

Tomato

One of the most popularly used vegetable in all Indian cuisines is Tomato, which is equally rich in nutrients as well as taste. The quality of nutrients given to the Tomato plant influence not only its yield but also its nutritional value, taste & storage capacity post-harvest. Tomato plants need regular fertilization of primary nutrients (N, P, K), secondary nutrients (Ca, Mg, S) along with small amount of Zn & B. All the micronutrients though required in smaller quantities are essential to produce the top grade fruits with the potential of fetching a profitable market price. The major tomato producing states are Maharashtra, Bihar, Karnataka, UP, Orissa, Andhra Pradesh, MP, and Assam.



GROW WITH KNOWLEDGE



SOIL & CLIMATE: Tomato is grown on soils with over a wide range of textures, from light sandy to heavy clay soils. It is important to maintain the soil pH between 6 – 7, as a deviation from this range can lead to insufficient micronutrients for plant uptake. It is a warm season crop and the best fruit Colour & quality is obtained at a temperature range of 21-24°C. Temperatures above 32 degrees Celsius can adversely affect fruit setting and development.



LAND PREPARATION: The field is ploughed to fine tilth by giving sufficient interval between two ploughing. Post which planking is done to ensure appropriate levelling. Well-decomposed Farm yard manure (25 t/ha) should be thoroughly incorporated at the time of land preparation.



METHOD OF SOWING: Tomato is a two-season crop; summer and winter. For summer the seeds are sown in November and for winter seeds are sown in June & July, and in the hills, seeds are sown in March and April. The seedlings are transplanted at a spacing of 75-90 x 45-60 cm. In light soil, the seeds are transplanted in furrows, and in case of heavy soils, they are transplanted on side of the ridges. Pre-soaking irrigation is given 3-4 days prior to transplanting and should preferably be done in the evening.



IRRIGATION: Tomato plants are resistant to moderate drought however, proper management is essential to assure high yield and quality. Light irrigation should be given 3-4 days after transplanting. Irrigation intervals should be according to soil type and rainfall, irrigation should be given 7-8 days interval during kharif, during Rabi 10-12 days and 5-6 days during summer. Flowering and fruit development are the critical stages of tomato therefore; water stress should not be given during this period.

Mulching is recommended with black LDPE sheets of 25-micron thickness which should be buried on both ends into the soil, at a depth of 10 cm which will helps saving irrigation water and prevents weed growth.

FERTILIZER SCHEDULE OF MOSAIC PRODUCT



Early growth stage

0-30 DAYS



Mosaic DAP
100 kg/Acre

Mosaic MOP
80 kg/Acre

Mosaic K-MAG
50 kg/Acre

Liquid zinc @ 125
ml/acre and
Seaweed Extract
@ 2.5mL/L
after 15-20 DAT



Vegetative stage

30-60 DAYS

Liquid zinc @ 125
ml/acre

Liquid boron 200
ml/acre

Seaweed Extract @
2.5mL/L
after 50-55 DAT



Flowering stage
& fruit formation

60-90 DAYS

Liquid boron 200
ml/acre

Seaweed Extract @
2.5mL/L
after 80-85 DAT



Fruit Development

90-150 DAYS

Liquid boron 200
ml/acre after
every two pickings

BENEFITS

Vigorous root &
shoot growth

Internode
elongation

Flower initiation,
Healthy & green leaves

Development of
Branches and leaf.

Improves number of
flowers & fruit setting

Colour &
quality of fruit

Proper Fruit
development

Uniform tomato,
Improves fruit color,
Improves fruit weight,
Increase shelf
life of fruit,
Increase quality
(nutrition value) & yield,

Plants will be green
till last picking.







*DAS-Days after sowing

Note:

- Above dosages are applicable for Maharashtra.
- Apply nitrogen at 100 kg/acre, 1/3rd at the time of basal application, and remaining N at 3 equal splits at 30-35 days, 45-50 days, and 60-70 days.
- Apply nutrients based on soil test values. Apply well decomposed Farmyard Manure (FYM) or compost (@ 10 MT/acre) at the time of the last plowing or during the preparation of raised beds. Use nitrogen fertilizers judiciously as excessive use of nitrogen leads to more pest and disease infestation.
- Apply 2 kg/ha of Azospirillum and 2 kg/ha Phosphobacteria by mixing with 50 kg of Farmyard manure.

NUTRIENT DEFICIENCIES

NUTRIENT DEFICIENCY

Nutrients	Deficiency Symptoms	Affected Area	Nutrition Required
Phosphorus	Plants look lush blue-green or purplish in color. The stems become very thin and remain stunted while the roots become brown with restricted development of lateral branches.	Stunted growth, less number of branches, reduced root growth.	 <p>Apply recommended dose of phosphorus through Mosaic DAP.</p>
Potassium	Yellowish spots in the margins of new leaves which later spread over the leaf surface and subsequently turns brown, starting with the older leaves. Plants remain stunted, hard and chlorotic.	Poor fruit retention, Reduction in size and quality of fruits, stunted growth, poor tolerance capacity, shelf life.	 <p>Apply recommended dose of potassium through Mosaic MOP and Mosaic K-Mag @ 50kg/acre at the time of bed preparation.</p>
Magnesium	Magnesium deficiency starts as interveinal yellowing at the leaf margins on older leaves, which later becomes brown and withered interveinal yellowing and necrosis.	The growth of seedling and pulp gets affected.	 <p>Apply Mosaic K-Mag @ 50kg/acre at the time of bed preparation.</p>
Sulphur	Young leaves become stiff and curled downward. Older leaves develop necrosis at tips and margins with development of small purple spots between the veins.	Lack of aroma, reduced nutritive value, and keeping quality gets reduced.	 <p>Apply Mosaic K-Mag @ 50kg/acre at the time of bed preparation.</p>
Zinc	The leaves show interveinal necrosis and the younger leaves become yellow.	Reduced leaf and shoot growth, reduction in flowering and fruit set.	 <p>Foliar application of Liquid Zinc at 1ml/l twice at fortnight interval.</p>
Boron	Stiff, thick and shortened stems, death of the growing points and development of yellow, brown and purple areas on leaf. Uneven ripening and development of corky pits in fruits.	New root and shoot growth will be restricted, fruit cracking, uneven ripening, reduction in quality of fruits.	 <p>Foliar application of Liquid Boron at 1ml/l twice at fortnight interval.</p>