

Hedges as a valuable component of biodiversity enhancement in organic orchards

Problem

Modern intensively managed orchards often have a low diversity of different woody plants and thus only a small food supply for beneficial insects outside the fruit tree blossom period.

Solution

Hedges increase the structural and species diversity in orchards. A near-natural hedge consists of several different native woody species and an herbaceous border.

Benefits

Planting hedgerows will enhance the ecological value of the orchards and provide an increased supply of food and nesting sites for a variety of birds, insects, amphibians and other small animals.

Practical recommendation

Selection of suitable species and planting material

- Build up a natural herbaceous margin of wild plant species along its edge over time as valuable refuges for many plant and animal species.
- A hedge should provide a rich flowering offering shelter for insects over as long a period as possible, ideally outside the fruit tree flowering period.
- Select suitable woody plants taking care not to introduce host plants for diseases and pests relevant in fruit growing. (e.g., elder is a host plant for cherry vinegar fly; hawthorn can transmit fire blight).
- Suitable trees and shrubs for a near-natural hedge can vary depending on the region/country. In Germany, for example, the following have proven to be suitable:
 - Trees: Field maple (*Acer campestre*), Rowan (*Sorbus aucuparia*), Hornbeam (*Carpinus betulus*);
 - Shrubs: Dogwood (*Cornus sanguinea*), Hazel (*Coryllus avellana*), Elder (*Sambucus nigra*), Cornelian cherry (*Cornus mas*).

Planting and care

- Protect individual plants against browsing by deer and hares with browsing protection wire or repellent paint.
- Provide sufficient water, especially in the year of planting.
- Hedges should preferably be cut back ("stocked") in sections at 8-10 year intervals, not full length, so that different age and depth structures can develop within the hedge.

Applicability box

Theme

Crop production, Horticulture, Temperate fruits

Keywords

Plant protection; Pest control, Biological pest control

Context

Central Europe

Period of impact

Winter/ early summer

Equipment

Sorbus aucuparia, *Carpinus betulus*, *Cornus sanguinea*, *Cornus mas*, *Sambucus nigra*



Picture 1: Hedge with among others (a.o.) *Euonymus europaeus*, 2. Hedge with a.o. *Rhamnus*, 3. *Ligustrum vulgare* 4. Hazel (*Corylus avellana*) (Photos: Christina Adolphi, ÖON).

Further information

Weblinks

- [Biodiversity in orchards \(uni-hohenheim.de\)](http://uni-hohenheim.de)
- [Effects of measures to enhance biodiversity in organic apple orchards in Germany](#)
- [EcoOrchard Leaflet „Biodiversity Enhancement in Orchards“ \(DE\)](#)
- Check the [Organic Farm Knowledge platform](#) for more practical recommendations

About this practice abstract

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