



Sheep grazing is an alternative form of inter-row management in vineyards.

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SECBIVIT – Scenarios for providing multiple ecosystem services and biodiversity in viticultural landscapes

Context

In agroecosystems, multiple ecosystem services such as crop production, soil fertility conservation and pest regulation need to be balanced to achieve both sustainable development and biodiversity targets. The main global change drivers of biodiversity and ecosystem services in viticultural landscapes are climate change, the invasion of alien (pest) species and land management changes. These drivers influence agricultural policies and land use decisions at the local and regional level which affects multiple dimensions of biodiversity and the delivery of ecosystem services.

Main objectives

SECBIVIT will develop locally adapted agent-based models based on existing data, surveys in commercial vineyards and stakeholder-driven scenarios for viticultural regions from Spain, France, Germany, Austria and Romania. The scenarios will integrate winegrowers as agents who take land use decisions. The effects of those land use decisions on multiple ecosystem services and biodiversity will be quantified for identifying potential trade-offs and synergies between grape production and other ecosystem services.

Main activities

SECBIVIT will organise local workshops to develop stakeholder-driven scenarios which will be used as input for the agent-based models. Existing knowledge from different European countries will be used to build a predictive model for the delivery of ecosystem services by biodiversity in viticulture. This model will be validated using independent field measurements of above- and below-ground biodiversity as well as multiple ecosystem services along gradients of landscape complexity and local management options across five European regions.

The stakeholder-driven scenario development and modelling will link scientific knowledge with decision criteria by stakeholders. In meetings organised in the study regions, SECBIVIT will capture the opinions and societal points of view on different land use practices in vineyards and farmers' attitudes towards sustainable management considering biodiversity and ecosystem services under different scenarios. The results will contribute to the production of policy briefs enhancing knowledge transfer and identifying policy recommendations.

