

RESULTS TASK 6

INDUSTRIAL TANNING TRIALS WITH TANNING EXTRACT FROM WINE WASTE

The tanners produced hides and skins for different leather goods using the tanning extract obtained in this project in order to validate the application of the new tannins on an industrial scale.

The ultrafiltration product was used to tan cow hide to produce sole leather and the nanofiltration product to tan sheepskin to produce lining leather.

The ultrafiltration product gives dark brown leather. Consequently, the technical viability of the ultrafiltration product is limited to the production of dark sole leather.

The colour of the leather obtained with nanofiltration product is similar to the leather produced with commercial extracts.

The leather obtained was assessed by standard physico-chemical analytical tests compared with the standard production of the tannery. Results proved that the leather produced with grape tanning extracts at industrial scale was similar to the standard production. Even more, values in light fastness were improved.



Economic assessment

The concentration method by membranes was not the most appropriated for grape tannins because of the low levels of dry matter 14% (UF product) - 20% (NF product) achieved. Diluted solutions require higher amount of biocide and, on the other hand, an important cost of transportation to tanneries.

The economical evaluation of the process to obtain tannins at industrial scale proved that the extraction system carried out in this project, together with the concentration system by triple effect evaporator in substitution of membrane system, would produce a grape tannin extract at 35% level concentration of dry matter content at a competitive sale price with the current price of commercial tannins.

The validation of the grape tannin extract concentrated by the triple effect evaporator would have to be required. In principle, it is not expected significant differences on quality leather because the solution at 35% level concentration would contain the total tannin compounds extracted from grape seed and it would produce leather with intermediate colour between the dark and light brown colour.