Regenerative forestry in the Ambrosia Forest, France

Year of issue

2025

Summary

Ambrosia Forest in Villars-sur-Var is a Terre de Liens farm converting 3.7 ha of abandoned vineyard terraces into a regenerative fruit landscape. In 2024, farmers Morgane and Xavier began a sponge strategy to slow, spread and sink stormwater. Works include one pond, 253 m of contour swales in a keyline layout, new hedgerows and a multistrata syntropic plot with permanent mulches and green manures. Goals are to reduce erosion on steep clay soils, rebuild soil life and create productive habitat.

The project received 50,000 euros from the Festival de Cannes environmental call with Fondation Terre de Liens. Volunteers and schools support planting days with partners such as Des Enfants et des Arbres.

Site diagnosis showed compacted soils and fast runoff from terraces. During the October 2024 floods the swales and pond captured flows and no rilling was observed on treated plots. Maintenance includes post storm checks and mulch renewal. Microbial monitoring is planned.

Expected outcomes are higher infiltration, improved structure, more biodiversity and resilient fruit production. The approach is low tech and transferable to Mediterranean mountain farms with terraces when design follows local contours and storm sizing.

Photo Gallery



Location

43.99, 7.08

Project

NWRM

Sector

Agriculture

Installation Date

2024-2026

Implementation status

Ongoing

Overview

Location of the project

Villars-sur-Var, Alpes-Maritimes, Provence-Alpes-Côte d’Azur. Former vineyard terraces above the Var valley.

Country

France

NUTS2 Code

Provence-Alpes-Côte d'Azur

Sponge measures implemented in the case study

Keyline design

Ponds and scrapes

Mulching

Continuous cover forestry

Objectives

, spread and sink rainfall on steep former vineyards Reduce rilling and erosion during intense storms Rebuild soil structure and microbial activity Create perennial food production and local biodiversity habitat Demonstrate regenerative, community-supported farming in mountain context

Involved partners

Authority type	Authority name	Authority role	Comments	Authority responsibility
NGO	Terre de Liens	Initiation of the measure	Financing support, landholder, community mobilisation.	Responsible
Other	Festival de Cannes environmental programme	Financing	—	Supporting
NGO	Des Enfants et des Arbres	Implementation	Tree-planting and education support	Supporting

Authority type	Authority name	Authority role	Comments	Authority responsibility
Farmers	Morgane and Xavier	Implementation	Implementation and management	Responsible
Research institute / University	Instituto Italiano di Permacultura	Determination of design details of the measure	—	Supporting

Site Information

Climate Zone

Warm temperate dry

Precipitation

916.00 mm

Temperature (°C)

12.40 °C

Elevation range

315 - 349 m

Slope range

Terraced slopes. Locally steep between benches

Vegetation class

Mosaic of young shrubland and scattered trees transitioning to multi-strata agroforestry. Existing fruit trees, conifers upslope, new hedgerows

WFD Ecological status

High

WFD Chemical status

Good

Water quality status

No surface water on site. Bordering small stream. Main issue was surface erosion and sediment transport during heavy rainfall on compacted soils.

Design and Implementation

Project scale

Micro

Project scale specifications

Single farm unit on 3.7 ha, abandoned terraces under conversion

Project area

3.7 ha

Principles

2021 land secured. Observation and design 2023–2024. Earthworks and first plantings 2024. Further plantings and soil regeneration 2024–2026.
Keyline-inspired design to organise contour swales and water distribution Swales and a pond to retain and infiltrate stormwater Syntropic agroforestry with close interplanting of fruit trees and support species Permanent mulching with woodchips and straw. BRF from on-site prunings Green manures and compost tea for microbiome jump-start Fencing near forest margins to avoid wildlife damage Use of microclimate and existing dry-stone terraces.
One pond and 253 m of contour swales. Hedgerow planting. Syntropic agroforestry with permanent mulches and green manures. Keyline-inspired layout.

Factor constraints

Western exposure with long light hours of moderate intensity Cold-air drainage from NE crest. Ridgeline with dry and wet lines. Four accumulation points identified Compacted clay soils with low to medium humus. Initial low fungal activity Steep terraced topography prone to surface runoff in extreme events Bordering small stream. No internal water source before works.

Financing

Total cost information

Land aquisition. Earthworks for swales and pond. Mulch and hedgerow material. Fencing and access upgrades. Ongoing plant purchases and maintenance.

Financing authorities

Authority name	Type of funding	Comments

Festival de Cannes environment programme	Private funds	50,000 € in partnership with Fondation Terre de Liens

Compensations

Non

Policy and Governance

Policy description

Local regenerative agriculture producing fruits and biodiversity while improving water retention on mountain terraces Addresses soil erosion and flood resilience under Mediterranean storms

Land ownership

Land held by Terre de Liens and leased to farm operators under a long-term arrangement

Target remarks

Slow runoff, increase infiltration and soil water storage Restore soil life and structure for perennial crops Provide local food and education benefits

Pressure remarks

Heavy autumn storms. Historic soil compaction and erosion on abandoned vines and terraces

Part of a wider plan

Non

Public consultation

Oui

Consultation activities

Activity stage	Activity type
Implementation phase	Field days and planting events with volunteers and schools
Implementation phase	Workshops with agroforestry experts
Other	Ongoing educational activities with local partners

Has contractual arrangements

Oui

Contractual arrangements

Arrangement type	Responsibility	Name
Contractual agreement	Foundation support agreement for the funded works	Formal lease between Terre de Liens and operators.

Impacts and Monitoring

Monitoring System

Monitoring requirements

Visual monitoring of keyline layout performance during storms Soil microbiology monitoring planned. Baseline tests done for bacteria, protozoa, fungi presence

Maintenance

Maintenance requirements

Swale and pond inspection after heavy rain. Hedgerow and tree care. Mulch renewal. Frequency variable with season and plant age

Impact Assessment Methodology

Biophysical impact assessment method

Qualitative observation during storm events Planned microbial analyses. Photo-points and field notes

Socio-economic Impacts

Direct benefits

Strengthened local food supply. Community engagement through events and education. Visibility via Cannes programme

Biophysical impacts: Hydrology

Hydrological effects

During October 2024 floods the swales and pond filled. No rilling observed on treated plots. Evident slowing and spreading of runoff

Biophysical impacts: Biodiversity

Information on improved biodiversity

Hedgerows and multi-strata plantings increase habitat. Pollinator mixes on swale berms. Quantification pending

Biophysical impacts: Water & Soil Quality

Information on water quality overall

Mulches and green manures initiated soil cover and protection. Early signs of improved structure expected. Quantification pending

Biophysical impacts: Others

Other biophysical impacts changes

Expected microclimate buffering. Anticipated carbon sequestration in soils and woody biomass

Lessons Learned

Key lessons

On steep Mediterranean terraces, contour swales and a small pond can rapidly reduce visible erosion Syntropic agroforestry and permanent cover are compatible with fruit production goals Early microbial support and heavy mulching are critical on compacted clays

Barriers

Barrier type	Barrier role	Comments
Lacking financing sources	Main barrier	Access to upfront funding and sponsorship

Drivers

Driver type	Driver role	Comments
Past flooding events	Main driver	Past heavy rains causing erosion.

Success factors

Success factor type	Success factor role	Comments
Financing possibilities	Secondary factor	Availability of Terre de Liens support and Cannes environmental programme
Existing staff and consultant knowledge	Main factor	Technical support from agroforestry practitioners. Low-tech, locally available materials

Success factor type	Success factor role	Comments
Attitude of relevant stakeholders	Main factor	Volunteer mobilisation

Cost effectiveness

Too early to conclude. Capital costs moderate for site scale. Benefits visible qualitatively after first storms

Transferability

Approach is transferable to other Mediterranean mountain farms with terraces and compacted soils. Requires site-specific keyline mapping and careful storm-event sizing of swales and ponds

Sources

Sources

Permaculture design for Ambrosia project Land survey

On vous explique pourquoi la forêt de Villars-sur-Var a reçu un soutien financier de 50.000 euros

Rapport d’activité 2024 Association Terre de Liens Provence-Alpes-Côte d’Azur

POUR L’ENVIRONNEMENT le Festival de Cannes s’engage

Quel est le projet biodiversité sur la Ferme de l’Ablé à Villars-sur-Var