PRACTICE ABSTRACT

Integration of high-perennial fringes along edge structures in organic orchards

Problem

Intensively managed orchards often contain a low diversity of different woody plants and, consequently, a low food supply for beneficial insects other than the fruit tree blossoms.

Solution

High-perennial fringes (HPF) increase structural and biodiversity and are an important measure to increase biodiversity in organic orchards (Picture 1). This also affects the promotion of beneficial insects for pest control and pollination.

Benefits

Provision of increased supply of food and nesting sites, especially for insects. Flower strips also raise visual attractiveness and can provide a positive impact on regional or local tourism.

Applicability box

Theme

Crop production, Horticulture, Temperate fruits

Keywords

Plant protection; Pest control; Biological pest control

Context

Central Europe

Application time

March – September

Period of impact

Spring – autumn

Equipment

Seed-mixture, mill, sowing machine, mower

Best in

Organic orchards (Pome and Stone fruit)

Practical recommendation

- Choose locations along edge structures within the orchards such as along fences, ditches or embankments or also unusable areas on the edges of the plantation.
- Lay out the HPF with a width of 1.0m or wider for an optimal development. The minimum width for an HPF is 0.5m, otherwise it will be suppressed by grass.
- The plant composition should include cut-tolerant herbs and food plants (e.g., caterpillar food plants, nectar/open flowers and pollen) and flower throughout the growing season (including selection of plant species with early flowering before apple blossom).

Planting:

- Timing: Depending on the region and weather conditions from early spring to autumn. When sowing in summer ensure proper irrigation.
- Mill the surface two times at two week intervals to keep competitive pressure low.
- Sow the seed only superficially (i.e., light germination) and roll it after sowing.
- Mow the HPF once a year in late spring, so animals may overwinter there.

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Picture 1: High-perennial fringes on organic farms in northern Germany (Lower Elbe region) (Photo*:* C. Adolphi, 2018).

Further reading

Weblinks

- Perennial flower strips – a tool for improving pest control in fruit orchards (available in many languages)
- Biodiversity measures in the agricultural landscape (DE)
- Biodiversity in orchards (DE)

About this practice abstract

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