



Source: [Tomato | Land & Water | Food and Agriculture Organization of the United Nations | Land & Water | Food and Agriculture Organization of the United Nations \(fao.org\)](#)

Watch Out For:

- Pests such as red spider mites, white flies, leafminers, and thrips. Conserve natural enemies like ladybird beetles and practice crop rotation to control pests.
- Diseases such as early and late blights, powdery mildew, and tomato spotted wilt virus.

Tomato (*Lycopersicon esculentum*) is the second most important vegetable crop next to potato. Present world production is about 100 million tons of fresh fruit from 3.7 million ha. (FAOSTAT, 2001).

Tomato is a rapidly growing crop with a growing period of 90 to 150 days. It is a daylength neutral plant. The optimum mean daily temperature for growth is 18 to 25°C, with night temperatures between 10 and 20°C. Larger differences between day and night temperatures, however, adversely affect yield. The crop is very sensitive to frost. Temperatures above 25°C, when accompanied by high humidity and strong wind, result in reduced yield. Night temperatures above 20°C, high humidity, and low sunshine lead to excessive vegetative growth and poor fruit production. High humidity leads to a greater incidence of pests and diseases and fruit rotting. Dry climates are therefore preferred for tomato production.

Tomato can be grown on a wide range of soils, but a well-drained, light loam soil with a pH of 5 to 7 is preferred. Waterlogging increases the incidence of diseases such as bacterial wilt. The fertilizer requirements amount, for high-producing varieties, to 100 to 150 kg/ha N, 65 to 110 kg/ha P, and 160 to 240 kg/ha K.

The seed is generally sown in nursery plots, and emergence is within 10 days. Seedlings are transplanted in the field after 25 to 35 days. In the nursery, the row distance is about 10 cm. The field spacing ranges from 0.3/0.6 x 0.6/1 m with a population of about 40,000 plants per ha. The crop should be grown in a rotation with crops such as maize, cabbage, and cowpea to reduce pests and disease infestations.

The crop is moderately sensitive to soil salinity. Yield decrease at various ECe values is 0% at ECe 2.5 mmhos/cm, 10% at 3.5, 25% at 5.0, 50% at 7.6, and 100% at ECe 12.5 mmhos/cm. The most sensitive period to salinity is during germination and early plant development. Therefore, necessary leaching of salts is frequently practiced during pre-irrigation or by over-watering during the initial irrigation application.