

# CARROT

Carrot (*Daucus carota L.*) is one of the most important and major root vegetables used as salad and root vegetable besides, it is a rich source of *beta-carotene*, which is a precursor of vitamin A and contains appreciable quantities of thiamine and riboflavin. Sugar and volatile terpenoids are the two major components of carrot flavour. Carrot is a heavy feeder of nutrients and removes 100 kg N, 50 kg P<sub>2</sub>O<sub>5</sub> and 180 kg K<sub>2</sub>O per hectare. Therefore, judicious and proper use of organic manures and bio-fertilizers are very essential not only for obtaining higher yield and quality produce but also to maintain soil health and sustainability for a longer period.

Carrots are a brilliant source of carotenoids, powerful antioxidants. One cup (6oz/180g) of diced raw carrot provides approximately 843 per cent of the RDA for vitamin A. High carotenoid intake has also been linked with a decrease in the incidence of breast, lung, and prostate cancer. Carrots have a fairly low GI number. Eating foods rich in carotenoids makes insulin uptake more effective, thus making blood-glucose control easier for diabetics.

## Soil and climate

Being a root crop, carrot requires deep, friable loamy soil. For an early crop, sandy loam soil is preferred. Carrots become rough and coarse in hard soils as the roots fail to penetrate the hard soil evenly. The optimum pH of soil should be 6.0-7.0. Carrot is a cool season crop. Carrot roots develop a good colour under the temperature range of 15-21°C.

## Field preparation

Soil should be prepared by 2-3 deep ploughings with a plough or spade followed by harrowing. If necessary, planking may also be done to make the soil clodless. Prepare the field up to a fine tilth, so small carrot seeds are sown easily and germination is not affected.

## Suitable varieties

New kuroda, Pusa Kearsr, Pusa Meghali, Pusa Yamgagni, Nantes

## Seed Rate

5-6 kg/ha

## Sowing time and Methods of Planting

February to March in hills and August to November in plains. Seeds are sown in lines with a spacing of 30-40 cm row to row and 5-10 cm plant to plant is maintained. Thinning is

necessary to optimum plant population and also for less competition among plant for nutrients and space.

### **Manures and fertilizers**

Well rotten FYM @ 10 t/ha along with vermicompost 5 t/ha, neem cake 250 kg and rockphosphate 150 kg/ha should be applied for sowing of one hectare land. This combination of organic source of nutrient supply was found statistically similar to inorganic and integrated sources of nutrient supply at ICAR Complex, Umiam, Meghalaya. The sources of nutrient supply should be based on the local availability. The quantity can be further adjusted depending upon other sources nutrient availability.

### **Weeding and earthing**

Carrot is a root crop and requires good soil depth for tuber formation. Hence along with weeding, earthing is also given at about 30 days after sowing the crop for higher yield.

### **Irrigation**

In north eastern hills, carrot is grown during February-March with pre-monsoon rains. Pre-sowing irrigation is given for rapid and uniform germination of carrot. Under insufficient soil moisture, irrigation should be done at an interval of one week depending upon the soil and climatic conditions. Excessive moisture in soil restricts development of root and also causes rotting of roots.

### **Plant protection measures**

In NEH region minimum attention is required on pest and disease management. Powdery mildew, bacterial blight and carrot fly are the major diseases and insects of carrot in NEH Region. Neem oil 3% should be sprayed during vegetative stage for prevention against insect pests.

### **Harvesting and yield**

The roots attain marketable stage when their diameter is 2-4 cm at the upper end. Before harvesting the crop light irrigation is to be given so that pulling of root without any damage is facilitated. The yield varies from 18-22 t/ha depending upon the season and variety.