

Potential underutilized fruits: Nutritional and Medicinal value

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Introduction

India is the centre of origin for variety of fruit trees, most of which are not planted commercially, but are a major source of livelihood for many rural and tribal communities. Many of these species are neglected, although a limited number of them are only cultivated for particular household uses in their native areas by local populations. India attained self sufficiency in food grains production after the introduction of green revolution in the country. In the current production technology, only major fruit crops are being targeted for improvement and for research purpose. The term 'underutilised' fruit crop has been described in various ways and mostly as conventional crops in localized areas only and overlooked by agriculture research and development agencies.

The important fruits crops that are being grown in the country include mango, banana, citrus, guava, papaya, sapota, apple, litchi, pineapple and grapes. These crops comprises more than 75% of the area under the fruit production. Among the underutilized crops, few percentage of these fruits are grown commercially and other are given less importance nor traded widely and thus described as underutilized fruit crops. These fruit crops played a very crucial role in supplementing the diet of people of Indian sub-continent. Other than the role as a food, these edible fruits have several health advantages as it provides person immunity from various diseases. In the previous time, the medicines were also prepared from these wild edible fruits. These crops could become next promising crops due to their consistent use in less traditional farming system and subsistence agriculture. Most of the underutilized fruits have their origin from India and are easily available. Some of them area Bael (*Aegle marmelos*), Jamun (*Syzgium cumini*), Aonla (*Emblca officinalis*), Wood Apple (*Feronia limonia*), Ber (*Ziziphus mauritiana*) etc. In order to ensure consistency in farm production and food security, their commercial adoption with crop enhancement,

standardisation of cultural practises and popularisation in different farming systems is justified.

Aonla

The scientific name of Aonla is *Emblica officinalis* and belongs to the family Euphorbiaceae and has been known to have several medicinal properties from time immemorial. Aonla fruit has high nutritional value with enormous medicinal uses and is a rich source of vitamin C. The fruit juice contains nearly 20 times more vitamin C than orange juice. The other constituents includes tannins and phenols which contains gallic acid, elegiac acid and glucose which prevents oxidation of vitamin C. The mixture of Honey with one tablespoon of Aonla juice acts as a valuable medicine for the treatment of different problems like asthma, tuberculosis, cancer, tension, influenza, cold, loss of hairs, scurvy, diabetes etc. The isolated cell group that secretes the hormone insulin is stimulated by Aonla. It therefore decreases blood sugar in patients with diabetes. It is highly acidic and astringent in nature and people do not prefer to consume this fruit in fresh form. It is used in the preparation of various ayurvedic tonics like Triphala, Chyawanprash, Amrit Kalash etc. and cosmetic products like shampoo, hair dyes etc.

Bael

The scientific name of Bael is *Aegle marmelos* and belongs to the family Rutaceae. All parts of the Bael plants i.e. leaves, seed, roots, bark etc are economical and possess different medicinal properties. The ripe fruit is a tonic, laxative and good for heart and brain. The mature fruit is astringent, digestive and is usually prescribed for dysentery and diarrhea. The Bael fruit contains large number of alkaloids, coumarins, essential oils and sterols hence, possess anti-inflammatory, antifungal, analgesics, antipyretic, wound healing, insecticidal and antifertility abilities. The active factor for Bael is Marmelosin which acts as a remedy for stomach ailments. The fresh leaf juice if given in combination with honey acts as a laxative in fever, catarrh and asthma. Half ripe fruits are preferred for use in medicines preparation. Fruits are also used for scurvy, treatment of chronic diarrhea, peptic ulcers and to recover from respiratory problems.

Jamun

The scientific name of Jamun is *Syzygium cuminii* and belongs to the family Myrtaceae. This is important underutilized crop and is mostly utilized by the farmers for windbreak and roadside plantation. The fruit is a rich source of many nutrients and have great Nutraceutical value. Jamboline and ellagic acid are present in the fruit and seed of jamun which plays an important role in the inhibition of conversion of starch to sugar and therefore help to reduce sugar level in blood and ultimately is a remedy for diabetic patients. Among other medicinal uses of jamun includes diarrhea, blood purification, eczema and strychnine poisoning. It is stomachic, diuretic and carminative and helps in lowering the blood pressure. The jamun seed powder helps to lower the sugar content in urine. The fruit has high anthocyanin content and could be used as natural food colouring agent in the food processing industry.

Ber

The scientific name of Indian jujube or Ber is *Ziziphus mauritiana* and belongs to the family Rhamnaceae. The other name of Ber is Poor man's fruit and is a rich source of nutrients. It is a good source of vitamin A, C and B complex. Various products are prepared from ber such as murabba, chutney, dried ber, jelly, wine etc. All parts of the plant can be used i.e. bark, leaves, roots, flower and seeds with their role in cure of various ailments. The secondary metabolites like flavonoids, saponins, sterols, lignin, phenols and glycosides are present in ber fruit which plays significant role in fighting against disease causing pathogens. The decoction from roots and bark is good for dysentery and diarrhea and the leaf decoction is useful in sore throat and bleeding gums as gargle. The ber roots in the form of powder is used for curing wounds, fever and ulcers.

Underutilized/Less known fruit crops of India

FRUIT CROP	BOTANICAL NAME	FAMILY
Aonla	<i>Emblica officinalis</i>	Euphorbiaceae
Ber	<i>Ziziphus mauritiana</i>	Rhamnaceae
Karonda	<i>Carissa carandas</i>	Apocynaceae
Tamarind	<i>Tamarindus indica</i>	Leguminosae
Jackfruit	<i>Artocarpus heterophyllus</i>	Moraceae
Bael	<i>Aegle marmelos</i>	Rutaceae
Custard apple	<i>Annona squamosa</i>	annonaceae

Carambola	<i>Averrhoa carambola</i>	Oxalidaceae
Jamun	<i>Syzygium cuminii</i>	Myrtaceae

Conclusion

As we know that these fruits are known as “less known fruits” and possess enormous medicinal and nutrient value beside their table purpose and should be promoted so as to provide them particular status in the market. These crops requires special attention and must be popularized to utilize their nutraceutical values. These crops should be introduced to the farmers where their cultivation could be the source of additional income to the small and marginal farmers as they have high degree of tolerance, wider adaptability and can thrive in adverse climatic conditions. There role could be possible in uplifting the economy of the country. Different value added products can be developed and provides a scope for the expansion of food and nutraceutical industry.