

# Natural dyeing - Use of natural dyes in natural fibers Operational Group



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Producers:



## Aim

The main goal **Natural dyeing - Use of natural dyes in natural fibers** Operational Group (OG) is the dye plants production for the extraction of natural dyes and application in the dyeing of "Campaniça" sheep wool, in order to develop innovative products with added value that are eco-sustainable and promote the development of local and national economy.

## Specific Objectives

- ❖ Implement the plants dye production and selection the species that present the best cultivation and extraction results for to apply in extensive cultivation;
- ❖ Promote the agricultural diversification of MAP producers by the incorporation of dyeing species for economic valorization;
- ❖ Develop eco-extraction process, concentration and preservation of the natural dyes and the pre-formulations for industrial application, to obtain a set of dyes properly characterized.
- ❖ Promote the eco-sustainable certification of national textiles, with particular emphasis on Portuguese wool and, more specifically, "Campanica" wool, and consequently their incorporation into new market niches.
- ❖ Encourage reduction of the pollutant load due to the use of natural dyes and dyeing processes in accordance with "Global Organic Textile Standard";

### Task 4 – Management & dissemination

- 4.1 Compilation of information and dissemination of results
- 4.2. Implementation of public participation actions for training of stakeholders in the sector
- 4.3 Dissemination of the project results in the scientific community

### Task 3 – Dyeing tests on woolen yarns

- 3.1 Textile structures and processes
- 3.2. Wool dyeing tests
- 3.3 Quality control of dyeing woolen yarns
- 3.4 Generated effluents characterization & treatment

### Task 2 – Processing of the coloring matter

- 2.1 Separation, drying and grinding of parts of plants used as dye
- 2.2. Optimization of the extraction of colorants constituents & chemical characterization
- 2.3 Dyes purification & chemical characterization
- 2.3. Dyes production – scale up to textile application
- 2.4 Economic analysis of the dyes plants cultivation and industrial dyes production

### Task 1 – Plant production

- 1.1 Transnational cooperation - visit to CRITT Horticole
- 1.2 Implementation and optimization of the culture conditions of the dye plants
- 1.3 Yield of selected plants
- 1.4 Extensive cultivation of dye plants and elaboration of the technical cultural sheets
- 1-5 Benchmarking Analysis



## Expected outcomes

The Operational Group initiative bridges the gap between research and market with the commercialization of natural dyes and the cultivation of dyes plants. It helps good ideas for innovative products, services and process that protect the environment by recycling of the solvents used in the eco-extraction process and obtained carbon credits by spread the plant residues on the fields. The implementation of the various planned measures and dissemination actions will contribute to the transmission of this knowledge to main interest groups, allowing economic growth and deployment of rural communities.