BIOFRUITNET
Boosting Innovation in ORGANIC FRUIT production through stronger networks

Versuchszentrum
Centro di Sperimentazione
Research Centre
LAIMBURG

PRACTICE ABSTRACT

Strategies to reduce sooty mould infection in organic apple production

Problem

The sooty mould consists of many pathogens that vary from year to year but also during the season. The damage can be seen by dark spots on the surface. (Picture A-B). During storage, the spots can increase in size (Picture C).

Solution

The use of field covers (e.g., Keep in Touch System) reduces the infestation (Picture D).

The use of brushing machines on the fruit after storage favours the cleaning of the fruit from spots (Picture E).

Benefits

The risk of infestation is lower when the orchard is in airy areas and when early-maturing varieties are used.

Practical recommendations

Preventive measures keep the orchard in dry conditions:

- The crown of the trees must be managed so that they do not become too dense.
- Mow the grass under the row by making frequent passes.
- Avoid all factors that prolong leaf wetness and increase humidity.
- Avoid overhead irrigation systems. Prolonged wetting of the leaves increases the risk of attack.
- Avoid aphid infestations. The honeydew produced by aphids increases the risk of sooty mould infection.
- Avoid using leaf fertilisers (algae preparations or nitrogen compounds, including organic ones).
- Avoid excessively humid conditions during storage.
- The most used plant protection products are copper, lime sulphur, potassium bicarbonate and sodium. The efficacy is currently unclear as pathogens are different and vary from region to region.
- Soap-based treatments are carried out. It also has an indirect action against fumigants, as it can dissolve the honeydew produced by phytophagous insects and helps to eliminate the eggs laid on the leaves. It is advisable not to carry out treatments too frequently, as it can encourage the emergence of *Neofabraea* spp.
- Remove mummies (dried fruit) from the orchard as they cause a high risk of infection (Picture F).

Applicability box

Theme

Crop production, Disease & Pest control

Keywords

Sooty mould/blotch, Precautionary measures, Hedging, Brushing machines, Early maturing varieties, Moisture reduction

Context

Northern and central Europe

Application time

Summer: physical covers (Keep in Touch System)

Autumn: brushing machines

Period of impact

During summer: high humidity conditions (rain, dew, treatments) increase the risk of infection

Equipment

Brushing machines, Keep in Touch System

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Picture A. Surface spots on the fruit before harvesting, Picture B. Box of apples affected by sooty mould after harvesting, Picture C. Growth of surface spots during storage, Picture D. Keep and Touch System, Picture E. Brushing machine. The effect of the treatment is shown (before- after brush), Picture F. Mummies and the presence of sooty mould on the fruit. Photos A-C: Claudio Casera. Photos D-F: Alfredo Mora V. Research Centre Laimburg.

Further information

Further reading

- Kelderer, M., Casera, C., Mora Vargas, A., Öttl, S. 2020. Approaches how to reduce sooty mold on organically produced apples. Proceedings Ecofruit conference 2020.
- Check the Organic Farm Knowledge platform for more practical recommendations.

About this practice abstract

Publisher: Research Centre Laimburg – Italy
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Permalink: Organic-farmknowledge.org/tool/45926

Project name: BIOFRUITNET- Boosting Innovation in ORGANIC FRUIT production through stronger networks

Project website: https://biofruitnet.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 862850. This communication only reflects the author's view. The Research Executive Agency is not responsible for any use that may be made of the information provided. The authors and editors do not assume responsibility or liability for any possible factual inaccuracies or damage resulting from the application of the recommendations in this practice abstract.