AJHS
Asian Journal of Home Science
Volume **7** | Issue 2 | December, 2012 |
587-591

Research Paper

Comparative study of colour fastness properties of naturally dyed carpet yarns cellulosic in composition

■ K. BHAVANI AND A. SHARADA DEVI

Received: *30.12.2011*; **Revised:** *08.12.2012*; **Accepted:** *27.12.2012*

■ **ABSTRACT :** The natural fibres such as cotton, sisal, banana and jute which are cellulosic in nature were spun into yarns and dyed using natural sources. The carpet yarns were further tested for colourfastness to sunlight, washing and rubbing. The results of the study showed that, in case of banana yarns, good to excellent wet rubbing fastness was observed in all colours and slight staining by all colours except maroon which showed noticeable change. Naturally dyed jute yarns showed good to excellent fastness properties to sunlight, washing and rubbing. The sunlight fastness of naturally dyed cotton yarns ranged from poor to good for most of the yarns. The dyed cotton yarns registered good to excellent wash fastness to change in colour, slight to negligible staining was seen on both cotton and silk samples. On the whole, the sunlight fastness properties of dyed cotton yarns were poor when compared to jute, banana and sisal yarns. Many dyes which have poor fastness to light are fluorescent dyes and usually more photosensitive and fade more rapidly because the active life period of their molecules is longer and the chances of collision with oxygen of the air, therefore is greater.

■ **KEY WORDS :** Natural dyes, Yarns, Colour fastness, Test specimen, Washing, Crocking

■ **HOW TO CITE THIS PAPER :** Bhavani, K. and Sharada Devi, A. (2012). Comparative study of colour fastness properties of naturally dyed carpet yarns cellulosic in composition. *Asian J. Home Sci.,* **7** (2): 587-591.

See end of the paper for authors' affiliations

Correspondence to :
K. BHAVANI
Krishi Vigyan Kendra, BIDAR (KARNATAKA) INDIA

Colour fastness refers to the resistance of the colour of textiles to different agencies such as washing, sunlight and rubbing to which the yarn or fabric is exposed during manufacture and subsequent use. It is important because it directly affects the serviceability of fabrics (Lyle, 1997).The most common serviceable conditions for which a carpet is generally exposed are sunlight, washing and crocking. Hence, the tests were selected for evaluation of colour fastness of dyed carpet yarns.

■ RESEARCH METHODS

Atmospheric conditions for testing:

Prior to testing, samples were conditioned as per Bureau of Indian Standard IS 6359-1977. The test specimens were kept in the standard atmospheric conditions at 65 ± 2 per cent relative humidity and 27 ± 2°C for 24 hours before testing.

Colour fastness to sunlight (IS: 686-1985)

The tests for colour fastness to sunlight were carried out as per AATCC standards for testing the resistance of the material to the action of sunlight under glass, based on the length of exposure. Samples of size 1x 6 cm were mounted on cardboard and covered by an opaque cover.

Exposure to sunlight was carried out between 8.30 am to 4.30 pm in sunlight cabinet, facing north at 14^0 angle. According to Lyle (1997), most apparel fabrics are tested for colour fastness to sunlight for a period of 40 hours. Hence, the samples were exposed for 40 hours. The colour fastness of the exposed yarns was assessed by using grey scale and assigned suitable colour fastness rating.

Colour fastness to washing (IS: 3361-1979):

Washing test to assess the colour fastness of the dyed samples was carried out as per the Bureau of Indian Standards IS 3361-1979. A test specimen of 10 x 4 cms was placed between the two adjacent fabrics, one side silk and the other side cotton and stitched all along four sides. The test solution was prepared by dissolving 5 g of neutral soap (lissapol-D) in one