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Research Paper :

Effect of grinding mills on quality of bajra flour and its products

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ABSTRACT

Investigations were carried out to study the effect of different grinding mills on quality of bajra flour *a*nd *suji*. Ready to eat products *viz*., *chakali* from bajra flour and *kheer* from *suji* were prepared. The better quality bajra flour and *suji* were obtained using plate mill. The particle size of the flour and *suji* was obtained between 0.33 to 0.58 mm. and 0.69 mm. to 0.74 mm, respectively. *Chakali* prepared by using *chakali* mix (maida + moong dal + bajra flour) with proportion 2:1:2 was found most acceptable (score = 8.5). *Kheer* prepared by using bajra *suji* (0.58 mm. particle size) was found most acceptable (score = 8.3)

Key words : Bajra, Grinding mills, Fineness modulus, Particle size, Uniformity index, RTE products

Bajra on pearl millet is an important staple food grain next to sorghum. It constitutes major source of energy and protein. In general, bajra has more fat and protein content than sorghum. The energy level (784 cal / kg.) is among the highest for whole grain cereals. Bajra flour is significantly different from wheat flour. Bajra flour is produced by grinding bajra grains on various types of grinders. It is mainly used in preparation of cookies and biscuits (snack food).

The chemical composition of bajra grain is 67.1% carbohydrates, 11.6% protein, 1.2% fibre, 2.7% mineral matter, 5.0% fat and 12.4% moisture, (Naikare,1983). Bajra flour has different characteristics, when it is ground by using different grinding mills. However, it is clear that one of the reasons that effect of bajra flour properties and their products is a method of grinding or type of grindings mills (Nishitha and Bean, 1982). Particle size distribution and average particle size are other important factors that also affect the quality and properties of flour. Therefore, the investigations were carried out to study the effect of different grinding mills (size reduction) on quality of bajra flour, suji and RTE products.

METHODOLOGY

The laboratory experiment was conducted during the year 2006 at the Dr. A. S. College of Agril. Engg. M.P.K.V., Rahuri. The experimental work plan for preparation of bajra products from its flour and *suji* is given in Fig.1. The bajra grain (var. local) was cleaned and graded by using laboratory cleaner cum grader machine (make – Agrosaw, Ambala cantt capacity -100 kg / hr) The cleaned and graded bajra grains were ground

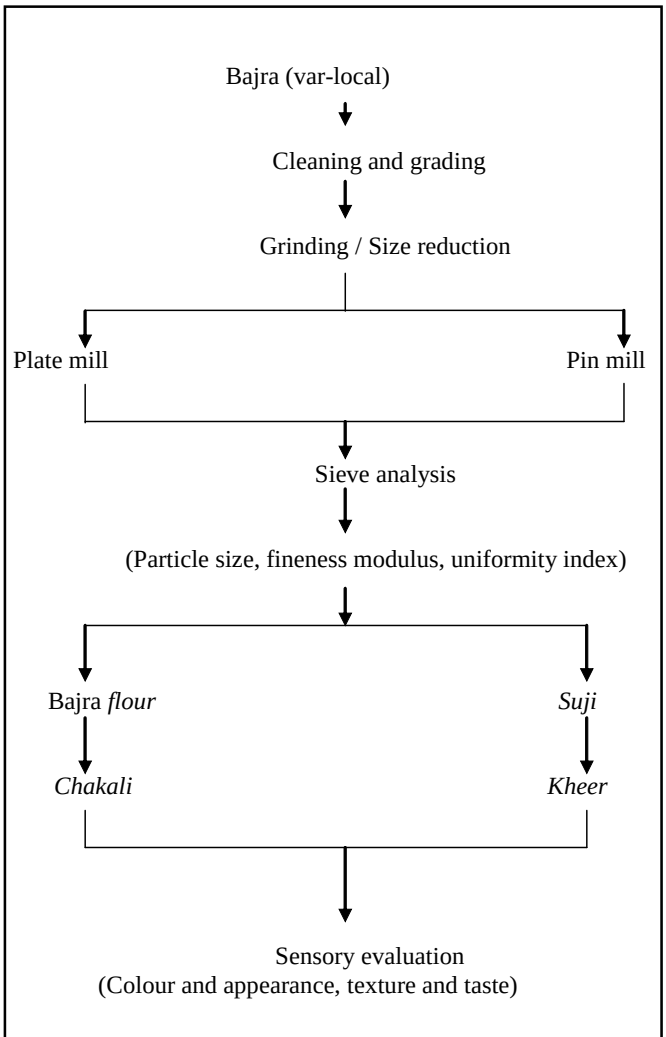

Fig. 1 : Flow chart for preparation of bajra products (chakali and *kheer*)