Life COMPOlive

New generation of bioCOMPosites based on OLIVE fibers for industrial application

The LIFE COMPOLIVE project has received funding from the LIFE programme of the European Union

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1. General facts

Why is important the COMPOLIVE project?

Enhance socio/economic
To change the management of pruning and enhance socio/economic aspects of the olive sector from an environmental perspective.

Develop new fibers/biocomposites
To develop new fibers/biocomposites with a broad range of application in order to reduce fossil-based virgin plastic.

Circular Economy
To support the implementation of the "EU action plan for the Circular Economy", the Directive 2008/98/EC on waste and the Directive 2000/53/EC on end-of-life vehicles (ELVs), among others laws related with more environmental friendly processes in industries.

Why different industrial sectors are increasingly searching for renewable materials?

- To decrease the use of fossil fuel raw materials.
- To increase the added value of their products.
- To strengthen the use of recycled materials in order to fulfill with current and future regulations.

2. Environmental issues

The EU is the leading producer, consumer and exporter of olive oil. Worldwide, olives are produced in 39 countries worldwide on an area of over 8.1 million ha.

There are many sources of pollution related to the olive crop aggravated by the huge volume of worked land. The usual procedure performed to remove the pruning is burning it in open field. As a result of the biomass combustion, nitrogen oxides, carbon monoxide, carbon dioxide, volatile organic compounds and particles in suspension are emitted to the atmosphere.

Thereby, the revalorization either of the pruning waste or other related sub-products from olive oil industry into new bioproducts as biocomposites for new sectors, following a circular economy strategy, highlights a double benefit in terms of environmental effects:

1/ Avoiding the burning of the residues.
2/ Decreasing the use of fossil fuel raw materials to produce the composites for industrial uses (first approach for LIFE COMP0LIVE will be automotive and furniture sectors, for both home and urban), taking into account that there are over 1000 types of plastic, and 90 % of plastics are derived from virgin fossil fuels.

LIGHTWEIGTHTING
MECHANICAL RESPONSE

AUTOMOTIVE

BIODEGRADABILITY

GREEN CITIES

RECYCLABILITY
SUSTAINABILITY

FURNITURE

3. Objectives

LIFE COMP0LIVE project (2019-2022) aims to develop a new generation of biocomposites based on olive pruning waste for industrial applications, by boosting the substitution of non-renewable resources through sustainable product design of wood-based fibers.

Overall objectives

1. Revalorisation of olive pruning waste collected into fiber for new biocomposites.
2. Reduction of fossil-based virgin plastic due to the amount of olive natural fiber incorporated to the matrix and the use of recycled PP.
3. CO_2 emissions reduction.
4. Creation of 3 new businesses models related to the waste management within the new value chain of olive sector: fibers for automotive sector, outdoor furniture and home furniture.
5. Empower sensitivity and awareness of the primary sector by boosting an economically and eco-friendly managing of olive waste.

THERMOPLASTIC BIOCOMPOSITES
(REINFORCED RECYCLED PLASTIC WITH OLIVE PRUNING RESIDUE)

LEADER andaltec CENTRO TECNOLÓGICO DEL PLÁSTICO

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