

Influence of increased salinity on yield per plant of rice genotypes. Faisalabad, Pakistan.

Name of mutant or hybrid	Yield (g/plant)			Regression equation	LD ₅₀ (EC associated with 50% reduction over minimum salinity)
	2.4 dS/m	5.0 dS/m	10.0 dS/m		
NIAB-Rice-1	45.5	36.5	22.0	$Y = 52.4515 - 3.0164 X$	9.7
Jhona 349	44.8	30.2	16.5	$Y = 51.3326 - 3.5918 X$	8.1
NIAB-Rice-3 (RST-24)	26.3	23.5	6.0	$Y = 34.7366 - 2.7822 X$	7.7
BSRS-1-85	24.0	20.8	5.3	$Y = 31.4682 - 2.5462 X$	7.7
Basmati 370	23.7	15.7	3.9	$Y = 29.3532 - 2.5724 X$	6.8

dS/m were imposed 1 wk after transplanting, using NaCl in ratio of 4:10:5:1. EC levels were checked daily and maintained at desired levels.

Salt tolerance was estimated as LD₅₀ from the regression equation between salinity level and yield/plant.

NIAB-Rice-1 was the most salt tolerant (see table). □

Integrated germplasm improvement

Rajshree, a new rice variety for rainfed lowlands in Bihar, India

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TCA80-4 (1ET7970) has been released as Rajshree for cultivation in rainfed lowland areas of Bihar. The photoperiod-insensitive mutant from a land race collection from Bhagalpur District will substitute for Mahsuri,

BR8, and other local varieties suitable for up to 25-cm water depth. When transplanted early, Rajshree can tolerate deeper water.

Rajshree yielded higher than checks at Pusa and Patna (Table 1). It has intermediate height (130 cm) and matures in 145 d. It is resistant to bacterial blight, brown spot, sheath rot, false smut, and rice tungro virus (Table 2). It showed relatively better tolerance for drought at vegetative and reproductive stages than Mahsuri in farmers' field trials. With late sowing, it yields better than Mahsuri and has less yield reduction when 60-d-old seedlings

are transplanted.

Grain is medium slender (length 5.8 mm, breadth 2.0 mm, L/B ratio 2.9); 1,000-grain weight is 19 g. Its husk is straw colored and grains are nonchalky. Head rice recovery and cooking and eating quality are better than those of Mahsuri.

In 553 minikit tests in Bihar State 1984-86, average yield was 2.38 t/ha; maximum yield was 4.4 t/ha in Patna District and 5.8 t/ha in a farmer's field in West Champaran District during 1986 wet season. □

Table 1. Yield of Rajshree (TCA80-4) in trials at Pusa and Patna, India.

Variety	Yield (t/ha)										Mean
	1981		1982		1983		1984		1985 ^a		
	Pusa	Patna	Pusa	Patna	Pusa	Patna	Pusa	Patna	Pusa	Patna ^b	
TCA80-4	2.7	2.4	3.1	3.5	3.4	2.4	2.2	1.0	3.0	3.1	2.7
BR8	1.6	2.5	2.9	2.5	2.9	2.9	2.7	1.1	2.7	2.6	2.4
Mahsuri	na	2.3	2.8	3.2	3.8	2.3	2.2	0.4	2.4	2.8	2.5
LSD 0.05	0.7	0.9	1.5	0.6	0.7	0.3	0.7	0.1	0.2	0.2	
CV (%)	22.9	19.8	27.2	15.0	12.0	6.9	17.2	44.9	4.0	8.4	

^aWater depth was 80 cm in Pusa, and 50 cm in Patna. ^bBelkunda Chaur. ^cMikki Chaur.

Table 2. Reaction of Rajshree (TCA80-4) to rice diseases.

Variety	SES ^a score (0-9 scale)				
	Tungro ^b	Brown spot	Bacterial blight	Sheath rot	False smut
TCA80-4	3	3	3	3	3
BR8	7	5	7	3	5
Mahsuri	9	5	7	5	7

^aStandard evaluation system for rice. ^bBased on natural incidence in 1980 wet season at Pusa.

Evaluation of upland rice lines at Morogoro, Tanzania

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We evaluated 12 upland rice lines from various research centers. Each line was direct sown at 20- × 20-cm spacing in the field under rainfed conditions during the 1987 cropping season, in a randomized complete block design with three replications.

Soil was sandy, with pH 6.4, 2.6% organic matter, and 0.16% total N. Particle size distribution was 90% sand, 8% silt, and 2% clay. Fertilizer was 60-60 PK/ha at planting and 100 kg N/ha, half at tillering and half at panicle initiation.

Overall, yields were poor, from 1.8 t/ha for IRAT104 to 0.3 t/ha for OS6 (Table 1). IRAT104 and IRAT161 significantly outyielded local check