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ECOSPHEREWINES

GREEN INFRASTRUCTURE IN WINE-GROWING LANDSCAPES

Nature-based solutions and recommended best practices in vineyards

Identified problem:

Intensive agricultural **land use** in production over recent decades has contributed to a significant reduction in natural habitats and an intensification and simplification of wine-growing landscapes. This transformation poses a threat to the local biodiversity by reducing refuge areas and food sources for various species of fauna that play a key role in the functioning and regulation of the ecosystem.

Best practice recommended by ECOSPHEREWINES:

CONSERVATION AND ENHANCEMENT OF A DIVERSE LANDSCAPE THROUGH THE MANAGEMENT OF NON-PRODUCTIVE AREAS

The conservation and implementation of diverse areas of vegetation with orchards, woodlands, wetlands, hedges or scrubland, as well as other traditional elements of the vineyard landscape (e.g. dry-stone walls and traditional irrigation channels), can have positive effects on wine cultivation.

These spaces act as **biodiversity hotspots and ecological corridors**, strengthen the **green infrastructure** around the vineyard and facilitate the movement of beneficial fauna in the agroecosystem, such as arthropods, birds and reptiles. When properly managed, they provide **diverse** environmental, social, economic, and cultural **benefits**, commonly described as **ecosystem services.**

How can this best practice be implemented?

1. **Identify** non-productive areas that may have value in the vineyard (riparian forests, hedgerows, dry stone walls and terraces, traditional irrigation systems, large isolated trees, etc.).
2. **Analyse** how these spaces relate to each other, which ones are most important and how they connect with each other and with the vineyard. In the case of new implementation areas, it is important to plan the vineyard with respect for these ecological connections.
3. **Replicate** these elements to restore degraded areas and unconnected spaces. You can use the following resources:
   - Plant fruit groves in areas less suited to wine growing.
   - Plant shrubby hedges with fruit or aromatic species around the edges of the vineyard.
   - Rebuild dry stone walls, adapting them to new needs.
   - Plan water movements on the vineyard plot by replicating traditional irrigation systems and create wet areas with adapted vegetation (regenerative hydrology).

What ECOSYSTEM SERVICES do these non-productive areas generate in the vineyard landscape?

- **Provision:**
  - Diversification of agricultural production, generating extra income through the sale of other products (fruit, wood, fibres, etc.).
- **Regulationn:**
  - Natural control of pests affecting the vineyard.
  - Natural soil retention, preventing erosion and loss of productive land, improving soil health and fertility.
  - Moisture retention and thermal regulation, generating microclimates favourable to the main crop.
  - Pollination of crops beneficial to the vineyard.
- **Cultural:**
  - Preservation of the identity of the wine-growing landscape as a key resource for wine tourism.

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