PRACTICE ABSTRACT

Apple scab (*Venturia inaequalis*): Preventive measures in organic pome fruit production

Problem

Apple scab (*V. inaequalis*) is the main fungal disease in organic pome production. It affects apple quality and leads to significant yield losses.

Solution

There are effective preventive measures to reduce the risk of apple scab infection, including promoting leaf decomposition, pruning, site and variety selection, and balanced fertilization.

Benefits

Applying a combination of preventive, protective and curative measures during the ascospores phase in spring efficiently decreases the risk of infection.

Applicability box

Theme

Crop production, Horticulture, Temperate Fruits

Keywords

Biological disease control, plant protection, apples, apple scab

Context

Temperate regions, can be applied wherever apple scab is an issue

Application time

Throughout all year

Period of impact

Up to one year

Equipment

Vinasse (Status of approval for organic production must be checked in respective country)

Leaf vacuum cleaner (if applicable; temporary rental can be considered)

Practical recommendations

Preventive measures to avoid risk of infection:

- Varieties: Use scab-resistant/tolerant apple varieties, such as e.g. *Story/Inored, Topaz, Opal, Ladina, or Santana*[1,2]
- Good plant aeration/site selection: Apple scab depends on leaf moisture for successful infection. Therefore, it is important to allow quick drying of the plants with well-lit and air-permeable canopies and planting systems. To do so:
  - Align rows towards the main wind direction;
  - Space plants widely;
  - Prune trees and roots to achieve steady growth and a loose canopy.

Preventive measures to reduce inoculum and reduce the risk of infection:

Promotion of foliage decomposition in autumn/spring reduces the ascospores potential for the upcoming season. You can promote this via:

- Mechanical shredding of infected plant parts (fallen leaves) by tillage;
- Use of Vinasse in autumn at leaf fall (single application);
- Use a leaf vacuum cleaner to actively remove infested leaves (Picture 1) from the tree strips within the orchards (Picture 2).

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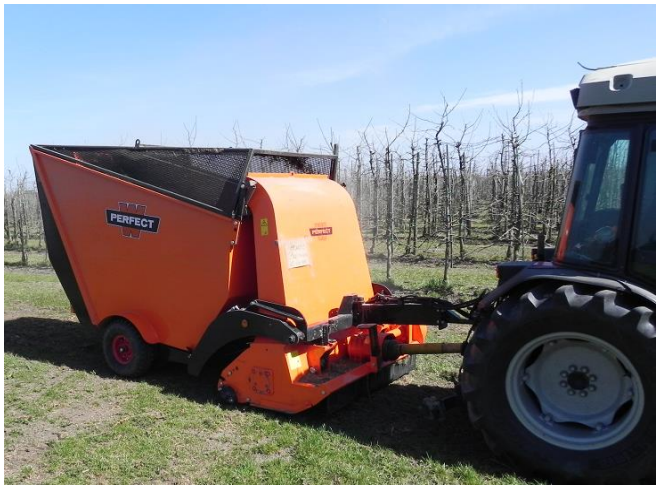
Picture 1: Scab infection on apple leaf (Photo: C. Adolphi, June 2019)



Picture 2: Leaf vacuum cleaner (Company PERFECT) used to remove fallen leaves from the tree strips in autumn (Photo: B. Benduhn, February 2014)

Further information

Video

- "Perfect" Mow Load Combination MLC-150 (Van Wamel BV)

Weblinks

1. Oeser, N. 2022. Practices abstract Apple scab: Robust cultivars for Central Europe. FÖKO, BIOFRUITNET.
2. Lindhard-Pedersen, H. and Bojesen, M. 2022. Practice abstract Apple scab: Robust cultivars for Northern Europe. Hortiadvice, BIOFRUITNET.

- Fliessbach, A., Schmidt, C., Bruns, C., Palmer, M., Nietlispach, B., Leifert, C., Tamm L. 2007. Soil biological quality in short- and long-term field trials with conventional and organic fertility input types. University of Hohenheim, Germany.

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