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## High Yielding Short Duration Rice Variety for Kharif Season in Madurai Tract

Rice is grown in Tamil Nadu in over 2.7 million hectares. Among the rice producing centres in Tamil Nadu, Madurai district has an extent of 1.6 lakh hectares. In recent years, new high yielding rice strains have come in large numbers in quick succession. It is imperative to know their suitability and their performance to different fertilizer levels in order to maximise the production. With a view to fix up a short duration high yielding rice variety suitable for Madurai district a trial was laid out during the kharif season of 1971 at the Madurai Agricultural College Farm. The experiment was conducted in split plot design with levels of fertilization in main plot and varieties in sub-plots and replicated thrice. Eleven high yielding rice varieties viz., Karuna (CO 33), Kanchi (CO 34), Cauvery (CO 35), Bala, Krishna, Sabarmathi, Yamuna, Kannagi (Pusa 2-21), CR-44-11 (Ratna), Culture

5524 and Culture 5652 (Karikalan) were compared under three levels of fertilization viz., low (52.5 kg N+35 kg  $P_2O_5$ +17.5 kg  $K_2O$ /ha), medium (125 kg N+62.5 kg  $P_2O_5$ +62.5 kg  $K_2O$ /ha), and high (187.5 kg N+87.5 kg  $P_2O_5$ +87.5 kg  $K_2O$ /ha). Nitrogen was applied in two splits, half at the time of planting and the remaining half on the 30th day of planting. Entire quantity of phosphorus and potash were applied as a basal dose as per the treatment schedule. The operations like hand weeding, irrigation and plant protection were given to all experimental units uniformly. The weather during the growth period of the crop was normal and the stand of the crop was good throughout the period. Biometric observations were recorded on height, ears per clump, grain number per ear and 1000 grain weight. Finally, the yield of grain and straw was recorded. The data are furnished in Table 1.



TABLE 1. Yield and yield components of different rice varieties

Varieties	Grain yield (kg/ha)	Straw yield (kg/ha)	Plant height (cm)	Ear no. per clump	Ear length (cm)	Grain no. per ear	1000 grain weight (g)	Duration to maturity (days)
Bala	3853	6100	82.44	11.86	20.24	107.3	20.3	110
Karuna (CO 33)	4275	5175	71.15	14.57	21.09	98.7	17.9	110
Kanchi (CO 34)	5144	8013	87.51	11.77	21.93	93.9	21.6	110
Cauvery (CO 35)	5045	6938	87.44	14.57	21.70	68.2	22.7	110
Krishna	3853	5900	71.66	13.13	20.64	84.9	20.2	110
Sabarmathi	4088	6838	88.69	12.69	20.10	77.3	20.1	110
Yamuna	3658	7725	89.09	10.35	22.60	65.0	22.7	120
Kannagi (Pusa 2-21)	5624	6013	74.33	12.24	20.31	95.3	22.2	110
CR-44-11 (Ratna)	4803	6333	80.91	12.26	22.62	83.5	21.5	110
Cult. 5524	5075	7300	87.02	8.64	23.27	125.9	17.7	110
Cult. 5652								
(Karikalan)	6249	8400	96.64	8.91	24.03	106.3	23.9	110
S. E. $\pm$ 300.00		561.25	1.96	1.04	0.34	8.67	—	—
C. D. at 5%	598.70	1120.00	3.91	2.07	0.67	N. S.	—	—

It could be seen that out of the eleven varieties tried, ten varieties came to harvest in 110 days and the other one in 120 days. The yield differences between the varieties were statistically significant. Among the varieties tested, Karikalan recorded the maximum grain yield of 6249 kg/ha and that was followed by Kannagi (Pusa 2-21) with 5624 kg/ha. The reports of Srinivasalu *et al.* (1973) and Chandramohan *et al.* (1973) also confirm this finding. A manurial schedule of 187.5 kg N, 87.5 kg  $P_2O_5$  and 87.5 kg  $K_2O$ /ha was found suitable for high yield. The yield components viz., ear bearing tillers, panicle length, grain number and 1000 grain weight were also in favour of Karikalan and Kannagi. The results of the trial

revealed that Karikalan and Kannagi are found suitable for the first crop season in Madurai tract.

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