

Biodiversity to optimize biological control in greenhouse vegetables

After chemical control of many pests became complicated, biological control is now generally applied in most European greenhouses. This starts with releases of insects and mites, natural enemies of the pests. However, for some pests a lot of pesticides are still used since biocontrol is not easy. In some cases, an important role is recognized for species that arrive spontaneously and they are often crucial for the control of key pests. The presence of this beneficial fauna is stimulated more and more by increasing biodiversity, both inside the greenhouses and in the surroundings.



What is being done?

Around the greenhouses, green strips are planted with selected shrubs that offer resources for natural enemies. Only autochthonous plants from the region are used. Continuous flowering is important, as well as presence of alternative prey.

Inside the greenhouses, different types of beneficial plants are used to stimulate the natural enemy populations.



Many plants have their **own specific pests** that cannot live on the crop, but are very useful to **breed natural enemies**



Flowering plants offer food (nectar and pollen) for a wide range of beneficial insects and mites

Results

Growers recognize the benefits of increasing biodiversity: pest pressure diminishes, and the results of biological control notably improve. Released species live longer, have a higher reproduction rate and higher control efficacy. A lot of beneficial fauna arrives spontaneously.

Cost – Cost-efficiency

Non-crop beneficial flora occupies +/- 1 % of the crop surface; maintenance may take max 2 hours/Ha per month. Acquisition of plants is cheap compared to the acquisition of pesticides. Economic benefits are clear when pesticide treatments can be avoided and no harvest is lost through pest damage.