

Mosaic virus management in tomatoes

Recognize the problem

The tomato mosaic virus ("Batobato" in Swahili) causes light green or mottled yellow leaves, with rough edges, pointed downwards. Mottled areas often appear thicker and raised. Dwarf plants are common, but plants do not die. Fruit set is poor, and fruits have small brown streaks.

Light green or mottled yellow leaves caused by the tomato mosaic virus. (Photo by Stefan Toepper, CABI)



Background

This virus lives in tomatoes and in many other plants, such as tobacco, red pepper, cucumber, night shade, or marigold. Viruses are not transmitted in the air. This virus is more stable than other viruses, and can survive for some time on seeds, tools, hands, clothes and soils particles. The virus is transmitted from infected plants into uninfected plants through small wounds caused by handling and to some extent by insects chewing on plants. It is easier to prevent this disease than to control it.

Management

To prevent the problem:

- Use resistant varieties (e.g. Kentom, Tengeru 97, Meru, Shengena).
- Use non-infected clean seeds from healthy tomatoes, or certified seeds, because this virus can live on seeds and infect plants when germinating.
- You may, to some extent, kill the virus on the surface of seeds. Immerse tomato seeds into 1% Sodium hypochlorite (=bleach= NaOCl) for 10 minutes. But 100% control cannot be achieved.
- During field work, wash hands, cloths and tools with soap/bleach/Tepool, to remove virus. If using bleach, wear gloves, or wash hands with lots of water immediately afterwards because bleach is toxic.
- Before and after transplanting work, place tools in boiling water for 5 minutes and then wash with a strong soap or bleach.
- Remove volunteer tomato plants and abandoned or voluntary solanaceous plants, such as red pepper or night shade.
- Remove roots after harvest before you plant for the next season, because this virus survives to some extent also in roots.

Virus infected fruit (right). (Photo by I. A. Zitter)



When first diseased plants are observed in the field, action should be taken. Further constantly observe plants, and take action when new diseased plants occur.

- Constantly observe and uproot all diseased plants. Avoid walking with diseased plants through your field. Bury diseased plants, or put them into plastic bags in the field and burn the plants outside the field.
- Viruses cannot be controlled by chemical pesticides, because effective viricides do not exist and viruses are hidden inside plants.

Scientific name(s) > **Tomato mosaic virus**

The recommendations in this factsheet are relevant to: Ghana, Tanzania



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