THE FEATURES OF PRIMARY PROCESSING OF WOOL

Romanovska Tetiana I., Oseiko Nick I.

National University of Food Technologies, Kyiv, Ukraine

Romanovska Tetiana I.: rombiotann@ukr.net

Summary: It was determined the technological conditions of wet wool cleaning. Soaking wool was spent at water hydraulic kit 10 in three stages at the room temperature. After the third soaking and rinsing was waste water is similar to the original water, but has solutes alkaline nature including hydrophilic salt of sweat. This soaking will significantly reduce the cost of water and will not deteriorate laundering process of wool from contamination.

Key words*:* wool, soaking, extractives, hydraulic kit.

Sheep wool is a natural fiber material, a raw material for the textile industry. Wool is cleaned in the factory of a primary processing of wool. Cleaning is carried out in dry beating. Beating wool is a mechanical process of repeated shaking and loosening wool. The beating of wool is cleaned from particles sand, soil, dust, straw, weed seeds adhering feed and excreta. Then the wool is cleaned with water and water wash solution.

Washing of wool is carried out in several stages: soaking, squeezing, washing, spinning and rinsing, spin. At the stage of soaking and washing using aqueous solutions of soda and soap to ratio water : dry wool 30÷200 : 1 (hydraulic kit 30÷200) at the temperature 45÷50 °C. So for wet wool cleaning water, is used, and wool grease is extracted from it. After removing wool grease water is sent to sewage treatment plant [1-3].

Wool wax fat is animal one that protects fur from moisture and dirt. Wax obtained from used washing water has impurities detergent, especially soap. Therefore, the using of such wool fat needs refining. In addition, the remnants of soap in wax obtain using its in the pharmaceutical and food industries [4].

The aim of our research is to optimize water flow during wet cleaning of wool and studying physical and chemical properties of the wasted water and soaked.

Soaking wool was spent at water hydraulic kit 10 in three stages at the room temperature. After soaking wool was squeezed. In waste water after soaking and filtering through a paper filter content extractives were determined by refractive index. In waste water pH and solids content were determined by drying to constant weight at a temperature of 105 °C. Results are presented in the Table.

Table. Indicators of wasted and water soaked

№ phase soaking	Refractive index, n	pH	Solids content, %
1	1,3336	7,87	0,067
2	1,3334	8,62	0,050
3	1,3332	8,48	0,009
H_2O	1,3330	5,62	

Consequently according to, the presented in the Table. Data follows that the volume of water for soaking can be significantly reduced to two stages. At each stage to hydraulic kit 10. It is with necessary to point out that for the 10 hydraulic kit all wool is absorbed water and it may emerge during the soaking of the water. After the third soaking and rinsing was waste water is similar to the original water, but has solutes alkaline nature including hydrophilic salt of sweat.

So, soaking of the wool can be performed at hydraulic kit 10 in two or three stages. This soaking will significantly reduce the cost of water and will not deteriorate laundering process of wool from contamination.

Bibliographic references

1. **Zaporoshchenko K.L., Basheeva L.A., Hrek O.V.** (2004). Yssledovanye yntensyvnoi tekhnolohyy promivky shersty, Sbornik nauchnykh trudov Stavropol'skogo NII zhivotnovodstva i kormoproizvodstva, T. 2, **22**, 5 p.
2. **Moroz A.N., Cherenkov A.D.** (2011). Analyz sposobov yzvlechenyia sherstnoho zhyra yz stochnikh vod fabryk pervychnoi obrabotky shersty, Visnyk NTU “KhPI”, – № 12, –P. 146 – 151.
3. **Muntian V.A.** (2010). Analyz tekhnolohycheskykh protsessov y ustroistv dlia pervychnoi obrabotky shersty, Energosnabzhenie. Energetika. Energoaudit, – № 1, (**71**), P. 62 – 65.
4. **N. Oseiko, I. Levchuk, T. Romanovska, V. Olishevsky**, Ecologic and economic efficiency comparison of lanolin extraction methods (2015)., Special issue of Journal of EcoAgriTourism (Transilvania University Press, Brasov, Romania), P. 167 (ISSN 1844-8577).