



VARIETY INFO November 2025



## PHYTOPHTHORA CACTORUM (COLLAR ROT)

*in Pome Fruit – Identification, Prevention, and Control*

### WHAT IS PHYTOPHTHORA CACTORUM?

Phytophthora cactorum is a soil-borne pathogen (oomycete) that causes severe damage in fruit production and nurseries. It primarily attacks apple, pear, and quince, but can also affect other fruit species. The disease is commonly known as **collar rot**. The pathogen infects the tissues around the root collar, causing progressive decay. Plants growing on waterlogged, poorly drained, or compacted soils are particularly at risk. Infections often occur after periods of heavy rain, in the presence of bark injuries, or due to improper planting techniques.

### TYPICAL SYMPTOMS:

- **Sunken, dark brown to black bark necroses at the root collar**
- **Slimy, foul-smelling coating in wet weather**
- **Death of the bark and cambium, which may spread in a ring-shaped pattern**
- **Weak shoot growth, small leaves, premature autumn coloration**
- **In later stages: death of the entire tree**



The fungus can survive in the soil as oospores for many years and repeatedly infect new plantings if site conditions remain favorable.

### OCCURRENCE IN THE NURSERY



As a result of the destruction of the vascular system, nutrient transport is restricted. The leaves become pale, later turn reddish, and fall off prematurely. Infected plants show stunted growth, bark cracking at the root collar, and often an asymmetrical discoloration of the leaves. The disease spreads through contaminated water, soil, tools, or plant debris.

### OCCURRENCE IN THE ORCHARD

In established orchards, infestation usually occurs after prolonged waterlogging. Trees grafted on susceptible rootstocks such as MM106 or M26 are particularly affected. The disease becomes visible through growth depression, reduced yields, and the sudden death of individual trees in waterlogged areas of the orchard.

## TECHNOLOGICAL AND CULTURAL MEASURES

- **Avoid waterlogging:** Improve compacted or poorly aerated soils (drainage, deep loosening, liming with  $\text{CaCO}_3$  or  $\text{CaO}$ ).
- **Observe planting height:** The grafting point must not be below or at soil level. Planting on ridges (ridge culture) reduces the risk of soil contact.
- **Soil hygiene:** Do not plant in areas with a history of severe Phytophthora infestation.
- **Avoid injuries:** Phytophthora enters through trunk wounds (e.g. frost cracks, shaking machines, soil cultivation too close to the trunk).

## PLANTING MATERIAL

- **Use only certified, healthy plants** and inspect them again before planting.
- **Susceptible rootstocks:** MM106, M26. For sensitive rootstocks, high budding or interstock grafting with a tolerant variety is recommended.
- **Less susceptible:** M27, M7.
- **Resistant:** Geneva 11, Geneva 41.
- **Varietal susceptibility:** *Topaz, Idared, Cox Orange, Opal, Crimson Crisp*, and varieties derived from them are particularly susceptible.
- The susceptibility of a variety can be avoided by **using an interstock** of a non-susceptible, trunk-forming variety. Especially during the main growth phase in spring, weed growth around the trunk should be kept low to ensure rapid drying after rainfall. On humus-poor soils, the fungus finds favorable conditions for development. The application of compost can have a revitalizing effect and promote soil organisms with antagonistic activity.

## PLANT PROTECTION MEASURES PREVENTIVE APPROACH

### PREVENTIVE APPROACH

- **Copper preparations:** Regular treatments to strengthen overall tree health.
- **Phosphonates (e.g. phosphorous acid or its salts):** Can be applied as foliar or trunk treatments. They increase the tolerance of the tree and slow down disease progression but are not curative.
- **Fosetyl-Al or Metalaxyl:** Effective under certain conditions, mainly as preventive measures.
- Before any new planting, check the soil for waterlogging, carefully remove soil and plant residues from previous crops, and at the first symptoms, immediately uproot and dispose of infected trees.

## DO YOU HAVE ANY QUESTIONS?

Please don't hesitate to contact us:

Artevos GmbH – [info@artevos.com](mailto:info@artevos.com) – +49 761-120 92 80 – [www.artevos.com](http://www.artevos.com)

### FOLLOW US! We're also fruity and active on social media:

<https://facebook.com/ArtevosGmbH/> | [www.instagram.com/artevos\\_flavourfirst/](https://www.instagram.com/artevos_flavourfirst/) | [www.pinterest.de/ArtevosGmbH/](https://www.pinterest.de/ArtevosGmbH/)