

# Controlling potato beetles with Bt

## Problem

Potato beetles can develop rapidly, especially in warm summers on late-maturing crops, causing extensive damage to the potato plants.

## Solution

In the case of a large infestation, direct control measures e.g. the use of biological plant protection products like Novodor are justified. Novodor contains a bacterium, *Bacillus thuringiensis tenebrionis* (Bt), whose toxins (protein crystals) destroy the intestinal tract of potato beetle larvae.

## Outcome

The *Bacillus thuringiensis* has a selective effect and is not harmful to bees. Disadvantages: It only is effective against young larvae stages, it is very UV sensitive and its effect is reduced strongly in case of temperatures above 30 °C.

## Practical recommendation

### Check the state of infestation

- When the potato plants start to emerge, walk the field every 7 days in a straight line and check plants at regular intervals.
- If clusters of eggs are found on more than every third plant, apply Novodor four days after discovering the first clusters.

### Apply the agent

- Dissolve 5 l of Novodor in 500 l of water per hectare of potatoes.
- Novodor can be applied together with copper products.

### Optimal conditions:

- The potato beetles are still in an early larval stage (L1 to L2).
- Temperature between 15 °C and 25 °C.
- Avoid direct sunlight: spray late in the evening or when the sky is overcast.
- No rain is due within 8 hours after spraying.

## Comments

- After a successful treatment, the larvae will turn black after a few days.
- If the effect is insufficient, the larvae will stay mobile. In this case, the treatment should be repeated within the following 10 days.

## Applicability box

### Theme

Pest and disease control

### Geographical coverage

Potato cultivation areas

### Application time

During peak hatching of larvae

### Required time

Usually two spray applications

### Period of impact

Current crop

### Equipment

Usual spraying devices

### Best on

Potatoes