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Physico-chemical and sensory evaluation of fenugreek enriched salted biscuits

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Biscuit are convenient food products, becoming very popular among both rural and urban populations of India. Some of the reasons for such wide popularity are low cost among other processed foods. India is the second largest wheat producing nation after China in the world and contributes approximately 12 per cent to the world wheat production. The principle basis of most baked products that can be regarded, as snack food is wheat flour. The flour quality is defined as ability of flour to produce uniformly good product and it will be very misleading to define the product. This may be also because of good quality of one product may not be good quality of another baked product. Fenugreek seeds are rich in carbohydrates, and especially mucilaginous fibre. This soluble fibre is comprised of galactomannas, similar to properties in that of guar gum. Fenugreek also contains a rich variety of steroid saponins and flavonoids all of these substances are known to lower blood lipid levels. Fenugreek seeds also contain 4-hydroxyisoleucine, an unusual amino acid that initiates insulin release form the pancreas. The ability of fenugreek to improve glucose tolerance is further enhanced by its rich content of soluble fibre. Biscuit prepared from the blends containing different proportions (0%, 5%, 10%, 15% and 20%) of germinated fenugreek seed flour were evaluated for width, thickness, spread ratio and sensory characteristics. The thickness of fenugreek supplemented biscuits increased, whereas width and spread ratio of biscuits decreased with the increasing level of fenugreek flour. The sensory results showed that a maximum of 10 per cent fenugreek flour can be incorporated to prepare acceptable quality biscuits. Addition of germinated fenugreek flour to wheat flour increased the content of protein (10.5%, 10.4% and 11.0%) lysine (2.15, 2.20 and 2.25 g/100 g protein), dietary fibre (12.7%, 11.3% and 10.9%) total Ca (58.3, 57.1, 57.7 mg/100 g) and total iron (7.40 ,7.26 and 7.36 mg/ 100g), respectively, at 10 per cent level of substitution. These biscuits can be safely stored in polypropylene bags upto 1 month without altering their organoleptic properties.

Key Words : Biscuit, Wheat, Fenugreek, Physical, Sensory, Nutritional analysis

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