Evaluation of selected wheat (*Triticum aestivum*) cultivars and their relationship to pan bread quality

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Six wheat varieties NARC 2011, NARC 2009, PAK 2013, Borlaug 2016, Galaxy 2013 and Zincol 2016 were procured from NARC Islamabad. These wheat varieties were evaluated on the basis of their physicochemical characteristics which include thousand kernel weight, test weight, extraction rate of flour, moisture content, ash content, protein content, wet and dry gluten and falling numbers of flour. Rheological characteristics include water absorption, dough development time and dough stability of flour and after preparation of bread it is subjected for sensory analysis by panel of judges to evaluate its baking properties. The physical characteristics thousand kernel weight and test weight showed significant difference among the tested varieties. Thousand kernel weight and test weight ranged from 34.52 to 45.16 g and 68.27 to 78.34 kg/hl. The extraction rate after milling of wheat varieties was significantly different it falls in the range of 60.32 to 73.41 g. The wheat variety Borlaug 2016 with highest extraction rate has high milling efficiency as compared to other varieties. The chemical composition of wheat varieties such as moisture content, ash content and protein content were significantly different among the tested varieties. Their values ranged from 11.97% to 15.00%, 0.34 to 1.11% and 9.06 to 12.31%. Highest amount of protein content were recorded in wheat variety Borlaug 2016. The wet and dry gluten contents significantly ranged from 19.76 to 26.08% and 6.83 to 10.75%. The falling number varied significantly among the tested wheat varieties. The falling number values ranged from 405 to 463 seconds, respectively. The farinograph characteristics such as water absorption, dough development time, dough stability ranged from 46.85 to 60.60%, 2.40 to 9.72 min and 3.29 to 15.17 min. among the wheat varieties. Borlaug 2016 and Zincol 2016 showed significantly highest degree for water absorption, dough development time and dough stability. After preparation of pan bread, it is subjected for sensory evaluation by panel of judges. The sensory attributes such as volume, color of crust, evenness of bake, character of crust, color of crumb, aroma, taste and texture varies significantly different among the bread prepared from different wheat varieties. On the basis of score assigned to different type of breads prepared from different wheat varieties the wheat variety Borlaug 2016 is most suitable variety for pan bread production. Otherwise Zincol 2016 is also suitable for this purpose.

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