

Demonstration of eco friendly tanning cycle by spectroscopic techniques

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PROJECT

LIFETAN aims at demonstrating the use of innovative natural and naturalized products* and technologies for the bating, defatting, tanning, fatliquoring and dyeing phases

OBJECTIVES

- The main environmental, social and economic goal is the replacement of current commercial chemical and toxic products with natural and naturalized products* in the whole tanning cycle
- Maintaining the leather high quality standards, the project proposes:
 - Chromium-free tanning cycle
 - 20% reduction of Chromium salts with the new natural products

* Often obtained from agro-industrial byproducts



DEMONSTRATION AT THREE LEVELS

- 1st level → Laboratory
- 2nd level → Semi-industrial
- 3rd level → Pre-industrial



LEATHER CHARACTERIZATION TECHNIQUES



FTIR

Interaction products-proteins



SEM

Morphological and semiquantitative analysis



TGA

Thermal stability and decomposition phases (ΔT and %mass loss)