VULSIB – A NEW TECHNOLOGY FOR DEHAIRING RAWHIDE

Description
VULSIB is a new environmentally appropriate technology intended to obtain additional amounts of wool in leather production. The use of this technology reduces the duration of dehairing and makes the technological process clean. A distinguishing feature of this technology is that hides are treated with a complex of proteolytically active enzymes immobilized with a water-soluble polymer.

Dehairing of cattle, hog, and, sheep hides can be performed by bathing or put-on methods. The duration of the process depends on the type of leather raw material, method of treating, and equipment; it is 1-3 hours for sheep hide and 6-8 hours for cattle hide. The dehairing of rawhide using immobilized enzymes yields undamaged and unpolluted wool. The yield of absolutely dry clean hair is 320-360 g per 10 kg of hide weight from cattle hides and 1000-1500 g from sheep hides. Enzymatic soaking eliminates the bating process from the production run.

Time of dehairing using immobilized enzymes versus the proteolytic activity of enzymes:
1 – cattle hide;
2 – hog hide;
3 – sheep hide.

Technical appraisal and economic benefits
The use of the VULSIB technology:
- increases the production output by decreasing the duration of the process without quality deterioration;
- considerably reduces the content of compounds of calcium hydroxide and sodium sulfide in wastewater;
- saves expenses due to environmental penalties;
- gives extra profit due to savings in wastewater treatment.

Application areas
Tanning industry (production of tanning raw for clothing production and shoemaking);
textile industry (production of wool-containing fabrics).

Development stage
The technology has been tested at the Novosibirsk Department of the Moscow Institute of Light
Industry (Novosibirsk) and is ready for commercialization.

**Patent situation**
A patent was granted in the Russian Federation.
Know-how is available.

**Commercial offers**
License agreement, know-how transfer; joint production.

**Estimated cost**
To be negotiated

**Contacts**
Cand.Sc. Galina N. Kiseleva, Assistant Director for International Ties
Institute of Cytology and Genetics, Siberian Branch of the Russian Academy of Sciences
10, Prosp. Akademika Lavrentieva, Novosibirsk, 630090, Russia
Phone: (383) 333-36-99
Fax: (383) 333-12-78
E-mail: kiseleva@bionet.nsc.ru
http://www.bionet.nsc.ru