Some neglected spices in India

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Abstract

Since antiquity spices have been considered virtually indispensable in the culinary arts, they are used to flavour foods and beverages all over the world. Spices add savor to insipid dishes, a tang to beverages and are appetizer as well. Some are also used in perfumery and cosmetics whereas others heal through medicine. Their preservative, antiseptic, antibiotic and anti-oxidogenic properties are also esteemed throughout the world. India is one of the major spice producing and exporting country in the world. According to latest figure compiled by spices board, Government of India, Cochin, the export of spices from India during 1998-99 earned valuable foreign exchange worth over Rs.16500 million. Thus, India alone contributes about 20-25% of the total world trade in spice. Though they are produced in India, few of them are neglected for their commercial use as compared to others.

Keywords: Spices, Neglected spices, White mustard, Black mustard, Ajmod, Pathurchur, Dill, False nutmeg, Spearmint, Lemon grass.

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Introduction

Ayurveda, an ancient science of life has sung the praise of spices as wonder-foods since antiquity. Ayurvedic texts written before 1000 B.C. and dealing with health have described several spices for various common disorders. The great physician Sushruta has described 760 herbal drugs including spices like ginger, turmeric, cinnamon, black pepper, etc. Spices are frequently used in Indian vegetarian and non-vegetarian diet and contribute all six tastes or Rasas i.e. astringent, bitter, pungent, salty, sour and sweet. These are used in diet to balance tridoshas i.e. vata, pitta and kapha for healthy living.

About fifty items constituting various plant parts like seeds, fruits, leaves, bark, rhizomes, flowers and oleoresins are used in India for culinary purposes. The intention for their use may be aroma, colour, taste, etc. Most of these popular spices are indigenous to India and are consumed mainly at home. India is also one of the leading exporters of spices.

Following are the few spices, which not only need commercial exploitation but also are required to be made familiar for their specific use to the consumers who prefer spicy food. Chemical constituents and medicinal properties of these neglected spices are also discussed.

Ajmoda ², ³, ⁸, ¹⁰

Dried fruits and leaves of Trachyspermum roxburghianum (DC.) Craib syn. Carum roxburghianum Benth. ex Kurz (Ajmoda, Hindi — Ajmod) belonging to family Apiaceae are used as spice. The plant is cultivated almost throughout India chiefly in gardens. Fruits are 2 to 2.5 mm long and hispid. Leaves are rather broad on upper side and lanceolate. Aromatic fruits are used for flavouring curries. Leaves are used by Europeans as a substitute for Parsley for seasoning.
Article

Fruits contain volatile oil (3-4%) with thymol, carvacrol and thymene, fixed oil and proteins. Bergaptene is isolated from fruits. A new galactoside, 3-galactosyl-5-dihydroxy toluene is also present in seed.

Leaves are used as anthelmintic, antiseptic, carminative and possess antibiotic activity against *Salmonella typhi*, *Micrococcus pyogenes* var. *aureus* and *Escherichia coli*. The seeds are useful in hiccup, vomiting and bladder pain.

Betel leaf

It consists of leaves, fruits and roots of *Piper betle* Linn. syn. *Chavica betle* Miq. (Hindi — *Pan*) of *Piperaceae* family. Leaves are alternate, heart shaped, glabrous with shining on both sides. Inflorescence is drooping, dense in axillary spike. It has sharp burning taste and aromatic odour.

The leaves contain an essential oil of spicy and burning flavour. It contains betel phenol (Chaviphenol), terpenes, sesquiterpenes, diastase and sugars. It also contains alkaloid arakene with properties allied to cocaine. Leaves are rich source of vitamin B and C and contain starch, sugars, tannins and diastase (0.8 to 1.8%).

Betel leaves are chewed for narcotic effect and as mouth refresher after the meal. It has been in use since ancient times as an aromatic stimulant and antiflatulant. Leaves are used in several common household remedies and as spice in cooking. They are sweetish. It improves the voice and removes the smell from the mouth and increases the salivary secretion. Liquid extract of betel leaves is given in catarrhal inflammation of throat, larynx and bronchi. It is also used in cough and dyspepsia. Essential oil is used as antiseptic gargle and by inhalation in diphtheria. In Orissa, slender roots with black pepper are used to produce sterility in women. Recently it has been reported to possess anticancer property.

**Black Mustard**

The dried leaves and seeds of *Brassica nigra* Koch syn. *Sinapis nigra* Linn. (Black mustard, Hindi — *Banarasi rai, kali rai*) of *Brassicaceae* family are used as spice. It is a much branched annual herb, 1.0-2.1 m or more in height, native to the Mediterranean region and introduced into India. Leaves are stalked with dark green margin and faintly serrated. Flowers yellow, in corymbose racemes; siliqua 10-20 cm x 1.5-2.0 mm attenuating into seedless beak. Seeds very small, roundish oval, about 0.25 mm in diameter; seed coat dark brownish-red, mucilaginous, minutely pitted to the naked eye.

Pungent constituent of the seed is sinigrin which is allyl isothiocyanate glycoside and is credited for its preservative action. Seeds yield 0.6% characteristic volatile oil. An enzyme, cutinase is isolated from germinated pollen.

Seeds have both pungency and flavour and used as condiment. It is ground with white mustard for preparing table mustard. Young leaves are consumed as a pot-herb. The seedlings may be added to salads. Oil of seed is used as salad oil after refining. Seeds are used in pickles and curries. It stimulates digestive secretions.

Poultice of seed is used as counter-irritant in several complaints of nervous system. The poultice is commonly employed in cases of pneumonia and pleurisy. The seeds are used with warm water as an emetic in narcotic poisoning.

**Dill**

It consists of dried fruits of *Anethum graveolens* Linn. syn. *Peucedanum graveolens* Benth. belonging to family *Apiaceae*. Fruits are oblong dorsally compressed 3-4 mm long, 1.5-3 mm broad, winged, having two mericarps separating easily with six vittae. They are hot and bitter.

Dried ripe fruits contain volatile oil (3-4%) and fixed oil. Volatile oil is composed of anethole, phellandrene,
The leaves of Coleus amboinicus Lour. syn. M. viridis Linn. (Hindi — Pathorchur) of Lamiaceae family are used as spice. The herb has aromatic leaves lanceolate or oblong, sharply toothed 3.7 to 10 cm long and shortly petioled with minute hairs. The seeds contain mucilage. Due to increasing demand of this spice its imports have been ranging between Rs. 86 to 150 lakhs annually. The country's annual requirement of mint oil is about 10 MT. tonnes which can be met by growing the crop over 10 thousands acres. Leaves and flowering tops contain an essential oil with thymol, resin, tannin and gums. Diosmetin and diosmin are obtained from leaves. Aromatic leaves of spearmint are used for flavouring chutney and curries. Leaves are given in fever and bronchitis and decoction is used as lotion in aplathes. In Europe, the herb is considered as carminative, stimulant and antispasmodic. Oil is a powerful antiseptic and relieves toothache. It reduces the number of WBC by diminishing the activity of intestinal absorbance.

Green mint (Spearmint)

Leaves of Green mint, Mentha spicata Linn. emend Nath. syn. M. viridis Linn. (Hindi — Pahari pudina) of Lamiaceae family are used as spice. The herb has aromatic leaves lanceolate or oblong, sharply toothed 3.7 to 10 cm long and shortly petioled with minute hairs. The seeds contain mucilage. Due to increasing demand of this spice its imports have been ranging between Rs. 86 to 150 lakhs annually. The country's annual requirement of mint oil is about 10 MT. tonnes which can be met by growing the crop over 10 thousands acres.

False Nutmeg

The dried seeds of False nutmeg, Myristica malabarica Linn. (Hindi — Bombay-jayaphal, van-jayaphal) of Myristicaceae family are used as spice. Fruits are elongate, densely rugose, tomentose. Seeds are arrilate, aril reddish yellow, irregularly lobed, extending up to the apex of seed. They are also used for adulterating true mace (Jayapatri) and true nutmeg, Myristica fragrans Houtt. (Jaiphal).

It contains myristic, palmitic and oleic acid. This nutmeg is deficient in volatile oil and devoid of aroma and is not used for distillation purposes. Traditionally yellowish mace (Rampatri) aril surrounding the fruit is used as aromatic spice. It is used as cooling agent, febrifuge and expectorant. The fat obtained from seeds is good for vata (myalgia, sprains and sores).

Pathurchur (Panova)

The leaves of Coleus amboinicus Lour. syn. C. aromaticus Benth. (Hindi — Pathurchur) belonging to family Lamiaceae are used as spice. Leaves are 2.5 to 5 cm, petioled, broadly ovate, crenate, fleshy and aromatic.

It contains essential oil containing carvacrol. The grass is used for flavouring soups, tea and curries. It is used as laxative, antimicrobial, anthelmintic and appetizer. Citral is starting material for synthesis of Vitamin A.

Pathurchur (Panova)

It consists of freshly harvested leaves of Cymbopogon citratus (DC.) Stapf (Hindi — Agin ghas, gandhattrina) and belongs to family Poaceae. Leaves are 90 cm long and 1.5 cm wide, tapering on both ends, margins scabrous, inflorescence is compound and loose. Branches are slender.

Leaf oil mainly contains isovaleraldehyde, furfural, myricene, methyl heptanol, citral and β-ocimene. The grass is used for flavouring soups, tea and curries. It is used as laxative, antimicrobial, anthelmintic and appetizer. Citral is starting material for synthesis of Vitamin A.

Pathurchur (Panova)

Cymbopogon citratus

Myristica malabarica

Lemon grass

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diseases and vaginal discharge. Juice mixed with sugar is a powerful carminative. In West Bengal, it is employed in colic and dyspepsia, while in Sri Lanka decoction of leaves is given to asthmatic patients, in epilepsy and in the treatment of convulsions.

**White Mustard** 2, 3, 5, 8, 10

The dried leaves and seeds of *Sinapis alba Linn.* syn. *Brassica alba* (Linn.) Rabenth. (*Brassicaceae*) are used as spice. The plant is grown as garden crop in North India during winter. Leaves are stalked and pinnatifid. It is self-sterile species with hairy stems. Seeds are white, lightly pitted, subglobose about 2.5 mm in diameter, pale yellow, testa smooth to the naked eyes. It forms mucilaginous solution with cold water. White mustard seeds are much larger than those of black mustard seeds and are free from pungent odour but have pungent taste.

Seeds contain 23 to 25% fixed oil; a crystalline glycosidal substance called sinalbin is present. Sulphoxyxide, lecithin, mucilage (only in testa) are the other constituents. Leaves are used as dry salad with cress. Seeds are used in preparation of condiments. Seed flour is nervine stimulant, emetic and diuretic. Volatile oil is stimulant and rubefacient.

Seeds are beneficial when administered internally in cases of nervine diseases such as hysteria and epilepsy.

## References