

# Pest control system for tomatoes and peppers in June

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## Tomatoes and pepper

*Pest – Blossom-end rot on fruits*

### **Damage**

Watery spots form at the blossom end of green fruits, which may cover a larger part of the fruit. The damaged area is sharply delimited from the healthy tissue. The disease is associated with a lack or deficiency of calcium in the distal part of the fruits, as a result of impaired uptake of this element by the roots.

**Control**

The manifestation of the disease is particularly widespread when, after vigorous growth in the initial phase, a period of warming and drought occurs. Saturated lime, gypsum or superphosphate should be applied and heavy nitrogen fertilization should be avoided. Irrigation should be carried out with a low irrigation rate so as to prevent drought or waterlogging of the soil.

**Pest – Late blight on tomatoes** *Phytophthora infestans*

**Damage**

Under favourable conditions – high air humidity (above 90%), temperature in the range of 15-25°C, cloudiness over 8-10 tenths and precipitation lasting at least 48 hours, the disease can develop very rapidly and cause major losses. The spots on the green parts expand quickly and merge. The plants turn brown and dry up.

**Control**

Preventive spraying should be continued during the month. Where no infestations have yet been detected, contact fungicides should be used, alternating two or three products while observing the pre-harvest intervals. After the appearance of symptoms of the disease, treatment with systemic fungicides should be carried out.

**Pest – Early blight (brown leaf spots)** *Alternaria solani*

**Damage**

The disease attacks all parts of the plant and forms brown-black, expanding spots with a concentric structure. Under moist conditions the spots are covered with a dark sporulating growth.

**Control**

After the appearance of symptoms and under favourable climatic conditions for development, systemically acting plant protection products should be applied.

**Pest – Cucumber mosaic “vein necrosis“** *Cucumber mosaic virus*

**Damage**

Dark brown necrotic streaks form at the top and in the side shoots, penetrating to the pith. The attacked parts scorch and dry together with the leaves and fruits. The lowest leaves and the base of the stem are not attacked.

## Control

When symptoms are detected, tomato plants should be pulled out and burned. Weeds should be destroyed. The remaining plants should be treated with registered plant protection products for control of aphids.

*Pest – Pepper blight *Phytophthora capsici**

## Damage

The pathogen survives in plant residues, seeds and weed vegetation. Infested plants wilt and dry while retaining their green colour. At the base of the stem darkening is observed, accompanied by the formation of a white growth. The skin of the affected roots turns brown and easily slips off them.

## Control

The following measures should be applied: deepening of the furrows in order to avoid direct wetting of the root collar; removal of diseased plants and disinfection of the soil beneath them with 2% ammonium nitrate. Healthy plants should be sprayed with systemic fungicides, using a higher volume of spray solution.

*Pest – Aphids fam. *Aphididae**

## Damage

Aphids suck sap from the leaves and young shoot tips. The plants become stunted, and the leaves become wrinkled. The leaves often redden due to the development of sooty mould fungi on the honeydew excreted by the aphids.

## Control

Weed vegetation should be regularly destroyed. Economic injury level:

- 10% infested plants and formation of the first colonies – in tomatoes;
- 5% infested plants with single colonies – in pepper.

## *Pest – Tomato leafminer Tuta absoluta*

### **Damage**

The moths are active at night and hide among the leaves during the day. The caterpillar mines the leaves and stems and bores into the tomato fruit, causing significant yield losses. The body of the caterpillar is whitish to green in colour, and on the prothoracic shield there is a clearly visible darker figure in the shape of an arc.

### **Control**

An important condition for the success of chemical control is the alternation of insecticides with different modes of action. The effect of treatments decreases sharply when active substances with the same mode of action are used and the registered doses are exceeded, due to the easy development of resistance in the pest.

## *Pest – Cotton bollworm Helicoverpa armigera*

### **Damage**

Initially, the young caterpillars skeletonize the leaves and later gnaw holes in them. After the third instar they damage the fruits. The caterpillars do not completely destroy one fruit but move on to another. Damaged fruits stop growing and become deformed.

### **Control**

The hatching of the caterpillars should be monitored. If necessary, treatment should be carried out targeting caterpillars up to the third instar.

Economic injury level for the first generation:

- 20 eggs/100 plants – at the “budding” growth stage.

## *Pest – Bindweed leafhopper Hyalesthes obsoletus*

### **Damage**

Mass emergence of the leafhopper is expected in June. It is a vector of the disease – **stolbur**. The leafhopper feeds on a large group of plants (bindweed, creeping thistle, lamb’s quarters, pigweed, tomatoes, pepper,

potatoes, eggplant, carrots, celery, etc.). The pest inhabits mainly the underside of the leaves and often crawls on the soil surface.

## **Control**

Weeds in the vicinity of vegetable crops should be regularly destroyed. When treating with insecticides, a border strip of weed vegetation around the crop should be sprayed. Economic injury level:

- 2 adults/10 sweep net strokes – after transplanting at the beginning of vegetation, June-July.