

PRECISION FARMING TECHNOLOGIES

TOMATO

i. Quality Seedling Production

Protected nursery

- ❖ The nursery area is covered with 50 per cent shade net
- ❖ The raised beds of 1m width and convenient length are formed
- ❖ The seedlings are raised in pro trays
- ❖ The sterilized cocopeat is used for raising seedlings @ 300 kg/ha is mixed with 5 kg of neem cake along with *Azospirillum* and Phosphobacteria each @ 1 kg.

Sowing

- ❖ About 100 g of hybrid tomato seeds is required to produce seedlings for 1 ha
- ❖ The seeds are mixed with *Azospirillum* @ 200 g/kg and are shade dried for half an hour.
- ❖ After 6 days, the germinated pro trays are individually placed on the raised beds inside the shade net.
- ❖ Watering is done by rose can everyday (twice/day) upto seed germination.
- ❖ Panchakavya spray @ 3% (30 ml/l) is done at 15th day of sowing.
- ❖ 19:19:19 + MN @ 0.5% (5g/l) solution is drenched at 18 days after sowing.
- ❖ The tomato seedlings of 25 - 30 days old are ready for transplanting.

ii. Planting

- ❖ The main field is ploughed 4 times. Chisel and disc plough each one time and cultivator twice.
- ❖ FYM @ 25t/ha is applied before the last ploughing.
- ❖ 75% of the total recommended dose of super phosphate i.e. 1171.88 kg/ha is applied as basal dose.
- ❖ *Azospirillum* and Phosphobacteria each @ 2 kg / ha along with FYM 50 kg and Neem cake @ 100 kg is applied before last ploughing.

- ❖ Raised beds of 120 cm width (4 feet) are formed at an interval of 30 cm (1 feet) and the laterals are placed at the centre of each bed.
- ❖ Before planting, the beds are watered using drip system for 8 to 12 hours.
- ❖ Pre-emergence weedicide spray of pendimethalin (Stomp) is applied @ 3 lit/ ha (1 kg a.i./ha) just before transplanting.
- ❖ Planting is done at a spacing of 90 x 60 x 60 cm in the paired row system
- ❖ One row of African marigold seedlings of 40 days old are planted simultaneously for every 16 row of tomato seedlings.
- ❖ Gap filling is done at 7th day after transplanting.

iii. Fertigation Techniques

- ❖ For tomato F₁ hybrid, a dose of 200: 250: 250 kg of NPK / ha is applied throughout the cropping period through split application. The split dose is applied once in every three days through fertigation.

iv. Intercultivation

- ❖ Foliar spraying with *Pseudomonas fluorescens* 0.5 % at 15 days interval for 6 times.
- ❖ Staking is done by using either bamboo or eucalyptus poles on 30th day after planting.
- ❖ Weeding is done on 30 and 60th days after planting depending upon the weed growth.
- ❖ Triacantanol 625 ml is mixed with 500 l of water (1.25 ppm) and sprayed on 15th and 30th days after planting.
- ❖ Planofix @ 125 ml in 500 l of water (0.25 ppm) is sprayed at 45, 60 and 90th DAP.
- ❖ Micronutrient mixture @1g / lit (0.1%) is sprayed for 2 times at 40th and 80th days after planting.
- ❖ 19:19:19 + MN @ 1% (10 g / lit) is sprayed at 60 days after planting.



Staking for quality produce

v. Harvesting and Post harvest management

- ❖ Harvesting of tomato fruits is carried out either at breaker stage or at half red depending upon the market preference. First harvest starts at 60 days after planting.
- ❖ Grading is done based on the size of the fruits. Three grades viz., uniform big sized fruits, small size and damaged and misshapen fruits and are packed separately in plastic crates.



Graded fruits