

CHARACTERIZATION AND IDENTIFICATION OF *Zizyphus lotus* L. KERNEL OIL: APPLICATION IN THE FORMULATION OF AN ANTI-INFLAMMATORY AND ANTIBACTERIAL OINTMENT ENRICHED WITH *Zizyphus lotus* L. FRUIT EXTRACT AND GELATIN OBTAINED FROM ALGERIAN RAW SKIN WASTE.

SMAILI Salma^{1*}, LARID Roza², and AKSAS Hamouche²

¹Process Engineering, Research Unit URMPE "Materials, Processes, Environment", Faculty of Technology, M'hamed Bougara University of Boumerdes –Algeria.

²Process Engineering, Research Unit LRTA "Research Laboratory of Food Technology", Faculty of Technology, M'hamed Bougara University of Boumerdes –Algeria.

Code CCP 5

Email* : s.smaili@univ-boumerdes.dz

Introduction & Objectives:

Zizyphus lotus L. is a fruit that is not widespread in Europe, its consumption and use being localized in the production areas, on the other hand it is popular in the African countries bordering the Mediterranean [1]. *Zizyphus* is known for its many medicinal values as an anti-inflammatory, analgesic and anti-ulcer drug [2]. The valorization of these fruits in different industries has attracted the interest of many researchers, for two main purposes: the presence of many biologically active molecules in *Zizyphus*, which can have a high potential benefit for human health and economic exploitation. Our work consists in developing the wild fruit *zizyphus lotus* L., trying to develop a cosmetic cream based on its aqueous extract for its antibacterial activity, the oil of its almond given its richness in omega 3 and 6 and especially the use of gelatin extracted from raw skin waste as an emulsifier for its richness in keratins.

Methodology (Material and methods):

For the preparation of the cosmetic cream, we mixed the *Zizyphus* almond oil that we extracted with two other olive and argan oils in a beaker and the gelatin that we prepared in advance from raw hide waste. The beaker is kept in a water bath at 50°C, keeping this temperature constant, stirring with stirring at 600 rpm. After dissolution, the aqueous extract of the *zizyphus* fruit is gradually added, until all of the oily phase is incorporated. And finally, stirring is maintained until the emulsion has completely cooled ($\approx 20^\circ\text{C}$).

Results and Discussion:

In our case, the desired properties are texture and consistency. As can be seen from the results obtained, the only product that exhibited thixotropy was a cream composed of 60% aqueous extract and 20% *Zizyphus* almond oil. The product returns to its initial state after mechanical work (shearing), and has some stability. This cosmetic cream is best suited for industrial scale and meets quality requirements such as viscosity and leveling.

Conclusion:

This research led to the development of an organic cosmetic cream based on almond oil, aqueous extract of *Zizyphus lotus* L and animal gelatin.

Keywords: *Zizyphus lotus* L, aqueous extract, cream, organoleptic, rheological, oil, gelatin.

References:

1. Munier, P. (1973), IFAC, 28 : 377-388.
2. Saadoudi, M. et al. (2017), AFST, 18, 395 – 401.

