

## WATERMELON

Watermelon is a warm season crop and can be grown year round in the tropics. By selecting suitable varieties and giving them proper care, good quality of watermelons can be produced in the tropics.



### **1. Climatic And Soil Requirement:**

Watermelon not only tolerates hot weather but for best growth requires more heat than any other vegetables. Watermelon seeds germinate well and plants thrive at 25°C - 30°C. Fruits mature best at 30°C.

Watermelon requires dry weather and plenty of sunshine. Continuous rain or cloudy will not only stunt the plant growth but also reduce the flowering and fruit setting. If watermelons mature in rainy season, the sugar content will be greatly reduced.

Watermelons do best when grown on sandy or sandy loam soils that are well drained.

Poorly drained soils should be avoided.

Watermelon should not be grown on the same soil year after year because of disease problems. It is best to wait three years before planting watermelons on the same ground.

## **2. Varieties:**

Several new varieties have been released recently by Known-You Seed India Pvt Ltd. The following varieties are recommended for growing in the tropics:

### **A. Kiran**

Extra early, vigorous, elongated dark green fruit with indistinct dark stripes. Rind is thin but tough; making the fruit is a good shipper. The deep red flesh is tender and succulent; sugar content is around 12-14%. The fruit weighs between 2.5 and 3.5 kg. 102 days requires from sowing

### **B. Vishala**

The attractions of this variety are its beautiful golden-yellow rind and the uniform oblong shape. The vigorous plant is early and productive, with a strong fruit-setting. Flesh is red, tender and juicy, with 12% sugar content. The rind is thin but good for shipping and storage. Approximately 2.5kg in weight.

### **C. Saraswati**

Extra early, vigorous, and sets fruit very well. Fruit is short oblong, uniform, and weighs around 3-4 kg. Flesh is deep red, delicious, with sugar content around 12-14%. Rind is thin but tough. This variety is good shipper

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### **D. Mithila**

Strong, vigorous, and prolific. Adaptable to high temperature and sets fruit with excellent quality. Rind is light green with thin dark green stripes. Fruit is slightly round, weighing 3-5 kg. Sugar content is around 11%. Yellow flesh is sweet and juicy. Good for shipping.

### **E. Priya:**

Oblong-shaped fruit with deep green rind and broad dark stripes. About 3-4 Kg in weight, with deep red, sweet flesh, around 12-14% on Brix. It is usually ready to harvest about 80-85 days after sowing. Ships and stores well.

## **III. Manures and Fertilizers:**

Watermelons tolerate a wide PH range from PH 5.6 to 8.0. Watermelon plants do well in soils that are rich in organic matters. Application of compost at rate of 5 ton/acre to 6 ton/acre can improve soil aeration.

| Plant Stage                 | Days        | Fertilizer      | Quantity/ acre | Total Qty/acre |
|-----------------------------|-------------|-----------------|----------------|----------------|
| 5 to 6 Leaf Stage           | 25- 30 days | 19:19:19 + Urea | 2kgs+ Half Kg  | 25Kgs+10Kgs    |
| Flowering to Fruiting stage | 30- 50 days | 12:26:10        | 3Kgs           | 25Kgs          |
| Fruit Developing Stage      | 45- 58 days | 10:0:45         | 4Kgs           | 25Kgs          |
| Fruit Developed Stage       | 58- 65 days | S.O.P           | 5Kgs           | 10Kgs          |

#### IV. Planting and Transplanting:

Watermelon can be direct seeded to the field or grown as transplants in seedling pots and then transplanted to the field.

For direct seeding, treat seed with Thiram or Captain and then plant 2-3 seeds per hill about 2-3 cm deep. The hills are usually spaced 1 to 1.5 meters apart in the rows also 2 to 2.5 meters apart. A variation of spacing hills 4 meters apart in the rows 1.5 meters apart are also commonly used for the tropics.



Another method is planting seeds in pots or some similar type containers for germination to grow seedlings and then transplanting later to the field. If one

follows this procedure, the seed should be planted 2-3 weeks before planting to the field. Transplant so handled should be planted to the field before the 5<sup>th</sup> true leaf stage

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#### **V. Mulching:**

Mulching the bed surface with straw is recommended for growing watermelon in the Tropics. Mulching not only retain the soil moisture, prevent nutrient leaching and improve soil aeration, but also control the weeds and provide support for tendrils. Rice straw and sugar cane leaves are good material for mulching.

#### **VI. Pollination:**

Male and female flowers are separate on the same plant. Bees must carry pollen from flower to flower to insure good fruit set and development. Wild bees will help, improve pollination. However, where commercial acreages are involved, one should consider setting bee hives near the field. Under normal conditions, one hive of bees should be adequate for one hectare of plants.

Watermelons do not require pruning. However, it is better to remove the first fruit on the primary vine as early as possible, because this fruit is too near the crown that cannot develop well and will affect the later fruit setting.

#### **VII. Irrigation and Drainage:**

Soil moisture should be adequate throughout the early growing season to produce good plant growth. When the female flower appears, it is recommended to withhold water supply in order to improve the fruit setting. When fruits are starting to develop, water should be added more to produce good size of fruits. After fruits reach full size it is usually best to withhold or reduce irrigation during ripening season. Sugar content will usually be higher and the melons have better flavor where they are not exposed to high moisture levels at ripening.

#### **VIII. Weed Control:**

Good weed control is essential for high quality melons. Sugar content of the melons can be lowered where weeds shade and compete with the plants. Mulching helps weed control but it still requires hand removal of weeds. Watermelon is sensitive to some herbicides and should be applied with care.



## **IX. Insect and Disease Control:**

### **Beetles:**

Use carbary (sevin) spray.

### **Aphids and Leaf Minner:**

Use DDVP, Malathion, Dibrom, Lannate etc.

### **Worms:**

Use DDVP, Malathion, Sumicidin, Thiodan etc.

### **Spidermite:**

Use Kelthane, Ekatina etc.

Melonfly: Use Malathion, DDVP etc.

### **Fusarium Wilt:**

Use resistant variety and crop rotation.

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### **Anthracnose, Downy mildew and Gummy blight:**

Use fungicides such as Zineb, Maneb, Mon, Difolatan, Benlate etc.

### **Powdery mildew:**

Use Morestan, Karathane etc.

### **Virus:**

Remove affected plants and control aphids.

## **X. Harvesting and Handling:**



A grower must become familiar with the variety he is growing to determine the best stage for harvesting. A dead tendril or curl at the point where the fruit attaches to the vine is not a conclusive indication that the fruit is ready for harvest.

According to the experience of Mr. W. Y. Chen, president of Known-You Seed Co., Ltd. the ripeness of watermelon can be judged by the following steps:

“ First you look at the appearance of the fruits –the ripe fruits will take on dull appearance compared to their slick appearance prior to their maturity. The under color of the melon lying on the ground turns yellowish brown when they are fully ripe. Then you tap the watermelon in the center with your knuckle-if it sounds like you are taping your forehead, it is under-ripe. If it sounds like your chest, it is just ripe. If it sounds like your stomach, it is over-ripe.

Melons should be handled gently, otherwise they may be bruised. When loading, melons should not be stacked so high that their weight bruises the bottom fruit. Fruits should not be left long in the sun or they may developed sunscald.

**Note:** The above information is provided based on research and field observation. Variations in local condition may affect the information and suggestions contained above and for which the company should not be held liable. In case of doubt, it is recommended to carry out ordinary trial production in order to test local growing condition in different seasons and area.

