

Physico-chemical And Functional Properties of Newly Developed Hybrid and Traditional Pearl Millet Varieties

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Abstract

Pearl Millet (*Pennisetum glaucum* L.), also known as Bajra, is a cereal crop grown in tropical semi-arid regions of the world primarily in Africa and Asia. Pearl millet is one of the most popular crop in India. It is nutritionally comparable and even superior to major cereals with respect to protein, fat, energy, vitamins & minerals. The present investigation was carried out to analyse the physico-chemical and functional properties of newly developed hybrids varieties (HHB-226, HHB-223 and HHB-197) and traditional (HC-20) variety. The 1000-kernel weight, hydration capacity and seed density ranged from 7.96 to 13.60 g, 0.003 to 0.004 g/seed and 0.75 to 0.85g/cc, respectively. The protein content in different varieties of pearl millet varied from 10.59 to 11.55 per cent. The maximum fat content was found in traditional variety (HC-20) i.e. 5.52 per cent. The considerable variation in crude fibre (1.53-2.05%) and ash content (2.27-3.11 percent) were determined. The functional properties (water and oil absorption, gelation capacity, flour solubility and gel consistency) were evaluated. Water absorption capacity of HHB-226, HHB-223 and HHB-197 and HC-20 were 1.70g/g, 1.67g/g, 1.60g/g and 1.53g/g, respectively. The oil absorption was found to be maximum in HHB-226 (1.45g/g) and minimum in HHB-223 (1.15g/g). Wide variation in gelation capacity was observed ranged from 8 per cent to 12.5 per cent. The values of flour solubility and gel consistency in different pearl millet varieties varied from 10.9-14.53 per cent and 54.56 mm-66.23mm, respectively.

Keywords: Pearl millet, physical characteristics, chemical characteristics, functional properties.