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Production and characterization of juice produced from Ethiopian Finger millet

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The study was conducted to produce and characterize juice from kebezo Finger millet. Finger millet is one of the important crops in the semiarid tropics of Asia and Africa being best grows in low rain fall about 500-1000 mm. The production of Finger millet in developing countries is about 97% of the total world production. It is also rich in vitamins, protein, minerals and carbohydrates. Thus, this research needs to produce and characterize flavored and tasty kebezo Finger millet juice. The Finger millet was collected from Gulomukada wereda with complete randomization sampling technique. The proximate composition of kebezo Finger millet was investigated using the methods cited on international standard organizations and association of American chemists. The germination effect on the functional properties such as water absorption capacity, bulk density and swelling power was conducted and the final quality of the products was confirmed by sensory evaluation using nine point hedonic scales with ten panelists. The experimental design was designed using randomized block design to investigate the effects of temperature, time and flour size on quality attributes of the product such as viscosity, pH, density and conductivity. The result showed that, the average proximate compositions such as moisture, ash, protein, crude fat, dietary fiber and total carbohydrate of kebezo Finger millet of 7.16, 2.49, 7.18, 1.43, 14.44 and 67.3% respectively. The water absorption capacity, bulk density and swelling power of kebezo Finger millet with germination hours of 0, 24, 48, 72 showed that 38.89, 74.575, 78.84 and 84.85%; 0.83 g/ml, 0.76 g/ml, 0.73 g/ml and 0.72 g/ml and 6.15 ml, 4.45 ml, 4.15 ml and 3.75 ml, respectively. Products produce with 0.7 mm flour size at 80 °C cooked for 6 minutes operating conditions colored with sunset yellow food colorant and flavored with orange food flavor was become very viscous and get best overall acceptability by panelists with an overall acceptability of 8. Finally, it can be concluded that cooking at 70-80 °C for 3-6 minute for the mixture of 100 g of 0.7 mm size flour and 500 ml boiled water and at the end of cooking blending with 15 gram of mango powder flavor, 180 ml of burned sugar solution and 6 grams of korarima (Aframomum corrorima) flavored and tasty juice can drink and get all the nutritional values of Finger millet.

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