

Garlic- The Health Savior

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Garlic (*Allium sativum* L.) commonly called as Lahsun is one of the most important vegetables cultivated worldwide. It is a monocotyledonous aromatic vegetable belonging to *Amaryllidaceae* family. Garlic is characterized by a strong aroma that distinguishes it from other vegetable crops. It is required in every other household today for daily use.

Garlic- The Medicinal Herb

Garlic is a widely consumed spice, known as “Rasona” in Ayurveda. In recent times, it has proven to be a health savior.

Here are some of the points which have made garlic a potential savior & remedy.

- Presence of sulphur compound called Allicin that attributes to antibacterial, antifungal, antiviral and antiseptic properties of garlic.
- When it comes to skin, there is no better remedy than Garlic. It can be used to cure skin infections particularly fungal infections.
- It can help you to get rid of acne, unclog pores and clear your skin.
- Garlic supplements can lend a helping hand in fighting one of the world's biggest killer cardiovascular diseases like heart attacks and strokes.
- Owing to its antioxidant property, garlic supplements have proven to be effective in lowering bad cholesterol, blood pressure.

- Garlic derived organosulphides have been found to inhibit tumor growth. They have been effective in treating gastric cancer.

Medicinal History of Garlic

- Since ancient times, garlic has been referred by different names like ‘russian pencillin’, ‘natural antibiotic’, ‘snake grass’.
- In Vedas, garlic has been mentioned among other medicinal plants as an irreplaceable nutritional supplement.
- In ancient Egypt, labourers were fed with garlic to make them strong and capable of doing work.
- Louis Pasteur, famous microbiologist referred garlic as a strong antibiotic having antibacterial properties to kill bacteria.
- Well known remedy for typhoid, dysentery, cholera, influenza.
- It has been used as a home- made recipe to cure common weakness, cold, cough

Medicinal Properties of Garlic

- Anticoagulation: Inhibits platelet aggregation and enhances fibrinolytic activity
- Antioxidant: Garlic contains compounds that can remove reactive oxygen species (ROS) and reduce lipid peroxides and low-density lipoprotein (LDL) oxidation.
- Antimicrobial: Garlic is effective against a number of gram-negative, gram-positive, and acid-fast bacteria, including *Staphylococcus*, *Salmonella*, *Vibrio*, *Mycobacteria*, and *Proteus* species
- Cell mediated immunity: Garlic seems to increase the immune system functions. It stimulates macrophages, lymphocytes, NK cells, DC and eosinophils.
- Antihypersensitive: Garlic consumption results in significant reductions in systolic blood pressure (7.7 mm Hg greater reduction),

and reductions in diastolic blood pressure (5 mm Hg greater reduction).

- Antitumor: Patients should be advised that there may be a reduction in the risk of cancer, particularly stomach and colon cancer, with high consumption of garlic and other allium vegetables (e.g., onions, leeks, shallots, chives)

Bioactive Compounds

Garlic is a storehouse of diverse organo - sulphur compounds which gives it a unique aroma along with several other health benefits.

- Allicin
- Alliin
- Allyl disulfides
- Allyl sulfides
- Allyl trisulfides
- Cysteine
- Diallyl sulfides
- Dimethyl sulfides
- Glutathione

2.1 Allicin

Allicin is the primary organo-sulphur compound present in garlic. When fresh garlic is chopped,

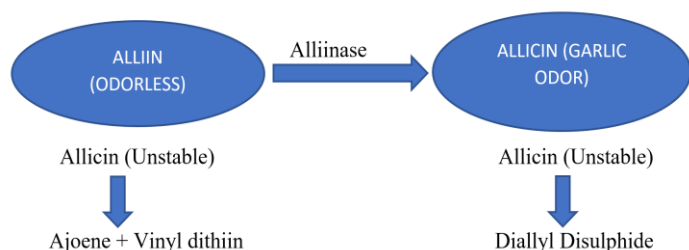


Fig. 1: Production of Allicin by the action of Alliinase on Alliin

Upon cleavage by enzyme alliinase, the odorless compound (alliin) gets converted into allicin which gives odor to garlic.

On being highly unstable, allicin gets converted into other bio sulphur compounds (diallyl disulphide).

Chemical Constituents

Garlic is a highly nutritious crop which can help us to combat various diseases and improve our longevity.

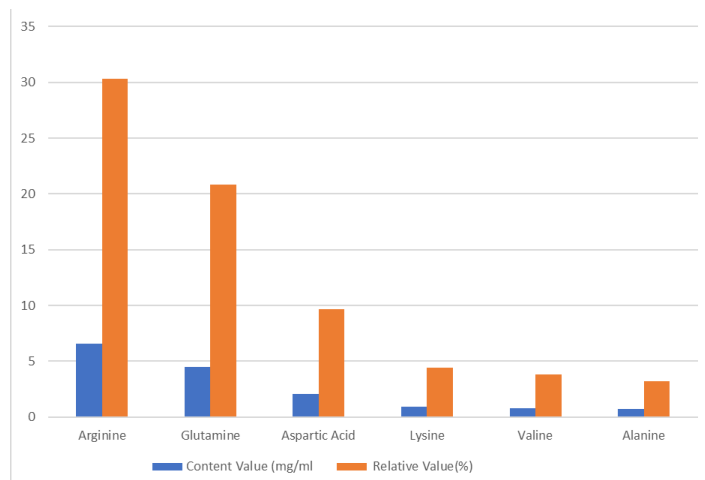


Fig. 2: Graphical representation of chemical constituents of Garlic

It is a very good source of minerals like manganese, selenium, phosphorus, calcium, potassium, iron and copper.

- Also, garlic is an excellent source of vitamin B₆ (Pyridoxine) and vitamin C (Ascorbic acid)
- Enzymes present in garlic are (alliinase, peroxidases, myrosinase)

Processed Garlic

In recent times, demand of processed garlic products has increased on a large scale. Many countries including India have started processing fresh garlic bulbs in dehydrated forms.

- Inadequate storage ability
- Inadequate off-season availability
- Fluctuations in daily environmental conditions
- Difficult to maintain quality
- Difficult to maintain quantity
- To meet demand of consumers

Due to nutritional quality, aroma and flavor, Indian garlic has always been in great demand. India has become a huge exporter of processed garlic products and has started exporting garlic by a large scale to countries like Germany, UK, USA, Russia, Belgium, Brazil, Poland, Spain, South Africa, Netherlands.

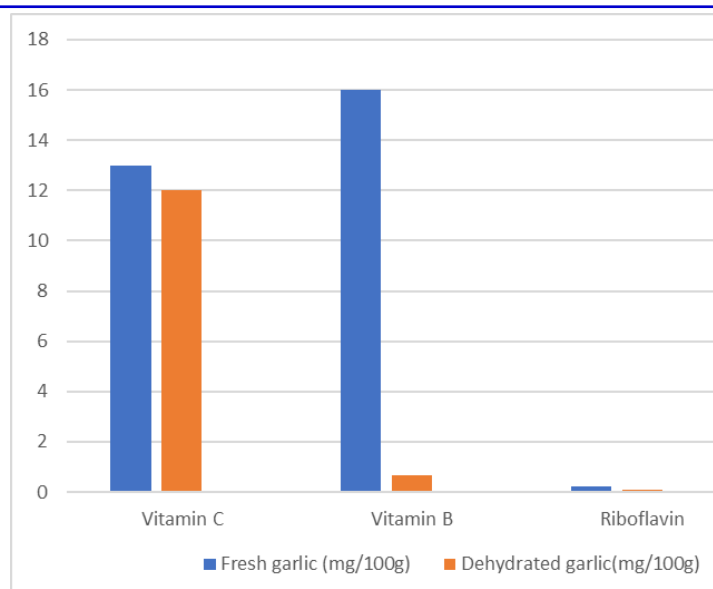


Fig. 3: Comparison between Fresh Garlic and Dehydrated Garlic

Processed Garlic Products

- Garlic Oil
- Dehydrated garlic granules
- Garlic capsules
- Odorless garlic
- Aged odorless garlic extract
- Garlic tablets

- Garlic salt
- Super odorless garlic

Conclusion: Garlic is a herbal spice used worldwide and has the potential of curing many diseases by inhibiting the growth of various strains of bacteria and fungi. The scientific literature related to garlic provides the evidence of its antibiotic and antidiabetic effects. This article may help exploring the therapeutic effects of garlic and also the use of different garlic extracts on standard drug therapy.

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