

OLIVARES VIVOS- BIODIVERSITY AS ADDED VALUE IN AGRICULTURE. FROM ECOSYSTEM SERVICES TO COMMERCIAL DIFFERENTIATION IN THE CASE OF GREECE

Salido T.¹, González-Robles A.¹, Varikou K.³, Nikolakakis A.³, Chatzieremia V.³, Manolikaki I.³, Ventoura L.³, Liapakis S.³, Tzerakis K.³, Angelidakis T.³, Petrakis P.⁴, Koulelis P.⁴, Solomou A.⁴, Avramidou E.⁴, Vasilakis G.⁴, Theodorakopoulos S.⁵, Gkisakis V.⁵, Kardimaki A.⁵, Tarifa R.², Rey Pedro J.¹ Valera F.², Koubouris G.^{3,*}

¹Departamento de Biología Animal, Biología Vegetal y Ecología, Universidad de Jaén, Jaén E-23071, Spain

²Estación Experimental de Zonas Áridas, CSIC, Almería E-04120, Spain

³Hellenic Agricultural Organization ELGO-DIMITRA, Institute of Olive Tree, Subtropical Crops and Viticulture, Leoforos Karamanli 167, GR-73100 Chania, Greece

⁴Hellenic Agricultural Organization ELGO-DIMITRA, Institute of Mediterranean Forest Ecosystems, Terma Alkmanos, 11528 Ilissia Zografou, Athens, Greece

⁵Hellenic Agricultural Organization ELGO-DIMITRA, Institute of Olive Tree, Subtropical Crops and Viticulture, Lakoniki 87, 24100 Kalamata, Greece

* Correspondence to: koubouris@elgo.gr



Introduction

LIFE Project Olivares Vivos+ (LIFE20 NAT/ES/001487) (hereafter OV+), is a demonstrative project that aims to replicate in main olive growing European Mediterranean countries, an innovative biodiversity friendly olive farming model, based in an agri-environmental scheme. It is designed by a previous LIFE project Olivares Vivos in Andalusia (southern Spain). A scientifically based certification for biodiversity recovery was developed to transfer the added value of this farming model to extra virgin olive oils, crossing thus the market.

Objectives

The aim is to conserve nature by integrating biodiversity into the profitability of olive production. This is achieved not only by improving the market position of oils that support biodiversity, but also by reducing economic costs through oil models that benefit from biodiversity (fewer agrochemical inputs and more ecosystem services provided by biodiversity).

Methodology

OV+ biodiversity monitoring uses the common protocols developed by previous OV project and evaluates abundance and biodiversity of several indicator groups sensible to agriculture management and landscape simplification. It takes into consideration different trophic levels such as: herbaceous and woody vegetation (by vegetation sampling squares); ants and spiders (both captured with pitfall traps); insect pollinators (captured in floral patches); birds (visually and audibly detected) and bats (calls collected by Audiomoths and subsequent recognition by machine learning). Here it is presented the Greek preliminary information of biodiversity. Each of these groups has been surveyed seasonally. The surveys took place at two olive farms in continental Greece in the Peloponnese (Kakkavas and Koukounara villages) and two island olive farms in Crete (Kolymbari and Stavies villages).

Results

We observed a notable diversity of each group in olive farms of Greece, recording 759 total taxa (277 plants species, 65 ant's species, 134 insect pollinators species, 135 spiders Genera, 105 bird's species and 43 bats species). Using non-metric multidimensional scaling (stress < 0.20), it is further showed an apparent segregation of these taxa between continental and island Greece. This could be explained by the high degree of endemism of Crete species, mainly in arthropods species, as well as some differences related with complexity of landscape and the intensification of the agriculture practices. Accordingly, some recommendations are proposed for these olive groves to recovery biodiversity. These include implementing sustainable ground herb cover management such as mowing instead of recurrent tillage and herbicide use. Additionally, the reforestation of hedgerows with native woody species to increase landscape connectivity and complexity at the farm scale.

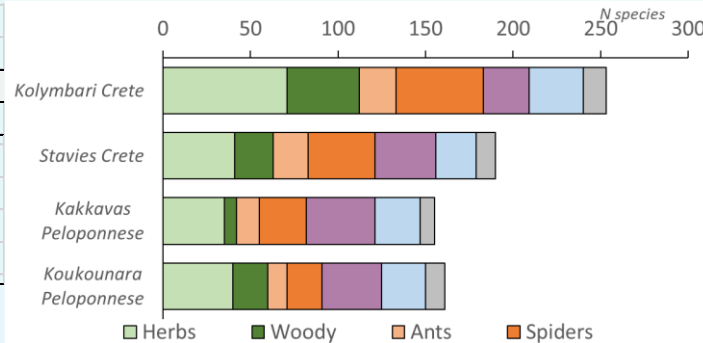
Conclusions

Eventually, OV+ is an innovative agricultural model of great demonstrative value, which not only halts the loss of biodiversity but also recovers the flora and fauna that have traditionally live with the olive grove. This project exhibited that it is possible to increase the profitability of olive groves by recovering biodiversity.

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Table of the total number of species observed on the farms

	N species							
	Herbs	Woody	Birds	Ants	Spiders	Pollinators	Bee hotel	Bats
Kolymbari Crete	71	41	31	21	50	26	0	13
Stavies Crete	41	22	23	20	38	35	1	11
Kakkavas Peloponnese	35	7	26	13	27	39	NA	8
Koukounara Peloponnese	40	20	25	11	20	34	NA	11



For further detailed information, visit our YouTube channel and website:

https://www.youtube.com/results?search_query=olivares+vivos

<https://www.olivaresvivos.com/en/home/>