

up should be done immediately after weeding and fertilizer application. Two to three manual weeding is also required for controlling the weeds.

#### Plant protection:

**Leaf spot** (*Phyllosticta zingiberi*): This disease causes extensive discolouration of leaves and finally drying of leaves takes place. Application of Dithane M-45 @ 2g/litre of water is found effective to control the disease.

**Rhizome rot/Soft rot** (*Pythium spp.*, *Rhizoctonia spp* and *Sclerotium rolfsii*): 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 plants easily collapse on pressing.

**Control:** Drenching of soil with solution of Dithane Z-78 @ 2g/litre of water at 30 days interval is effective for control of disease

**Stem borer** (*Prodiocetes haematicus.*): The grubs bore into the pseudostem and cause dead heart. Spraying of Monocrotophos or Fenitrothion @ 1-1.5 ml/litre of water is found effective for control of insect.

#### Harvesting:

Ginger becomes ready for harvesting after 8-9 months of sowing (in the month of December) when the leaves started yellowing and drying.

#### Yield:

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

#### Storage:

Storage is done in rooms or corners of varandah. The seed rhizomes should be dipped in solution of Dithane M-45 @ 2g/litre of water for 30 minutes before storage. The ginger rhizomes are taken out from the pits at least 20-25 days before sowing.

#### Prepared by:

Dr. D. S. Yadav, PS& Head, Co-PI  
Dr. R. K. Yadav, Scientist Hort. (Veg.Sci.)  
Dr. S. K. Sanwal Scientist Hort. (Veg.Sci.)  
Dr. N. Rai, Sr. Scientist (Hort.)  
Mr. Pranabjyoti Sarma, Research Associate

#### Published by:

**The Director**  
ICAR Research Complex for NEH Region  
Umroi Road, Umiam-793103, Meghalaya  
Phone No. 0364-2570257 (O)  
Fax No. 0364-2570363

Designed and printed by *print21*, 3, Ambikagirinagar Path,  
R.G.Baruah Road, Guwahati 781024

# GINGER

## Package of Practices for Cultivation in Meghalaya



Technology Mission (MM-1)



**DIVISION OF HORTICULTURE**  
**ICAR Research Complex for NEH Region**  
**Umroi Road, Umiam - 793103**  
**MEGHALAYA**



**G**inger is commercially grown in almost all the states of northeastern region, but Meghalaya, Arunachal Pradesh and Mizoram are the leading ginger producing states in the region. Meghalaya is second largest producer of ginger in the country after Kerala. Ginger is the main cash crop for farmers/tribals of the region. The crop is so important that many farmers are solely dependent on ginger and from earning they are purchasing other food materials required for their family. It is used in culinary, flavourant in beverages, confectionery, pickles and pharmaceutical preparations. But in this region it is mainly used for fresh consumption. It is also sold out side the region in fresh form.

#### Soil and climate:

It is mostly grown as rainfed crop. It does not grow well in those areas where the temperature exceeds 32°C with low relative humidity. It requires light soil rich in organic matter.

#### Sowing time:

It is sown from April to May in this region. But the best time is middle of April when there is sufficient moisture in the soil.

#### Seed rate:

18-20 q rhizomes of 25-30 g are required for one-hectare land. The rhizome should be true to type and free from disease.

#### Method of planting:

Ginger is propagated from small rhizomes known as bits. Four to five cm long sprouted

bits, weighing 25-30 g are separated from the mother rhizomes for sowing. Spacing of 30 cm between rows and 25 cm between plants is considered ideal for ginger. Rhizomes are placed 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. Smoking seed rhizomes once or twice before storage is also beneficial. Seed rhizomes are also treated in hot water at 48 °C for 20 minute before planting. The seed can also be treated with Dithane M-45@ 2g/litre of water.

#### Varieties for the region:

There are many local varieties available in the region but the most suitable high yielding varieties are given below:

**Nadia:** It is high yielding variety, produces green ginger about 21-23 t/ha with dry matter recovery of 22.40 per cent. It has 4.2 per cent crude fibre content. This variety is well adapted



to this region. It is suitable for both fresh and dry ginger.

**China:** It is an exotic high yielding variety and well adapted to this region. It has 6.0 per cent crude fibre and 15 per cent dry ginger recovery. It yields around 20 t/ha.

**Maran:** It is a popular variety of Assam and least affected by *Phythium aphanidermatum*. The percentage of dry ginger recovery is 22.10 and crude fibre is about 6.1%. Suitable for oil and oleoresin extraction.

**Vareda:** This variety has been developed recently by IISR, Calicut. The variety has very low fibre content (around 3.8%) and high yield potential. The rhizomes are large size, bold and attractive. It gives 18-20 t/ha fresh ginger yield.

#### Manure and fertilizer:

Farmyard manure 20 tonnes/ha should be applied at the time of field preparation followed by N: P: K @ 100: 90: 90 kg/ha.  $\frac{1}{3}$  nitrogen and full doses of phosphorus and potassium is applied at the time of planting.  $\frac{1}{3}$  quantity of nitrogen is applied 45 days after planting and remaining  $\frac{1}{3}$  of nitrogen is applied at 90-95 days after planting.

#### Mulching:

Locally available mulch materials like green leaves, tree leaves (pine, banana etc.), dry grasses and paddy straw may be used for control of weeds.

#### Earthing-up and weeding:

At least two earthing up is required for better growth and development of rhizomes. Earthing