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Short Communication

EVALUATION OF RICE VARIETIES FOR PROCESSING INTO *LYEE*

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Substantial quantity of long slender (LS) rice is annually processed into *lyee*, a parched product (parched rice) in India. Parmal, an indigenous variety, and Safri 17, a pure line selection from local variety Safri, are preferred for making *lyee* in Madhya Pradesh. This study was taken up to evaluate eight high yielding rice varieties/strains for their suitability for processing into *lyee* along with Parmal and Safri 17 as checks.

Ten varieties including eight high yielding lines with two checks were transplanted in randomized block design with three replications during wet season (June-October) of 1996 at the Regional Agricultural Research Station, Waraseoni, MP. There were 15 rows, 5m long, spaced 20 cm apart per plot. The hills within a row were spaced 15 cm from each other.

Grain yield (t/ha) was estimated from net plots measuring 4.7 m × 2.6 m. For estimation of parching attributes, a 100 g sample was taken from each plot. Samples were exposed to steam for 10 minutes and then sun-dried. Roasting of the samples over sand was carried out in a traditional paddy roaster at about 180°C for about 15 seconds. The processed seed was partitioned into *lyee*, non-parched kernels and husk. *Lyee* yield (t/ha) was computed as a product of grain yield and parching percentage. Parching percentage was the weight of lyee produced by 100 g grain. The weight of non-parched grain was expressed as non-parched grain percentage. Husk percentage was computed as 100-parching percentage. Parching attributes viz. *lyee* length (L), yee breadth (B), *lyee* elongation percentage were from measurements on ten *lyee*/kernels. Elongation percentage was calculated as : $\frac{L - \text{Kernel length}}{\text{Kernel length}} \times 100$. Thousand *lyee* weight (*lyee* index) was also recorded. *Lyee* density as a measure of its fluffiness was calculated using a 10g *lyee* sample/plot.

Table 1. A comparison of grain yield (t/ha) and twelve parching quality attributes of ten rice varieties

Variety	Grain yield (t.ha)	*Lyee* yield (t/ha)	*Lyee* length (mm)	*Lyee* breath (mm)	*Lyee* L/B ratio	1000 *Lyee* weight (g)	Elong-ation (%)	Husk (%)	Non-parched grain (%)	Par-ching (%)	*Lyee* density	*Lyee* whit eness*	*Lyee* straight-ness**
JR 353	4.54	3.03	12.83	4.96	2.59	20.50	97.38	20.10	13.00	66.90	0.445	1	1
IR 36	4.34	2.81	12.46	4.93	2.52	18.83	103.93	13.06	22.10	64.86	0.474	1	1
IR 64	4.43	2.62	12.33	4.73	2.60	19.50	101.14	12.58	28.05	59.37	0.491	2	2
Mahamaya	5.01	2.62	12.30	4.83	2.54	19.03	99.11	22.18	25.32	52.50	0.553	2	3
Abhaya	4.36	2.53	12.50	4.73	2.64	17.50	101.61	19.03	22.85	58.12	0.504	2	2
Poornima	4.10	2.31	12.56	4.86	2.58	17.50	99.37	21.16	22.59	56.25	0.520	2	2
OR 820-38	4.15	1.87	11.33	4.16	2.72	17.73	74.04	10.70	44.30	45.00	0.566	3	3
IR 63429	4.15	1.81	11.30	4.13	2.73	20.03	86.47	18.32	37.98	43.70	0.620	3	3
Safri 17 (check)	3.54	2.19	12.56	4.30	2.92	16.96	108.64	17.36	25.14	57.50	0.516	2	2
Parmal (check)	3.31	1.57	12.23	4.63	2.64	20.33	79.85	20.66	31.84	47.50	0.558	2	2
Mean	4.20	2.33	12.24	4.62	2.64	18.79	94.25	16.78	27.31	55.16	0.525	-	-
LSD (0.05)	0.19	0.24	0.18	0.14	0.12	0.51	3.70	8.80	6.20	6.13	0.095	-	-
CV (%)	11.39	6.06	0.85	1.76	2.67	1.58	2.29	30.59	13.24	6.48	2.693	-	-

* *Lyee* whiteness, ** *Lyee* straightness - Scale : 1 = Top quality, 2 = Intermediate, 3 = Poor

Physical quality attributes viz. whiteness and straightness were scored by a panel of four professional yee processors as high, intermediate and low. Data were subjected to standard statistical procedures.

The analysis of variance revealed significant differences among varieties for all observed characters except husk percentage. A comparison of character means for experimental varieties is given in Table 1. JR 353, IR 36, IR 64, Mahamaya and Abhaya produced significantly more *lyee* yield than the better check Safri 17. JR 353 and IR 36 were at par but only JR 353 was significantly superior to IR 64 and Mahamaya in *lyee* yield. The *lyee* yield superiority of JR 353 was not only due to the combined effect of its moderate grain yield (4.5 t/ha) but also due to high parching percentage (66.9%). JR 353 and IR 36 had similar parching percentage which was significantly higher than that of Safri 17, the superior check variety. Thus, JR 353 topped the experimental entries in *lyee* yield/ha.

The physical quality of *lyee* is determined by its whiteness, length, straightness, L/B ratio and fluffiness (as measured by its density i.e. the ratio of yee weight to its volume). JR 353 had the longest *lyee* and the highest *lyee* index, both being significantly more than other varieties (Table 1). It also produced the fluffiest *lyee* as judged by its lowest *lyee* density (0.445). JR 353 *lyee* had the top rank for whiteness and straightness along with IR 36. JR 353 is the best variety for processing into *lyee* on the basis of its highest *lyee* yield/ha and quality in the present set of varieties studied.