



GARLIC FARMING

Introduction to Garlic Farming and Selection of Breed

Technical Knowledge and Farming Process

Garlic is a variety of spice and a cash crop and is cultivated from the Terai to the Himalayan region. Its leaf, stem and bulbs are used for preparing various dishes. It not only enhances the taste of the food but also contributes to good health.



Figure 1. Garlic Bulbs

- Garlic bulbs/cloves are used as medicine for indigestion, constipation, gastric illnesses, high blood pressure and other diseases.
- Soft and sandy earth with sufficient water and sunny land is most appropriate for garlic cultivation.
- Garlic is mainly available in two varieties: Chinese and local. The bulbs of Chinese variety of garlic are bigger and production is also more but is less valuable for medicinal purposes.
- The cloves of local variety of garlic are smaller but tastier and contain more nutrients. It is also used for medicinal purposes.

Farming Time and Seeding Rate

Technical Knowledge and Farming Process

- Chinese variety of garlic is cultivated in hilly areas during September/October and February/March in the high hills and Himalayan regions.

Practical Action, The Schumacher Centre, Bourton on Dunsmore, Rugby, Warwickshire, CV23 9QZ, UK
T +44 (0)1926 634400 | F +44 (0)1926 634401 | E infoserv@practicalaction.org.uk | W www.practicalaction.org

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Figure 2. Garlic Seed

- Local variety of garlic is cultivated during the month of October/November in the terai region, while in the mid hills it is cultivated during September to November, in the high hills during September to November, and the Himalayan regions it is grown during October/November and February/March.
- The seed quantity of garlic is determined by the distance of their sowing. However, usually, 12–15 kg of local garlic can be grown per 0.05 hectare land (500m²). Similarly, 25–30 kg of Chinese garlic can be grown per 0.05 hectare land (500m²).
- While cultivating garlic, about 15,000 cloves are needed for 0.05 hectare land (500m²).

Weed Control and Fertilizer Management for Garlic Farming

Technical Knowledge and Process

- While preparing land for cultivating garlic, the soil should first be treated through suitable technology. For this, 10 kg of oil seed cake of mustard or ingua fruit, 200 g of Bavistin powder and Darswan Malathion powder 1 kg mixed with 20 kg of cattle manure should be mixed with the soil of ploughed land for each 0.05 hectare land (500m²).
- In the final stage of preparing the land, 1,500 kg of cattle manure, 12 kg of D.A.P., 10 kg of potash and 1 kg of zinc should be mixed with the soil. Furthermore, after the growth of the plants, urea fertilizer should also be used as topdressing.
- After preparation of land, garlic bulbs should be treated by soaking them in the mixture of 2 g of Saaf or Bavistin powder mixed in 1 litre of water for 30 minutes. These bulbs should then be sown only after drying them in shade or in a cold place.
- The land for garlic cultivation should be ploughed 25–30 cm deep three to four times.
- While sowing garlic cloves, the distance between the rows should be 20 cm and the difference between the buds should be 15 cm. But if bigger garlic bulbs are to be grown, then the bulbs should be sown at a distance of 20 cm between the rows and the bulbs.
- Topdressing of the farm should be done at the rate of 5 kg of urea per r 0.05 hectare land between 40 and 50 days of sowing the garlic bulb.

- Similarly, topdressing of the cultivated land should be done at the rate of 5 kg of urea per 0.05 hectare land between 70 and 80 days of sowing the bulb. Again, top and side-dressing should be done at the rate of 5 kg of urea when bulbs have been formed.
- 1 g of magnesium sulphate mixed with 1 litre of water should be sprayed in 0.05 hectare land on the 30th, 60th and 90th days.
- If 1 part of cattle urine mixed with 10 parts of water is sprayed 6–7 times every 15 days, the required quantity of sulphur needed by the garlic can easily be obtained.

Geographical Region	Sowing Time	Harvest Time
High hills 5,000–7,000 ft	Mid February –Mid April	Mid August – Mid October
Mid hills 3,000–5,000 ft	Mid August–Mid November	Mid April – Mid June
Low Hills 3,000–5,000 ft	Mid October – Mid December	Mid April–Mid November
Terai 1,000 ft and above	Mid October – Mid December	Mid April–Mid November

Weed Control and Irrigation Management for Garlic Cultivation

Technical Knowledge and Farming Method

- Weeds are a major problem in garlic cultivation. As saplings need to be transplanted when they are thick, frequent weeding and clearing of weeds often harm garlic plants. So, weeding around garlic plants should be done with great care.
- Throughout the period of garlic farming, weeding should be done 3–4 times. However, depending on the weeds, the frequency of weeding can vary.
- During the cultivation period, the soil should be kept loose. If the soil is not kept loose, the upper level of the soil might get hardened and instead of one bulb in one plant, there may be numerous bulbs due to bursting of single bulbs. This harms the quality and yield of garlic produce.
- Garlic farm should be irrigated soon after the transplanting of saplings and then afterwards according to the season, soil type and age of the crop.



Figure 3 Garlic Farm

Diseases and Pests on Garlic Cultivation and Their Management

Technical Knowledge and Working Method

- Sowing of marigold flowers and using them as green manure before sowing garlic minimizes and saves the garlic crop from being infected by diseases and pests. Similarly, proper treatment of soil, use of quality seeds and required fertilizers, regular weeding and irrigation management also protect the garlic crop from diseases and pests.
- Planting of black mustard and other varieties of mustards can protect the garlic crop from diseases and pests.
- Termites, Aphids and Thrips are the major pests that infect garlic crops. These pests eat green leaves of garlic, harming the plants. To save the plant from these pests, a mixture of cattle urine should be decomposed for 7 days and mixed with equal amount of water and sprayed 4–5 times every 4–5 days.
- In case of large number of pests, spraying of 1 g of carathene or sulphur powder mixed in 1 litre of water and sprayed twice at a gap of 4 or 5 days also controls harmful pests.
- Mixture of 2 ml of Roger and 1 litre of water should be sprayed to control pests like Aphids and Thrips.
- Garlic crop is largely affected by fungus-related diseases. If garlic leaves are infected by the black/gray blight disease, turn purplish in colour and signs of rust are seen, 2 g of Saaf mixed in 1 litre of water should be sprayed every 7 days.
- Viral diseases caused by variations in temperature can be controlled by spraying 10 ml of cattle milk mixed in 1 litre of water every 15 days once the plants starts growing 2 or 3 leaves.



Figure 4. Rust in Garlic

Garlic Harvesting and Market Management

Technical Knowledge and Farming Process

- If the garlic crop is good, 0.05 hectare of land (500m²) can yield 500 to 600 kg of the crop.

- Usually, garlic can be harvested and stored after 6 or 7 months of cultivating. Once the garlic crop is mature, the stems and the leaves turn yellowish brown, which indicates that it is time to root out the garlic buds.
- While rooting out the garlic, the plant should be plucked out manually, cleaned properly, leaves tied and bunched together and left for drying for 1 week in shade. The drying process is called curing.
- One week after curing, the leaves and stems should be cut and the garlic should be stored in a scattered manner in a bit airy, cool room without any sunlight.



Figure 5. Garlic plants plucked and kept under shade for curing

- The garlic should then be properly cleaned and separated according to size and colour. The garlic should then be packed in nylon or jute bags so that they look attractive to the customers before being transported to the market.
- Usually, garlic is sold throughout the year but if they are produced and supplied to the market from mid-August to mid-October, it can fetch good price.
- It is always better to do an analysis of market feasibility and opportunities before taking the produce to the market.



Figure 6. Garlic plant kept under shade after curing and cutting the stems

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Practical Action Nepal

P O Box 15135

Narayan Gopal Sadak

Paninpokhari, Maharajgunj

Kathmandu

Nepal

Tel: +00 977 1 4423 639

Fax: +00 977 1 442 3632

E-mail: infoserv@practicalaction.org.uk

Website: <http://www.practicalaction.org/>

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