Dye

Peach leaves dye for cotton

Natural products in general and natural dyes in particular are heading towards a period of renaissance in the area of dyeing. Researchers at Punjab Agricultural University, Ludhiana extracted dye from Peach, ***Prunus persica*** **Batsch.** (Hindi—*Aaru*) leaves and find out the optimum conditions for dyeing of cotton using combination of mordants.

During experiment, dry peach leaves were taken and ground to powder form. Pure cotton in the form of yarn was used after scouring it with a detergent. The mordants used for dyeing were alum, chrome, copper sulphate and ferrous sulphate. The dyeing of cotton at optimized conditions resulted in good to very good colour fastness to light (rating range 5-6), fair to excellent colour fastness to washing (rating range 3-4/5), good to excellent colour fastness to rubbing (rating range 4-5) and poor to fair colour fastness to perspiration (rating range 2-3) as found by evaluation of the colour fastness of the dyed samples by prescribed methods. The shades obtained were *khaki*, greenish *khaki*, bamboo light, platinum blonde, beige, sallow to dark sallow, greyish military green, mouse grey and brownish grey to dark brownish grey. Thus for dyeing of cotton to obtain a wide range of soft, pastel and dark colours by using combination of mordants peach dye can be successfully used [Bains *et al, Man-Made Text India*, 2003, **46** (6), 230-233].

Fibre

New agro-tech protective fabric from betel nut fibre

Researchers are always in the search of new cheaper and sustainable source of fibres that can replace or compete with fibres like cotton, jute, flax, ramie, polyolefin, polyesters, polyamides and polyacrylics, etc. in terms of economic viability and eco-friendly properties. In recent past agro-based waste products have been utilized as natural sources to get natural fibres suitable for agro-tech protective clothing.

Betel nut fruits are covered with a shell and the shell of each betel nut fruit produce nearly 2.50 to 2.75 g of fibres. It is estimated that approximately 1,300,000 Mt/year fibre may be available in India only.

Scientists at College of Textile Technology, West Bengal studied on betel nut fibre to develop an agro-tech protective fabric. During experiment betel nuts were collected from the plant and then kept in a dark room in moist condition for about 15 days. Natural retting took place hence fibres were separated by hand stripping. The retted fibres were exposed thoroughly to sunlight for about 3 days then brushed to open the fibre strands and clean them.

The physical and chemical properties of the betel nut fibre were also evaluated. It was found that the main chemical constituents of the fibre are: alpha cellulose, 53.20; hemi cellulose, 32.98; lignin, 7.20; fat and wax, 0.64; ash, 1.05; and other material, 3.12%.

The results showed that non-woven fabrics manufactured from betel nut fibre possess excellent dyeing behaviour and virtually can be an excellent substitute of conventional synthetic nets. The fabrics have good drape, strength and good air permeability as well as can withstand any kind of weather like strong sunlight, heavy rain, storm and hailstorm for a considerable long period. Additionally, fibre is biodegradable and a zero cost raw material. This fibre also has high potential in the field of home furnishing and decorative product sector [Sengupta *et al*, *Man-Made Text India*, 2003, **46**(10), 382-387].