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The Effect of using *Spirulina* Algae extract (*Spirulina platensis*) and mimosa (*Acacia mearnsii*) on Siberian Sturgeon (*Acipenser baerii*) skin tanning

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Abstract

Increasing exploitation of aquatic resources for optimal use of fisheries wastes like fish's skin and production of by-products of its, has appropriated various activities to itself that can refer to supplying the leather from aquatics' skin. In this research the effect of using *Spirulina* and *Mimosa* extracts on the process of leather production from *Acipenser baerii*'s skin was studied. Treatments included treatment A (tanning with methanolic extract of *Spirulina*), treatment B (tanning with watery extract of *Spirulina*) and treatment C (tanning with *Mimosa*). The experiments to investigate the quality of produced leather included tensile strength, stitching strength, abrasion stability, color stability, thermal resistance and adhesion stability. In treatment A, the skin became worn out after tanning process and by performing thermal test, the appearance of the skin wrinkled and had visible changes that indicated the lack of tanning power of the algae's methanolic extract. In treatment B, due to the absence of the decay in appearance after tanning process, the sample was tasted under the thermal resistance test for more investigation of tanning power of the extract, which like the skin A, the appearance of the skin completely changed, and tissue shrinkage occurred in the heat. The best quality was observed in treatment C. Due to the great tanning power of *Mimosa* the skin got out of normal state and turned into leather. This treatment was first subjected to thermal test in order to ensure complete tanning and then the mentioned experiments were carried out to check the quality of produced leather.

Keywords: *Spirulina platensis*, *Mimosa*, *Acipenser baerii*, tanning, leather