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Effect of Rice Grain Discoloration on Qualitative Characters

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Rice varietyViz., IET 7191 affected by grain discoloration was selected to study its qualitative characters. Discoloration was resulted due to infection by fungiViz.,*Bipolaris oryzae, Pyricularia oryzae, Fusarium moniliforme, curvularia lunata, Trichoconiella padwickii, Cladosporium, Apergillus, Phomasp,Rhynchosporium oryzae, Alternaria alternata, Nigrospora oryzae, Absidia sp. etc.* Rice grains were grouped in to four categories based on extent of discoloration viz., less than 1 per cent, 1-25 per cent, 26-50 per cent and more than 50 per cent discoloration. Grains under each category were subjected to milling and polishing. After milling and polishing kernels were plated on moist blotters to know the effect of milling and polishing onseed mycoflora. Only fungi viz., *Bipolaris oryzae, Fusariummoniliforme, curvularai lunata, Trichoconiella padwickii, Cladosporium, Apergillus, and Alternaria alternata* were observed on rice kernels after milling and polishing. Kernels after milling and polishing under eachcategory of discoloration were subjected tophysico-chemical compositions. As the level of discoloration increased from less than 1 per cent to more than 50 per cent discoloration, 1000 kernel weight decreased from 20.0 to 16.4 per cent, moisture content from 6.5 to 5.0 mm, raw rice length from 6.15 to 6.0 mm, raw rice width from 2.50 to 2.32 mm, length- width ratio increased from 2.46 to 2.58. Amylose content decreased from 24.0 to 9.0 per cent, total nitrogen content from 1.46 to 0.82 per cent, crude protein content from 9.12 5.16 per cent, reducing sugars from 34.75 to11.01 u moles, non reducing sugars increased from 0.26 to 93.95 u moles and total sugars from 35.01 to 104.76 u moles per gram of dry weight of rice kernels, while alkali value was not affected by discoloration.

Biography:

Muhammad Saifulla worked as an Assistant Professor in UAS, GKVK, University of Agricultural Sciences, Bangalore, India. As an Associate Professor from 1995-2003, As Professor from 2003-2015 University of Agricultural Sciences, Bangalore, India.

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