Weeding: The plot is kept clean by hand weeding during first 4 - 6 weeks. Depending upon intensity of weeds, 3-4 weeding are given to have better yield.

Earthling -up: The soil around the plants is worked with the help of khurpi to break the fibrous roots and thereby supports new growth. The soil near the rhizomes becomes loose and friable and helps in proper development of rhizomes. Atleast two earthing up is required for better growth and development of rhizomes.

Plant protection
Cutworms, scale insects, and aphids are common ginger pests, but they do not cause significant yield losses. Leaf spot, rhizome rot, and bacterial wilt are some of the major diseases. Ginger is tolerant to leaf-spot.

Rhizome rot/soft rot: The leaves of the affected plants become yellow. Water soaked appearance found at the base of pseudostem and rotting takes place at the basal portion. The affected rhizomes become soft pulpy and plant easily collapse on pressing. Rhizome rot can be prevented by strict sanitation and use of Trichoderma as part of organic fertilization. Drenching soil with Dithane Z-78 @ 2g/l of water at 30 days interval is effective for control of disease.

Shoot borer: The larvae bore into shoots and feed on the internal tissues resulting in yellowing and drying of infested shoots. The presence of bore holes on the shoots through which frass is extruded and the withered central shoot is a characteristics symptom of the pest infestation. Pruning of freshly infested shoots at fortnightly intervals during July – August and spraying Malathion (0.1%) at monthly intervals is effective in controlling the pest infestation.

Harvesting and yield
Harvest ginger when the leaves turn yellow and wither. This is about 8-10 months after planting, depending on the variety used. Care should be practiced during harvesting to minimize injury that results to faster weight loss and susceptibility to decay.

A properly managed crop gives an average yield of 20 t/ha.

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**Introduction**

Ginger (Zingiber officinale) is an important spice crop of India and accounts for 45% of the world’s ginger production. Area under cultivation in India is about 63,000 ha with total production of about 2 lakh tones. The average productivity is about 3 tones/ha.

Ginger is commercially grown in almost all the states of the northeastern region. Meghalaya is the second largest producer of ginger in the country after Kerala. Ginger is the main cash crop for farmers of the region. The crop is so important that many farmers are solely dependant on ginger. It is used as a spice on a large scale and in the preparation of pickles, beverages, medicines, and confectionaries, but in the northeastern region it is used mainly for fresh consumption.

**Cultivars:** The important cultivars in the northeastern region are Nadia, China, Maran, Varada.

**Climate and soil:** Ginger is a tropical crop and thrives well in warm and humid climate. It is cultivated up to an elevation of 1500 m above sea level. Cool and dry climate is best for rhizome development. It is a shade loving plant and requires ample moisture for normal growth.

Deep, well-drained, friable, loamy soil, rich in humus is ideal for ginger cultivation. It is not desirable to grow ginger in the same field year after year.

**Land preparation:** Plow the field twice then harrow to pulverize the soil. Incorporate fully decomposed FYM at 3-5 t/ha.

For raising rainfed crop, land is divided into raised beds of 1 m width and of convenient length varying from 3 - 6 m and 15 cm height with spacing of 30 cm between beds for drainage channel. On hill slopes, the beds are formed along the contours.

**Seed rate:** 1200 – 1500 kg rhizomes free from pests and diseases are selected for planting 1 ha area.

**Time of planting:** Ginger can be planted from start of April to May in the region. But the best time is the middle of April when there is sufficient moisture in the soil.

**Method of planting:** Ginger is propagated from small rhizomes known as bits. Bits of 4-5 cm long weighing 25 – 30 gm are separated from the mother rhizomes for planting. Spacing of 30 cm X 25 cm is considered ideal for ginger. Rhizomes are planted at a depth of 4-5 cm in furrows and covered with soil.

**Seed treatment:** Seed treatment induces early germination and prevents seed borne pathogens and pests. Before sowing, seed rhizome should be dipped in cow urine for half an hour. Seed rhizomes are also treated with Dithane M-45@ g/litre of water

**Manures and fertilizers:** Ginger is an exhaustive crop and requires heavy manuring for obtaining better yield and quality. At the time of field preparation, 3-5 tonnes of FYM per ha is incorporated in the soil. NPK @ 100:90:90 kg/ha should be applied in the form of chemical fertilizers. 1/3 nitrogen and full doses of phosphorus and potassium is applied at the time of planting. 1/3 quantity of nitrogen is applied 45 days after planting and remaining of 1/3 nitrogen is applied 90-95 days after planting.

**Intercultural operations**

**Mulching:** Locally available material like green leaves, tree leaves, dry grasses and paddy straw may be used to prevent weed growth, for protection from sun, preventing evaporation losses, to maintain soil temperature for protection from heavy rains and for consequent enhancement of organic matter.