

EXPECTED RESULTS

- Evaluation of treated sediment suitability for pomegranate propagation by cuttings and for strawberry and pomegranate cultivation in containers for fruit production
- Morphological, biochemical and sensorial characterisation of two strawberry and a pomegranate cultivars grown on substrates containing treated sediments
- Assessment of the presence of heavy metals and other pollutants in strawberries and pomegranates
- Growth, development and rooting performance of pomegranate cuttings
- Improvement of the knowledge on the treated sediments and their influence on plant growth and fruit quality and safety
- Waste recycling and reduction of peat use
- Potential reduction of CO₂ emission due to the replacement of peat with treated sediments



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Demonstration of the suitability of dredged remediated sediments for safe and sustainable horticulture production



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OBJECTIVES

The HORTISED project aims at demonstrate the suitability of dredged remediated sediments as an alternative for growing media in horticulture.

The project will demonstrate the great potentials of sediment-based growing media through the growth of pomegranate and strawberry as representative plants at farm scale in Italy and Spain.

The performance of the innovative growing media will be demonstrated by comparison with the typical production of the same fruits obtained with the use of the traditional peat-based growing media.

The HORTISED project will also will produce guidelines for the safe and sustainable use of sediments as ingredients for horticultural growing media.

The project will demonstrate the suitability of remediated sediments for fruit plant production.

THE PROBLEM

Peatlands exploitation in the last 25 years has led to the 70% loss of peatland areas in Europe. Several countries, have set ambitious plans to reduce the peat use in horticulture up to 90% between 2010-2020. However, the currently tested alternatives materials (e.g. tree bark, wood fibers, composted sludge and green wastes), but to date they have not been accepted yet by the producers as peat substitutes. About half of the peat is used for ornamental plant nursery and floriculture and about 1% is used for growing fruits.

Sediment dredging is a routine activity carried out to preserve the river flow and allow navigation in sea ports, rivers and canals. The total amount of sediment dredged in Europe is between 100 and 200 million m³/year. The EU 'Waste Directive' have progressively encouraged and supported the re-use of the dredged sediments, but currently there is no specific management of them, because they are unsuitable for several cost effective productive uses.

ACTION AND MEANS INVOLVED

- Analysis and Characterization of contaminated sediments
 - Sediments treatment (landfarming)
 - Demonstration of the use of decontaminated sediments as a substrate for fruit plant nursing (pomegranate cuttings)
 - Demonstration of the use of decontaminated sediments as a substrate for fruit plant cultivation and safe fruit production (pomegranate and strawberry)
- Technical and economic impact assessment
- Spread the results with papers on scientific and popular press
- Drafting of guidelines for the use of decontaminated sediments for substrates preparation.

