Management:**

Balanced fertilization trials underscored the importance of nutrient management, revealing yield losses when essential nutrients like nitrogen were omitted.
- **Adaptability to Agro-Ecosystems:**

Varieties such as BRR1 Hybrid dhan6 and BRR1 dhan103 showed stability and resilience across diverse agro-ecosystems, making them suitable for regions affected by floods and droughts.

### 2. Breeder Seed and TLS Production

- **Breeder Seeds:** A total of 21.56 tons were produced, including 8.30 tons in the T. Aman season and 13.26 tons in Boro 2022-23. These were distributed to public and private seed producers.
- **Truthfully Labeled Seeds (TLS):** 21.09 tons of TLS were produced during T. Aman 2023 and Boro 2023-24 seasons, benefiting farmers, NGOs, and the Department of Agricultural Extension (DAE).

### 3. Farmer Engagement and Capacity Building

- **Trainings and Field Demonstrations:** 14 training sessions reached 410 farmers across Satkhira, Khulna, and Jashore, focusing on rice production and seed preservation. Fifteen field days demonstrated cultivation practices, complemented by participation in agricultural fairs and workshops.

### 4. Salt-Stress Research and Salinity-Tolerant Rice Development

- **IRRI-NARES Network Trials:** Trials conducted in salt-stress-prone areas like Dumuria of Khulna district and Kaliganj & Shyamnagar of Satkhira district revealed varying yields (3.69 t/ha to complete failure) due to high salinity.
- **Salinity-Tolerant Rice (STR) Breeding:**
  - 37 F1 hybrids were confirmed, with 52,535 progenies from 124 crosses under evaluation.

- In Line Stage Trials (LST), 425 lines were selected based on uniformity and salinity tolerance.
- Observational, Preliminary, and Advanced Yield Trials selected promising lines for salinity tolerance and phenotypic acceptance.

### **5. On-Farm Evaluations and Agro-Ecological Adaptability**

- **Adaptive Research Trials (ALART):** Advanced genotypes, including standard check like BRRI dhan28 and other breeding lines, were tested in diverse agro-ecological zones (AEZs) for adaptability and salinity resilience.

### **Conclusions**

The 2023-24 RYT results reflect BRRI's progress in advancing rice productivity, climate resilience, and nutritional enrichment. Key developments include higher-yielding, disease-resistance, and biofortified varieties that address food security and public health challenges. Sustained efforts in sustainable agriculture, soil fertility, and disease management will ensure Bangladesh's rice production system remains resilience in the face of climate change and population growth.



## Results

BR(Bio)10381-AC11-7-1 is the top-performing variety in terms of yield, making it highly suitable for high-yield cultivation in low amylose rice. BRRI dhan87 and BR(Bio)10381-11-8-1 also perform well, though slightly behind BR(Bio)10381-AC11-7-1. BR(Bio)13031-AC1-2 has the lowest yield, suggesting it may not be as favorable for high yield in this trial. (Table 2).

**Table 2. Regional yield trial for high yielding rice (RYT-Low Amylose) during T. Aman 2023 at BRRI, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BR(Bio)10381-AC11-7-1	124	121	4.91
2	BR(Bio)10381-11-8-1	103	105	4.11
3	BR(Bio)13031-AC1-2	114	104	3.34
4	BRRI dhan71	116	109	4.01
5	BRRI dhan87	119	125	4.71
	CV (%)	1.13	0.23	5.06
	LSD <sub>(0.05)</sub>	2.44	0.71	0.40
D/S: 16.07.23		D/T: 10.08.23		

## Experiment 3. Regional Yield Trial (RYT-Tall materials) for High Yielding Rice

### Introduction

Four entries were evaluated in RYT- Tall materials for high yielding rice comparing with BRRI dhan76 and BRRI dhan91.

### Materials and Methods

The experiment was conducted at BRRI farm Satkhira during T. Aman 2023. Thirty -fourty days old seedlings were transplanted in 5 m × 5 m plot following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 25 cm × 15 cm. Fertilizers were applied at the rate of 24:15:15:10:1 kg Urea: TSP: MoP: Gypsum: Zinc Sulfate per bigha, respectively. Urea were applied in three equal splits at 5-7 days after transplanting (DAT), at 25-30 DAT and at 55-60 DAT. Total amount of TSP, MoP, Gypsum and Zinc sulfate were applied at final land preparation. The recommended cultural practices were followed during the crop growing period.

### Results

BRRI dhan76 yield better among the tall material varieties. BR10247-14-18-7-3 and BR9892-8-2-2B also demonstrate better yield compared but are outperformed by BRRI dhan76. BRRI dhan91 and BR10238-5-1-9-2B show lower yields despite their tall stature (Table 3).

**Table 3. Regional yield trial for high yielding rice (RYT-Tall material) during T. Aman 2023 at BRRI, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BR9892-8-2-2B	121	137	3.46
2	BR10247-14-18-7-3	124	136	3.59
3	BR10238-5-1-9-2B	141	134	3.44
4	BR9392-6-2-1B	147	139	3.46
5	BRRI dhan76	152	142	3.76
6	BRRI dhan91	153	143	3.03
	CV (%)	1.08	0.23	10.44
	LSD <sub>(0.05)</sub>	2.72	0.71	0.65
D/S: 21.06.23		D/T: 16.07.23		

## Experiment 4. Regional Yield Trial (RYT-Katari type) for High Yielding Rice

### Introduction

Three entries were evaluated in RYT-Katari type for high yielding rice comparing Katari.

### Materials and Methods

The experiment was conducted at BIRRI farm Satkhira during T. Aman 2023. Twenty-two days old seedlings were transplanted in 5 m × 5 m plot following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 25 cm × 15 cm. Fertilizers were applied at the rate of 24:15:15:10:1 kg Urea: TSP: MoP: Gypsum: Zinc Sulfate per bigha, respectively. Urea were applied in three equal splits at 5-7 days after transplanting (DAT), at 25-30 DAT and at 55-60 DAT. Total amount of TSP, MoP, Gypsum and Zinc sulfate were applied at final land preparation. The recommended cultural practices were followed during the crop growing period.

### Results

Overall, Katari and BRH9-3-2B are the standout varieties for high yield, with Katari having the highest yield but a longer growth period. BRH9-3-2B offers a competitive yield with a shorter growth duration (Table 4).

**Table 4. Regional yield trial for high yielding rice (RYT-Katari type) during T. Aman 2023 at BIRRI, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BRH9-3-14-2B	106	112	4.52
2	BRH13-9-5-2B	101	113	4.31
3	BRH9-3-2B	105	115	5.07
4	Katari	108	139	5.11
	CV (%)	2.24	0.78	15.58
	LSD <sub>(0.05)</sub>	4.71	0.76	1.47
D/S: 26.06.23		D/T: 19.07.23		

## Experiment 5. Regional Yield Trial (RYT-Photosensitive) for High Yielding Rice

### Introduction

Eight entries were evaluated in RYT-Bio for high yielding rice comparing with BR22 and BR23.

### Materials and Methods

The experiment was conducted at BIRRI farm Satkhira during T. Aman 2023. Twenty-five days old seedlings were transplanted in 5 m × 10 rows plot following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 20 cm × 15 cm. Fertilizers were applied at the rate of 200:75:100:70:6 kg Urea: TSP: MoP: Gypsum: Zinc Sulfate per hectare, respectively. Urea were applied in three equal splits at 15 days after transplanting (DAT), at 30 DAT and at 45 DAT. Total amount of TSP, MoP, Gypsum and Zinc sulfate were applied at final land preparation. The recommended cultural practices were followed during the crop growing period.

### Results

None of the variety perform well than check (Table 5).

**Table 5. Regional yield trial for high yielding rice (RYT-Photosensitive) during T. Aman 2023 at BIRRI, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BR10212-17-3-2-2	93	139	2.40

2	BR10212-4-3-1	101	130	3.14
3	BR10211-30-2-1-4	107	130	2.50
4	BR10212-5-5-3	97	130	2.88
5	IR13F652-1-P3	95	130	3.04
6	IR16F1097-P1	108	139	2.93
7	BR11196-5R-5	104	139	3.07
8	BR10211-7-5-1	98	139	3.18
9	BR 22	98	139	3.28
10	BR 23	106	139	3.13
	CV (%)	4.36	0.23	11.00
	LSD <sub>(0.05)</sub>	7.57	0.71	0.55
D/S: 09.07.23		D/T: 31.07.23		

## Experiment 6. Regional Yield Trial (RYT-False smut) for High Yielding Rice

### Introduction

Nine entries were evaluated in RYT-False smut for high yielding rice comparing with BRRi dhan49 and BRRi dhan87.

### Materials and Methods

The experiment was conducted at BRRi farm Satkhira during T. Aman 2023. Twenty-five days old seedlings were transplanted in 2 m × 5 m plot following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 25 cm × 15 cm. Fertilizers were applied at the rate of 195:50:75:40:5 kg Urea: TSP: MoP: Gypsum: Zinc Sulfate per hectare, respectively. Urea were applied in three equal splits at 10 days interval starting from 15 DAT. Total amount of TSP, MoP, Gypsum and Zinc sulfate were applied at final land preparation. The recommended cultural practices were followed during the crop growing period.

### Results

BR(path)13804-BC3-14 is the top variety in terms of yield with 5.04 t ha<sup>-1</sup>, followed by BR(path)13804-BC3-18 and BR(path)13804-BC3-21. BRRi dhan87 also performs well with a yield of 4.59 t ha<sup>-1</sup>. BR(path)13804-BC3-134-21-1 and BRRi dhan49 show the lowest yields, indicating they are less effective for high yield in this trial. (Table 6).

**Table 6. Regional yield trial for high yielding rice (RYT-False smut) during T. Aman 2023 at BRRi, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BR(path)13804-BC3-4	105	123	4.60
2	BR(path)13804-BC3-9	123	123	4.41
3	BR(path)13804-BC3-13	111	123	4.25
4	BR(path)13804-BC3-14	105	123	5.04
5	BR(path)13804-BC3-16	115	123	4.17
6	BR(path)13804-BC3-18	121	123	4.63
7	BR(path)13804-BC3-20	108	123	4.17
8	BR(path)13804-BC3-21	105	123	4.68
9	BR(path)13804-BC3-134-21-1	117	113	3.97
10	BRRi dhan49	108	135	3.97
11	BRRi dhan87	115	129	4.59
	CV (%)	0.85	0.23	9.54
	LSD <sub>(0.05)</sub>	2.83	0.71	0.72
D/S: 12.07.23		D/T: 07.08.23		

## Experiment 7. Regional Yield Trial for Zinc Enriched Rice (RYT-ZER)

### Introduction

Four entries were evaluated with four check varieties, BRRI dhan49, BRRI dhan72, BRRI dhan87 and BRRI dhan93.

### Objectives

Evaluation specific and general adaptability under on-station condition.

### Materials and Methods

The experiment was conducted at BRRI farm Satkhira during T. Aman 2023. Transplanting was done in 5.4 m × 12 rows following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 20 cm × 15 cm. Fertilizer rate was 234: 87: 117: 78: 12 kg Urea: TSP: MP: Gypsum: Zinc sulfate per hectare, respectively. Urea was applied in three equal splits at 10 DAT, at 25 DAT and at 40 DAT. Other fertilizers were applied at the final land preparation. All cultural practices were followed as per recommendation.

### Results

BR10855-3-2-5-2-5 performed better over the check, BRRI dhan49 and BRRI dhan93. And no entries performed better over the check, BRRI dhan72 and BRRI dhan87 (Table 7).

**Table 7. Performance of different entries under RYT (ZER) at BRRI, Satkhira**

SL	Entry/Variety	PH (cm)	GD (Days)	Yield (t/ha)
1	V1=BR10854-4-1-1-2-8	119	137	3.29
2	V2= BR10855-3-2-5-2-5	125	128	4.23
3	V3= BR10863-8-3-5-3-2	103	125	3.79
4	V4= BR11176-16-7-4-4-2	132	134	2.93
5	V5= BRRI dhan49 (CK)	97	127	4.17
6	V6= BRRI dhan72 (CK)	110	134	<b>4.94</b>
7	V7= BRRI dhan87 (CK)	116	124	<b>5.06</b>
8	V8= BRRI dhan93 (CK)	116	136	3.96
	CV (%)	0.69	0.39	3.59
	LSD (0.05)	0.64	0.42	0.12

D/S: 09/07/2023 D/T: 05/08/2023

## Experiment 8. Regional Yield Trial (RYT) for Rainfed Lowland Rice (RYT-RLR#1)

### Introduction

Nine entries were evaluated in RYT-RLR#1 for high-yielding rice compared with BRRI dhan71 and BRRI dhan75.

### Objectives

Evaluation specific and general adaptability of the breeding lines as compared with standard checks under on-station condition.

### Materials and Methods

The experiment was conducted at BRRI farm Satkhira during T. Aman 2023. Transplanting was done in 5.4 m × 12 rows following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 20 cm × 15 cm. Fertilizer rate was 234: 87: 117: 78: 12 kg Urea: TSP: MP: Gypsum: Zinc sulfate per hectare, respectively. Urea was applied in three equal splits at 10 DAT, at 25 DAT and at 40 DAT. Other fertilizers were applied at the final land preparation. All cultural practices were followed as per recommendation.

### Results

BR12007-6R-61 and BR12005-6R-14 performed better over the check, BRRI dhan71 and BRRI dhan75 (Table 8).

**Table 8. Performance of different entries under RYT (RLR#1) at BRRI, Satkhira**

SL	Entry/Variety	PH (cm)	GD (Days)	Yield (t/ha)
1	V1=BR12001-6R-205	138	113	4.16
2	V2=BR10795-6R-133	149	113	4.90
3	V3= BR12005-6R-14	144	103	<b>5.44</b>
4	V4= BR10797-6R-140	130	118	4.47
5	V5= BR10799-6R-104	137	115	4.39
6	V6= BR12007-6R-61	144	112	<b>5.47</b>
7	V7=BR11333-6R-4	124	112	4.32
8	V8= BR11333-6R-84	117	117	4.35
9	V9=BR10799-6R-31	137	118	4.50
10	V10= BRRI dhan71(CK)	123	115	4.77
11	V11= BRRI dhan75(CK)	111	113	<b>5.28</b>
	CV (%)	0.86	0.34	4.48
	LSD (0.05)	0.93	0.31	0.17

D/S: 26-06-2023 D/T: 17-07-2023

**Experiment 9. Regional Yield Trial (RYT) for Rainfed Lowland Rice (RYT-RLR#2)****Introduction**

Seven entries were evaluated in RYT-RLR#2 for high-yielding rice compared with BRRI dhan49 and BRRI dhan87.

**Objectives**

Evaluation specific and general adaptability of the breeding lines as compared with standard checks under on-station condition.

**Materials and Methods**

The experiment was conducted at BRRI farm Satkhira during T. Aman 2023. Transplanting was done in 5.4 m × 12 rows following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 20 cm × 15 cm. Fertilizer rate was 234: 87: 117: 78: 12 kg Urea: TSP: MP: Gypsum: Zinc sulfate per hectare, respectively. Urea was applied in three equal splits at 10 DAT, at 25 DAT and at 40 DAT. Other fertilizers were applied at the final land preparation. All cultural practices were followed as per recommendation.

**Results**

BR12007-6R-61 and BR12005-6R-14 performed better over the check, BRRI dhan71 and BRRI dhan75 (Table 9).

**Table 9. Performance of different entries under RYT (RLR#2) at BRRI, Satkhira**

SL	Designation	PH (cm)	GD (Days)	Yield (t/ha)
1	V1= BR12011-6R-178	131	117	<b>5.11</b>
2	V2= BR10797-6R-24	130	126	4.69
3	V3=BR10799-6R-70	146	114	<b>5.22</b>
4	V4=BR11343-6R-51	109	101	4.08
5	V5=BR11227-6R-98	143	150	3.19
6	V6=BR10802-6R-66	137	140	<b>5.09</b>
7	V7=BR11336-6R-10	145	147	3.06
8	V8=BRRI dhan49 (CK)	106	133	4.36
9	V9= BRRI dhan87 (CK)	130	128	4.65
	CV (%)	0.66	0.31	3.97
	LSD (0.05)	0.71	0.33	0.14

D/S: 26/06/2023 D/T: 17/07/2023

## Experiment 10. Regional Yield Trial for Development of Zira Type Grain

### Introduction

Four entries were evaluated with two check varieties, Zirashail and BRR1 dhan62.

### Objectives

1. To evaluate fine grain Zira-type high yielding breeding lines under integrated improved management practices in different agro-climatic conditions of Bangladesh.
2. To maximize proper filling of grains in a panicle under integrated management practices and by harvesting crop at 95% maturity (no shattering).

### Materials and Methods:

The experiment was conducted at BRR1 farm Satkhira during T. Aman 2023. Transplanting was done in 5 m × 5 m plot following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 25 cm × 15 cm. Fertilizer rate was 24: 15: 15: 10: 1 kg Urea: TSP: MP: Gypsum: Zinc sulfate per bigha, respectively. Urea was applied in three equal splits at basal, 25-30 DAT, 55-60 DAT. Other fertilizers were applied at the final land preparation. All cultural practices were followed as per recommendation.

### Results

In RYT-Zira type grain, BRH11-7-17-10B and BR17-23-8-2-7B performed statistically better over the two check varieties (Table 10).

**Table 10. Performance of different entries under RYT (Zira Type Grain)**

SL	Entry/Variety	PH (cm)	GD (Days)	Yield (t/ha)
1	V1=BRH11-7-17-10B	113	118	<b>5.13</b>
2	V2=BR17-23-8-2-7B	113	117	<b>5.05</b>
3	V3= BRH14-2-1-7B	115	117	4.25
4	V4=BR9392-1-7-5B	107	110	4.65
5	V5= Zirashail (ck)	113	107	3.59
6	V6= BRR1 dhan62	102	110	4.69
	CV (%)	0.39	0.31	3.41
	LSD (0.05)	0.35	0.29	0.13

D/S: 26/06/2023 D/T: 18/07/2023

## Experiment 11. Regional Yield Trial for Development of Blast Resistance Rice (BRR)

### Introduction

Five entries were evaluated with two check varieties, BRR1 dhan87 and BRR1 dhan75.

### Objectives

Evaluation specific and general adaptability under on-station condition.

### Materials and Methods

The experiment was conducted at BRR1 farm Satkhira during T. Aman 2023. Transplanting was done in 5.4 m × 10 rows following RCB design with three replications using one seedlings hill<sup>-1</sup> maintaining spacing of 20 cm × 20 cm. Fertilizer rate was 230: 87: 105: 78: 12 kg Urea: TSP: MP: Gypsum: Zinc sulfate per hectare, respectively. Urea was applied in three equal splits at 10 DAT, at 25 DAT and at 40 DAT. Other fertilizers were applied at the final land preparation. All cultural practices were followed as per recommendation.

### Results

BR(Path)15640-46-2-5-2 performed better over the two check varieties but these were identical to each other (Table 11).

**Table 11. Performance of different entries under RYT (BRR)**

SL	Designation	PH (cm)	GD (Days)	yield (t/ha)
1	V1=BR(Path)15640-3-4-4-6	147	119	3.44
2	V2=BR(Path)15640-10-4-4-2	142	116	3.52
3	V3= BR(Path)15640-39-8-3-7	133	125	3.48
4	V4= BR(Path)15640-46-2-5-2	143	123	4.96
5	V5= BR(Path)15641-10-7-1-1*	137	113	4.53
6	V6=BRRRI dhan75(ck)	104	113	4.87
7	V7=BRRRI dhan87 (ck)	137	127	5.32
CV (%)		0.59	0.25	6.13
LSD (0.05)		0.65	0.24	0.22
D/S: 26-06-2023			D/T: 18-07-23	

\*= Rat damaged (35-40%)

### Regional Yield Trial During Boro 2023-24

#### Experiment 12. Regional Yield Trial (RYT-STR) for High Yielding Rice

##### Introduction

Twelve entries were evaluated in RYT-STR for high yielding rice comparing with BRRRI dhan67 BRRRI dhan88 and BRRRI dhan28.

##### Materials and Methods

The experiment was conducted at BRRRI farm Satkhira during Boro 2023-24. Thirty to thirty-five days old seedlings were transplanted in 5.4 m × 12 rows plot following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 20 cm × 20 cm. Fertilizers were applied at the rate of 260:100:120:110:11 kg Urea: TSP: MoP: Gypsum: Zinc Sulfate per hectare, respectively. Urea were applied in three equal splits at 15 days after transplanting (DAT), at 30 DAT and at 50 DAT. Total amount of TSP, MoP, Gypsum and Zinc sulfate were applied at final land preparation. The recommended cultural practices were followed during the crop growing period.

##### Results

Significant higher grain yield was found in tested line BR13113-4R-116 over BRRRI dhan88 (check) and BRRRI dhan28. BR13113-4R-63 gives higher yield over BRRRI dhan28 (Table 12).

**Table 12. Regional yield trial for high yielding rice (RYT-STR) during Boro 2023-24 at BRRRI, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BR13113-4R-63	103	142	6.12
2	BR13125-4R-92	94	138	5.14
3	BR13118-4R-76	93	135	4.94
4	BR13113-4R-185	92	139	5.68
5	BR13111-4R-191	118	142	4.22
6	BR13106-4R-469	117	146	5.87
7	BR13108-4R-232	113	144	5.71
8	BR13106-4R-438	109	142	5.33
9	BR13111-4R-63	107	145	5.69
10	BR13106-4R-184	95	143	5.95
11	BR13122-4R-136	105	142	5.59
12	BR13113-4R-116	105	143	6.27
13	BRR dhan67	119	142	6.31
14	BRR dhan88	94	143	6.14
15	BRRRI dhan28	110	144	6.04
CV (%)		0.88	0.16	5.53
LSD (0.05)		0.64	0.67	0.78
D/S: 25.12.23		D/T: 29.01.24		

### Experiment 13. Regional Yield Trial (RYT-SMD) for High Yielding Rice

#### Introduction

Ten entries were evaluated in RYT-SMD for high yielding rice comparing with BRRi dhan58, BRRi dhan88, BRRi dhan89 and BRRi dhan102.

#### Materials and Methods

The experiment was conducted at BRRi farm Satkhira during Boro 2023-24. Thirty to thirty-five days old seedlings were transplanted in 5.4 m × 2 m rows plot following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 20 cm × 20 cm. Fertilizers were applied at the rate of 260:100:120:110:11 kg Urea: TSP: MoP: Gypsum: Zinc Sulfate per hectare, respectively. Urea were applied in three equal splits at 15 days after transplanting (DAT), at 30 DAT and at 50 DAT. Total amount of TSP, MoP, Gypsum and Zinc sulfate were applied at final land preparation. The recommended cultural practices were followed during the crop growing period.

#### Results

Significant higher grain yield was found in tested lines over BRRi dhan58 (check), BRRi dhan88 BRRi dhan89 and BRRi dhan102 (Table 13).

**Table 13. Regional yield trial for high yielding rice (RYT-SMD) during Boro 2023-24 at BRRi, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BR13027-BC1-3R-77	**	**	**
2	IR17A2875	102	138	8.61
3	BR11894-R-R-R-R-158	100	138	7.78
4	BR11894-R-R-R-R-148	109	138	7.29
5	BR11894-R-R-R-R-115	104	139	7.34
6	IR18A2427	83	137	6.36
7	IR17A2922	101	137	6.07
8	IR19A7068	97	142	7.36
9	BR11894-R-R-R-R-105	105	145	6.67
10	BR11894-R-R-R-R-329	104	137	6.69
11	BRRi dhan58	105	143	6.57
12	BRRi dhan88	104	141	5.98
13	BRRi dhan89	104	142	6.25
14	BRRi dhan102	102	137	5.98
	CV (%)	0.75	0.28	5.38
	LSD <sub>(0.05)</sub>	0.72	0.76	0.61
D/S: 03.12.23		D/T: 06.01.24 **not germinate		

### Experiment 14. Regional Yield Trial (RYT-ELS) for High Yielding Rice

#### Introduction

Four entries were evaluated in RYT-ELS for high yielding rice comparing with BRRi dhan63 and BRRi dhan104.

#### Materials and Methods

The experiment was conducted at BRRi farm Satkhira during Boro 2023-24. Thirty to thirty-five days old seedlings were transplanted in 5.4 m × 12 rows plot following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 20 cm × 20 cm. Fertilizers were applied at the rate of 260:100:120:110:11 kg Urea: TSP: MoP: Gypsum: Zinc Sulfate per hectare, respectively. Urea were applied in three equal splits at 15 days after transplanting (DAT), at 30 DAT and at 50 DAT. Total amount of TSP, MoP, Gypsum and Zinc sulfate were applied at final land preparation. The recommended cultural practices were followed during the crop growing period.

## Results

Tested line BR7528-2R-19-16-RIL-52 and BR7528-2R-19-16-RIL-55 give higher yield than BRRI dhan63 (check) than BRRI dhan104 (Table 14).

**Table 14. Regional yield trial for high yielding rice (RYT-ELS) during Boro 2023-24 at BRRI, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BR7528-2R-19-16-RIL-52	102	144	7.03
2	BR7528-2R-19-16-RIL-55	103	143	6.70
3	BR7528-2R-19-16-RIL-59	101	139	5.93
4	BR9945-5R-21	103	142	6.23
5	BRRI dhan63	102	143	6.17
6	BRRI dhan104	108	139	6.30
	CV (%)	0.73	0.28	5.67
	LSD <sub>(0.05)</sub>	0.72	0.76	0.25
D/S: 03.12.23		D/T: 06.01.24		

## Experiment 15. Regional Yield Trial (RYT-MD) for High Yielding Rice

### Introduction

Nine entries were evaluated in RYT-MD for high yielding rice comparing with BRRI dhan58 BRRI dhan89 and BRRI dhan102.

### Materials and Methods

The experiment was conducted at BRRI farm Satkhira during Boro 2023-24. Thirty to thirty-five days old seedlings were transplanted in 5.4 m × 12 rows plot following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 20 cm × 20 cm. Fertilizers were applied at the rate of 260:100:120:110:11 kg Urea: TSP: MoP: Gypsum: Zinc Sulfate per hectare, respectively. Urea were applied in three equal splits at 15 days after transplanting (DAT), at 30 DAT and at 50 DAT. Total amount of TSP, MoP, Gypsum and Zinc sulfate were applied at final land preparation. The recommended cultural practices were followed during the crop growing period.

### Results

All the Tested line give higher yield than BRRI dhan58 (check) than BRRI dhan89 (Table 15).

**Table 15. Regional yield trial for high yielding rice (RYT-MD) during Boro 2023-24 at BRRI, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BR12508-5R-5	109	142	6.78
2	BR12517-5R-57	120	147	6.56
3	BR12514-5R-97	112	143	6.59
4	BR12520-5R-11	109	144	6.56
5	BR12423-6R-38	95	140	6.88
6	BR12514-5R-27	114	140	6.39
7	IR18A1398	107	153	6.69
8	BR11318-5R-148	98	141	6.94
9	BR11894-5R-260	102	144	6.25
10	BRRI dhan58(ck)	96	142	6.14
11	BRRI dhan89(ck)	103	152	6.05
12	BRRI dhan102(ck)	108	141	7.76
	CV (%)	3.38	0.28	5.67
	LSD <sub>(0.05)</sub>	0.72	0.76	0.25
D/S: 03.12.23		D/T: 10.01.24		



6	BRRI dhan58(ck)	105	132	8.14
7	BRRI dhan104(ck)	101	133	6.46
8	BRRI dhan107(ck)	104	138	5.11
	CV (%)	1.29	0.31	5.79
	LSD <sub>(0.05)</sub>	0.62	0.76	0.25
D/S: 21.12.23		D/T: 25.01.24		

### Experiment 18. Regional Yield Trial (RYT-PQR3) for High Yielding Rice

#### Introduction

Ten entries were evaluated in RYT-PQR2 for high yielding rice comparing with BRRI dhan102, BRRI dhan104 and BRRI dhan107.

#### Materials and Methods

The experiment was conducted at BRRI farm Satkhira during Boro 2023-24. 35-40 days old seedlings were transplanted in 5.4 m × 12 rows plot following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 20 cm × 15 cm. Fertilizers were applied at the rate of 300:100:165:112:11 kg Urea: TSP: MoP: Gypsum: Zinc Sulfate per hectare, respectively. Urea were applied in three equal splits at 10 days after transplanting (DAT), at 30 DAT and at 40-50 DAT. Total amount of TSP, MoP, Gypsum and Zinc sulfate were applied at final land preparation. The recommended cultural practices were followed during the crop growing period.

#### Results

All the Tested line give higher yield than BRRI dhan102 (check), BRRI dhan104 and BRRI dhan107 (Table 18).

**Table 18. Regional yield trial for high yielding rice (RYT-PQR3) during Boro 2023-24 at BRRI, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BR11359-4R-181	113	113	6.63
2	BR11359-4R-211	122	122	6.95
3	BR11359-4R-260	113	113	7.38
4	BR11359-4R-263	120	120	7.29
5	BR11359-4R-275	108	108	5.61
6	BR11359-4R-279	121	121	7.22
7	BR11359-4R-288	103	103	5.92
8	BR11359-4R-304	108	108	6.54
9	BR11359-4R-351	101	101	6.70
10	BR11359-4R-373	103	103	6.70
11	BRRI dhan102(ck)	95	95	5.37
12	BRRI dhan104(ck)	102	102	4.87
13	BRRI dhan107(ck)	104	104	5.08
	CV (%)	1.26	1.26	5.79
	LSD <sub>(0.05)</sub>	0.62	0.76	0.25
D/S: 21.12.23		D/T: 25.01.24		

### Experiment 19. Regional Yield Trial (RYT-ZER) for High Yielding Rice

#### Introduction

Six entries were evaluated in RYT-ZER for high yielding rice comparing with BRRI dhan74 BRRI dhan89 and BRRI dhan100.

#### Materials and Methods

The experiment was conducted at BRRI farm Satkhira during Boro 2023-24. 35-40 days old seedlings were transplanted in 5.4 m × 12 rows plot following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 20 cm × 15 cm. Fertilizers were

applied at the rate of 300:100:165:112:11 kg Urea: TSP: MoP: Gypsum: Zinc Sulfate per hectare, respectively. Urea were applied in three equal splits at 15 days after transplanting (DAT), at 30 DAT and at 5 days before PI stage. Total amount of TSP, MoP, Gypsum and Zinc sulfate were applied at final land preparation. The recommended cultural practices were followed during the crop growing period.

### Results

The tested line BR10571-15-6-8-5 produce higher yield than the check variety BRRI dhan89 and Bangabandhu dhan100.

**Table 19. Regional yield trial for high yielding rice (RYT-ZER) during Boro 2023-24 at BRRI, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BR10552-1-1-3-4	113	137	6.39
2	BR10552-1-1-4-6	113	133	7.04
3	BR10570-29-7-3-2	93	132	6.45
4	BR10571-15-6-8-5	94	131	7.71
5	BR10572-2-7-1-4	114	137	5.90
6	BR9674-1-4-1-3-P1	104	141	5.44
7	BRRI dhan74(ck)	103	130	7.91
8	BRRI dhan89(ck)	99	140	5.26
9	Bangabandhu dhan100	104	127	6.77
	CV (%)	1.22	0.55	5.79
	LSD <sub>(0.05)</sub>	0.64	0.67	0.25

D/S: 21.12.23 D/T: 25.01.24

### Experiment 20. Regional Yield Trial (RYT-TALL) for High Yielding Rice

#### Introduction

Five entries were evaluated in RYT-TALL for high yielding rice comparing with BRRI dhan102.

#### Materials and Methods

The experiment was conducted at BRRI farm Satkhira during Boro 2023-24. Thirty to thirty-five days old seedlings were transplanted in 5 m × 5m rows plot following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 25 cm × 15 cm. Fertilizers were applied at the rate of 42:17:20:15:1.5 kg Urea: TSP: MoP: Gypsum: Zinc Sulfate per bigha respectively. Urea were applied in three equal splits at 7-10 days after transplanting (DAT), at 25-30 DAT and at 55-60 DAT. Total amount of TSP, MoP, Gypsum and Zinc sulfate were applied at final land preparation. The recommended cultural practices were followed during the crop growing period.

### Results

The tested line BR10571-15-6-8-5 produce higher yield than the check variety BRRI dhan89 and Bangabandhu dhan100.

**Table 20. Regional yield trial for high yielding rice (RYT-TALL) during Boro 2023-24 at BRRI, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BR9892-8-2-2B	121	146	6.54
2	BR10247-14-18-7-3	121	145	6.73
3	BR1238-5-1-9-3B	125	145	5.86
4	BRH9392-6-2-1-3-4	119	146	6.00
5	BR9396-6-2-2B	107	134	7.17
6	BRRI dhan102	101	142	6.28
	CV (%)	1.79	0.16	5.79
	LSD <sub>(0.05)</sub>	0.64	0.67	0.25

D/S: 25.12.23 D/T: 29.01.24

## Experiment 21. Regional Yield Trial (RYT-STR CUM ALART) for High Yielding Rice

### Introduction

Five entries were evaluated in RYT- RYT-STR CUM ALART for high yielding rice comparing with BRRI dhan88 and BRRI dhan28.

### Materials and Methods

The experiment was conducted at BRRI farm Satkhira during Boro 2023-24. Thirty-five days old seedlings were transplanted in 5.4 m × 12 rows plot following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 20 cm × 20 cm. Fertilizers were applied at the rate of 260:100:165:112:11 kg Urea: TSP: MoP: Gypsum: Zinc Sulfate per hectare, respectively. Urea were applied in three equal splits at 15 days after transplanting (DAT), at 30 DAT and 5 days before PI stage. Total amount of TSP, MoP, Gypsum and Zinc sulfate were applied at final land preparation. The recommended cultural practices were followed during the crop growing period.

### Results

The tested line BR13113-4R-63 produce higher yield than the check variety BRRI dhan28 and BRRI dhan88.

**Table 21. Regional yield trial for high yielding rice (RYT-STR CUM ALART) during Boro 2023-24 at BRRI, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BR13113-4R-63	114	138	6.08
2	BR13106-4R-184	114	138	5.04
3	BR13113-4R-116	118	136	5.99
4	BR13122-4R-136	113	138	5.21
5	BR13111-4R-63	114	138	5.93
6	BRRI dhan28	94	142	6.25
7	BRRI dhan88	110	151	5.59
	CV (%)	0.88	0.16	4.21
	LSD <sub>(0.05)</sub>	0.64	0.67	0.62
D/S: 01.01.24		D/T: 29.01.24		

## Experiment 22. Regional Yield Trial for Blast and Bacterial blight resistance (BB-Blast)

### Introduction

Six entries were evaluated with two check varieties, BRRI dhan28 and BRRI dhan88.

### Objectives

To evaluate specific and general adaptability of bacterial blight and blast resistance advanced lines as compared with standard checks under on-station condition.

### Materials and Methods

The experiment was conducted at BRRI farm Satkhira during Boro 23-24. Transplanting was done in 2 m × 5 m rows following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 25 cm × 15 cm. Fertilizer and cultural practices were followed as per BRRI recommendations. Data were collected maintaining the standard procedure.

### Results:

The entry, BR(Path)13802-BC3-10-11-12 gave statistically higher yield over BRRI dhan28 and BRRI dhan88 (Table 22).

**Table 22. Performance of different entries under RYT (BB-Blast)**

SL	Designation	PH (cm)	GD (Days)	Yield (t/ha)
1	V1= BR(Path)13802-BC3-10-11-12	86	137	7.21
2	V2= BR(Path)13802-BC3-11-10-13	101	135	6.47
3	V3= BR(Path)13802-BC3-12-10-14	92	136	6.76
4	V4= BR(Path)13784-BC3-17-10-6-HR18	95	135	6.35
5	V5= BR(Path)13784-BC3-18-11-7-HR19	101	134	6.09
6	V6= BR(Path)13784-BC3-19-12-8-HR20	98	134	6.42
7	V7= BRRI dhan28 (CK)	101	133	6.29
8	V8= BRRI dhan88 (CK)	86	134	6.34
CV (%)		1.02	0.27	3.25
LSD (0.05)		0.79	0.30	0.17
D/S: 06-12-2023			D/T: 02-01-2024	

**Experiment 23. Regional Yield Trial for Development of Disease Resistant Rice for BB and Blast****Introduction**

A regional yield trial for BB and Blast rice was evaluated consisting of fourteen (14) entries comparing with three check varieties, BRRI dhan88, BRRI dhan89 & BRRI dhan101.

**Objectives**

On-station evaluation of the advanced breeding lines for adaptability along with the check varieties.

**Materials and Methods**

The experiment was conducted at BRRI farm Satkhira during Boro 23-24. Transplanting was done in 5.4 m × 8 rows following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 25 cm × 15 cm. Fertilizer rate was 300: 100: 165: 112: 11 kg Urea: DAP: MP: Gypsum: Zinc sulfate per hectare, respectively. Urea was applied in four equal splits at 15 DAT, 30 DAT, 45 DAT and 05 days before PI. Other fertilizers were applied at the final land preparation. All cultural practices were followed as per recommendation.

**Results**

The entry BR11866-5R-277, BR11867-5R-118, BR11867-5R-119 and BR12437-4R-164 performed better higher yields over BRRI dhan88 & BRRI dhan89. These entries and check BRRI dhan101 were identical to each other (Table 23).

**Table 23. Performance of different entries under RYT (BB and Blast)**

SL	Designation	PH (cm)	GD (Days)	Yield (t/ha)
1	V1= BR11866-5R-277	102	149	6.81
2	V2= BR11867-5R-118	102	144	6.67
3	V3= BR11867-5R-119	100	143	6.50
4	V4= BR11867-5R-331	107	149	6.68
5	V5= BR11869-5R-148	103	134	5.33
6	V6= BR12437-4R-164	97	139	6.57
7	V7= BR12437-4R-109	107	148	5.82
8	V8= BR12125-6R-6	94	139	5.89
9	V9= BR12125-6R-79	92	140	6.16
10	V10= BR12125-6R-149	110	142	5.60
11	V11= BR12450-4R-24	113	142	6.18
12	V12= BR12450-4R-108	111	141	5.73
13	V13= BR13793-5R-1	116	151	6.17
14	V14= BR13796-5R-102	120	139	4.46
15	V15= BRRI dhan88 (Std. CK)	93	136	5.85
16	V16= BRRI dhan89 (Std. CK)	117	151	5.66
17	V17= BRRI dhan101 (Res. CK)	110	141	6.78
CV (%)		0.87	0.4	3.46
LSD (0.05)		0.75	0.47	0.17
D/S: 06-12-2023			D/T: 02-01-2024	

## Experiment 24. Regional Yield Trial for Development of Disease Resistant Rice for Blast (Short duration)

### Introduction

Four entries were evaluated with two check varieties, BRRIdhan28 and BRRIdhan88.

### Objectives

Evaluation specific and general adaptability of the breeding lines as compared with standard checks under on-station condition.

### Materials and Methods

The experiment was conducted at BRRIdhan farm Satkhira during Boro 2023-24. Transplanting was done in 5.4 m × 10 rows plot following RCB design with three replications using 2-3 seedlings per hill maintaining the spacing of 25 cm × 15 cm. Fertilizers were applied at the rate of 260:100:165:112:11 kg Urea: DAP: MP: Gypsum: Zinc Sulfate per hectare respectively. Urea was applied in four equal splits at 15 DAT, 30 DAT, 45 DAT and 05 days before PI. Two-third MoP and other fertilizers were applied at the final land preparation. Rest one-third MoP was given with third top dressing of Urea. All cultural practices were followed as per recommendation.

### Results:

The tested entry BR(Path)15857-BC3-4HR-6 and BR(Path)15641-3HR-15 showed statistically better yield over the check variety, BRRIdhan88. BR(Path)15857-BC3-4HR-6 was also good. It maybe also alternative to BRRIdhan28 although there are similar to each other (Table 24).

**Table 24. Performance of different entries under RYT (Blast-SD) at BRRIdhan, Satkhira**

SL	Designation	PH (cm)	GD (Days)	Yield (t/ha)
1	V1= BR(Path)15641-3HR-15	103	135	6.27
2	V2= BR(Path)15641-3HR-45	93	134	5.86
3	V3= BR(Path)15857-BC3-4HR-6	100	139	6.37
4	V4= BR(Path)15641-3HR-12	109	141	5.65
5	V5= BRRIdhan28 (CK)	105	137	6.19
6	V6= BRRIdhan88 (S. CK)	92	136	5.39
	CV (%)	0.81	0.32	3.52
	LSD (0.05)	0.91	0.31	0.22

D/S: 06-12-23 D/T: 10-01-24

## Experiment 25. Regional Yield Trial for Development of Disease Resistant Rice for Blast (Medium duration)

### Introduction

Four entries were evaluated with two check varieties, BRRIdhan58 and BRRIdhan89.

### Objectives

Evaluation specific and general adaptability of the breeding lines as compared with standard checks under on-station condition.

### Materials and Methods

The experiment was conducted at BRRIdhan farm Satkhira during Boro 2023-24. Transplanting was done in 5.4 m × 10 rows plot following RCB design with three replications using 2-3 seedlings per hill maintaining the spacing of 25 cm × 15 cm. Fertilizers were applied at the rate of 280:100:165:112:11 kg Urea: DAP: MP: Gypsum: Zinc Sulfate per hectare respectively. Urea was applied in four equal splits at 15 DAT, 30 DAT, 45 DAT and 05 days before PI. Two-third MoP and other fertilizers were applied at the final land preparation. Rest one-third MoP was given with third top dressing of Urea. All cultural practices were followed as per recommendation.

**Results:**

The tested entry BR(Path)15854-BC1-3HR-21, BR(Path)15641-4HR-31 and Rod miniket-1 showed statistically better yield over the check variety, BRR1 dhan58 and BRR1 dhan89 (Table 25).

**Table 25. Performance of different entries under RYT (Blast-MD) at BRR1, Satkhira**

SL	Designation	PH (cm)	GD (Days)	Yield (t/ha)
1	V1= BR(Path)15854-BC1-3HR-21	101	137	6.92
2	V2= BR(Path)15641-4HR-31	106	139	6.90
3	V3= BR(Path)15853-3HR-3	109	143	6.06
4	V4= Rod miniket-1	101	138	7.07
5	V5= BRR1 dhan58 (S. CK)	103	139	6.39
6	V6= BRR1 dhan89 (S. CK)	116	145	6.02
	CV (%)	0.87	0.37	3.15
	LSD (0.05)	0.76	0.42	0.17
D/S: 06-12-23			D/T: 10-01-24	

**Experiment 26. Regional Yield Trial for Development of Disease Resistant Rice for Blast (Long duration)****Introduction**

Five entries were evaluated with one check variety, BRR1 dhan29.

**Objectives**

Evaluation specific and general adaptability of the breeding lines as compared with standard checks under on-station condition.

**Materials and Methods**

The experiment was conducted at BRR1 farm Satkhira during Boro 2023-24. Transplanting was done in 5.4 m × 10 rows plot following RCB design with three replications using 2-3 seedlings per hill maintaining the spacing of 25 cm × 15 cm. Fertilizers were applied at the rate of 280:100:165:112:11 kg Urea: DAP: MP: Gypsum: Zinc Sulfate per hectare respectively. Urea was applied in four equal splits at 15 DAT, 30 DAT, 45 DAT and 05 days before PI. Two-third MoP and other fertilizers were applied at the final land preparation. Rest one-third MoP was given with third top dressing of Urea. All cultural practices were followed as per recommendation.

**Results:**

The entry, BR(Path)15855-BC3-2HR-5 gave statistically higher yield over the check, BRR1 dhan29 (Table 26).

**Table 26. Performance of different entries under RYT (Blast-LD) at BRR1, Satkhira**

SL	Designation	PH (cm)	GD (Days)	Yield (t/ha)
1	V1= BR(Path)15855-BC3-2HR-5	106	137	6.92
2	V2= BR(Path)15855-BC3-2HR-11	109	139	6.90
3	V3= BR(Path)15855-BC2-3HR-8	117	143	6.06
4	V4= BR(Path)15855-BC2-3HR-23	112	138	7.07
5	V5= BR(Path)15855-BC2-3HR-47	108	139	6.39
6	V6= BRR1 dhan29 (S. CK)	105	145	6.02
	CV (%)	0.49	0.30	4.61
	LSD (0.05)	0.44	0.35	0.27
D/S: 06-12-23		D/T: 10-01-24		



## Results

The entry NGR 350-2 and NGR 994-1 performed better statistically higher yields over BRR dhan74 & BRR dhan102 (Table 28).

**Table 28. Performance of different entries under RYT (FBR-Barishal)**

SL	Designation	PH (cm)	GD (Days)	Yield (t/ha)
1	V1= NGR 350-2	99	137	7.45
2	V2= NGR 472-2	97	139	6.44
3	V3= NGR 736-1	103	142	6.76
4	V4= NGR 745-3	102	143	6.74
5	V5= NGR 994-1	100	142	7.28
6	V6= NGR 745-2	101	143	6.52
7	V7= NGR 749-2	103	140	6.65
8	V8= NGR 750-1	104	140	5.85
9	V9= NGR 796-2	98	141	5.92
10	V10= NGR 1161-3	99	138	5.67
11	V11= BRR dhan74	96	138	6.70
12	V12= BRR dhan102	102	144	5.57
	CV (%)	0.80	0.46	3.28
	LSD (0.05)	0.66	0.53	0.17

D/S: 15-12-23 D/T: 06-01-24

## Experiment 29. Regional Yield Trial for Short Duration (RYT-SD)

### Introduction

Eight entries were evaluated with two check varieties, BRR dhan88 and BRR dhan96.

### Objectives

To understand specific and general adaptability and select the best performing breeding lines with highest genetic merits.

### Materials and Methods:

The experiment was conducted at BRR farm Satkhira during Boro 23-24. Transplanting was done in 27 hills × 10 rows plot following RCB design with 3 replications using single seedling hill<sup>-1</sup> at a spacing of 20 cm × 20 cm. Fertilizer and cultural practices were followed as per BRR recommendations. Data were collected maintaining the standard procedure.

### Results:

The entry, BR12574-5R-168, BR12208-4R-50, BR12574-5R-52 and BR12671-4R-95 gave statistically higher yield over the two checks (Table 29).

**Table 29. Performance of different entries under RYT (FBR-SD) at BRR, Satkhira**

SL	Designation	PH (cm)	GD (Days)	Yield (t/ha)
1	V1= BR12520-5R-67	98	138	6.01
2	V2= BR12676-4R-392	87	137	5.57
3	V3= BRR dhan88	87	136	5.88
4	V4= BR12574-5R-168	115	134	6.54
5	V5= BRR dhan96	84	136	5.89
6	V6= BR12208-4R-278	85	141	5.96
7	V7= BR12208-4R-50	117	139	6.59
8	V8= BR12667-4R-86	96	138	5.61
9	V9= BR12574-5R-52	110	137	6.79
10	V10= BR12671-4R-95	123	145	6.41
	CV (%)	1.12	0.28	4.49
	LSD (0.05)	0.91	0.31	0.22

D/S: 03-12-23 D/T: 06-01-24

### Experiment 30. Regional Yield Trial for G×E Interaction of Basmati rice (RYT-G×E)

#### Introduction

Twenty entries were evaluated with six check varieties.

#### Objectives

To understand specific and general adaptability and select the best performing breeding lines with highest genetic merits.

#### Materials and Methods:

The experiment was conducted at BRRI farm Satkhira during Boro 23-24. Transplanting was done in 27 hills × 10 rows plot following RCB design with 2 replications using spacing 20 cm × 20 cm spacing. Fertilizer and cultural practices were followed as per BRRI recommendations. Data were collected maintaining the standard procedure.

#### Results:

The entry, Pusha Basmati and BRRI dhan81 gave statistically higher yield among the entries (Table 30).

**Table 30. Performance of different entries under RYT (G×E) at BRRI, Satkhira**

SL	Designation	PH (cm)	GD (Days)	Yield (t/ha)
1	Basmati (1230)	145	140	4.66
2	Basmati (4488)	146	131	4.65
3	Basmati 107 (4501)	146	134	5.37
4	Basmati 377 (4507)	139	132	4.48
5	Basmati (4754)	136	135	5.20
6	Basmati Sufaid 187	151	133	4.99
7	Indian Basmati	112	139	5.52
8	Basmati Pardnr442 (4496)	103	130	6.46
9	Pusha Basmati	109	133	6.93
10	BRRI dhan63 (Ck)	86	136	6.16
11	BRRI dhan81 (Ck)	85	131	7.19
12	BRRI dhan104 (Ck)	94	131	6.47
13	BRRI dhan107 (Ck)	104	137	4.67
14	Tepi Boro (Ck)	148	131	6.63
15	Rata Boro (Ck)	137	129	4.24
16	Basmati (N13) (4493)		Not Flowering	
17	Basmati (D) (3928)			
18	Basmati 370 (4489)			
19	Basmati 37 (4441)			
20	Basmati 370 (4494)			
21	Basmati 406 (4506)		Not Germination	
22	Basmati (6614)			
23	Super Basmati			
24	Basmati TAPL-90 (2517)			
25	Basmati nanot 439 (4496)			
26	Basmati-433 (4509)			
	CV (%)	0.88	0.66	3.67
	LSD (0.05)	1.08	0.88	0.20
	D/S: 15-12-23		D/T: 21-01-24	

### Experiment 31. Regional Yield Trial for Favorable Boro (RYT-FBR-Bio)

#### Introduction

Six entries were evaluated with two check varieties, BRR1 dhan86 and BRR1 dhan96.

#### Objectives

To evaluate specific and general adaptability and select the best performing breeding lines on-station condition.

#### Materials and Methods:

The experiment was conducted at BRR1 farm Satkhira during Boro 23-24. Transplanting was done in 5.4 m × 12 rows following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 25 cm × 15 cm. Fertilizer rate was 311: 125: 150: 84: 7.5 kg Urea: TSP: MP: Gypsum: Zinc sulfate per hectare, respectively. Urea was applied in three equal splits at 10-12 DAT, at 25-30 DAT and at 45-50 DAT. Other fertilizers were applied at the final land preparation. All cultural practices were followed as per recommendation.

#### Results:

The entry, BR(Bio)13028-AC1-2-4 gave statistically higher yield over the two checks (Table 31).

**Table 31. Performance of different entries under RYT (FBR-Bio) at BRR1, Satkhira**

SL	Designation	PH (cm)	GD (Days)	Yield (t/ha)
1	V1= BR(Bio)13029-AC6-2-6	94	142	5.57
2	V2= BR(Bio)13028-AC1-2-2	103	146	5.12
3	V3= BR(Bio)13028-AC1-2-3	103	145	5.86
4	V4= BR(Bio)13028-AC1-2-4	94	143	6.08
5	V5= BR(Bio)13028-AC1-2-7	98	147	6.01
6	V6= BR(Bio)13030-AC13-2-2	103	144	5.18
7	V7= BRR1 dhan86 (CK)	81	137	5.40
8	V8= BRR1 dhan96 (CK)	77	139	5.60
CV (%)		0.95	0.40	4.31
LSD (0.05)		0.73	0.47	0.20

D/S: 26-11-23 D/T: 02-01-24

### Advanced Line Adaptive Research Trial (ALART)

#### Experiment 32. Regional Yield Trial (ALART-SHR -1) for High Yielding Rice

#### Introduction

Two entries were evaluated in RYT-SHR-1 for high yielding rice comparing with BRR1 dhan49.

#### Materials and Methods

The experiment was conducted at BRR1 farm Satkhira during T. Aman 2023. Twenty to twenty five days old seedlings were transplanted in 5 m × 5 m plot following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 25 cm × 15 cm. Fertilizers were applied at the rate of 24:15:15:10:1 kg Urea: TSP: MoP: Gypsum: Zinc Sulfate per bigha, respectively. Urea were applied in four equal splits at 5-7 days after transplanting (DAT), at 22-25 DAT, at 45-50 DAT and beginning of the heading time. Total amount of TSP, MoP, Gypsum and Zinc sulfate were applied at final land preparation. The recommended cultural practices were followed during the crop growing period.

## Results

BRH13-2-14-2-1B showing the highest yield with a relatively shorter growth duration. (Table 32).

**Table 32. Advanced Line Adaptive Research Trial (ALART- SHR1) during T. Aman 2023 at BRRI, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BRH13-2-14-2-1B	108	130	3.21
2	BR13-7-9-3-2B	103	132	2.93
3	BRRI dhan49 (ck)	106	135	2.75
	CV (%)	1.13	0.23	5.10
	LSD <sub>(0.05)</sub>	2.44	0.71	0.40
D/S: 26.06.23		D/T: 20.07.23		

## Experiment 33. Regional Yield Trial (ALART-Antioxidant) for High Yielding Rice

### Introduction

Two entries were evaluated in RYT-Antioxidant for high yielding rice comparing with BRRI dhan34 and BRRI dhan70.

### Materials and Methods

The experiment was conducted at BRRI farm Satkhira during T. Aman 2023. Twenty-five days old seedlings were transplanted in 5 m × 4 m plot following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 20 cm × 15 cm. Fertilizers were applied at the rate of 200:70:100:70:6 kg Urea: TSP: MoP: Gypsum: Zinc Sulfate per hectare, respectively. Urea were applied in three equal splits at 10 days after transplanting (DAT), at 25 DAT and at 40 DAT. Total amount of TSP, MoP, Gypsum and Zinc sulfate were applied at final land preparation. The recommended cultural practices were followed during the crop growing period.

### Results

BRRI dhan70 (ck) is the top performer with the highest yield of 4.17 t ha<sup>-1</sup>, despite having the tallest plant height. BR12836-4R-312 also performs well, showing a competitive yield of 3.45 t ha<sup>-1</sup>. BRRI dhan34 (ck) shows the lowest yield, suggesting that the advanced lines BR12836-4R-63 and BR12836-4R-312 offer better yield performance in this trial. (Table 32).

**Table 33. Advanced Line Adaptive Research Trial (ALART- Antioxydent) during T. Aman 2023 at BRRI, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BR12836-4R-63	133	134	3.16
2	BR12836-4R-312	109	135	3.45
3	BRRI dhan34 (ck)	134	132	2.52
3	BRRI dhan70 (ck)	146	134	4.17
	CV (%)	1.15	0.23	6.10
	LSD <sub>(0.05)</sub>	1.29	0.71	0.62
D/S: 09.07.23		D/T: 31.07.23		

## Experiment 34. Advanced Line Adaptive Research Trial (ALART) for Superior High Yielding Rice (SHR-2) Swarna type grain

### Introduction

In T. Aman 2023, Advanced Line Adaptive Research Trial (ALART) was conducted for Superior High Yielding (SHR-2) Swarna type grain with the following objectives:

### Objectives

1. To evaluate the yield potential and adaptability of the advanced rice genotypes at farmers' field.

2. To get feedback information about the advantages and disadvantages of the selected materials from farmers and extension personnel.
3. To select suitable genotype(s) for proposed variety trial (PVT).

### Materials and Methods

The experiment was conducted at Jugorajpur, Sadar under Satkhira district during T. Aman 2023. Two genotypes were tested against the check varieties BRRIdhan94. Transplanting was done in 5.0 m × 5.0 m plot following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> maintaining spacing of 25 cm × 15 cm. Fertilizers were applied at the rate of 24:15:15:10:1 kg Urea: TSP: MP: Gypsum: Zinc Sulfate per bigha, respectively. Urea was applied in four equal splits at basal, 22-25 DAT, 45-50 DAT before panicle initiation (PI) and beginning of heading time. Other fertilizers were applied at the final land preparation. All cultural practices were followed as per recommendation.

### Results

In ALART-SHR-2, the tested entry BRH9392-6-2-1-3-4 and BR9396-6-2-2B showed statistically better yield over the check variety, BRRIdhan94. BRH9392-6-2-1-3-4 was also good. It may be also alternative to BRRIdhan92 (Table 34).

**Table 34. Performance of different genotypes under ALART-SHR-2 (Swarna type grain)**

SL.	Designation	PH (cm)	GD (Days)	Yield (t/ha)
1	V1= BRH9392-6-2-1-3-4	114	137	5.51
2	V2= BR9396-6-2-2B	98	132	4.69
3	V3= BRRIdhan94(ck)	99	136	3.17
	CV (%)	0.7	0.25	5.08
	LSD (0.05)	0.60	0.27	0.85
	D/S: 26-06-2023		D/T: 20-07-2023	

### Advanced Line Adaptive Research Trial (ALART) during Boro 23-24

#### Experiment 35. Advanced Line Adaptive Research Trial (ALART) for Salt tolerant rice (STR-Satkhira sadar, Shyamnagar, Kaliganj)

#### Introduction

Advanced Line Adaptive Research Trial for Salt tolerant rice (STR) was evaluated consisting of four entries comparing with the check varieties of BRRIdhan 67 and BRRIdhan 89.

### Materials and Methods

The experiment was conducted three location of farmer's field at Jugrajpur, Satkhira Sadar, Syamnagar, Kaliganj Satkhira during Boro 2023-2024 season. 35 days old seedlings were transplanted in 5.0 m × 4.0 m plot following RCB design with three replications using 2-3 seedlings per hill maintaining spacing of 20 cm × 20 cm. Fertilizers were applied at the rate of 270: 100: 165: 112: 11 kg Urea : TSP : MoP : Gypsum : Zinc Sulfate per hectare, respectively. All amounts of TSP, MoP, Gypsum and Zinc sulfate were applied at the time of final land preparation. Urea was applied in three equal splits at 15, 30 days after transplanting (DAT) and 5 days before panicle initiation stage. The recommended cultural practices were followed as per need during the crop growing period.

### Results

In satkhira sadar, among the tested genotypes of ALART for STR, none of the entry perform better than the check variety of BRRIdhan67 (7.48 t ha<sup>-1</sup> in 155 days) but better than other check BRRIdhan89 (Table 35).

In Syamnagar, no entries performed better over the check, BRRIdhan67 but entries, BR11712-4R-44, BR11712-4R-93, BR11717-4R-12 and BR11727-4R-6 performed better over BRRIdhan89 (Table 35.1).

In ALART-STR, 1st three entries performed better over the check, BRRI dhan67 but these were identical to each other (Table 35.2).

**Table 35. Advanced Line Adaptive Research Trial (ALART- STR, Sadar Satkhira) during Boro 2023-24 at BRRI, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BR11712-4R-44	102	155	7.23
2	BR11712-4R-93	119	155	6.18
3	BR11712-4R-12	114	155	5.56
4	BR11712-4R-6	95	155	7.52
5	BRRI dhan67 (ck)	111	145	7.48
6	BRRI dhan89 (ck)	110	155	5.14
	CV (%)	1.15	0.23	5.10
	LSD <sub>(0.05)</sub>	1.29	0.71	0.62

D/S: 27.11.23 D/T: 09.01.24

**Table 35.1. Advanced Line Adaptive Research Trial (ALART- STR, Syamnagar) during Boro 2023-24 at BRRI, Satkhira**

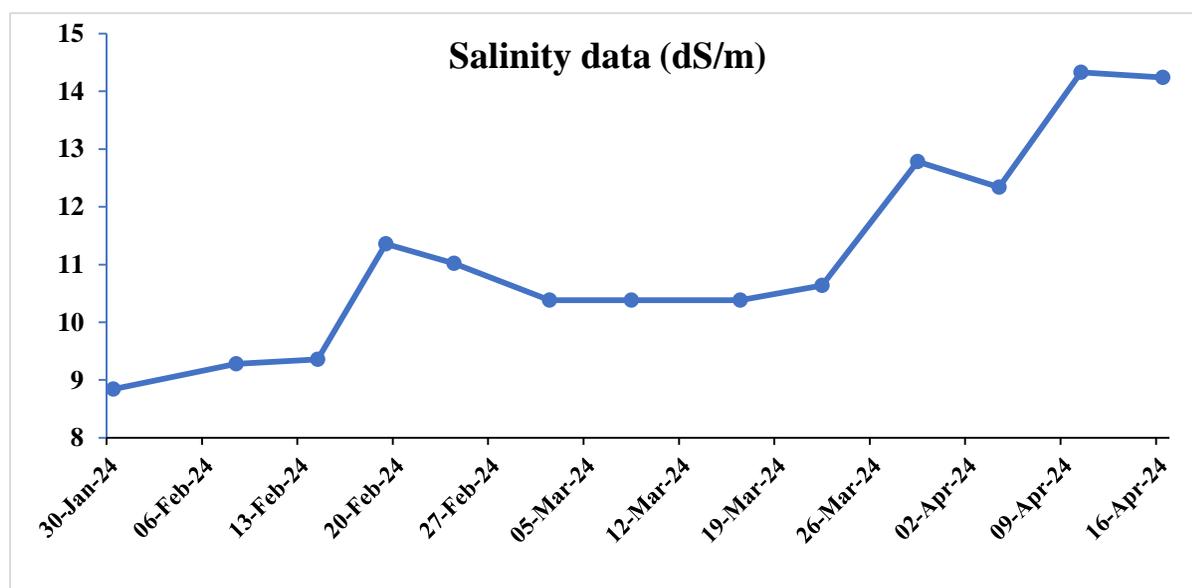
SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BR11712-4R-44	94	141	1.02
2	BR11712-4R-93	97	143	0.90
3	BR11712-4R-12	96	143	1.06
4	BR11712-4R-6	80	138	1.22
5	BRRI dhan67 (ck)	89	142	1.55
6	BRRI dhan89 (ck)	83	149	0.20
	CV (%)	2.15	0.35	9.35
	LSD <sub>(0.05)</sub>	1.58	0.41	0.08

D/S: 19.11.23 D/T: 21.01.24

**Table 35.2. Advanced Line Adaptive Research Trial (ALART- STR, Syamnagar) during Boro 2023-24 at BRRI, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BR11712-4R-44	89	141	2.03
2	BR11712-4R-93	94	143	2.05
3	BR11712-4R-12	95	142	2.04
4	BR11712-4R-6	77	137	1.64
5	BRRI dhan67 (ck)	88	141	1.90
6	BRRI dhan89 (ck)	Damaged		
	CV (%)	3.14	0.39	9.23
	LSD <sub>(0.05)</sub>	2.27	0.45	0.15

D/S: 19.11.23 D/T: 21.01.24



**Figure 1. Salinity Data (Shyamnagar, Satkhira)**

**Figure 2. Salinity data (Kaliganj)**

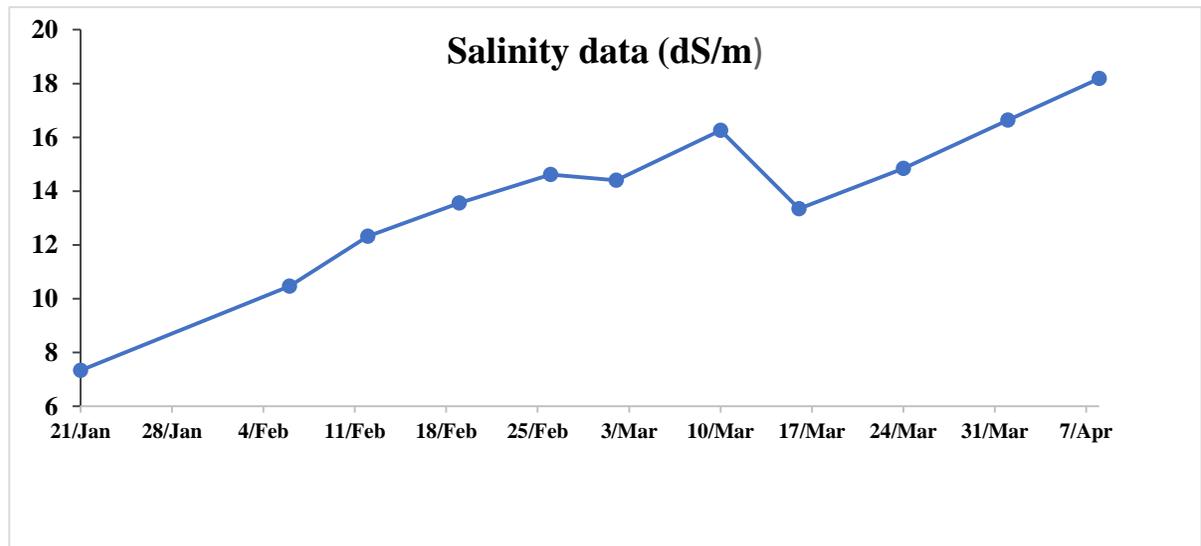
**Experiment 36. Advanced Line Adaptive Research Trial (ALART) for FBR-Bio.**

**Introduction**

Advanced Line Adaptive Research Trial for FBR-Bio was evaluated consisting of three entries comparing with the check varieties of BRRI dhan86 and BRRI dhan96.

**Materials and Methods**

The experiment was conducted at farmer’s field at Jugrajpur, Satkhira Sadar, Satkhira during Boro 2023-2024 season. 35-40 days old seedlings were transplanted in 5.0 m × 4.0 m plot following RCB design with three replications using 2-3 seedlings per hill maintaining spacing



of 25 cm × 15 cm. Fertilizers were applied at the rate of 298: 87: 124: 56: 0.82 kg Urea : TSP : MoP : Gypsum : Zinc Sulfate per hectare, respectively. All amounts of TSP, MoP, Gypsum and Zinc sulfate were applied at the time of final land preparation. Urea was applied in three equal splits at 15, 30 and 45 days after transplanting (DAT). The recommended cultural practices were followed as per need during the crop growing period.

**Results**

Among the three tested genotypes of ALART for FBR-Bio, BRRI dhan96 produces the highest grain yield at 6.13 t ha<sup>-1</sup>. BRRI dhan86 follows with a yield of 5.90 t ha<sup>-1</sup>. BR(Bio)13028AC24-1-2 yields 5.40 t ha<sup>-1</sup>, BR(Bio)13028AC24-1-3 yields 4.96 t ha<sup>-1</sup>, and BR(Bio)13028AC24-1-4 yields the lowest at 4.10 t ha<sup>-1</sup>. (Table 36).

**Table 36. Advanced Line Adaptive Research Trial (ALART- FBR Bio) during Boro 2023-24 at BRRI, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BR(Bio)13028AC24-1-2	109	142	5.40
2	BR(Bio)13028AC24-1-3	96	142	4.96
3	BR(Bio)13028AC24-1-4	99	148	4.10
4	BRRI dhan86 (ck)	84	142	5.90
5	BRRI dhan96 (ck)	87	145	6.13
	CV (%)	1.15	0.12	6.10
	LSD <sub>(0.05)</sub>	1.29	0.27	0.62
D/S: 27.11.23		D/T: 04.01.24		

## Experiment 37. Advanced Line Adaptive Research Trial (ALART) for SHR-1 (Zira type)

### Introduction

Advanced Line Adaptive Research Trial for SHR-1 (Zira type) was evaluated consisting of three entries comparing with the check varieties of BRRI dhan88.

### Materials and Methods

The experiment was conducted at farmer's field at Jugrajpur, Satkhira Sadar, Satkhira during Boro 2023-2024 season. 30-35 days old seedlings were transplanted in 5.0 m × 5.0 m plot following RCB design with three replications using 2-3 seedlings per hill maintaining spacing of 25 cm × 15 cm. Fertilizers were applied at the rate of 40:17:20:15:1.5 kg Urea : TSP : MoP : Gypsum : Zinc Sulfate per hectare, respectively. All amounts of TSP, MoP, Gypsum and Zinc sulfate were applied at the time of final land preparation. Urea was applied in three equal splits at 7-10, 25-30 days after transplanting (DAT) and 55-60 days after transplanting (DAT), before panicle initiation stage. The recommended cultural practices were followed as per need during the crop growing period.

### Results

Among the three tested genotypes of ALART for ZER, none of the line perform better than the check (Table 37)

**Table 37. Advanced Line Adaptive Research Trial (ALART- SHR1) during Boro 2023-24 at BRRI, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BRH15-24-7B	85	136	5.73
2	BR9392-1-7-5B	85	136	6.26
3	BR17-23-8-2-7B	91	136	6.40
4	BRRI dhan88 (ck)	85	136	6.45
	CV (%)	1.15	-	6.10
	LSD <sub>(0.05)</sub>	1.29	-	0.62
D/S: 03.12.23		D/T: 04.01.24		

## Experiment 38. Advanced Line Adaptive Research Trial (ALART) for SHR-2 (Katari type)

### Introduction

Advanced Line Adaptive Research Trial for SHR-2 (Katari type) was evaluated consisting of three entries comparing with the check varieties of BRRI dhan81.

### Materials and Methods

The experiment was conducted at farmer's field at Jugrajpur, Satkhira Sadar, Satkhira during Boro 2023-2024 season. 30-35 days old seedlings were transplanted in 5.0 m × 5.0 m plot following RCB design with three replications using 2-3 seedlings per hill maintaining spacing of 25 cm × 15 cm. Fertilizers were applied at the rate of 40:17:20:15:1.5 kg Urea : TSP : MoP : Gypsum : Zinc Sulfate per bigha, respectively. All amounts of TSP, MoP, Gypsum and Zinc sulfate were applied at the time of final land preparation. Urea was applied in three equal splits at 7-10, 25-30 days after transplanting (DAT) and 55-60 days after transplanting (DAT), before panicle initiation stage. The recommended cultural practices were followed as per need during the crop growing period.

### Results

Among the three tested genotypes of ALART for Katari type, BRH9-3-2B is the best performer in terms of both height and yield. (Table 37).

**Table 37. Advanced Line Adaptive Research Trial (ALART- SHR2) during Boro 2023-24 at BRRI, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BRH11-7-17-10B	90	136	5.51
2	BRH9-3-2B	96	136	6.08
3	BRH13-9-5-2B	90	136	5.72
4	BRRRI dhan81 (ck)	83	136	4.46
	CV (%)	1.15	-	6.10
	LSD <sub>(0.05)</sub>	1.29	-	0.62
D/S: 03.12.23		D/T: 04.01.24		

**Experiment 39. Advanced Line Adaptive Research Trial (ALART) for Bacterial Blight (BB)**

**Introduction**

Advanced Line Adaptive Research Trial for Bacterial Blight (BB) was evaluated consisting of three entries comparing with the check varieties of BRRRI dhan89 and BRRRI dhan92.

**Materials and Methods**

The experiment was conducted at farmer's field at Jugrajpur, Satkhira Sadar, Satkhira during Boro 2023-2024 season. 35 days old seedlings were transplanted in 5.0 m × 4.0 m plot following RCB design with three replications using 2-3 seedlings per hill maintaining spacing of 25 cm × 15 cm. Fertilizers were applied at the rate of 300:100:165:112:11 kg Urea : TSP : MoP : Gypsum : Zinc Sulfate per hectare, respectively. All amounts of TSP, MoP, Gypsum and Zinc sulfate were applied at the time of final land preparation. Urea was applied in three equal splits at 15,30,45 days after transplanting (DAT) and 5 days before panicle initiation stage. The recommended cultural practices were followed as per need during the crop growing period.

**Results**

Among the three tested genotypes of ALART for BB, BRRRI dhan89 (ck) is the top performer for grain yield. BR(path)13800-BC3-224-28 offers a competitive yield, but still falls short of BRRRI dhan89 (ck). BRRRI dhan92 (ck) and BR(path)13800-BC3-8-1 provide lower yields, with the latter having the lowest yields among all varieties. (Table 38).

**Table 38. Advanced Line Adaptive Research Trial (ALART- BB) during Boro 2023-24 at BRRI, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	BR(path)13800-BC3-8-1	100	142	4.76
2	BR(path)13800-BC3-8-1	102	142	4.80
3	BR(path)13800-BC3-224-28	107	142	5.40
4	BRRRI dhan89 (ck)	78	142	5.70
5	BRRRI dhan92 (ck)	112	142	4.94
	CV (%)	1.15	-	5.10
	LSD <sub>(0.05)</sub>	1.29	-	0.62
D/S: 27.11.23		D/T: 09.01.24		

**Experiment 40. Advanced Line Adaptive Research Trial (ALART) for Bacterial blight and Blast resistant (BB-BLAST)**

**Introduction**

Advanced Line Adaptive Research Trial for Bacterial blight and Blast resistant (BB-BLAST) was evaluated consisting of three entries comparing with the check varieties of BRRRI dhan29 and BRRRI dhan84.

## Materials and Methods

The experiment was conducted at farmer's field at Jugrajpur, Satkhira Sadar, Satkhira during Boro 2023-2024 season. 35 days old seedlings were transplanted in 5.0 m × 4.0 m plot following RCB design with three replications using 2-3 seedlings per hill maintaining spacing of 25 cm × 15 cm. Fertilizers were applied at the rate of 300:100:165:112:11 kg Urea : TSP : MoP : Gypsum : Zinc Sulfate per hectare, respectively. All amounts of TSP, MoP, Gypsum and Zinc sulfate were applied at the time of final land preparation. Urea was applied in three equal splits at 15,30,45 days after transplanting (DAT) and 5 days before panicle initiation stage. The recommended cultural practices were followed as per need during the crop growing period.

## Results

R(path)13800-BC3-224-44 is the best performing variety in this trial for grain yield, suggesting it has superior productivity compared to other tested varieties. (Table 39).

**Table 39. Advanced Line Adaptive Research Trial (ALART- BB+BLAST) during Boro 2023-24 at BRRI, Satkhira**

SN	Entry/Variety	PH (cm)	GD (days)	GY (t ha <sup>-1</sup> )
1	R(path)13800-BC3-134-8	116	155	5.77
2	R(path)13800-BC3-134-25	109	155	5.64
3	R(path)13800-BC3-224-44	113	155	5.88
4	BRRRI dhan89 (ck)	114	155	5.52
5	BRRRI dhan92 (ck)	117	155	5.36
	CV (%)	1.15	-	5.10
	LSD <sub>(0.05)</sub>	1.29	-	0.62

D/S: 27.11.23 D/T: 09.01.24

## CROP-SOIL-WATER MANAGEMENT

### Experiment 41. Effect of missing nutrient on rice production in southern coastal area during T. Aman 2023 and Boro 2023-24

#### Introduction

Nutrient deficiency problems are a major constraint on rice production in all over the country. Proper identification and management of these problems are a prerequisite for boosting production and sustaining high yields over long period of time. Field evaluation of the fertility status of soils plays very important role complementary to soil and plant tests. The missing element trial is an effective technique for field evaluation of fertility status of soils to identify limiting elements which can help proper nutrient management for maximization of rice production.

#### Materials and Methods

The experiment was carried out at BRRI farm, Satkhira using BRRRI dhan87 and BRRRI dhan67 during T. Aman 2023 and Boro 2023-24, respectively. Missing element trial was done using seven treatments in RCB design with three replications. NPKSZn was applied at the rate of 100:15:60:10:1 kg ha<sup>-1</sup> in T. Aman and 120:18:75:20:3 kg ha<sup>-1</sup> in Boro season. All fertilizers except urea were applied at final land preparation. Urea was applied in three equal splits in both T. Aman and Boro season. The unit plot size was 5 m × 6 m and spacing was 20 cm × 20 cm. Thirty to thirty-five days old seedlings were transplanted using 2-3 seedlings hill<sup>-1</sup>. Recommended management practices were followed. Standard procedures were maintained for data collection.

#### Result

In T. Aman 2022, nutrient controlled plot and N omitted plot gave the lowest yield compared to other fertilizer treatments (Table 40). Control plot (without fertilization) reduced the highest yield level of 35% followed by N omitted plot (30%), where other nutrient omitted plots

reduced the yield level of 9-21% compared to complete fertilizer dose. In Boro season, application of N, P, K, S and Zn significantly increased rice yield compared to control and N omitted plot (Table 40). Omission of N, P, K, S and Zn (control plot) significantly reduced rice yield over the missing of P, K, S and Zn plot. However, insignificant variation in rice yield was observed between the missing of N solely and control treatment (Table 40). Control plot (without fertilization) reduced the highest yield level of 64% followed by N omitted plot (57%), where other nutrient omitted plots reduced the yield level of 5-20% compared to complete fertilizer dose.

**Table 40. Effect of missing element on grain yield and panicle number of BRRI dhan87 during T. Aman 2023 and BRRI dhan67 in Boro 2023-24.**

Treatments	T. Aman 2023			Boro 2023-24		
	Straw yield (kg) (5m <sup>2</sup> )	Grain yield (t ha <sup>-1</sup> )	Yield decrease (%) due to missing nutrient	Straw yield (kg) (5m <sup>2</sup> )	Grain yield (t ha <sup>-1</sup> )	Yield decrease (%) due to missing nutrient
PKSZn (-N)	2.33	3.51	30	1.69	2.58	57
NKSZn (-P)	3.56	4.52	21	4.03	5.26	20
NPSZn (-K)	3.45	4.74	13	3.71	5.41	16
NPKZn (-S)	3.15	4.32	20	3.54	5.28	19
NPKS (-Zn)	3.87	5.24	11	4.03	5.98	5
NPKSZn	3.32	5.87	-	4.18	6.27	-
Control	2.46	3.21	35	1.53	2.25	64
LSD(0.05)	0.37	0.51		2.35	0.63	
CV (%)	14.21	13.64		8.50	7.58	

## Experiment 42. Judicial N management in Boro rice for increasing yield

### Introduction

Nitrogen is particularly important for Boro rice, but its application needs to be carefully timed to coincide with critical growth stages such as tillering and panicle initiation. Judicial management ensures that nitrogen is available when the plants need it most, improving yield and quality. During boro season, N uptake in plants is low, which delays seedling establishment due to the low temperature. For this reason, early urea application with 1/3<sup>rd</sup> dose may not be effective as practiced. And excessive or mismanaged use of fertilizers can lead to environmental problems such as water pollution due to runoff. Judicial nitrogen management practices help minimize these risks, ensuring more sustainable rice production.

### Objective

To determine the contribution of tillers to rice grain yield under different nitrogen treatments.

### Materials and methods

The experiment was conducted at BRRI farm Satkhira during Boro 2024. Transplanting was done in 5 m × 5 m plot following RCB design with three replications using 2-3 seedlings hill<sup>-1</sup> and maintaining spacing of 20 cm × 20 cm. There were five (5) treatments: T<sub>1</sub>= Fertilizer control, T<sub>2</sub>=N @ 100 Kg/ha, T<sub>3</sub>=N @ 120 kg/ha, T<sub>4</sub>=N @ 140kg/ha and T<sub>5</sub>=BRRI Recommended dose (Urea will be applied in three splits). Other fertilizers and cultural practices were followed as per BRRI recommendation.

### Fertilizer topdressing pattern

eg. 120 kg/ha (100%)

10 DAT: 14.40 kg/ha (12.0 %)

25 DAT: 37.20 kg/ha (31.0 %)

40 DAT: 37.20 kg/ha (31.0 %)

55 DAT: 31.20 kg/ha (26.0 %)

**Results:**

**Tillering Growth Pattern:**

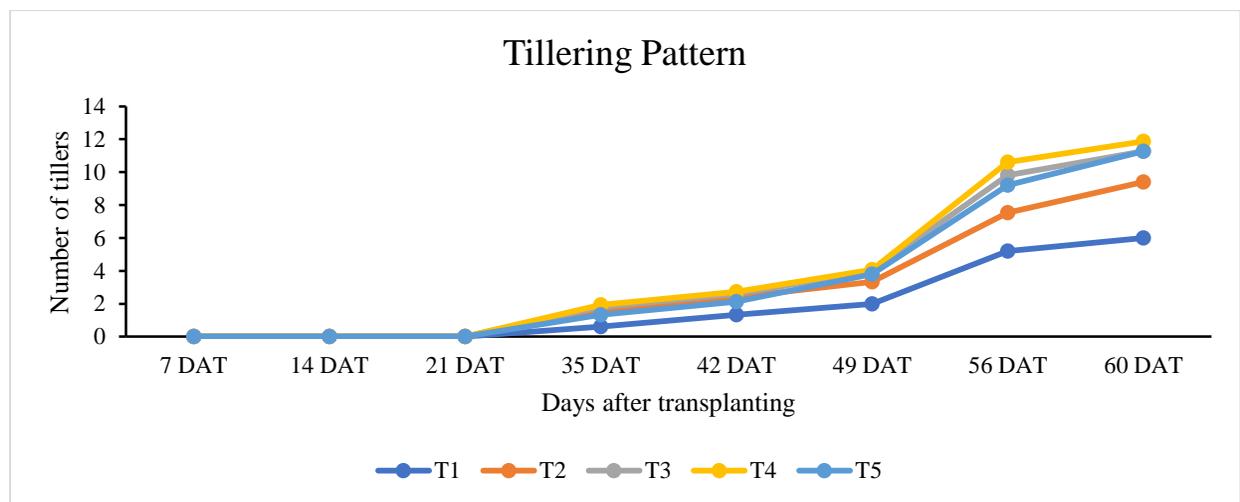
All treatments showed no tiller production at 7 DAT and 14 DAT, which is expected as tiller initiation typically occurs after the rice plants establish.

By 35 DAT, treatments T2, T3, and T4 showed significant tiller growth, with T4 exhibiting the highest tiller count, followed by T3 and T2. This suggests that higher nitrogen application rates may enhance tiller production.

T1 (Control) had the lowest tiller count, highlighting the importance of nitrogen for rice growth. However, the control still produced some tillers by 35 DAT.

By 42 DAT, tiller growth continued to increase across treatments, with T4 maintaining the highest tiller count, and T5 (BRRI recommended dose) showing moderate tillering.

At 56 DAT and 60 DAT, treatments T4 and T3 continued to show the highest tiller counts, reflecting the sustained growth from higher nitrogen applications. T5 and T2 also showed good growth, while T1 remained the lowest.



The cold Boro season is characterized by low temperatures, which can hinder nitrogen uptake by rice plants. As nitrogen is essential for rice growth, particularly during early stages of development like tillering, its proper management during the cold season can significantly improve growth and yield outcomes. The results of this experiment highlight the critical role of nitrogen fertilization in mitigating the adverse effects of cold temperatures, allowing for better tillering and, ultimately, higher grain yield. The higher nitrogen doses (T4 and T3) resulted in the highest tiller counts, demonstrating the importance of judicious nitrogen management to optimize rice production during the cold Boro season.

**Table 41: Showing the rice yield (in tons per hectare) for each treatment**

Treatment	Yield (t/ha)
T1	2.58
T2	4.77
T3	5.81
T4	6.14
T5	5.91
lsd (0.5%)	2.82
CV (%)	0.27

The experiment demonstrates that nitrogen application significantly enhances tiller development and yield in Boro rice, particularly under cold-season conditions. Higher nitrogen doses, such as T4 (140 kg/ha) and T3 (120 kg/ha), resulted in the highest tiller counts,

confirming the positive relationship between nitrogen application and tillering. This improvement in tiller development is crucial for achieving higher grain yields.

The cold Boro season, characterized by low temperatures, often limits nitrogen uptake, affecting rice growth and yield potential. This study highlights that effective nitrogen management during the cold season can mitigate these challenges, ensuring optimal growth during early stages like tillering. Among the treatments, T4 produced the highest yield (6.1367 t/ha), while the BRRI-recommended dose (T5, 5.91 t/ha) also delivered strong performance. Lower doses, such as T3 (120 kg/ha) and T2 (100 kg/ha), significantly outperformed the control (T1, 2.58 t/ha), emphasizing the importance of nitrogen fertilization in overcoming cold-season constraints.

In conclusion, proper nitrogen application is essential for maximizing rice productivity during the cold Boro season. While the highest dose (T4) yielded the best results, the near-equivalent performance of the recommended dose (T5) underscores the potential for sustainable nitrogen management practices to optimize yields effectively.

## SOCIO-ECONOMIC AND POLICY

### Experiment 43. Stability Analysis of BRRV Varieties at Satkhira

#### Introduction

Stability of a crop in various environments across the country is important for its adoption and expansion to the farmers' field. BRRV has already developed one hundred fifteen of rice varieties for different agro-ecosystem for Aus, Aman and Boro season. This experiment was taken to identify the most suitable and adaptable BRRV rice variety (ies) for specific area.

#### Materials and Methods

The experiment was conducted at BRRV farm, Satkhira during Aman and Boro season during 2023-24. A total of 100 varieties were evaluated to determine yield and yield contributing traits during T. Aman (48) and Boro (52) seasons. Transplanting was done in a 3.0 m × 3.0 m plots following RCB design with 3 replications using 2-3 seedling hill<sup>-1</sup> at a spacing of 20 cm × 20 cm. Fertilizer and cultural practices were followed as per BRRV recommendations. Data were collected maintaining the standard procedure.

#### Results

During T. Aman 2023, among short-duration varieties, BRRV Hybrid dhan6 (6.27 t ha<sup>-1</sup>) had the best performance based on yield compared to others (Table 41a). In medium-duration Aman varieties (22) based on yield, BRRV dhan103 produced the highest grain yield (5.95 t ha<sup>-1</sup>), which was identical to BRRV dhan72 (5.60 t ha<sup>-1</sup>) (Table 41b). The growth duration of those varieties ranged from 126-129 days. In long-duration T. Aman varieties (11), BR23 (4.86 t ha<sup>-1</sup>) produced the highest yield, which was identical to BRRV dhan10 (4.79 t ha<sup>-1</sup>) (Table 41c).

During Boro 2023-24, among the short-duration varieties (26), particularly among hybrid varieties, BRRV hybrid dhan8 produced the highest yield (8.36 t ha<sup>-1</sup>) compared to BRRV hybrid dhan3 (7.72 t ha<sup>-1</sup>). And particularly among inbred varieties, BRRV dhan101 (7.00 t/ha) and Bangabandhu dhan100 (6.75 t/ha) showed better performance considering yield compared to others. Among the long-duration varieties (26), BRRV dhan47 gave the highest yield (6.80 t ha<sup>-1</sup>) followed by BRRV dhan99 (6.77 t ha<sup>-1</sup>) but they were identical to each other (Table 41e). The growth duration of those varieties ranged from 139-146 days.

**Table 42a. Performance of different short duration BRRV varieties under stability analysis during Aman 2023**

SL.	Variety	PH (cm)	GD (Days)	Yield (t/ha)
1	BRRV dhan33	101	110	4.25
2	BRRV dhan39	104	112	4.10
3	BRRV dhan53	103	117	4.04
4	BRRV dhan56	109	106	3.91
5	BRRV dhan57	111	100	3.35
6	BRRV dhan62	93	100	3.18
7	BRRV dhan66	114	110	3.81
8	BRRV dhan71	105	111	4.15
9	BRRV dhan73	115	117	4.13
10	BRRV dhan75	105	106	4.89
11	BRRV dhan87	118	120	5.90
12	BRRV dhan90	106	115	3.27
13	BRRV dhan95	119	119	4.27
14	BRRV Hybrid dhan4	108	112	6.11
15	BRRV Hybrid dhan6	103	114	6.27
	CV (%)	0.90	0.62	4.16
	LSD (0.05)	0.79	0.56	0.15

D/S: 09-07-23

D/T: 01-08-23

**Table 42b. Performance of different medium duration BRRI varieties under stability analysis during Aman 2023**

SL.	Variety	PH (cm)	GD (Days)	Yield (t/ha)
1	BR 3	87	130	3.41
2	BR 4	107	136	4.45
3	BR 11	95	138	4.14
4	BR 22	113	132	3.78
5	BR 25	120	140	4.48
6	BRRI dhan30	102	135	4.20
7	BRRI dhan31	107	122	4.33
8	BRRI dhan32	106	137	4.43
9	BRRI dhan40	104	137	4.34
10	BRRI dhan49	87	128	4.52
11	BRRI dhan51	70	134	4.45
12	BRRI dhan52	99	135	3.90
13	BRRI dhan54	92	130	4.17
14	BRRI dhan70	114	125	4.42
15	BRRI dhan72	103	126	5.60
16	BRRI dhan77	122	137	4.84
17	BRRI dhan78	94	130	5.18
18	BRRI dhan79	80	127	4.82
19	BRRI dhan80	91	127	5.19
20	BRRI dhan93	81	130	4.35
21	BRRI dhan94	83	134	4.22
22	BRRI dhan103	118	129	5.95
	CV (%)	1.39	0.42	4.79
	LSD (0.05)	1.12	0.45	0.18

D/S: 09-07-23

D/T: 01-08-23

**Table 42c. Performance of different long duration BRRI varieties under stability analysis during Aman 2023**

SL.	Variety	PH (cm)	GD (Days)	Yield (t/ha)
1	BR5	104	140	3.49
2	BR10	88	141	4.79
3	BR22	94	142	3.75
4	BR23	98	141	4.86
5	BRRI dhan34*	114	130	3.45
6	BRRI dhan37*	101	135	3.29
7	BRRI dhan38*	100	135	3.34
8	BRRI dhan41	98	143	3.76
9	BRRI dhan46	89	145	3.66
10	BRRI dhan76	117	147	3.46
11	BRRI dhan91	119	150	4.34
	CV (%)	1.59	0.28	5.88
	LSD (0.05)	1.32	0.32	0.18

D/S: 09-07-23

D/T: 01-08-23

\*= Photo sensitive.

**Table 42d. Performance of different short duration BRRI varieties under stability analysis during Boro 2023-24**

SL.	Variety	PH (cm)	GD (Days)	Yield (t/ha)
1	BR1	85	147	5.22
2	BR6	97	136	4.31
3	BRRI dhan26	109	135	5.10
4	BRRI dhan27	143	110	2.90
5	BRRI dhan28	88	135	5.95
6	BRRI dhan36	90	136	5.18

7	BRRI dhan45	100	136	5.77
8	BRRI dhan55	99	139	5.94
9	BRRI dhan61	87	139	5.66
10	BRRI dhan63	86	139	5.82
11	BRRI dhan67	98	136	5.73
12	BRRI dhan68	95	136	5.58
13	BRRI dhan74	94	139	4.77
14	BRRI dhan81	95	136	5.17
15	BRRI dhan84	91	136	4.85
16	BRRI dhan86	88	135	4.86
17	BRRI dhan88	88	136	5.06
18	BRRI dhan96	85	139	5.52
19	Bangabandhu dhan100	98	139	6.75
20	BRRI dhan101	109	139	7.00
21	BRRI dhan104	103	143	6.11
22	BRRI dhan105	97	143	6.09
23	BRRI Hybrid dhan2	99	141	7.60
24	BRRI Hybrid dhan3	105	138	7.72
25	BRRI Hybrid dhan5	107	140	5.50
26	BRRI Hybrid dhan8	97	143	8.36
CV (%)		1.32	0.39	5.49
LSD (0.05)		1.05	0.44	0.26

D/S: 06-12-23

D/T: 14-01-24

**Table 42e. Performance of different long duration BRRI varieties under stability analysis during Boro 2023-24**

SL.	Variety	PH (cm)	GD (Days)	Yield (t/ha)
1	BR2	118	147	5.47
2	BR3	96	165	5.52
3	BR7	110	145	5.60
4	BR8	129	146	5.62
5	BR9	117	147	5.88
6	BR12	92	146	6.00
7	BR14	100	145	5.25
8	BR15	97	146	5.33
9	BR16	92	165	5.60
10	BR17	139	144	4.18
11	BR18	113	144	5.40
12	BR19	119	146	5.66
13	BRRI dhan29	87	146	5.40
14	BRRI dhan35	103	146	4.83
15	BRRI dhan47	97	139	6.80
16	BRRI dhan50	81	144	5.12
17	BRRI dhan58	103	144	6.57
18	BRRI dhan59	83	144	4.13
19	BRRI dhan60	90	139	4.66
20	BRRI dhan64	105	144	5.64
21	BRRI dhan69	91	144	5.79
22	BRRI dhan89	105	144	5.41
23	BRRI dhan92	107	146	5.53
24	BRRI dhan97	107	144	6.20
25	BRRI dhan99	109	146	6.77
26	BRRI dhan102	100	146	5.75
CV (%)		1.94	0.36	5.21
LSD (0.05)		1.64	0.43	0.24

D/S: 06-12-23

D/T: 14-01-24

## DEVELOPMENT OF SALT-TOLERANT RICE (STR) FOR SOUTHERN COASTAL BANGLADESH

**General objective:** Development of improved genotypes with high yield potential (4.5 t/ha under salt-stress and  $\geq 8.0$  t/ha under non-stress conditions), earliness and acceptable grain quality to achieve climate change adaptation (reduce the risk of harmful effects due to climate change) for southern coastal ecosystem in Bangladesh during Boro season

**Project Leader:** M. Akhlasur Rahman

### Experiment 6.1: Hybridization

**Principal investigator:** M. Akhlasur Rahman

**Co-investigator:** Nusrat Jahan, Armin Akter Setu and Ribed Farzana Disha

**Specific objective:** To introgress high yielding and salt-tolerance traits into elite genetic background considering product profile for target region during T. Aman and Boro season.

**Materials and Methods:** Sixty and 64 detailed-characterized parents were grown in five different dates starting July 2022 for T. Aman; from November 2023 for Boro season, respectively, with an interval of seven days for flowering synchronization to achieve desired cross combinations. Twenty-five-day-old seedlings in T. Aman and forty-day-old seedlings in Boro were transplanted @ single seedling with a spacing of 20 cm  $\times$  15 cm in a 5.4 m  $\times$  2 rows plot in the plant breeding net house, Gazipur. Fertilizers @ 80:60:40:20 kg N, P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O, S/ha were used with split application of N at 15, 30, 50 days after transplanting (DAT) in T. Aman and 120:60:40:20 kg N, P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O, S/ha were used with split application of N at 15, 40, 60 DAT in Boro season. Total amount of P, K, S were applied at the time of final land preparation. The experiment was conducted at BRRI, Gazipur.

**Results and discussion:** In T. Aman season, 55 crosses were made using 60 well characterized elite parents (**Table 6.1**) and 32 crosses were made using 64 elite parents in Boro season (**Table 6.1**). These crosses were made to develop desirable F<sub>1</sub>s having salinity tolerance with other useful traits. Parent selection for crossing was done on the basis of the following criteria such as i) phenotypic value that improves breeding value, ii) genetic distance, iii) no sister lines used for making cross, iv) the most of the OYT and PYT lines used that are well characterized using trait markers for high amylose+high yield+Saltol+Tr (*Chalk5*) + Grain size shape + Pi54;Pi9 (Blast)+*BPH17*+*Xa21*+*xa13*), previous mega varieties (BR11, BRRI dhan28 and 29) excluded; and vi) specific line(s) used not more than 3 to 5 times in the crossing program. For line augmentation, 4 BC<sub>2</sub>F<sub>1</sub>, 2 BC<sub>2</sub> F<sub>1</sub> and 2BC<sub>2</sub>F<sub>2</sub> cross are confirmed for desirable traits (**Table 6.1a**)

**Table 6.1: List of crosses (Elite/Elite) made for generating F<sub>1</sub>s, Salt-Tolerant Rice (STR) Breeding, T. Aman 2023-24 and Boro 2023-24**

Boro 2023-24		
Sl. No.	Cross Combination	Number of seed
1	BR13108-4R-184/IRRI 154	50
2	BR13104-4R-148-P2/BR13111-4R-63	22
3	BR13104-4R-80-P3/IR58443-6B-103	84
4	BR13125-4R-92/BR13104-4R-80-P2(White)	17
5	BR13408-4R-232/BR13104-4R-80-P1	22
6	BR13104-4R-80-P3/BR13108-4R-232	57
7	BR13104-4R-148-P1/BR13113-4R-63	23
8	BR11714-4R-112/Fatema dhan	39

SI No	Cross Combination (Elite/Elite:Cycle-2)	No of seeds	Trait of interest
<b>T.Aman 2023-24</b>			
1	BR13115-4R-93/BR13103-4R-37	57	+qSES1.2-2+qSES1.2-3+qSES1.2-4
2	BR13115-4R-93/BR11716-4R-102	82	+qSES1.2-2+qSES1.2-3+qSES1.2-4
3	BR13122-4R-136/BR10441-17-1-5	72	
4	BR11715-4R-186/BR13486-4R-94	75	
5	BR13115-4R-117/BR12477-4R-371	14	
6	BR13103-4R-7/BR11391-4R-335	10	Saltol+qSES1.2-2+qSES1.2-3+qSES1.2-4
7	BR13115-4R-70/BR13106-4R-38	56	
8	BR13115-4R-70/BR13103-4R-37	71	
9	BR12459-4R-113/BR13115-4R-93	44	+qSES1.2-2+qSES1.2-3+qSES1.2-4
10	BR12459-4R-113/BR11716-4R-102	36	+qSES1.2-4
11	BR11391-4R-335/BR13115-4R-63	15	
12	BR11391-4R-335/BR12477-4R-371	77	
13	BR13106-4R-38/BR13103-4R-7	38	+qSES1.2-4
14	BR13106-4R-38/BR11716-4R-102	46	Saltol+qSES1.2-2+qSES1.2-3+qSES1.2-4
15	BR13106-4R-38/BR13117-4R-95	30	
16	BR13106-4R-38/BR11723-4R-172	103	
17	BR13115-4R-63/BR13105-4R-37	41	
18	BR13111-4R-63/BR13103-4R-37	16	
19	BR13115-4R-116/BR11715-4R-277	37	+qSES1.2-4
20	BR13103-4R-37/BR13115-4R-106	139	+qSES1.2-4
21	BR12477-4R-371/BR13103-4R-7	68	Saltol+qSES1.2-3+qSES1.2-4
22	BR11388-4R-6/BR13111-4R-63	23	+qSES1.2-4
23	BR11716-4R-102/BR12113-4R-63	114	+qSES1.2-3+qSES1.2-4
24	BR13115-4R-117/BR13103-4R-37	66	
25	BR12459-4R-16/BR13106-4R-38	153	+qSES1.2-4
26	BR11716-4R-102/BR13122-4R-136	84	+qSES1.2-4
27	BR11716-4R-102/BR13125-4R-92	101	
28	BR11716-4R-102/BR13111-4R-63	37	
29	BR11716-4R-102/BR13108-4R-232	134	Saltol+qSES1.2-2+qSES1.2-4
30	BR11716-4R-102/IR58443-6B-10-3	91	+qSES1.2-4
31	BR11716-4R-102/BR13106-4R-38	37	
32	BR12459-4R-113/BR11716-4R-102	74	
33	BR13103-4R-7/BR11716-4R-102	32	
34	BR10440-4-12-5/BR11716-4R-102	40	
35	IR58443-6B-10-3/BR11716-4R-102	41	
36	BR10440-4-12-5/BR11716-4R-102	66	
37	BRR1 dhan87/BR13486-4R-94	141	+qSES1.2-4
38	BR13115-4R-32/BR23	117	+qSES1.2-4
39	BR23/BR22	115	
40	BR23/BR11716-24-102	138	
41	BR22/BR11716-24-102	54	
42	(BR23/BR13104-4R-80-P1)×BR23	84	
43	BR12459-4R-16/A69-1	114	
44	BRR1 dhan92/A69-1	23	Salinity+Alkalinity+Fe Toxicity
45	BR13103-4R-52/Khatobabu	49	Saltol+qSES1.2-2+qSES1.2-3+qSES1.2-4
46	BR13106-4R-106/Khatobabu	177	+qSES1.2-4
47	BR13115-4R-117/Khatobabu	33	+qSES1.2-4
48	BR13122-4R-136/Khatobabu	34	
49	BR13115-4R-159/Khatobabu	136	
50	BR12477-4R-371/Khatobabu	19	
51	BR13106-4R-38/Rodminiket	41	qSES1.2-2+qSES1.2-3+qSES1.2-4
52	BR11391-4R-335/Rodminiket	78	
53	BR12477-4R-371/Rodminiket	109	
54	BR10440-4-17-5/Fatemadhan	19	
55	BR13103-4R-7/BR13115-4R-93	19	Saltol+qSES1.2-2+qSES1.2-3+qSES1.2-4
9	BR13113-4R-63/BR12177-4R-1		9
10	BR13203-4R-76/BR13104-4R-81-P1		17
11	BR13198-4R-35/BR13104-4R-102		45
12	BR13201-4R-225/IR58443-6B-10-3		12
13	BR13113-4R-63/BR13104-4R-80-P2		28
14	BR13198-4R-35/BR13104-4R-80-P2		28
15	BR11714-4R-148/BR13122-4R-136		53
16	BR13201-4R-298/Jira dhan		20

17	BR13201-4R-268/BR13113-4R-63	36
18	BR13122-4R-136/BR13106-4R-438	30
19	BR13108-4R -232/BR13104-4R-81-P2	12
20	BR13106-4R-438/A-69	71
21	BR11715-4R-186/BR13201-4R-27	56
22	BRR1 dhan104/A-69	40
23	BR11712-4R-227/BR13113-4R-185	26
24	BR13199-4R-136/BR13104-4R-55-P2	11
25	A-69/BR13104-4R-81-P1	100
26	BR11712-4R-27/BR13106-4R-438	70
27	BR13108-4R-438/BR13104-4R-80-P2	60
28	BR11716-4R-147/Fatema dhan	30
29	BR13111-4R-63/BR13104-4R-148-P1	32
30	BR13106-4R-438/BR13201-4R-250	37
31	BR9891-18-5-2-7/Fatema dhan	40
32	BR11723-4R-27/ Fatema dhan	30

**Table 6.1a: Line augmentation report**

Deployment of blast resistant genes (*Pi9*), BB resistant genes (*xa5*, *xa13* and *Xa21*), through line augmentation approach using elite recipient and elite donor.

BR No.	Parentage	QTLs / genes	Traits of Interest	Boro 2023-24
BR14992	BR11723-4R-12*2/IR127152-3-22-2-1-B	<i>Xa5+Xa21+Xa13</i>	BLB	RGA (F4)
BR14993	BR11723-4R-172*2/IR127152-3-22-2-1-B	<i>Xa5+Xa21+Xa13</i>	BLB	RGA (F4)
BR14730	BR11723-4R-12*2/IRRI154-Pi9	<i>Pi9</i>	Blast	RGA (F4)
BR14732	BR11723-4R-172*2/IRRI154-Pi9	<i>Pi9</i>	Blast	RGA (F4)
BR14729	BR11723-4R-12*1/IR127152-3-22-2-1-B	<i>Xa5+Xa21+Xa13</i>	BLB	OYT
BR14731	BR11723-4R-172*1/IR127152-3-22-2-1-B	<i>Xa5+Xa21+Xa13</i>	BLB	OYT
BR14729	BR11723-4R-12*2/IR127152-3-22-2-1-B	<i>Xa5+Xa21+Xa13</i>	BLB	OYT
BR14732	BR11723-4R-172*2/IRRI154-Pi9	<i>Pi9</i>	Blast	OYT

### Experiment 6.2: Hybridity test for confirming F<sub>1</sub>s

**Principal investigator:** M. Akhlasur Rahman

**Co-investigator:** Nusrat Jahan, Armin Akter Setu and Ribed Farzana Disha

**Specific objective:** To confirm of F<sub>1</sub>s as true hybrid and confirmed F<sub>1</sub>s registered into BRR1 cross list and BR database.

**Materials and Methods:** Forty-four and 37 F<sub>1</sub>s were grown along with their respective parents in the hybridization block at Gazipur respectively at T. Aman and and Boro season. Twenty-five-day-old seedlings in T. Aman and forty-day-old seedlings in Boro season transplanted @ single seedling with a spacing of 20 cm × 15 cm. Fertilizers and crop management followed were the same as Experiment 6.1. The experiment was conducted at BRR1, Gazipur.

**Results and discussion:** A total of 44 and 37 F<sub>1</sub>s was confirmed as true hybrid through F<sub>1</sub> verification by visual comparison of all the crosses with respective parents and also quality check (QC) genotyping with purity SNP panel both in T. Aman and Boro season respectively (Table 6.2). The F<sub>1</sub> plants with heterozygous alleles at least two or more SNP loci were declared as true F<sub>1</sub>s (hybrids). After confirmation, the F<sub>2</sub> seeds were collected and preserved. These confirmed F<sub>1</sub>s were registered into BRR1 cross list with BR number in T. Aman and Boro season.

**Table 6.2: List of confirmed F1s, Salt-Tolerant Rice (STR) Breeding, T. Aman 2023-24 and Boro 2023-24**

SL. No.	BR No.	Cross combinations (Elite/Elite)	Traits
<b>T.Aman 2023-24</b>			
1	15399	BR12466-4R-275/BR12460-4R-156	qSES1.2-2+qSES1.2-3+qSES1.2-4
2	15400	BR12465-4R-47/BR12459-4R-209	+qSES1.2-4
3	15401	BR12465-4R-18/BR12466-4R-159	
4	15402	BR12460-4R-102/BR12459-4R-39	
5	15403	BR13104-4R-75/IRRI154Pi9	
6	15404	BR12459-4R-183/BR12477-4R-13	Saltol+qSES1.2-2+qSES1.2-3+qSES1.2-4
7	15405	BR12459-4R-49/BR12461-4R-70	
8	15406	BR12465-4R-181/BR12460-4R-107	
9	15407	BR12459-4R-14/BR12477-4R-305	+qSES1.2-2+qSES1.2-3+qSES1.2-4
10	15408	BR11712-4R-218/IR58443-6B-10-3	+qSES1.2-4
11	15409	BR12465-4R-309/BR12465-4R-223	
12	15410	BR12459-4R-103/BR12461-4R-6	
13	15411	BR11723-4R-172/BR11607-4R-72	+qSES1.2-4
14	15412	BR12460-4R-58/BR12477-4R-13	Saltol+qSES1.2-2+qSES1.2-3+qSES1.2-4
15	15413	BR12459-4R-117/BR12469-4R-213	
16	15414	BR12459-4R-286/BR12459-4R-214	
17	15415	BR13711-4R-190/IR58443-6B-10-3	
18	15416	BR11715-4R-186/IR127152-3-22-2-1-21	+qSES1.2-4
19	15417	BR11723-4R-172/BR12465-4R-27	+qSES1.2-4
20	15418	BR12466-4R-169/BR12477-4R-64	Saltol+qSES1.2-3+qSES1.2-4
21	15419	BR11712-4R-218/IRRI154Pi9	+qSES1.2-4
22	15420	BR12462-4R-6/BR12477-4R-358	+qSES1.2-3+qSES1.2-4
23	15421	BR11388-4R-11/BR12459-4R-18	
24	15422	BR11716-4R-123/BR11386-5R-5	+qSES1.2-4
25	15423	BR11716-4R-102/BR11607-4R-72	+qSES1.2-4
26	15424	BRRRI dhan92/IR58443-6B-10-3	
27	15425	BRRRI dhan92/BR12459-4R-103	
28	15426	BR12478-4R-185/Bangabandhu dhan100	Saltol+qSES1.2-2+qSES1.2-4+Zn
29	15427	BRRRI dhan87/BR12459-4R-209	+qSES1.2-4
30	15428	BRRRI dhan92/IR58448-6B-10-3	
31	15429	BRRRI dhan89/BRRRI dhan99	+qSES1.2-4
32	15430	BRRRI dhan92/BRRRI dhan99	+qSES1.2-4
33	15431	BR11715-4R-218*2/BR11607-4R-72	
34	15432	BRRRI dhan92/BR22	
35	15433	BRRRI dhan92/BR23	
36	15433	BRRRI dhan92/BR23	
37	15434	BR22/BRD(R) - 6	
38	15435	BR22/IRRI154	
39	15436	BR22/BR11315-5R-17	
40	15437	BR12477-4R-13/BR22	Saltol+qSES1.2-2+qSES1.2-3+qSES1.2-4
41	15438	BR23/BRRRI dhan54	
42	15439	BR23/BRRRI dhan36	
43	15440	BR23/BR13104-4R-80-P1	
44	15441	BR23/IRRI154	

**Boro 2023-24**

SI. No.	Cross Combination	Traits
1	BR13115-4R-93/BR13103-4R-37	Saltol+qSES1.2-2+qSES1.2-3+qSES1.2-4
2	BR13115-4R-93/BR11716-4R-102	
3	BR11715-4R-186/BR13486-4R-94	
4	BR13103-4R-7/BR11391-4R-335	
5	BR12459-4R-113/BR13115-4R-93	
6	BR12459-4R-113/BR11716-4R-102	
7	BR11391-4R-335/BR12477-4R-371	
8	BR13106-4R-38/BR11716-4R-102	
9	BR13106-4R-38/BR13117-4R-95	

10	BR13115-4R-116/BR11715-4R-277
11	BR12477-4R-371/BR13103-4R-7
12	BR11388-4R-6/BR13111-4R-63
13	BR11716-4R-102/BR13113-4R-63
14	BR13115-4R-117/BR13103-4R-37
15	BR12459-4R-16/BR13106-4R-38
16	BR11716-4R-102/BR13122-4R-136
17	BR11716-4R-102/BR13125-4R-92
18	BR11716-4R-102/BR13111-4R-63
19	BR11716-4R-102/BR13108-4R-232
20	BR11716-4R-102/IR58443-6B-10-3
21	BR11716-4R-102/BR13106-4R-38
22	BR12459-4R-113/BR11716-4R-102
23	IR58443-6B-10-3/BR11716-4R-102
24	BRR1 dhan87/BR13486-4R-94
25	BR13201-4R-284/BR13210-4R-39
26	BR13201-4R-285/BR13204-4R-195
27	BR13208-4R-2/BR13204-4R-195
28	BR13207-4R-28/BR13205-4R-203
29	BR12459-4R-16/A69-1
30	BR13106-4R-106/Khato Babu
31	BR13115-4R-117/Khato Babu
32	BR13122-4R-136/Khato Babu
33	BR13115-4R-159/Khato Babu
34	BR12477-4R-371/Rodminiket
35	BR13103-4R-7/BR13115-4R-93
36	BR10440-4-1-2-5/BR11716-4R-102
37	BR13115-4R-32/BR23

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### **Experiment 6.3: Field Rapid Generation Advance (FRGA)**

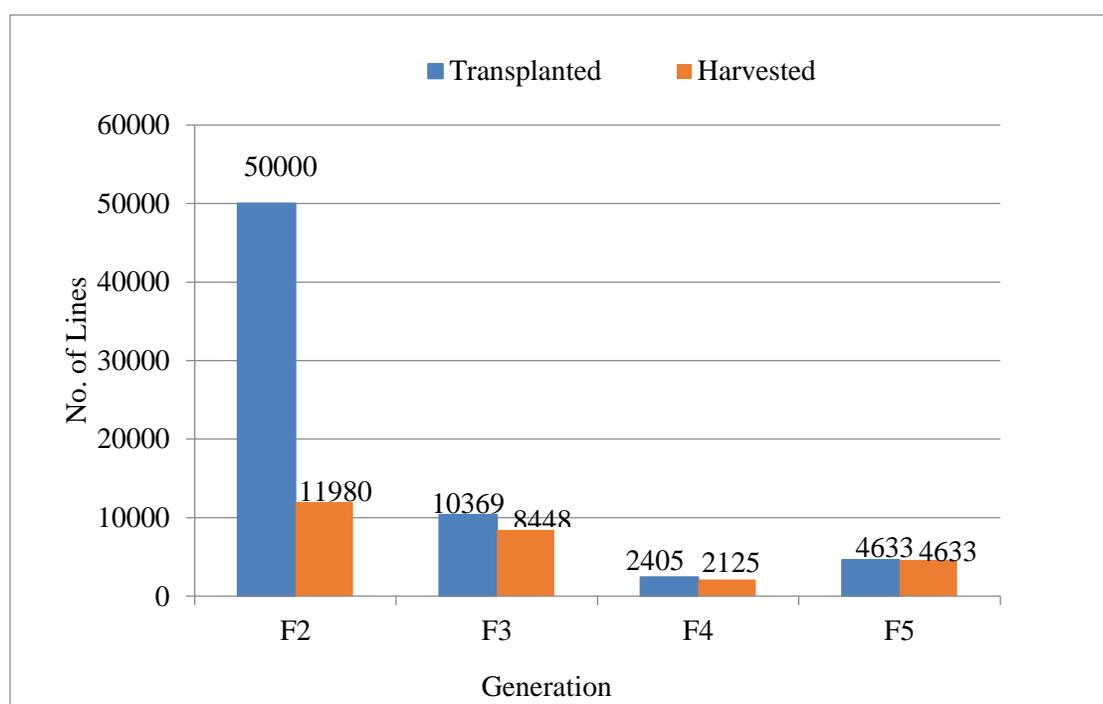
**Principal investigator:** M A Rahman

**Co-investigator:** Nusrat Jahan, Armin Akter Setu and R F Disha

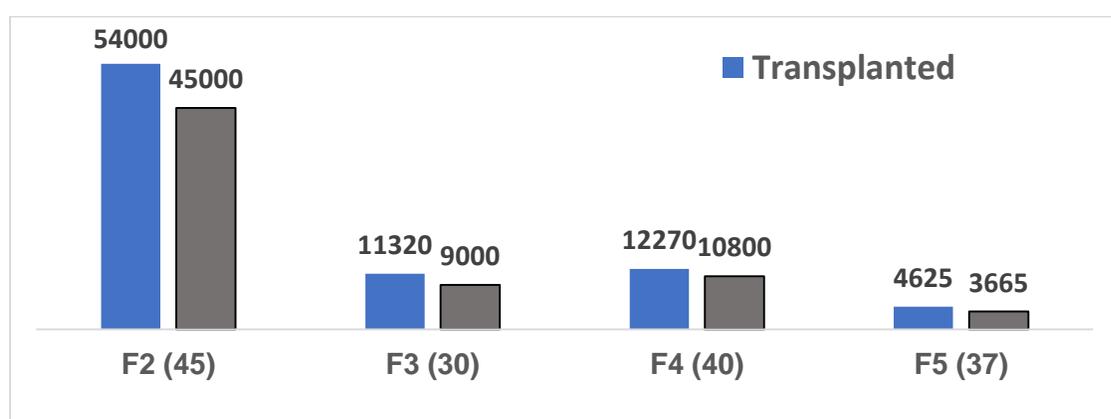
**Specific objectives:** Rapid advancement of segregating population for shortening the breeding cycle.

**Materials and Methods:** In total, 67407 segregating progenies from 115 crosses in T Aman season and 82215 individual progenies from 104 crosses were grown in Boro season comprising F<sub>2</sub>, F<sub>3</sub>, F<sub>4</sub>, and F<sub>5</sub> population in field following RGA method of breeding at BRR1 Gazipur respectively. Thirty-day-old and 45 days seedlings were transplanted at 5×5 cm spacing in the field. Fertilizer management was done using the half doses of all fertilizers used in Experiment 1. At maturity, a single panicle was harvested from each plant of each cross. Freshly harvested seeds were dried and broken seed dormancy using the dry heat treatments @ 45°C for 5 d to initiate the next cycle of RGA immediately.

**Results and discussion:** Segregating progenies from F<sub>2</sub> to F<sub>5</sub> generation were rapidly advanced in the field condition in T. Aman and Boro season. In total 27186 progenies in T. Aman,(Fig.01) and 52535 segregating progenies in Boro season (Fig.02) were harvested from in F<sub>2</sub>-F<sub>5</sub> generations using FRGA technique.



**Fig. 6.3.1: Total number of RGA Population, T. Aman 2023-24**



**Fig. 6.3.2: Total number of RGA Population, Boro 2023-24**

#### **Experiment 6.4: Line Stage Testing (LST) Trial**

**Principal Investigator :** M A Rahman

**Co-investigators:** Nusrat Jahan, Armin Akter Setu and Ribed Farzana Disha

**Specific objectives:** To assess FRGA/RGA derived advanced breeding lines for uniformity at heading, other desirable agronomic traits and grain type.

**Materials and Methods:** A total of 7009 from 41 crosses advanced breeding lines and 3321 from 19 crosses advanced breeding line in T Aman and Boro season, respectively were grown at BRR I R/S Satkhira. Thirty-five- and 40-days old seedlings were transplanted in a 5.4 m × 1 rows plot with a spacing of 20 cm × 20 cm. Single seedling was transplanted. Fertilizer doses and time of application were the same as in Experiment no.6.1. Hand weeding was done in time. The experiment was conducted at BRR I Farm, Satkhira.

**Results:** Out of 7009 lines, 748 lines were selected that derived from 41 crosses in LST trial during T Aman 2023-24 based on identical flowering, grain type traits and phenotypic acceptability under field condition (**Table 6.4.1**). The frequency distribution of selected LST was shown in **Figure 6.4.1a**. The highest number (58 lines) of LST lines from the cross BR13336-4R (BR8743-B-1-2-2/ IR10351-B-AJY10-3 and the lowest number of lines (9 lines) were selected from the cross BR13499-4R (BRR I dhan74/I-14//BRR I dhan74/I-71 respectively (**Table 6.4.1**). High selection intensity (8%) was applied in LST in T Aman 2022-23 (**Fig. 6.4.2b**). Out of 3321 lines, a total of 425 lines from 19 crosses were selected in LST trial during

Boro 2023-24 based on identical flowering, acceptable grain type (MS/LS) traits and phenotypic acceptability under field condition. High selection intensity (11%) was applied in LST in Boro season 2023-24 (Fig. 6.4.2c).

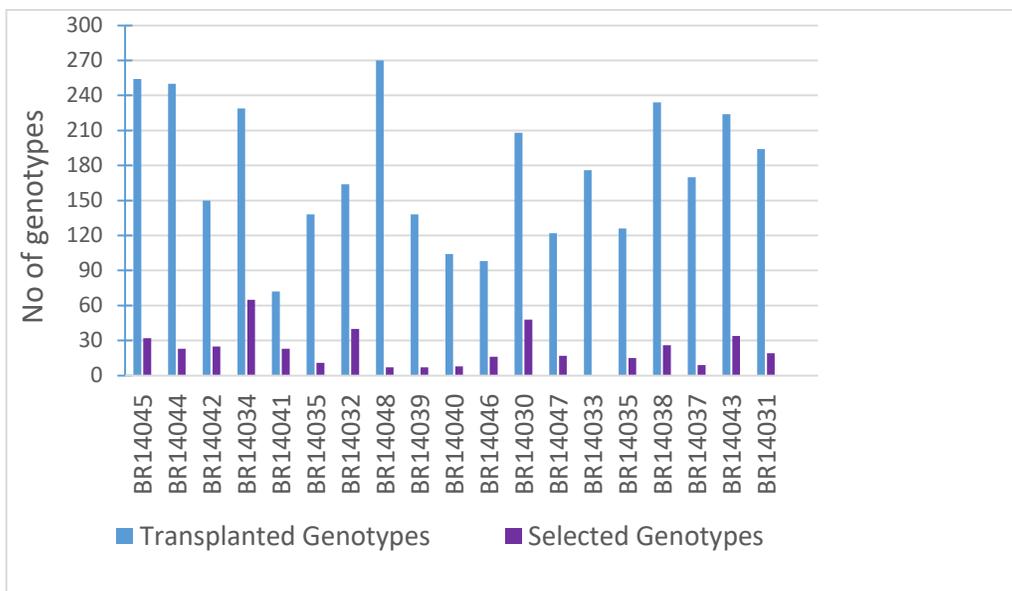
**Table 6.4.1: List of superior fixed lines selected from LST, T Aman 2023-24**

Sl No	BR no.	Parentage	No of Tested Lines	Selected Lines
1	BR13665	BR11712-4R-227/IR87870-3-7-1-1-1-1-B	93	1
2	BR13666	BR11716 -4R-129/IR59418-7B-21-3	148	25
3	BR13668	BR11716-4R-102/IR87870-3-7-1-1-1-1-B	120	18
4	BR13669	BR11712-4R-232/IR58443-6B-10-3	200	18
5	BR13670	BRRI dhan87/WANXIAN7777-P8	238	39
6	BR13672	BR7528-B-AK-BHA/IR58443-6B-10-3	174	20
7	BR13673	BR11716-4R-105/BRRI dhan67	146	36
8	BR13676	BR23/IR58443-6B-10-3	168	2
9	BR13677	BR11715-4R-186/IR58443-6B-10-3	192	21
10	BR13678	IR107989-B-BRGA-BRGA-452/WANXIAN7777-P10	194	12
11	BR13679	BR11716-4R-105/IR58443-6B-10-3	198	11
12	BR13680	IR99051-B-BL-B-B01-1/BR11716-4R-113	218	21
13	BR13682	BR11712-4R-227/IR58443-6B-10-3	114	33
14	BR13683	BR11723-4R-48/IR58443-6B-10-3	108	30
15	BR13684	HHZ-12-SAL12-Y3-Y2/ IR59418-7B-21-3	156	9
16	BR13685	BR11723-4R-48 /WANXIAN7777-P10	132	20
17	BR13686	BRRI dhan30/WANXIAN7777-P10	204	15
18	BR13687	BR11715-4R-196 / IR58443-6B-10-3	172	19
19	BR13688	BR11716-4R108/IR59418-7B-21-3	162	11
20	BR13689	BR11716-4R-196 / IR58443-6B-10-3	158	14
21	BR13690	BRRI dhan30 / WANXIAN7777-P8	162	3
22	BR13691	BR11723-4R-12 / IR87870-3-7-1-1-1-1-B	64	1
23	BR13692	IR103757-B-BRGA-BRGA-BRGA-102 / BRRI dhan67	148	9
24	BR13693	BR7528-2R-HR16-2-24-1 /IR58443-6B-103	242	16
25	BR13694	IR58443-6B-10-3 / BR11715-4R-114	160	30
26	BR13695	BR11723-4R-12 / IR58443-6B-10-3	212	29
27	BR13696	BR10 / D(R)6	192	27
28	BR13697	BR11716-4R-105 / IR58443-6B-10-3	116	4
29	BR13698	BR11723-4R-27 /IR83484-3-B-7-1-1-1	112	13
30	BR13699	BR10 / WANXIAN7777-P10	212	27
31	BR13700	HHZ12-SAL12-Y3-Y2 / IR58443-6B-10-3	244	26
32	BR13701	BR7528-2R-HR16-2-24-1/IR58443-6B-10-3	328	25
33	BR13702	BR11712-4R-227 / IR83484-3-B-7-1-1-1	216	14
34	BR13703	BR11723-4R-48 / IR83484-3-B-7-1-1-1	150	9
35	BR13704	BR11716-4R-102 / IR83484-3-B-7-1-1-1	100	7
36	BR13705	D(R)6 / IR59418-7B-21-3	350	25
37	BR13707	IR58443-6B-10-3*2/Patnai	152	18
38	BR13708	BR7528-B-AK-BHA / BR11716-4R-120	196	47
39		BRRI dhan63 /I-14	32	4
40		BRRI dhan67 /I-14	140	14
41		BRRI dhan74 /I-14	186	3
<b>Total</b>			<b>7009</b>	<b>748</b>

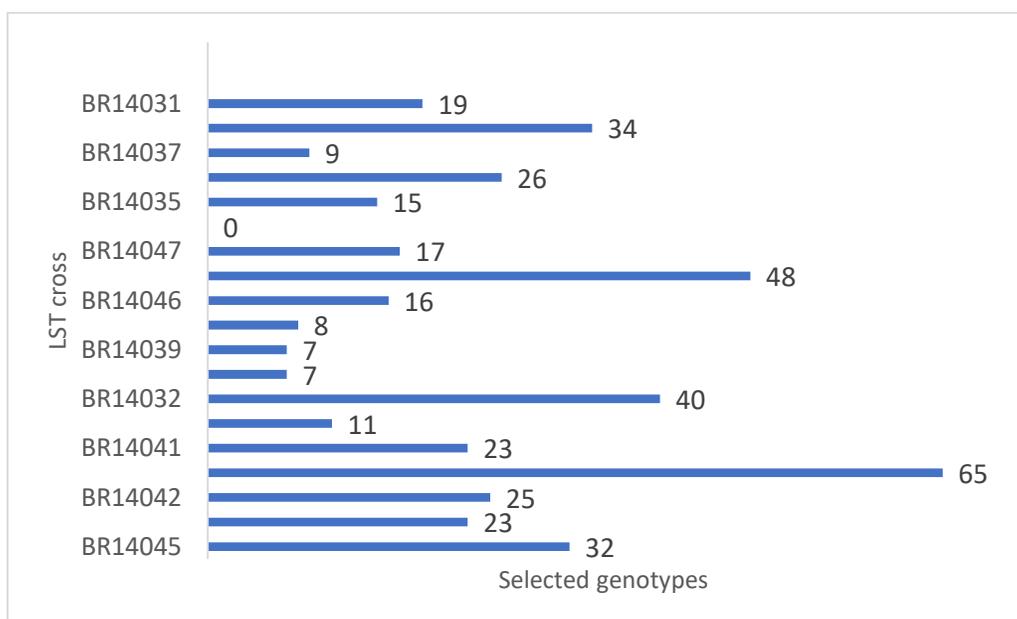
**Table 6.4.2: List of superior fixed lines identified from LST, Boro 2023-24**

Sl. No.	Designation	Transplanted Genotypes	Selected Genotypes
1	BR14045	254	32
2	BR14044	250	23
3	BR14042	150	25
4	BR14034	229	65

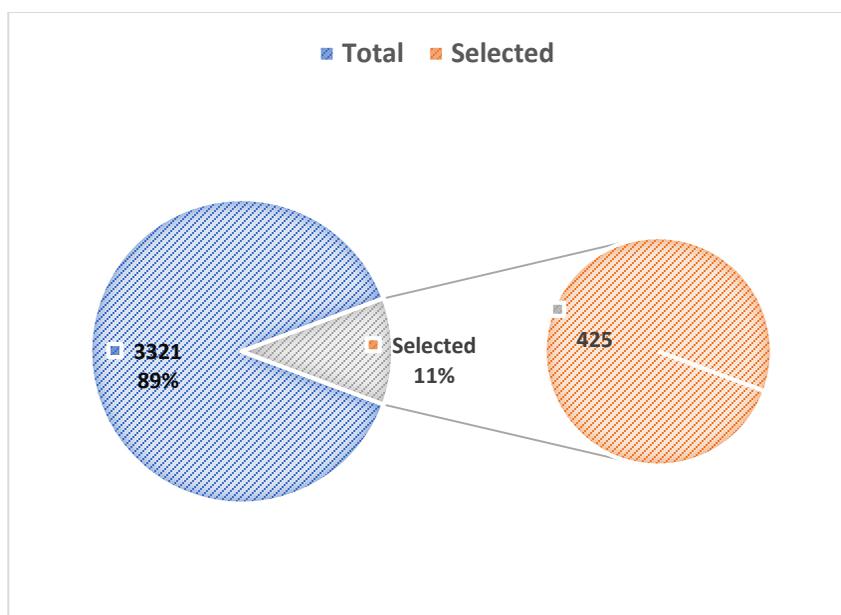
5	BR14041	72	23
6	BR14035	138	11
7	BR14032	164	40
8	BR14048	270	7
9	BR14039	138	7
10	BR14040	104	8
11	BR14046	98	16
12	BR14030	208	48
13	BR14047	122	17
14	BR14033	176	0
15	BR14035	126	15
16	BR14038	234	26
17	BR14037	170	9
18	BR14043	224	34
19	BR14031	194	19
<b>Total</b>		<b>3321</b>	<b>425</b>



**Fig.6.4.2a: Graphical illustration of the total number of LST and Selected lines in LST, Boro, 2023-24**



**Fig.6.4.2b: Number of selected lines/cross of LST population, Boro 2023-24**



**Fig.6.4.2c Selection Intensity of LST genotypes, Boro 2023-24**

### Experiment 6.5: Observational Yield Trial (OYT)

**Principal Investigator:** M. A. Rahman

**Co-investigators:** Nusrat Jahan, Armin Akter Setu and Ribed Farzana Disha

**Specific objectives:** Identification of genetically fixed (homozygous) lines which are uniform in flowering and other agronomic traits.

**Materials and Methods:** A total of 450 genotypes were evaluated at three locations in OYT (Satkhira, Kaliganj and Gazipur) using BR10, BR23, BRR1 dhan30, BRR1 dhan73 and BRR1 dhan87 as checks. In Boro season, 957 genotypes were evaluated in OYT. BRR1 dhan67 BRR1 dhan89, BRR1 dhan97 and BRR1 dhan99 were used as check varieties. These trials were carried out following augmented randomized complete block design with 4 replication. The unit plot size was 5.4 m × 4 rows following augmented RCBD with 4 replications. Thirty-day-old-seedling in T. Aman and forty-day-old seedlings in Boro season were transplanted @ single seedling with a spacing of 20 cm × 20 cm. Fertilizers and crop management followed were the same as Experiment 6.1. Data were collected on plant height, days to flowering, days to maturity, PAcP and yield per plot.

**Results and discussion:** Out of 450 genotypes, a total of 120 genotypes were selected from Gazipur and Satkhira based on growth duration, plant height, phenotypic acceptability at maturity (PAcp) and grain yield and the genotypes were shown in **Table 6.5.1**. Considering yield and growth duration, phenotypic acceptability at maturity (PAcp) compared to check varieties, out of 957 genotypes, 246 entries were selected in Boro season. In OYT-1, 79 genotypes were selected out of 472 genotypes and in OYT-2, 168 genotypes were selected out of 485 genotypes. The best performing 43 genotypes from Gazipur and Satkhira were shown in **Table 6.5.2**. and **Table 6.5.3**. respectively. The yield range was from 1.6-9.4 t/ha and 1.14-7.38 t/ha at Gazipur and Satkhira respectively.

**Table 6.5.1: Yield and agronomic characters of the selected genotypes from OYT, Salt-Tolerant Rice (STR) Breeding, T. Aman 2023-24, Gazipur and Satkhira**

SI	Designation	GD (days)	PH (cm)	Yield ton/ha		
				Gazipur	Kaliganj	Satkhira farm
1	BR13331-4R-75	135	139	1.65	2.21	1.97
2	BR13331-4R-82	133	124	3.85	4.49	2.93
3	BR13331-4R-88	132	118	-	3.31	2.46
4	BR13331-4R-119	129	125	4.06	2.02	-
5	BR13331-4R-120	137	139	3.55	4.48	4.50
6	BR13331-4R-170	127	132	4.34	3.02	4.87

7	BR13331-4R-193	126	119	2.98	4.47	-
8	BR13331-4R-280	130	113	4.48	2.89	3.49
9	BR13331-4R-283	127	127	4.96	3.72	3.31
10	BR13331-4R-288	124	102	3.23	2.25	2.94
11	BR13332-4R-9	138	110	3.82	4.08	4.73
12	BR13332-4R-13	138	109	-	3.68	-
13	BR13332-4R-31	136	139	4.42	4.16	2.03
14	BR13332-4R-33	133	129	1.52	3.08	-
15	BR13332-4R-40	135	111	4.81	3.29	2.68
16	BR13332-4R-49	134	133	3.98	4.00	3.60
17	BR13332-4R-76	143	135	-	3.64	1.89
18	BR13332-4R-87	136	160	3.19	3.83	3.87
19	BR13332-4R-92	140	131	4.69	4.02	-
20	BR13332-4R-107	138	154	4.15	3.93	5.01
21	BR13332-4R-146	134	111	2.24	3.00	-
22	BR13332-4R-157	140	147	2.56	1.08	-
23	BR13332-4R-161	142	132	5.16	4.57	-
24	BR13332-4R-165	135	133	7.01	4.71	2.59
25	BR13332-4R-201	138	133	2.88	4.80	3.65
26	BR13332-4R-202	136	151	3.86	4.45	3.25
27	BR13332-4R-203	139	106	2.99	3.68	2.98
28	BR13332-4R-204	133	132	2.87	3.80	4.12
29	BR13332-4R-244	139	149	4.59	4.17	1.52
30	BR13334-4R-30	142	124	4.17	3.17	2.96
31	BR13334-4R-84	122	123	5.19	2.96	5.67
32	BR13334-4R-134	137	132	3.96	4.26	-
33	BR13334-4R-209	135	150	4.41	3.80	3.91
34	BR13334-4R-251	138	140	4.13	3.12	2.66
35	BR13334-4R-264	127	132	5.08	1.20	3.15
36	BR13336-4R-12	127	138	3.12	4.04	5.08
37	BR13336-4R-27	136	136	0.97	3.44	1.64
38	BR13336-4R-53	116	129	3.18	3.24	2.66
39	BR13336-4R-63	122	115	4.91	2.04	1.86
40	BR13336-4R-75	125	134	3.86	3.82	-
41	BR13336-4R-83	127	128	4.46	2.80	5.32
42	BR13336-4R-130	132	117	6.67	-	-
43	BR13336-4R-136	128	138	4.52	3.55	3.67
44	BR13336-4R-146	133	137	2.24	2.24	2.15
45	BR13336-4R-148	124	142	5.30	4.33	2.97
46	BR13336-4R-155	132	138	3.17	4.16	1.00
47	BR13336-4R-163	144	133	0.84	4.78	3.60
48	BR13336-4R-179	137	139	1.93	4.46	-
49	BR13336-4R-203	135	114	5.07	4.22	1.93
50	BR13336-4R-231	130	144	-	3.48	3.86
51	BR13336-4R-234	124	131	5.21	3.69	3.63
52	BR13336-4R-246	137	111	5.26	4.44	2.30
53	BR13336-4R-254	121	127	7.07	4.59	2.70
54	BR13336-4R-257	145	138	3.57	2.53	-
55	BR13336-4R-275	130	132	6.80	3.81	3.49
56	BR13336-4R-278	135	128	3.83	4.51	2.37
57	BR13337-4R-103	119	144	2.23	4.06	2.76
58	BR13337-4R-141	120	133	-	2.71	3.86
59	BR13337-4R-146	121	135	-	3.48	2.74
60	BR13337-4R-173	134	140	1.47	3.91	3.47
61	BR13337-4R-213	135	137	1.93	2.83	3.52
62	BR13337-4R-248	139	151	3.64	3.86	5.22
63	BR13339-4R-12	122	128	-	3.37	4.53
64	BR13339-4R-55	126	129	3.55	1.33	4.17
65	BR13339-4R-78	133	136	-	2.73	3.89

66	BR13339-4R-90	134	151	6.07	2.74	2.97
67	BR13339-4R-95	127	148	5.43	2.06	0.00
68	BR13339-4R-131	122	130	-	1.60	4.22
69	BR13339-4R-159	130	105	7.98	2.97	1.47
70	BR13339-4R-163	134	142	2.00	2.65	3.71
71	BR13339-4R-165	142	129	2.94	2.13	1.96
72	BR13339-4R-177	122	141	1.89	4.39	3.51
73	BR13339-4R-184	137	142	4.56	2.47	-
74	BR13339-4R-187	133	157	5.44	4.20	2.67
75	BR13339-4R-203	126	125	4.78	3.46	2.74
76	BR13339-4R-211	126	140	4.50	4.94	2.10
77	BR13339-4R-216	125	148	4.48	3.04	4.58
78	BR13339-4R-225	127	98	3.12	5.12	-
79	BR13339-4R-241	126	130	5.40	6.18	-
80	BR13339-4R-242	125	140	4.16	3.61	-
81	BR13339-4R-245	135	141	3.26	2.35	-
82	BR13339-4R-257	137	106	3.83	3.49	7.08
83	BR13339-4R-280	124	130	4.78	1.79	4.49
84	BR13339-4R-286	121	146	3.64	4.05	2.41
85	BR13339-4R-287	141	135	2.83	3.72	1.85
86	BR13339-4R-289	128	146	5.17	2.45	3.60
87	BR13339-4R-291	120	135	3.51	4.20	4.16
88	BR13340-4R-88	130	128	4.98	3.97	1.50
89	BR13340-4R-89	125	137	4.73	4.15	3.56
90	BR13340-4R-177	135	131	3.64	3.50	5.14
91	BR13340-4R-226	130	119	6.93	3.65	4.25
92	BR13341-4R-16	132	119	4.48	4.38	2.38
93	BR13341-4R-26	138	154	4.56	4.17	3.85
94	BR13341-4R-28	137	143	2.43	3.11	-
95	BR13341-4R-73	140	148	4.29	-	3.91
96	BR13341-4R-92	131	138	4.76	4.38	2.36
97	BR13341-4R-123	136	134	5.44	3.05	4.20
98	BR13341-4R-132	137	140	4.11	4.65	-
99	BR13344-4R-34	122	132	2.89	3.83	-
100	BR13344-4R-36	124	109	3.74	3.91	3.57
101	BR13344-4R-108	130	133	3.82	3.73	2.63
102	BR13344-4R-130	119	116	4.24	4.48	-
103	BR13344-4R-153	127	115	2.38	3.14	2.82
104	BR13344-4R-158	135	122	3.12	4.03	4.17
105	BR13344-4R-178	121	108	5.71	3.30	4.49
106	BR13345-4R-28	138	112	3.16	-	1.19
107	BR13345-4R-39	136	124	5.04	3.99	2.89
108	BR13345-4R-124	135	132	5.43	4.90	3.58
109	BR13345-4R-138	131	122	1.92	2.42	2.55
110	BR13345-4R-279	133	121	2.24	4.14	2.45
111	BR13347-4R-78	127	129	3.53	3.97	-
112	BR13347-4R-144	129	121	1.24	4.66	2.69
113	BR13347-4R-161	132	122	4.15	2.68	3.81
114	BR13347-4R-210	130	125	4.55	3.64	2.24
115	BR13347-4R-259	138	139	3.70	4.33	1.69
116	BR13349-4R-10	127	125	4.39	3.23	3.96
117	BR13349-4R-111	125	139	3.19	3.80	-
118	BR13349-4R-142	124	134	2.66	3.87	3.91
119	BR13349-4R-148	137	132	3.51	2.58	3.55
120	BR13349-4R-156	138	158	-	4.18	-

**Table 6.5.3: Yield and agronomic characters of the genotypes in OYT-1, Salt- Tolerant Rice (STR) Breeding, Boro 2023-24 at Gazipur and Satkhira**

Sl. No.	Designation	GD (Days)	PH (cm)	Yield (ton/ha)	
				Gazipur	Satkhira
1	BR13439-4R-15	142	103	5.96	3.75
2	BR13439-4R-16	140	111	3.53	4.77
3	BR13439-4R-24	142	96	3.58	4.5
4	BR13439-4R-31	139	95	4.51	1.98
5	BR13439-4R-38	141	100	4.25	4.3
6	BR13439-4R-41	142	124	4.52	5.24
7	BR13439-4R-46	140	114	3.8	4.09
8	BR13439-4R-64	142	111	3.81	3.4
9	BR13439-4R-72	139	111	1.69	2.33
10	BR13439-4R-90	141	107	4.8	4.81
11	BR13439-4R-97	144	101	4.73	5.7
12	BR13439-4R-109	144	114	5.07	4.11
13	BR13439-4R-110	145	122	3.66	4.65
14	BR13439-4R-116	138	104	4.73	5.36
15	BR13439-4R-121	141	107	3.57	5.3
16	BR13439-4R-122	149	114	4.12	6.02
17	BR13439-4R-123	145	114	3.17	
18	BR13439-4R-124	142	114	2.7	
19	BR13439-4R-130	151	122	3.37	5
20	BR13439-4R-135	140	113	4.87	4.89
21	BR13439-4R-140	145	125	4.23	6.06
22	BR13439-4R-145	147	117	4.19	5.75
23	BR13439-4R-149	146	114	4.39	5.23
24	BR13439-4R-150	138	113	6.4	4.15
25	BR13439-4R-159	137	115	3.57	
26	BR13439-4R-161	139	113	6.19	4.97
27	BR13439-4R-163	145	120	7.17	5.23
28	BR13439-4R-167	151	119	3.62	
29	BR13439-4R-174	144	117	3.44	4.73
30	BR13439-4R-176	139	132	3.9	1.99
31	BR13439-4R-177	144	123	4.83	6.11
32	BR13439-4R-178	144	95	3.56	5.6
33	BR13439-4R-183	147	103	6.21	4.06
34	BR13439-4R-193	140	113	3.9	5.15
35	BR13439-4R-196	145	115	3.61	4.68
36	BR13439-4R-206	147	99	4.52	4.96
37	BR13439-4R-213	143	124	3.61	
38	BR13439-4R-214	146	132	3.35	5.83
39	BR13439-4R-218	143	108	4.36	
40	BR13439-4R-219	151	133	4.44	5.36
41	BR13439-4R-221	144	112	3.84	5.19
42	BR13439-4R-222	137	121	4.75	
43	BR13439-4R-243	137	116	5.07	2.08
44	BR13439-4R-244	145	124	4.21	6.26
45	BR13439-4R-249	140	114	5.11	5.08
46	BR13439-4R-286	151	126	5.74	4.29
47	BR13439-4R-287	151	132	4.45	5.96
48	BR13439-4R-311	138	115	5.7	4.81
49	BR13439-4R-315	157	112	3.31	4.4
50	BR13439-4R-317	151	128	3.84	3.96
51	BR13439-4R-325	139	103	4.09	5.1
52	BR13439-4R-329	142	132	6.53	
53	BR13439-4R-337	142	118	4.17	
54	BR13439-4R-343	144	122	5.53	5.76
55	BR13439-4R-347	154	132	5.97	2.53
56	BR13439-4R-354	137	124	5.4	4.69
57	BR13439-4R-357	152	112	5.05	5.32
58	BR13439-4R-359	144	131	4.27	6.15
59	BR13439-4R-367	144	107	3.28	5.45
60	BR13439-4R-385	140	124	4.62	4.67
61	BR13439-4R-388	144	131	5.06	
62	BR13439-4R-400	139	130	3.89	4.98
63	BR13439-4R-403	144	120	5.07	5.89

Sl. No.	Designation	GD (Days)	PH (cm)	Yield (ton/ha)	
				Gazipur	Satkhira
64	BR13439-4R-405	138	132	3.87	4.49
65	BR13440-4R-5	151	109	5.26	5.48
66	BR13440-4R-10	146	113	5.96	4.53
67	BR13440-4R-11	147	97	5.4	4.38
68	BR13440-4R-12	152	124	3.65	4.46
69	BR13440-4R-16	151	113	3.55	5.84
70	BR13440-4R-18	150	102	3.93	7.05
71	BR13440-4R-25	149	104	3.39	4.32
72	BR13440-4R-32	149	113	3.61	3.02
73	BR13440-4R-37	143	123	3.31	3.71
74	BR13440-4R-38	152	121	4.38	4.27
75	BR13440-4R-40	151	115	4.72	5.73
76	BR13440-4R-45	151	103	5.38	4.13
77	BR13440-4R-46	147	112	5.97	6.52
78	BR13440-4R-47	147	133	2.87	5.16
79	BR13440-4R-50	150	123	6.42	4.75
80	BR13440-4R-57	151	115	5.76	3.52
81	BR13440-4R-59	145	103	3.38	5.34
82	BR13440-4R-60	149	111	5.65	6.63
83	BR13440-4R-64	148	95	3.81	5.69
84	BR13440-4R-67	154	105	3.69	3.79
85	BR13440-4R-68	151	115	3.71	4.65
86	BR13440-4R-69	151	113	5.54	2.93
87	BR13440-4R-76	151	97	4.65	5.85
88	BR13440-4R-87	146	102	7.26	6.06
89	BR13440-4R-89	151	113	4.29	3.36
90	BR13440-4R-92	147	101	6.66	5.02
91	BR13440-4R-102	150	119	5.43	6.2
92	BR13440-4R-107	151	114	5.26	5.91
93	BR13440-4R-109	152	113	3.87	4.64
94	BR13440-4R-111	151	112	5.49	4.88
95	BR13440-4R-114	145	114	5.46	5.22
96	BR13440-4R-119	153	107	3.76	4.65
97	BR13440-4R-135	141	115	5.59	5.06
98	BR13440-4R-177	141	111	4.13	5.05
99	BR13440-4R-194	142	132	5.11	3.95
100	BR13440-4R-209	146	116	3.55	6
101	BR13440-4R-210	149	124	5.57	4.54
102	BR13440-4R-212	151	122	6.13	4.54
103	BR13440-4R-264	144	132	4.06	6.08
104	BR13440-4R-268	151	124	4.97	5.33
105	BR13440-4R-290	150	110	4.83	3.02
106	BR13440-4R-293	137	133	3.07	6.36
107	BR13440-4R-297	151	116	3.92	4.1
108	BR13440-4R-299	154	121	6.13	2.64
109	BR13440-4R-310	151	123	4.13	5.79
110	BR13440-4R-317	144	113	4.22	4.86
111	BR13440-4R-326	151	106	3.57	3.84
112	BR13440-4R-334	146	116	5.13	4.95
113	BR13440-4R-341	145	144	5.41	3.23
114	BR13440-4R-350	147	115	8.06	5.08
115	BR13441-4R-3	144	105	2.81	4.81
116	BR13441-4R-9	147	102	3.87	5.95
117	BR13441-4R-16	146	111	5.1	5.87
118	BR13441-4R-20	138	103	4.19	4
119	BR13441-4R-29	147	123	3.29	6.33
120	BR13441-4R-31	145	133	5.19	5.94
121	BR13441-4R-35	154	117	3.71	5.63
122	BR13441-4R-43	149	115	4.2	4.97
123	BR13441-4R-46	152	116	4.05	4.87
124	BR13441-4R-49	147	113	3.93	5.39
125	BR13441-4R-50	153	115	4.28	5.34
126	BR13441-4R-51	151	95	4.62	7.16
127	BR13441-4R-53	140	105	3.85	5.13
128	BR13441-4R-57	147	112	3.86	5.48
129	BR13441-4R-63	148	113	3.76	6.56

Sl. No.	Designation	GD (Days)	PH (cm)	Yield (ton/ha)	
				Gazipur	Satkhira
130	BR13441-4R-69	143	114	4.27	4.65
131	BR13441-4R-75	140	116	3.22	4.11
132	BR13441-4R-79	149	115	3.61	5.01
133	BR13441-4R-81	151	120	3.69	4.76
134	BR13441-4R-92	146	95	4.2	4.37
135	BR13441-4R-93	140	113	4.88	5.58
136	BR13441-4R-117	139	116	8.27	6.3
137	BR13441-4R-118	151	105	3.94	5.06
138	BR13441-4R-119	144	132	3.49	5.58
139	BR13441-4R-126	144	125	3.97	5.77
140	BR13441-4R-131	147	123	3.57	5.62
141	BR13441-4R-134	147	132	2.84	5.86
142	BR13441-4R-139	146	116	3.5	6.7
143	BR13441-4R-140	154	124	3.83	3.11
144	BR13441-4R-142	139	118	4.28	5.71
145	BR13441-4R-160	143	122	4.12	4.13
146	BR13441-4R-166	140	108	3.58	5.85
147	BR13441-4R-178	141	112	4.14	5.57
148	BR13441-4R-180	151	131	5.59	6.07
149	BR13441-4R-181	145	114	2.34	5.72
150	BR13441-4R-188	147	115	3.91	5.37
151	BR13441-4R-189	151	132	6.65	5.36
152	BR13441-4R-190	147	114	5.71	4.58
153	BR13441-4R-202	151	116	3.35	4.02
154	BR13441-4R-211	151	106	3.89	5.86
155	BR13441-4R-219	147	114	5.87	6.04
156	BR13441-4R-226	143	114	3.26	4.37
157	BR13441-4R-228	144	118	3.82	4.61
158	BR13441-4R-230	145	120	5.51	5.62
159	BR13441-4R-239	149	131	3.44	6.82
160	BR13441-4R-240	151	115	3.22	6.68
161	BR13441-4R-246	148	123	3.15	5.03
162	BR13441-4R-253	142	122	3.57	4.9
163	BR13441-4R-254	147	145	6.47	5.72
164	BR13441-4R-264	151	128	3.95	5.76
165	BR13441-4R-275	144	124	3.91	4.66
166	BR13441-4R-279	146	123	3.51	4.71
167	BR13441-4R-288	146	139	5.86	2.88
168	BR13441-4R-290	146	132	3.82	
169	BR13441-4R-302	140	112	3.51	4.31
170	BR13441-4R-303	139	112	4.38	5.33
171	BR13442-4R-6	151	105	5.9	6.85
172	BR13442-4R-10	149	114	4.01	5.88
173	BR13442-4R-11	145	96	5.52	5.89
174	BR13442-4R-15	142	113	5.3	5.53
175	BR13442-4R-24	140	116	3.78	6.34
176	BR13442-4R-26	136	117	3.64	
177	BR13442-4R-36	147	96	3.9	5.24
178	BR13442-4R-38	141	110	3.77	5.07
179	BR13442-4R-39	153	112	4.05	4.43
180	BR13442-4R-46	138	111	5.04	3.54
181	BR13442-4R-61	146	111	4.57	2.97
182	BR13442-4R-75	153	102	4.77	4.31
183	BR13442-4R-80	154	104	4.95	5.13
184	BR13442-4R-87	138	113	0	5.21
185	BR13442-4R-97	142	102	6.43	3.61
186	BR13442-4R-109	143	122	3.69	5.03
187	BR13442-4R-145	151	121	3.83	
188	BR13442-4R-150	142	114	3.55	5.39
189	BR13442-4R-154	141	130	3.7	6.01
190	BR13442-4R-157	139	115	3.85	6.03
191	BR13442-4R-160	138	108	5.09	4.86
192	BR13442-4R-171	145	115	3.65	5.5
193	BR13442-4R-250	142	120	1.69	3.72
194	BR13442-4R-254	144	116	3.64	4.76
195	BR13442-4R-300	143	132	3.86	5.08

Sl. No.	Designation	GD (Days)	PH (cm)	Yield (ton/ha)	
				Gazipur	Satkhira
196	BR13442-4R-314	144	124	4.55	4.95
197	BR13442-4R-323	151	124	5.09	4.5
198	BR13442-4R-334	143	123	6.12	5.79
199	BR13442-4R-340	152	123	3.66	4.48
200	BR13442-4R-365	139	121	5.48	5.52
201	BR13442-4R-370	137	123	3.83	5.71
202	BR13442-4R-388	151	118	2.8	5.79
203	BR13442-4R-412	141	112	5.7	5.58
204	BR13442-4R-446	145	115	3.98	6.49
205	BR13442-4R-454	145	116	4.27	5.14
206	BR13442-4R-463	137	118	4.76	
207	BR13442-4R-465	137	112	4.19	
208	BR13442-4R-467	144	114	5	5.99
209	BR13442-4R-469	147	116	4.64	5.74
210	BR13442-4R-471	146	122	1.9	4.98
211	BR13443-4R-3	145	121	5.36	4.73
212	BR13443-4R-6	154	105	4.48	5.95
213	BR13443-4R-13	153	115	3.69	3.87
214	BR13443-4R-14	144	93	4.87	4.55
215	BR13443-4R-21	147	114	3.86	
216	BR13443-4R-22	140	111	4.47	6.92
217	BR13443-4R-23	147	114	3.85	5.46
218	BR13443-4R-24	141	103	5.95	5.93
219	BR13443-4R-25	144	106	3.8	4.34
220	BR13443-4R-26	140	104	2.25	6.05
221	BR13443-4R-27	143	123	5.06	5.45
222	BR13443-4R-32	151	107	3.81	
223	BR13443-4R-39	147	114	3.7	4.78
224	BR13443-4R-42	151	107	1.57	1.69
225	BR13443-4R-43	142	104	5.14	4.3
226	BR13443-4R-47	145	122	5.15	5.09
227	BR13443-4R-56	147	103	6.6	4.94
228	BR13443-4R-65	138	97	3.38	5.83
229	BR13443-4R-75	144	96	3.85	5.96
230	BR13443-4R-79	141	112	4.36	7.04
231	BR13443-4R-88	147	110	3.37	
232	BR13443-4R-90	140	101	3.55	5.92
233	BR13443-4R-96	145	111	4.46	4.27
234	BR13443-4R-100	143	101	3.78	4.51
235	BR13443-4R-101	145	115	3.41	2.87
236	BR13443-4R-103	145	98	5.17	4.34
237	BR13443-4R-105	145	112	5.63	1.62
238	BR13443-4R-109	146	125	4.25	5.17
239	BR13443-4R-112	144	122	3.82	3.05
240	BR13443-4R-113	145	116	3.39	6.14
241	BR13443-4R-121	142	123	5.42	5.78
242	BR13443-4R-130	147	116	3.8	5.93
243	BR13443-4R-131	147	103	4.5	3.88
244	BR13443-4R-133	139	117	5.38	6.35
245	BR13443-4R-135	148	124	3.81	4.05
246	BR13443-4R-138	146	122	7.04	5.91
247	BR13443-4R-147	151	108	0	6.67
248	BR13443-4R-155	146	116	6.57	4.05
249	BR13443-4R-156	144	120	3.5	4.36
250	BR13443-4R-170	153	114	3.67	5.26
251	BR13443-4R-182	146	131	2.69	3.41
252	BR13443-4R-191	154	128	3.55	3.68
253	BR13443-4R-224	147	123	3.71	4.27
254	BR13444-4R-19	137	105	3.57	
255	BR13444-4R-53	149	111	3.97	
256	BR13444-4R-63	141	104	3.6	5.25
257	BR13444-4R-71	147	114	4.56	2.96
258	BR13444-4R-76	154	104	3.89	
259	BR13444-4R-77	141	98	2.1	4.27
260	BR13444-4R-92	141	122	4.12	2.07
261	BR13444-4R-127	142	125	3.85	

Sl. No.	Designation	GD (Days)	PH (cm)	Yield (ton/ha)	
				Gazipur	Satkhira
262	BR13444-4R-128	144	119	3.6	5.03
263	BR13445-4R-1	151	121	4.09	5.76
264	BR13445-4R-3	153	95	4.26	3.08
265	BR13445-4R-5	140	121	3.37	5.4
266	BR13445-4R-7	145	111	4.13	4.19
267	BR13445-4R-9	150	116	3.58	3.76
268	BR13445-4R-10	153	112	5.01	3.26
269	BR13445-4R-11	147	94	4.18	0
270	BR13445-4R-13	140	105	4.97	5.28
271	BR13445-4R-16	139	113	4.9	6.92
272	BR13445-4R-20	155	109	3.93	
273	BR13445-4R-29	153	116	4.27	
274	BR13445-4R-36	147	106	3.37	3.59
275	BR13445-4R-37	147	114	3.7	3.66
276	BR13445-4R-40	144	96	4.11	4.27
277	BR13445-4R-41	147	99	4.82	3.05
278	BR13445-4R-43	145	118	3.55	4.02
279	BR13445-4R-49	147	116	3.98	3.41
280	BR13445-4R-51	155	116	3.35	
281	BR13445-4R-52	152	114	3.82	5.91
282	BR13445-4R-53	151	102	2.36	6.96
283	BR13445-4R-54	151	105	3.65	
284	BR13445-4R-58	143	113	3.52	4.92
285	BR13445-4R-59	144	116	3.96	
286	BR13445-4R-60	154	111	3.89	5.52
287	BR13445-4R-61	140	132	4.19	5.75
288	BR13445-4R-63	147	117	4.82	3.32
289	BR13445-4R-66	147	112	4.83	3.25
290	BR13445-4R-67	151	123	3.68	2.52
291	BR13445-4R-71	146	131	3.27	6.48
292	BR13445-4R-78	150	113	4.75	4.85
293	BR13445-4R-81	141	115	3.53	4.77
294	BR13445-4R-89	154	123	5.49	
295	BR13445-4R-91	147	102	6.06	4.89
296	BR13445-4R-93	154	106	3.67	5.35
297	BR13445-4R-95	137	122	5.86	
298	BR13445-4R-102	151	122	3.42	6.03
299	BR13445-4R-107	146	114	3.45	4.75
300	BR13445-4R-108	151	113	3.67	5.79
301	BR13445-4R-132	147	113	4.72	6.19
302	BR13445-4R-138	147	122	3.5	2.69
303	BR13445-4R-141	143	123	3.48	4.06
304	BR13445-4R-142	148	111	5.11	4.5
305	BR13445-4R-154	155	131	3.76	3.82
306	BR13445-4R-155	151	124	3.03	5.48
307	BR13445-4R-160	148	131	6.02	3.58
308	BR13445-4R-170	151	108	3.6	4.49
309	BR13445-4R-178	147	121	3.84	5.86
310	BR13445-4R-182	151	115	3.51	3.93
311	BR13445-4R-185	144	122	3.84	5.03
312	BR13446-4R-1	153	114	1.67	5.77
313	BR13446-4R-2	139	102	3.51	4.48
314	BR13446-4R-13	147	112	6.31	4.38
315	BR13446-4R-17	151	113	3.92	2.69
316	BR13446-4R-19	154	95	3.94	3.04
317	BR13446-4R-26	142	125	5.49	6.41
318	BR13446-4R-30	151	124	5.3	4.53
319	BR13446-4R-39	156	101	4.49	
320	BR13446-4R-41	145	115	4.06	4.05
321	BR13446-4R-50	144	114	3.86	
322	BR13446-4R-55	147	104	4.99	4.57
323	BR13446-4R-59	146	98	4.02	4.47
324	BR13446-4R-84	151	124	5.34	
325	BR13446-4R-92	151	113	4.17	4
326	BR13447-4R-11	150	112	3.51	5.15
327	BR13447-4R-16	151	97	4.77	

Sl. No.	Designation	GD (Days)	PH (cm)	Yield (ton/ha)	
				Gazipur	Satkhira
328	BR13447-4R-123	164	116	3.95	1.56
329	BR13448-4R-29	143	103	4.7	
330	BR13448-4R-48	157	123	3.74	
331	BR13448-4R-107	141	102	4.66	
332	BR13448-4R-114	146	115	3.29	
333	BR13448-4R-159	150	99	3.15	
334	BR13448-4R-209	151	123	2.27	
335	BR13449-4R-7	151	95	9.36	4.76
336	BR13449-4R-19	146	111	5.21	4.07
337	BR13449-4R-47	149	114	1.3	6.55
338	BR13449-4R-78	154	110	3.03	4.8
339	BR13449-4R-80	154	104	4.19	
340	BR13449-4R-82	149	113	2.04	5.12
341	BR13449-4R-83	153	115	3.9	2.61
342	BR13449-4R-130	144	104	3.48	5.54
343	BR13449-4R-131	153	113	4.3	4.12
344	BR13449-4R-136	150	123	4.28	5.24
345	BR13449-4R-176	151	122	3.55	4.79
346	BR13449-4R-181	147	116	4.13	6.34
347	BR13449-4R-183	154	123	3.91	2.95
348	BR13449-4R-208	140	105	3.01	4.27
349	BR13449-4R-215	147	117	3.42	5.81
350	BR13449-4R-218	151	115	3.57	
351	BR13449-4R-230	140	101	4.15	6.06
352	BR13449-4R-231	139	131	2.72	6.92
353	BR13449-4R-235	153	115	4.37	4.59
354	BR13449-4R-236	143	122	5.13	4.03
355	BR13450-4R-3	147	105	3.65	
356	BR13450-4R-5	141	95	3.57	3.01
357	BR13450-4R-7	140	121	5.78	4.57
358	BR13450-4R-8	143	96	4.01	
359	BR13450-4R-21	144	96	3.96	4.18
360	BR13450-4R-31	145	96	1.56	4.47
361	BR13450-4R-34	151	112	3.57	
362	BR13450-4R-37	152	132	3.55	5.53
363	BR13450-4R-38	156	114	3.52	
364	BR13450-4R-39	151	106	3.64	
365	BR13450-4R-41	145	108	4.18	6.05
366	BR13450-4R-44	138	115	3.65	5.33
367	BR13450-4R-51	144	123	3.4	1.66
368	BR13450-4R-53	151	115	3.56	5.7
369	BR13450-4R-58	137	114	4.7	4.3
370	BR13450-4R-63	144	132	4.95	5.11
371	BR13450-4R-69	144	103	4.81	3.98
372	BR13450-4R-77	142	107	5.31	5.61
373	BR13450-4R-80	147	123	4.1	2.67
374	BR13450-4R-84	151	114	5.68	4.51
375	BR13450-4R-85	140	110	3.55	4.5
376	BR13450-4R-94	138	97	4.4	4.81
377	BR13450-4R-101	150	117	4.25	5.03
378	BR13450-4R-102	139	115	5.48	5.29
379	BR13450-4R-113	153	103	5.44	0
380	BR13450-4R-117	151	112	2.62	2.97
381	BR13450-4R-126	147	114	5.38	5.55
382	BR13450-4R-128	136	123	4.09	3.59
383	BR13451-4R-4	139	113	5.2	5.72
384	BR13451-4R-5	162	104	3.55	
385	BR13451-4R-6	157	104	2.44	
386	BR13451-4R-14	139	117	3.52	6.37
387	BR13451-4R-20	156	96	3.66	
388	BR13451-4R-24	147	93	3.65	4.88
389	BR13451-4R-29	151	116	3.53	
390	BR13451-4R-30	141	111	4.19	6.05
391	BR13451-4R-31	146	111	3.87	5.89
392	BR13451-4R-65	153	113	3.42	0
393	BR13451-4R-66	145	102	4.69	2.03

Sl. No.	Designation	GD (Days)	PH (cm)	Yield (ton/ha)	
				Gazipur	Satkhira
394	BR13451-4R-67	142	113	3.34	5.05
395	BR13451-4R-220	147	119	2.23	
396	BR13452-4R-12	138	96	3.52	4.51
397	BR13452-4R-58	144	113	3.89	5.94
398	BR13452-4R-61	144	114	4.17	6.37
399	BR13452-4R-91	145	112	4.99	7.09
400	BR13452-4R-100	151	124	3.86	3.75
401	BR13452-4R-102	149	104	3.74	4.92
402	BR13452-4R-110	137	113	4.83	3.71
403	BR13452-4R-122	149	112	3.95	4.62
404	BR13452-4R-123	146	121	6	
405	BR13452-4R-139	147	123	3.48	6.04
406	BR13452-4R-146	142	122	3.66	4.89
407	BR13452-4R-148	150	111	5.6	7.19
408	BR13452-4R-154	146	119	3.49	5.43
409	BR13452-4R-158	147	121	6.25	4.04
410	BR13452-4R-180	154	112	3.7	
411	BR13454-4R-3	153	114	3.74	5.56
412	BR13454-4R-11	153	106	3.84	4.19
413	BR13454-4R-15	152	117	3.54	5.12
414	BR13454-4R-21	147	105	3.62	6.15
415	BR13454-4R-23	152	116	3.37	6.94
416	BR13454-4R-33	153	105	4.44	3.55
417	BR13454-4R-36	143	117	4.14	
418	BR13454-4R-42	142	114	4.23	5.98
419	BR13454-4R-43	151	94	3.97	4.5
420	BR13454-4R-45	146	115	4.13	3.62
421	BR13454-4R-46	140	95	2.44	4.82
422	BR13454-4R-47	146	104	4.87	1.91
423	BR13454-4R-51	154	113	0	1.14
424	BR13454-4R-62	139	115	4.27	6.96
425	BR13454-4R-68	146	133	6.09	4.65
426	BR13454-4R-70	142	124	4.35	3
427	BR13454-4R-72	155	102	3.88	
428	BR13454-4R-86	142	105	3.41	
429	BR13454-4R-88	144	94	3.4	
430	BR13454-4R-94	150	120	3.41	
431	BR13454-4R-101	145	117	3.56	6
432	BR13454-4R-113	146	118	3.7	3.44
433	BR13454-4R-120	145	113	3.85	6.01
434	BR13455-4R-1	138	113	5.53	4.76
435	BR13455-4R-3	151	101	1.82	5.27
436	BR13455-4R-14	149	113	3.31	5
437	BR13455-4R-20	151	118	6.56	5.71
438	BR13455-4R-22	151	116	6.03	5.85
439	BR13455-4R-23	147	113	4.05	3.35
440	BR13455-4R-30	141	116	3.91	5.05
441	BR13455-4R-33	151	123	6.29	5.49
442	BR13455-4R-44	136	106	5.73	
443	BR13455-4R-48	138	97	5.86	5.38
444	BR13455-4R-56	145	98	4.53	5.22
445	BR13455-4R-65	151	106	4.07	3.81
446	BR13455-4R-66	142	112	4.93	3.96
447	BR13455-4R-80	144	112	3.05	4.61
448	BR13455-4R-84	137	114	5.16	5.4
449	BR13455-4R-85	143	114	4.39	
450	BR13455-4R-89	151	95	3.65	5.11
451	BR13455-4R-91	142	124	5.86	4.12
452	BR13455-4R-92	147	114	3.39	4.05
453	BR13455-4R-93	147	105	4.08	5.09
454	BR13455-4R-94	137	112	3.98	4.51
455	BR13455-4R-99	151	114	3.96	4.75
456	BR13455-4R-100	150	113	3.75	4.65
457	BR13455-4R-101	151	112	6.08	3.76
458	BR13455-4R-103	151	113	5.64	6.16
459	BR13455-4R-115	144	122	5.6	5.61

Sl. No.	Designation	GD (Days)	PH (cm)	Yield (ton/ha)	
				Gazipur	Satkhira
460	BR13455-4R-119	137	122	4.16	3.42
461	BR13455-4R-123	153	124	4.9	5.28
462	BR13455-4R-125	153	113	3.22	5.71
463	BR13455-4R-127	146	113	3.97	3.7
464	BR13455-4R-129	153	123	5.81	7.38
465	BR13455-4R-130	137	114	3.86	
466	BR13455-4R-152	142	117	3.62	5.05
467	BR13455-4R-155	142	131	2.78	6.02
468	BR13455-4R-158	152	123	4.18	4.29
469	BR13455-4R-167	154	113	3.86	
470	BR13455-4R-174	153	131	5.39	5.05
check1	BRR1 dhan67	140	111	6.04	6.42
check1	BRR1 dhan67	147	112	4.31	5.7
check1	BRR1 dhan67	143	113	3.87	5.64
check1	BRR1 dhan67	144	103	3.4	2.65
check2	BRR1 dhan97	151	107	6.23	5.53
check2	BRR1 dhan97	151	109	5.61	4.47
check2	BRR1 dhan97	151	114	5.05	3.6
check2	BRR1 dhan97	-949	104	3.66	2.83
check3	BRR1 dhan99	147	110	4.78	5.33
check3	BRR1 dhan99	147	113	4.43	4.91
check3	BRR1 dhan99	142	115	3.89	4.91
check3	BRR1 dhan99	145	115	3.53	4
check4	BRR1 dhan89	151	111	6.51	5.63
check4	BRR1 dhan89	151	113	4.36	4.29
check4	BRR1 dhan89	154	111	3.62	2.27
check4	BRR1 dhan89	151	110	3.38	2.03

**Table6.5.4: Yield and agronomic characters of the genotypes from OYT-2, Salt-Tolerant Rice (STR) Breeding, Boro 2023-24, at Gazipur and Satkhira**

Sl. No.	Designation	GD (Days)	PH (cm)	Yield ton/ha	
				Gazipur	Satkhira
1	BR13456-4R-1	143	114	3.41	4.15
2	BR13456-4R-3	145	113	4.52	5.52
3	BR13456-4R-5	140	108	4.71	2.38
4	BR13456-4R-6	139	116	2.71	
5	BR13456-4R-8	145	113	4.04	3.51
6	BR13456-4R-11	148	118	3.58	3.43
7	BR13456-4R-14	142	116	4.35	2.74
8	BR13456-4R-16	142	122	2.8	3.52
9	BR13456-4R-18	147	111	3.51	3.9
10	BR13456-4R-19	141	113	3.73	5.13
11	BR13456-4R-24	141	117	2.43	3.72
12	BR13456-4R-26	145	117	4.97	3.58
13	BR13456-4R-27	145	102	4.2	4.01
14	BR13456-4R-28	140	116	5.06	4.22
15	BR13456-4R-32	144	121	3.89	3.79
16	BR13456-4R-37	139	109	4.9	2
17	BR13456-4R-42	151	116	3.72	3.46
18	BR13456-4R-49	147	111	3.22	4.3
19	BR13456-4R-54	145	112	4.12	2.65
20	BR13456-4R-56	145	113	3.87	3.27
21	BR13456-4R-60	147	114	2.57	3.84
22	BR13456-4R-64	141	114	1.98	4.48
23	BR13456-4R-68	143	120	7.8	5.09
24	BR13456-4R-75	146	106	3.58	3.47
25	BR13456-4R-83	147	124	3.79	3.63
26	BR13456-4R-85	142	132	3.12	3.32
27	BR13456-4R-92	144	124	0.32	3.77
28	BR13456-4R-94	145	117	4.9	3.97
29	BR13456-4R-98	144	121	2.98	4.39
30	BR13456-4R-102	145	115	4.46	4.63
31	BR13456-4R-104	141	112	6.1	2.08
32	BR13456-4R-110	147	101	3.29	4.01
33	BR13456-4R-119	142	113	3.83	4.16

Sl. No.	Designation	GD (Days)	PH (cm)	Yield ton/ha	
				Gazipur	Satkhira
34	BR13456-4R-124	142	110	3.96	5.01
35	BR13456-4R-140	146	115	4.14	4.67
36	BR13456-4R-143	142	103	5.02	5.03
37	BR13456-4R-145	139	109	2.62	4.83
38	BR13456-4R-149	142	117	4.19	4.83
39	BR13456-4R-150	142	122	5.38	3.6
40	BR13456-4R-154	142	113	3.51	3.93
41	BR13456-4R-155	165	113	3.87	1.96
42	BR13456-4R-156	145	114	3.66	3.73
43	BR13456-4R-158	142	115	3.73	3.46
44	BR13456-4R-163	140	117	3.81	4.96
45	BR13456-4R-166	145	114	2.87	5.07
46	BR13456-4R-168	142	117	4.1	4.13
47	BR13456-4R-171	142	113	4.17	4.38
48	BR13456-4R-176	142	113	2.06	3.73
49	BR13456-4R-178	141	114	4.6	4.16
50	BR13456-4R-179	140	118	4.64	4.69
51	BR13456-4R-181	140	115	3.04	4.78
52	BR13456-4R-184	159	114	4.93	3.88
53	BR13456-4R-185	145	114	4.14	4.02
54	BR13456-4R-186	144	119	4.75	4.27
55	BR13456-4R-191	144	114	3.34	4.67
56	BR13456-4R-193	147	114	3.73	4.67
57	BR13456-4R-195	140	113	2.87	4.94
58	BR13456-4R-200	143	124	3.68	3.31
59	BR13456-4R-202	142	116	4.69	4.92
60	BR13456-4R-205	142	114	3.96	4.03
61	BR13456-4R-206	149	123	3.83	3.48
62	BR13456-4R-207	144	114	3.76	3.88
63	BR13456-4R-208	145	114	4.41	3.86
64	BR13456-4R-211	139	112	5.58	3.68
65	BR13456-4R-212	143	107	4.63	2.79
66	BR13456-4R-214	146	109	5.45	4.95
67	BR13456-4R-219	144	113	2.55	4.21
68	BR13456-4R-221	152	100	4.02	2.81
69	BR13456-4R-222	142	126	1.85	3.8
70	BR13456-4R-228	147	115	3.54	4.07
71	BR13456-4R-230	140	139	3.98	5.23
72	BR13456-4R-231	145	121	5.6	5
73	BR13456-4R-233	140	114	5.34	5.23
74	BR13456-4R-235	145	110	4.84	4.08
75	BR13456-4R-237	143	115	3.83	3.43
76	BR13456-4R-239	153	123	3.58	4.37
77	BR13457-4R-1	142	121	4.39	2.97
78	BR13457-4R-2	155	112	2.33	3.79
79	BR13457-4R-8	151	110	2.24	3.72
80	BR13457-4R-13	155	98	2.96	2.71
81	BR13457-4R-17	144	109	4.29	3.56
82	BR13457-4R-19	152	112	4.08	3.67
83	BR13457-4R-22	147	113	6.44	3.94
84	BR13457-4R-23	142	109	3.23	3.48
85	BR13457-4R-27	139	113	4.02	4.28
86	BR13457-4R-28	146	95	4.67	3.75
87	BR13457-4R-29	156	107	4.18	2.31
88	BR13457-4R-31	144	121	4.83	4.83
89	BR13457-4R-33	142	112	3.07	1.81
90	BR13457-4R-37	143	122	5.15	4.23
91	BR13457-4R-42	147	107	6.19	4.06
92	BR13457-4R-50	140	113	4.42	4.39
93	BR13457-4R-69	145	113	2.82	2.55
94	BR13457-4R-70	144	123	3.87	3.82
95	BR13457-4R-94	143	113	4.66	4.47
96	BR13457-4R-98	141	105	3.51	4.07
97	BR13457-4R-100	145	129	3.79	0
98	BR13457-4R-105	143	115	4.95	3.59
99	BR13457-4R-110	141	116	3.19	4.4

Sl. No.	Designation	GD (Days)	PH (cm)	Yield ton/ha	
				Gazipur	Satkhira
100	BR13457-4R-122	151	113	2.09	1.81
101	BR13457-4R-141	142	105	3.03	0
102	BR13457-4R-149	153	116	3.17	2.38
103	BR13457-4R-150	141	117	5.48	4.55
104	BR13457-4R-153	151	124	2.92	3.81
105	BR13457-4R-164	143	114	3.93	4.83
106	BR13457-4R-165	147	113	3.51	3
107	BR13457-4R-168	141	98	3.19	4.42
108	BR13457-4R-172	142	119	3.03	3.34
109	BR13459-4R-3	151	119	5.23	2.97
110	BR13459-4R-22	151	114	0	0
111	BR13459-4R-90	146	99	4.47	2.46
112	BR13459-4R-114	148	112	3.99	4.57
113	BR13459-4R-121	146	115	2.99	4.19
114	BR13459-4R-126	156	115	2.01	2.75
115	BR13459-4R-129	146	115	2.63	4.55
116	BR13459-4R-133	145	115	3.01	3.83
117	BR13459-4R-135	142	134	3.68	4.28
118	BR13459-4R-140	147	113	6.21	4.45
119	BR13459-4R-154	146	116	3.75	4.71
120	BR13459-4R-160	142	137	3.05	4.45
121	BR13459-4R-164	147	121	6.42	
122	BR13459-4R-165	147	115	5.07	4.94
123	BR13459-4R-177	153	112	3.74	3.47
124	BR13459-4R-180	147	113	3.82	3.84
125	BR13459-4R-184	145	120	3.66	4.33
126	BR13459-4R-204	147	115	4.68	4.93
127	BR13459-4R-210	139	147	5.88	2.49
128	BR13459-4R-212	141	134	3.02	3.2
129	BR13459-4R-218	145	115	4.18	3.22
130	BR13459-4R-225	147	116	5.26	3.9
131	BR13460-4R-2	143	117	4.08	4.27
132	BR13460-4R-4	142	128	3.55	4.07
133	BR13460-4R-6	145	111	4.16	4.92
134	BR13460-4R-8	143	115	4.34	2.99
135	BR13460-4R-10	146	114	9	4.64
136	BR13460-4R-11	151	104	4.41	3.42
137	BR13460-4R-23	143	118	4.32	4.45
138	BR13460-4R-25	144	116	3.82	3.35
139	BR13460-4R-28	147	115	3.64	1.44
140	BR13460-4R-31	140	133	4.27	3.13
141	BR13460-4R-34	144	116	5.47	0
142	BR13460-4R-36	146	123	3.53	3.18
143	BR13460-4R-38	140	113	5.31	4.51
144	BR13460-4R-40	154	121	2.39	3.79
145	BR13460-4R-41	147	107	1.36	
146	BR13460-4R-48	145	110	4.43	4.6
147	BR13460-4R-49	140	115	3.87	2.39
148	BR13460-4R-50	143	113	4.81	4.93
149	BR13460-4R-53	142	118	4.05	4.61
150	BR13460-4R-55	144	116	2.73	4.98
151	BR13460-4R-57	144	114	2.95	3.46
152	BR13460-4R-65	143	114	3.1	3.57
153	BR13460-4R-69	147	113	4.96	3.07
154	BR13460-4R-85	148	126	2.9	3.73
155	BR13460-4R-86	147	114	3.37	
156	BR13460-4R-101	140	115	4.71	5.54
157	BR13460-4R-115	148	117	3.73	4.13
158	BR13460-4R-127	147	113	3.41	3.32
159	BR13460-4R-137	145	117	4.29	3.51
160	BR13460-4R-142	141	121	3.44	3.7
161	BR13460-4R-149	155	123	3.69	4.55
162	BR13460-4R-154	163	116	4.65	4.85
163	BR13460-4R-160	147	115	4.12	3.91
164	BR13460-4R-172	163	107	1.97	4.59
165	BR13460-4R-183	145	112	2.85	4.66

Sl. No.	Designation	GD (Days)	PH (cm)	Yield ton/ha	
				Gazipur	Satkhira
166	BR13460-4R-184	143	107	4.68	3.73
167	BR13460-4R-185	145	112	3.66	4.91
168	BR13460-4R-189	145	131	4.75	3.61
169	BR13460-4R-194	147	114	5.05	4.15
170	BR13460-4R-195	144	114	3.8	4.76
171	BR13460-4R-199	145	117	4.39	3.83
172	BR13460-4R-201	142	124	5.35	5.17
173	BR13460-4R-203	145	112	4.49	3.5
174	BR13460-4R-214	144	117	3.46	3.29
175	BR13460-4R-216	144	112	4.47	3.79
176	BR13461-4R-9	140	120	3.24	4.16
177	BR13461-4R-15	146	114	3.76	4.32
178	BR13461-4R-18	142	116	3.78	3.92
179	BR13461-4R-24	137	116	5.46	3.64
180	BR13461-4R-28	140	116	4.11	4.97
181	BR13461-4R-35	157	111	3.69	3.78
182	BR13461-4R-39	153	115	3.84	
183	BR13461-4R-51	164	117	4.9	5.17
184	BR13461-4R-56	151	114	3.28	4.71
185	BR13461-4R-58	154	112	5.03	3.68
186	BR13461-4R-61	160	117	3.91	3.66
187	BR13461-4R-63	151	116	3.59	3.7
188	BR13462-4R-11	151	116	3.51	2.09
189	BR13462-4R-23	140	118	3.85	4.19
190	BR13462-4R-31	144	95	6.99	4.72
191	BR13462-4R-42	143	110	3.83	3.73
192	BR13462-4R-56	153	117	3.81	3.42
193	BR13462-4R-67	140	118	5.17	3.8
194	BR13462-4R-70	145	103	2.23	3.34
195	BR13462-4R-71	139	126	2.99	2.7
196	BR13462-4R-81	142	113	4.28	4.04
197	BR13462-4R-103	151	114	4.07	4.05
198	BR13462-4R-107	151	115	4.05	4.77
199	BR13462-4R-108	140	120	3.31	4.27
200	BR13462-4R-109	159	122	4.35	4.57
201	BR13462-4R-122	147	112	4.78	2.43
202	BR13462-4R-123	145	113	4.89	4.31
203	BR13462-4R-133	141	110	5.54	3.93
204	BR13462-4R-137	148	115	1.32	3.54
205	BR13462-4R-148	151	117	5.16	3.65
206	BR13462-4R-152	140	119	2.04	3.85
207	BR13462-4R-153	138	113	3.86	0
208	BR13462-4R-154	145	96	2.87	3.18
209	BR13462-4R-161	139	113	3.83	4.36
210	BR13462-4R-164	143	122	3.2	4.18
211	BR13462-4R-177	151	113	2.49	
212	BR13462-4R-196	140	123	3.95	4.54
213	BR13462-4R-199	158	114	3.82	
214	BR13462-4R-200	147	111	3.83	3.24
215	BR13462-4R-215	145	116	2.58	3.79
216	BR13462-4R-216	153	108	3.18	4.55
217	BR13462-4R-217	142	114	3.95	3.14
218	BR13462-4R-235	147	124	3.99	
219	BR13462-4R-250	146	113	4.13	3.96
220	BR13462-4R-265	142	116	4.39	3.22
221	BR13462-4R-266	147	114	3.49	3.46
222	BR13462-4R-268	151	97	3.07	4.57
223	BR13462-4R-271	145	123	3.92	4.53
224	BR13462-4R-272	142	124	3.63	3.58
225	BR13462-4R-274	140	114	4.95	4
226	BR13462-4R-284	154	120	4.66	2.11
227	BR13462-4R-285	158	108	3.86	3.64
228	BR13462-4R-290	140	122	4.22	3.66
229	BR13463-4R-5	154	103	3.92	
230	BR13463-4R-11	151	116	4.59	3.92
231	BR13463-4R-12	142	108	4.98	

Sl. No.	Designation	GD (Days)	PH (cm)	Yield ton/ha	
				Gazipur	Satkhira
232	BR13463-4R-14	153	116	4.22	4.87
233	BR13463-4R-19	146	107	4.64	3.53
234	BR13463-4R-35	162	115	3.06	2.82
235	BR13463-4R-36	151	113	4.89	5.03
236	BR13463-4R-37	142	131	0.95	3.22
237	BR13463-4R-45	157	115	3.99	5.01
238	BR13463-4R-49	158	121	1.5	
239	BR13463-4R-55	145	129	3.8	4.99
240	BR13463-4R-61	158	109	3.91	4.54
241	BR13463-4R-71	163	119	5.57	3.66
242	BR13463-4R-72	163	115	2.92	2.75
243	BR13463-4R-75	154	104	3.81	5.28
244	BR13463-4R-78	158	125	4.01	3.78
245	BR13463-4R-84	162	116	3.28	3.06
246	BR13463-4R-89	158	111	4.07	3.15
247	BR13463-4R-90	146	118	5.77	
248	BR13463-4R-91	158	110	5	4.17
249	BR13463-4R-94	144	114	3.03	4.08
250	BR13463-4R-95	157	107	3.92	2.75
251	BR13463-4R-97	147	113	5.24	4.87
252	BR13463-4R-99	145	114	2.26	2.49
253	BR13463-4R-100	146	117	4.95	4.52
254	BR13463-4R-102	141	111	3.55	3.69
255	BR13463-4R-108	147	123	5.71	3.9
256	BR13463-4R-111	141	113	3.87	3.07
257	BR13463-4R-112	147	115	4.44	3.97
258	BR13463-4R-120	153	118	2.22	4.1
259	BR13463-4R-122	158	103	4.11	3.99
260	BR13463-4R-126	142	109	3.07	3.67
261	BR13463-4R-129	139	107	5.55	3.75
262	BR13463-4R-131	163	97	3.22	1.76
263	BR13463-4R-135	162	112	4.35	2.02
264	BR13463-4R-136	163	115	3.31	4.28
265	BR13463-4R-137	147	115	4.66	3.3
266	BR13463-4R-138	143	119	5.96	4.64
267	BR13463-4R-145	159	115	3.82	2.34
268	BR13463-4R-149	154	117	5.65	4.26
269	BR13463-4R-152	145	114	4.02	4.6
270	BR13463-4R-167	148	118	3.23	5.1
271	BR13463-4R-170	160	116	3.03	3.42
272	BR13463-4R-174	142	114	4.94	2.64
273	BR13464-4R-1	144	114	1.34	3.25
274	BR13464-4R-5	156	116	3.23	4.94
275	BR13464-4R-9	146	119	4.7	4.15
276	BR13464-4R-11	142	124	4.14	2.18
277	BR13464-4R-13	146	116	3.03	3.86
278	BR13464-4R-14	145	102	2.87	4.51
279	BR13464-4R-17	152	101	3.19	4.01
280	BR13464-4R-27	146	112	5.47	4.22
281	BR13464-4R-28	148	119	3.66	4.29
282	BR13464-4R-29	142	115	4.15	3.05
283	BR13464-4R-34	154	115	3.81	4.73
284	BR13464-4R-36	150	119	3.93	3.64
285	BR13464-4R-37	145	114	3.5	3.11
286	BR13464-4R-40	158	112	3.01	3.58
287	BR13464-4R-41	141	114	4.71	4.23
288	BR13464-4R-44	153	103	5.76	4.44
289	BR13464-4R-53	141	114	3.64	4.95
290	BR13464-4R-55	151	118	6.21	4.73
291	BR13464-4R-57	147	122	3.07	3.55
292	BR13464-4R-58	139	118	3.51	3.61
293	BR13464-4R-66	143	114	2.7	4.32
294	BR13464-4R-68	155	116	4.87	3.36
295	BR13464-4R-72	145	117	2.27	2.73
296	BR13464-4R-84	143	115	3.12	4.03
297	BR13464-4R-90	144	114	3.19	4.16

Sl. No.	Designation	GD (Days)	PH (cm)	Yield ton/ha	
				Gazipur	Satkhira
298	BR13464-4R-91	144	101	3.3	2.91
299	BR13464-4R-98	139	113	5.43	4.82
300	BR13464-4R-100	143	115	3.91	
301	BR13464-4R-103	143	103	5.29	3.5
302	BR13464-4R-108	140	138	3.01	3.13
303	BR13464-4R-119	157	114	5.15	3.7
304	BR13464-4R-127	145	119	4.99	
305	BR13464-4R-128	151	113	3.03	3.74
306	BR13464-4R-129	142	143	3.2	5.05
307	BR13464-4R-132	154	132	3	
308	BR13464-4R-136	151	115	4.42	3.85
309	BR13464-4R-137	152	131	4.08	3.97
310	BR13464-4R-144	152	115	3.18	2.63
311	BR13464-4R-149	145	121	2.76	4.89
312	BR13464-4R-152	154	121	5.76	
313	BR13464-4R-153	154	115	5.41	
314	BR13464-4R-155	151	116	3.23	4.95
315	BR13464-4R-156	147	100	3.19	5.45
316	BR13464-4R-164	155	118	5.22	5.08
317	BR13464-4R-165	142	137	4.38	4.31
318	BR13464-4R-171	151	114	4.62	4.43
319	BR13464-4R-174	154	116	5.22	2.2
320	BR13464-4R-183	151	111	4.01	3.66
321	BR13464-4R-189	145	115	1.47	1.8
322	BR13464-4R-201	158	114	4.01	
323	BR13464-4R-216	141	118	4.56	3.53
324	BR13464-4R-224	145	110	5.34	2.68
325	BR13465-4R-2	147	114	5.09	2.97
326	BR13465-4R-8	142	114	4.51	4.36
327	BR13465-4R-14	156	110	4.4	4.74
328	BR13465-4R-19	144	116	3.1	3.29
329	BR13465-4R-20	154	112	3.71	0
330	BR13465-4R-21	151	116	3.51	3.07
331	BR13465-4R-22	164	113	2.43	
332	BR13465-4R-25	142	115	3.41	
333	BR13465-4R-27	145	114	3.57	
334	BR13465-4R-32	162	123	1.96	
335	BR13465-4R-33	151	106	5.03	2.79
336	BR13465-4R-44	151	124	5	3.55
337	BR13465-4R-45	140	98	5.28	4.68
338	BR13465-4R-57	145	118	3.99	3.62
339	BR13465-4R-73	146	111	5.36	3
340	BR13465-4R-77	151	114	5.16	3.55
341	BR13465-4R-79	158	123	5.29	3.41
342	BR13465-4R-81	153	116	3.43	5.52
343	BR13465-4R-83	146	112	4.13	4.33
344	BR13465-4R-85	145	108	3.19	
345	BR13465-4R-89	151	116	5.1	3.97
346	BR13465-4R-98	160	115	2.87	4.44
347	BR13465-4R-99	159	119	5.25	3.51
348	BR13465-4R-114	140	113	4.85	3.32
349	BR13465-4R-131	144	113	4.6	3.65
350	BR13465-4R-132	153	115	3.84	3.36
351	BR13465-4R-136	145	115	5.11	5.1
352	BR13465-4R-142	141	102	5.16	
353	BR13465-4R-145	151	125	6.27	3.28
354	BR13465-4R-146	146	112	5.22	
355	BR13465-4R-148	142	105	2.7	4.53
356	BR13465-4R-151	144	104	6	3.08
357	BR13465-4R-158	146	122	4.56	3.72
358	BR13465-4R-163	153	110	5.32	2.67
359	BR13465-4R-164	156	116	4.76	
360	BR13465-4R-165	142	96	4.4	3.93
361	BR13465-4R-166	142	112	4.83	3.02
362	BR13465-4R-167	151	104	3.99	4.23
363	BR13465-4R-173	154	113	3.03	2.77

Sl. No.	Designation	GD (Days)	PH (cm)	Yield ton/ha	
				Gazipur	Satkhira
364	BR13465-4R-176	140	113	3.83	1.99
365	BR13465-4R-181	147	122	5.06	4.25
366	BR13465-4R-183	147	109	3.87	2.65
367	BR13465-4R-186	158	120	5.42	4.94
368	BR13465-4R-187	145	123	5.27	3.72
369	BR13465-4R-188	158	123	5.5	4.1
370	BR13465-4R-193	146	118	4.3	4.3
371	BR13465-4R-194	141	131	3.68	3.12
372	BR13465-4R-195	145	115	3.03	4.29
373	BR13465-4R-197	143	112	6.12	3.31
374	BR13465-4R-198	139	112	4.19	3.69
375	BR13465-4R-200	136	118	3.7	4.42
376	BR13465-4R-201	140	111	3.01	4.57
377	BR13465-4R-204	157	113	5.46	
378	BR13465-4R-206	139	115	5	4.15
379	BR13465-4R-211	160	119	3.71	
380	BR13494-4R-4	139	114	3.83	3.61
381	BR13494-4R-9	144	113	2.96	5.54
382	BR13494-4R-16	145	114	3.82	3.54
383	BR13494-4R-17	151	111	2.87	5.21
384	BR13494-4R-25	145	114	2.85	4.61
385	BR13494-4R-30	145	113	3.98	3.54
386	BR13494-4R-38	147	113	4.95	
387	BR13494-4R-42	145	116	3.41	3.55
388	BR13494-4R-59	142	106	3.41	3.35
389	BR13494-4R-61	139	115	3.86	3.72
390	BR13494-4R-71	144	112	4.85	4.54
391	BR13494-4R-74	145	112	4.86	4.73
392	BR13494-4R-77	140	114	4.58	4.21
393	BR13494-4R-93	141	113	3.04	4.28
394	BR13494-4R-105	148	134	3.51	4.87
395	BR13494-4R-109	154	113	5.15	
396	BR13494-4R-127	146	120	9.26	4.69
397	BR13494-4R-130	147	117	4.67	4.14
398	BR13494-4R-132	141	121	0	
399	BR13494-4R-141	142	121	2.54	2.37
400	BR13494-4R-145	144	103	4.37	3.04
401	BR13494-4R-148	143	118	4.74	3.77
402	BR13494-4R-149	140	124	3.66	4.38
403	BR13494-4R-154	147	113	3.73	
404	BR13494-4R-162	147	106	4.62	2.07
405	BR13494-4R-167	145	114	3.03	3.98
406	BR13494-4R-180	153	113	5.18	3.06
407	BR13495-4R-3	144	121	2.39	5.08
408	BR13495-4R-8	145	116	1.94	3.24
409	BR13495-4R-11	139	100	5.47	4.08
410	BR13495-4R-13	138	114	6.97	
411	BR13495-4R-18	146	113	5.43	
412	BR13495-4R-19	163	117	1.6	3.44
413	BR13495-4R-21	140	113	3.17	3.68
414	BR13495-4R-22	141	112	2.96	4.22
415	BR13495-4R-28	153	118	3.35	3.71
416	BR13495-4R-32	140	116	3.72	3.49
417	BR13495-4R-36	140	112	5.31	3.4
418	BR13495-4R-39	154	119	4.31	3.72
419	BR13495-4R-41	147	117	2.2	3.82
420	BR13495-4R-43	158	119	0.3	3.95
421	BR13495-4R-48	158	107	5.85	2.49
422	BR13495-4R-51	162	114	3.55	3.11
423	BR13495-4R-52	163	116	4.45	
424	BR13495-4R-59	146	113	5.03	4.22
425	BR13495-4R-60	153	103	3.53	4
426	BR13495-4R-61	142	121	5.15	4.16
427	BR13495-4R-76	146	122	3.59	
428	BR13495-4R-77	145	111	0	1.69
429	BR13495-4R-86	147	115	4.05	

Sl. No.	Designation	GD (Days)	PH (cm)	Yield ton/ha	
				Gazipur	Satkhira
430	BR13495-4R-103	151	119	2.55	
431	BR13495-4R-107	140	116	6.02	2.89
432	BR13495-4R-114	147	120	3.17	2.95
433	BR13495-4R-123	140	117	2.85	4.56
434	BR13495-4R-127	147	125	4.12	3.99
435	BR13495-4R-132	142	115	4.44	4.89
436	BR13495-4R-133	145	119	4.34	2.94
437	BR13495-4R-135	148	114	2.87	3.68
438	BR13495-4R-136	147	118	5.35	4.72
439	BR13495-4R-146	151	120	10.67	4
440	BR13495-4R-149	145	122	5.3	4.86
441	BR13495-4R-150	144	115	4.7	6.2
442	BR13495-4R-155	151	111	4.51	3.64
443	BR13495-4R-156	146	104	2.58	4.29
444	BR13495-4R-157	147	114	3.49	4.39
445	BR13495-4R-158	154	114	3.56	3.68
446	BR13495-4R-160	144	105	3.92	3.81
447	BR13495-4R-161	144	114	3.91	1.24
448	BR13495-4R-170	155	115	3.29	4.11
449	BR13495-4R-179	156	121	4.02	3.39
450	BR13495-4R-190	147	103	5.21	3.14
451	BR13495-4R-197	151	104	4.62	4.12
452	BR13495-4R-200	160	123	1.31	3.95
453	BR13495-4R-201	143	130	5.22	
454	BR13495-4R-206	142	107	4.12	2.22
455	BR13495-4R-208	147	112	3.19	4.48
456	BR13495-4R-210	151	120	3.97	4.75
457	BR13495-4R-215	142	116	1.87	4.53
458	BR13495-4R-235	145	117	2.24	3.17
459	BR13495-4R-243	147	118	3.81	2.98
460	BR13495-4R-245	153	116	4.63	3.97
461	BR13495-4R-269	147	124	5.19	5.01
462	BR13495-4R-271	147	115	3.75	3.9
463	BR13495-4R-275	145	114	4.01	3.61
464	BR13495-4R-290	152	114	8.02	5.11
465	BR13495-4R-292	146	124	4.92	
466	BR13495-4R-295	145	123	2.7	5.22
467	BR13495-4R-296	140	116	4.67	
468	BR13495-4R-304	144	114	1.88	3.62
469	BR13495-4R-305	142	122	4.14	
470	BR13495-4R-310	139	114	3.17	3.26
471	BR13495-4R-322	151	120	3.83	2.3
472	BR13495-4R-338	142	105	1.4	3.53
473	BR13496-4R-7	154	116	2.8	
474	BR13496-4R-31	159	128	3.93	4.81
475	BR13496-4R-51	137	115	2	3.21
476	BR13496-4R-57	142	120	5.91	3.73
477	BR13496-4R-62	133	122	1.84	
478	BR13496-4R-78	138	121	0.16	
479	BR13496-4R-83	151	114	3.79	3.84
480	BR13496-4R-94	148	101	3.01	3.79
481	BR13496-4R-95	163	116	4.59	3.36
482	BR13496-4R-117	144	113	3.01	5.04
483	BR13496-4R-128	145	129	5.39	4.66
484	BR13496-4R-147	148	115	4.83	3.75
485	BR13496-4R-159	145	120	4.37	
486	Blank	151	113	4.36	
487	Blank	147	122	4.18	
488	Blank	147	114	3.03	
check1	BRRRI dhan67	142	119	5.74	4.96
check1	BRRRI dhan67	148	115	5.05	3.57
check1	BRRRI dhan67	144	116	5.04	3.56
check1	BRRRI dhan67	142	116	4.05	3.45
check2	BRRRI dhan97	148	113	4.63	3.95
check2	BRRRI dhan97	151	118	4.61	3.94
check2	BRRRI dhan97	145	120	3.18	3.35

Sl. No.	Designation	GD (Days)	PH (cm)	Yield ton/ha	
				Gazipur	Satkhira
check2	BRRi dhan97	151	113	3.03	3.1
check3	BRRi dhan99	145	115	5.12	5.29
check3	BRRi dhan99	147	111	3.77	4.26
check3	BRRi dhan99	146	111	3.52	4.05
check3	BRRi dhan99	143	113	3.36	3.68
check4	BRRi dhan89	151	113	5.19	5.23
check4	BRRi dhan89	152	120	5.17	4.24
check4	BRRi dhan89	153	114	4.51	3.8
check4	BRRi dhan89	151	116	3.94	2.15

### Experiment 6.6: Preliminary Yield Trial (PYT)

**Principal Investigator:** M. A. Rahman

**Co-investigators:** : Nusrat Jahan, Armin Akter Setu and Ribed Farzana Disha

**Specific objectives:** Initial evaluation of breeding lines for yield and other agronomic characteristics in replicated trial.

**Materials and methods:** A total of two hundred thirty two genotypes were tested in three PYTs trials along with BR23, BRRi dhan30, BRRi dhan73 as tolerant checks and BRRi dhan87 as sensitive check at Gazipur, Kaliganj, and Koikhali in T. Aman season. In Boro season, A total of 109 breeding lines were evaluated in two PYTs, at Debhata, Kaliganj, Satkhira farm in Satkhira, and Gazipur. BRRi dhan67, BRRi dhan97 and BRRi dhan99 were used as tolerant checks and BRRi dhan89 as susceptible check. The unit plot size was 5.4 × 5 rows. The field layout was Alpha lattice design with two replications. Twenty-five and forty-day-old seedlings were transplanted @ 1-2 seedlings with the spacing of 20 cm × 20 cm in T. Aman and Boro season, respectively. Fertilizers and crop management followed were the same as Experiment 6.1. Data were collected on plant height, days to flowering, days to maturity, PAcP, panicle per plant, and yield per plot.

**Results and discussion:** In T. Aman, considering yield, grain quality, earliness, out of 232 genotypes, a total of 58 were selected from PYT-1, PYT-2 PYT3 (Table 6.5.1, Table 6.5.2, Table 6.5.3). In PYT-1, nine genotypes were selected and the grain yield ranged from 3.36 t/ha to 6.21 t/ha at Gazipur, 2.41t/ha to 3.87 t/ha at Kaliganj and 1.99 t/ha to 3.49 t/ha at Koikhali. The growth duration of the genotypes over the locations ranged from 124 days to 154 days. The average yield of genotypes over the locations ranges from 1.99 t/ha to 6.21 t/ha (Table 6.5.1). In PYT-2, thirty-one genotypes were selected from one hundred six tested genotypes and the grain yield ranged from 2.64 t/ha to 5.93 t/ha at Gazipur, 2.4 t/ha to 5.93 t/ha at Kaliganj, and 1.07 t/ha to 3.8 t/ha at Koikhali. The average yield range was from 1.07 t/ha to 5.93 t/ha and growth duration of the genotypes over the locations ranged from 106 days to 132 days (Table 6.5.2). In PYT-3 ten entries were visually selected but no data could be collected due to the rat damage and Midhili Cyclone before harvesting. In Boro season, out of 109 genotypes, 53 genotypes were selected considering yield, grain quality, earliness from PYT-1 and PYT-2 (Table 6.6.5 to 6.6.6). The genotypes revealed a wide range of variations in yield in different locations. In PYT-1, twenty-one genotypes were selected out of 50 genotypes. the grain yield ranged from 3.8-9.0 t/ha at Gazipur, 1.4-4.9 t/ha at Satkhira farm and 1.4-3.0 t/ha at Debhata and the average growth duration of the genotypes ranged from 139 days to 153 days (Table 6.6.5). In PYT-2, the grain yield ranged from 2.9-7.1 t/ha at Gazipur, 0.8-6.3 t/ha at Satkhira farm and 0.7-5.6 t/ha at Debhata (Table 6.6.6). Trial at Kaliganj, Satkhira was completely damaged due to salinity. Predicted yield based on BLUP was estimated. Shrunken genotype means represent the addition of general mean and the best linear unbiased prediction (BLUP) of genotypes considered as a random-effect term in a mixed model solved using the residual maximum likelihood (REML) algorithm. The BLUP method is described by shrinkage properties, i.e., above-average individual means are shrunk downward toward the overall mean, whereas below-average individual means are shrunk upward toward the overall mean. Ranking

of varieties tested on the basis of the same number of replicates remain unchanged. The lower the number of replicates, the greater the shrinkage effect. The shrinkage effect adjusts performance all the more as it is either extremely high or extremely low. The heritability (H2b) ranged from 51% to 80%. The H2b is important as it is mentioned in the breeder's equation to predict the response to selection. Also the H2b is a descriptive measure used to assess the usefulness and precision of results from breeding lines evaluation trials. In Boro season, the most of genotypes in PYT-3 were damaged due to severe salinity at Debhata, therefore, the results were not shown in Table (Fig.6.6.5)

**Table 6.6.1: Yield and agronomic traits of selected genotypes from PYT-1, Salt-Tolerant Rice (STR) Breeding, T. Aman 2023-24**

Sl#	Designation	GD (days)	PH (cm)	Grain yield (t/ha)							
				Gazipur		Kaliganj		Koikhali		Gazipur and Kaliganj	
				BLUE	BLUE	BLUE	BLUE	Mean	Remarks	emmeans	pBLUP
10	BR13104-4R-21	125	95	5.46	3.1	2.39		4.28	3.78		
12	BR13103-4R-95	154	165	3.36	3.04	0	Late, BPH & damage	3.2	3.33		
14	BR13105-4R-81	126	126	6.06	3.17	2.71		4.62	3.91		
15	BR13105-4R-28	125	121	3.67	3.22	3.49		3.45	3.43		
16	BR13105-4R-72	124	127	5.14	2.65	1.99		3.9	3.62		
17	BR13105-4R-108	126	126	5.34	2.84	2.6		4.09	3.69		
18	BR13105-4R-93	126	128	5.29	2.44	2.77		3.87	3.6		
20	BR13105-4R-10	126	122	5.31	2.41	1.98		3.86	3.6		
23	BR13105-4R-32	125	121	6.21	3.87	2.11		5.04	4.09		
28	BR 23 (Ck)	154	107	2.69	2.6	0	Missing	2.65	3.1		
29	BRR1 dhan30(Ck)	126	122	3.97	2.25	2.92		3.11	3.29		
30	BRR1 dhan87(Ck)	125	100	3.71	2.23	2.42		2.97	3.23		
H2b									0.26		
LSD(<0.05)									1.78		
Reliability									0.41		
Salinity range					1.5 to 6.5 dSm <sup>-1</sup>	1.0 to 4.0 dSm <sup>-1</sup>					

**Table 6.6.2: Yield and agronomic traits of selected genotypes from PYT-2, Salt-Tolerant Rice (STR) Breeding, T. Aman 2023-24**

Sl#	Designation	GD (days)	PH (cm)	Grain yield (t/ha)				Grain yield (t/ha)			
				Gazipur		Kaliganj		Koikhali		Gazipur and Kaliganj	
				BLUE	BLUE	BLUE	BLUE	BLUE	Remarks	emmeans	pBLUP
3	BR13131-4R-62	117	112	4.95	4.95	2.95		4.95	4.24		
7	BR13106-4R-253	111	112	3.16	3.44	0	100% rat damage	3.3	3.63		
8	BR13125-4R-63	111	131	5.47	5.47	0	100% rat damage	5.47	4.44		
10	BR13123-4R-118	107	128	5.93	5.93	2.41		5.93	4.61		

13	BR13106-4R-241	107	111	3.92	2.92	0	100% rat damage	3.42	3.67
15	BR13108-4R-214	114	115	3.3	2.91	2.82		3.1	3.56
17	BR13115-4R-136	111	121	3.52	3.17	1.07		3.35	3.65
18	BR13113-4R-14-	120	123	3.83	3.62	2.44		3.73	3.79
31	BR13122-4R-14	110	120	4.11	4.43	2.94		4.27	3.99
38	BR13122-4R-4	117	131	3.77	2.51	2.55		3.14	3.57
39	BR13116-4R-213	116	127	2.66	2.61	3.28		2.64	3.38
48	BR13125-4R-107	116	105	2.64	4.31	1.17		3.48	3.69
51	BR13104-4R-258	111	121	3.22	3.62	2.17		3.42	3.67
52	BR13122-4R-56	107	128	4	4.26	1.08		4.13	3.94
55	BR13107-4R-34	118	126	3.99	4.36	2.67		4.18	3.95
66	BR13108-4R-320	115	121	3.31	5.56	1.8		4.43	4.05
67	BR13108-4R-41	106	118	3.55	3.55	0	100% rat Damage	3.55	3.72
70	BR13122-4R-44	114	125	3.41	5.43	1.4		4.42	4.04
71	BR13111-4R-109	106	123	3.49	4.48	2.03		3.98	3.88
74	BR13107-4R-143	132	111	3.07	4.17	2.27		3.62	3.75
75	BR13123-4R-229	116	125	4.35	2.4	2.81		3.37	3.66
77	BR13106-4R-422	113	119	3.61	3.72	1.34		3.66	3.76
78	BR13128-4R-46	122	121	2.97	3.78	3.8		3.37	3.66
83	BR13106-4R-489	111	132	4.03	3.75	3.29		3.89	3.85
88	BR13111-4R-104	118	132	4.03	3.59	2.47		3.81	3.82
89	BR13108-4R-133	117	132	3.86	2.99	2.04		3.42	3.67
94	BR13111-4R-83	117	130	4.54	3.41	3.07		3.97	3.88
96	BR13120-4R-43	107	129	2.99	4.46	0	100% rat Damage	3.72	3.79
98	BR13115-4R-171	107	105	3.21	2.68	0	Missing	2.94	3.5
105	BR11936-4R-11	117	124	3.16	5.49	2.14		4.33	4.01
106	BR13111-4R-156	115	114	3.61	4.41	1.4		4.01	3.89
108	BRRRI dhan73(ck)	114	121	4.46	4.41	3.69		4.44	4.05
109	BRRRI dhan87(ck)	128	123	4.01	4.54	3.77		4.28	3.99
h2b									0.23
LSD(5%)									1.16
Reliability									0.37



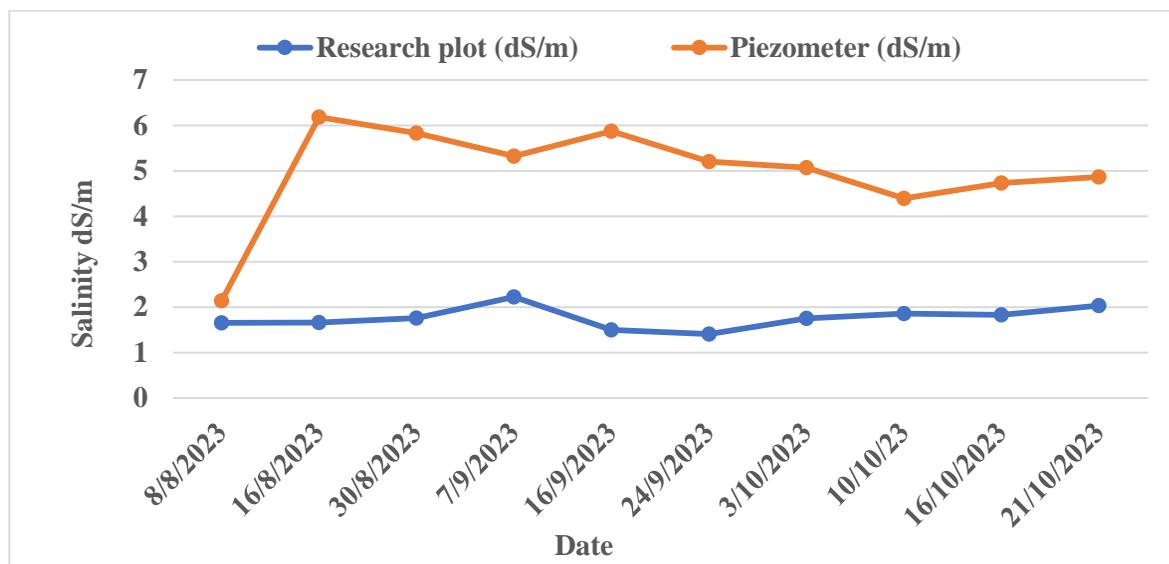
Fig. 6.6.1: PYT Plot in Gazipur at 10,16 and 24 August, 2023



**Fig.6.6.2: Some High Yielding Lines from PYT Trial T.Aman 2023-24**



**Fig.6.6.3: Field condition after the Cyclone Midhili on 17 November 2023 in Kaliganj, Satkhira**



**Fig.6.6.4: Salinity level at Kaliganj during T. Aman 2023**

**Table 6.6.5: Yield and agronomic performance of the genotypes tested in PYT-1, Salt Tolerant Rice (STR) Breeding, Boro 2023-24**

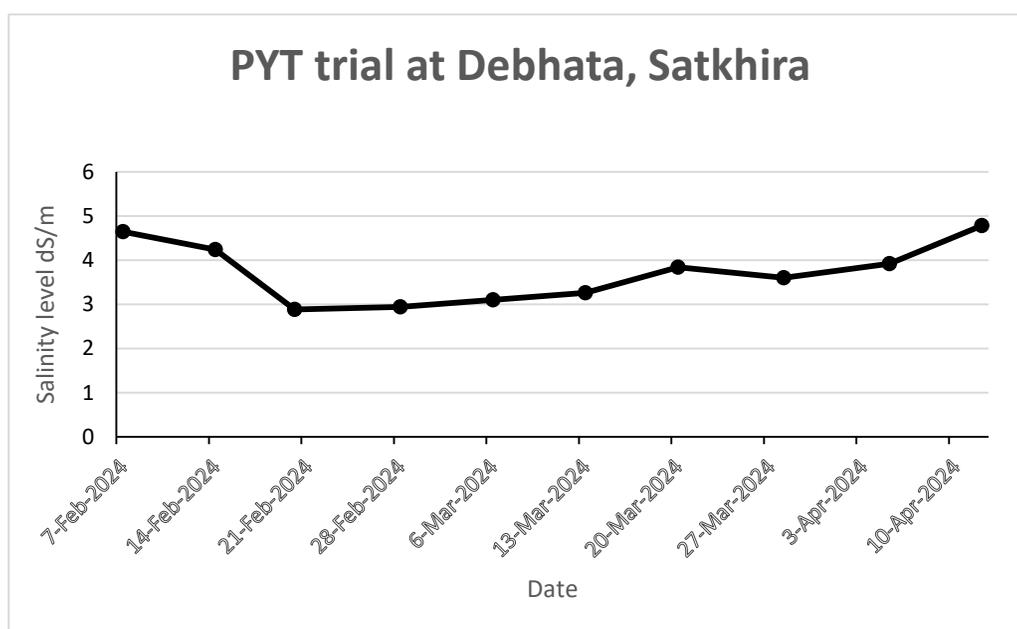
Sl. No.	Designation	PH (cm)	GD (Days)	Yield (t/ha)			BLU E	BLU P	PACP
				Gazipur	Satkhira farm	Debhat a			
1	BR13208-4R-51	108	149	6.8	3.1	2.9	5.0	5.1	7
2	BR13208-4R-16	115	145	6.5	4.1	2.5	5.3	5.1	5
3	BR13207-4R-1	94	146	7.5	1.4	1.4	4.4	4.5	5
5	BR13210-4R-218	121	141	7.8	4.2	2.1	6	5.4	3
6	BR13209-4R-179	121	140	7.3	4.9	2.4	6.1	5.8	5
7	BR13206-4R-94	100	146	7.1	2.6	2.6	4.8	5.8	7
8	BR13201-4R-252	120	147	6.9	4	2.4	5.5	5.2	3
9	BR13197-4R-30	97	147	6	4.2	1.9	5.1	4.9	5
10	BR13201-4R-186	121	148	8.6	3.5	2.4	6	5.8	5
11	BR13201-4R-296	108	148	7.1	3.4	2.5	5.3	5.3	7

<b>13</b>	<b>BR13202-4R-141</b>	<b>124</b>	<b>153</b>	<b>7.3</b>	<b>1.5</b>	<b>1.5</b>	<b>4.4</b>	<b>4.7</b>	<b>5</b>
14	BR13209-4R-198	123	141	8.3	3.1	2.3	5.7	5.3	7
<b>15</b>	<b>BR13201-4R-72</b>	<b>110</b>	<b>146</b>	<b>7.2</b>	<b>2.3</b>	<b>2.3</b>	<b>4.7</b>	<b>5</b>	<b>5</b>
16	BR13210-4R-183	108	143	6.9	2.5	2.4	4.7	4.4	7
17	BR13208-4R-24	118	143	6.7	3.5	2.2	5.1	5.4	7
18	BR13215-4R-76	111	145	9.0	3.7	1.7	6.4	4.8	7
19	BR13205-4R-240	107	153	7.2	1.9	1.9	4.5	4.8	7
20	BR13201-4R-18	103	145	8.4	2.5	2.2	5.4	5.2	7
<b>21</b>	<b>BR13201-4R-181</b>	<b>112</b>	<b>148</b>	<b>6.7</b>	<b>4.3</b>	<b>1.8</b>	<b>5.5</b>	<b>4.9</b>	<b>3</b>
<b>22</b>	<b>BR13206-4R-147</b>	<b>108</b>	<b>143</b>	<b>7.5</b>	<b>4.2</b>	<b>2.4</b>	<b>5.8</b>	<b>4.6</b>	<b>5</b>
23	BR13201-4R-131	123	145	7.1	2.1	2.2	4.6	5.2	7
<b>24</b>	<b>BR13197-4R-186</b>	<b>102</b>	<b>150</b>	<b>7.8</b>	<b>1.8</b>	<b>1.8</b>	<b>4.8</b>	<b>4.6</b>	<b>5</b>
<b>25</b>	<b>BR13201-4R-98</b>	<b>113</b>	<b>149</b>	<b>8</b>	<b>3.7</b>	<b>2.4</b>	<b>5.9</b>	<b>5.7</b>	<b>5</b>
26	BR13206-4R-63	111	142	7.1	4.1	2.6	5.6	4.7	7
27	BR13218-4R-66	122	139	7.7	3.3	2.5	5.5	4.7	7
28	BR13208-4R-72	102	148	6.2	3.3	2.6	4.8	5.7	7
29	BR13204-4R-265	105	145	7.6	2.4	1.6	5.0	5.6	7
30	BR13201-4R-287	102	140	7.8	4.0	2.2	5.9	5.4	7
31	BR13204-4R-80	112	145	7.1	3.2	2.3	5.2	5.0	7
32	BR13218-4R-1	118	140	3.8	2.4	2.6	3.1	4.9	7
33	BR13197-4R-95	111	147	7.2	2.6	2.4	4.9	5.7	7
<b>34</b>	<b>BR13197-4R-181</b>	<b>114</b>	<b>150</b>	<b>7.9</b>	<b>3.5</b>	<b>2.1</b>	<b>5.7</b>	<b>5.2</b>	<b>3</b>
<b>35</b>	<b>BR13201-4R-16</b>	<b>101</b>	<b>147</b>	<b>8</b>	<b>2.2</b>	<b>2.2</b>	<b>5.1</b>	<b>5</b>	<b>5</b>
36	BR13201-4R-282	105	145	6.9	4.5	1.9	5.7	4.9	7
37	BR13208-4R-73	106	148	5.9	1.8	1.8	3.9	5.5	7
38	BR13206-4R-50	115	143	8.4	3.2	1.7	5.8	4.9	7
39	BR13210-4R-91	114	140	7.4	3.1	2.3	5.2	5.7	7
<b>40</b>	<b>BR13205-4R-245</b>	<b>114</b>	<b>151</b>	<b>7.4</b>	<b>2.8</b>	<b>1.7</b>	<b>5.1</b>	<b>4.8</b>	<b>3</b>
<b>41</b>	<b>BR13218-4R-3</b>	<b>121</b>	<b>143</b>	<b>7</b>	<b>3.5</b>	<b>2.2</b>	<b>5.2</b>	<b>5.5</b>	<b>5</b>
<b>42</b>	<b>BR13205-4R-201</b>	<b>104</b>	<b>153</b>	<b>6.5</b>	<b>1.6</b>	<b>1.6</b>	<b>4</b>	<b>4.2</b>	<b>5</b>
<b>43</b>	<b>BR13197-4R-111</b>	<b>114</b>	<b>148</b>	<b>6.4</b>	<b>3.4</b>	<b>3</b>	<b>4.9</b>	<b>5</b>	<b>3</b>
44	BR13215-4R-119	118	140	7.1	3.2	3.0	5.1	5.2	7
<b>45</b>	<b>BR13205-4R-179</b>	<b>107</b>	<b>153</b>	<b>6.7</b>	<b>3.1</b>	<b>2.4</b>	<b>4.9</b>	<b>4.2</b>	<b>3</b>
47	BR13215-4R-109	98	143	6.8	3.7	3.0	5.2	5.1	7
<b>48</b>	<b>BR13201-4R-61</b>	<b>111</b>	<b>143</b>	<b>7.6</b>	<b>3.9</b>	<b>2.9</b>	<b>5.7</b>	<b>5.1</b>	<b>5</b>
50	BR13209-4R-145	118	140	7.5	4.2	2.1	5.8	5.0	7
51	BR13206-4R-13	114	140	6.7	4.3	2.1	5.5	5.5	7
52	BR13199-4R-137	112	146	7.2	2.1	2.1	4.7	5.3	7
53	BR13206-4R-17	107	143	7.4	4.0	2.9	5.7	5.6	7
	BRR1 dhan67	115	140	7.1	3.7	5	5.4	5.2	2.3
	BRR1 dhan89	109	150	7.5	2.3	5	4.9	4.3	1.7
	BRR1 dhan99	105	146	7.4	3.7	3	5.5	5.2	2.2
	BRR1 dhan97	116	147	7	2.5	5	4.7	4.1	1.5
	LSD (0.05)	5.9	2.9	1.6	0.6		0.83		0.8
	H2b	0.68	0.72	0.5	0.63			0.52	0.47

**Table 6.6.4 Yield and agronomic performance of the genotypes tested in PYT-2, Salt-Tolerant Rice (STR) Breeding, Boro 2023-24**

Sl. No.	Designation	PH (cm)	GD (Days)	Yield (t/ha)			BLU E	BLU P	PACP
				Gazipur	Satkhira farm	Debhata			
<b>2</b>	<b>BR13201-4R-260</b>	<b>111</b>	<b>147</b>	<b>5.7</b>	<b>2.7</b>	<b>2.5</b>	<b>4.2</b>	<b>4.1</b>	<b>5</b>
3	BR13209-4R-125	110	144	5.3	3.8	2.8	4.5	4.1	7
4	BR13206-4R-96	105	144	4.3	3.8	2.7	4.3	4.5	7
5	BR13205-4R-182	98	145	5.2	3.2	1.8	4.2	4.3	7
<b>6</b>	<b>BR13197-4R-24</b>	<b>103</b>	<b>149</b>	<b>5.5</b>	<b>5.8</b>	<b>5.5</b>	<b>5.5</b>	<b>5.2</b>	<b>5</b>
<b>7</b>	<b>BR13197-4R-150</b>	<b>102</b>	<b>148</b>	<b>5.5</b>	<b>3.8</b>	<b>2.6</b>	<b>4.6</b>	<b>4.5</b>	<b>7</b>
<b>8</b>	<b>BR13201-4R-12</b>	<b>101</b>	<b>143</b>	<b>5.4</b>	<b>4.7</b>	<b>2.5</b>	<b>5.1</b>	<b>4.9</b>	<b>3</b>
9	BR13196-4R-124	109	147	4.7	2.6	2.2	3.9	4.2	7
<b>10</b>	<b>BR13210-4R-38</b>	<b>110</b>	<b>146</b>	<b>5.7</b>	<b>3.7</b>	<b>2.8</b>	<b>4.7</b>	<b>4.5</b>	<b>5</b>
<b>11</b>	<b>BR13197-4R-41</b>	<b>97</b>	<b>148</b>	<b>5.9</b>	<b>3.4</b>	<b>1.9</b>	<b>4.7</b>	<b>4.4</b>	<b>3</b>
12	BR13207-4R-137	117	150	5.3	3.3	1.7	4.3	4.4	7
13	BR13203-4R-188	101	150	5.3	3.1	1.3	4.2	4.3	7
<b>14</b>	<b>BR13208-4R-2</b>	<b>97</b>	<b>147</b>	<b>5.7</b>	<b>2.3</b>	<b>1.7</b>	<b>4</b>	<b>4</b>	<b>5</b>
16	BR13197-4R-133	97	148	4.8	1.6	2.7	3.5	4.0	7
17	BR13204-4R-172	105	146	5.1	4.1	1.9	4.6	4.6	5
<b>19</b>	<b>BR13197-4R-181</b>	<b>102</b>	<b>154</b>	<b>6.3</b>	<b>6.3</b>	<b>2.3</b>	<b>6.3</b>	<b>5.7</b>	<b>5</b>
20	BR13210-4R-143	112	147	5.1	2.9	1.3	4.1	4.1	5
21	BR13205-4R-243	103	152	4.6	3.3	<b>6.3</b>	4.1	4.1	5
<b>22</b>	<b>BR13218-4R-58</b>	<b>107</b>	<b>140</b>	<b>5.6</b>	<b>3.5</b>	<b>2.3</b>	<b>4.5</b>	<b>4.4</b>	<b>5</b>
23	BR13206-4R-74	105	145	4.2	2.5	1.4	3.7		5
<b>24</b>	<b>BR13197-4R-70</b>	<b>102</b>	<b>149</b>	<b>5.6</b>	<b>3.2</b>	<b>1.9</b>	<b>4.4</b>	<b>4.3</b>	<b>3</b>
<b>25</b>	<b>BR13201-4R-114</b>	<b>106</b>	<b>148</b>	<b>5.2</b>	<b>3.4</b>	<b>3.0</b>	<b>4.3</b>	<b>4.3</b>	<b>5</b>
<b>26</b>	<b>BR13197-4R-148</b>	<b>108</b>	<b>153</b>	<b>5</b>	<b>3.7</b>	<b>2.9</b>	<b>4.3</b>	<b>4.4</b>	<b>3</b>
27	BR13208-4R-31	98	148	5.6	5.6	<b>1.9</b>	5.3	5.3	7
<b>28</b>	<b>BR13201-4R-70</b>	<b>93</b>	<b>140</b>	<b>6</b>	<b>4.1</b>	<b>3.8</b>	<b>5</b>	<b>4.7</b>	<b>3</b>
29	BR13197-4R-87	101	141	3.6	3.8	5.6	4.1	4.3	7
<b>31</b>	<b>BR13209-4R-11</b>	<b>107</b>	<b>143</b>	<b>5.2</b>	<b>3.4</b>	<b>2.3</b>	<b>4.3</b>	<b>4.3</b>	<b>5</b>
<b>32</b>	<b>BR13215-4R-159</b>	<b>104</b>	<b>141</b>	<b>4.5</b>	<b>4.1</b>	<b>2.2</b>	<b>4.3</b>	<b>4.4</b>	<b>5</b>
33	BR13201-4R-139	102	147	5.3	2.7	1.1	4.0	4.1	7
<b>34</b>	<b>BR13208-4R-45</b>	<b>110</b>	<b>142</b>	<b>4.2</b>	<b>4</b>	<b>2.8</b>	<b>4.1</b>	<b>4.3</b>	<b>3</b>
<b>35</b>	<b>BR13197-4R-131</b>	<b>93</b>	<b>146</b>	<b>2.9</b>	<b>2</b>	<b>3.0</b>	<b>2.4</b>	<b>3.3</b>	<b>5</b>
36	BR13218-4R-32	115	145	4.9	3.5	2.1	4.3		7
<b>37</b>	<b>BR13197-4R-19</b>	<b>100</b>	<b>148</b>	<b>6.5</b>	<b>3.2</b>	<b>1.8</b>	<b>4.9</b>	<b>4.5</b>	<b>7</b>
<b>38</b>	<b>BR13209-4R-214</b>	<b>116</b>	<b>146</b>	<b>5.4</b>	<b>3</b>	<b>2.2</b>	<b>4.2</b>	<b>4.4</b>	<b>5</b>
<b>39</b>	<b>BR13197-4R-12</b>	<b>107</b>	<b>143</b>	<b>5.5</b>	<b>2.3</b>	<b>2.4</b>	<b>3.9</b>	<b>3.9</b>	<b>5</b>
40	BR13205-4R-10	95	148	4.3	0.8	1.4	3.1	4.3	7
41	BR13208-4R-57	105	142	5.6	3.9	2.1	4.6	4.5	5
42	BR13203-4R-145	89	143	7.0	1.0	2.9	3.7	4.2	5
<b>43</b>	<b>BR13215-4R-40</b>	<b>95</b>	<b>149</b>	<b>5.5</b>	<b>5.5</b>	<b>0.7</b>	<b>5.5</b>	<b>5.2</b>	<b>3</b>
<b>44</b>	<b>BR13215-4R-166</b>	<b>100</b>	<b>148</b>	<b>5.4</b>	<b>2.6</b>	<b>2.4</b>	<b>4</b>	<b>4</b>	<b>5</b>
<b>45</b>	<b>BR13210-4R-98</b>	<b>105</b>	<b>144</b>	<b>5.1</b>	<b>3.1</b>	<b>1.0</b>	<b>4.1</b>	<b>4.1</b>	<b>3</b>

46	<b>BR13201-4R-285</b>	<b>104</b>	<b>147</b>	<b>5.7</b>	<b>3.7</b>	<b>5.5</b>	<b>4.7</b>	<b>4.5</b>	<b>5</b>
47	BR13208-4R-92	103	144	5.4	3.5	1.7	4.4	5.2	5
48	BR13208-4R-60	109	147	4.8	2.8	3.2	4.0	4.0	5
49	<b>BR13201-4R-90</b>	<b>105</b>	<b>148</b>	<b>5.7</b>	<b>2.9</b>	<b>1.7</b>	<b>4.3</b>	<b>4.2</b>	<b>5</b>
50	<b>BR13208-4R-75</b>	<b>106</b>	<b>145</b>	<b>5.9</b>	<b>1.1</b>	<b>2.4</b>	<b>3.5</b>	<b>3.5</b>	<b>5</b>
51	<b>BR13201-4R-62</b>	<b>102</b>	<b>145</b>	<b>6.1</b>	<b>4.1</b>	<b>2.1</b>	<b>5.1</b>	<b>4.8</b>	<b>5</b>
52	BR13215-4R-37	104	145	4.4	2.1	3.0	3.6	4.0	5
53	BR13203-4R-194	101	148	4.9	3.6	1.1	4.3	4.2	5
54	<b>BR13218-4R-20</b>	<b>109</b>	<b>141</b>	<b>4.9</b>	<b>3.1</b>	<b>2.4</b>	<b>4</b>	<b>4.1</b>	<b>3</b>
55	<b>BR13207-4R-48</b>	<b>95</b>	<b>148</b>	<b>5.4</b>	<b>0.9</b>	<b>1.6</b>	<b>3.1</b>	<b>3.3</b>	<b>5</b>
58	<b>BR13206-4R-104</b>	<b>107</b>	<b>146</b>	<b>5.9</b>	<b>4.3</b>	<b>0.8</b>	<b>5.1</b>	<b>4.8</b>	<b>3</b>
59	BR13201-4R-153	104	144	5.8	2.4	2.4	4.0	4.1	5
60	BR13197-4R-89	94	145	6.0	3.0	0.9	4.3	4.3	7
61	<b>BR13215-4R-92</b>	<b>106</b>	<b>147</b>	<b>4</b>	<b>2.6</b>	<b>2.3</b>	<b>3.3</b>	<b>3.8</b>	<b>3</b>
62	BR13205-4R-197	110	147	4.2	4.1	2.3	4.4	4.0	7
63	BR13201-4R-284	106	148	7.1	3.5	1.9	4.7	4.8	5
64	<b>BR13197-4R-143</b>	<b>102</b>	<b>141</b>	<b>5.2</b>	<b>4</b>	<b>2.4</b>	<b>4.6</b>	<b>4.5</b>	<b>5</b>
	<b>BRRi dhan67</b>	<b>106</b>	<b>143</b>	<b>5.5</b>	<b>4</b>	<b>2.1</b>	<b>4.8</b>	<b>4.8</b>	<b>5</b>
	<b>BRRi dhan97</b>	<b>101</b>	<b>146</b>	<b>5.1</b>	<b>2.9</b>	<b>1.7</b>	<b>4</b>	<b>4.2</b>	<b>3</b>
	<b>BRRi dhan89</b>	<b>101</b>	<b>149</b>	<b>5.3</b>	<b>2</b>	<b>2.3</b>	<b>3.6</b>	<b>4.1</b>	<b>5</b>
	<b>BRRi dhan99</b>	<b>102</b>	<b>147</b>	<b>4.7</b>	<b>3</b>	<b>2.1</b>	<b>3.8</b>	<b>4</b>	<b>5</b>
	LSD (0.05)	5.38	3.74	1.57	1.35	0.88	0.85		
	H2b	0.38	0.54	0.4	0.79	0.92		0.48	



**Fig. 6.6.3: Salinity dynamics of PYT-1 and 2 experimental fields at Debhata, Satkhira during Boro 2023-24**



**Fig 6.6.4. Pictorial view of PYT-1 & 2 experimental fields at Debhata, and Satkhira farm during Boro 2023-24**

### **Experiment 6.7: Advanced Yield Trial (AYT)**

**Principal Investigator:** M. A. Rahman

**Co-investigators:** Nusrat Jahan, Armin Akter Setu and Ribed Farzana Disha

**Specific objective:** Confirmatory evaluation of selected genotypes from PYT for yield and other agronomic traits in replicated trial

**Materials and Methods:** A total of one hundred seven genotypes was tested in two AYT trials along with BRRI dhan73 as tolerant checks and BRRI dhan87 as sensitive check and two AYT trials in Boro season, respectively at BRRI Gazipur, Kaliganj, Satkhira farm and Debhata. BRRI dhan73 and BRRI dhan87 were used as standard checks in T. Aman season whereas BRRI dhan99, BRRI dhan97, BRRI dhan67 and BRRI dhan89 were used as checks in Boro season. The unit plot size was 5.4 m × 8 rows. The trial layout was done using Alpha lattice design with two replications. Twenty-five and forty-day-old seedlings were transplanted @ 2-3 seedlings with the spacing of 20 cm × 20 cm in T. Aman and Boro season, respectively. Fertilizers and crop management followed were the same as Experiment 6.1. Data were collected on plant height, days to flowering, days to maturity, PAcp, panicle per plant, and yield per plot.

**Results and discussion:** In T. Aman season, sixty-three genotypes were selected from AYT-1 and AYT-2 based on their phenotypic acceptance, grain yield and grain type. In T Aman, the genotypes showed a wide range of variations in yield in different locations. In AYT-1, the grain yield ranged from 1.30 t/ha to 8.37 t/ha (BR12459-4R-114) at Gazipur and 2.00 t/ha to 5.43 t/ha at Kaliganj. In Koikhali, Satkhira most of the entries were damaged due to water stagnation, rat and brown plant hopper (BPH) attack, thus data of this location was analyzed. The average growth duration of the genotypes over the locations ranged from 110 days to 140 days (Table 6.7.1).

In AYT-2, the grain yield ranged from 1.85 t/ha to 5.35 t/ha at Gazipur, 2.23 t/ha to 4.06 t/ha at Kaliganj. In Koikhali most of the entries damaged due to rat and average yield ranged from 1.56t/ha to 3.90t/ha at Koikhali. The average yield of the genotypes over the locations ranged from 1.56t/ha to 5.35t/ha and growth duration ranging from 117 days to 142 days (Table 6.7.6). One the other hand the check variety, BRRI dhan73 yielded 3.86t/ha with 135 days' growth duration and BRRI dhan87 yielded 3.48t/ha with 120 days growth duration (Table.6.7.2).

In Boro, fifty-seven genotypes were selected considering yield, earliness and phenotypic acceptability, and yield of the selected genotypes were shown in **Table 6.7.3 to 6.7.4**. The

genotypes showed wide range of variations in yield in different locations. In AYT-1, the grain yield ranged from 4.9-8.6 t/ha at Gazipur, 2.6-5.7 t/ha at Satkhira farm and 0.9-6.9 t/ha at Debhata (**Table 6.7.3**). The average yield of the genotypes over the locations ranged from 5.0 t/ha to 6.1 t/ha (BLUE) with average growth duration ranging from 136 days to 149 days (**Table 6.7.3**). The check variety, BRRI dhan89 yielded 3.9 t/ha with 150 days' growth duration, BRRI dhan67 yielded 4.9 t/ha with 138 days growth duration, BRRI dhan97 yielded 4.7 t/ha with 147 days growth duration at Satkhira (**Table.6.7.3**).

In AYT-2, the grain yield ranged from 5.6-9.3 t/ha at Gazipur, 0.7-6.6 t/ha at Satkhira farm and 0.7-6.6 t/ha at Debhata (**Table 6.7.3**). The average growth duration ranging from 143 days to 161 days (**Table 6.7.4**). The check variety, BRRI dhan89 yielded 6.3 t/ha with 160 days' growth duration, BRRI dhan67 yielded 2.4 t/ha with 148 days growth duration, and BRRI dhan99 yielded 2.8 t/ha with 149 days growth duration at Satkhira (**Table.6.7.4**).

**Table 6.7.1: Yield and agronomic performance of the genotypes tested in AYT-1, Salt-Tolerant Rice (STR) Breeding, T. Aman 2023-24**

S1#	Designation	GD (days) BLUE	PH (cm) BLUE	Grain yield (t/ta)							
				Gazipur		Kaliganj		Koikhali, satkhira		Gazipur and Kaliganj	
				BLUE	BLUP	BLUE	BLUP	BLUE	Remarks	YLD_e mmeans	pBLUP
1	BR13122-4R-46	117	123	6.31	6.25	4.87	4.81	0	Missing	5.59	4.62
2	BR13123-4R-91	118	124	2.87	2.91	4.73	4.71	0	Missing	3.8	4.6
3	BR12459-4R-127	110	100	4.44	4.44	4.91	4.86	3.95		4.67	4.61
4	BR12459-4R-172	110	99	4.69	4.69	4.91	4.86	2.99		4.8	4.61
5	BR12459-4R-225	121	134	3.56	3.58	4.22	4.28	3.09		3.89	4.6
6	BR12459-4R-37	123	135	5.58	5.55	4.3	4.34	3.74		4.94	4.61
7	BR12459-4R-54	121	133	4.65	4.65	4.64	4.64	0	Missing	4.64	4.61
8	BR12461-4R-70	122	132	2.9	2.95	4.64	4.64	0	Missing	3.77	4.59
9	BR12462-4R-160	126	148	4.67	4.66	4.73	4.71	3.09		4.7	4.61
10	BR12462-4R-204	128	147	4.19	4.2	5.13	5.04	2.87		4.66	4.61
11	BR12462-4R-227	129	120	5.1	5.08	4.41	4.44	3.5		4.75	4.61
12	BR12462-4R-241	130	121	5.6	5.58	4.36	4.4	2.6		4.98	4.61
13	BR12462-4R-253	130	125	4.61	4.61	4.99	4.93	2.69		4.8	4.61
14	BR12466-4R-148	131	124	4.01	4.02	4.27	4.32	3.6		4.14	4.61
15	BR12466-4R-293	140	125	4.54	4.54	4.71	4.7	2.86		4.63	4.61
16	BR12466-4R-317	138	125	4.31	4.31	5.02	4.95	2.73		4.66	4.61
17	BR12469-4R-147	133	115	1.3	1.38	5.1	5.02	0	Missing	3.2	4.59
18	BR12466-4R-98	134	116	5.36	5.34	5.1	5.02	0	Missing	5.23	4.61
19	BR12462-4R-82	133	117	6.61	6.56	4.11	4.19	0	Missing	5.36	4.62
20	BR12459-4R-103	132	118	6.19	6.15	5	4.93	0	Missing	5.59	4.62
21	BR12459-4R-114	135	119	8.37	8.27	4.44	4.46	4.08		6.4	4.62
22	BR12459-4R-118	135	120	5.42	5.4	5.43	5.3	3.45		5.42	4.62

**Table 6.7.2: Yield and agronomic performance of the genotypes tested in AYT-2, Salt-Tolerant Rice (STR) Breeding, at Gazipur, T. Aman 2023-24**

Sl #	Designation	GD (days)	PH (cm)	Grain yield (t/ha)							
				Gazipur		Kaliganj		Koik hali	Gazipur and Kaliganj		
		BLUE	BLUE	BL UE	BL UP	BL UE	BL UP	Average	Remarks	YLD_em means	pBLUP
1	BR12460-4R-9	129	114	3.84	3.83	3.84	3.79	0	Missing	3.84	3.55
2	<b>BR12461-4R-51</b>	<b>128.5</b>	<b>147</b>	<b>5.25</b>	<b>5</b>	<b>3.55</b>	<b>3.53</b>	0	Missing	4.4	3.58
3	<b>BR12462-4R-147</b>	<b>135.5</b>	<b>120</b>	<b>4.85</b>	<b>4.67</b>	<b>2.89</b>	<b>2.92</b>	0	Missing	3.87	3.55
4	<b>BR12462-4R-283</b>	<b>134</b>	<b>118</b>	<b>3.38</b>	<b>3.45</b>	<b>3.38</b>	<b>3.37</b>	0	100% rat damage	3.38	3.53
5	<b>BR12464-4R-298</b>	<b>131</b>	<b>113</b>	<b>1.92</b>	<b>2.23</b>	<b>3.38</b>	<b>3.37</b>	0	Missing	2.65	3.49
6	<b>BR12465-4R-201</b>	<b>132</b>	<b>114</b>	<b>3.99</b>	<b>3.96</b>	<b>2.94</b>	<b>2.97</b>	2.75		3.47	3.53
7	BR12465-4R-28	135.5	110	3.84	3.83	3.2	3.21	2.48		3.52	3.54
8	<b>BR12465-4R-85</b>	<b>132</b>	<b>108</b>	<b>4.15</b>	<b>4.09</b>	<b>3.16</b>	<b>3.17</b>	<b>2.89</b>		3.65	3.54
9	BR12466-4R-179	134	107	3.46	3.51	3.46	3.44	2.46		3.46	3.53
10	<b>BR12468-4R-337</b>	<b>130</b>	<b>121</b>	<b>3.82</b>	<b>3.81</b>	<b>3.91</b>	<b>3.85</b>	<b>3.26</b>		3.86	3.55
11	BR12469-4R-204	139	139	3.75	3.76	3.03	3.06	2.28		3.39	3.53
12	BR12474-4R-311	126.5	115	2.46	2.68	3.32	3.31	3.01		2.89	3.51
13	<b>BR12477-4R-371</b>	<b>136</b>	<b>121</b>	<b>4.43</b>	<b>4.32</b>	<b>3.17</b>	<b>3.18</b>	<b>3.16</b>		3.8	3.55
14	<b>BR13711-4R -190</b>	<b>125</b>	<b>119</b>	<b>4.56</b>	<b>4.43</b>	<b>2.58</b>	<b>2.64</b>	0	100% rat damage	3.57	3.54
15	BR12465-4R-228	135	151	3.76	3.76	3.76	3.72	3.32		3.76	3.55
16	<b>BR12459-4R-117</b>	<b>136.5</b>	<b>138</b>	<b>4.29</b>	<b>4.2</b>	<b>3.54</b>	<b>3.52</b>	3.48		3.92	3.55
17	<b>BR12459-4R-277</b>	<b>137</b>	<b>120</b>	<b>4.43</b>	<b>4.32</b>	<b>4.03</b>	<b>3.96</b>	3.26		4.23	3.57
18	BR12459-4R-97	135.5	140	4.2	4.13	2.96	2.99	3.09		3.58	3.54
19	BR12460-4R-66	133.5	113	2.23	2.49	2.23	2.33	2.33		2.23	3.47
20	<b>BR12465-4R-100</b>	<b>137</b>	<b>109</b>	<b>4.31</b>	<b>4.22</b>	2.88	2.92	3.25		3.59	3.54
21	<b>BR12465-4R-113</b>	<b>137</b>	<b>114</b>	<b>4.78</b>	4.61	3.59	3.56	2.98		4.18	3.57
22	<b>BR12465-4R-132</b>	<b>142.5</b>	<b>110</b>	<b>2.23</b>	<b>2.49</b>	2.51	2.58	2.13		2.37	3.48

23	<b>BR12465-4R-223</b>	136.5	110	4.61	4.47	3.74	3.7	2.68		4.18	3.57
24	<b>BR12465-4R-231</b>	136.5	117	4.09	4.04	3.74	3.7	2.94		3.91	3.55
25	<b>BR12465-4R-26</b>	138	102	3.45	3.5	2.97	3	0	100% rat damage	3.21	3.52
26	<b>BR12465-4R-321</b>	129.5	105	3.88	3.86	3.65	3.61	3.65		3.76	3.55
27	<b>BR12465-4R-59</b>	135.5	106	4.75	4.59	3.13	3.15	2.7		3.94	3.56
28	<b>BR12465-4R-61</b>	137	111	4.27	4.19	3.34	3.34	3.41		3.81	3.55
29	<b>BR12465-4R-91</b>	134	126	5.35	5.09	3.02	3.04	3.9		4.19	3.57
30	BR12466-4R-134	139	131	3.39	3.46	3.41	3.4	3.56		3.4	3.53
31	<b>BR12466-4R-159</b>	135.5	123	4.64	4.49	2.52	2.59	1.46		3.58	3.54
32	<b>BR12466-4R-167</b>	137.5	114	4.28	4.19	3.32	3.32	2.96		3.8	3.55
33	<b>BR12466-4R-275</b>	134.5	135	1.85	2.18	3.67	3.64	3.18		2.76	3.5
34	BR12466-4R-275	117.5	117	1.85	2.18	3.67	3.64	3.33		2.76	3.5
35	BR12477-4R-13	139.5	115	3.18	3.28	3.19	3.2	2.75		3.19	3.52
36	<b>BR12477-4R-186</b>	138.5	115	3.28	3.36	2.35	2.44	3.34		2.81	3.5
37	BR12477-4R-73	135.5	139	4.28	4.2	3.48	3.46	2.81		3.88	3.55
38	BR12459-4R-45	133	137	3.35	3.42	3.23	3.24	2.95		3.29	3.52
39	<b>BR12465-4R-130</b>	141	115	2.23	2.49	3.86	3.8	0	Missing	3.04	3.51
40	BR12465-4R-27	135	121	3.73	3.74	2.39	2.47	2.94		3.06	3.51
41	<b>BR12465-4R-312</b>	135.5	116	4.11	4.05	3.48	3.46	0	100% rat damage	3.79	3.55
42	<b>BR12466-4R-106</b>	135.5	113	4.99	4.79	3.48	3.46	2.75		4.24	3.57
43	<b>BR12466-4R-14</b>	134	118	4.26	4.18	4.06	3.99	0	Missing	4.16	3.57
44	<b>BR12466-4R-180</b>	132	110	2.45	2.67	4.06	3.99	2.99		3.25	3.52
45	BR12466-4R-61	137.5	118	4	3.96	3.94	3.88	0	Missing	3.97	3.56
46	BR12459-4R-183	133.5	105	5.23	4.98	3.54	3.51	3		4.38	3.58
47	<b>BR12459-4R-241</b>	137	123	3.2	3.3	3.07	3.09	3.83		3.13	3.52
48	<b>BR12469-4R-204</b>	135.5	138	3.75	3.76	3.03	3.06	2.43		3.39	3.53

49	BR12461-4R-23	139.5	116	3.24	3.33	3.84	3.79	2.9		3.54	3.54
50	BR12460-4R-12	138.5	104	3.05	3.17	3.07	3.09	0	Missing	3.06	3.51
51	BR12464-4R-134	136.5	109	3.36	3.43	2.94	2.98	2.51		3.15	3.52
52	BR12465-4R-14	138	117	2.89	3.04	2.94	2.97	2.51		2.92	3.51
53	BR12465-4R-181	123.5	107	4.52	4.4	2.94	2.97	0	100% rat damage	3.73	3.55
54	BRRIdhan73(ck)	135	112	3.79	3.79	3.86	3.81	0	Missing	3.83	3.55
55	BRRIdhan87(ck)	120.5	139	3.48	3.53	2.58	2.64	3.47		3.03	3.51
<b>H2b</b>				<b>0.44</b>	<b>0.34</b>	<b>-</b>				<b>0.53</b>	
<b>LSD&lt;0.05)</b>				<b>0.71</b>	<b>0.83</b>						<b>0.02</b>



Fig.6.7.1: AYT-1 and AYT-2 in Kaliganj, Satkhira

Table 6.7.3: Yield and agronomic performance of selected genotypes of AYT-1, Salt-Tolerant Rice (STR) Breeding, Boro 2023-24

Sl. No.	Designation	PH (cm)	GD (Days)	Yield (t/ha)			BLU E	BLU P	Pac p
				Gazipur	Satkhira farm	Debhat a			
2	BR12650-4R-55	120	142	6.9	4.8	6.9	5.8	5.3	7
3	BR13201-4R-304	104	137	6.7	3.9	1.6	5.3	5.3	7
4	<b>BR12655-4R-32</b>	<b>95</b>	<b>173</b>	<b>6.1</b>	<b>4.9</b>	<b>1.0</b>	5.6		<b>5</b>
5	<b>BR13201-4R-91</b>	<b>104</b>	<b>136</b>	<b>5.8</b>	<b>5.1</b>	<b>1.9</b>	5.6	5.6	<b>5</b>
6	<b>BR12661-4R-33</b>	<b>109</b>	<b>140</b>	<b>7.0</b>	<b>4.4</b>	<b>1.4</b>	5.6	5.2	<b>5</b>
8	BR12649-4R-121	117	147	6.8	4.9	0.9	5.8	5.5	7

9	BR13205-4R-1	103	145	6.6	4.9	1.5	5.7	5.1	7
10	<b>BR13208-4R-76</b>	<b>108</b>	<b>148</b>	<b>6.9</b>	<b>3.2</b>	<b>0.8</b>	5.1	5.3	<b>5</b>
11	<b>BR13201-4R-215</b>	<b>106</b>	<b>140</b>	<b>6.1</b>	<b>3.6</b>	<b>1.8</b>	5.1	5.5	<b>5</b>
12	<b>BR12650-4R-123</b>	<b>109</b>	<b>137</b>	<b>6.7</b>	<b>4.0</b>	<b>1.3</b>	5.4	5.9	<b>5</b>
13	<b>BR12650-4R-77</b>	<b>126</b>	<b>145</b>	<b>7.4</b>	<b>5.7</b>	<b>5.7</b>	6.3	5.7	<b>5</b>
14	BR12639-4R-126	114	137	4.4	5.7	1.9	5.5	5.9	7
15	<b>BR13207-4R-28</b>	<b>113</b>	<b>149</b>	<b>7.0</b>	<b>5.0</b>	<b>1.9</b>	5.9	5.6	<b>5</b>
17	<b>BR12650-4R-24</b>	<b>114</b>	<b>139</b>	<b>6.8</b>	<b>4.7</b>	<b>2.2</b>	5.7	5.4	<b>5</b>
18	BR12660-4R-21	104	147	5.7	6.0	1.2	6.0	5.4	7
19	<b>BR13201-4R-103</b>	<b>105</b>	<b>139</b>	<b>7.3</b>	<b>4.3</b>	<b>2.0</b>	5.7	5.7	<b>5</b>
20	BR12645-4R-71	124	137	6.8	4.9	4.9	5.8	6.1	7
21	BR13201-4R-27	117	144	6.6	3.1	3.1	5.0	5	7
22	<b>BR13201-4R-196</b>	<b>96</b>	<b>137</b>	<b>7.8</b>	<b>5.1</b>	<b>1.1</b>	6.1	5.8	<b>5</b>
23	BR12658-4R-12	116	143	6.9	3.8	1.4	5.4	5.8	7
24	BR13201-4R-49	99	145	6.0	3.6	1.5	5.0	5.1	7
25	<b>BR13197-4R-24</b>	<b>116</b>	<b>146</b>	<b>6.8</b>	<b>4.7</b>	<b>4.7</b>	5.7	5.6	<b>5</b>
26	<b>BR12650-4R-49</b>	<b>111</b>	<b>141</b>	<b>6.5</b>	<b>5.5</b>	<b>3.1</b>	6.0	5.3	<b>5</b>
27	BR13201-4R-268	101	140	8.0	4.9	1.1	6.1	5.2	7
28	<b>BR13201-4R-219</b>	<b>103</b>	<b>145</b>	<b>8.0</b>	<b>5.3</b>	<b>1.4</b>	6.3	6.1	<b>5</b>
29	BR13201-4R-56	93	137	7.9	2.6	1.9	5.2	6	7
30	BR 12639-4R-216	97	145	6.1	6.0	1.8	6.1	5.9	7
31	<b>BR12655-4R-143</b>	<b>109</b>	<b>149</b>	<b>5.2</b>	<b>3.8</b>	<b>5.2</b>	4.9	5.8	<b>5</b>
32	BR13199-4R-136	115	149	6.5	3.2	6.5	5.0	4.8	7
34	BR12643-4R-57	104	148	5.1	4.1	4.1	5.0	5	7
35	BR13208-4R-46	92	144	6.4	4.0	1.6	5.3	5.2	7
36	BR12661-4R-21	121	140	6.4	5.4	6.4	5.9	5.8	7
38	<b>BR13201-4R-30</b>	<b>99</b>	<b>137</b>	<b>7.5</b>	<b>5.4</b>	<b>1.6</b>	6.2	6	<b>5</b>
39	<b>BR13201-4R-250</b>	<b>111</b>	<b>151</b>	<b>5.9</b>	<b>4.4</b>	<b>5.9</b>	5.4	6.3	<b>5</b>
40	<b>BR13201-4R-299</b>	<b>101</b>	<b>146</b>	<b>7.3</b>	<b>5.1</b>	<b>1.2</b>	6.0	5.8	<b>5</b>
41	BR12639-4R-155	123	148	6.6	5.7	1.2	6.1	5.6	7
42	<b>BR12650-4R-72</b>	<b>110</b>	<b>143</b>	<b>6.9</b>	<b>5.1</b>	<b>1.6</b>	5.9	6.2	<b>5</b>
43	<b>BR12646-4R-123</b>	<b>119</b>	<b>148</b>	<b>6.5</b>	<b>4.5</b>	<b>6.5</b>	5.5	5.9	<b>5</b>
44	<b>BR13201-4R-298</b>	<b>100</b>	<b>136</b>	<b>8.6</b>	<b>5.3</b>	<b>0.9</b>	6.4	5.6	<b>5</b>
45	<b>BR13201-4R-15</b>	<b>101</b>	<b>139</b>	<b>7.6</b>	<b>4.8</b>	<b>1.9</b>	6.0	6.6	<b>5</b>
46	<b>BR13198-4R-35</b>	<b>109</b>	<b>141</b>	<b>5.2</b>	<b>4.2</b>	<b>1.2</b>	5.1	6.3	<b>5</b>
47	BR12655-4R-91	102	154	4.9	5.5	4.9	5.5	5.3	7
48	BR13206-4R-120	109	139	6.5	5.1	1.7	5.8	5.7	7

49	<b>BR13201-4R-225</b>	96	137	7.2	5.2	1.3	6.0	5.5	5
50	<b>BR13208-4R-89</b>	115	147	6.6	3.9	6.6	5.3	5.9	5
51	<b>BR12640-4R-250</b>	105	149	7.1	4.7	1.4	5.8	5.7	5
52	BR12658-4R-255	119	137	6.8	4.8	2.6	5.8	5.8	7
53	<b>BR13201-4R-249</b>	114	143	7.8	5.8	1.2	6.4	5	5
54	<b>BR13206-4R-50</b>	109	142	6.8	4.4	1.7	5.6	5.3	5
55	BR12652-4R-81	103	144	6.1	3.9	1.7	5.2	5.5	7
56	<b>BR13204-4R-96</b>	105	145	6.2	4.3	1.3	5.4	5.9	5
	BRRi dhan67	118	138	6.9	4.8	3	5.9	5.7	1.8
	BRRi dhan89	110	150	6.3	3.9	5	5.1	5.2	3.9
	BRRi dhan97	116	147	6.8	4.7	5	5.7	5.4	1.4
	BRRi dhan99	105	145	6.8	5	5	5.9	5.7	6.8
	LSD <sub>(0.05)</sub>	4.39	8.97	0.76	0.46		0.75		0.43
	H2b	0.72	0.68	0.54	0.82			0.32	0.57

**Table 6.7.4: Yield and agronomic performance of genotypes of AYT2, Salt-Tolerant Rice (STR) Breeding, Boro 2023-24**

Sl. No.	Designation	PH (cm)	GD (Days)	Gazipur	Yield (t/ha) Satkhira farm	Debhat a	BLU E	BLU P	PACP
1	<b>BR12274-4R-138</b>	99	160	6	5.8	1.6	5.9	6	3
2	BR12274-4R-205	103	150	6.1	2.3	1.2	4.2	4.4	7
3	BR11276-4R-132	102	151	6.5	2.5	2.5	4.5	4.6	7
4	<b>BR11718-4R-268</b>	112	159	6.6	6.6	2.3	6.6	6.6	3
5	BR11718-4R-245	94	151	6.6	2.3	6.6	4.4	4.6	5
7	<b>BR11718-4R-379</b>	105	154	7.1	1.5	1.9	4.3	4.9	5
8	<b>BR11276-4R-196</b>	118	148	7.7	3.6	1.8	5.7	4.3	3
9	<b>BR11276-4R-100</b>	121	153	6.8	0.7	1.4	3.8	5.5	3
10	<b>BR11276-4R-67</b>	109	148	8.2	3.5	1.8	5.9	3.9	3
11	BR12274-4R-93	101	149	7.5	2.2	1.2	4.8	5.6	5
12	<b>BR11720-4R-89</b>	124	149	7.2	4.4	1	5.8	4.8	3
13	BR11716-4R-175	119	152	5.9	3.1	1.1	4.5	5.7	5
14	<b>BR11276-4R-152</b>	110	146	7.8	2.2	2.5	5	4.7	5
15	<b>BR11276-4R-221</b>	118	153	7.5	2.2	1.5	4.9	4.8	5
16	BR11718-4R-78	90	145	6.8	3.2	1.3	5.0	4.8	5
17	BR11276-4R-210	110	150	8.2	0.8	1.7	4.5	5.0	5
18	<b>BR12275-4R-215</b>	112	158	6.1	6.1	1	6.1	4.3	5
19	<b>BR11276-4R-212</b>	114	152	6.3	1.7	1.4	4	6.2	5
20	BR11276-4R-21	117	152	7.6	1.0		4.3	4.2	1.0
21	<b>BR12276-4R-156</b>	116	149	7.2	2.5	2.2	4.9	4.2	5

22	BR11276-4R-229	112	151	7.0	2.6	3.8	4.8	4.8	7
23	BR11276-4R-166	104	146	6.4	2.0	1.6	4.2	4.8	5
24	BR12275-4R-90	95	153	7.3	2.4	1.2	4.9	4.3	7
25	<b>BR12274-4R-255</b>	<b>111</b>	<b>158</b>	<b>7</b>	<b>7</b>	<b>1.3</b>	<b>7</b>	<b>4.8</b>	<b>3</b>
28	<b>BR12274-4R-188</b>	<b>102</b>	<b>150</b>	<b>7.1</b>	<b>2.1</b>	<b>1.9</b>	<b>4.6</b>	<b>6.9</b>	<b>3</b>
29	BR12275-4R-125	100	150	5.8	1.9	1.7	3.8	4.3	5
30	<b>BR11276-4R-104</b>	<b>110</b>	<b>151</b>	<b>8.5</b>	<b>1.7</b>	<b>0.9</b>	<b>5.1</b>	<b>4.3</b>	<b>3</b>
31	<b>BR11276-4R-150</b>	<b>104</b>	<b>153</b>	<b>6.3</b>	<b>2.6</b>	<b>1.7</b>	<b>4.5</b>	<b>6.8</b>	<b>3</b>
32	<b>BR11276-4R-19</b>	<b>109</b>	<b>147</b>	<b>6.7</b>	<b>1.5</b>	<b>2.3</b>	<b>4.1</b>	<b>4.6</b>	<b>3</b>
33	<b>BR11718-4R-10</b>	<b>105</b>	<b>152</b>	<b>6.8</b>	<b>0.9</b>	<b>1.3</b>	<b>3.9</b>	<b>4.1</b>	<b>3</b>
34	BR11718-4R-84	100	148	7.6	2.3	1.2	4.9	4.6	5
35	<b>BR12274-4R-310</b>	<b>109</b>	<b>151</b>	<b>8.3</b>	<b>1.9</b>	<b>1.2</b>	<b>5.1</b>	<b>4.8</b>	<b>5</b>
36	<b>BR11276-4R-8</b>	<b>110</b>	<b>153</b>	<b>5.9</b>	<b>3.8</b>	<b>5.9</b>	<b>4.8</b>	<b>4.2</b>	<b>5</b>
37	<b>BR11718-4R-92</b>	<b>134</b>	<b>161</b>	<b>7.5</b>	<b>7.5</b>	<b>0.7</b>	<b>7.5</b>	<b>4</b>	<b>5</b>
38	<b>BR12274-4R-193</b>	<b>121</b>	<b>143</b>	<b>9.3</b>	<b>3</b>	<b>2.1</b>	<b>6.1</b>	<b>4.8</b>	<b>5</b>
39	<b>BR11718-4R-110</b>	<b>97</b>	<b>152</b>	<b>5.5</b>	<b>1.1</b>	<b>1.6</b>	<b>3.3</b>	<b>4.9</b>	<b>3</b>
41	BR12274-4R-113	103	150	7.1	1.4	1.4	4.3	7.2	5
42	<b>BR11718-4R-230</b>	<b>110</b>	<b>153</b>	<b>5.6</b>	<b>2.4</b>	<b>2.3</b>	<b>4</b>	<b>5</b>	<b>5</b>
43	<b>BR11718-4R-125</b>	<b>134</b>	<b>161</b>	<b>6.5</b>	<b>6.5</b>	<b>1</b>	<b>6.5</b>	<b>5.6</b>	<b>5</b>
44	<b>BR11276-4R-139</b>	<b>119</b>	<b>151</b>	<b>8.7</b>	<b>2.5</b>	<b>1.1</b>	<b>5.6</b>	<b>3.7</b>	<b>5</b>
45	BR12276-4R-210	126	158	5.1	5.1	5.1	5.1	4.3	7
46	<b>BR11718-4R-46</b>	<b>107</b>	<b>149</b>	<b>7.3</b>	<b>1.9</b>	<b>1.6</b>	<b>4.6</b>	<b>5</b>	<b>3</b>
47	<b>BR11276-4R-228</b>	<b>115</b>	<b>154</b>	<b>7.3</b>	<b>1.1</b>	<b>1.1</b>	<b>4.2</b>	<b>4.3</b>	<b>3</b>
48	<b>BR11276-4R-132</b>	<b>104</b>	<b>151</b>	<b>7.5</b>	<b>1.4</b>	<b>1.2</b>	<b>4.5</b>	<b>6.5</b>	<b>3</b>
	BRR1 dhan67	119	148	7.9	2.4	1.3	5.2	5.7	3
	BRR1 dhan89	120	160	5.8	6.3	1.8	5.7	5.2	5
	BRR1 dhan97	114	150	8.1	0.9	1.2	4.5	5.1	5
	BRR1 dhan99	110	149	7	2.8	1.5	4.9	5.7	5
	LSD (0.05)	8.21	3.66	0.81	0.65	0.65	1.55		5
	H2b	0.63	0.62	0.58	0.64	0.89	0.53		5

### Experiment 6.8: Regional Yield Trial (RYT)

**Principal Investigator:** M. A. Rahman

**Co-investigators:** Nusrat Jahan, Armin Akter Setu and Ribed Farzana Disha

**Specific objective:** To assess specific and general adaptability for selecting the suitable genotypes on station and on farm conditions (by participating farmers' preferences) in saline prone areas

**Materials and methods:** Forty nine most promising in RYT-1, RYT-2 and RYT-3 in T. Aman season were evaluated at eight locations and total 12 promising genotypes in RYT in Boro season were evaluated, respectively at six locations in RYT1 and RYT2 in T. Aman season and 09 locations in Boro season. Twenty-five days-old seedling and 40 days old seedling were transplanted @ 2-3 seedlings with a spacing of 20 x 20 cm in T. Aman and Boro season respectively. The unit plot size was 5.4 m x 8 rows with two replications. In T Aman, BRR1

dhan89 and BRRi dhan73 were used as checks in T. Aman and BRRi dhan67, BRRi dhan89 and BRRi dhan99 were used as tolerant and sensitive checks in Boro, respectively. Fertilizer doses and time of application were the same as in Experiment no. 6.1. Crop management such as weeding, controlling disease was done in time.

**Results and Discussion:** Out of twelve genotypes, two genotypes such as BR13118-4R-76 and BR13106-4R-438 gave higher yield than check varieties (Table 6.6.1) and their growth duration was also lower than check varieties. In RYT-2, 16 genotypes were evaluated and six genotypes as BR13103-4R-37, BR13103-4R-7, BR13105-4R-37, BR13115-4R-60, BR13115-4R-122 and BR13115-4R-70 were selected for ALART based on grain yield, photosensitivity and grain quality to replace popular variety BRRi dhan30 in the southern coastal zone (Table 6.6.2). Among them BR13103-4R-37, BR13105-4R-37 and BR13103-4R-7 produced 4.14 t/ha, 4.4 t/ha and 4.1t/ha respectively which was higher than check varieties.

In Boro, from RYT, out of twelve genotypes, BR13113-4R-63, BR13113-4R-185, BR13106-4R-184 genotypes were selected and one genotype as BR11712-4R-44 was passed for ALART based on grain yield and grain quality (Table 6.8.3).

**Table 6.8.1: Yield and agronomic performance of genotypes in RYT-1, Salt tolerant Rice, T Aman 2023-24**

Sl.	Designation	GD (days)	PH (cm)	Grain Yield (ton/ha)								All locations (Pooled)	
				Gazipur	Cumilla	Satkhira farm	Kaliganj	Rajshahi	Rangpur	Sonagazi	Gopalganj		
				BLUE	pBLUP								
1	BR13113-4R-63	107	113	4.4	5.6	4.8	4.3	5.6	4	4.8	5	4.9	4.8
3	BR13118-4R-76	123	112	5	6.1	4.7	3.7	4.8	4.5	5.7	5.3	5.2	5
8	BR13106-4R-438	105	110	4.1	5.6	4.5	4.6	6.2	5	5.1	5.2	5.1	4.9
13	BRRi dhan73	125	120	4.3	5.2	4.3	4	5.7	4.9	5	5.2	5	4.8
14	BRRi dhan87	127	122	3.9	5.8	4	3.9	5.5	4.1	5.4	5.8	5	4.8
	H2b	0.55	0.81										0.42
	LSD<0.05	3.4	4.78										0.56
	Reliability												0.52



Fig. 6.8.1: Pictorial view of genotypes in RYT-1 Salinity Breeding, T.Aman 2023-24 at different regional station

**Table 6.8.2: Yield and agronomic performance of genotypes in RYT-2, Salt tolerant Rice, T Aman 2023-24**

Sl#	Designation	GD (days)	PH (cm)	Grain yield (t/ha)									All locations (Pooled) Emmean	pBLUP
				Gazipur	Cumilla	Satkhira	Kaliganj	Rangpur	Sonagazi	Gopalganj				
				BLUE	BLUE	BLUE	BLUE	BLUE	BLUE	BLUE				
1	BR13103-4R-37	145	129	2.5	6.7	2.5	2.8	4.4	5	5.2	4.1	4		
2	BR13103-4R-7	141	118	3	6.3	2.7	2.8	4.6	4.6	4.4	4.1	4		
3	BR13115-4R-159	138	125	2.1	4.8	3.1	1.3	2.8	2.9	3.9	3	3.2		
4	BR13115-4R-106	140	126	3.3	5.1	2.7	2	3	4.8	3.9	3.5	3.6		
5	BR13115-4R-93	139	108	2.8	4.8	2.7	1.8	2.5	4.2	4.1	3.3	3.4		
6	BR13105-4R-37	140	95	3.1	5.5	3.2	3.2	4.9	5.3	5.2	4.4	4.2		
7	BR13115-4R-60	138	122	2.8	6	3.9	1.7	3.5	4.2	4.2	3.7	3.7		
8	BR13115-4R-122	139	115	3.1	5.2	3.3	1.9	3.6	5	4.4	3.8	3.8		
9	BR13115-4R-8	139	119	3.3	4.8	4.2	1.7	3.8	4.4	3.6	3.7	3.7		
11	BR13121-4R-40	132	113	3.9	5.5	3.6	1.7	4.9	4.9	4.2	4.1	4		
12	BR13117-4R-95	138	136	3.2	5.9	2.5	1.8	4.1	3.7	5.9	3.9	3.8		
13	BR13115-4R-63	138	121	3.4	5.3	3	1.8	3.7	4	4.5	3.7	3.7		
14	BR13115-4R-70	143	120	2.6	3.8	2.7	1.6	3.3	3.8	4.3	3.2	3.3		
16	BR13115-4R-117	140	130	3.5	5.2	3	1.9	3.8	3.3	3.9	3.5	3.6		
17	BR23 (ck)	140	138	1.8	5.2	3.3	3.3	3.3	4.3	4.7	3.7	3.7		
18	BRRI dhan30 (ck)	138	122	3.6	4.9	3.2	2.3	4.5	4.2	4.4	3.9	3.8		
19	BRRI dhan87 (ck)	125	129	2.5	5.7	2.7	2.1	4.2	5.1	5.8	4	3.9		
<b>H2b</b>				<b>0.22</b>	<b>0.75</b>	<b>0.53</b>	<b>0.95</b>	<b>0.7</b>	<b>0.87</b>	<b>0.89</b>	<b>0.37</b>			
<b>LSD&lt;0.05</b>												<b>0.32</b>		



Fig. 6.8.2: Performance of same genotype in OYT, T.Aman 2022-23 & RYT-2 (Photosensitive), Salt Tolerant Rice, T. Aman 2023-24

**Table 6.8.3: Yield and agronomic performance of genotypes in RYT, Salt Tolerant Rice, Boro 2023-24**

SL No	Designation	PH (cm)	GD (Days)	Bhanga	Cumilla	Gazipur	Gopalganj	Rajshahi	Rangpur	Saikhira	Sonagazi	Kustia	Yield (t/ha)
<b>1</b>	<b>BR13113-4R-63</b>	<b>100</b>	<b>146</b>	<b>8.5</b>	<b>5.2</b>	<b>9.1</b>	<b>6.6</b>	<b>7.8</b>	<b>6.9</b>	<b>6.1</b>	<b>7.9</b>	<b>7.2</b>	<b>7.3</b>
2	BR13125-4R-92	95	150	7.4	6.1	9.7	6.2	7.6	6.9	5.2	7.8	7.5	7.2
3	BR131138-4R-76	101	151	8.5	6.8	8.3	7.3	7.7	6.9	5	7.7	7	7.2
<b>4</b>	<b>BR13113-4R-185</b>	<b>95</b>	<b>153</b>	<b>7.9</b>	<b>7.3</b>	<b>8.9</b>	<b>7</b>	<b>8.1</b>	<b>7.1</b>	<b>5.7</b>	<b>8.1</b>	<b>8</b>	<b>7.6</b>
5	BR13111-4R-191	106	158	7.8	5.9	6.2	7.1	8.3	7.3	4.4	7.3	7.1	6.8
6	BR13106-4R-469	112	155	7.5	7	8.5	8.1	7.8	5.6	5.8	7.2	6.8	7.1
7	BR13108-4R-232	105	151	7	5.7	8.9	7.1	7.9	6.8	5.7	8.3	6.6	7.1
8	BR13106-4R-438	104	152	7.2	5.3	8.5	7.7	8.2	6.1	5.4	8	7.3	7.1
9	BR13111-4R-63	105	152	7.5	6.9	8.5	7.4	8.2	6.3	5.7	8.4	6.9	7.3
<b>10</b>	<b>BR13106-4R-184</b>	<b>94</b>	<b>153</b>	<b>7.8</b>	<b>6.7</b>	<b>8.4</b>	<b>6.8</b>	<b>7.2</b>	<b>6.7</b>	<b>5.9</b>	<b>7.8</b>	<b>7.4</b>	<b>7.2</b>
11	BR13122-4R-136	106	156	8.1	7.1	9	5.9	8.2	6	5.6	8.3	7.6	7.3
12	BR13113-4R-116	102	150	7.5	6.6	9.1	6.4	7.6	7.4	6.2	8.6	7.1	7.4
13	BRRRI dhan67	110	148	7.5	5.6	7.3	6.1	7.1	6.9	6.2	6.5	6.9	6.7
14	BRRRI dhan28	103	145	6.8	6.3	5.5	6	7.2	6.5	6	3	6.3	5.9
15	BRRRI dhan88	91	146	7	6.6	4.1	6.7	7.2	5.9	6.1	5.9	6.3	6.2
	LSD(.05%)	5.42	3.23	0.7	0.6	0.84	0.84	0.34	0.59	0.6	0.9	0.7	0.84
	H2b	0.69	0.88	0.83	0.71	0.56	0.6	0.63	0.87	0.9	0.65	0.7	0.43



Fig. 6.8.1.c: Pictorial view of RYT at East byde, Gazipur, Salt Tolerant Rice, Boro 2023-24



Fig.6.8.1.d: Pictorial view of RYT at Satkhira farm, Salt Tolerant Rice, Boro 2023-24

### Experiment 6.9: Proposed Variety Trial (PVT)

Table.6.7. Yield Performance of genotypes in PVT Salinity Breeding, T. Aman 2023-24

Location	Yield (kg/ha)		Growth duration (days)		Yield advantage over check (%)	Remarks
	I-0074 (BR11716-4R-102): Proposed variety	I-0073 (BRRI dhan73): Check	I-0074 (BR11716-4R-102): Proposed variety	I-0073 (BRRI dhan73): Check		
Gazipur	5165	4082	117	116	26.53	Check Lodging
Satkhira Farm	5986	4511	118	119	32.7	Check Lodging
Kaliganj, Satkhira	5279	3383	119	116	56.04	Check Lodging, Salinity affected
Dumuria, Khulna	4589	3768	113	113	21.79	Salinity and BPH
Jashore	3398	3064	128	128	10.9	Rat, BPH damage
Patuakhali	5163	3856	122	119	33.9	
BRI Farm Sonagazi, Feni	4930	4600	130	123	7.17	
Sonagazi, Feni (On Farm)	4773	4321	118	115	10.46	
Companiganj, Noakhali	4140	3691	117	119	12.164	Tide affected
Gopalganj	6126	5300	118	115	15.6	
<b>Mean</b>	<b>5079.5</b>	<b>4070.5</b>	<b>120</b>	<b>118</b>	<b>24.79</b>	



Fig.8. Field view of PVT plots at different location, T Aman 2023-24

#### **Experiment 6.9: Advanced lines Adaptive Research Trial (ALART)**

**Specific objective:** On-farm evaluation of advanced breeding lines compared to standard checks for testing their specific and general adaptability.

**Materials and methods:** Five genotypes along with BRR dhan28 and BRR dhan88 as standard checks were evaluated in ten locations of Bangladesh in Boro season. Twenty-five days old seedling of each genotype were transplanted @ 2-3 seedlings with a spacing of 20 cm × 20 cm. The unit plot size were 5.4 m × 12 rows and the field layout were RCB design with three replications. Fertilizers @ 200 kg Urea: 62 kg TSP: 83kg MoP: 56kg Gypsum: 5 kg Zn kg/ha were applied in the trial. All amount of Urea, TSP, MoP and ZnSO<sub>4</sub> were applied at the time of final land preparation and nitrogen were applied in three equal splits at 15 days after transplanting (DAT), 30 DAT and 5 days before PI stage. Crop management such as weeding, controlling disease and insect pests were done when necessary. Data were collected such as Date of seeding and transplanting, days to 50% flowering and maturity (80%), phenotypic acceptance at vegetative and maturity stage, plant height (cm), lodging tolerance, SES score, Soil Salinity (EC dSm<sup>-1</sup>) and grain yield (t/ha), insect and disease infestation.

Principal Investigator: ARD Scientist

Co-Investigators: M.A. Rahman, Hasina Khatun. Nusrat Jahan, A A Setu, Ribed Farzana Disha, Md. R.S, A. A. Shoily, and T. H. Ansari

**Results:** In ALART, three genotypes; BR13113-4R-63 (7.5 t/ha), BR13113-4R-116 (7.3 t/ha), and were selected to conduct ALART with BRR dhan28 and BRR dhan88 as standard checks.

**Table.6.9.1. Yield Performance of genotypes in ALART Salinity Breeding, Boro 2023-24**

Sl. No.	Designation	PH (cm)	GD (Days)	Yield (t/ha <sup>-1</sup> )						Mean Yield (t/ha)
				Bhanga	Cumilla	Gopalganj	Kustia	Rangpur	Satkhira	
<b>1</b>	<b>BR13113-4R-63</b>	<b>102</b>	<b>145</b>	<b>8.8</b>	<b>7.7</b>	<b>8.4</b>	<b>6.6</b>	<b>7.5</b>	<b>6.1</b>	<b>7.5</b>
2	BR13106-4R-184	101	150	8.4	8.2	8.1	6	6.6	5	7.1
<b>3</b>	<b>BR13113-4R-116</b>	<b>100</b>	<b>147</b>	<b>8.6</b>	<b>8.1</b>	<b>9.2</b>	<b>6.4</b>	<b>5.7</b>	<b>6</b>	<b>7.3</b>
4	BR13122-4R-136	109	152	8.5	8.4	9	6.3	7	5.2	7.4
5	BR13111-4R-63	106	148	7.9	8.5	8.8	6.8	7.7	5.9	7.6
6	BRR1 dhan28 (Ck)	102	145	7.9	7.6	6.4	6.1	7.1	6.3	6.9
7	BRR1 dhan88 (Ck)	101	147	7.3	7.7	7	6.1	7.4	5.6	6.8
LSD<0.05		7.8	4.37	0.59	0.55	0.49	0.35	0.51	0.35	0.67
H2b		0.42	0.6	0.82	0.71	0.7	0.79	0.62	0.52	0.47



**Fig.6.9.1.** Field view of ALART plot Boro 2023-24

**PROJECT: AGGRi-Alliance (Accelerated Genetic Gain in Rice)**

**Technical report on AGGRi network trials in Bangladesh for salt-stress prone environment, T. Aman 2023-24 (Wet season)**

**Summary:** One hundred fifteen (115) and twenty five (25) breeding lines from IRRI along with thirteen international check varieties and four national check varieties were evaluated at two locations viz., Shyamnagar and Kaliganj Upazillas of Satkhira during T.Aman 2023 to select superior genotypes aiming to include directly in the variety release system or use as parents in the breeding program. In Kaliganj, grain yield ranged from 0.92 t/ha<sup>-1</sup> to 5.70t/ha<sup>-1</sup> in stage-1 trial and 1.79 t/ha<sup>-1</sup> to 5.92 t/ha<sup>-1</sup> in stage-2 trial. One the other hand growth duration ranged from 102 days to 137 days in stage-1 trial and 107 days to 122 days in stage-2 trial respectively. Among 115 entries, 31 genotypes were selected based on grain type and salinity performance in Kaliganj. In Shyamnagar, most of the entries were damaged due to salinity and rat. Among all these entries two genotypes were selected in stage-1 trial and one genotype was selected in stage-2 trial in Shyamnagar.

**Background/Rationale:** Rice cultivation (horizontal expansion) in the southern coastal region (SCR) needs to be increased combining medium to high saline zone through the development and use of high-yielding salt-tolerant rice varieties for sustaining the food security in

Bangladesh. AGGRi network trial consists of diverse elite breeding lines that help to select desirable genotypes suitable for salt-stress-prone environments to align with the target product profile. Moreover, we can identify more adaptable salinity resilient lines with the broader genetic base from this elite diverse panel of AGGRi network trials. These new lines may help in climate change adaptation through minimizing the negative effect of climate change in SCR. These materials will also be useful to generate breeding population that enhances the rate of genetic gain through productivity improvement and replacement of older varieties.

### Experiment 1: Evaluation of genotypes under AGGRi Network Trial T.Aman 2023

**General objective:** Development of salt-tolerant rice variety suitable for the salinity prone areas of coastal districts in T. Aman season.

**Specific objective:** To evaluate the genotypes in the natural salinity-prone environment at the farmers' field of Satkhira region in T.Aman season.

**Materials and methods:** A total of 115 and 25 elite genotypes were evaluated in Stage-1 and Stage-2 along with IRRI 147, IRRI 242, CSR 28, A69-1, IR 29, IT 42, IRRI 119, IRRI 251, IRRI 224, IR05F101, CIHERANG, IRRI 154, IRRI 252, BRRi dhan79, Binadhan-23, BR10 and BR23 at Satkhira. The unit plot size was 3.00 square meter (5 rows × 15 hills). The field layout was done following Alpha lattice design and RCBD with two replications. Thirty-five days' seedlings were transplanted @ 2-3 seedlings per hill with the spacing of 20 cm × 20 cm. Per hectare fertilizer were applied at the rate of 300 kg Urea: 100 kg TSP: 165 kg MoP: 112 kg Gypsum: 12 kg ZnSO<sub>4</sub> kg were applied in the trial. All amount of P, K, S and Zn were applied at the time of final land preparation and nitrogen (urea) were applied in three equal splits at 5-10, 20-25 and 35-40 days after transplanting (DAT). Crop management such as weeding, irrigation was done on time. Pest management and other cultural operations were also performed when deemed necessary.

**Table 1: List of all genotypes in T.Aman 2023 at Kaliganj under AGGRi Alliance Stage-1**

Entry	Designation	GD (days)	PH (cm)	Yield ton/ha	Yield ton/ha
1	IR22LT1583	119	109	4.5	4.48
2	IR22LT1219	117	96	4.84	4.81
3	IR22LT1348	121	111	4.52	4.50
4	IR22LT1316	123	99	3.75	3.75
5	IR22LT1490	125	94	4.26	4.25
6	IR22LT1560	113	94	4.58	4.56
7	IR22LT1078	128	74	4.06	4.06
8	IR22LT1589	122	103	4.27	4.26
9	IR22LT1380	128	72	4.13	4.12
10	IR22LT1575	112	82	3.45	3.46
11	IR22LT1639	123	111	2.81	2.84
12	IR22LT1345	122	106	5.35	5.31
13	IR22LT1429	122	94	3.91	3.91
14	IR22LT1735	128	110	3.49	3.50
15	IR22LT1621	128	108	4.86	4.83
16	IR22LT1601	111	100	4.88	4.85
17	IR22LT1585	129	99	3.76	3.77
18	IR22LT1718	111	105	4.03	4.02
19	IR22LT1610	112	94	4.7	4.68
20	IR22LT1732	121	96	4.6	4.58

21	IR22LT1264	118	98	4.05	4.05
22	IR22LT1503	121	85	3.94	3.94
23	IR22LT1518	117	95	4.82	4.79
24	IR22LT1736	103	90	3.31	3.33
25	IR22LT1605	122	95	5.15	5.11
26	IR22LT1591	119	101	4.95	4.92
27	IR22LT1599	114	98	4.52	4.50
28	IR22LT1582	117	103	3.95	3.95
29	IR22LT1156	119	94	4.24	4.23
30	IR22LT1326	122	101	3.48	3.49
31	IR22LT1556	110	81	2.64	2.68
32	IR22LT1603	117	105	4.59	4.57
33	IR22LT1521	122	97	3.94	3.94
34	IR22LT1327	123	101	3.42	3.43
35	IR22LT1259	119	97	4.17	4.17
36	IR22LT1688	110	103	4.12	4.12
37	IR22LT1499	116	112	2.22	2.27
38	IR22LT1704	109	94	4.53	4.51
39	IR22LT1266	121	91	4.7	4.68
40	IR22LT1108	122	90	3.94	3.94
41	IR22LT1694	116	98	3.99	3.99
42	IR22LT1257	113	97	4.63	4.61
43	IR22LT1622	131	85	3.88	3.88
44	IR22LT1304	103	88	2.93	2.96
45	IR22LT1237	120	89	4.00	4.00
46	IR22LT1393	128	83	3.26	3.28
47	IR22LT1246	124	92	4.97	4.93
48	IR22LT1698	120	102	5.43	5.38
49	IR22LT1557	123	92	4.15	4.14
50	IR22LT1479	121	103	4.49	4.47
51	IR22LT1432	123	100	4.52	4.50
52	IR22LT1198	114	86	4.45	4.43
53	IR22LT1087	111	100	3.39	3.41
54	IR22LT1507	119	102	4.13	4.12
55	IR22LT1651	122	102	4.35	4.34
56	IR22LT1070	127	78	3.74	3.75
57	IR22LT1291	113	95	5.76	5.70
58	IR22LT1310	103	91	2.73	2.77
59	IR22LT1520	120	102	3.53	3.54
60	IR22LT1627	118	101	5.27	5.22
61	IR22LT1397	122	96	4.26	4.25
62	IR22LT1005	112	96	4.49	4.47
63	IR22LT1600	118	101	4.67	4.64
64	IR22LT1099	122	91	3.21	3.23
65	IR22LT1329	125	118	4.31	4.30
66	IR22LT1104	120	88	4.28	4.27
67	IR22LT1343	110	102	3.86	3.87
68	IR22LT1511	122	90	4.09	4.08
69	IR22LT1538	117	98	4.09	4.09
70	IR22LT1221	118	102	3.87	3.87
71	IR22LT1554	118	107	4.91	4.88
72	IR22LT1539	112	94	3.72	3.72
73	IR22LT1469	112	102	3.64	3.65
74	IR22LT1213	117	95	4.55	4.53
75	IR22LT1288	117	101	4.12	4.11
76	IR22LT1625	116	97	3.75	3.76
77	IR22LT1611	118	96	4.19	4.18

78	IR22LT1664	117	93	4.07	4.07
79	IR22LT1313	123	83	3.11	3.14
80	IR22LT1256	112	97	4.52	4.50
81	IR22LT1383	117	96	3.64	3.65
82	IR22LT1692	110	93	2.5	2.55
83	IR22LT1356	111	90	3.39	3.41
84	IR22LT1571	103	98	2.86	2.89
85	IR22LT1475	123	102	4.16	4.15
86	IR22LT1779	113	97	4.2	4.19
87	IR16F1065	127	104	4.68	4.66
88	IR20LT2435	136	103	4.31	4.30
89	IR21LT1495	110	103	4.45	4.44
90	IR21LT1266	108	92	3.91	3.91
91	IR18M1155	109	98	4.79	4.76
92	IR18LT1300	122	94	3.16	3.18
93	IR19R1216	119	93	4.23	4.22
94	IR19R1138	111	102	4.41	4.39
95	IR16T1666	122	102	4.52	4.50
96	IR16T1372	123	108	4.46	4.44
97	IR18M1150	127	80	2.24	2.30
98	IR21LT1456	124	114	2.81	2.85
99	IR21LT1445	121	101	4.96	4.93
100	IR19LT2069	121	95	3.63	3.64
101	IR19LT2055	111	103	4.19	4.18
102	IR21LT1388	118	88	3.62	3.63
103	IR17A2786	103	66	1.57	1.65
104	IR21LT1485	123	85	3.31	3.33
105	IR18A1133	122	93	3.59	3.60
106	IR18A1930	121	93	4.21	4.20
107	IR21LT1407	115	94	3.93	3.93
108	IR21LT1543	120	94	2.95	2.98
109	IR21LT1498	112	93	2.85	2.89
110	IR21LT1392	117	87	4.24	4.23
111	IR21LT1020	119	104	4.88	4.85
112	IR17A2780	102	88	2.57	2.61
113	IR17A2800	117	91	4.16	4.16
114	IR21LT1449	125	91	0.82	0.92
115	IR18A1251	116	115	4.32	4.31
116	IRRI 147	117	99	4.77	4.75
117	IRRI 242	111	100	4.72	4.70
118	CSR 28	119	97	4.59	4.57
119	A69-1	124	103	4.62	4.60
120	IR 29	117	94	4.64	4.62
121	IR 42	137	87	3.01	3.04
122	IRRI 119	128	104	3.95	3.95
123	IRRI 251	120	91	4.61	4.59
124	IRRI 224	128	97	3.7	3.71
125	IR05F101	132	87	3.81	3.81
126	CIHERANG	117	97	4.31	4.30
127	IRRI 154	112	98	3.99	3.99
128	IRRI 252	128	90	4.16	4.15
129	BIRRI dhan79	129	96	4.49	4.47
130	Binadhan-23	121	110	3.83	3.84
<hr/>					
LSD (%)		1.6	2.25	0.37	
Heritability		0.99	0.99	0.97	

**Table 2: List of all genotypes in T.Aman 2023 at Shyamnagar under AGGRi Alliance Stage-1**

Entry No	Designation	GD (days)	PH (cm)	Yield ton/ha	Comment
1	IR22LT1583				80%rat, salt, bph,late
2	IR22LT1219	123	94	2.72	
3	IR22LT1348	124	93	1.82	
4	IR22LT1316	122	86	1.50	
5	IR22LT1490	123	99	2.44	bph
6	IR22LT1560	122	95	2.01	
7	IR22LT1078				80%rat, salt, bph,late
8	IR22LT1589	124	95	2.48	
9	IR22LT1380				late, damage,salt
10	IR22LT1575				damage salt
11	IR22LT1639				late, salt
12	IR22LT1345	123	95	1.59	
13	IR22LT1429	126	90	1.55	
14	IR22LT1735				damage-salt
15	IR22LT1621				late
16	IR22LT1625				rat damage 100%
17	IR22LT1585				late
18	IR22LT1718				rat damage 100%
19	IR22LT1610	121	92	1.79	
20	IR22LT1732	122	80	2.00	
21	IR22LT1264				rat damage 100%
22	IR22LT1503	123			damage-salt
23	IR22LT1518	120	90	1.47	
24	IR22LT1736	111			100%rat damage, salt, bph
25	IR22LT1605	121	92	1.72	
26	IR22LT1591	121	100	2.90	
27	IR22LT1599	112			10%rat damage salt
28	IR22LT1582	125	97	1.22	
29	IR22LT1156	122	88	2.29	
30	IR22LT1326				late damage, bph, salt
31	IR22LT1556				rat damage 100%
32	IR22LT1603				100% rat damage
33	IR22LT1521	123	95	1.60	late
34	IR22LT1327	123	88	1.36	late
35	IR22LT1259				rat 100%
36	IR22LT1688				rat damage 100%
37	IR22LT1499				rat damage 100%
38	IR22LT1704				bph, salt damage
39	IR22LT1266				rat damage 100%
40	IR22LT1108	122	80	1.55	
41	IR22LT1694				rat damage 100%
42	IR22LT1257				rat damage
43	IR22LT1622				late
44	IR22LT1304				rat 100%
45	IR22LT1237	119	87	1.65	
46	IR22LT1393				Rat and salt damage
47	IR22LT1246	130	91	2.37	
48	IR22LT1698	122	100	4.43	
49	IR22LT1557				damage, salt
50	IR22LT1479	123	95	2.63	10% rat damage
51	IR22LT1432	125	90	1.10	
52	IR22LT1198	121	88	1.69	
53	IR22LT1087	119	93	1.28	
54	IR22LT1507	121	98	2.67	

55	IR22LT1651	123	98	1.91	
56	IR22LT1070				late, bph,salt
57	IR22LT1291	124	95	1.87	
58	IR22LT1310				rat damage 100%
59	IR22LT1520	120	93	1.62	40%rat, bph
60	IR22LT1627	122	101	3.53	
61	IR22LT1397	124	96	2.41	
62	IR22LT1005				rat damage 100%
63	IR22LT1600	116	94	3.41	5% rat
64	IR22LT1099				late
65	IR22LT1329	123	97	1.39	
66	IR22LT1104	123	79	2.58	
67	IR22LT1343				rat damage 100%
68	IR22LT1511	122	94	2.69	
69	IR22LT1538	116	87	2.41	
70	IR22LT1221	123	99	2.03	
71	IR22LT1554	120	93	2.86	
72	IR22LT1539				100% rat damage, salt
73	IR22LT1469	116	81	1.59	
74	IR22LT1213	123	93	1.85	
75	IR22LT1288				80%rat damage, salt
76	IR22LT1625				100% rat damage
77	IR22LT1611	119	93	1.36	
78	IR22LT1664	121	93	1.84	
79	IR22LT1313	122	67	1.07	
80	IR22LT1256				rat 100%, salt
81	IR22LT1383	119	94	1.69	40%rat
82	IR22LT1692				100% rat damage
83	IR22LT1356				rat 100%
84	IR22LT1571				rat damage 100%, bph
85	IR22LT1475				bph damage salt
86	IR22LT1779	121	86	1.33	
87	IR16F1065				Late
88	IR20LT2435				late salt
89	IR21LT1495				rat damage 100%
90	IR21LT1266				rat damage 100%
91	IR18M1155				rat damage 100%
92	IR18LT1300				rat 80%, bph, salt
93	IR19R1216	122	95	2.33	
94	IR19R1138	122	98	1.74	
95	IR16T1666	124	98	1.70	
96	IR16T1372	123	102	1.60	
97	IR18M1150				late damage salt bph
98	IR21LT1456				rat,damage,salt
99	IR21LT1445	124	97	2.48	
100	IR19LT2069				salt damage bph
101	IR19LT2055	120			80%rat, salt, bph
102	IR21LT1388				damage, salt, bph
103	IR17A2786				rat damage 100%
104	IR21LT1485				late damage salt
105	IR18A1133	128	88	1.64	
106	IR18A1930	123	85	1.83	
107	IR21LT1407				damage,BPH,rat
108	IR21LT1543				100%rat damage
109	IR21LT1498	120	88	1.57	
110	IR21LT1392				bph, salt damage
111	IR21LT1020	116	94	2.50	

112	IR17A2780				rat damage 100%
113	IR17A2800				80%rat, salt, bph,late
114	IR21LT1449				late
115	IR18A1251	122	97	1.74	
116	IRRI 147				rat 100%, bph, salt
117	IRRI 242				100% rat damage
118	CSR 28	121	107	2.95	
119	A69-1	125	101	3.35	
120	IR 29				100% rat, bph, salt
121	IR 42				late damage salt
122	IRRI 119				late,bph,salt
123	IRRI 251	121	89	1.93	60%rat damage
124	IRRI 224				100% rat damage
125	IR05F101				late, salt
126	CIHERANG	123	90	1.137	
127	IRRI 154	123	102	1.64	
128	IRRI 252	131			late
129	BIRRI dhan79	124	87	1.87	
130	Binadhan-23	116	107	1.36	



**Fig.1: Pictorial field view of AGGRi network trial under salinity Breeding at Shyamnagar and Kaliganj upazillas of Satkhira during T.Aman 2023.**

#### **Results and discussion:**

In Kaliganj, grain yield ranged from 0.92  $\text{tha}^{-1}$  (IR21LT1449) to 5.70 $\text{tha}^{-1}$  (IR22LT1291) and growth duration 102 days (IR17A2780) to 137 days (IR 42) respectively. Among 115 entries, only 31 genotypes from were selected based on grain type and grain yield. Five entries produced IT22LT1605 (5.11  $\text{tha}^{-1}$ ), IR22LT1627 (5.22  $\text{tha}^{-1}$ ), IR22LT1345 (5.31  $\text{tha}^{-1}$ ), IR22LT1698 (5.38  $\text{tha}^{-1}$ ), IR22LT1291 (5.70  $\text{tha}^{-1}$ ) which was better than all check varieties (Table.1). These five genotypes may be considered as potential to evaluate in the advanced yield trials and also used as parents in the breeding program. In Shyamnagar most of the entries were damaged due to salinity, BPH and rat. For this reason no analysis could be done. Among these entries only IR22LT1627 (3.53 $\text{tha}^{-1}$ ) and IR22LT1698 (4.43 $\text{tha}^{-1}$ ) yielded higher than A69-1(3.35 $\text{tha}^{-1}$ ) (Table.2).

**Table 3: List of all genotypes in T. Aman 2023 at Kaliganj under AGGRi Alliance****Stage-2**

Entry.	Designation	GD (days)	PH (cm)	Yield ton/ha	Yield ton/ha
1	IR20R1252	115	92	4.12	4.12
2	IR20R1210				
3	IR20R1209	118	101	4.82	4.86
4	IR20R1044	121	111	3.91	3.90
5	IR20R1083	120	88	5.83	5.92
6	IR20R1048	121	97	5.54	5.62
7	IR20R1267	122	104	4.41	4.42
8	IR20R1691	120	99	4.64	4.67
9	IR20R1393	107	93	1.91	1.79
10	IR20R1907	114	93	3.83	3.81
11	IR20R1778	114	98	4.34	4.35
12	IR20R1985	121	101	4.23	4.23
13	IR20R1685	119	92	3.66	3.63
14	IR20R1472	112	86	4.39	4.40
15	IR20R1794	120	95	4.69	4.72
16	IR20R1711	110	100	2.80	2.73
17	IR20R1113	121	101	4.47	4.48
18	IR20R1635	121	98	3.78	3.76
19	IR20R1682	121	99	4.81	4.85
20	IR20R1699	116	91	5.37	5.44
21	IR20R1622	114	99	3.67	3.65
22	IR20R1926	116	101	4.30	4.31
23	IR20R1583	121	103	3.13	3.08
24	IR54447-3B-10-2	108	98	2.70	2.63
25	IR20R1302	121	95	4.39	4.41
26	BR10	121	116	4.85	4.89
27	BR23	119	97	4.38	4.39
	LSD (0.05)	3.27	8.56	0.56	
	Heritability	0.94	0.84	0.95	

**Table 4: List of all genotypes in T.Aman 2023 at Shyamnagar under AGGRi Alliance****Stage-2**

Entry No	Designation	GD(days)	PH (cm)	Yield ton/ha	Remarks
1	IR20R1252				100% rat damage
2	IR20R1210	127	107	4.02	
3	IR20R1209	127	111	3.13	
4	IR20R1044	127	102	3.32	
5	IR20R1083				100% rat damage
6	IR20R1048	127	97	3.23	
7	IR20R1267				100% rat damage
8	IR20R1691				100% rat damage
9	IR20R1393				100% rat damage
10	IR20R1907	128	98	1.28	
11	IR20R1778	126	109	3.05	
12	IR20R1985	123	101	1.39	
13	IR20R1685	126	100	2.38	
14	IR20R1472	131	100	3.79	
15	IR20R1794	127	101	3.69	
16	IR20R1711				100% rat damage
17	IR20R1113	128	105	2.98	
18	IR20R1635	127	99	2.06	
19	IR20R1682	126	71	2.31	
20	IR20R1699	132	89	2.98	

21	IR20R1622	128	101	2.73
22	IR20R1926	128	106	2.98
23	IR20R1583	125	102	3.33
24	IR54447-3B-10-2	128	98	2.76
25	IR20R1302	121	99	2.00
26	BR10	134	80	3.21
27	BR23			

Late

### Results and discussion:

In Kaliganj, grain yield ranged from 1.79  $\text{tha}^{-1}$  (IR20R1393) to 5.92  $\text{tha}^{-1}$  (IR20R1083) and growth duration 107 days (IR20R1393) to 122 days (IR20R1267) respectively. Among 25 entries three entries IR20R1699 (5.44  $\text{tha}^{-1}$ ), IR20R1048 (5.62  $\text{tha}^{-1}$ ) and IR20R1083 (5.92  $\text{tha}^{-1}$ ) produced higher yield than all check varieties (Table.3). These three genotypes may be considered as potential to evaluate in the advanced yield trials and also used as parents in the breeding program. In Shyamnagar some entries were damaged due to rat. For this reason no analysis could be done. Among these entries IR20R1210 (4.02  $\text{tha}^{-1}$ ), IR20R1472 (3.79  $\text{tha}^{-1}$ ) and IR20R1794 (3.69  $\text{tha}^{-1}$ ) yielded higher than CK1(3.21  $\text{tha}^{-1}$ ) (Table.4).

Figure 1 and 2 present the salinity level at Kaliganj and Shyamnagar respectively, during T.Aman 2023.

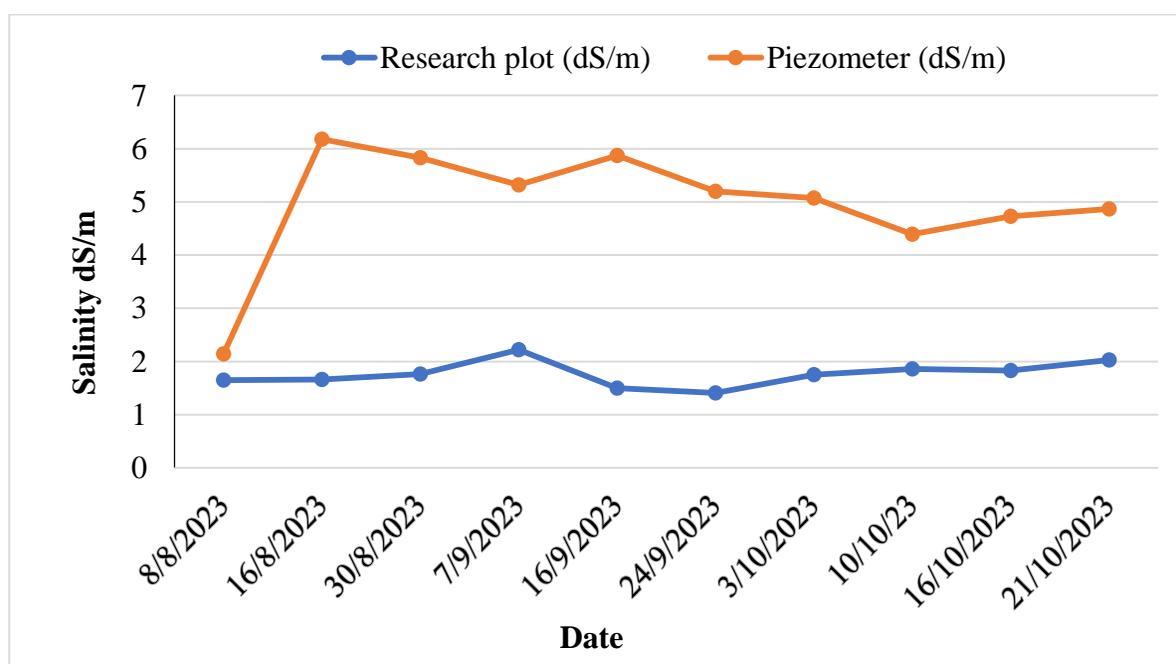


Figure 1. Salinity level at Kaliganj during T. Aman 2023

### Report of AFACI Trial during Boro 2023-24

#### Material and Methods

One hundred thirty-three genotypes will be evaluated as OYT following augmented RCBD. BRRI dhan67, BRRI dhan97, BRRI dhan99 and Binadhan-10 will be used as check varieties that will be replicated four times. The unit plot size will be 5.4 m x 4 rows. Forty-days old seedlings will be transplanted @ single seedling with the spacing of 20 x 20 cm. Fertilizers @ 120:19:60:20:3.6 kg NPKSZn/ha (260-97-120-110-11 kg/ha or 35-13-16-15-1.5 kg/bigha Urea-TSP-MoP-Gypsum-ZnSO<sub>4</sub>) will be used with split application of N at 15, 30, 50 days after seeding (DAT). Total amount of P K S will be applied at the time of final land preparation. Data will be collected on plant height, days to flowering, days to maturity, PACp Tiller number, panicle number, Panicle length, filled grain and unfilled grain and Yield per plot. EC will be measured 7days interval in Dumuria, Khulna and Kaliganj, Satkhira.

## Result and Discussion

Out of 133 tested entries twenty-seven entries were selected in Dumuria, Khulna on the basis of salinity tolerance label and grain types. The performance of all genotypes and check varieties are shown in Table 1. The selected genotypes showed low yield performance 532kg/ha-4582kg/ha due to the moderately high salinity (4.08-5.95 dS m<sup>-1</sup>), high heat and drought stress. The salinity level is showed in Figure 1. In Kaliganj only eight entries were survived in vegetative stage but all the entries were damaged due to high salinity (10.63-22.65 dS m<sup>-1</sup>) in reproductive stage, so no yield should be collected. The salinity level is showed in Figure 2.

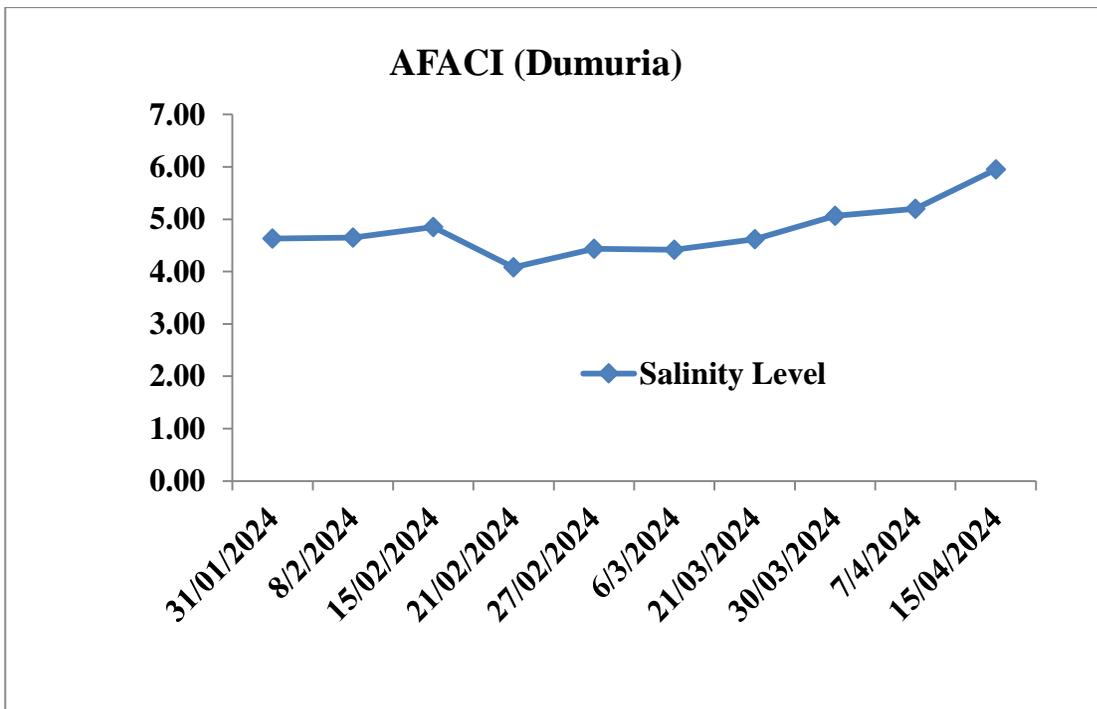
**Table 1: Performance of salinity tolerant rice lines at Dumuria, Khulna in Boro 2023-2024**

SI No	Designation	GD (days)	PH (cm)	ET	PA cp	Yield (Kg/ha)	Remarks	Insect Infestation
1	IR21LT1026	129	101	10	7	1748	Heat & drought stress	stem borer 7%
2	<b>IR21LT1422</b>	<b>146</b>	<b>121</b>	<b>12</b>	<b>7</b>	<b>1728</b>	<b>Heat &amp; drought stress</b>	stem borer 3%
3	<b>IR21LT1628</b>	<b>135</b>	<b>94</b>	<b>14</b>	<b>5</b>	<b>3573</b>		stem borer 8%
4	IR21LT1191	134	91	10	5	2217	Heat & drought stress	stem borer 6%
5	IR21LT1428	129	89	14	7	2270		stem borer 12%
6	IR21LT1205	129	91	11	5	2897		stem borer 6%
7	IR21LT1330	125	100	11	7	3049		
8	IR21LT1393	137	85	11	7	1079		stem borer 3%
9	IR21LT1496	138	90	12	5	2680		stem borer 10%
12	<b>IR21LT1559</b>	<b>135</b>	<b>101</b>	<b>15</b>	<b>7</b>	<b>1950</b>	<b>Heat &amp; drought stress</b>	
13	IR21LT1101	137	102	12	7	1663		stem borer 6%
14	IR21LT1012	126	97	11	5	2931		stem borer 6%
15	<b>IR21LT1221</b>	<b>145</b>	<b>95</b>	<b>12</b>	<b>5</b>	<b>532</b>	<b>Heat &amp; drought stress</b>	
16	IR21LT1660	129	93	12	7	2126	Heat & drought stress	
17	<b>IR21LT1655</b>	<b>129</b>	<b>103</b>	<b>12</b>	<b>5</b>	<b>3557</b>		stem borer 10%
18	IR21LT1155	136	105	11	7	1592		
19	IR21LT1199	135	87	11	7	2224		stem borer 3%
20	IR21LT1433	132	91	12	5	2416	Heat & drought stress	stem borer 2%
21	IR21LT1671	137	99	12	5	870	Heat & drought stress	
23	IR21LT1396	138	86	11	7	2190		stem borer 10%
24	IR21LT1283	137	78	13	5	1207	Heat & drought stress	stem borer 9%
25	IR21LT1121	137	132	10	5	761		stem borer 8%
26	IR21LT1025	131	100	12	7	2606		stem borer 10%
27	IR21LT1453	122	98	13	7	3058		stem borer 3%
28	IR21LT1152	135	93	12	7	1547	Heat & drought stress	
29	IR21LT1667	129	105	10	7	2382		stem borer 6%
30	IR21LT1391	138	87	12	7	1841	Heat & drought stress	
31	<b>IR21LT1052</b>	<b>129</b>	<b>101</b>	<b>11</b>	<b>7</b>	<b>4102</b>		stem borer 6%
32	<b>IR21LT1126</b>	<b>135</b>	<b>97</b>	<b>11</b>	<b>7</b>	<b>1862</b>	<b>Heat &amp; drought stress</b>	stem borer 6%
33	IR21LT1138	146	79	19	7	737	Heat & drought stress	
35	IR21LT1356	129	96	12	7	2873		stem borer 3%
36	IR21LT1593	130	91	11	7	2312		stem borer 9%

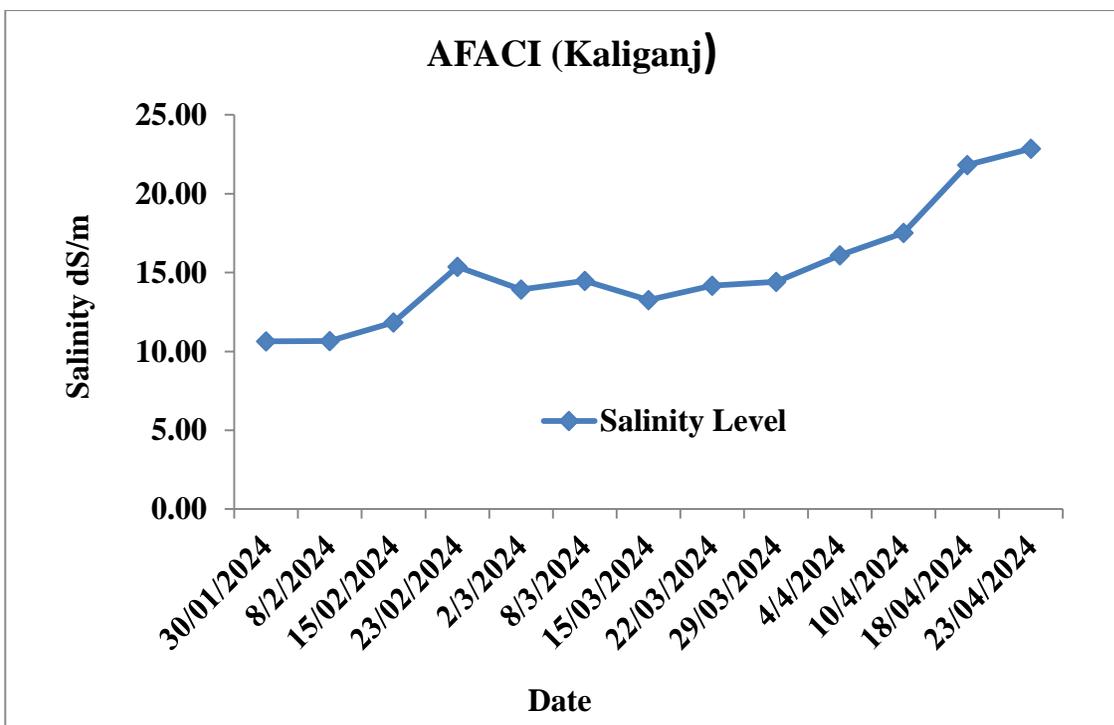
37	<b>IR21LT1165</b>	<b>135</b>	<b>97</b>	<b>11</b>	<b>5</b>	<b>2581</b>	<b>Heat &amp; drought stress</b>	stem borer 12%
38	IR21LT1450	137	87	10	7	3597		stem borer 9%
39	<b>IR21LT1460</b>	<b>128</b>	<b>88</b>	<b>11</b>	<b>7</b>	<b>2955</b>		stem borer 8%
40	IR21LT1373	138	92	15	7	2297		stem borer 10%
41	<b>IR21LT1107</b>	<b>137</b>	<b>98</b>	<b>11</b>	<b>5</b>	<b>2202</b>	<b>Heat &amp; drought stress</b>	stem borer 3%
42	IR21LT1652	135	106	10	5	1641		
43	IR21LT1577	138	105	13	7	1937	Heat & drought stress	stem borer 4%
44	IR21LT1334	134	101	11	5	2794		stem borer 3%
45	IR21LT1682	138	92	13	5	2175	Heat & drought stress	
46	<b>IR21LT1707</b>	<b>137</b>	<b>88</b>	<b>12</b>	<b>5</b>	<b>2119</b>	<b>Heat &amp; drought stress</b>	stem borer 10%
47	IR21LT1662	130	85	13	5	3125		stem borer 5%
48	IR21LT1170	137	99	13	5	2200	Heat & drought stress	
49	IR21LT1653	135	92	11	7	2441	Heat & drought stress	stem borer 4%
50	IR21LT1575	131	100	12	5	3101		stem borer 6%
51	IR21LT1612	145	101	11	5	1331		stem borer 10%
52	IR21LT1200	137	106	11	7	1841	Heat & drought stress	
53	IR21LT1136	130	92	11	7	3233		stem borer 3%
54	IR21LT1618	138	84	11	7	3633		stem borer 5%
55	IR21LT1074	137	90	12	5	1646		
56	IR21LT1167	132	90	11	5	1896	Heat & drought stress	
57	IR21LT1536	134	97	12	7	2053		stem borer 3%
58	IR21LT1666	137	91	12	7	2803		stem borer 8%
59	IR21LT1572	137	76	12	7	2277		stem borer 3%
60	IR21LT1234	134	91	12	5	2260	Heat & drought stress	stem borer 8%
61	IR21LT1216	138	89	13	5	2855		stem borer 3%
62	IR21LT1096	139	85	13	5	1667	Heat & drought stress	
63	IR21LT1370	132	102	11	5	2945		
64	IR21LT1286	131	83	12	7	2015	Heat & drought stress	stem borer 3%
65	IR21LT1713	128	90	11	5	3142		
66	IR21LT1413	128	89	11	7	2278		stem borer 10%
67	IR21LT1342	133	92	12	7	1347	Heat & drought stress	stem borer 8%
68	IR21LT1537	134	87	12	5	3170		
69	IR21LT1375	131	99	11	7	2163		stem borer 7%
70	IR21LT1049	127	126	10	7	2441		stem borer 8%
71	<b>IR21LT1206</b>	<b>128</b>	<b>85</b>	<b>11</b>	<b>7</b>	<b>4582</b>		<b>stem borer 5%</b>
72	<b>IR21LT1717</b>	<b>136</b>	<b>100</b>	<b>10</b>	<b>7</b>	<b>1955</b>	<b>Heat &amp; drought stress</b>	stem borer 7%
73	IR21LT1647	134	94	11	7	1760		
74	IR21LT1426	138	85	12	7	2544		stem borer 8%
75	IR21LT1722	138	99	10	5	1071	Heat & drought stress	stem borer 8%
76	<b>IR21LT1691</b>	<b>129</b>	<b>80</b>	<b>10</b>	<b>7</b>	<b>2725</b>		
77	<b>IR21LT1192</b>	<b>137</b>	<b>95</b>	<b>11</b>	<b>7</b>	<b>2683</b>		stem borer 5%
78	IR21LT1090	129	94	11	7	3240		stem borer 3%
79	IR21LT1104	127	85	11	7	3187		stem borer 5%
80	IR21LT1645	130	100	11	5	1636		stem borer 3%
81	IR21LT1471	128	103	12	7	2737		stem borer 7%
82	IR21LT1463	131	102	12	7	2273	Heat & drought stress	stem borer 8%
83	IR21LT1328	125	88	12	7	2187		stem borer 5%
84	IR21LT1329	129	101	10	7	3462		stem borer 8%
85	IR21LT1274	137	105	11	7	1656	Heat & drought stress	stem borer 3%
86	IR21LT1609	126	102	11	7	3115		stem borer 3%
87	<b>IR21LT1629</b>	<b>129</b>	<b>101</b>	<b>11</b>	<b>7</b>	<b>3408</b>		stem borer 7%

88	IR21LT1230	136	76	11	7	2122	Heat & drought stress	
<b>89</b>	<b>IR21LT1683</b>	<b>129</b>	<b>91</b>	<b>11</b>	<b>7</b>	<b>3304</b>		
<b>90</b>	<b>IR21LT1631</b>	<b>134</b>	<b>89</b>	<b>11</b>	<b>5</b>	<b>2535</b>	<b>Heat &amp; drought stress</b>	stem borer 8%
91	IR21LT1477	133	85	12	7	2137	Heat & drought stress	
92	IR21LT1185	138	89	13	7	1752	Heat & drought stress	
93	IR21LT1291	129	95	11	5	2538		
94	IR21LT1514	130	109	10	7	3131		stem borer 7%
95	IR21LT1718	127	106	11	7	2406		stem borer 3%
96	IR21LT1430	126	87	11	5	2692		stem borer 5%
97	IR21LT1263	129	98	12	7	1664		stem borer 8%
98	IR21LT1250	133	94	12	7	2319		stem borer 7%
99	IR21LT1620	134	100	13	5	1922	Heat & drought stress	stem borer 3%
100	IR21LT1305	129	86	11	7	2876		stem borer 5%
<b>102</b>	<b>IRRI 240</b>	<b>132</b>	<b>98</b>	<b>11</b>	<b>5</b>	<b>3083</b>		stem borer 10%
103	IRRI 241	135	99	11	5	663	Heat & drought stress	
104	IRRI 154	136	104	13	5	1994		stem borer 5%
105	BR13197-4R-24	138	109	13	5	1902	Heat & drought stress	
106	BR13199-4R-136	138	104	10	7	3196		stem borer 3%
107	BR13201-4R-103	138	104	11	7	2224	Heat & drought stress	
<b>108</b>	<b>BR13201-4R-15</b>	<b>129</b>	<b>99</b>	<b>11</b>	<b>7</b>	<b>4164</b>		stem borer 6%
<b>109</b>	<b>BR13201-4R-196</b>	<b>128</b>	<b>106</b>	<b>9</b>	<b>7</b>	<b>2559</b>	<b>Heat &amp; drought stress</b>	stem borer 7%
110	BR13201-4R-219	127	100	10	7	2132	Heat & drought stress	
111	BR13201-4R-249	130	107	10	7	3355		stem borer 3%
<b>112</b>	<b>BR13201-4R-250</b>	<b>140</b>	<b>107</b>	<b>11</b>	<b>5</b>	<b>1387</b>	<b>Heat &amp; drought stress</b>	stem borer 5%
113	BR13201-4R-268	139	105	11	5	2120	Heat & drought stress	
114	BR13201-4R-27	135	103	11	5	2864		stem borer 6%
115	BR13201-4R-299	129	125	9	7	2790		stem borer 10%
116	BR13201-4R-30	129	100	11	5	3176		stem borer 3%
117	BR13201-4R-304	134	104	10	5	3271		stem borer 3%
118	BR13201-4R-91	130	105	10	7	2921		stem borer 4%
119	BR13204-4R-96	129	104	11	5	3870		
<b>120</b>	<b>BR13205-4R-1</b>	<b>140</b>	<b>99</b>	<b>11</b>	<b>5</b>	<b>1980</b>	<b>Heat &amp; drought stress</b>	
121	BR13205-4R-190	131	101	13	7	2200		stem borer 7%
122	BR13206-4R-120	135	102	11	5	2263	Heat & drought stress	stem borer 8%
<b>123</b>	<b>BR13206-4R-50</b>	<b>129</b>	<b>107</b>	<b>10</b>	<b>5</b>	<b>3305</b>		stem borer 10%
124	BR13208-4R-46	137	103	12	5	3310		stem borer 5%
125	BR13208-4R-89	132	91	12	5	2825		stem borer 3%
<b>126</b>	<b>BR13201-4R-215</b>	<b>138</b>	<b>102</b>	<b>12</b>	<b>5</b>	<b>2575</b>	<b>Heat &amp; drought stress</b>	stem borer 5%
127	BR13201-4R-225	129	105	11	7	2417	Heat & drought stress	
<b>128</b>	<b>BR13201-4R-49</b>	<b>130</b>	<b>99</b>	<b>12</b>	<b>7</b>	<b>2358</b>	<b>Heat &amp; drought stress</b>	stem borer 7%
129	BR13201-4R-56	130	103	13	5	2544	Heat & drought stress	
130	BR13201-4R-298	128	91	12	7	3258		stem borer 5%
<b>131</b>	<b>BR13208-4R-76</b>	<b>126</b>	<b>115</b>	<b>10</b>	<b>7</b>	<b>2168</b>	<b>Heat &amp; drought stress</b>	stem borer 9%
132	BR13207-4R-28	138	103	13	7	2258		stem borer 7%
133	BR13198-4R-35	137	116	10	5	1234	Heat & drought stress	
134	BINA dhan10	132	106	13	5	2630	Heat & drought stress	stem borer 8%

135	BRRi dhan67	128	103	11	5	2441	Heat & drought stress	stem borer 9%
136	BRRi dhan97	138	105	15	5	2616	Heat & drought stress	stem borer 5%
137	BRRi dhan99	138	106	12	5	2660	Heat & drought stress	
LSD (0.05%)		3.84	24.51	2.5		1774.21		
Heritability		0.89	0.2	0.46	1	0.12		



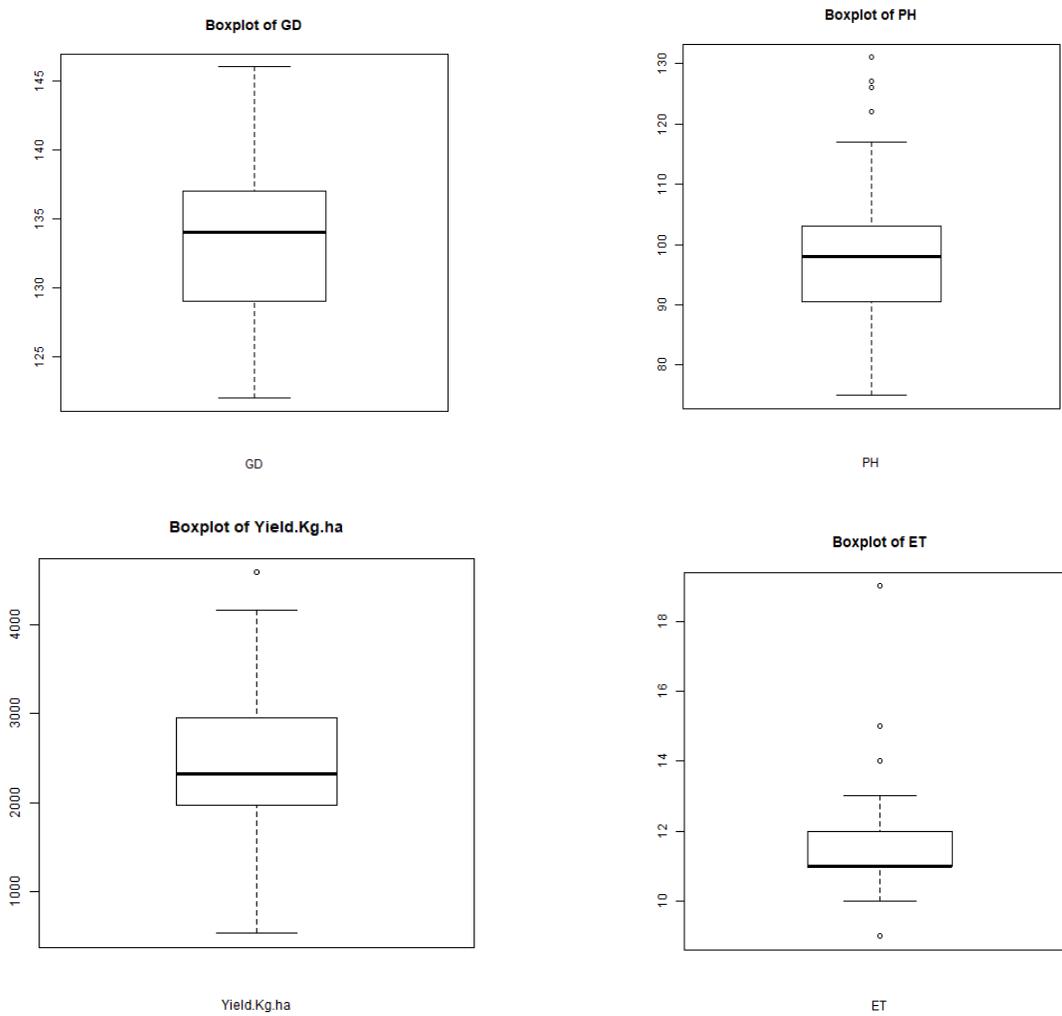
**Fig. 1: Water salinity level of AFACI trial at Dumuria, Khulna during Boro season, 2023-24**



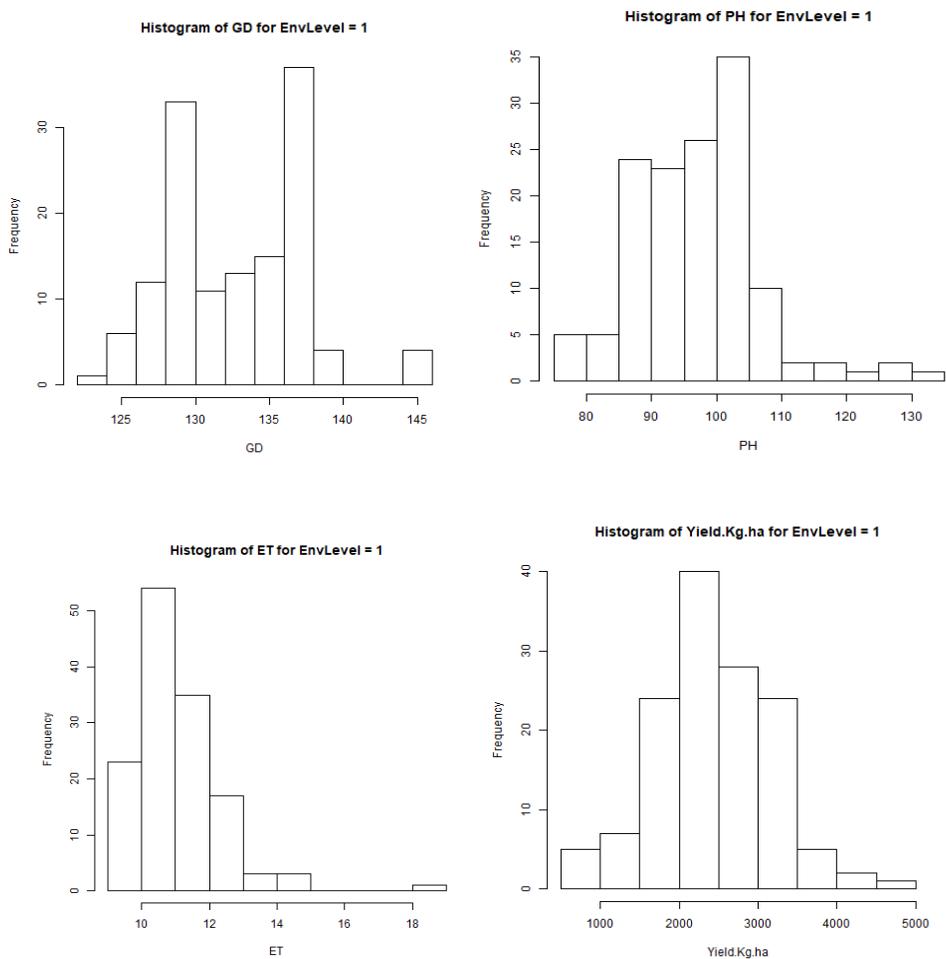
**Fig. 2: Water salinity level of AFACI trial at Kaliganj, Satkhira during Boro season, 2023-24**

**Table 2: Performance of selected salinity tolerant rice lines at Dumuria, Khulna in Boro 2023-2024**

SI No	Designation	GD (days)	PH (cm)	E T	Pa Cp	Yield (Kg/ha)	Remarks	Insect Infestation
2	IR21LT1422	146	121	12	7	1728	Heat & drought stress	stem borer 3%
3	IR21LT1628	135	94	14	5	3573		stem borer 8%
12	IR21LT1559	135	101	15	7	1950	Heat & drought stress	
15	IR21LT1221	145	95	12	5	532	Heat & drought stress	
17	IR21LT1655	129	103	12	5	3557		stem borer 10%
31	IR21LT1052	129	101	11	7	4102		stem borer 6%
32	IR21LT1126	135	97	11	7	1862	Heat & drought stress	stem borer 6%
37	IR21LT1165	135	97	11	5	2581	Heat & drought stress	stem bore 12%
39	IR21LT1460	128	88	11	7	2955		stem borer 8%
41	IR21LT1107	137	98	11	5	2202	Heat & drought stress	stem borer 3%
46	IR21LT1707	137	88	12	5	2119	Heat & drought stress	stem borer 10%
71	IR21LT1206	128	85	11	7	4582		stem borer 5%
72	IR21LT1717	136	100	10	7	1955	Heat & drought stress	stem borer 7%
76	IR21LT1691	129	80	10	7	2725		
77	IR21LT1192	137	95	11	7	2683		stem borer 5%
87	IR21LT1629	129	101	11	7	3408		stem borer 7%
89	IR21LT1683	129	91	11	7	3304		
90	IR21LT1631	134	89	11	5	2535	Heat & drought stress	stem borer 8%
102	IRRI 240	132	98	11	5	3083		stem borer 10%
108	BR13201-4R-15	129	99	11	7	4164		stem borer 6%
109	BR13201-4R-196	128	106	9	7	2559	Heat & drought stress	stem borer 7%
112	BR13201-4R-250	140	107	11	5	1387	Heat & drought stress	stem borer 5%
120	BR13205-4R-1	140	99	11	5	1980	Heat & drought stress	
123	BR13206-4R-50	129	107	10	5	3305		stem borer 10%
126	BR13201-4R-215	138	102	12	5	2575	Heat & drought stress	stem borer 5%
128	BR13201-4R-49	130	99	12	7	2358	Heat & drought stress	stem borer 7%
131	BR13208-4R-76	126	115	10	7	2168	Heat & drought stress	stem borer 9%



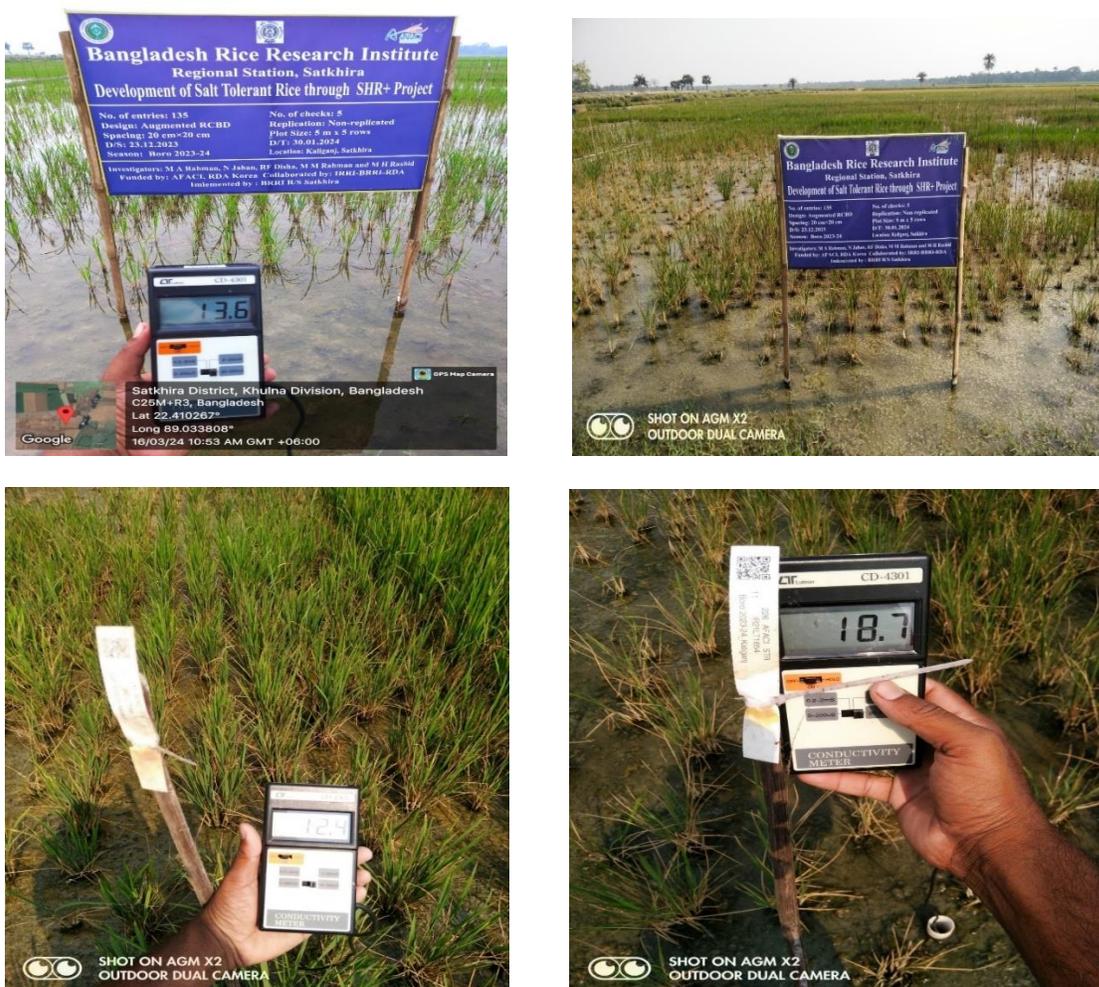
**Fig. 3: Boxplot of Growth duration, Plant height, Yield and Effective tillers from AFACI trial at Dumuria, Khulna during Boro season, 2023-24**



**Fig. 4: Histogram of Growth duration, Plant height, Yield and Effective tillers from AFACI trial at Dumuria, Khulna during Boro season, 2023-24**



**Fig. 5: Pictorial Views of AFACI trial at Dumuria, Khulna during Boro season, 2023-24**



**Fig. 5: Pictorial Views of AFACI trial at Kaliganj, Satkhira during Boro season, 2023-24**

## OTHER ACTIVITIES

### Activity 1. Breeder Seed Production

Breeder seed production is the mandatory work to produce breeder seed of BRRI released rice varieties to ensure breeder seed to the public and private seed producers. This is the routine work of BRRI regional station.

#### General objectives

- i) To maintain the varietal purity
- ii) To maintain the established rice seeds network among GO, NGO's and private sectors
- iii) To produce breeder seed as per required quantity

#### Materials and Methods

Breeder seeds were produced using nucleus stock seeds. Fertilizers were applied according to BRRI recommendation. Necessary control measures were taken against disease, weed and insect pest infestation. Rouging was done as and when necessary with proper ways. After harvest, the seeds of each variety were threshed, dried, cleaned individually with special care at every stages. The harvested seed then offered as a lot of getting the laboratory certificate from SCA for breeder seed with tag. The produced breeder seeds were sent to GRS division, BRRI, Gazipur.

#### Results

A total of 21.56 tons of breeder seeds were produced during 2023-2024. In T. Aman season, total 8.30 tons of breeder seeds were produced from two varieties. In addition, 21.65 tons of breeder seeds were produced from four varieties during Boro 2022-2023 (Table 43). All the seeds were sent to GRS division, BRRI, Gazipur.

**Table 43.** Variety wise production of breeder seed in T. Aman 2022 and Boro season during 2022-23

Season	Variety	Cultivated area (ha)	Production (ton)
T. Aman 2023	BR10	1.00	4.05
	BRR1 dhan75	1.25	4.25
	Total	2.25	8.30
Boro 2023-24	BRR1 dhan28	0.5	1.75
	BRR1 dhan50	1.00	5.00
	BRR1 dhan67	1.00	4.56
	BRR1 dhan81	0.5	1.55
	BRR1 dhan88	0.2	1.04
	Total	3.20	13.35
Grand Total		5.45	21.65

## Activity 2. Truthfully Labeled Seed (TLS) Production

### General objectives

- i) To produce quality seed
- ii) To promote dissemination of BRR1 released varieties

### Materials and Methods

Seedlings were grown in modern seed beds. Seedlings of recommended age were transplanted using 2-3 seedling hill<sup>-1</sup> at a spacing of 20 cm × 20 cm. Fertilizers was applied according to BRR1 recommendations. Necessary control measures were taken against disease, weed and insect pest infestation. Rouging was done as and when necessary. After harvest, the seeds of each variety were threshed, dried, cleaned individually with special care at every stages. The harvested seeds were then used for research purpose and dissemination to the farmers.

### Results

During T. Aman 2023 and Boro 2023-24 seasons, a total of 21.09 tons of TLS was produced, stored as well as sold and distributed to the farmers, NGOs, DAE as well. In T. Aman season, total 1.15 tons of TLS seeds were produced from 02 varieties while, in Boro season, total 1.53 tons of TLS seeds were produced from 05 varieties (Table 44).

**Table 44. Variety wise production and distribution of TLS in T. Aman and Boro season during 2023-24**

Season	Variety	Production (ton)
T. Aman 2023	BR23	0.55
	BRR1 dhan75	0.60
	Total	1.15
Boro 23-24	BRR1 dhan28	0.38
	BRR1 dhan67	0.90
	BRR1 dhan97	0.055
	BRR1 dhan104	0.11
	BRR1 dhan107	0.085
	Total	1.53
Grand Total		2.68

### Activity 3. Field Day, Farmer's Training and Agriculture Fair

Fourteen farmer's trainings on rice production technology, quality seed production & preservation were conducted to train up 410 farmers of Satkhira, Khulna and Jashore districts. A total of 15 field days were arranged during the reporting period. BRRI, Satkhira attended one agricultural fair as well as participated in various workshops, seminars, regional and district agricultural coordination committee meetings, district coordination committee meetings, discussion meetings, farmers' field visits with advisory activities in field level and on-line basis.



Fig: Field day and Farmer's training BRRI Satkhira