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# Garlic (*Allium Satvum* Litaceae) cultural practice in Sindh Pakistan

By Mrs. Farzana Panhwar, May 2005

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## Garlic (*Allium Satvum* Litaceae) cultural practice in Sindh Pakistan

It has valued for seasoning and flavouring. It has compound bulbs containing 10 - 16 cloves enclosed by thin membrane sheath. The bulblets are planted directly in the field at 15 x 8 cm spacing. Harvesting is done when the plants die down. The yield varies 7,500 kg/hectare. It contain diploid chromosomes  $2n=16$ .

### Common names

Garlic (Eng), Auk (FR), Ajo (SP), Knoblauch (Ger), Knoflook (Neth), Bawang (Phillip), Suen T'an Taai Suen (China).

It is grown in India, the Philippines, China, West Africa, East Africa (Ethiopia, Kenya), Central and South America, Brazil, Mexico, Spain, Egypt, France and Greece.

Garlic is an erect herb, biennial, normally grown as an annual up to 60 cm in height, with adventitious roots. Leaves blade, linear, flattened, solid up to 2.5 cm across.

Flowers in umbrellas, borne on smooth, round, solid scape, variable in number on slender pedicels, scape, variable in number on slender pedicels, perianth 4 mm in length. It rarely produce seeds.

Garlic is a perennial, it is a member of the onion family, is grown for its strongly flavored bulbous rootlet. It has long flat leaves with purple flower. When store it .It get 70 cm height.

It grown on fertile, well drained sand or silt loam soil. During bulb formation it needs extra nitrogen. The bulb required 30 °C for optimum bulb development. It can grow from 500 – 2000 m elevation. Its spacing is in rows 30 – 40 cm apart, with 10-15 cm between plants in the row. About 500 – 700 Kg of cloves are required to plant one hectare. The bulb is mature in 90 - 120 days from planting. When the leaves turn brown and dry out. Leaves are used for flavoring can be cut before they become mature. Its yield is 5 - 10 tons/hectare before they become mature. Its yield is 5 - 10 tons/hectare depend upon the cultivars. Plant do not normally produce fertile flower. Sprouting cloves should be discarded. Curing for 8 -10 days is necessary before marketing or storage. Bulbs can be stored 0 °C for up-to 150 days or at 25 - 30 °C for up to 90 days, with relative humidity 70% .It is used as condiment for flavoring. The flavor of garlic is due to the production of Allicin and diallyl disulphide.

### Diseases

- *Ditylenchus dipsaci* (Kuhn)
- *Thrips tabaci* Lind.
- *Alternaria porri* (E11)
- *Peronospora destructor*
- *Puccinia allii*
- *Puccinia porri*
- *Sclerotium Cepivorum* Berk.
- Nematode-*Ditylenchus dipsaci*
- Disease of *A.Cepa*
- Rust-*Puccinia porri*

- Mite-Aceria tulipae
- Purple Blotch
- It is store at 40C°with low humidity.Bulbing take place during longer day at high temperature.

### Chemical composition

Garlic contain water 6.3%, protein 7%, fat 0.2%, carbohydrate 28%, fibre 0.8%, ash 1.0%.The bulb contains colourless, odourless, water soluble amino acid, alliin, on crushing the enzyme, alliinase, breaks down alliin to produce alliin, of which the principal ingredient is the odori ferous diallyl disulphide.

Garlic is always propagated vegetatively by single cloves, it need spacing 30 x 15cm about 900 - 1120 kg of sets are required to plant one hectare.It require Nitrogen fertiliser in form of 80 Kg Ammonium Sulphate or 40 Kg urea/acre, this doze is repeated in December and January, when tops begin to dry and bend over. The bulb are dried in the field for a week. Its yield range from 4500 - 11000 Kg/hectare.

Its improve varieties produce by selection of clones for different environment

Garlic is propagated by planting the small cloves or bulbs which make up the large bulbs. Each large bulb contains about 10 small ones. Carefully separated the small bulbs and plant them singly. When bulbs are mature, pull them and let them dry out. Then braid them in to strings or tie them in to bunches then hang them in cool, well ventilated place

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