

## Corn: A Wonderful cereal crop

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### **Introduction**

Maize is known as queen of cereals crops because of its greater genetic yield potential than other cereals. Maize is generally known as Indian corn or simply corn and it is worldwide cultivated cereal crops into a wide range of climatic condition. Origin of maize is America and has long been grown by the American Indians. Afterwards introduction of maize occur in Europe, Africa and Asia and presently grown in wide range of environment in many countries.

### **Global and Indian scenario of maize**

Maize is an important crop for billions of people worldwide and it consumed by the peoples as food, feed, and industrial raw material. Globally it is grown in more than 166 countries and currently, from an area of 193.7 million ha nearly 1147.7 million tonnes of maize is being produced together by over 170 countries with average productivity of 5.75 t/ha (FAOSTAT, 2020). India produced 30 million tonnes from an area of 9.9 million ha in 2020-2021 (agricoop.nic.in). By 2022, India has to increase maize production in the country by 75 percent to 45 million tonnes (mt) to meet the increasing domestic requirement. USA is the largest producer with 30% contribution of the total production in the world.

At the global level maize consumption as a feed is 61%, food-17% and by the industry is 22%. Globally it has accomplished a position of industrial crop as 83% of its production is used in feed, starch and bio-fuel industries. In India maize is grown in both kharif and rabi seasons, but most of the maize varieties are grown in India during the kharif season as compared to the Rabi season. maize cultivated. Maize cultivation is done in two production environments namely traditional and non- traditional maize growing areas. Traditional maize growing states include Bihar, Madhya Pradesh, Rajasthan, and Uttar Pradesh and in these areas the crop is primarily grown as a subsistence crop to meet food needs. In contrast, in the non-traditional areas include Karnataka and Andhra Pradesh maize

is grown for commercial purposes i.e., mainly to meet the feed requirements of the booming poultry sector.



**Fig.1 Field of Corn**

### Types and uses

- ✚ **Dent Corn:-** Dent corn is soft with high starch and has great commercial value. It receive its name because of have dents in the crown of each kernel when it is fully ripe and beginning to dry. It is an important human staple food and used primarily as animal food, but also serves as a raw material for industry.
- ✚ **Flint Corn:-** The flint corns mostly have a thick, hard, vitreous (glassy) or corneous endosperm layer. This corn have smooth and round kernel and ripen rapidly. It is used for decoration and is eaten as hominy in the Americas.
- ✚ **Flour corn:-** Floury maize composed largely of soft starch, mealy, hard and vitreous endosperm. For American and Indians peoples it is an important source of corn flour.
- ✚ **Sweet corn:-** Sweet corns have high sugar content because of the sugary gene prevents or retards the normal conversion of sugar into starch during endosperm development. It is commonly consumed by the peoples as fresh, frozen, or canned vegetable, has wrinkled translucent kernels.
- ✚ **Popcorn:-** Popcorn an extreme type of flint corn characterized by small hard kernels may be either pointed (rice-like) or round (pearl-like), is lacking of soft starch, and heating causes the moisture in the cells to expand, making the kernels

puffs up. It is consumed by peoples and reduced the risk of heart disease, diabetes and hypertension in humans.



**Fig. 2 Different types of Corns**

- ✚ **Waxy corn:-** Endosperm is waxy appearance of when exposed in a cleanly cut cross-section. Different types of products are made by the food industry from the waxy corn and it used as a feed for dairy cattle and livestock.
- ✚ **Baby corn:-** Baby corn nothing but cobs harvested within 4-5 days after their emergence. In India it is consumed as fresh vegetable and rich in fiber, phosphorus and good source of vitamins.
- ✚ **Pod Corn:-** Pod corn (tunicate maize) is more of an ornamental purposes and it is not cultivated commercial level. Endosperm characteristics of this type of corn may be dent, sweet, waxy, pop, flint or floury type.

#### **Health Benefit of maize (corn)**

- ✚ Corn rich of vitamins B constituents, niacin, thiamin, etc. which facilitate good health and promotes growth.
- ✚ It is contains phytochemicals and antioxidants which play a role to prevent cancer.
- ✚ Due to its fiber content it good for digestion and prevent haemorrhoids
- ✚ Maize has an optimal combination of fatty acids, which is reduces the risk of cardiovascular diseases.
- ✚ Corn rich in iron and vitamin A. It prevents anemia and good for eyes and skin.

✚ It is also controls the diabetes because of it contains a healthy amount of phytochemicals.

### **Future Prospects and opportunity**

In India Maize is considered as the main cash crop and food source for the small and medium farmers. Because of its good nutritional value, it is not only used for food but its waste also used for animals and industries. Hence, based on such benefits, it is recommend to make it part of daily diet. The demand for cereals in India will increase as the population will increase during the next two decants. Maize, due to its inherently with a great yield potential, have to more contribution to the meet the India's food demand during the next 25 years. Throughout time increased institutional support to production of maize by government bodies, research centers and nongovernmental organizations is observed. The increased production level of maize has helped India to become one of the top exporters of maize in the Asian region. These opportunity enabled farmers to produce maize for commercial purpose and gain more profit than other cereal crops. Thus, these situations increased the production volume in future.