

Ratoon Crop Performance of Experimental Rice Hybrids in Karnataka

It has been reported in China that although the productivity and production have been increased with the cultivation of hybrid rice; the net returns per unit area remained the same. This is due to high cost of seed production which is major limitation in exploiting heterosis in rice. Ratoon cropping practice may solve this problem by reducing the cost on seed, land preparation, seedling production and planting. Further, the residual moisture remaining in the field after the harvest of first crop of rice is often not utilised although it is adequate for second short duration ratoon crop. Added to this the ratoon crop will also generate employment for the labour during idle period. Hence, it is essential to identify hybrids which are suitable for ratoon crop. Eight promising experimental hybrids along with three checks were evaluated for ratoon performance at the Main Research Station, UAS, Bangalore during 1992 wet season. The main crop was grown during the previous dry seasons and harvesting was done at physiological maturity. Twenty five day old stubbles were transplanted with a spacing of 20 x 15 cm in randomised block design with

three replications. Each entry was grown in a net plot size of 5.8 m².

The highest ratoonability (RA) was observed in the hybrid IR-54752A / ARC-11353 followed by hybrids having the same female parent. In general, the hybrids having IR-54752A as female produced significantly higher ratoonability compared to varietal checks while the other medium duration hybrids with Madhu A and V20A as their female parents were comparable with varieties. Similar trend was observed in regeneration percentage also (Prakash and Mahadevappa, 1987). The hybrids having IR-54752A as their female parent produced significantly higher yields compared to other hybrids as well as check varieties. The highest yield was recorded in the hybrid IR-54752A / IR-54 (63.57 q/ha) followed by IR-54752A / IR-27315 (60.67 q/ha) (Table 1). The varieties produced the lowest yield. The above results suggest that there is a lot of variability for ratoonability in rice and hybrids are better suited for exploitation of ratoon crop. The promising hybrids having IR-54752A as their female parent are being further tested under large scale field trial to assess the feasibility of exploiting ratoon cropping in rice.

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Table 1. Ratoon performance of experimental hybrids at Bangalore, Karnataka during 1992 wet season

Hybrids / Checks	Duration (d)	Plant height (cm)	No. of productive tillers/ plant	Panicle length (cm)	1000 grain weight (g)	No. of filled spikelets/ panicle	Ratooning ability (RA)	Regene- ration perce- ntage	Grain yield/ plant (g)	Grain yield (q/ha)
Hybrids										
IR54752A / IR46	95.3	65.97	12.70	18.50	17.37	53.33	0.74	83.17	15.10	50.33
IR54752A / IR54	92.0	71.90	11.66	20.50	16.70	49.67	0.74	72.10	19.07	63.57
IR54752A / IR27315	94.3	91.47	13.10	20.97	16.03	41.00	0.76	74.67	18.20	60.67
IR54752A / ARC11353	100.7	69.87	15.00	19.50	15.30	41.00	0.85	82.80	16.40	54.67
Madhu WA / IR15324	85.0	61.73	07.66	16.80	13.30	24.33	0.64	70.93	09.33	31.10
V 20A / IR36	78.7	52.77	09.70	15.60	18.83	26.20	0.73	70.73	12.10	40.33
V 20A / Mangala	78.7	53.97	08.33	15.33	17.30	24.30	0.70	52.73	12.77	42.57
V 20A / Pushpa	80.7	54.57	09.00	15.70	18.57	16.87	0.64	66.37	11.36	37.57
Checks										
Jaya	94.3	50.07	07.80	16.40	14.43	19.83	0.58	39.43	07.40	24.67
Pushpa	84.0	55.97	08.23	16.10	13.63	18.20	0.56	21.50	08.43	28.10
CTH -1	80.0	58.80	12.10	17.50	15.60	31.33	0.69	90.03	11.50	38.33
CD at 5%	0.14	3.87	0.97	1.63	1.06	5.19	0.13	10.36	1.41	
CV (%)	0.08	3.78	5.65	5.58	3.97	10.38	11.49	9.59	5.63	