



Watermelon

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Site Selection: Site should be clean and free from sticks and soil should be well-drained.

Ground preparation: A green manure crop should be grown on the site over the wet season. This should be incorporated into the soil about three weeks before planting. Disc soil with an offset disc to loosen the top 20 cm to allow hilling up. Test soil pH. Adjust to 6.0-6.5 by applying dolomite or ag lime, preferably a week or two before planting. Form planting hill 40 cm wide and 10 cm high and incorporate basal fertilizer.

Lay 90-1200 cm wide plastic mulch as well as drip tape at a depth of 10 cm. Watermelons can be grown without plastic mulch or by planting into a poisoned and rolled green manure crop, but weeds may be an issue.

Plant seeds at a spacing of 0.75 to 1.5 m along the row with a row spacing of 1.5 to 3 m. Sow seeds 3-5 cm deep into wet soil. Do not irrigate until after emergence

Planting Material: Direct seeding is recommended for good root development.

Irrigation: After planting, it is important to keep the soil moist but not too wet. This encourages good root growth and retains the nutrients near the roots. Your irrigation monitoring tools should be indicating mild stress during the period between planting and flowering.

Once flowering has commenced, you need to keep the plants free of water stress (too little or too much). On sandy soils you could irrigate a few times per day to ensure the water does not go beyond the root zone.

When monitoring your irrigation, you should as a minimum, have tensiometers at 15 and 40 cm depth with at least one tensiometer per block. A tensiometer at 15 cm should read between 5-15 kPa and a 40 cm tensiometer should read between 25-40 kPa.

Irrigate right through until the end of harvest. This is essential for sugar production in the fruit.

Nutrition: Obtain a pre-plant soil test.

	Nitrogen (kg/ha)	Phosphorus (kg/ha)	Potassium (kg/ha)	Calcium (kg/ha)
Base	40	85	90	110
Fertigation	30		60	
Foliar	2		6	5
TOTAL	72	85	156	115

Apply most of the fertigated nitrogen during the first three weeks after planting and the fertigated potassium at golf ball sized fruit and 7-10 days later. Inject trace elements in four pre-flowering fertigations to total 15 ZnSO₄:8 MnSO₄:2 Solubor (kg/ha/crop). Monitor nutrition through leaf analyses at flowering and again at mid fruit development and adjust nutrition, if necessary.

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Pests: Cucumber moth caterpillar, heliothis caterpillar, pumpkin beetle, aphids, false wireworm, nematodes, ants.

Diseases: Powdery mildew, downy mildew, gummy stem blight, watermelon mosaic virus, zucchini yellow mosaic virus, soil born root diseases

Pollinators: Pollinators are essential. Use European honeybees at three double hives/ha.

Harvest: Watermelons must be fully mature before they are harvested, otherwise fruit will not develop a good colour and flavour.

A watermelon is ripe when:

- the tendril nearest the melon has withered;
- the colour of the ground spot changes from white to cream or yellow; and
- it sounds hollow when tapped.