LETTER TO THE EDITOR

A note on the properties of the extract of goran wood

Goran (*Ceriops roxburghiana*), one of the mangrove species, is available abundantly in Sunderbans. It has been reported earlier[1-3] that goran bark extract yields very good leather except for colour. The properties of goran tanned leather were found to be better than those of wattle tanned leather.[3]

The present investigation has been carried out to study the properties of the infusion of goran wood (available about 4-5 times more than the bark) in comparison with those of the bark.

Experimental

A stock liquor of goran wood (500 g.) was made by extracting chopped goran wood thrice at 80°C using 1:3 wood and water. The three consecutive extractions were mixed and taken to complete dryness under reduced pressure. Goran bark extract was also prepared similarly. The extracts of both wood and bark were analysed for their tans, nontans, gums, acids, salts etc., using the standard methods. The results are given in Table 1.

Two pieces (6 × 6″) of delimed cow pelt were used. The extracts were made to 15° Bk liquors, liquor/pelt ratio being kept at 15:1. The pieces were kept immersed in liquors in two stoppered glass bottles by hanging them with threads. Progress of penetration was observed daily. The goran wood liquor was found to penetrate through the pelt

Table 1

ANALYSIS OF GORAN WOOD AND BARK BY PROTEIN EXTRACTION

(on moisture free basis)

	Goran wood	*Goran bark*
Tan content (%)	8·5	19·2
Nontan content (%)	4·5	5·1
T/NT ratio	1·9	3·8
Extracts:		
Tan content/100 g. T.S.	58·5	69·8
Nontan content/100 g. T.S.	41·5	30·2
T/NT ratio	1·4	2·3
pH	4·85	4·5
Gum content/100 g. extract (%)	14·4	9
Acidity to pH 5·8 meq./100 g. T.S.	51·18	65·5
Total salts meq./100 g. T.S.	164·6	260·6

Table 2

ANALYSIS OF PELTS TANNED WITH WOOD AND BARK LIQUORS

		Goran wood	*Goran bark*
Moisture (%)		14	14
Water solubles (%)		9·4	8·4
Fixed tannins (%)		31·9	28·3
Hide substance (%)		44·7	49
Degree of tannage		71·37	57·63
T_s (°C)		90	90
Yield (on delimed pelt weight)		71·06	70
pH of the liquor	before tanning	5·5	4·5
	after tanning	5·95	5·4
Colour		Brown	Dark brown

earlier (7 days) than the bark liquor (8 days). The pieces were kept in the liquors for 10 days, washed with water and allowed to dry at room temperature. The tanned pieces were then analysed. The results are given in Table 2.

Discussion

The analysis of two extracts showed that wood extract contains much less acids and salts than bark extract. Tannin fixation was more in the case of wood extract which contains more gum and less acids and salts than in the case of bark extract. This is in agreement with the earlier work on the effect of nontannins in vegetable tanning.[4] Though the wood extract contains more gum, the rate of penetration was more. This may presumably be due to the wood tannins, having higher pH and lower particle size, penetrating through the pelt quicker than the bark tannins. It was observed that the pelt tanned with the bark infusion was darker than that tanned with the wood infusion.

It is thus clear that the extracts of goran or mangrove woods which are found to contain considerable amount of tannin,[5] can conveniently be introduced in the leather industry as they possess better properties than those of bark extract.

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