

**Training and Cooperation Activity (TCA)**  
**Agroecology, technical and educational approach**

CEZ – Bergerie nationale Rambouillet, France

From 12th to 14th  
of April 2023



# HIGH SCHOOL "The Palmeral" Orihuela, Spain



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### CONFERENCE PARTICIPANT

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FACILITIES

INNOVATION

NEW ERASMUS PROJECTS IN  
THE FUTURE...



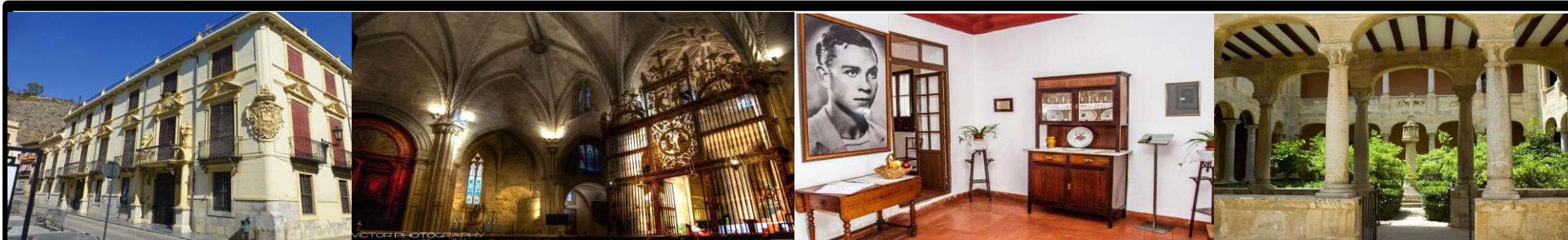
<https://www.oriuelaturistica.es>

1

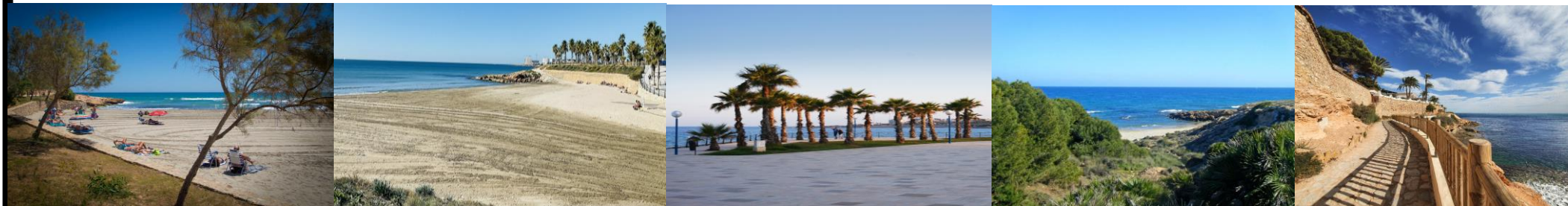
# THE CITY OF ORIHUELA (ALICANTE) SPAIN

**Orihuela** is a monumental city, with extraordinary natural beaches and surrounded by majestic mountains that have been granted environmental protection. However, one of its greatest assets is its gastronomy, based mainly on products grown in the area.

**MONUMENTS: PALACES, MUSEUMS, CATHEDRAL, AND THE INTERNATIONAL POET "MIGUEL HERNÁNDEZ"**



**BEACHES: SUN , ROUTES, CULTURAL EVENTS, WATER ACTIVITIES, SHOPPING CENTRE AND RESTAURANTS**



**MOUNTAIN LANDSCAPES, TRADITIONAL GASTRONOMY, RURAL AND FORESTRY ENVIRONMENT**



IES  
El Palmeral

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Dept. of Agriculture



Miguel Hernández



## Europe's second biggest palm oasis

2

## THE AREA WHERE THE SCHOOL IS LOCATED



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“The Palmeral” in Orihuela, whose recognition as a protected space began in 1963 under the denomination of *Paraje Pintoresco* (Picturesque Site).

It is currently protected as an Asset of Cultural Interest by the Spanish Historical Heritage Law, aimed at preserving its environmental, cultural and landscape values.

This space is an ideal environment for a variety of activities, mainly those related to the natural environment, as well as traditional agricultural activities. The City Council promotes, among other actions, the international painting competition, the implementation of traditional crops, the celebration of World Environment Day, the opening of the interpretation center, the Palmeralfest, photography competitions...

*Phoenix dactylifera*



<https://www.palmeraldeorihuela.com/>



### 3 BRIEF HISTORY OF THE EDUCATIONAL CENTRE

The plot where the I.E.S. El Palmeral de Orihuela is located has an area of 30.902 m<sup>2</sup>.

It was in 1955 that the studies of the Palmeral centre began.

Initially, the knowledge was dedicated to agriculture, as this was the predominant economic sector in the Orihuela area at that time.



**Orihuela agricultural landscape**



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- 0 **Parking access**
- 1 **Electrical and construction building**
- 2 **Main building: administration, staff room**
- 3 **Compulsory education building**
- 4 **Workshops automotive**
- 5 **Workshops construction**
- 6 **Canteen**
- 7 **Multi-purpose room**
- 8 **Physical Education facilities**
- 9 **Agriculture classroom and Workshops**
- 10 **Agriculture outside facilities**



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## 4 THE CENTRE'S EDUCATIONAL OFFER

The Palmeral High School has around 1100 students, 150 teachers, 3 custodians and 3 administratives.

### COMPULSARY EDUCATION

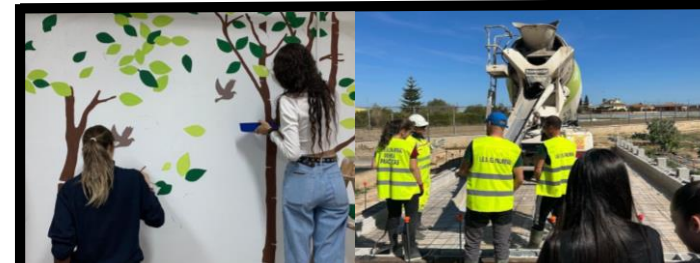
*AGE 12-16 years old*

#### ESO - COMPULSORY SECONDARY EDUCATION

- **First Cycle:** 1st grade, 2nd grade and 3rd grade
- **Second Cycle:** 4th grade: with a preparatory character, either towards the Baccalaureate (if they opt for Academic Education) or towards Vocational Training (if they opt for Applied Education).

#### FIRST LEVEL OF VOCATIONAL TRAINING

Agricultural and Livestock Activities  
Electricity and Electronics  
Vehicle Maintenance  
Building Renovation and Maintenance





4

## THE CENTRE'S EDUCATIONAL OFFER

### NON\_COMPULSARY EDUCATION

*AGE from 16 years old*

#### SECOND LEVEL OF VOCATIONAL TRAINING

- Bodywork
- Electromechanics of Motor Vehicles
- Electrical and Automatic Installations
- Telecommunications Installations
- Interior Design, Decoration and Refurbishment
- **Agro-ecological Production**

#### THIRD LEVEL OF VOCATIONAL TRAINING

- Prevention of Occupational Risks
- Automotive
- Forestry and Natural Environment Management
- Landscaping and Rural Environment
- Building Projects
- Electrotechnical and Automated Systems
- Telecommunications and Computer Systems
- Physical Conditioning

#### BACCALAUREATE

Modalities offered

ARTS

HUMANITIES AND SOCIAL SCIENCES

SCIENCES AND TECHNOLOGY





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## 5 THE IMPORTANCE OF AGRICULTURE IN ORIHUELA

*European Environment Agency in 2005, highlighting its importance and qualifying it as a "Landscape that is a physical expression of the creations, knowledge and practices of traditional agricultural culture". Landscape that is a physical expression of the creations, knowledge and practices of traditional agricultural culture".*

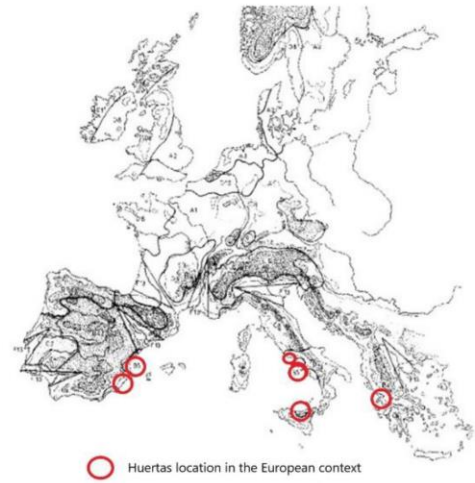
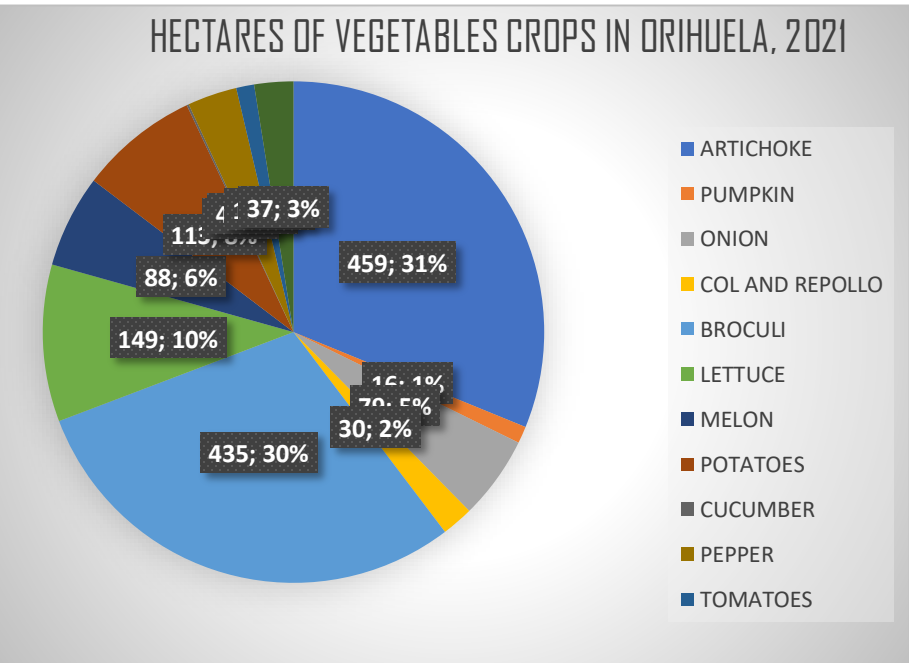
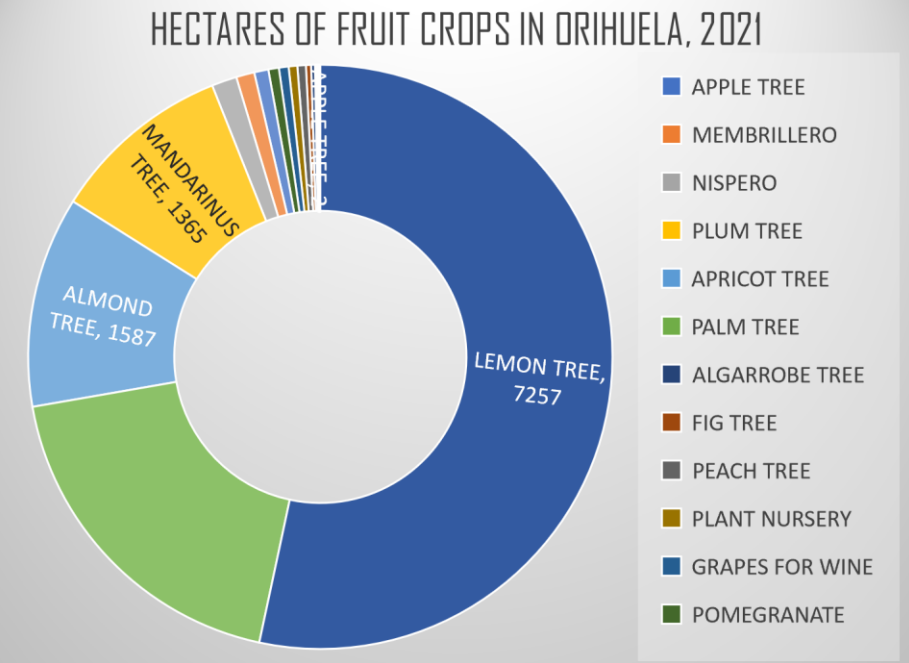
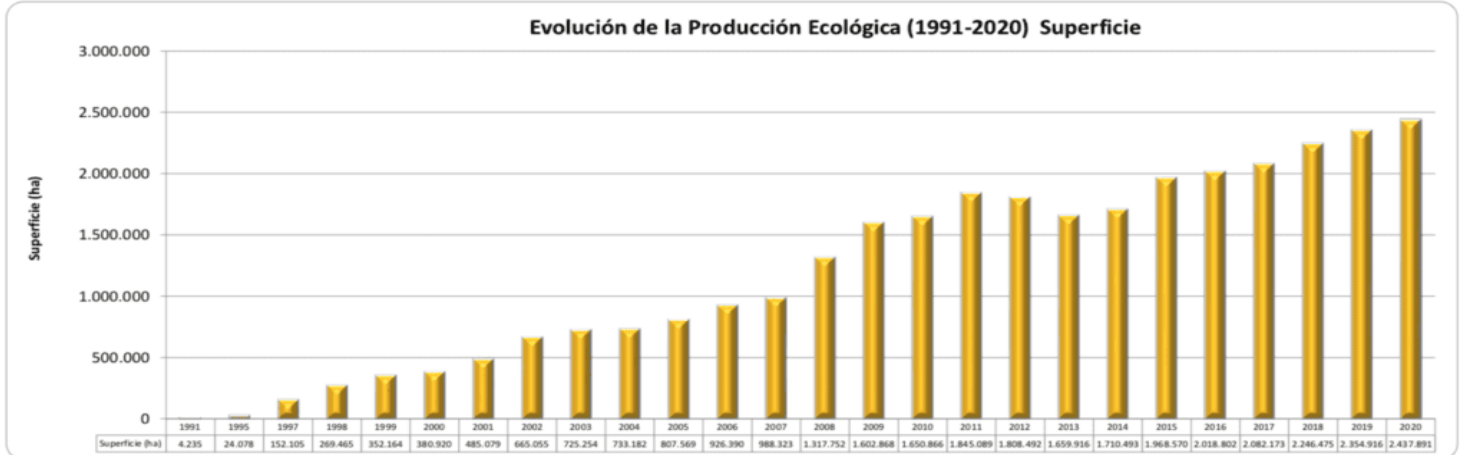


Figure 1. (a) Agricultural landscapes in Europe [1] (p.298); (b) Dobris Report map for European Landscapes, based on Meeus et al. map [2]. Note that Huerta locations are highlighted in dark-red shaded spots.





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DEPARTMENT OF AGRICULTURE

(Orihuela - Alicante) Spain

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**LANDSCAPING AND RURAL ENVIRONMENT**  
**FOREST MANAGEMENT AND NATURAL**  
**ENVIRONMENT**  
**AGROECOLOGY**  
**AGRICULTURAL AND LIVESTOCK**  
**ACTIVITIES**



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## FACILITIES

1

LAB



2

TECHNOLOGY CLASSROOM



3

AGRICULTURE WORKSHOP



4

PLANT NURSERY

5

IRRIGATION CONTROLLER



6

GREENHOUSE



7

COMPOST AREA



8

POULTRY HOUSE



9

AGRICULTURAL PARCEL



10

DEPARTMENT AND LIBRARY



## THE TEACHING TEAM (15 TEACHERS)

We have a wide professional experience, not only in teaching, but also in the private sector in companies related to fruit and vegetable production, control and monitoring of pests and diseases, employment workshops related to gardening, technical advice in ecological farms, topographical studies, employment agents, quality management, etc... which allows a complete transfer of knowledge at the time of teaching practice.

## DEPARTMENT OF EXCELLENCE

The Palmeral Institute is a centre of excellence, a distinction awarded on 24 May 2021 to the Department of Agriculture. The facilities, the prestige of the years of teaching experience as well as the action plan presented were the reasons for this recognition. This merit implies the implementation of a quality system.

## DRONES IN THE CLASSROOM 4.0: FROM THE CURRICULUM TO THE PROFESSIONAL FIELD

The Department of Agriculture has organized courses and talks on knowledge of software and flight techniques for handling drones aimed at applications in thermal and photographic studies of crops, monitoring of pests, environmental actions, forest management, etc. All of this with the students of the higher level and the intermediate level.



**MONITORING OF NESTING IN NATURAL PARADISES** has won the first national prize for Research and Technological Innovation. March, 2023



## ERASMUS-EDU-2022-PEX-COVE (Partnership for Excellence - Centres of Vocational Excellence)

TEAM#UP's main goal is to mobilize extensive knowledge and skills in the field of ecological restoration (ER) to fill gaps in green vocational education training (VET).

- *(1) multifunctional and sustainable land use in agricultural systems*
- *(2) restoration of old infrastructure, ecological compensation and landscaping*
- *(3) restoration across urban and rural landscapes*
- *(4) forest restoration and disaster risk management*

INNOVATION

AGROECOLOGY AND LIVESTOCK ACTIVITIES

6

DEPARTMENT OF AGRICULTURE

IES CAP DE L'Aljub SANTA POLA FP Hostelería



THE BEGINNING OF AN "EXCELLENT" COLLABORATION



HARVEST

PRODUCT DELIVERY

ELABORATED DISHES

Thanks to this action, the slogan "from the Farm to Fork" is highlighted, the training practices developed in both training cycles are made visible and the possibility of developing innovative and sustainable projects between both centres of educational excellence is opened up.

**Menú Sostenible** productos ecológicos y Km.0 Les Salines Costanera

Viernes 10 de marzo de 2023

Colabora:

SUSTAINABLE MENU  
By students of The Palmeral High School in High School Cap de l' Aljub de Santa Pola Restaurant



INNOVATION

AGROECOLOGY AND  
LIVESTOCK ACTIVITIES

6 DEPARTMENT OF AGRICULTURE



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Dept. of Agriculture

COLLABORATION WITH AGAMUR: RECOVERY OF A BREED IN DANGER OF EXTINCTION



INCUBATOR

BIRTH

TO THE HEN HOUSE

ANALYSIS OF THE  
RESULTS

By students of The  
Palmeral High  
School  
And professionals of  
the Agamur  
association

The Murcian Hen, the native poultry breed of the Region of Murcia,  
which is in danger of extinction.

<https://agamur.eu/>



INNOVATION

LANDSCAPING AND RURAL ENVIRONMENT

6

DEPARTMENT OF AGRICULTURE



STARTING NOW

Autoponic

SUSTAINABLE AND PRECISION AGRICULTURE

Intercentre and interdisciplinary project

Automate and digitize an autonomous and sustainable crop, powered by renewable energy.

- ELECTRICITY AND ELECTRONICS
- Electrotechnical and Automated Systems*
- ENERGY AND WATER
- Renewable Energies*
- COMPUTING AND COMMUNICATIONS
- Artificial Intelligence and Big Data*
- AGRICULTURE
- Landscaping and Rural Environment*

AIMS

Apply Technological and Environmental Innovation

Use active methodologies, project-based learning or challenges (ACBR)

Contribute to the achievement of the SDGs included in the 2030 Agenda



Achieve gender balance in women's access to STEAM VET qualification profiles

INNOVATION

OTHER ACCIONS...

COLLABORATIONS WITH MIGUEL HERNÁNDEZ UNIVERSITY

ERASMUS + PROJECT "2020-1-ES01-KA201-082999

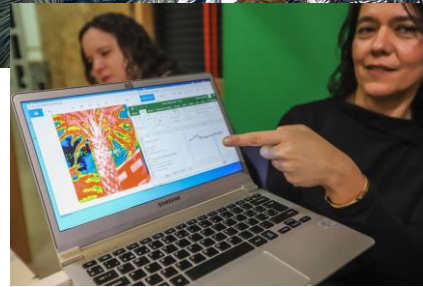


DOMOTIC SCHOOL GARDEN



DEVELOPMENT OF PRACTICES IN THE PROFESSIONAL FIELD OF LIVESTOCK AT UMH

# PREVENTIVE ANALYSIS OF "Rhynchophorus ferrugineus" BY DRONES AND SENSORS IN THE PALMERAL HIGH SCHOOL



Carmina M. Arenes. Dept. of Agriculture

18 | VIERNES, 19 DE JULIO, 2020  
Vega Baja

## El futuro es lo ecológico

► La UMH y el IES El Palmeral de Orihuela participan en un proyecto para formar a los futuros agricultores y ganaderos respetuosos con el medio ambiente

El futuro es lo ecológico. Los certificados solo se otorgan a los productores que respetan el medio ambiente. La UMH y el IES El Palmeral de Orihuela participan en un proyecto para formar a los futuros agricultores y ganaderos respetuosos con el medio ambiente.

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**Empleabilidad en el sector agrario y forestal**  
MARTES 9 DE MARZO  
LUGAR: AULA TÉCNICA

**PROGRAMA**

- 9:00-9:30 PRESENTACIÓN DE LAS JORNADAS TÉCNICAS
- 9:30-10:30 "Cooperación y agroecología para un mundo rural vivo"  
Ponente: José Antonio Aldguer Tomás, Socio de la Cooperativa Agroecológica La Camperola
- 11:00-12:00 "Innovación tecnológica para la agricultura, ganadería y bodegas"  
Ponente: Philippe Lallart, Delegado comercial ISAGRI España
- 12:00-13:00 "Producción y comercialización de productos agroecológicos de la Región de Murcia"  
Ponente: Alfonso Ruiz García, Socio Fundador del Bancal a Casa
- 13:00-14:00 "Lucha biológica para el control de plagas agroforestales"  
Ponente: Carmen María Conesa Rincón, Delegada comercial de Biobest
- 15:30-16:00 PRESENTACIÓN DE LAS JORNADAS TÉCNICAS
- 16:00-17:00 "Agricultura de secano, captura de CO2"  
Ponente: Antonio Soler Yarcácel, Presidente de Nueva Cultura por el Clima
- 17:00-18:00 "Proyecto Minivinya, recuperación minifundis de vinya"  
Ponente: Juan Cascait
- 18:30-19:30 "Control y certificación de la producción ecológica."  
Ponente: Pilar Valdes Gallud, Comité de Agricultura Ecológica de la Comunidad Valenciana
- 19:30-20:30 "Intervenciones forestales en el ámbito mediterráneo"  
Ponente: Lorenzo Yañó Calatayud, Gerente de Foresma

## NEW ERASMUS PROJECTS IN THE FUTURE...

### FUTURE PARTNERSHIPS

From the High School "El Palmeral" in Orihuela (Spain) we would be delighted to establish contacts with other European educational centres.

Our aim is to build bridges of collaboration in future European projects that enrich all students: under the premise of broadening the knowledge of other languages, it would be possible to convey transversal subjects such as SUSTAINABILITY and SOLIDARITY.

For all these reasons, we would like to show you our predisposition and contact details to work as a team in future ERASMUS projects.



Carmina M. Arenes.  
*Dept. of Agriculture*

### CONTACT DETAILS

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- **Phone:** [966 90 47 20](tel:966904720)
- **Email:** [mc.martinezarenas@edu.gva.es](mailto:mc.martinezarenas@edu.gva.es)
- <https://portal.edu.gva.es/ieselpalmeral/>

**THANK YOU FOR YOUR  
ATTENTION**