

Deep water

Performance of some semidwarf varieties at increased water depth

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Semidwarf varieties PLA1100, Prakash (RP4-14), MTU4407, and BPT1235 were compared with six tall varieties in a replicated trial for suitability for increased water depth (75 cm) at the Agricultural Research Station, Pulla (A.P.), India, during 1981 kharif.

PLA1100 at the posttillering stage tolerates shallow (50 cm) stagnant water. The three other semidwarfs are popular

varieties under cultivation in the area but had not been tested in deepwater areas. CN540, CN643, BIET724, and Jalaj are taken from uniform variety trial 6 (All India Coordinated Trial, 1981 kharif).

Seeds were sown the last week of May and transplanted the last week of June. Nitrogen (40 kg/ha) was applied in 2 splits during the tillering stage. Water depth was increased to 75 cm 45 days after planting and maintained for 3 months. No entry was submerged at flooding.

Grain yields of PLA1100, Mahsuri, CN540, and CN643 were similar.

PLA1100 had greater internode elongation than all other varieties in the trial. Increased plant height resulted in weak stems and partial lodging. Nondormant seeds germinated during the test. The panicles of Prakash, MTU4407, and BPT1235 were partially exserted, had high spikelet sterility, and yielded low. Jalaj and PLA2 are tall and have longer growth duration. CN540, CN643, and BIET724 are suited to the water depth maintained during the trial (see table).

Semidwarfs with some elongation ability, such as PLA1100, can perform as well as or better than tall deepwater rices in 75-cm-deep water. *h*

Grain yield and character of rice varieties in deepwater test, 1981 kharif, Pulla, A.P., India.

Designation	Source	Grain yield (t/ha)	Days to flower	Panicles (no./m ²)	Plant ht (cm)		
					75 cm water	Normal	Increase over normal
Mahsuri	Tai 65/2 Mayang Fbos 80	2.6	122	284	167	144	23
CN540	IR262/Khao Nahng Nuey 11	2.5	127	237	173	155	18
CN643	IR262/Khao Nahng Nuey 11	2.4	129	246	175	141	34
BIET724	IR8/BR34	2.0	121	244	177	157	20
Jalaj	IRS/BR14	1.7	135	244	210	180	30
PLA2	GEB 24/Kavingun poothala	1.4	167	264	233	200	33
Prakash (RP4-14)	IR8/T90	1.1	112	206	115	100	15
MTU4407	Vijaya/Mahsuri	0.2	110	212	104	86	18
BPT1235	Sabarmati/WGL12708	0.06	95	182	99	86	13
PLA1100	Mahsuri/Vijaya	2.5	152	209	138	110	28

TCA177, a promising deepwater rice

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TCA177, a pure line selection from Desaria rices was successfully grown where water level rises to 200 cm or higher. It was selected from deepwater varieties grown in North Bihar.

During 1981 kharif, when water level rose to 173 cm in a regional deepwater experimental trial comprising 16 entries and 3 replications at Pusa, TCA177 had good elongation ability and percent survival in a 14-m² plot. Jaladhi-1, BR223-

B-38, SPR7233-1-24-2-2-3, BKN6986-147-2 (RD19), BKN6986-108-3, and Janaki died.

TCA 177 has short bold grains, purple stigma and apiculum, straw-colored husk, and red kernels. It can be sown pure or mix-cropped with moong (*Phaseolus mungo*) in February-March in deepwater areas. It tolerates drought during early seedling growth, and has good initial vigor.

TCA177 also resists rice tungro virus and bacterial blight (pathotype II of deepwater areas), which are major problems. It is a late aman photoperiod-sensitive type and yields around 3t/ha. It is being multiplied for testing under the minikit program. *h*

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