

**COMPARISON OF PROPERTIES OF VEGETABLE
TANNED LEATHER MADE FROM IMPORTED
MIMOSA AND LOCALLY AVAILABLE TANNING
AGENTS**

A dissertation submitted to the
Faculty of Animal Science and Export Agriculture
Uva Wellassa University
in partial fulfillment of the requirement of
the degree of
Bachelor of Animal Science

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2013

ABSTRACT

Leather is a product produced by skins and hides that have been treated to preserve them and make them suitable for use. It is the major by-product of the meat industry. The leather industry is a popular industry not only in Sri Lanka but also all over the world. Buffalo, cow and goat skins are used for the leather tanning process in Sri Lanka. Shoes, bags, belts are some leather products. Tanning is the process that converts the protein of the raw hide or skin into a stable material which is suitable for a wide variety of end applications. There are two methods of tanning as vegetable tanning and mineral tanning. Vegetable tanning is done using tannin which naturally occurs in plants. Mimosa is one of the commercially available tanning agents used in leather tanning. In this study, locally available tanning agents were introduced. Tanning media were prepared using mimosa as treatment 1, king coconut extraction as treatment 2 and tea waste extraction as treatment 3. Cow and buffalo hide tanning was conducted separately for leather production. During the tanning period, tanning absorption was measured. Properties of final leather, yield, hardness, thickness reduction, water absorption, shrinking temperature and tensile strength were measured. Sensory evaluation for the leather was conducted for softness, fullness and overall acceptability. According to the statistical analysis for the cow leather, there is no significant difference ($P > 0.05$) between treatments with yield, water absorption, tensile strength and there is a significant difference ($P < 0.05$) between treatments with hardness, thickness reduction and shrinking temperature. Considering the properties of buffalo leather, there is no significant difference between treatments with tensile strength and there is a significant difference between treatments with hardness, water absorption, thickness reduction and shrinking temperature. Though there is a significant difference, treatment 2 shows the better results. Therefore, king coconut extraction can be used for the vegetable tanning of leather instead of the mimosa.

Key words: Leather tanning, Tannin, Tea waste, King coconut, properties of leather