Natural dyeing on wool with Tesu (flame of the forest), Dolu (Indian rhubarb) and Amaltas (cassia fistula)

M. KHAN, M.A. KHAN*, P.K. SRIVASTAVA & F. MOHAMMAD+

Department of Post Harvest Engg. and Technology
Faculty of Agricultural Sciences
A.M.U., Aligarh - 202 002 (U.P.)

DUE to health hazards and environmental problems associated with the use of synthetic dyes, people have realized the utility of natural dyes and moved towards it with scientific background. Thus the interest in natural dye has been revived. Studies were conducted to extract natural dye from biomass products namely Palas, Dolu and Amaltas. Extracted Natural dyes were used for dyeing on mordanted wool with alum, chrome, copper and iron. In all 32 different shades were developed. Fastness properties (light, wash & crocking) were also studied on these samples.

Dye materials

Three biomass which have been used as dye raw materials, are Tesu-flame of the forest, Dolu-Indian Rhubarb and Amaltas-cassia fistula.

Tesu (Butea frondosa/ Butea monosperma/ Palas/ Dhak/ Khakra)[1-6] is common in India and Burma (Myanmar). Dye present as butyrin and iso-butyrin, mono- and diglucosides of butein in the dried flower of Tesu. Flowers are boiled in dilute acid and then neutralized with soda for dyeing, the dye consists of mixture of butein and butin.

* *Corresponding Author*

+ *Vegetable Dye Consultant & Dyeing Technologist*
868, Hamdard Nagar - B, Anoop Shahar Road
Aligarh - 202 002 (U.P.) India

Indian Rhubarb/ Dolu (Rheum emodi/ Revandchini)[3,4,7-9] is found in temperate and subtropical regions of the world, chiefly in Asia, it originated in Mongolia and is cultivated in Europe since long. In India it is found in Himalayas from Kashmir to Sikkim and also in Assam. Chrysophanic acid is main colouring component of Dolu root and is present as glycoside, which occurs along with emodin and rhein. It is also used in medicine as a purgative and astringent tonic. The powdered root is used for cleaning teeth. It is also believed to exhibit antiseptic properties. The astringent principle consists chiefly of gallic acid present as glucogallin together with small amount of tannin and possibly catechin.

Amaltas (Cassia fistula)[10-12] leaves contain anthraquinone derivatives and very little tannin. Root bark besides tannin