Zingiber officinale Roscoe

Common name: Ginger

Sanskrit name: Ardrakam

Malayalam names: Inchi, Chukku, Erukizhangu

Tamil names: Allam, Inji, Verkombu

Hindi name: Ardraka

Description:

Rhizomatous herbs; rhizome thick, dull yellow. Leafy stem to 60 cm high. Leaves to 25 x 2 cm, elliptic-oblong, acuminate. Inflorescence arises direct from the rhizome; peduncles to 30 cm long, erect; spike 3-5 x 3 cm, obovoid. Bracts 2.5 x 2 cm, obovate, green. Calyx 2 cm long, shortly 3-lobed. Corolla bilabiate, tubular below, yellow with purplish spots. Labellum 3 x 2.5 cm, white, obovate. Staminal filament short, anther cells contiguous, connective produced into a beak. Style filiform; stigma subglobose.

Distribution: Widely cultivated

Comercial and Medicinal Uses:

Fresh ginger, dry ginger powder, oleoresin and oil are used in food processing. It is indispensable in the manufacture of ginger bread, confectionary, ginger ale, curry powders, certain curried meats, table sauces, in pickling and in the manufacture of certain cordials, ginger cocktail, carbonate drinks, liquors etc. In medicine, it is used as carminative and stimulant. It has wider applications in indigenous medicines. The ginger oil is used as food flavoring in soft drinks.

Zingiber officinale is a popular stomach-settler and has been popular for thousands of years as a treatment for digestive problems ranging from mild indigestion and flatulence to nausea, vomiting and travel sickness. It has also been used to relieve symptoms of colds and arthritis due to its anti-inflammatory properties. Ginger in Traditional Use Ginger is an essential ingredient in many traditional Chinese medicines and has been used since the 4 century BC. The Chinese take ginger for a wide variety of medical problems such as stomachache, diarrhoea, nausea, cholera, asthma, heart conditions, respiratory disorders, toothache and rheumatic complaints. In Ayurveda, ginger has been recommended for use as carminative, diaphoretic, antispasmodic, expectorant, peripheral circulatory stimulant, astringent, appetite stimulant, anti-inflammatory agent, diuretic and digestive aid.

Cultivation

It is cultivated by all tropical and subtropical countries in the world, much of it is produced in India. By almost 30 percent to 40 percent of world production is produced in India. In India, states like Kerala, Arunachal Pradesh, Orissa, Meghalaya, West Bengal are widely cultivated and, Tamil Nadu, Andhra Pradesh and Karnataka are cultivated in the lower area.

Climate

It grows well in medium temperature regions and moisture in the air. Ginger is cultivated from sea level to1,500 meters above sea level. But it grows well between 300 meters to 900 meters above the sea level. Preferred annual rainfall is 1500 to 3000 mm.

Soil

Clay sediment organic content of the soil is packed with all kinds of land area, ginger can able to grow. But choose the land by at least 30 cm deep in the soil is necessary. Alluvial gravel mixed red soil is also suitable for ginger cultivation. Soil pH should be 6 to 6.5. Drained lands should be avoided. Ginger well absorb the nutrients in the soil. So avoid ginger cultivation again and again in the same field.

Land preparation

After the summer rains, plough the land to a fine tilth. In deep well ploughed field, raise 1 m width, 15cm height and enough length beds at 50 cm intervals. If irrigation facilities available raised a bar with 40 cm intervals.

In Nematode and root rot disease affected areas, 40 days before planting, should steam the soil and cover beds with polythene.

Seed treatment

Seed rhizome should be soaking by 5g Pseudomonas 10 days before sowing and dried to increase visibility of dormancy and germination and to protect from disease.

Sowing

Before sowing the rhizome, 25 -30/ha FYM and 4 kg/ha Pseudomonas spread mixture on top of the beds. Add 2t/ha neem cake powder, to protect from root rot disease. Then sown the rhizome at a spacing of 20-25 cm at a maximum depth of 5 cm. After planting, sand mulch should be done.

New shots will emerge after 20-35 days after sowing depending on soil moisture.

Mulching

Mulching will be set during the first planting. 10-12 tons/ha green leaf or 5-6 ton/ha dried leafs are used for mulching. Similarly, 45 and 90 days after planting, mulching is to be set. Easily available with coconut leaves, leafy branches, banana leaves, rice paddies, coconut pith, sugarcane trash of the inputs can be used as mulch.

Manuring

Recommended dose of NPK is 75:50:50 kg/ha. On this 50% of the phosphorous should be applied as basal. Nitrogen and potassium should be applied 50% (37.5 and 25kg) after 40 days of planting and remaining dose should be applied after 90 days of planting. Application of Boron and 3 kg / ha and zinc 5 kg / ha increase the yield.

Water Management

In the absence of rain, watering should be done at intervals of 15 days.

Plant Protection

Insects

Stem borer

Stem borer causes the most damage in ginger. The infested plants become yellow color of the leaves, stems drying.

To control pest spray the pesticide monocrotophos 0.1% (1 liter of water 1 ml) and remove the infested plants.

Leaf roller

Leaf roller attacks the leaves and leave are rolled, which are found in large numbers in the months of August and September. To control it, to spray carbaryl 0.1% (1g per liter of water) or dimethoate 0.05% or phosphamidon 0.05%.

Tuber scales

To control the tuber scales, thrips and other sucking insects, spray phosphamidon 0.05 per cent (5 ml with 10 liters of water). Spray malathion in the bag which is filled with tuber.

Diseases

Tuber rot disease

To control the disease, improve the drainage facilities. Use disease free rhizome for germination and treated with Mancozeb or copper oxychloride, one liter of water, 3 g of the quantities produced in the solution for 30 seconds or before saving the tuber soak with streptocakki 200 ppm (ie, a liter of water, 200 ml).

Leaf spot disease

To control the disease, Bordeaux mixture 1% or copper oxychloride 0.25% (2.5 g per liter) apply as a foliar spray.

Microbial wilt

To control the disease, the tuber can be treated in steptocycilin 200 ppm before sowing.

Harvest

Ginger plant will be ready for harvesting within eight months from the date of planting. When the bottom leaves brown or yellow, this condition should be harvested in order to extract the ginger oil. The leaves are harvested in the dry state by seed tuber used. From harvested ginger, removed from the dried leaves, roots, and tubers, unearthed by the adhering soil is removed, washed with water and dried in shade. The ginger used as vegetable and cooking, it should be harvested from the fifth month after sowing. This immature harvested ginger has less alkalinity and fiber.

Yield

Well maintained crop average yield from 15 to 20 tons/ha of ginger rhizomes.