

WATER MELON



Designed by:
Crop Manager Team

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Varieties

There are about four types of watermelons, seedless, picnic, icebox, and yellow/fleshed.

Soil requirement

Watermelon is known to be sensitive to manganese toxicity a problem in low pH soils. Seedling watermelons react to manganese toxicity with stunted growth, yellowish and crinkled leaves. In rainy seasons at higher pH levels when soil is saturated this may still occur with older plants exhibiting brown spots on older leaves. Conduct a soil test and apply lime if necessary, for maximum yields a pH of 6.0 should be maintained

Climatic condition.

Watermelon is a warm season crop grown mainly in sub-tropical and hot-arid regions. The crop requires dry weather with abundant sunshine for quality fruit production. Temperature range of 24-27degrees C is considered as optimum for the growth of water melons. Cool nights and warm days are ideal for accumulation of sugars in the fruits. The seed germinates best when temperatures are higher than 200 C. High humidity at the time of vegetative growth renders the crop susceptible to various fungal diseases.

Land Preparation

Fields should be prepared thoroughly by ploughing or harrowing and removing different plant debris. It should be pulverised and levelled; furrows are made 2m apart

Planting

Before sowing seeds are soaked in Luke warm water for 12 hours. The water is drained out and the seeds are kept overnight in a wet gunny bag. This treatment increases the germination percentage. Normally 1.5-2.0 kg of seeds are required for planting one-hectare area. Various system of sowing has been adopted depending on the season and system of cultivation

Fertilizer application

The fertilizer doses to be applied depend on variety, fertility of soil, climate and season of planting. Generally, well decomposed FYM (15-20 t/ha) is mixed with the

soil during ploughing. The recommended dose of fertilizer to be applied per hectare is 100 kg N, 50 kg P O and 50 kg K O. Half the 2 5 2 N and entire P & K should be applied before planting. The balance N is given 30-35 days after planting. The fertilizer is applied in a ring at 6-7 cm from the base of the stem. It is better to complete all the fertilizer applications just before the fruit set. For increasing the percentage of female flowers, NAA (100 ppm) is sprayed once at two-leaf stage and the same is repeated after 6-7 days.

Weed control

Depending upon the season about 2-3 weeding operations is required. The first weeding should be done 20-25 days after sowing while subsequent weeding are done at an interval of one month. When the vines start spreading, weeding in between the rows, or ridges, becomes unnecessary since vine growth can smother the weeds.

Disease management

Bacteria Wilt



Symptoms

- Affected leaves turn a dull green.
- Wilting may occur on some leaves.
- Leaves adjacent to the wilting leaves will also wilt, and eventually the entire plant is affected.

Management

- Apply insecticides at weekly intervals.
- Carbaryl, Malathion, or rotenone insecticides or combination products are registered to treat beetles that cause bacteria wilt.

Anthracnose



Symptoms

- Sunken, elongated stem cankers are most prominent on muskmelon, though leaf and fruit lesions also occur.
- Wilting of vines.
- Watermelon foliage appears scorched; sunken fruit lesions are easy to recognize.

Management

- Seed treatment with Carbendazim 2g/kg of seed.
- Spray Mancozeb 2g or Carbendazim 0.5g/lit.

Sudden Wilt



Symptoms

- Sudden wilt generally occurs late in the season and is closely associated with a heavy fruit load on the plant.
- Initial symptoms are a slight flagging of the plants in midday even when abundant moisture is present.
- Wilting on third or fourth day.
- After five to six days, all of the vines have melted down and only the immature fruits are left in the fields.
- Affected plants appear to lack feeder roots; other roots become slightly misshapen and thick.

Management

- Good soil drainage and thin plant density reduces the incidence of disease.
- Destroy diseased plant debris.
- Soil application of *T.viride* @ 2.5 kg/ha with 50 kg FYM.
- Spray Mancozeb/ Copper Oxychloride at 2.5 g /lit or Carbendazim/ Thiophanate-methyl at 1 g /lit.

Powdery mildew



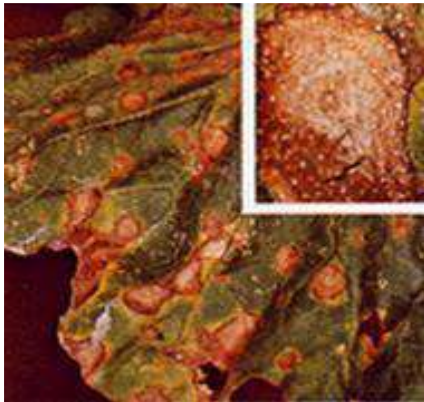
Symptoms

- It is evident as a superficial, powdery, grayish-white growth on upper leaf surfaces, petioles, and even main stems of infected plants.
- Affected areas turn yellow then brown and die.
- In dry seasons, powdery mildew can cause premature leaf drop and premature fruit ripening.

Management

- . Powdery mildew can be controlled by application of Wettable sulphur @ 0.2%.

Alternaria Blight



Symptoms

- It usually occurs on foliage during the middle of the growing season.
- The disease starts as small, yellow spots which enlarge to form concentric rings on the upper leaf surfaces.
- Fruit injury may occur.

Management

- Plant disease-free seed in fertile, well-drained soil, practice crop rotation with unrelated crops, destroy cucurbit weeds.
- Spray the crop with Mancozeb @ 2 g /lit.

Alternaria Leaf Blight



Symptoms

- Initially the skin of the fruit shows soft.
- Dark green water soaked lesions which gradually develop into a watery soft rot.
- Cottony mycelium develops on the affected portions.

Management

- Keep fruits not in touch with soil

Harvesting

The crop is ready for harvest in about 75-100 days after sowing depending upon cultivar and season. For local market harvesting should be done at full maturity while for transporting to distant markets, it is done slightly earlier. Maturity in watermelon can be judged from withering of tendril, change in belly colour or ground spot to yellow and thumping test. The mature fruits on thumping give dull sound as against metallic sound of unripe fruits. The fruit should be separated from the vines with the help of a knife.

Yield: The yield of watermelon varies according to the system of cultivation, variety, season and several other factors. The average fruit yield varies from 20 to 25 t/ha of fruits in 120 days can be obtained.