



Mini Review Paper

Nutritional, Medicinal and Economical importance of Corn: A Mini Review

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Abstract

Corn possesses diverse significances in animal diet as well as regular feeding habits on account of its nutritional composition and their health benefits from the prehistoric era. Apart from that it also helps keeping away health related disorders in human and, at the same time ameliorates resistance against diseases and provides enduring assistances.

Key words: Corn, maize, *Zea mays*, corn silk, corn starch.

Introduction

Corn, commonly known as maize (*Zea mays* L.), is annual crop that belongs to the family of grass i.e. Poaceae. Maize is also recognized by different synonyms such as zea, corn, silk corn etc. In Hindi it is called Makka and Barajovar. Maize is mother grain of Americans and is considered as the earliest cultivar of the new world. It is most widely distributed world's plant. Multitudes of maize subspecies are identified and classified depending upon the extent of starch each have¹. Maize is a crop having short life cycle and requires warm weather, appropriate apprehension and management. It is valuable livestock feed, as human food and raw material for several industries. Morphological appearance of maize plant, seeds and corn silk are shown in figure 1.

Distribution

Maize is native of South America but extensively cultivated in various other countries as well like India, Thailand, Pakistan and China, and in several parts of Philippines. It is considered as staple article of food in some islands and provinces. It is widely grown in temperate and tropic regions with well drained and fertile soil².

Nutritional Value and Health Benefits

Nutritional composition: Pollens and seeds are the nutritious and edible parts of maize. Seeds are consumed in raw and cooked form that serves as good source of carbohydrates. Corn contain vitamin B-complex such as B₁ (thiamine), B₂ (niacin), B₃ (riboflavin), B₅ (pantothenic acid) and B₆ that makes it commendable for hair, skin, digestion, heart and brain. It contains vitamin C, A and K together with large amount of beta-carotene and fair amount of selenium that helps to improve thyroid gland and play important role in proper functioning of immune system. It has higher content of protein and fat as compared to other cereals. Corn silk contains maizeric acid,

fixed oils, resin, sugar, mucilage, salt and fibres essential for our diet. Corn syrup is useful in manufacturing of jams, jellies, and other sweets and as a additive for cane sugar and maple syrup. Edible oils obtained from seeds are useful in salad and for cooking. Roasted seeds are used as coffee substitute. Phytochemical secondary metabolites such as saponin, allantoin, sterol, stigmasterol, alkaloids, hordenine and polyphenols are found in leaves, seeds and corn silk^{3,4}.

Medicinal value: From the ancient time corn has been used to pacify kapha, pitta, anorexia, general debilities, emaciation and haemorrhoids. It is a potent antioxidant that guards body from harming by free radicals responsible for cellular damage and/or cancer. It has the potential to alleviate pain and possess analgesic activity as well⁵. Helping production of sex related hormones assemble it good for sexual health especially for men with erectile dysfunctions. It is believed to improve symptoms of rheumatism as B-complex is able to improve joint motility. Major nutrient of corn silk is potassium that is powerful diuretic. In Europe and some other countries such as French, Spain, Greece including India; corn silk is used to conquer urinary tract infections and kidney stones⁶. While in China it has been widely taken in case of fluid retention and jaundice. Corn silk improves blood pressure and support liver functioning as well as producing bile. Roots, leaves and corn silk as decoction are used for bladder while the decoction of cob as tea is used for stomach complaints. It act as a good emollient for ulcer, wound and swelling. In some places decoction of corn silk and parched corn is extremely useful in nausea and vomiting.

Economical Importance

The oil present in corn (rich in embryo) is far and wide used for cooking and manufacture of soaps. Sticky gum contains dextrin used for sealing envelopes and labels. Corn starch is well recognized for its uses in cosmetics and pharmaceutical industries as diluents. Corn seeds are functional in making alcohol and stem fibres for manufacture of paper.



Figure-1
Picture showing (A) Maize plant, (B) Maize corn (seeds) and (C) Corn silk

Conclusion

From the literature study it was eventualized that the corn is worthwhile not only as food or medicine but even its waste after use has a number of unique importance for animals as well as industries. It has also been concluded that corn is not yet scientifically fully explored of for its composition and values, and still requires researcher's attention so as to explore this plant for the new era of science.

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