

Reducing the use of copper in potatoes

Problem

Copper is still the most effective permitted means of protection for plants against leaf blight in organic potato production. However, this heavy metal has the great disadvantage of accumulating in the soil and damaging soil organisms in the case of higher input. The annual maximum quantity of pure copper as specified by EU organic regulations is set at 6 kg per ha. For members of national organic associations lower maximum quantities may apply.

Solution

In order to minimise the negative effects of copper on the environment, and to avoid exceeding the current maximum quantities per hectare and year, the dosage of copper and the intensity of treatment can be adapted to specific levels of infection, as well as weather conditions.

Outcome

- Lower accumulation of copper in the soil.
- Less damage to microorganisms in the soil.
- Potential saving in costs of spraying agent.
- Improved distribution of spraying agent over the required period of treatment until exhaustion of the permitted maximum quantity.

Practical recommendation

Adapting dosage to state of infestation: As long as there is no infestation in a radius of 50 km, refrain from treating. Observe national information and alert services. As soon as the first case of infestation in the region is reported, protect potatoes with 200 to 250 g of pure copper per hectare. If potatoes in your own or neighbouring fields are afflicted by leaf blight, increase the dosage to 800 g and do not wait longer than a week in between treatments (Figure 1).

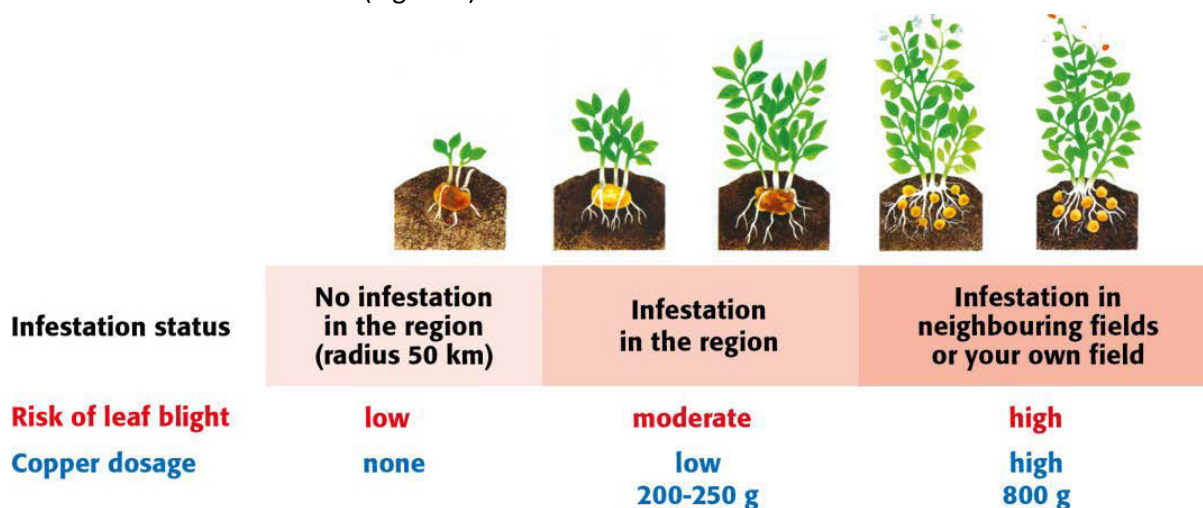


Figure 1: Recommended three-step strategy for the use of copper

Applicability box

Theme

Pest and disease control

Geographical coverage

Potato cultivation areas in temperate zones

Application time

From first leaf development to final yield formation (in Europe: June to July)

Required time

3-8 sprayings

Period of impact

Current crop

Equipment

Row-crop sprayer

Best in

Potatoes