= 0.30); the correlation of survival and elongation was highly significant (r = 0.71). Many tall plant types were able to escape flood through elongation.

In trial 2, the correlation of survival and initial plant height also was low (r = 0.31); survival was not correlated significantly with elongation (r = -0.20). Because tall types lack submergence tolerance, they were unable to survive sudden inundation.

Many entries that performed well in one trial did poorly in the other (see table). Most of the entries with the best overall survival have shorter plant height, indicating that they survive from tolerance for submergence, not from escape.

IR43470-7, IR49830-26, and IR49830-29 derive their submergence tolerance from the traditional cultivar FR13A. They have shown very high submergence tolerance in greenhouse screening at IRRI and have a very good plant type. □

Adverse temperature tolerance

Screening rice seedlings for cold tolerance

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We screened 20 elite rice cultivars for cold tolerance at the seedling stage during 1988-89.

Uniform seeds, 50/entry with 2 replications, were soaked in water 24 h, washed repeatedly in distilled water, covered with moist tissue paper, and incubated at room temperature. After 3 d incubation, the seeds were transferred to glass containers with 3 cm water and kept at 4 °C. After 10 d of low temperature treatment, the containers were transferred to room temperature for 1 d.

Differences in seedling survival at low temperature were not significant. Based on seedling height, 16 entries showed tolerance for cold stress (see table).

Cold tolerance at early seedling stage of IET entries, based on seedling survival and seedling height. Tamil Nadu, India.

Entry	Seedling survival (%)	Seedling height (m)	Shoot/ root ratio	Cold tolerance score[b]
IET 6786	54	8.0	0.9	3
IET 7261	76	10.2	0.7	1
IET 7589	56	13.3	0.7	1
IET 7946	78	10.3	0.6	1
IET 7988	50	13.1	0.9	1
IET 7989	50	14.3	0.9	1
IET 8024	76	13.8	0.8	1
IET 8101	78	12.0	1.1	1
IET 8626	58	8.9	0.7	3
IET 8866	81	11.4	1.3	1
IET 9202	79	13.2	0.8	1
IET 9315	62	12.3	0.9	1
IET 9797	57	9.3	0.5	3
IET 9802	58	12.8	0.9	1
IET 9815	64	11.0	0.7	1
IET 10358	56	12.7	0.8	1
IET 10385	70	12.7	0.8	1
IET 10505	69	12.7	0.8	1
IR46	60	11.7	1.1	1
MDU2 (control)	66	8.0	0.5	3

[a]1 = all seedlings with green leaves, 3 = less than 30% of seedlings dead, 5 = 30-50% of seedlings dead, 7 = more than 50% seedlings dead, 9 = all seedlings dead. [b]1 = seedling height more than 10 cm, 3 = seedling height 8-10 cm, 5 = seedling height 5-7 cm, 7 = seedling height 3-4 cm, 9 = seedling height less than 1 cm.

Adverse soils tolerance

Effect of increased salinity on rice genotypes

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We compared the salt tolerance of hybrid NIAB-Rice-1 and mutants NIAB-Rice-3, RST-24, and BSRS-l-85 (derivatives of Basmati 370) with that of their parents Jhona 349 and Basmati 370.

Seedlings grown on a nonsaline field were transplanted at 45 d after sowing in concrete tanks (254 × 82 × 23 cm) filled with quartz gravel saturated with Hoagland nutrient solution. One seedling/ hill per genotype was transplanted at 30- × 30-cm spacing. The experiment was in a randomized block design with six replications. Root zone EC levels of 2.4, 5.0, and 10.0