



Project title and/or acronym: *Innovative fully biodegradable mulching films & fruit protection bags for sustainable agricultural practices: **LIFE MULTIBIOSOL***

PROJECT LOCATION: *Aragón, Toscana and Vlaams Gewest*

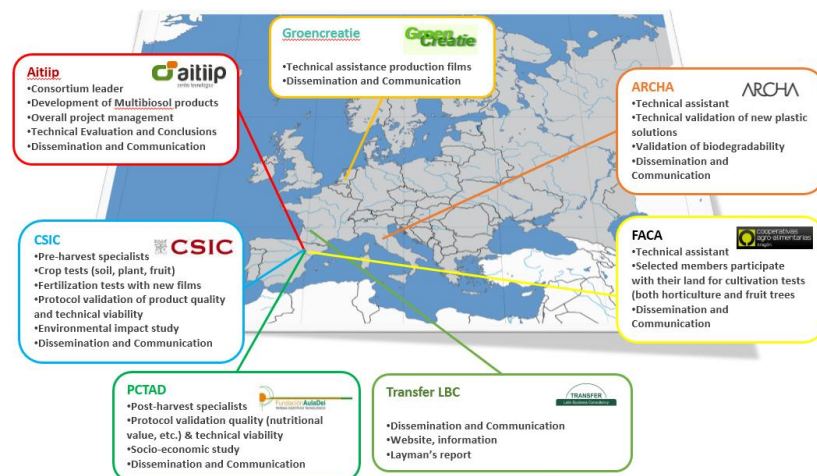
BUDGET INFO:

Total amount: 2,036,680 €

60% EC Co-funding: 1,222,002 €

DURATION: Start: 01/09/15 - End: 31/12/18

PROJECT'S IMPLEMENTORS:



Coordinating Beneficiary: Fundación AITIIP

Associated Beneficiary(ies): Laboratori Archa s.r.l, La agencia estatal Consejo Superior de Investigaciones Científicas, Federación Aragonesa de Cooperativas Agrarias, Groencreateie BVBA, Fundación Parque Científico Tecnológico Aula Dei, Transfer Latin Business Consultancy s.l.





PROJECT DESCRIPTION

The general objective of this project is to demonstrate that sustainability and efficiency of agricultural practices can be achieved by introducing an innovative, economically viable and fully biodegradable plastic that eliminates waste completely.

1. Elimination of waste management: Our biodegradable plastics will break down naturally on land (with *OK biodegradable SOIL* certification) so removal and transportation of the waste will no longer be needed. Costs of management for farmers/growers and the environmental problems associated with landfills and incineration will be eradicated.



2. Development of new biodegradable plastics films with a very low carbon footprint impact: Conventional agricultural plastic films have an enormous environmental impact in terms of CO₂ emissions during their life-cycle. We will significantly reduce this impact, since our biodegradable polymers and additives will be made from renewable raw materials. Also, biomass for these biodegradable plastics will come from trees and crops which extract CO₂ from the atmosphere as they grow.

3. Improvement of soil and product quality: Multibiosol bioplastics will not only avoid toxic and harmful components of conventional plastics, but also they will add value through **Oligo Elements** (trace minerals as natural fertilizers) and **micro-perforation functionalities** that contribute to agriculture *à la carte* and help improve the health of the soil and the quality of the final product.





EXPECTED IMPACTS

MULTIBIOSOL focuses on the development of cost-effective and truly biodegradable plastic films (“third generation”) for agriculture that will allow for sustainable and efficient farming practices. In this sense, we expect to achieve the following concrete results:

- **100% waste reduction ([Indicator 2.1](#)):** Environmentally harmful or expensive disposal waste management methods will simply no longer be necessary because of the complete biodegradability of plastics (*OK biodegradable SOIL* label) after being tilled on soil
- **Soil quality improvement by 15% ([Indicator 3.3](#))** since Oligo elements will act as natural fertilizers and petrochemical plastic contamination will be avoided
- **10% improvement in crop quality ([Indicator 3.3](#))** due to the improved fertility and quality of soil
- **CO₂ emissions reduction by 50% ([Indicator 8.1](#)),** since our biodegradable plastics will not use fossil fuels as raw materials and emit less carbon emissions during production. This number also takes into account the cuts in transportation and incineration related to waste management, as well as carbon capture from trees and crops which extract CO₂ from the atmosphere as they grow
- **Competitive market solution for biodegradable plastics ([Indicators 15](#)):** the price of our plastics will be competitive, particularly if we take into account that (a) there will be significant savings for farmers in waste management, (b) biodegradable plastics demand is expected to increase and its cost price lowered, and (c) farmers will be able to sell a better (healthier) product by pleasing a larger demand for sustainability, adding value and therefore obtaining higher revenues
- **Increased awareness and dissemination ([Indicators 12](#))** of sustainable practices on waste management among stakeholders (particularly on EU relevant legislation and objectives)



POLICY IMPLICATION

- **Towards a circular economy: A zero waste programme for Europe (COM (2014) 398):** Our project aims to be part of the “important starting-point” that “is the **design of production processes**”.
- **Amending Directives EU Directive 1999/31/EC on the landfill of waste (COM (2014) 397):** Our proposal of **eliminating the need for waste management** through complete biodegradability directly leaves out the necessity of landfilling while protecting the soil’s integrity.
- **On the Thematic Strategy on the Prevention and Recycling of Waste (COM (2011) 13):** ‘For both the Commission and our project, **Waste prevention** remains a main priority which can be achieved through **product design and manufacturing**.
- **EU Directive 2008/98/EC, on waste and repealing certain Directives:** Key concepts of waste, recovery and disposal are defined as well as requirements/obligations for **waste management** that will be taken into account during our project's implementation. Furthermore, our focus aims at preventing the creation of waste and will potentially contribute to legislative changes towards this aim in the future.
- **Europe 2020 - “Sustainable growth for a resource efficient, greener and more competitive economy”:** Our project fits right into this strategy by striving to use resources that **do not depend on fossil fuels** and leave a low carbon footprint.
- **Roadmap to a Resource Efficient Europe (COM (2011) 571):** **Reducing food waste** is part of our objectives and we are confident that avoiding soil contamination and improving its quality will minimize the amount of food lost during its life-cycle.
- **Innovating for Sustainable Growth; A Bioeconomy for Europe (COM (2012) 60):** Our project not only is concentrated on lowering dependency on fossil fuels (as previously mentioned), it also aims at **eco-design and fostering future use of bio-based raw materials and products**.