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Expected Results

We will prove that the establishment of natural vegetation in vineyards is possible under different geographical and climatic conditions and will have positive biotic and abiotic effects. When establishing a resource-efficient and biodiversity-friendly management in vineyards, we expect a significant reduction of fertilizer demand as well as an improved CO₂ balance. We anticipate that native vegetation will regenerate better after drought than conventional greening. By establishing species-rich vegetation in formerly open inter-rows, we will significantly increase carbon storage in the soil.

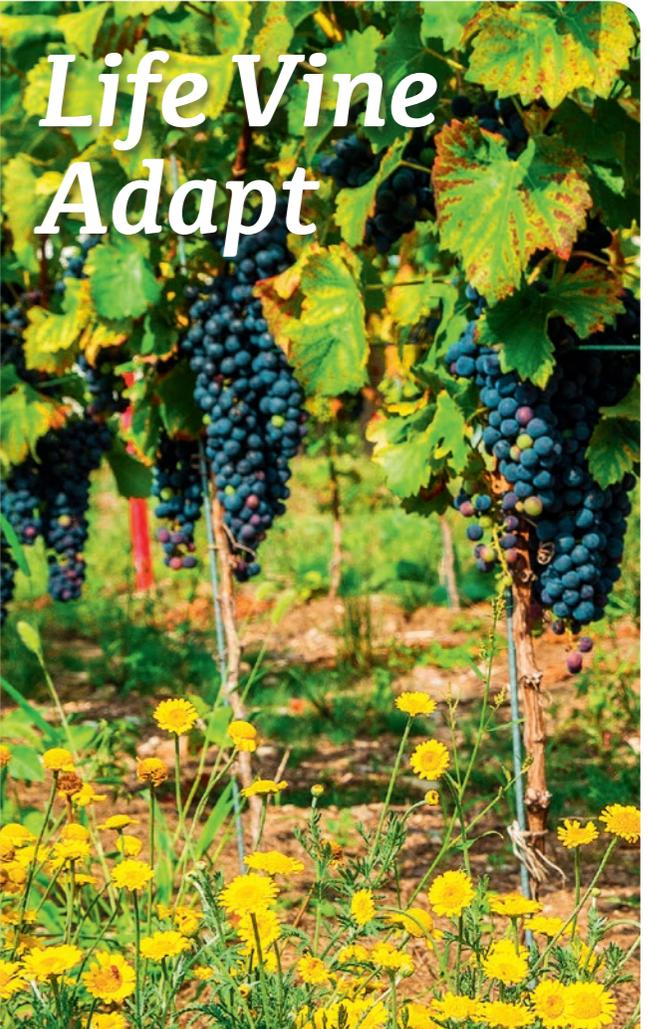


Foto: Hochschule Anhalt

Project locations



graphic: ackermannundandere



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photo: OMKI

Project objective

Viticulture in Europe has to deal with the effects of climate change. Increasing droughts in summer, a high risk of erosion due to heavy rainfall and the immigration of new pests require innovative solutions. The LIFE VineAdapt project aims to help improve the resilience of vineyard ecosystems to climatic changes. Increasing biodiversity and adapting vineyard management are crucial for this. LIFE VineAdapt has a duration of 5 years. Until June 2025, eight practice and research partners from Germany, France, Austria and Hungary will focus on five work packages. Public relations and knowledge transfer measures will help to transfer the project results into viticultural practice



Work packages

Innovative greening of vineyard inter-rows

In the vineyard, floristic diversity is to be increased by sowing species-rich and site-specific wild plant mixtures in the inter-rows. Wild bees and pest antagonists are used as key indicators to assess the success of the intended transformation to biodiversity vineyards.

Alternative undervine management

In order to avoid the use of chemical herbicides in the undervine area, three alternatives are tested: mechanical tillage, treatment with acetic acid and treatment with pelargonic acid. The effects on the vegetation in the undervine area and in the inter-row are then evaluated.

photo: C. Ackermann



photo: Avignon University



photo: HBLFA

Resource-efficient fertilisation methods

Alternatives to area fertilisation will be investigated. On the one hand, a comparison will be made with under-floor application directly on the vine rows, and on the other hand, a comparison between mineral and organic fertilisation will be done. The effects of the fertilisation variants on the vegetation, the soil, the vines and the economic efficiency are to be quantified.

Resource-saving irrigation

With the aim of reducing drought-related stress on vines and water consumption, the effects of above- and below-ground drip irrigation on vines will be compared.

For this purpose, investigations of leaf water potential, chlorophyll content, yield and grape quality are planned. Possible negative effects of irrigation on above- and below-ground biodiversity will also be analysed.

Transnational assessment of ecosystem services in vineyards

This work package includes a detailed assessment of ecosystem services in vineyards, a cost-benefit analysis and a transnational review of project indicators. In the end an overall assessment of project impacts with a special focus on climate change adaptation will be available.