



CONTROL OF BACTERIAL AND VIRUS DISEASES OF TOMATO

Diseases of tomato, such as bacterial speck, bacterial spot and tomato mosaic virus are transmitted through seed. It is essential to use disease-free seed as these pathogens can spread by contact from a few infected plants to the whole field. Another disease of common occurrence, potato virus Y, is not seed-borne but infection occurs through insect transmission. The control of insect vectors is consequently also important.

Disease-free seed can be produced as follows :

1. The seed should be placed in a muslin bag and **soaked for 25 min in a water bath kept at 50°C**. (The heat treatment does not have a negative effect on germination but the water bath should be well calibrated so that the exact temperature is maintained.)
2. The bag should be squeezed slightly to remove excess water and then **immersed for 15 min in a 10% solution of tri-sodium phosphate (10 g in 100 ml water)**.
3. The seed is then spread out on a tray lined with a sheet of absorbent paper and allowed to dry. Care should be taken not to touch the seed with fingers to avoid recontamination. **Thorough drying is essential as the seed will turn moldy if kept moist**. Once dried, the seed may be used for plantation or stored in paper bags in a refrigerator for several months without any loss of viability.
4. Before planting, the seed should be **dusted with a fungicide such as Captan 75 at 2 g kg⁻¹**.

In addition to seed treatment, the following control measures should be adopted to avoid the spread of diseases in the field :

- crop rotation,
- avoid clipping of seedlings and sowing at high density,
- handle plants as little as possible during growth,
- rogue all diseased plants,
- control aphids using recommended insecticides,
- disinfect hands and tools using soap and water,
- weed plantations and isolate the field from other solanaceous crops,
- destroy crop debris after harvest.