

Partnership for Biodiversity Protection in Viticulture in Europe

Biodiversity-Check for Vine Growers **Individual biodiversity training concept**

Wine-growing estate: Name/location XY

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Biodiversity on winery/farm: XY

Main results:

- This section summarises the findings of the check on the farm and offers comment on them.
- The section could also be used for example for the website of the farm to reflect its work on biodiversity issues.
- A kind of benchmark of these findings against the findings on other farms not so much in figures but as description would be good. Knowing what could be done helps.

Biodiversity Action Plan at the winery/farm: XY

In summary, for the winery XY the following measures are proposed. For each measure, an implementation period has been indicated and priority has been given to the importance of the conservation of biodiversity.

Implementation period:

Short term = measure is easy to implement, it can be started immediately.

Medium term = in order to implement the measure preliminary work is necessary.

Long term = measure can only be implemented after some time, since new plantings have to be carried out or the measure itself takes more time to implement.

Priority:

A = High priority as goal/measure makes a significant contribution to the conservation of biological diversity.

B = Medium priority as goal/measure contributes to the conservation of biological diversity.

C = Low priority as goal/measure makes a low contribution to the conservation of biological diversity.

Goal / measure	Implementation period	Priority regarding biodiversity
E.g. Use of autochthon seeds	E.g.. Medium term	E.g. A

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Introduction

The conservation of biodiversity is one of the key challenges in the world. Biodiversity – or biological diversity – consists of the diversity of animals and plants, genetic diversity and the diversity of ecosystems. Agriculture is the most important land use in Europe, with around 50% of the surface used for agricultural production (184 million ha, DG AGRI, 2012). The relationship between EU agriculture and biodiversity has two faces. In the past, agriculture significantly contributed to increasing the diversity of landscapes and species in Europe and up to 50% of European species are dependent on agricultural habitats. Both farm management and agronomic practices are therefore of great importance to flora and fauna in agricultural areas and their adjacent habitats.

However, nowadays, agriculture is one of the main drivers of biodiversity loss. The range and magnitude of environmental impacts associated with agricultural production, point to an urgent requirement for improved sustainability within the sector. Engagement in biodiversity protection is not only beneficial for nature, but also for the farmer. Risk minimisation, long-term protection of resources, cost reduction and a better position for current and future regulations have a positive influence on the financial statement. Careful ecosystem management to maintain or enhance biodiversity can improve productivity and often makes systems more resilient to long-term pressures such as climate change and soil degradation.

The EU is a leading producer of wine (DG AGRI). Spain, Portugal and Turkey belong to the top ten countries in Europe with the largest vineyards – organic as well as non-organic ones. In comparison to non-permanent crops, vine-growing is a speciality as vines are left for several decades and the areas will be completely converted only in long intervals. However, this culture is also intensively cultivated – with plant protection treatments up to 20 times, non-covered soils exposed to erosion, high doses of nutrients and lack of any green elements like trees, hedgerows or flowering areas within the vineyard.

Today, sound knowledge is available regarding vine-growing and the protection of biodiversity. But the knowledge is still barely considered by farmers and production methods have not been sufficiently adapted. One of the reasons is that biodiversity is still inadequately addressed in the education and further training of farmers and they do not receive biodiversity consultations directly on the farm.

Biodiversity Check: Individual training concepts in Spain, Portugal and Turkey

The Biodiversity Check offers a first individual overview of the issue of biodiversity and thus provides the basis for integrating biodiversity in the management and undertaking actions for the sustainable use of resources and the protection of nature. The check is used to examine the different areas of the farm, such as management, vineyard, purchasing, sales etc. with regard to the effects on biodiversity. New is the fact that not only the direct impacts of the vinery/farm are considered, but also indirect effects that could arise along the supply chain, e.g. sustainability of materials

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used, marketing, sales etc. The check identifies the contact points between the farm and biodiversity and provides suggestions for objectives and measures to reduce risks and negative impacts. It is an internal instrument and does not constitute a certification. However, farmers can communicate that they have participated in the check, but the communication of activities and projects that have been performed to support biodiversity should be a priority.

The Biodiversity Check for vine growers consists of:

- Interview guide which serves as the basis for a structured conversation on the inventory of the farm.
- (Confidential) individual biodiversity training concept to show the farms' strengths and weaknesses, setting goals and measures to enhance biodiversity performance.
- Training of the vine growers in the application of their individual concept.

The project “*Partnership for Biodiversity Protection in Viticulture in Europe*”, supported by the **Erasmus+ programme of the European Union**, focuses on organic farmers producing grapes in vineyards. *The aim is to shape winegrowing and the production of sultanas so that biodiversity is protected and promoted.* Partners are nature protection organisations and winegrower/agricultural associations in Germany, Spain and Portugal and an ecological agricultural enterprise in Turkey.

Based on the experience of the partners, information materials and biodiversity training modules for vine growers will be developed, and individual training on the farm site will be realised.

Biodiversity Check at the winery/farm XY

- Details about the visit: when, where, who, what has been seen (fields, cellar, facilities)

Location and current situation

- Some details about the region, soils, area, slopes, the situation of vine-growing in the region, relation between organic and conventional vine-growing, etc. (for the understanding of others who may read the check and for the farmer to have a background).

Facts about the winery/farm

- Size of the farm, size of own or rent area, area with steep slopes.
- Altitude, annual rainfall.
- Whether additional grapes are purchased.
- Persons working at the winery/farm.
- Organic/IP/ conventional – if organic, since when.
- Proposed development of the farm in the future.

Part 1: Biodiversity within the management

- Along the questions of the questionnaire, so a short summary of the findings.

Assessment

- Assessment on whether biodiversity is something the company takes into account.

Recommendations

- Are there any suggestions for improvement in this area? If so, it would be good to list them here but also to integrate them into the biodiversity concept table at the beginning, as this is the most important part. The recommendations will appear twice, but flicking back and forth is not practical.

Part 2: Biodiversity in the cultivation and production process in the vineyard

a) Vineyard cultivation/types of grape

Short summary along the questions asked: e.g.

- What grapes are cultivated, also with respect to genetic biodiversity, e.g. are different strains of grapes used, are different/rare/new/resistant/resilient varieties being tested.
- What is remarkable/outstanding/interesting here, e.g. marketing with biodiversity.

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Assessment

- Assessment: e.g. in Germany we have 350 varieties described, 90 are allowed in vine-growing and production, but around 50% is Riesling, Müller-Thurgau, Pinot Noir and Dornfelder. It would be possible to integrate a short paragraph about these aspects here.
- What is the farms strategy to promote genetic variability?

Recommendations

- Are there any suggestions for improvement in this area? If so, it would be good to list them here but also to integrate them into the biodiversity concept table at the beginning.

b) Ground cover of vineyards

Short summary along the questions asked: e.g.

- How is the management concerning green cover of the vineyards?
- How is the soil management/treatment over the year?

Assessment

- Assessment: in temperate climates, vineyards can contribute significantly to biodiversity, as vine could be cultivated on a biodiverse pasture. The situation in semi-arid climates is different but what would the patch look like without cultivation and what could be done to approach that? E.g. spontaneous, wild plants, etc.

From the biodiversity point of view, there are different stages on how green cover management is built up:

	Function	Type of green cover	Treatment	Effect on biodiversity (low to high)
1.	Prevent erosion and safeguard accessibility	Golf court lawn	Mowing often Plants below vine are removed chemically or mechanically	Low
2.	<u>In addition:</u> losing the soil with deep-rooting plants, enhance water retention	Greening with different grasses, no plants below vine	Mow or mulch often Plants below vine are removed	Low
3.	<u>In addition:</u> improvement of humus content and fertility	Additional use of leguminosae and other fertilising plants	Standard management of temperate regions	Medium, effect on soil organisms and flower visiting insects
4.	<u>In addition:</u> mitigation of pest calamities and other effects of vine as monoculture.	Seed mixtures, adopted for ecological production, space underneath vine as	Management adopted to the conditions, no standard management, no tillage every year	Medium to high, also for beneficials

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		permanent culture		
5.	In addition: support of biodiversity in the vineyard “conservation on 100% area”	Seed mixtures, adopted for ecological production with 10-20% biodiversity aspects, space underneath vine as permanent culture	Little management, according to local conditions	High

- Comment on biodiversity in the vineyards.

Recommendations

- Are there any suggestions for improvement in this area? If so, it would be good to list them here but also to integrate them into the biodiversity concept table at the beginning.

c) Tillage

Short summary along the questions asked: e.g.

- Frequency of soil treatment.
- Frequency of crossings with tractor.
- Techniques used to avoid soil compaction.

Assessment

- Is soil treated too often?
- Is soil too compact?
- Can crossings with heavy machines be reduced?

Recommendations

- Are there any suggestions for improvement in this area? If so, it would be good to list them here but also to integrate them into the biodiversity concept - table at the beginning.

d) Fertilisation management

Short summary along the questions asked: e.g.

- Description of fertiliser management.
- How much N is used and from what sources (mineral or organic) etc.
- Here, water issues are important points.

Assessment

- Are there any issues?

Recommendations

- Are there any suggestions for improvement in this area? If so, it would be good to list them here but also to integrate them into the biodiversity concept table at the beginning.

e) Pest and disease management

Short summary along the questions asked: e.g.

- What are the main pests?
- Description of pest control measures. In the case of IP: what chemicals are used and to what extent, how often, which quantities?
- What is done to reduce pesticides (technical, management) in the fields?

Assessment

- What are the consequences of pest management on biodiversity?
- What can be done to reduce adverse impact?
-

Recommendations

- Are there any suggestions for improvement in this area? If so, it would be good to list them here but also to integrate them into the biodiversity concept - table at the beginning.

Part 3: Ecological infrastructures inside the vineyard, ecological compensation areas

Short summary along the questions asked: e.g

- What does the landscape look like?
- Are there ecological infrastructures, natural vegetation, trees, hedges, etc.?
- Whom do ecological infrastructures belong to? Who is responsible for them?
- Other extensively managed areas belonging to the farm, e.g. extensively used dehesas ...? Percentage of the farm land?
- Occurrence of rare species.
- Occurrence of key species or flagship species whose presence is a positive biodiversity aspect but can also be used in marketing.

Assessment

- What is the current situation of landscape structures and biodiversity in the surroundings and on the farm?

Recommendations

- Are there any suggestions for improvement in this area? If so, it would be good to list them here but also to integrate them into the biodiversity concept table at the beginning.

Part 4: Biodiversity issues in harvesting, cellaring, vinification

Short summary along the questions asked: e.g.

- What additives are used in the cellar? Do they originate from protected animals/plants or do they come from protected habitats?
- Where do all the materials (like tanks, wooden barrels, etc.) used originate from (regional/national/international)?

Assessment

- Are there any problems?

Recommendations

- Are there any suggestions for improvement in this area? If so, it would be good to list them here but also to integrate them into the biodiversity concept - table at the beginning.

Part 5: Biodiversity issues in bottling and packaging

Short summary along the questions asked: e.g.

- How many bottles are used?
- Is there a strategy to reduce the weight of the bottles?
- Reuse of bottles, transportation, e.g. is wine exported in barrels and filled locally.

Assessment

- Reference to analysis on CO₂-emissions in wine production, 50% of which come from packaging (e.g, making the bottles) and transport. What is done to mitigate this?

Recommendations

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- Are there any suggestions for improvement in this area? If so, it would be good to list them here but also to integrate them into the biodiversity concept table at the beginning.

Part 6: Biodiversity in sales/logistics

Short summary along the questions asked: e.g.

- Quantities.
- How is the wine marketed? Sold in bottles locally, exported in bottles, barrels ...
- Does the winery have its own shop?

Assessment

- What is the current situation?
- Can empty transport runs be avoided?
- Are there forwarders with environmental certification?

Recommendations

- Are there any suggestions for improvement in this area? If so, it would be good to list them here but also to integrate them into the biodiversity concept - table at the beginning.

Part 7: Biodiversity and energy, water, waste management

Short summary along the questions asked: e.g

- How much diesel is used, for example per ton of grapes harvested?
- Freshwater use for irrigation? How much?
- Are there water and energy saving measures? Sources of electricity?
- Best available irrigation method used? Water scarcity in the region?
- How is sewage is treated?

Assessment

- What is possible in the country? What about water etc.?

Recommendations

- Are there any suggestions for improvement in this area? If so, it would be good to list them here but also to integrate them into the biodiversity concept - table at the beginning.

Part 8: Biodiversity around the winery/farm/company premises

Short summary along the questions asked: e.g.

- Do the farm premises reflect that the company lives from wine and biodiversity?

Assessment

Recommendations

- Are there any suggestions for improvement in this area? If so, it would be good to list them here but also to integrate them into the biodiversity concept - table at the beginning.

Part 9: Biodiversity in marketing/communication

Short summary along the questions asked: e.g.

- Is biodiversity mentioned in the marketing?
- Is there cooperation between NGOs and farms?
- Anything else, e.g. harvest with volunteers from abroad.

Assessment

Recommendations

- Are there any suggestions for improvement in this area? If so, it would be good to list them here but also to integrate them into the biodiversity concept - table at the beginning.

Suggestion for key species (if possible)

- What species could be suitable for the farm as a key species?



Imprint

Name and organisation of the authors

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