

Rosy apple aphid (*Dysaphis plantaginea*) management in organic fruit production

Problem

Rosy apple aphid can lead to up to 95% yield losses. Damage is caused by growth paralysis of the buds and fruit (Picture 1) and high production of honeydew, which can cause sooty mould.

Solution

The most effective management methods in organic production are preventive agronomic measures and direct control using products based on Neem (*Azadirachta indica*) extracts (Pictures 2-3).

Benefits

Preventative measures and control strategies for Rosy apple aphids and links specific them are provided.

Practical recommendation

Preventive measures^{2,3,4}

- Proper nitrogen fertilisation
- Mechanical removal of affected shoots (via pruning)
- Functional biodiversity (natural antagonists) promotion⁴ by seeding flower strips in the inter-rows³ and actively maintaining hedges (Picture 6). Useful natural antagonists include:
 - Coleoptera coccinellidae (predators): *Adalia bipunctata*, *Coccinella septempunctata* and *C. decempunctata*.
 - Neuroptera Chrysopidae: *Chrysoperla carnea* (predators at the larval stage)
 - Diptera Cecidomyiidae: *Aphidoletes aphidimyza* (predators at the larval stage)
 - Diptera Syrphidae: In the larval stage, they are excellent predators.
- Monitoring aphids from the pink bud phase until fruit development (fruit size up to 10 mm). Inspect the foliage of a random sample of 50 trees.

Direct control with Neem¹

- Due to the multiple generations and quick reproduction of these aphids, timely treatment is necessary.
- When stem mothers(foundresses) in the field are detected during monitoring, treatment must be carried out¹.
- The first treatment with Neem extracts products should be done around the stage of “tight cluster-pink” (Pictures 4-5). Depending on aphid development, it is recommended to split the treatments and apply a second treatment at the end of blossom¹.

Applicability box

Theme

Crop production, pest and disease control, biodiversity, temperate fruits.

Keywords

Rosy apple aphid, direct control, Neem extracts, preventive measures, functional biodiversity.

Context

Northern and central Europe.

Application time

Preventive measures: Spring/autumn.

Direct control: Summer.

Period of impact

- In spring, March-April, when the parthenogenetic foundresses are born (up to 4-5 generations).
- Shoots are attacked until early summer.
- The migration of the adults to their primary host tree (apple tree) occurs in early autumn.



Pictures: 1) Affected leaves, shoots, and fruits. Credit: Ewald Lardschneider. 2) Leaf with a rosy apple aphid colony. Credit: Claudio Casera. 3) Results of treatment with *Neem*: 90-95% efficacy. Credit: Claudio Casera. 4) Tight cluster stage. Credit: Alfredo Mora V. 5) Pink stage. Credit: Alfredo Mora V. 6) Flower strip in the inter-row. Seven-spot ladybird (*C. septempunctata*) is observed on flower of wild carrot (*Daucus carota*). Credit: Josef Telfser

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Further information

Further reading

- Lösch, R., Kelderer, M., Meyer, E. 1998. Die Bekämpfung der Mehligten Apfelblattlaus mit Niem-Produkten. Obstbau Weinbau 35(9), 282-283.
- Check the [Organic Farm Knowledge platform](https://www.organic-farm-knowledge.org/) for more practical recommendations.

Weblinks

1. Adolphi, C., Oeser, N. 2022. Practice abstract: Rosy apple aphid: Direct control with Neem in organic orchards. FÖKO. BIOFRUITNET.
2. Piotrowski, W., Tartanus, M. 2022. Practice abstract: Agronomical practices to reduce the risk of rosy apple aphid (*Dysaphis plantaginea*) occurrence in organic fruit production. InHort. BIOFRUITNET.
3. Lindhard Pedersen, H., Bojesen, M. 2022. Practice abstract: Prevent infestation using flower strips. Hortiadvice. BIOFRUITNET.
4. Adolphi, C., Oeser, N. 2022. Practice abstract: Rosy apple aphid Rosy apple aphid: Promote natural antagonists against the rosy apple aphid. FÖKO. BIOFRUITNET.

About this practice abstract

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