Nutritional and Nutraceutical significance of finger millet (*Eleusine coracana* L.Gaertn): A Review.

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Abstract

Finger millet (Eleusine coracanaL. Gaertn),one of the minor and oldest cereal grains in the Indian sub-continent. It is important staple food in India for people of low income group because of its ability to survive in less fertile soil,resistance to pest and diseases, drought resistance and require short growing season where other crops gives poor yield. Nutritionally it is rich in calcium, dietary fiber, phytates, proteins, minerals and phenolics. Other cereal crops provide food security but crop like Finger millet provide nutritional security. These nutritional properties are also associated with some health benefits as it hasanti-diabetic, anti-tumerogenic, atherosclerogenic effects, antioxidant and antimicrobial properties.It is specially recommended as wholesome food for diabetic patients and regular consumption of finger millet is known to reduce the risk of diabetes mellitus and gastrointestinal tract disorders because of its high fiber content. It is also well documented that Phenolic constituents in finger millet were found to inhibit cataract effectively due to its strong inhibitory effects on aldose reductaseactivity. Finger millet crop has good nutraceutical and pharmaceutical values but still this crop is not well explore as compared to other cereals such as rice, wheat, maize, etc. This review deals with nutritional and nutraceutical importance of Finger millet so that it helps the population of new era to make it a novel crop for future generation.

Keywords: *Finger millet, Nutritional values and Nutraceuticalsignificance*

Introduction:

Finger millet (*Eleusinecoracana* L. Gaertn), is commonly known as ragi and mandua (India), kaddo (Nepal), koracan (France), dagussa, tokuso, barankiya (Ethopia), bulo (Uganda), finger millet, African millet, koracan (England), wimbi, mugimbi (Kenya), njera, mazhovole (Zimbabwe), kambale, lupoko, mawale,amale, bule (Zambia) (Pragya Singh & Rita S. R. 2012), mwimbi, mbege (Tanzania) and kurakkan (Sri Lanka) (Amos Ouma Onyango 2016). It is one of the minor cereals belong to family Poaceaeof the class monocotyledonae. This cereal is native of Ethiopia (Shiihii S.U. et. Al. 2011) but also grown widely in various regions of Africa and India where it consume as a staple food by a large segment of population with the people of low income group. In India it is grown in the states of Karnataka, Tamil Nadu, Andra Pradesh, Maharashtra and parts of North India including tarai regions of Himalaya (Vijayakumari j. mushtari B.J.,2003). In India Karnataka is the leading producer of finger millet accounting to 58% of its global production, finger millet ranks fourth in worldamong other millets after sorghum, pearl millet and foxtail milletin importance (UpadhyayaH.D. et.al.2007). The seeds of finger millet are with a seed coat of light brown to brick red colored consumed in the form of flour and the whole meal is utilized in the preparation of traditional foods such as porridge,dumpling, puddings, pancakes, biscuits, bread and other snacks (P.B.Devi et.al.2014, J.H. Hulseet.al.1980), roti (Indian bread), papad, fermented product such as idli, dosa, noodles and vermicelli, malted energy drink and ragi soup (Amir Gull et.al. 2014). The seed coat or testa of finger millet grain is generally rich in dietary fiber, polyphenols and other micronutrients compared to other cereals such as wheat, rice, maize and barley (Viswanath, V.A. et.al.2009).Some finding revels that Finger millet is nutritionally superior3-5 times to the widely promoted rice and wheat in terms of proteins, minerals and vitamins(Bhohale, R.S. 2013). Finger millet is considered as a hardy crop because it is good adapted to wide range of environment in tropical and semiarid regions of the world due to their greater resistance to diseases and pest, drought tolerant, resistance to water logging and also withstand in saline soils hence this crop is easy to grow in different habitats and under stressful condition without reducing net productivity (Dinesh Chandra, et.al 2016).As finger millet has such characteristics making it more adaptable in diversified environmental conditions various developing countries of like China, India and some parts of Africa finds interest in growing this crop for its utilization as a staple food . Many of the recent research shows its nutritional potential due to presence of some major as well as minor nutrients which are helpful for maintenance of good health. Due to these reasons some develop countries also give attention in cultivation of finger millets for production of value added products and also in terms of production of bioethanol and biofilms (Li J. et.al. 2008). Though finger millet is a gluten-free grain with low glycemic index and with a good nutritional and nutraceutical advantages, it is still neglected and underutilized crop (Amadou, Mahamadou, & Le, 2013;Jideani &Jideani, 2011).This review describes the nutritional composition of finger millets and also explore its nutraceutical and