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VOLUME EXPANSION OF RICE VARIETIES ON COOKING

Considerable variations exist in the time taken for cooking to normal consistency and expansion, depending on variety, conditions of cultivation and the duration and method of storage. The volume expansion on cooking is gaining importance in calibrating a strain for its qualities. The observations made on the volume expansion on cooking of some important first crops rice strains evolved in the Central Rice Research Station, Pattambi is reported here.

Table 1

The volume expansion of rice strains on cooking

Sl. No.	Strains	Expansion of rice on cooking as percentage of original volume
1	ptb-29	436.7
2	ptb-10	433.7
3	ptb-34	432.0
4	ptb-1	419.8
5	ptb-5	419.2
6	ptb-28	415.8
7	ptb-30	405.5
8	ptb-26	402.4
9	ptb-31	402.4
10	ptb-9	400.4
11	ptb-8	400.0
12	ptb-24	398.8
13	ptb-25	397.9
14	ptb-7	397.9
15	ptb-22	390.9
16	ptb.23	376.4
17	ptb-2	359.5
18	ptb-32	346.5
	Average	402.2

The test was conducted with the grains of eighteen strains (Table 1) obtained from the first crop season. The seeds were dried uniformly, husked and polished before cooking. Twnty grammes of each strain, was kept in boiling tubes of the standard specifications. The volume of absorption and adsorption of water was assessed. Then 80 c. c. of distilled water was added to each tube and heated in a water bath till the cooking was complete. This was judged by pressing the rice between the forefinger and thumb. When the hardness of the grain just disappeared cooking was considered to be completed. Thereafter cooked rice was separated. The volume of cooked rice was assessed by the method of water displacement. Three replications were maintained for each strain. The percentage of expansion of cooked rice on the volume of original rice was assessed for each strain and the results were subjected to statistical analysis, by the analysis of variance method. The results (Table 1) show that there was no statistical difference in the volume of expansion on cooking among the 18 strains tried. On an average 492.4 per cent increase in volume on cooking was obtained. The volume expansion of different varieties on cooking was in the following descending order ptb-29 > ptb-10 > ptb-34 > ptb-1 > ptb-5 > ptb-28 > ptb-30 > ptb-26 > ptb-31 > ptb-9 > ptb-8 > ptb-24 > ptb-25 > ptb-7 > ptb-22 > ptb-23 > ptb-7 > ptb-22 > ptb-23 > ptb-2 > ptb-32.

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