

RECOMMENDATIONS

for more

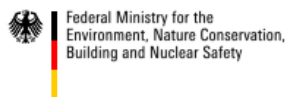
Biodiversity Criteria in Standards und Quality Labels for the Food Industry



October 2014

For more information: www.business-biodiversity.eu

The project is funded by the German Federal Agency for Nature Conservation with funds of the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety



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Project Overview

Next to climate change, the loss of biodiversity is one of the largest fundamental challenges of our time. The food producing and processing industries have significant impacts on biodiversity. Currently, biodiversity, ecosystem services and their protection continue to play only a minor role in food industry even though their fundamental importance is known today.

This project seeks to motivate standards and quality labels in the food industry to better integrate the conservation of biodiversity in their criteria for products and to adapt and improve existing standards and quality labels. The initiative also targets company-owned standards and requirements for the supply chain from food producers / retailers, that should be motivated to define biodiversity criteria or to optimize existing criteria, as well.

Why Should Standards and Labels Integrate Criteria Related to Biodiversity?

The protection and sustainable use of biodiversity are not just environmental issues but also prerequisites for economic production processes, services and quality of life. The loss of biodiversity threatens economic foundations, especially those in the food industry that rely on nature for their supply of raw materials.

Standards and labels set an example, can steer societal developments and should ensure the protection of the environment and biodiversity with certifications that surpass legal requirements. In addition, certified farm operations and food companies that are committed to the protection of biodiversity are better prepared for future changes in legislation and enjoy a competitive advantage by attracting a growing group of consumers who increasingly prefer products made with a high regard for environmental and social criteria. According to the German Federation of Food and Drink Industries, one in four consumers (26%) makes purchasing decisions partly based on ethical criteria such as sustainability, fair trade or animal welfare (2013). Overall, consumer demands for higher food standards are growing (see link below).

<http://www.derhandel.de/news/unternehmen/pages/Konsumentenverhalten-Lebensmitteleinkauf-Kunden-haben-neue-Ansprueche-10091.html>

(Available only in German)

Measures and Expected Results

The criteria of 19 labels and standards were screened with regard to their relevance to biodiversity protection. Project partners identified biodiversity relevant criteria in standards and examined to which extent the existing criteria address critical points in relation to biodiversity and where an urgent need for improving existing standards and labels exists. The results were discussed with representatives from standards organizations, companies, farm operations and environmental experts. These findings were published in the Baseline Report (English and German):

<http://www.business-biodiversity.eu/default.asp?Menu=229>

As the next step, the Lake Constance Foundation and the Global Nature Fund compiled recommendations for policies for the standards organizations and concrete criteria for biodiversity protection.

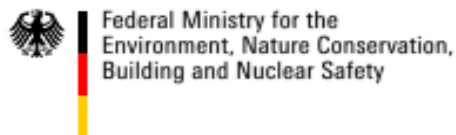
A working group consisting of representatives from standards organizations, the REWE Group, other companies from the food industry and trading companies, as well as certifiers and environmental organizations all supported the development of these criteria. In addition, the recommendations will be presented in a large forum with the aim of involving all stakeholders in the process of reaching a broad consensus.

Since July 2014, the recommendations and criteria have been discussed with the label and standards organizations and companies that maintain their own labels and standards in order to generate concrete steps for implementing the recommendations. Project partners have also made suggestions for activities the standards organizations and companies can conduct together to take advantage of the synergies that exist between them. These include, among others, the continued cooperative development of biodiversity criteria, scientific studies of food industry impacts on biodiversity, and common and agreed upon monitoring systems.

One advantage of coordinated standards and labels is more efficient resource-use and better recordkeeping / monitoring of complex criteria that affect various aspects of biodiversity. Furthermore, certified organizations and their target groups (e.g. small farmers) would benefit significantly from coordinated standards.

Recommendations for action and criteria will be announced by the industry associations at exhibitions and conferences. Project partners will support the label and standards organizations and companies that want to develop, integrate or solidify biodiversity criteria. When the project concludes in March 2015, all relevant labels and standards for the food industry should contain meaningful criteria for the protection of biodiversity or at least guarantee that it will be included in the next revision of the criteria. The medium-term goal is the acceptance of a minimum set of criteria for biodiversity protection under the framework of a food industry initiative.

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Summary of Results from the Baseline Report

In 2013, the Lake Constance Foundation and the Global Nature Fund screened the policies and criteria of 19 various standards in relation to their relevance for biodiversity.

Selection of Standards:



The most important findings summarized:

Standards Policies and Strategies

Only few standards define the terms used within them such as “biodiversity”, “protected areas”, and “areas of high ecological value”. This results in neither the certifiers nor the farm operators understanding the concrete meaning of these terms, leaving them up to individual interpretation.

The impression arises, that the current debate over business and biodiversity has gone partially unrecognized by the standards. At the same time, largely popular concepts such as *No Net Loss of Biodiversity*, the *Mitigation Hierarchy* for minimizing negative impacts to biodiversity, and the roll that ecosystem services play for (agricultural) companies are scarcely mentioned.

Standards and their criteria make references to the farm operation as a closed system while failing to make it a goal to minimize ecosystem destruction beyond the bounds of the operation’s property lines. These externalities include things like landscape fragmentation, pesticide drift, erosion, water table depletion and effluent runoff. The impacts of products delivered for the farm’s operations should also be considered along with these other externalities.

Only a few standards organizations offer certified farm operations trainings on the various aspects of biodiversity. This is urgently needed so that farm operators receive the support they require to understand this complex field of activity and to guarantee the proper implementation of measures. There are numerous studies, information and examples that the standards organizations could provide to certified operations.

Biodiversity Relevant Criteria

In total, around 892 criteria with relevance to biodiversity were found. Most standards focus on “ecosystem degradation and destruction” (42%) and “overexploitation of resources” (49%). The “loss of genetic diversity” (4%) and the “introduction of non-native invasive species” (4%) are scarcely regarded in the standards.

Criteria that define the minimum size of ecological structures and the quality of measures are particularly effective. Specifying the minimum size of ecological structures is probably easier for standards organizations than defining the quality of a measure because in the latter case, differences between regions and operation sites must be considered. Therefore the tendency arises to offer a selection of measures that take regional particularities into account.

In most standards, a baseline assessment is not required. However, measuring / recording baseline data is necessary for the implementation of criteria - for the development of action plans, for example. Moreover, the impact of implemented criteria can only be assessed if baseline data is recorded and monitoring is conducted.

The question is: how detailed the baseline assessment should be so that it provides meaningful data while at the same time not overwhelming the farm operator? Standards should require at a minimum the mapping of existing habitats at the operation site and areas adjacent to it. Operations in or adjacent to protected areas or “High Conservation Value Areas” should also record animal and plant species that have been classified by the government as a protected species or have been placed on the Red List.

International standards focus on the protection of primary ecosystems while standards for European countries focus on preventing the overexploitation of farmlands especially on reducing pesticide use and nutrient surpluses. However, the standards need to give overall priority to the protection and preservation of intact habitats and ecosystems by incorporating respective criteria. The conditions for certified farm operations should always exceed those required by law, but most standards only require that they comply with current laws.

In Germany, biodiversity is endangered on one side from the reduction of agriculture, and on the other, from its intensification. The result is that ecological structures need to be supported and protected. Under the framework of EU agricultural policy, the concept of ecological compensation areas has become popularized. The standards should specify criteria for ecological compensation areas at the certified operation and define the nature, extent, and minimum quality of them.

Creating scattered “natural islands” is only partially effective. Nonetheless, hardly any criteria require improved habitat connectivity through the use of land and linear structures.

Standards can increase the quality of natural areas by providing guidelines / examples / consultancy offers that give advice for how to take agricultural land out of production and restore natural habitats. Habitat quality can also be monitored with the help of a few indicator species. Standards organizations should motivate farm operators to seek regional expertise and provide their corresponding contact information.

Unfortunately, the protection of crops and livestock diversity is only included in very few standards. Criteria are missing that motivate farm operators to engage with this issue. Standards organizations should also leverage their influence over food retailers in order to re-introduce heirloom / heritage varieties into the market.

Monitoring the Effects

The ability to monitor the effects of criteria is an essential requirement and also a challenge for all standards. Currently, few auditors can assess whether a habitat is intact and / or worth protecting or if it is more appropriate to implement a Biodiversity Action Plan. Certifiers / auditors / inspectors need urgent training in all aspects of biodiversity.

None of the standards or labels currently undertake a structured monitoring of biodiversity indicators—either at an operations-based or higher level. However, standards and labels should prove that they make a contribution to preserving biodiversity. Monitoring is an activity that standards organizations should conduct together. A shared, regionally-based monitoring system for various standards would be reliable and more cost-effective.

Overall, the analysis confirms that standards and labels still have significant potential for improving their *performance* in relation to biodiversity.

Recommendations

Methodology for Developing Recommendations

The following recommendations were developed with the assistance of experts from standards organizations, certification organizations, companies in the food industry and environmental organizations (see Contacts).

Using the conclusions in the Baseline Report, a starting point was defined in respect to the necessity for improvements. In order to do this, we retained the previously used screening structure and orientated ourselves on the main causes of biodiversity loss. The result is that we developed recommendations that avoid or reduce the main causes of biodiversity loss.

In formulating the recommendations, attention was taken on one hand to achieve a good to optimally positive effect for biodiversity protection, or to create potential goals. On the other hand, considering the practicality of these goals from the perspective of the standards organizations was an important factor in the formulation of these recommendations and goals.

Preliminary Remarks on the Recommendations

The following recommendations are primarily directed toward standards and labels for farm operations and their products.

Unfortunately, sufficient feedback to formulate qualified recommendations specific to animal products was not received from standards and labels. The standards for fish are fundamentally different and not comparable with standards for the agricultural industry. Recommendations for these standards should therefore be developed independently.

With this extensive catalogue of recommendations, the authors present the full range of actionable measures that can be taken for protecting biodiversity. The medium-term goals for standards organizations and farm operations should be the integration of the complete catalogue of recommendations into their activities. Realistically, we understand that organizations / farm operations must precede one step at a time. Standards organizations and farm operations follow different procedures and can:

- Integrate priority recommendations as mandatory criteria
- Identify recommendations as optional criteria for an initial period of time
- Compile a selection of recommendations and define a minimal number of them for implementation
- Award special points for the implementation of recommendations

It is important that standards organizations, farm operations and food companies take these first steps effectively and continuously improve their biodiversity performance. This also includes implementing the recommendations for standard policies, which are also relevant for companies with their own specifications. At this stage, no organization should be able to make a strong argument for why these recommendations cannot be implemented.

Work on this project has once again demonstrated how important the collaboration is between standards organizations and farm operations. A standard can not by itself face the immense task of stopping biodiversity loss. But together, the standards organizations can and should use their synergies to give priority to biodiversity preservation. If and when food producers and distributors adequately engage in this issue, a “food industry initiative” would make a huge difference and contribute decisively to addressing this global challenge.

1. Recommendations for Standard Policies / Strategies

The Project-Baseline-Report recognizes the importance of including clear definitions for biodiversity related terms so that all stakeholders have a universal understanding of their meaning and usage. However, only few standards clearly define the terms used within them. The impression also arises that the current debate over business and biodiversity has gone partially unrecognized by the standards. At the same time, largely popular concepts such as No Net Loss of Biodiversity, the Mitigation Hierarchy for minimizing negative impacts to biodiversity, and the roll that ecosystem services play for (agricultural) companies are scarcely mentioned. The No Net Loss concept and the Mitigation Hierarchy were only mentioned in one standard-text. The requirement and goal should be for standards to reflect these concepts in their long-term visions and align their criteria accordingly. Additionally, there are important overlapping aspects and recommendations that should be anchored in the policies / strategies of the standards.

1.1 Definition of terms for the field of biodiversity

Our recommendations:

- Use of internationally recognized terms and definitions.
- In cases where own terms must be used, the standard organization provides clear and comprehensible terms. These own definitions should be agreed upon by stakeholders.
- Standards contain a glossary in which all “official” and own terms are defined.

1.2 Focus biodiversity - Standards should address all the main aspects of biodiversity

Our recommendations:

- The policy standards will clarify which aspects of biodiversity are addressed and why the focus is placed on them.
- The standard commits itself to promote the diversity of crops and livestock. In dialogue with the food industry (industry and trade) the standards regularly check for the potential to introduce old cultivars and species into the market.
- The standard encourages its farm operators to use these market opportunities.

1.3 Consider a no-net-loss approach

Our recommendations:

- The standard has the explicit goal of making a relevant contribution to stopping biodiversity loss and to create the conditions for supporting a net-gain of biodiversity.
- The standards organization creates frameworks for enabling the measurement of contributions to biodiversity preservation i.e. collecting baseline data and implementing a monitoring system (see: Monitoring).
- The standards organization provides certified operations with information on successful examples for achieving No-Net-Loss of Biodiversity (e.g. planting of habitat-providing trees).
- In the strategy and its required instruments (e.g. risk analysis or Biodiversity Action Plan), the standards organization makes reference to the Mitigation Hierarchy as the basis for all activities.
- Before introducing new agricultural techniques the standards organization evaluates risk for biodiversity and informs the certified farms about potential risks and their avoidance.
- Certifiers / auditors should verify that the certified operation has acted in accordance to the mitigation hierarchy when formulating its goals and measures.
- The standards organization coordinates / finances regional biodiversity projects that all certified operations help fund in order to compensate for unavoidable negative impacts caused to biodiversity as a consequence of their activities.

1.4 Range and influence of standards

Our recommendations:

- The standards organization underlines in the strategy that economic activity always has affects on the surrounding environment and biodiversity and that negative impacts should be avoided under any circumstances or at least drastically reduced.
- Certified companies need to compensate for unavoidable negative impacts (see: Criteria).
- The standard organization supports roundtables for the preservation of biodiversity in protected areas or High Conservation Value areas. The organization exerts influence regarding the creation of a sound Biodiversity Action Plan for the region.
- Insist that certified companies motivate neighboring farms and suppliers to participate in collective actions for the protection of biodiversity (e.g. creating a biodiversity roundtable and a Biodiversity Action Plan for the region).
- Information, working documents, model examples, etc. should be provided to all farm operators in the region.

1.5 Influence of the standards organization on legal regulations and on requirements regarding product quality

Our recommendations:

- Standards verify compliance with legal regulations, but at the same time they are also leaders. Their criteria, specifically those related to limit values or the use of pesticides, go beyond legal requirements.

- Standards organizations should influence the further development of statutory laws, regulations, and limits that are designed for protecting and improving the environment in general and biodiversity specifically.
- Standards organizations should exert their influence in industry, retail and politics to insure that quality requirements do not have any negative impacts on biodiversity.

1.6 Abandoning GMOs

Our recommendations:

- The use of genetically modified organisms is prohibited at all stages of production.
- For organic operations, the requirements for respective state organic regulations or potentially a private organic association apply. In the case of exports, the requirements of the importing country apply. Information can be obtained by the organic control division of the operation.
- The standards organization produces a positive-list for crops and feed in order to avoid the use of genetically modified seed.

1.7 Problems with partial certifications and biodiversity

Our recommendations:

- Potential negative impacts on biodiversity if partial certifications need to be avoided.

1.8 Monitoring the development of biodiversity

Our recommendations:

- Standards organizations should demonstrate that they contribute to the protection of the environment and its biodiversity. For this purpose, they should collect and review data related to direct and indirect impacts on biodiversity within the framework of a monitoring program.
- Standards organizations agree upon a common framework for biodiversity monitoring in order to generate comparable results more efficiently. Monitoring includes the operation level (data collected as part of certification) and a few key stone or indicator species. These are determined in consultation with experts respective to regional conditions.
- The standards organization regularly evaluates all biodiversity relevant data that has been collected by certified operations. Other indicators in conjunction with new or revised biodiversity criteria are collected and evaluated during the certification process.
- Based on the evaluated data, the standard organization defines averages values and benchmarks that should help orient auditors and certifying bodies. The standards criteria should be formulated to encourage farm operators to reach (i.e. with a bonus system) the benchmark (Best in Class).
- Standards organizations should conduct an overview of ongoing monitoring activities in the region overseen by environmental protection agencies / NGOs. They should participate in regional monitoring initiatives e.g. by providing data; by engaging the participation of certified organizations; and / or by financially supporting the monitoring process (cooperation agreements).

1.9 Training in the field of biodiversity for certifiers and certified companies

Our recommendations:

- The standards organization ensures that biodiversity develops into a robust (core-) competence in standards. Biodiversity should be appropriately integrated into all offers and activities for the training of certified companies.
- The standards organization ensures that certifiers / auditors as well as advisors are trained by experts to guarantee their competence in all relevant aspects of biodiversity certification and assessment. Networking between certifiers will be promoted.
- The standards organization seeks the expertise of competent persons / organizations to ensure the quality of biodiversity. Supplying links to offers provided by regional agencies is also recommended.
- The effectiveness of training is regularly checked in order to continually improve its quality.

Important Components for Training or Assistance:

- Raising awareness about the risks GMOs present for biodiversity.
- Instructions for exemplary crop rotations for typical locations.
- References (maps and studies) for arid regions
- Lists of contacts for (regional) environmental organizations, universities, and agencies.
- Catalogue of measures is created for preserving, for example, structural biotope elements.
- Know how in regards to the efficacy and side-effects of pesticides on biodiversity. Proper use and documentation, avoidance of run-offs, storage, disposal, risk management in case of accidents, and preventative / alternative pest management techniques.

1.10 Verifiability & Development of the methodically quality

Our recommendations:

- Standards have concrete guidelines for the processes and methods for biodiversity management. For these guidelines they consult the expertise of environmental protection agencies, NGOs, and research institutions.
- The more the guidelines rely upon concrete numbers, indicators, or documented proof, the more precisely auditors / inspectors can verify compliance.
- Standards train their auditors regarding biodiversity aspects and promote frequent exchanges of experience between them.
- Certifiers and certified operations have to provide proof of participation in the trainings.
- Standards organizations support practice-oriented studies to further develop and improve knowledge about the negative and positive impacts of economic activities on biodiversity.

2. Recommendations for Biodiversity Management

The analysis of 19 standards in 2013 determined that international standards concentrate especially on the protection of primary ecosystems while the European-based standards focus more on avoiding the overexploitation of agricultural land and resources, specifically the reduction of pesticide use. Accordingly, the standards should strengthen their focus on the overall protection of intact habitats and ecosystems by incorporating relevant criteria. Existing criteria are often vague and do not ensure the quality of their respective measures. Furthermore, as it applies to nature and biodiversity protection / preservation, numerous standards “only” require adherence to previously existing legal regulations and do not go beyond them. The implementation of legal regulations can not be guaranteed in many countries and it is therefore necessary that standards ensure legal compliance. This also works in favor of their own interests. However, “legal adherence” is not sufficient enough to receive a “certification”. This would only be acceptable if the legal requirements were optimal as well as the condition of biodiversity in a given region. Unfortunately, this is not the case. Standards must therefore proceed by designing criteria and measures that exceed regulatory requirements.

The loss of biodiversity and its associated consequences are so dramatic that it is justified to require individualized Biodiversity Action Plans that include a description of the initial situation, goals, and measures. In any case, a Biodiversity Action Plan only makes an effective contribution to solving problems when its quality is reasonable designed so that the achievement of goals can be regularly verified and necessary corrections can be applied.

2.1 Protection of primary and semi-natural ecosystems

Our recommendations:

- Primary ecosystems may not be used. A base-year is defined.
 - Secondary and semi-natural ecosystems and HCV areas are only allowed to be used sustainably. The term “sustainability” is defined.
 - Certified farm operations are obligated to prevent negative impacts to neighboring primary ecosystems and protected areas. Consequences for infringement are defined.
 - If drainage becomes necessary, natural soil drainage is preferred over installed water drainage canals.
 - No drainage of marshes; no extraction of peats (climate protection, carbon sink).
 - Water drainage canals are filled wherever possible and the restoration of former wetland sites and habitats is made possible and supported.
- Cooperation with environmental protection agencies and / or NGOs are supported and encouraged.

2.2 Biodiversity Risk Analysis for Agricultural Land

Our recommendations:

- A risk assessment of impacts to surrounding areas caused by agricultural activity is conducted with the support of experts. The standards organization's guidelines relating to the methods and the content of the risk analysis should be followed.
- A risk analysis with a focus on biodiversity in relation to (pre-) products is required. The standards organization's guidelines relating to the methods and the content of the risk analysis should be followed.
- Requirements for (pre-) products are defined.

2.3 Biodiversity Action Plan at the Operation Level

Our recommendations:

- The farm operation submits a biodiversity action plan. The plan includes baseline data (including, at a minimum, information on the presence of natural habitats), measurable objectives, and significant data or indicators. The plan is reviewed and updated every three years.
- Farm operations in the vicinity of HCV areas should assess and evaluate the current situation of endangered / Red List species and continuously monitor them (national lists, IUCN red list, appendix II, IV, V of the FFH Guideline).
- Standards organizations provide qualitative and operational guidelines for the content of the biodiversity action plan.
- Criteria for the type, size, and minimal quality of priority / conservation areas are provided. For areas that have been recently taken out of agricultural production:
 - Minimal size of the area is defined and is larger than the legally required limit. "Overachievement" is rewarded.
 - Priority areas are defined in the biodiversity action plan.
 - Conservation and protection of the quality of defined areas in cooperation with an external expert.

For areas that have been **newly** developed for agricultural purposes:

- Guidelines for the compensation of biodiversity loss based on official regulations.
- Guidelines on the compensation of additional land-use in countries where no impact / compensation regulations exist.
- A catalogue of measures is created for the construction of regionally typical structures in combination with measures to support regional specific species. Region specific minimum sizes for ecological structures are defined. The standards organization provides advice on prioritization of measures. A minimum number of measures that the farm operation must implement are defined.
- The farm operator develops measures that support protected and / or endangered animals. Measures included amongst these are, for example, the construction of "lark windows" and the creation of wildflower meadows that supply nectar to pollinating insects.
- The creation of habitat corridors is required and the corridors are reported upon in the Biodiversity Action Plan.
- Areas specified for biodiversity at the farm operation are connected to one another via habitat corridors.
- If the farm operation directly borders a protected area, areas specified for biodiversity have to be connected to the protected area.

- The farm operation must inform itself about regional habitat corridor networks and integrate with them wherever possible. This includes migratory routes and wildlife corridors as well.
- Existing linear structures in the landscape (e.g. hedges, stone walls, water ditches), and other natural habitats in the landscape are to be conserved and not damaged (e.g. through waste disposal or by driving with heavy machinery).
- Maintenance of linear structures (e.g. trimming of hedgerows, clearing / cleaning of drainage channels) and other activities around adjacent areas is conducted in a manner that minimizes damage as much as possible to habitats and their flora and fauna. This particularly concerns the frequency of maintenance measures (trimming of hedgerows only every 3 years) and respecting breeding seasons.
- Field margins and flower strips will only be seeded with locally occurring or regionally native species. The natural development of linear structures and habitats without active planting and seeding is also important and permissible.
- The standard has defined sanctions for offenses against guidelines defined in the biodiversity action plan.
- The standards organization prepares a list with relevant monitoring indicators (e.g. percent of ecological compensation area, size of biotope corridors, and inventory of selected types of indicator species). See: Standards Policies / Strategies – Monitoring.
- The standard requires continual improvement. At a predefined minimum required level (e.g. through a points system) the farm operation does not necessarily have to improve.
- The standards organization provides further support for the development of the Biodiversity Action Plan. See: Standard Policy – Training

2.4. Prevent Introduction and Spread of Non-Native Invasive Species

Our recommendations:

- The standards organization informs auditors / certifier and farm operators about invasive species and the relevant ways / processes by which invasive species are (or can be) introduced.
- The biodiversity action plan must contain measures for preventing the spread of seeds, plant parts, etc.
- In the case of imported products and before transporting products from the farm operation site, the farm operator will undertake an inspection to ensure that no invasive species come onto or leave the premises.
- Invasive species that can possibly appear on farm operation sites must be identified. Farm operators must report any cases or presence of invasive species that appear on their land.

2.5 Supports for Species, Varieties and Structural Diversity

Our recommendations:

- The farm operation commits to supporting and increasing the habitat and biological diversity around its operation sites as part of its biodiversity management framework.
- Farm operators must demonstrate that they have informed themselves about protected and endangered plant and animal species.
- If protected and / or endangered plant and animal species are found on production grounds, the farm operator has to record them and take measures for their protection in the framework of the Biodiversity Action Plan. The measures include direct protection measures as well as ecological adjustments or limits of cultivation.
- The presence of protected and endangered plant and animal species must be reported to regional environmental protection agencies.
- The farm operation avoids monocultures and supports biological pest controls by use of intercropping, crop rotation, and a high degree of biodiversity.
- The promotion of beneficial organisms is a key measure advised by the standards and a focal point of the farm operation's preventative pest controls.
- The farm operation avoids practices that interfere with or endanger protected / endangered animals. This includes activities such as falling trees or cutting hedges during the mating / nesting season for birds or mowing / haying fields during optimal pollination conditions.
- With regards to hunting and / or wild harvesting of protected and endangered species the existing laws apply. Only if they allow a controlled usage, a sustainable use should be allowed for certified operators as well. The Biodiversity Action Plan contains measures to guarantee the sustainable usage.

3. Recommendations for VERY Good Practices for More Biodiversity

The consequences of strong agricultural intensification are dramatic for biodiversity. In addition to overusing and polluting waterways; compacting and eroding soils; and introducing invasive species, intensive agricultural production systems also lead to the genetic erosion of agricultural biodiversity.

Lastly, intensive agriculture negatively impacts surrounding ecosystems (water use; nutrient overloads and corresponding eutrophication; pesticide buildup in soils and water supplies). In the current FAO Food Wastage Footprint, agriculture is identified as one of the main influencing factors threatening global biodiversity loss: *“Farming, including conversion of wild lands and intensification, is a major threat for biodiversity worldwide.”*

Around 50% of species and habitats within Europe are closely connected with agricultural use. In the past, agriculture contributed to a considerable increase in the structure and variety of species in the European countryside. However recently, agriculture has become one of the main drivers of biodiversity loss. The amount of biodiversity found on agriculturally cultivated land has shrunk

noticeable in the last 50 years as a consequence of changed agricultural production methods, most especially because of the increasing mechanization of agriculture. The IUCN Red List of endangered plants and animals indicates intensive agriculture as one of the main causes of biodiversity loss. Pesticide use, chemical fertilizers, land consolidations, drainage, and the use of heavy machinery have significantly contributed to the dramatic decline in biodiversity.

According to German regulations, “Good practices” in agriculture adhere to general principles of animal welfare and environmental protection. These “Good practices” are considered as a framework with measures that:

- have a scientific basis for credibility
- are recognized as appropriate and necessary based on practical experience
- are recommended by consulting agencies
- are familiar to knowledgeable users

In addition to this, there are the Federal Nature Conservation Act (§ 5 BNatSchG) and the Federal Soil Protection Act (BBodSchG) requirements. The “Good practices” for agriculture include, amongst others:

- Agricultural land management must be adapted to site-specific conditions in order to ensure sustainable soil fertility and long-term use of the land.
- Avoidable impairments to existing habitats are to be avoided.
- Landscape features necessary for habitat connectivity should be preserved and expanded where possible.
- Livestock numbers are to be in a balanced relationship to crops, and environmental impacts are to be avoided.
- The ploughing up of grasslands should not take place on erodible slopes, flood plains, areas with high ground water levels, and peatland sites.
- Natural landscape features of the agricultural land (soil, water, flora and fauna) must not be impacted beyond the extent of what is necessary to achieve a sustainable yield.
- Field-specific documentation on fertilizer and pesticide use is to be kept in accordance to agricultural regulations.

These loose and vague requirements formulated with numerous undefined terms leave considerable room for various interpretations. Significant negative trends in agriculture in regards to soil degradation, erosion, nitrogen buildup, eutrophication, and pesticide residues in water clearly indicate that the current formulation of “Good practices” is not sufficient.

It is therefore imperative that a set of VERY Good practices is developed and defined for agriculture which enables the active, efficient, and long-term protection of biodiversity and the environment. Just as important as the codification of these VERY Good practices in laws and regulations, is their integration as concrete, predictable, and testable criteria for the food industry’s standards and labels.

The following recommendations are a selection of what should compose VERY Good practices. These deserve to be recognized with this distinction because of their positive effects for biodiversity and the environment.

3.1 Soil and Fertilization

3.1.1 Maintain and Improve Soil Fertility

Our recommendations:

Standards require nutrient balances and provide proven methods.

- All fertilizer applications will be documented in detail.
- A 'farm-gate' related nutrient balance has to be carried out.
- Nutrient balances must be performed by an approved or specified method and should be conducted annually.

The standard should define crop-specific nutrient limits, combined with tolerance thresholds and time references.

- Each standard defines crop specific and plant need adjusted nutrient limits, if required site-related and where applicable with tolerance thresholds.

Diversified crop rotations improve soil biodiversity and thus soil fertility while also reducing the intensity of pests etc. Many standards do not provide guidelines for crop rotation.

- Instructions for sample crop rotations for typical locations / farm types / climate conditions are supplied by the standard and must be followed.
- Farm operations within Europe cultivate a minimum of 3 different crops annually.
- Farm operations that predominantly cultivate grains must integrate break crops such as grasses, oilseeds, or legumes in their crop rotation. For 7-year crop rotations, break crops must be planted at least every 2 years.
- A balanced crop rotation includes 10-25% grain legumes.
- The farm operation should maintain cover crops in its crop rotation.
- Before the start of winter, at least 30% of the cultivated land has a growing ground cover to protect from erosion.
- The varied geographic diversification of cover crops is just as important as their chronological sequence. Farm operators prevent the same crop from being cultivated in two fields next to one another.

The standard sets requirements for the improvement of soil quality.

- Crop rotations for cultivated fields and pastures should take place at least every 5 years and include legumes.
- Cultivated land is fertilized with organic matter in the form of manure, compost, or cover crops at least every 3 years.
- The organic matter of soils in cultivated land is analyzed at least every 5 years.
- The use of sewage sludge and sludge-based fertilizers is prohibited.
- Limits must be set on the amount of heavy metals allowed to enter the soil when using organic fertilizer. These levels must also be regularly checked.

The standard establishes requirements for the recognition and prevention of soil damage (erosion and compaction).

- Arable land is cultivated throughout the year to avoid nutrient runoff and soil erosion.
- The farm operation maps areas with erosion and soil compaction risk. These areas will be inspected annually in order to be able to develop and implement efficient soil protection measures in case of damage.

3.1.2 Improve Fertilizer Management

Our recommendations:

The standards should make crop-specific requirements for the application of fertilizers.

- Temperate climate range: EU-fertilizer regulation plus defined crop requirements for the individual stages of plant development. The application of fertilizers must be scheduled so that they are proportionate to the growth stage of the specific crop (timely fertilization).

Use More Organic Fertilizer

- Whenever possible, the use of organic fertilizers in place of mineral fertilizers is preferable.
- The standard should require farm operators to maintain sufficient storage capacity for organic fertilizer so they do not over-fertilize for lack of space to store excess fertilizer.

Certified operations should demonstrate a continuous improvement in their use of fertilizers.

- The farm operator must demonstrate a continuous improvement in the efficient use of organic and mineral fertilizers (See: Trend Nutrient Balance).

3.2 Livestock

Our recommendations:

Criteria that prohibit the importation of foreign feeds help prevent the destruction of ecosystems in other countries and help reduce the introduction of undesired non-native invasive species.

- Only sustainably produced and certified animal feedstuff is allowed.
- The use of genetically modified feedstuff is prohibited.
- The use of animal feedstuff from overseas is not allowed unless it is purchased from a certified producer.

3.3 Pest Management

Our recommendations:

Standards are fundamentally excluding the preventive use of pesticides and only allow their use in the absence of an alternative.

- Mitigation Hierarchy: The standard provides crop-based preventive measures and damage thresholds. Only after all preventive measures have been implemented and defined thresholds exceeded is the application of pesticides allowed.
- The application of preventive and alternative measures must be documented.

Protection of Water Sources

- The farmer must create and maintain cultivar and application specific riparian buffer zones along the edges of waterways where applications of fertilizers and pesticides are not allowed.
- The standard provides cultivar and application specific rules for pesticide use adjacent to water bodies and gives precise information about the minimum distance and quality of riparian buffer zones (height, width, vegetation density).

Exclusion of Non-Discriminating Herbicides and those Damaging to Bees

- Exclusion of pesticides proven to have damaging effects on bees, pollinating insects, or fish.
- Total herbicides cannot be used.

The standards create a positive list and a strategy with clear time-bound targets aiming the continuous reduction of substances harmful to humans and the environment

- Standards include and continuously develop positive lists in collaboration with NGO experts (e.g. PAN). The use of substances dangerous to humans and the environment as well as the amount of authorized substances used should be gradually reduced. This should be done in accordance with other standards in order to avoid confrontation with different positive lists.
- Certified operators and farm operators only use substances according to the current positive list. The standards organization defines appropriate penalties in the case that infringements should occur.
- The standards use the “Treatment Index” as a quantitative measure to describe the intensity of chemical pest management. The standards actively use the Index to reduce the pest management intensity and communicate successful reduction strategies and foster the exchange and comparison of farm operators.

Certified operations demonstrate a continuous improvement in application and proper use of pesticides.

- The standard must require and randomly check the proper use of pesticides: storing, application technology (e.g. maintenance and proper equipment settings), cleaning of equipment, and disposal of residual materials / packaging.
- The standard prepares a yearly booklet available to farm operators in which preliminary suggestions for improving performance are formulated.
- The standard commits itself to produce and disseminate information material and / or to implement information workshops on pesticide reduction.
- The farm operator must document the pesticide applications continuously and demonstrate a continuous improvement in the application of pesticides.
- The farm operator must receive consultation on the topic of pesticides. Contents should include, for example, biodiversity impacts and reduction strategies

3.4. Optimize Water-Use

Our recommendations:

The link between water source and water use (ecosystem and ecosystem service) is critical.

- Water-use conforms to strict legal requirements and does not exceed authorized withdrawal limits.
- The farm operators need to document the amount of withdrawn water and prove that they are informing themselves about the water-level in their region.
- The farm operators need to screen the water quality and ensure that no heavy metal pollution exists
- All farm operators in a region should participate in monitoring and financing to guarantee the sustainable use of water resources.
- Water-use must not interfere with the quality and functioning of protected aquatic areas (standards should regulate the amounts, times / time periods of water withdrawals).
- Farm operators participate in regular information exchanges with regional experts who are engaged in the ensuring water quality and water equity of lakes and / or rivers.

Standard should formulate benchmarks for water use and require efficient irrigation schemes

- Agricultural cultivation and animal husbandry should be adapted to the region and climate conditions, so that no overuse or damage to local or regional water resources, natural wetlands or regional protected areas occurs.
- The certified operation implements a water management plan.
- The standards obligate their farm operations to continuously optimize irrigation methods (e.g. reduced evaporation at evening irrigation) and techniques (e.g. establishment of drip irrigation), taken into account the actual water need of the plants.

An analysis of consumption data from the certified operation should help determine the limits that will be periodically adjusted for specific crop varieties in accordance with climate conditions.

- Based on actual consumption the standard should work towards the formulation of climate and location specific limits to determine crop-specific daily limits.
- The certified operation must eventually adhere to the set limits by continuous improvement over a specific timeframe.
- The standards offer / organize a respective consulting and build a consulting service for efficient irrigation.

3.5. Biodiversity-Friendly Farming

Our recommendation:

- The Standard organization sets guidelines for equalizing intensity peaks that contribute to damaging biodiversity (e.g. no mowing during times when rare wild herbs are sown or during breeding seasons).

3.6. Agrobiodiversity

Our recommendations:

- Proof of farmers that used seeds / animals stem from sources that are active in conservation breeding. Criteria of Pro Species Rara are respected.¹

¹ For **livestock**, there are national focal points or national lists of breeds currently in use. At the international level, there is the "Domestic Animal Information System" provided by the FAO (<http://dad.fao.org>). This lists and partially describes all breeds in the countries. This resource also provides information on whether a breed is native to the region / country and whether or not it is threatened.

For **crops**, there are both national and international information systems. These are of completely different quality depending upon country. In Europe, efforts are being undertaken to compile all information about national varieties in a single database. In this database, the conservation organizations for these varieties are also usually mentioned. Usually these are the national gene banks. This information is up to 90% purely descriptive and region-specific recommendations for varieties according to their aptitudes are completely missing. A link from this National Focal Point is rarely made to the nationally or regionally active NGOs.

- The European Search Catalog for Plant Genetic Resources (EURISCO) is maintained by the European Cooperative Programme for Plant Genetic Resources (ECPGR) (<http://eurisco.ecpgr.org>). A list of national focal points is available. Existing varieties are listed by country and whether a variety is heirloom or new is clearly indicated.

- Globally, there is the World Information and Early Warning System (WIEWS) maintained by the FAO (<http://apps3.fao.org/wiews/wiews.jsp>) and the Global Information System provided by the International Treaty on Plant Genetic Resources for Food and Agriculture (<http://www.pgrra.org/gpa/selectcountry.jsp>)

Further Information:

<ftp://ftp.fao.org/docrep/fao/010/a1260g/a1260g00.pdf>

http://www.genres.de/fileadmin/SITE_GENRES/downloads/publikationen/rote_Liste_2013_web.pdf

<http://www.louisbolck.org/research-2/agriculture/plant-breeding/farm-seed-opportunities-2/>

- The breeding / cultivation of old cultivars / livestock species is rewarded from the standard with bonus points.
- Organic farms that want to use old livestock species or cultivars which are not available from organic breeding / seed sources need to inform themselves about the permissibility.

3.7 Wild harvesting

Our recommendations:

The current criteria for wild harvesting refer to “sustainable” gathering. Standards should define what is meant by this.

- Wild harvesting according to the Fair Wild Standard or the Union for Ethical Biotrade Standard (UEBT) under explicit requirement to respect limits of harvesting in terms of sustainable usage and to avoid depletion.
- The standard explicit reference that the use and gathering of threatened and / or protected plants and animals is prohibited and that protected areas may not be impaired.
- Government regulations must be strictly followed (e.g. the requirement for a license to gather or harvest).
- Operations that produce and process organic products need to inform themselves at the organic inspection body about special requirements.

4. Recommendations for Food Distributors and Food Producers

Our recommendations:

The food distributors and food processors should:

- Exercise their influence on policymakers to revise the existing quality guidelines so that they do not have negative impacts on biodiversity and the cultivation and marketability of diversity of varieties
- Offer products from old / traditional crops and livestock as well as old, regional-typical and rare fruit and vegetable varieties
- Reward supplier commitment to crop diversity
- Inform consumers about the importance and worth of agro-biodiversity and genetic variety and put the term “diversity” into a holistic framework and communicate and advertise it accordingly
- Should prefer alternative cultivation regions / suppliers, regional products / producers that can prove a better biodiversity performance and where the corresponding criteria are met.
- Assume an appropriate share of the costs of improved environmental and biodiversity protection and social responsibility.
- Not take part in price dumping at the expense of environmental and social standards

Definitions

High Conservation Value Areas (HCVAs): are natural habitats, which are of outstanding significance or critical importance due to their high environmental, socioeconomic, biodiversity or landscape values. The HCV concept was originally developed by the Forest Stewardship Council. It is now a keystone principle of sustainability standards as well as being widely used for landscape mapping, and in conservation in natural resource planning and advocacy. HCVAs may be part of larger habitats or may be an entire habitat. www.biodiversitya-z.org/areas/16#areaReferences
www.hcvnetwork.org/about-hcvf

The A to Z Lists gives an overview over different areas of biodiversity importance. www.biodiversitya-z.org/home

Indicator species: An indicator species is an organism whose presence, absence or abundance reflects a specific environmental condition. Indicator species can signal a change in the biological condition of a particular ecosystem, and may thus be used as a proxy to diagnose the health of an ecosystem. <http://eol.org/info/465>

Keystone species: Keystone species are species that enrich ecosystem function in a unique and significant manner through their activities, and the effect is disproportionate to their numerical abundance. Their removal initiates changes in ecosystem structure and often loss of diversity. <http://macd.org/ME/Resource%20Material/Wildlife/Keystone,%20Umbrella,%20and%20Indicator%20Species.pdf>

Regional characteristic species: regional characteristic species are characteristic of a landscape or habitat type. In their typical habitat they are present with great regularity. Regional characteristic species are easy identifiable, mostly remarkable species and it is well known how to protect and promote them. Where regional characteristic species are present there are good conditions for numerous other species inhabiting the same habitat, as well. Measures for protecting regional characteristic species help to protect the whole association of animal and plant species. <http://www.vogelwarte.com/Leitarten>

Semi-natural habitats: are biotopes that have grown without purposeful change to the area or without direct human influence. These are areas that were not significantly altered by humans and are only used extensively if at all. Semi-natural habitats are also artificially created habitats that have been largely left to develop naturally and host typical native plant and animal species. www.landesrecht-bw.de/jportal/portal/t/1f79/page/bsbawueprod.psml/screen/JWPDFScreen/file_name/jlr-NatSchGBW2005rahmen.pdf

Soil fertility: Millions of microbial and animal species live and make up soils, from bacteria and fungi to mites, beetles and earthworms. Soil biodiversity is the total community from genes to species, and varies depending on the environment. The immense diversity in soil allows for a great variety of ecosystem services that benefit the species that inhabit it, the species

(including us) that use it, and its surrounding environment.
<http://www.globalsoilbiodiversity.org/?q=BackgroundSoilBiodiversity>

The Convention on Biological Diversity (CBD) defined the soil biodiversity as "the variation in soil life, from genes to communities, and the ecological complexes of which they are part, that is from soil micro-habitats to landscapes".
<http://eusoils.jrc.ec.europa.eu/library/themes/Biodiversity/>

Target species: are endangered species that should be protected. The promotion and conservation of these species is the aim of the measures.
<http://www.agroscope.admin.ch/ziel-leitarten/00631/index.html?lang=de>

Imprint



www.bodensee-stiftung.org

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We thank the following experts for their advice:

Bela Bartha, Pro Species Rara
Andrea Brüstle, 4C Association
Udo Censkowsky, Organic Services
Juan Isaza, 4C Association
Bruno Krieglstein, QZ Baden-Württemberg
Dr. Josef Lüneburg-Wolthaus, REWE Group
Dr. Sylvia Pfaff, FIS Europe
Prof. Dr. Jürgen Pohlan
Henk van Rikxoort, UTZ Certified
Dr. Stefan Rösler, oecoach
Martin Schüller, Fairtrade Deutschland
Matthias Strobl, NABU Landesverband Baden-Württemberg
Wilfried Kamphausen, QS Qualität und Sicherheit GmbH
Dr. Friedrich Lüdeke, GlobalG.A.P.

More Information

www.business-biodiversity.eu.

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