

## Effect of time of evaluation on alkali spreading values

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The gelatinization temperature of the endosperm starch, a test of rice cooking quality, is estimated by the extent of spreading and clearing of milled rice treated with a 1.7% solution of potassium hydroxide for 23 h at 30 °C. Grain with low gelatinization temperature dissolves completely; the endosperm of grain with intermediate gelatinization temperature spreads partially; rices with high gelatinization temperature are essentially unaffected.

We studied the effect of time of exposure in the alkali test using 41 Argentinian and United States varieties and lines of rices with alkali spreading values ranging from 2.62 to 7 in a random split-plot design with 3 replications. The alkali test was evaluated at 6, 12, 18, and 23 h following the original method. No significant difference in the varietal reaction was noted between alkali exposure at 18 and at 23 h (see table). □

## Effect of soaking time on mean alkali spreading value of milled rice of 41 varieties.

Time (h)	Alkali spreading value
6	5.27 c
12	5.66 b
18	5.94 a
23	5.91 a
Tukey 5% 0.07	
Tukey 1% 0.1	

Mean values with the same letter are not significantly different from each other.

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## High density grain index among primary and secondary tillers of short- and long-duration rices

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We conducted a multilocation field experiment using two short-duration and two long-duration varieties during 1985 wet season in a randomized block design with four replications. Test plots were fertilized 80-13-25 kg NPK/ha.

## High density grain index (%) of primary and tertiary tillers of short and long-duration varieties. Hyberabad, India, 1985 kharif.

Variety	High density grain index				
	Hyderabad	Chinsurah	Kanpur	Kapurthala	Maruteru
Primary tillers					
Short duration					
Rasi	71.6	85.9	66.5	86.5	60.0
Ratna	55.7	72.8	71.2	79.0	29.0
Long duration					
Mahsuri	53.0	83.6	—	—	75.0
IET5656	61.8	81.2	—	—	90.0
CD (0.05)	5.2	2.4	ns	ns	4.1
CV (%)	4.3	1.5	9.8	5.1	3.3
Secondary and tertiary tillers					
Early					
Rasi	64.6	80.0	60.4	65.0	53.0
Ratna	50.4	71.5	38.0	75.0	23.0
Late					
Mahsuri	55.1	81.3	—	—	80.0
IETS 656	61.8	76.1	—	—	91.0
CD (0.05)	3.5	1.4	10.3	6.4	2.5
CV (%)	3.0	1.3	5.8	2.6	2.1

# Genetic Evaluation and Utilization DISEASE RESISTANCE

## Sugars and phenolic compounds in rice leaves in relation to varietal resistance to bacterial blight (BB) pathogen

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A few reports establish a relationship between phenolic and sugar constituents of rice leaves and resistance or susceptibility of a variety to BB caused

Tillers were sequentially labeled during crop growth and 50 panicles/replication were sampled at harvest. Density was measured by immersing the grain in a 1.20 specific gravity salt solution. The percentage of submerged high density grain from primary and secondary or tertiary tillers was recorded.

In early varieties, the high density grain index was higher for primary tillers than for secondary and tertiary tillers (see table). In late varieties, the indexes were equal. □

by *Xanthomonas campestris* pv. *oryzae* (Ishiyama) Dye.

Following standard procedures, we analyzed for total phenol, total sugar, and reducing sugars from alcoholic and aqueous extracts of apparently healthy rice leaves. The leaves were from plants that had been inoculated with the local BB isolate and showed resistant, moderately resistant, and highly susceptible disease reactions.

Highest total phenol, 278.26 mg/100 g of fresh leaves, was found in IR20, a resistant variety; the lowest, 100 mg/100