

PLANTS THAT INDIA GAVE THE WORLD*

P. Maheshwari

Prof. Panchanan Maheshwari was one of the world's leading botanists. He is recognised for his research in the field of embryology and tissue culture. Prof. Maheshwari established embryology as a distinct discipline of study in India. He also had a significant role in bringing out the very first textbooks of Biology for Higher Secondary Schools published by NCERT in 1964.

In this review, Prof. Maheshwari highlights several significant plants that originated in the Indo-Malayan region and spread globally—sugarcane, rice, cotton, tea, mango, banana and pepper. He also discusses remarks about these plants in ancient texts and gives brief historical accounts of the discovery and spread of these plants to the world.

Keywords: Indo-Malayan Region, Native Plants, Cultivation

For nearly two thousand years, India was a prize for which men worked and warred and greatly adventured. What was it that brought other ships to India's coast and kept foreigners on our land for several hundred years despite immense distances, the jealousy of other nations, and the restless hostility of the Indians themselves? Predominantly, it was the green gold growing on the lap of this country which acted like a magnet in attracting people of different races. The following account deals with only a few selected plants which were in all probability indigenous to the Indo-Malayan region and have spread from here to other parts of the world.

Sugarcane

In ancient times, the only sweetening material known to the Western races was the honey produced by bees from the sugary nectar of

flowers. A prosperous land was described as one 'flowing with milk and honey'. When Alexander came to India in 320 B.C., he was surprised to see reeds from which the 'barbarians across the Indus' obtained all the honey they wanted.

According to Hindu mythology, the origin of the sugarcane took place in a rather mysterious way. As the tale goes, King Trishankhu once approached the sage Vishwamitra with the request that he (Vishwamitra) should send him to heaven. Vishwamitra agreed but Indra refused admission. When Trishankhu again appealed to Vishwamitra, the latter created a new heaven—*Trishankhu Swarg* (a place between earth and heaven)—for the king. Sugarcane was one of the several plants brought into being for the King's use. Fortunately for us, a mishap resulted in the Trishankhu Swarg being thrown down to the Earth along with the sugarcane.

*First published in Vol. 4(1), March 1965

In the 8th century A.D., sugarcane reached Spain and in the 15th century it spread to Madeira, the Azores and the Cape Verde islands. The 17th century saw sugarcane cultivated throughout the tropical regions of the world. Until about a hundred years ago it was the chief source of sugar, although now the beet is also important. India remains to this day one of the most important cane growing countries of the world.

Rice

Rice is the most important food crop of Asia and at present its cultivation extends to almost all the tropical and subtropical regions of the world. In India and China the cultivation of rice is as old as history and numerous references have been made to it in ancient Hindu scriptures and excavations. The oldest specimens yet known to the world are of carbonised paddy found in the excavations at Hastinapur (Uttar Pradesh) and dating as far back as 1000–750 B.C., but there is no doubt that like wheat it was already in cultivation four thousand years ago.

The Greeks came to know of the crop after Alexander's invasion of India. The Arab traders, who visited the west coast of India, learnt of it still earlier and introduced it further west.

Cotton

Amongst the curious myths of ancient times the most extravagant and persistent in the West was that of the 'Vegetable Lamb of Tartary.' People conjectured that there were trees bearing fruits, which when ripe and open, produced little lambs, whose soft white fleeces could be used to weave cloth. In the 5th

century, Herodotus gave testimony that 'India has wild trees that bear fleeces as their fruit and of these the Indians make their clothes.' These trees were none other than cotton and the soft, white, delicate fleece of the 'Vegetable Lamb' was only the familiar cotton-wool.

The earliest written record of cotton is in the *Rig Veda* which is supposed to have been composed fifteen centuries before the Christian era. However, it was in cultivation 5000 years ago in the days of Mohenjodaro and we read of the discovery of bits of cloth made of cotton and preserved by the action of the silver coins they enclosed. The cultivation of cotton, its use for the manufacture of piece goods and the dyeing and finishing of these fabrics made such a wonderful progress in the Middle Ages, that India had a roaring trade in cotton goods not only with the adjoining countries but also with far distant lands through Venice.

Independently of the Indus civilisation cotton was also domesticated in South America, since cotton textiles have been found in ancient Peruvian tombs and in the cliff dwellings of south-western United States. However, there is no doubt that Indian cotton came first. The Egyptians at that time made cloth from the fibres of flax and have taken to cotton cultivation only in comparatively recent times.

Tea

The tea plant, a native of Assam and the adjoining areas of Upper Burma, cheers and comforts millions of human beings all over the world. China was the first country to cultivate Tea and to appreciate its usefulness as a beverage. India remained ignorant of the treasure bestowed on her by nature and

actually made a start in the cultivation of Tea by importing seeds from China, although the plants were growing in her forests all the time.

Tea travelled rather slowly. It was introduced in Japan in 1000 A.D. and in Europe in the later part of the sixteenth century. In the seventeenth century it was sold in Britain at 10 guineas a pound. In 1664, a casket was sent to Queen Catherine, wife of Charles II, and she cherished it so much that tea drinking became quite popular among the dignitaries of England. While India is the largest producer and exporter of tea in the world, the crop is also grown in China, Japan, Indonesia, Ceylon and Formosa in appreciable quantities.

Mango

A great deal more has been written in praise of the luscious mango than any other fruit. It has been the favourite of Indian poets, the abode of the *koel* and of *Kamadeva*, the God of Love. A mango grove was presented by Amradarika to Buddha as a place of repose. Amir Khusro sang its praises in the 14th century and said that while other fruits are edible only when ripe, the mango is good at every stage of its growth. He called it 'the pride of the garden, the choicest fruit of Hindustan'. George Slocombe, a British journalist who visited India in 1930, wrote: 'The fruit of the Tree in Eden was no sweeter to primeval man than the mango is to an Indian. He eats it with passion. He speaks of it in the language of poetry. A corpulent zamindar, sitting under the shade of a banyan tree in the heat of the day, with a basket of mangoes beside him and a water jar, knows no greater happiness. Even the revolt of his tenants against rents and land revenue can

trouble his heart but little in that hour of contemplation and gourmandising.'

Akbar is said to have planted, near Darbhanga, the Lakhbagh—an orchard of a hundred thousand trees—at a time when large orchards were unheard of. The *Aine-e-Akbari* contains a long account of the mango, giving information about the quality and varietal features of the fruit.

Today, the Mango is one of the most important fruits of South-eastern Asia and is widely grown in Malaya, Indonesia and the Philippine Islands. It succeeds well in Hawaii and is also cultivated in the West Indies and Florida.

Banana

A large number of varieties of the Banana are grown in India, Thailand and Malaya. Unmistakable references to it occur in the Epics of the Pali Buddhist canon of 500–600 B.C. Another reference (from the *Jataka*, ca 350 B.C.) is of particular interest and the 'fruit as big as a tusk' very probably refers to the 'horn plantain' so named because of its likeness to various animal horns or tusks. The sages of India rested in the shade of the plant and ate its fruit.

The plant, which is easily propagated by its corms, travelled far and wide with migrants from the Asiatic mainland. Presumably the Arabs introduced it from India into Palestine and then into Egypt in the seventh century A.D. From the Eastern coast of Africa it seems to have spread right across the country, for it was already existant on the West Coast when Europeans first visited it in the fifteenth century. Apparently it was present throughout the islands of the Pacific before they were known to westerners and there were several

varieties growing in Hawaii when those islands were discovered by Captain Cook in 1778. The banana was introduced into tropical America only in 1516 A.D., but has since spread so rapidly that now it is the most important banana producing region of the world.

Two reasons for the banana's popularity are its high yield and great nutritive value. It has as much as 22 per cent carbohydrate together with vitamins A and C, all contained in a pulp which is soft, sweet, and pleasantly aromatic. True, it is 'the fruit of wise men'.

Pepper

Of greater importance than all of these, from the standpoint of the historian, is pepper—a native of Malabar and the forests of Kerala. For ages this was one of the most important articles of trade between India and the West. It was well known to Theophrastus in the fourth century B.C. and to Dioscorides and Pliny. Tribute was levied in pepper when money was scarce and rents were often paid similarly.

Pepper was taken to Europe either through the Persian Gulf, Mesopotamia and Syria, or through the Red Sea and the Gulf of Suez. The Romans levied duty on it at Alexandria in 176 A.D. From here it was re-exported to Venice and Genoa whose prosperity depended largely on their trade with the Orient. It was to break

the Venetian monopoly that the Portuguese wanted to find a sea passage to India. The Dutch followed them like ants after a cube of sugar and then the French and the British, all wanting to have a share in the lucrative trade. For many years the Midas touch of India poured gold into Portugal, Holland and England. Today the British have left India and pepper is no longer important, but till recently the Portuguese did not wish to give up some pockets of territories which they called their 'Estado da India'. The history of the Goa problem thus goes back to a period more than 450 years ago when the Portuguese came to India in search of spices. It is interesting to note that the era of Portugal's greatest wealth and influence coincided with the period of her profitable monopoly of the spice trade.

Among other economic plants which spread from the Indo-Malayan region to many places in the world, mention may be made of the pigeon-pea (*arhar*), brinjal, cucumber, jute, hemp, indigo, coconut, ginger, cardamom, nutmeg, turmeric and yam. On the other hand, the cashewnut, chilli, tapioca, potato, tomato, groundnut, pineapple, guava, sweet potato, maize, arrowroot, squash and muskmelon now so common in our markets, are not natives of India and have been introduced from the Americas. Plant introduction can thus be of tremendous value to people all over the world.