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Under Exploited Medicinal Crops

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SUMMARY

Under-exploited means plants which are not sufficiently utilized or use to a lesser extent than is normal or desirable. Medicinal plants grow naturally around us and they have a long history of being utilized as potential source of medicines to control many diseases due to their high medicinal value. There is a lot of medicinal plant species documented worldwide are reported to have medicinal values, but only a few species known to be in cultivation. It might be due lack of awareness about their cultivation, medicinal importance, market demand and most of the species are endangered in condition because of less exploitation.

INTRODUCTION

There is a wide range of neglected and underexploited medicinal crops, which were historically popular and used by communities; however, over the years, they have lost their status within farming systems and been relegated to the status of neglected and underutilised. Recently, driven by the need to transition to more sustainable and resilient food systems, there has been renewed interest in their potential as food and herbal medicinal crops (Mudau *et al*., 2022). However, current production levels are too low to meet the requirements for industrial development; research and development should focus on all aspects of their value chain, from crop improvement to utilisation. India is a treasure of medicinal knowledge due to presence of tremendous wealth of medicinal plants. Due to destructive mode of collection, lack of awareness and other factors, a number of medicinal plants are under the threat of extinction and underutilized. The bioactive compounds like alkaloids, flavonoids, tannins and phenolic compounds are the reason for the medicinal value of underutilized plants that produce a definite physiological action on the body (Revathi *et al*., 2019).

These underexploited medicinal crops can grow in wide range of climatic and soil conditions. They require less maintenance and easily multiplied through different propagation methods. These species contain various chemical compounds which were mostly used in ayurvedic medicines and some crops can also be utilized as fodder for animals.

Underexploited Medicinal Crops

Noni

Botanical name: *Morinda citrifolia*
Family: Rubiaceae
Origin: South East Asia

Indian mulberry (Noni) small evergreen tree or shrub found throughout the tropics and grows in wide range of soils from acid to saline soils. Noni is relatively easy to propagate from seeds, stem or root cuttings and air layering. Leaves, fruits, stems, and roots are used in various medicinal preparations. Treatment for malaria,

general febrifuge, and analgesic (leaf tea); laxative (all parts of the plant); jaundice (decoctions of stem bark); hypertension (extract of leaves, fruit, or bark). Fruit juice contain alkaloids, vitamins, minerals and used in diabetes, asthma, brain problems, digestive problems (Ali *et al*., 2016).

Nux-vomica

Botanical name: *Strychnos nux-vomica*
Family: Loganiaceae
Origin: India

Nux-vomica commonly known as Poison Nut, Semen and Quaker Buttons. It is a medium, sized tree gown in dense forest, on river banks, mainly on sandy-loam soil, although it also occurs on lateritic and clay loam soils. Nux-vomica regenerates from seeds and suckers. The seed, bark, wood and roots have numerous applications in traditional medicine. In India the fruit is used in both the Ayurvedic and Unani systems of medicine and is used as an appetizer, tonic, astringent, aphrodisiac and it is claimed to cure leukoderma, blood diseases, itching. Nowadays it is mainly used in phytotherapy to treat upset stomach, abdominal pain, constipation, hangover, depression, migraine and respiratory diseases.

Sappanwood

Botanical name: *Caesalpinia sappan*
Family: Caesalpiniaceae
Origin: China

Small-medium tree found in South India, West Bengal, Orissa and Madhya Pradesh. Sappan is cultivated as a horticultural plant for its large compound leaves and bright yellow flowers. Its branches when interlaced make a strong barrier, hence, it is considered as a live fencing plant. Propagated by seeds. The pods contain 40 per cent tannin used for purifying blood, cures jaundice, cough and good for respiratory ailments. The seeds of the plant are used for Stomach aches, nervous disorders and important part of this plant is the heartwood that contains water-soluble dyes.

Eggplant

Botanical name: *Solanum trilobatum*
Family: Solanaceae
Origin: India

Solanum is Much branched spiny scandent shrub which is a thorny creeper. This is effective in fever, cough, heart diseases, asthma and pain in chest. It is integrated in products like chavanprash and cough syrups. Berries and flowers used to relive cough. This plant possesses a broad spectrum of antibiotic, antibacterial, and anticancer activity.

Cape gooseberry
Botanical name: *Physalis peruviana*
Family: Solanaceae
Origin: South America

The plant is an annual with a much branched, spreading habit. Propagated through seeds. The crude extract of the fruit-bearing plant has demonstrated anti-inflammatory, anti-diabetes and anti-hypertension properties in folk medicine. *Physalis peruviana* has been used as a medicinal herb to treat cancer, leukaemia, malaria, asthma, hepatitis, dermatitis and rheumatism.

Costus
Botanical name: *Costus speciosus*
Family: Zingiberaceae
Origin: South East Asia

Costus is an erect plant found to grow up to a height of 2.7 meters. The root stock is tuberous and the stem is sub woody at the base. Although the plant can be propagated from seeds, stem cutting and rhizomes; commercially, it is being propagated only through rhizome cuttings. The rhizomes can be used as purgative, febrifuge, expectorant, and anathematic and as tonic. It is bitter, astringent, cooling, digestive, stimulant and good to heart. It cures kapha and pitta disorders, dyspepsia, fever, cough and other respiratory diseases, diabetes and leprosy. Rhizomes are an alternative source of Diosgenin.

CONCLUSION

As all the underexploited medicinal crops are rich sources of chemical compounds which are mostly used to cure many health problems. These crops require less attention in cultivation and less investment as they grow in wild conditions. There is a need to develop the technology for crop improvement and create awareness about these crops to the farmers. These crops are highly profitable to the farmers and they can also grow in households in addition to improve their socio-economic status.

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