

## RESULTS TASK 7

### **MANAGEMENT OF THE REMAINING WASTE MATERIAL**

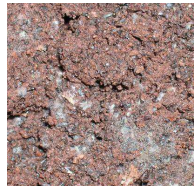
Two waste products are generated in the new process to obtain tannin extracts from grape seed: the wet solid waste, which is the treated seed, and the waste water removed out the tannin concentration process by membranes (permeate).

#### The treated seed

The treated seed is a wet solid waste. The easy biodegradability of remaining waste was proved. It is the essential characteristic for the compost use as it means that it is fermentable and so the material is feasible to be assimilated by microorganisms.



Treated seed  
Emptying the extractor



Treated seed stored 3 days at 15°C  
Observation to the naked eye of microorganisms

Other applications:

- **Combustion**

Trials proved that waste solid maintains the calorific value of seed and it allows to consider the thermic use after drying it.

- **Active carbons**

The waste was validated for the production of active carbons with good adsorbing properties.

#### Waste water:

The water obtained in the process of concentration is biologically treated in aerobic conditions



## **Assessment of the environmental impact**

The environmental advantages using the process to obtain tannins are as follows:

- ✓ Lower deforestation of some tree species
- ✓ The reduction of wine waste and its valuation as a raw material is an environmental benefit.
- ✓ Maximum valorisation of a low profitable by-product currently used for energetic and compost uses.
- ✓ Reduction of logistic costs using local available vegetable extracts and avoiding overseas sources
- ✓ A health related advantage can be added by avoiding dust formation at workplaces in the tanning industry. A powder-based product would be substituted by a liquid solution