

# participants

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LIFE of European Union. LIFE+11 ENV/ES/000613



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LIFE+11 ENV/ES/000613

# LIFE + SAVECROPS

POLYVALENT NATURAL PESTICIDE FROM LOCAL WASTE  
PESTICIDAS POLIVALENTES DE ORIGEN NATURAL OBTENIDOS A PARTIR DE RESIDUOS





# precedents

At present, agro-food industrial activity entails several associated problems. This project deals with two of them: the large amounts of organic residues generated, without proper exploitation, and the use of productions inputs such as synthesis pesticides; both have ment a wide range of environmental and health problems for farmers and consumers.

Our aim is revalorization of these by-products, in order to get an efficient biocide formulation, as well as its economic-technical viability study for its later commercial running.

## PROBLEMS

- # European limitation for pesticide use
- # High and seasonal volume of by-products from agro-food industry, without present exploitation

## ALTERNATIVE

- # By-products valorization



BIOCIDE FORMULATION

# objectives

- Characterization of local residues in their biocide active principles content. Specifically, whey residues, broccoli and cauliflower, and garlic and onion will be used.
- Get the biocide formula by combination of the above mentioned substances, assessing its environmental and control effect.
- Agronomic validation of results in tomato, olive tree and vineyard crops.
- Study of the economic viability of the biocide manufacturing for its later commercial exploitation
- Communication and dissemination of results.

# projet diagramme



Identification of active ingredients  
Selection of active ingredients  
Toxicological and ecotoxicological assessment



Field validation  
Industrial validation  
Feasibility study

DISIMINATION  
OF RESULTS

EVALUATION  
OF PROJECT  
IMPACT



# expected results

The literature that has served as grounds to justify the scientific viability of the project allows us to claim that good results will be achieved (Table 1 and 2) because, firstly, the active ingredients with biocidal capacity present in the waste have been identified and secondly, there is no dearth in terms of availability of sufficient amount of raw material (the amount of waste).

### TASKS TO BE PERFORMED:

- 01 Evaluate the possible loss of effectiveness of the compounds (or study of useful life).
- 02 Evaluate the toxicity and ecotoxicity of active ingredients at the dose application levels that have been obtained in the previous task. This will allow to verify the effectiveness of the compounds and their safety to the environment, people and useful fauna.
- 03 The most adequate extraction methods of the active ingredients on an industrial scale shall be studied and a formula will be designed to facilitate its application in the field.
- 04 The said formula will be applied to the crops such as vines, tomato and olive trees.

ACTIVE MATERIALS THAT COULD BE REPLACED	CONVENTIONAL TREATMENT			
	CROP	Type	Active Ingredient	Expect Results
	TOMATO	Insecticide	Abamectin Cypermethrin Taufluvinate Zetacipermetrin Chlorpyrifos	In tomato cultivation up to 77% of the pesticides considered could be replaced.
		Fungicide	Captan Folpet	
	OLIVE TREE	Insecticide	Dimethoate Fosmet	In olive tree cultivation up to 66% of the pesticides considered could be replaced.
	VINES	Insecticide	Chlorpyrifos	In vines cultivation up to 50% of the pesticides considered could be replaced.
		Fungicide	Cymoxanil	