



Sustainable substrates for agriculture from dredged remediated marine sediments: from ports to pots



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Life Subsed

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Project Coordinator

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The general objective of LIFE SubSed

The main aim of the **SUBSED project** is to demonstrate that it is possible to convert a waste (the dredged marine sediment) into a supply (a commercial substrate) through the application of environmentally and economically sustainable techniques. In order to achieve the purpose, sediment-based substrates will be applied to nursery production of ornamentals (laurel) and fruit trees (olive and citrus), and to cultivation of non food crops (protea, calla lily, laurel) and food crops (basil, blueberry, woodland strawberry and citrus).

The performance of the new substrate will be demonstrated at farm scale in Italy and Spain by comparison with the typical production of the same crop cultivated on a peat-based commercial substrate.

The **SUBSED project** will also highlight the current legislative and cultural reasons for hindrance in the use of innovative substrates in agriculture and will produce guidelines for a safe and sustainable use of sediments as constituents of a substrate.

The expected results of LIFE SubSed

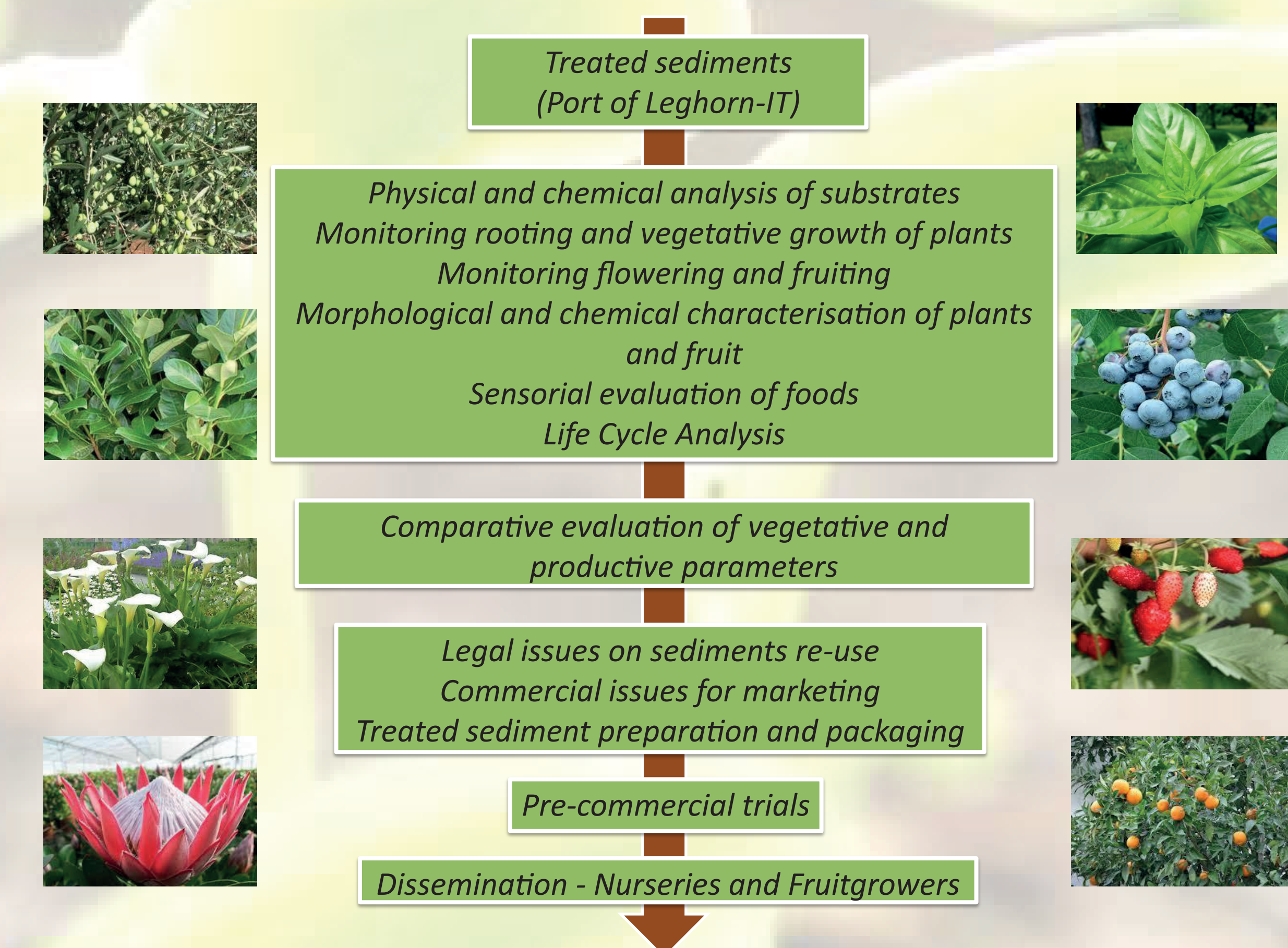
The main result of the **SUBSED project** is the set up of a protocol to optimize an 'environmental friendly' commercial sediment-based substrate for replacing the current peat-based substrates.

The specific technical results will be:

- the evaluation of the suitability of the sediments for the nursery production of food/non food species (laurel, olive and citrus) and evaluation of growth and commercial quality of non food crops (calla lily, protea and laurel);
- the characterisation of 1 basil, 2 blueberry and 1 woodland strawberry cultivars grown in container on treated sediment-based substrates;
- the evaluation of the suitability of food crops in relation to heavy metals and other pollutants also of organic origin, improving the knowledge on the treated sediments and their influence on plant growth and fruit quality;
- the evaluation of the suitability of treated sediments to be converted into a marketable product and also facing the

normative and legal issues related to the use of dredged remediated sediment as substrate in agriculture;

- reduction of the use of peat and its substitution with treated sediments (10-20% of substitution are expected);
- reduction of CO₂ emission (kg) due to the substitution of peat by treated sediments (expected to be about 80-90% less).



LIFE SubSed Beneficiaries



Consiglio Nazionale delle Ricerche
Istituto di Ricerca sugli Ecosistemi Terrestri

