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CLOVE (*syzygium aromaticum*): Champion spice & A review of history with multiple uses

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Absrtact :

Clove(*syzygium aromaticum*) is one of most valuable species that has been used for centuries as food preservative and for many medicinal properties .clove may be looked upon as a champion of all antioxidants known till date .the oxygen radical absorption capacity (ORAC) test is a scale developed by U.S. department of agriculture for comparing antioxidant activity .

The majour part of the world's consumption of the clove spice is in the home kitchens .However,commercial use of the clove is for the production of clove oil that conatin active constutes ,which posses antioxidant , anti-fungal,anti-viral,anti-micribial,anti-diabetic ,anti-inflammatory,anti-throbatic,anesthetic pain reliving and insect properties.Eugenol is the main constituent responsible for the medicinal properties of the clove bud.



1.clove plant (*syzygium aromaticum*)



2.*syzygium aromaticum* fruits (clove)

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Introduction: the symbol of dignity that is what "clove" actually means .It is precious and valuable spice of the world .it is an unopened flower bud growing on a tree belonging to the family myrtaceae which is same as that of guavas ,cloves(*syzygium aromaticum*,*Eugenia aromaticum* or *Eugenia caryophyllata*)are the aromatic dried flowers bud,which are commonly used in biryanis,pickles,salads,and garam masala .the tree that creates the miracles of nature originated from the Moluccas Islands,actually knows as spice island .it is coomom product found in the spice rack around the world.[1]

Spices are the clove,aregano,mint,thyme and cinnamon,have been employed for centuries as food preservatives and as medicinal plants mainly due to its antioxidant and antimicrobial activities. Nowday,many reports confirm the antibacterial,antifungal,antiviral,anticacinogenic properties of spice plants.clove in particular has attracted the attention due to the patent antioxidant and antimicrobial activities standing out the other species.[2]

History:

Clove is an ancient spice,which is belived to be originated in the first century ,before Christ.the first clue about clove's fragrance was giveb by the ancient Chinese (207 B.C. to 220 A.D.) at that time,Chinese phycian wrote that court visitors were required to hold clove in their mouth to prevent the emperor from visitors bad breath ,

Cloves were traded to Europe by Arabs in 4th century A.D. the origine and source of clove was a mustrey . until the discovery of Indonesia or Moluccas Island , by portuges,in 16th century . In 17th century A.D., cloves were established in india by East India company .

In European countries, there is a tradition to make "pomanders" by studding arrangements with clove buds and to hang them around the homes, during Christmas, for decoration purposes and to spread fragrance [3]

Pharmacological Activities:

Anti-microbial activity

Cloves represent one of the mother nature's premier antiseptics. Clove oil and its main component eugenol show considerable antifungal activity against *Candida Aspergillus* and dermatophyte species. It also shows activity against clinically relevant fungi including fluconazole resistant strains [4]

Anti-viral activity

Clove is a potent antiviral agent. Eugenol isolated from clove buds showed antiviral activity against Herpes simplex virus at a concentration of 10 µg/ml [5]

Anti-diabetic activity

Clove extract acts like insulin in hepatocytes and hepatoma cells by reducing phosphoenolpyruvate carboxylkinase (PEPCK) and glucose 6-phosphatase (G6pase) expression. A more global analysis of gene expression by DNA microarray analysis revealed that clove and insulin regulated the expression of many of the same genes in a similar manner [6]

Common names: cloves, carophyllus, clovos, caryophyllus,

Botanical names: *Eugenia caryophyllus*, *Syzygium aromaticum*

Names of Indian language:

Sanskrit: Bhadrasriya, Devakusuma, Devapuspa, Haricanda, Lavangam, Lavanga, Lavangaka

Hindi: Laung, laumg, lavang

Malayalam: Grampu, karampu, karayampu

Marathi: luvang

Kannada: lavanga, Devakusuma, krambu

Tamil: kirampu, liavankam, kirramby

Telugu: Devakusumamu, lavagalu,

Bengali: Lavanga

Gujrati: lavang

Punjabi: laung

Oriya: labanga

Urdu: laung, loun

Anti-stress activity

The clove extract reduced the development of cold restraint induced gastric ulcers and prevented the biochemical changes induced by sound stress such as elevated plasma levels of aspartate aminotransferase, alanine aminotransferase, alkaline phosphate, glucose, cholesterol and corticosterone. Clove extract was also effective in increasing the latency of anoxic stress induced convulsions in mice [7]

USES

Medicinal uses

Cloves are aphrodisiac (an agent for arousing or increasing sexual desire or potency).

Clove is used as an anti-inflammatory agent, due to its high content of flavonoids. From therapists use pure clove oil to cure the symptoms of rheumatism and arthritis.

Clove is used as a carminative, to increase hydrochloric acid in the stomach and to improve peristalsis. Apply the paste of clove powder in honey to treat acne. Paste of clove powder in water promotes faster healing of cuts and bites.

Clove oil is effective in curing athlete's foot and nail fungus. Clove oil stimulates blood flow and circulation, making it useful for people having cold extremities [8]

Clove is known for its antibacterial properties and is used in various dental creams, tooth pastes, mouth washes, and throat sprays to cleanse bacteria. It is also used to relieve pain from sore gums and improves overall dental health [9]

Veterinary uses

Cloves are used as part of larger herbal formulas to treat bites that are retaining pups.

The clove oil has been used to treat foreign matter in dog and cat ears and as a painkiller to treat tooth pain. Peppermint tea with a sprinkle of cloves and ginger has been used to treat vomiting in dogs.

Culinary uses

Dried cloves are the key ingredient in Indian masala tea. Clove is often used to flavour meat products, pasties, cookies, candies, chewing gum, spiced fruits, hot spiced drinks, chocolate drinks, wines, and liqueurs, pudding, sandwich, cakes, and pickles.

Miscellaneous uses

Clove is used to flavour pharmaceuticals clove oil is used to flavour tooth paste the leaf oil is used to import fragrance to perfumes and soaps

Conclusion

Clove may be looked as upon as the champion of all the antioxidant known till date .A drop of clove oil is 400 times more powerful as an anti-oxidant than wolf berries or blueberries clove is medicinally powerful herb with a solid traditional heritage and history .clove has physical,mental and emotional health benefits clove posses antioxidant ,anti-fungal ,anti-viral,anti-microbial,anti-diabetic,anti-inflammatory,antithrombotic,anesthetic,Eugenol is the main constituent responsible for the medicinal properties for clove bud .clove is most imported spice of the world,as judged from the world trade

Home remedies using clove

Pressing a clove bud between the jaws ,at the site of aching tooth eases the pain

Apply clove oil in the cavity of decayed tooth .this would reduce the pain and help to ameliorate infection to remove bad breath chew clove buds

Prepare a decoction by boiling 5-6 cloves in 30 ml of water .take decoction of clove with honey . three a day as expectorant ,chewing a clove with salt also relieves coughing

Suck a clove bud to obtain relief from hyperacidity

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