
Guidelines and Style for IRRN contributors

Articles for publication in the International Rice Research Newsletter (IRRN) should observe the following guidelines and style.

Guidelines

- Contributions should not exceed two pages of double-spaced typewritten text. Two figures (graphs, tables, or photos) may accompany each article. The editor will return articles that exceed space limitations.
- Contributions should be based on results of research on rice or on cropping patterns involving rice.
- Appropriate statistical analyses should be done.
- Announcements of the release of new rice varieties are encouraged.
- Pest survey data should be quantified. Give infection percentage, degree of severity, etc.

Style

- For measurements, use the International System. Avoid national units of measure (cavan, rai, etc.).
- Abbreviate names of standard units of measure when they follow a number. For example: 20 kg/ha, 2 h/d.
- Express yield data in tonnes per hectare (t/ha). With small-scale studies, use grams per pot (g/pot) or g/row.
- Express time, money, and common measures in number, even when the amount is less than 10. For example: 8 min, \$2.3 kg/ha, 2-wk intervals.
- Write out numbers below 10 except in a series containing 10 or higher numbers. For example: six parts, seven tractors, four varieties. *But* There were 4 plots in India, 8 in Thailand, and 12 in Indonesia.
- Write out numbers that start sentences. For example: Sixty insects were put in each cage. Seventy-five percent of the yield increase is attributed to fertilizer.
- Place the name or denotation of chemicals or other measured materials near the unit of measure. For example: 60 kg N/ha, not 60 kg/ha N 200 kg seed/ha, not 200 kg/ha seed.
- Use common names — not trade names — for chemicals.
- The US\$ is the standard monetary unit in the IRRN. Data in other currencies should be converted to US\$.
- When using acronyms, spell each out at first mention and put the specific acronym in parentheses. After that, use the acronym throughout the paper. For example: The brown planthopper (BPH) is a well-known insect pest of rice. Three BPH biotypes have been observed in Asia.
- Abbreviate names of months to three letters: Jun, Apr, Sep.
- Define in the footnote or legend any nonstandard abbreviations or symbols used in a table or figure.
- Do not cite references or include a bibliography.

Genetic Evaluation and Utilization AGRONOMIC CHARACTERISTICS

Viviparous seed germination in rice varieties at Maruteru

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In coastal Andhra Pradesh, Mahsuri, the most popularly grown variety, has almost gone out of cultivation because of viviparous seed germination during kharif when rains occur at harvest or when the plants lodge into standing water because of high winds.

To screen for viviparous germination, 25 rice varieties were grown during 1982 kharif under normal conditions at 20- × 15-cm spacing with a fertilizer schedule of 40-13-25 kg NPK/ha.

Viviparous seed germination in Maruteru rices.

Strong	Moderate	Weak
MTU4392 MTU5195 MTU2716 MTU6182 MTU5182	MTU10, MTU19, MTU4569, MTU3, MTU3626, MTU7030, MTU7029, MTU7633, MTU5196, MTU5249	MTU6024, MTU11, MTU8089, MTU8002, MTU23, MTU5194, MTU8, MTU13, MTU4870, MTU16

Rice ratooning in West Bengal

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In the low-lying marshy areas of West Bengal, two rice crops, kharif (Jul-Nov) and boro (Jan-May), are grown. During the rainy season, 50-100 cm stagnant water caused by impeded drainage cuts productivity and the high-yielding varieties do not show an advantage over local varieties.

Maintaining a continuous crop (through ratooning) was tested with

Mature panicles were collected and kept in trays filled with soil. Conditions for seed germination were created by maintaining water saturation level in the trays. Temperatures ranged from 23-25°C to 28-31°C. Varieties were classified into 3 germination capacity groups: strong (80-94% germination), moderate (more than 20% germination), and weak (0-5% germination).

Ten varieties exhibited weak viviparous germination and can be safely grown during kharif (see table). MTU8002, MTU8089, and MTU4870 already are widely grown. Among the moderate varieties, MTU7029 occupies 50% of the area in coastal A.P. All long-duration kharif varieties tested had lower viviparous germination than Mahsuri (80% germination at maturity). ■

two high-yielding varieties (IR36 and IR50) and two photoperiod-sensitive varieties (CR1014 and Kumragore) that can stand semideep water lodging. Seedlings were transplanted in Jan with 4 fertilizer treatments (100 kg N, 100-22 kg NP/ha, 100-42 kg NK/ha, and 100-22-42 kg NPK/ha) in a split-plot design with 4 replications. All ratoon plots received 20 kg N/ha at main crop harvest and 10 kg N/ha at 60 d.

IR50 and IR36 started putting forth ratoon panicles 30 d after main crop harvest. Mature panicles were picked at 15- to 20-d intervals. A number of

hills died. The 2 photoperiod-sensitive varieties flowered 120 d after the main crop harvest. Fertilized ratoon crops of the tall varieties partially lodged.

The photoperiod-sensitive varieties yielded appreciably lower in the main crop than the two high-yielding varieties (see table) because the number of mature panicles was much lower. In the ratoon crop, IR30 and IR50 yields were appreciably lower than their main crop yields. CR1014 and Kumragore also had reduced ratoon yields, but not as much.

Panicles per unit area, grains per panicle, and grain test weight in IR50 and IR36 were lower in the ratoon crop than in the main crop. Except in test weight, reductions were not significant in the CR1014 and Kumragore ratoons. Residual P effect was not significant in the ratoon crops.

IR50 can be ratooned to produce a total yield of 7 t/ha.□

Effect of fertilizer treatment on growth and productivity of main and ratoon crops in West Bengal.

Treatment	Grain yield (t/ha)	Panicles /m ²	Grains/ panicle	1000-grain wt (g)	Duration (d)
<i>Main crop</i>					
N 100	3.2	251	74	19.90	
NP 100-22	3.8	313	85	20.6	
NK 100-42	3.3	244	76	20.0	
NPK 100-22-42	3.9	327	91	20.6	
CD at 5%	0.4	49	8	0.3	
IR50	5.3	417	89	21.7	153
IR36	5.1	399	83	20.9	153
CR1014	1.6	197	90	15.0	173
Kumragore	2.2	284	84	23.5	173
CD at 5%	0.2	38	6.2	0.5	
<i>Ratoon crop</i>					
N 100	1.5	272	62	18.5	
NP 100-22	1.8	325	76	19.4	
NK 100-42	1.6	278	66	18.6	
NPK 100-22-42	1.8	319	74	19.0	
CD at 5%	0.1	ns	ns	ns	
IR50	1.7	312	51	18.6	90 ^a
IR36	1.4	302	49	18.4	90 ^a
CR1014	1.7	292	91	16.0	170
Kumragore	1.7	288	87	22.5	170
CD at 5%	0.1	ns	10	0.7	

^aStarted flowering 30 days after main crop harvest.

Effect of shallow submergence on agronomic characters

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We studied the effect of shallow submergence on four popular rice and two tall varieties. Entries received shallow submergence (60 cm) for 70 d starting from 40 d after transplanting.

Water level in the control plots was 5-7.5 cm. Performance in shallow submergence was evaluated by grain yield and other agronomic characters.

Shallow submergence resulted in an increase in plant height (32%) and flowering duration (3%), and a decrease in panicle-bearing tillers (30%), total spikelets (12%), and filled grains (19%) (see table). This resulted in a 50% decrease in grain yield.

Under submergence, CN540 had the highest yield (3.1 t/ha), followed by PLA1100 (2.7 t/ha).□

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Grain yield and other agronomic characteristics of rice varieties in shallow submergence. Pulla, Andhra Pradesh, India, 1984 kharif.

Variety	Parentage	Plant ht (cm) at maturity		Flowering duration (d)		Panicle-bearing tillers/plant		Total spikelets/panicle		Fertility (%)		Grain yield (t/ha)	
		Control	60 cm water	Control	60 cm water	Control	60 cm water	Control	60 cm water	Control	60 cm water	Control	60 cm water
MTU5182	MTU4569/ARC6650	108	146	131	134	11	7	202	198	98	96	5.4	2.4
MTU5293	MTU4569/ARC6650	104	145	141	144	11	7	178	146	60	68	5.3	2.4
MTU4870	MTU4569/ARC6650	109	155	135	142	9	6	165	153	99	80	5.1	1.4
PLA1100	Mahsuri/Vijaya	94	136	140	148	10	8	280	235	91	69	5.5	2.7
CN540	IR262/Khao Nahng Nuey 11	141	181	130	130	9	7	236	222	93	89	5.0	3.1
NC492	Pureline selection	178	203	140	140	8	7	183	135	78	81	4.8	2.6
Mean		122	161	136	140	10	7	207	182	86	80	5.2	2.4