



Easy Guide

Insect Protection in Standards of the Food Sector

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DECLINE OF INSECTS: TIME FOR ACTION

Easy Guide on Insect Protection

The integration of insect protection into sourcing strategies and guidelines is essential for companies of the food sector. Standards and labels in the food sector ensure clearly defined quality criteria for a product and its production. Furthermore, such criteria act as guidance for farming and can influence agricultural practices on a large scale. Given the dramatic decline of insects (including many pollinator species), standards and labels need to ensure that the criteria not only contribute to their protection but also to the recovery of insect diversity and population numbers.

This Easy Guide is particularly designed for quality, product and procurement managers, who are responsible for purchasing food products. The guide supports managers to understand and to assess fields of action that are relevant for protecting insects and which should be covered by a standard or label.

This is the second Easy Guide published by the EU LIFE Food & Biodiversity project. The first guide explains how managers can assess the effectiveness of the biodiversity criteria in standards and labels of the food sector. It is available in five languages and can be downloaded here:

<https://www.business-biodiversity.eu/en/easy-guide-biodiversity-in-standards>



Food Production and the Decline of Insects

Insects provide crucial ecosystem services, such as pollination, nutrient cycling, pest control and the provision of food for a wide range of species. Thus, the decline of insects has an immediate negative effect on those functions.

Especially pollinating insects are essential for our global food production. According to the latest Global Assessment Report on Biodiversity and Ecosystem Services of the World Biodiversity Council IPBES, more than 75% of global food crop types rely on animal pollination.

THE IMPORTANCE OF INSECTS

- 75 % of global food crop types rely on animal pollination, one third are pollinated alone by bees.¹
- Insects drive & connect regulating, supporting and cultural ecosystem services.²



Agriculture is important for the protection of insects because many species and habitats are closely linked to agricultural landuse.⁵



Intensive agricultural practices and changes in landuse including monocultures and pesticide use threaten pollinating insects.²



Through flower strips, hedges and nesting aids on a Pro Planet plantations, presence of wild bee species doubled within eight years.⁶



From 1989 to 2016 flying insect biomass in Germany declined by 76%.³



4 in 10

Bees and butterflies may face extinction.^{5,2}

Annual value of global crop output up to **530 Billion Euro** is at risk due to pollinator loss.⁴

Sources: 1: FAO (2018) Why Bees Matter.; 2: FAO (2016) Available via: <http://www.fao.org/news/story/en/item/384726/icode/>; 3: Hallmann et al. (2017). DOI: 10.1371/journal.pone.0185809 ; 4: IPBES (2019) Summary for Policy Makers; 5: Elevated Scientific (2016) Available via <http://creativecommons.org/licenses/by-nc-nd/4.0/>; 6: Bodensee Stiftung, available via: http://www.bodensee-stiftung.org/pro_planet_apfelprojekt.

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BIODIVERSITY MANAGEMENT

Important Fields of Action with Benefits for the Protection of Insects

Biodiversity friendly agriculture builds on two main pillars. The first is to protect and enhance ecosystems and other ecological structures, which serve as recreation area and habitat for a diverse range of animals, including insects. Secondly, any reduction of negative impacts that farming has on nature also affects insect populations. Those two are underpinned by indirect measures aiming at supporting knowledge and enhancing systematic approaches towards the protection of biodiversity and insects.

Creation, protection or enhancement of habitats (e.g. creation of semi-natural habitats and biotope corridors)

BIODIVERSITY MANAGEMENT

Reduction of negative impacts on biodiversity and ecosystems (e.g. reduction of pesticides)

VERY GOOD AGRICULTURAL PRACTICES for MORE BIODIVERSITY

Indirect measures, supporting the two main fields for biodiversity protection (e.g. training of staff, pesticides storage systems, environmental management systems etc.)

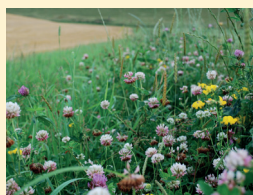
The following table shows fields of action that are relevant for the protection and promotion of insects. We also highlight standards which address this fields of action with their criteria. Please note that this list is not comprehensive and standard systems that are not mentioned here may as well contribute to or cover these fields of action.

BIODIVERSITY MANAGEMENT

Fields of Action

Creation, protection and management of ecological structures on agricultural land

Diverse ecological structures like flower strips, hedges, trees (native species), permanent grassland, traditional orchards etc. serve as retreat areas, shelter and an important food source for insects/beneficial organisms. Their abundance on agricultural land should be increased, while existing structures need protection from disturbances through agricultural activities (e.g. fertilization, plant protection products). To raise the quality for local fauna, only native plant species should be used when maintaining old or implementing new ecological structure.



A Selection of Standards

- UEBT
- Rainforest Alliance (2021)
- Fairtrade (Hired Labor Standard and Small Producer Standard)
- GlobalGAP
- Naturland
- Bioland
- Bee friendly
- Demeter
- PDO Laguiole, Comté, St Nectaire
- IP Suisse
- High Environmental Value (Environmental certification level 3)
- Biocoherence
- BIO SUISSE
- Bee Friendly Farming (BFF)

VERY GOOD AGRICULTURAL PRACTICES

Fields of Action

A Selection of Standards



Reduction of pesticides

In order to reduce the high decline of insects, a significant reduction of all pesticides and the use of alternative measures for pesticides is necessary. Different approaches are possible, ranging from defining a maximum threshold for the percentage of treated plots

(e.g. max. 80 % of cultivation areas are treated with and 20 % of the area are left free of pesticide) up to the permission to use only insecticide permitted for organic agriculture during the entire crop season.

Application of integrated pest management is a good approach that provides crop-based preventive measures and damage thresholds (intercropping, crop rotation, protection and enhancement of beneficial organisms etc.).

- UEBT
- Fairtrade (Hired Labor Standard and Small Producer Standard)
- GlobalGAP
- Organic Standards
- Rainforest Alliance
- QS Standard (limited IPM)
- Bee friendly (level 3)
- High Environmental Value (Environmental certification level 3)
- Biocohérence
- IP Suisse
- BIO SUISSE
- Bee Friendly Farming (BFF)



Protection of healthy soils – soil management and reduction of synthetic fertilizer

Soil is an important living and breeding space for insects. Therefore, the protection of healthy and living soils correlates with the protection of insects. For instance, intensive ploughing or tillage may affect

nesting sites and survival of beneficial insects while an increase of soil organic matter and a stable soil structure supports them.

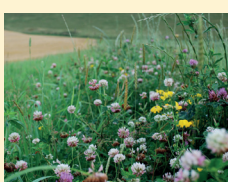
- Standard for Sustainable Cattle Production Systems
- UEBT
- Rainforest Alliance
- Fairtrade (Hired Labor Standard and Small Producer Standard)
- GlobalGAP
- Organic Standards
- QS Standard
- PDO Laguiole, Comté, St Nectaire
- IP Suisse



Diverse cropping systems

A diverse cropping system supports insects with food and shelter. Starting with a heterogenic crop rotation, including cover crops and intercropping, up to a diverse crop mosaic in landscape.

- UEBT
- IP Suisse
- BIO SUISSE



Grass-based and pasture-based livestock farming

Implementing multi-species grasslands with mixtures of diverse legumes (entomophilous crops) provides shelter and food resources for insects. These grasslands should be managed extensively; by closely controlling

the average livestock density grazing reducing the risk of overgrazing (loss of biological diversity) and undergrazing (risk of afforestation).

- PDO Laguiole, Comté, St Nectaire
- IP Suisse
- Bee Friendly



Protection of water – buffer zones

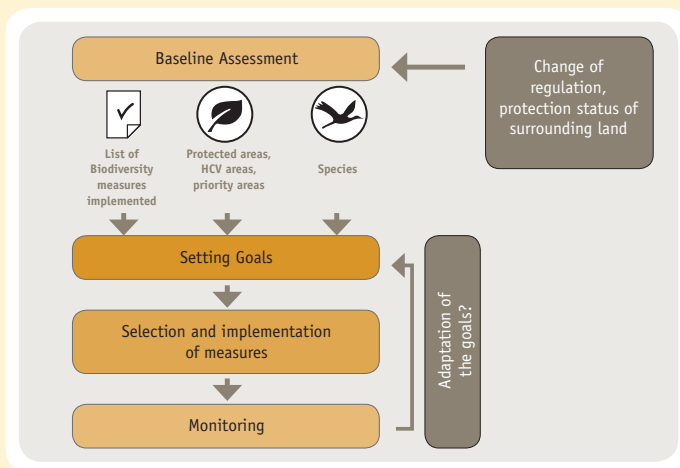
Water is a vital habitat for insects – within and above. Therefore, the protection of waterbodies is very important for the protection of insects. To protect these structures, buffer zones are essential and should go beyond what is legally required.

- UEBT
- Rainforest Alliance
- Fairtrade (Hired Labor Standard and Small Producer Standard)
- GlobalGAP
- Organic Standards
- QS Standard
- IP Suisse
- Bio SUISSE

INDIRECT MEASURES

Fields of Action

A Selection of Standards



Biodiversity Action Plan (or similar)

A plan to enhance and conserve biodiversity on farm scale. It includes and supports agro-ecological practices and highlights a sound biodiversity management. As such, it includes a range of measures for the protection of insects.

- UEBT
- Demeter
- Rain Forest Alliance (2021)
- GlobalGAP



Training and capacity building

A continuous improvement of agricultural practices is the key to foster and sustain thriving of insects. The exchange of best practices as well as the training on topics like biodiversity and more specifically about insect- and pollinator protection should be taken up by all stakeholders in the foodsystem.

- Bee friendly

LIFE Food & Biodiversity Project

The LIFE Food & Biodiversity Project is directed at standard setting organizations and companies with individual sourcing requirements. A European consortium of Global Nature Fund, Lake Constance Foundation, Fundación Global Nature, Instituto Superior Técnico, Agentur auf!, Solagro, agence good for good provide practical support to biodiversity performance of the food industry by

- Supporting standard-setting organisations to include efficient biodiversity criteria into existing schemes; encouraging food processing companies and retailers to include biodiversity criteria into their respective sourcing guidelines
- Biodiversity trainings for advisors and certifiers of standards as well as product and quality managers of companies
- Implementing a Biodiversity Performance Tool and a cross-standard monitoring system on biodiversity
- Communicating strongly to raise awareness among all stakeholders in the industry
- Implementing Sector Initiatives on Biodiversity
- Contributing to national and European policies such as the EU Pollinators Initiative.

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Further information: www.food-biodiversity.eu