Agrised demonstration activities

- Sediment dredging and green waste collection;
- Cocomposting of sediments and green waste at 3:1, 1:1, 1:3 w/w rates;
- Use composted sediments for the production of ornamental plants;
- Mix and use the composted sediments as technosols for the maintenance of urban soils either as soil amendment or alone.

Agrised monitoring activities

- Physical, chemical and microbiological characterization of sediments and green waste;
- Determination of the aerobic biological activity;
- Monitoring of cocomposting conditions and parameters with sampling of the solid and liquid phases of cocomposting materials;
- Physical, chemical and microbiological analysis by measurement of concentrations of nutrients, humic substances, humification degree, microbial biomass and activity and community composition, pH, bulk density, total porosity, quantification of inorganic/organic pollutants in sediments, green waste and the composted materials;
- Ecotoxicological assessment and homogenation of materials prior to use as plant growing media or amendments.

Beneficiaries







Consiglio Nazionale delle Ricerche Istituto di Ricerca sugli Ecosistemi Terrestri





DEGLI STUDI FIRENZE DISPAA DIPARTIMENTO DI SCIENZE DELLE PRODUZIONI AGROALIMENTARI E DELL'AMBIENTE

UNIVERSITÀ

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Use of dredged sediments for creating innovative growing media and technosols for plant nursery and soil rehabilitation

GKCF



www.lifeagrised.com





The LIFE Agrised project

The AGRISED project aims at demonstrate the suitability of **dredged sediments** used with no intervention or co-composted with green waste to produce innovative technosols for reclamation of degraded land and brownfields and innovative growing media for plant nursery.

The **performance** of the innovative sediment based growing media and of reconstituted soil will be compared with the traditional land reclamation approaches and traditional growing media used for producing ornamental plants with high added.

The sediment/green waste co-composting process will produce **growing media** with better fertility, structure, water holding capacity, aeration, and biological activity than peat and coir pith. Demonstration trials will be conducted growing plants with high added value for the European market: Fraser photinia and laurustinus.

The **technosols** will be used for maintenance of industrial areas and for rehabilitation of degraded soils.

The LCA and an economic analysis about

the reuse of dredged sediments for the two production processes will be performed to bring the innovative growing media for professional plant nursery and amendments for soils restoration close to the market.

The LIFE Agrised expected results

The specific technical results of LIFE Agrised will be:

- an innovative technology and specific protocols for more sustainable management of dredged sediments and greenwaste, and innovative plant production achieved by the preparation of sedimentbased growing media able to replace the current peat-based growing media and with superior performance compared to other alternative growing media (e.g. coconut fibre);
- the evaluation of the suitability of the co-composted sediment/green waste mixes for remediating dredged sediments, recycling green waste, and for the growth and production of ornamental plants in containers and as amendment for rehabilitation of degraded soils and

- technosols for urban green maintenance;
 the characterization of the obtained materials in terms of safety for ecosystems and human health, and characterization of plant growth and health after prolonged growth on substrates containing co-composted sediments;
- the improvement of the knowledge on the treated sediments and green wastes and mitigation of their impact as compared to the current management options;
- assessment of the ecological impact (LCA analysis);
- evaluation of eventual reasons for hindrance to market the innovative sediment based technosols and growing media;
- definition of specific protocols in the normative and legislative issues related to the use of co-composted sediments in agricultural production and soil rehabilitation.

Project coordinator

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