

## IMPROVED PRODUCTION TECHNOLOGY OF GINGER

Common name : Ginger  
Scientific name : *Gingiber officinale*  
Family : Zingiberaceae

Ginger is used principally as an ingredient in various spice blends and in food processing and beverages industries. Ginger of commerce is the dried underground stem or rhizome. It is marketed in various forms such as raw ginger, dry ginger, bleached dry ginger, ginger powder, ginger oil, ginger oleoresin, ginger candy, ginger beer, brined ginger, ginger wine, ginger squash etc. Major bottlenecks in Ginger production are its fibre content, its high cost of production, non-availability of high yielding, disease resistant, low fibre content but rich in contents of volatile oil and oleoresin varieties. Ginger is widely cultivated in all the subdivision of Ukhrul district.

### CULTIVATION OF GINGER

#### CLIMATE AND SOIL

- Requires warm and humid climate.
- A deep well drained friable loam, rich in humus is ideal.
- Prefers light shade for good growth but shade is not absolutely necessary
- Being an exhaustive crop it may not be desirable to grow ginger in the same site year after year.

**TIME OF SOWING** : March to April.

**LAND PREPARATION** : Avoid water logging.

**SEED RATE** : 15-18 q/ha or 3.8 to 4.2 q/sangam.

**SEED TREATMENT** : Treat with Captan/Thiram @ 3g/kg of seeds for 30 minutes.

### VARIETIES

- Thingpui
- Thinglaidum
- Jorhat
- Nadia
- Maran
- Rio-de-janeiro.

### MANURING

- 25 -30 tons/ha FYM/compost.
- Urea (88kg/ha, 22kg/sangam).
- DAP (217 kg/ha, 54 kg/sangam).
- MOP (133 kg/ha, 33kg/sangam).
- Urea in three splits – first as basal and second and third top dress at 60 days after sowing and 90 days after sowing.

### SPACING

- Row to row : 10-12 inches
- Plant to plant : 20cmx30cm

### MULCHING

- Two mulchings –first mulching during sowing (for better germination) and second at 45 days after sowing.
- Mulching results in 200% increase in yield over un-mulching area.
- Mulching helps to prevent washing of top soil due to heavy rain and also adds organic matter to the soil and conserve moisture during the later part of the cropping season

### CROP ROTATION AND MIXED CROPPING

Ginger is commonly rotated with other crops like tapioca, chillies, groundnut, maize, vegetables etc. Ginger is grown as intercrop with orange plantation.

### PLANT PROTECTION

#### 1. Soft rot or rhizome rot:

Leaf tips turn yellow and spread downwards. In severe condition the basal portion becomes watery soft and rhizome becomes discoloured and decomposed

#### Control:

- Avoid water logging. Drench soil with mancozeb @ 2-6 g/ltr. Treat the seed with Redomil at planting followed by drenching with Redomil and Mencozeb alternately at 15 days interval.
- A foliar spray with 1% Bordeaux mixture should be given in Sept.- Oct. just before the onset of monsoon

#### 2. Shoot borer:

The caterpillar bores into the shoots and causes death heart.

**Control:** Spray the crop with Endosulfan or Carbaryl @ 2 ml/litre of water

#### 3. Leaf Roller

**Control :** Spraying with Carbaryl 0.1% @ 2g/litre of water maybe undertaken in case the infestation is severe

#### 4. Rhizome scale

**Control :** Discard severely infested rhizomes and dip the seed rhizomes in quinalphos 0.07% @ 3ml/litre of water for 30 minutes prior to sowing. Already treated seed during storage should be used to avoid Rhizome scale.

#### Note:

- *Cut rhizome having at least one bud and weighing 20-25 g for sowing.*
- *Mulching necessary*
- *Harvest after 6-8 months for green and 9-10 months for cured (dry).*

## HARVESTING AND YIELD

The crop is ready for harvest in about 7-9 months time when the leaves turn yellow and start drying up gradually. Light irrigation may be given 5-6 days before harvesting to facilitate lifting of rhizomes and also to avoid breakage during digging. The average yield of fresh ginger varies with varieties ranging from 150-250 kg/ha or 37 -62 kg/sangam.

## CURING

- Scrape with a sharpened bamboo splinter.
- Wash in water.
- Dry in the sun for 7-10 days.
- Uniformly turn during drying.
- Excessive or careless scraping results in the loss of essential oils in the epidermal cells and depreciated quality of the spice.
- Iron knives should not be used for scraping.

## BLEACHING

Raw rhizomes soaked in water for a day and later in thick milk of lime (1kg slaked lime/120 kg of water). This material is dried in the sun and then rubbed with gunny bags to remove the last remnant of the skin. The treatment imparts a smooth finish to the final product.

## PRESERVATION OF SEED RHIZOME

Seed ginger has to be stored for about 3-4 months from the time of harvesting to planting. Keeping the seed rhizomes in pits is found to be the best method of storage. For seed purposes well developed healthy rhizomes are selected at the time of harvesting and stored in pits under the shade or in cool places. The pits should be dug 1 meter deep and a layer of sand or saw dust is put at the bottom of the pit before storage. The pit is covered with a wooden plank leaving some space between the seeds and planks and is plastered with mud. A small hole is made in the plank through which a hollow bamboo is inserted to provide aeration for the rhizomes. Pre – storage treatments with 0.1% Quinalphos @ 3ml/litre of water and 0.3% mancozeb

@3g/litre of water for 30 minutes as prophylactic measures is recommended against soft rot.

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