**DYES (incl. Food colorants)**

NPARR 4(4), 2013-0344  *Synergistic effect of hydrolyzed collagen in the dyeing of wool*

The effect of hydrolyzed collagen in the dyeing of wool was investigated. The main objective of the study was to enhance the exhaustion of the reactive and acid dyes on wool by using hydrolyzed collagen as a dyebath additive. First of all, the optimum dyeing parameters were determined followed by the optimization of the proportion of hydrolyzed collagen to be added to the dyebath. Study was also carried out to determine the most adequate fraction of the hydrolyzed collagen that can ensure high dye affinity to wool and the dyeing mechanism was elucidated. The results are promising and contribute toward the “greening” of the wool dyeing process, as the hydrolyzed collagen is a natural and bio-degradable product [Marolda Brouta-Agnésa, Sandra Balsells and Roshan Paul (R&D Department, LEITAT Technological Center, C/ de la Innovació 2, 08225 Terrassa (Barcelona), Spain) Dyes and Pigments, 2013, 99(1), 116-119].

NPARR 4(4), 2013-0345  *A study on extraction and application of eco -friendly natural dye extracted from leaves of Acalypha indica Linn. on silk fabric*

The present investigation was carried out to revive the old art of dyeing with natural dye from leaves of Acalypha indica Linn. It is belongs to family Euphorbiaceae, commonly known kuppaimeni. The dye has good scope in the commercial dyeing of silk in garments industry. In the present study, degummed silkfabrics were dyed with chemical and natural mordants. Dyeing was carried out by pre mordanting, post mordanting and simultaneous mordatning. The dyed samples have shown good washing, light, rubbing fastness and perspiration fastness properties. The various colour changes were measured by computer colour matching software. ICPMS studies have proved that, heavy metals such as antimony, arsenic, cadmium and lead were not present in the dye extract Antibacterial and antifungal activities of the dye were also studied [P. Saravanan*, G. Chandramohan, P. Shanmuga Sundaram and P. Sumathi (Department of Chemistry, Kings College of Engineering, Punalukulam, Thanjavur, Tamilnadu, India). International Journal of Textile and Fashion Technology, 2013, 3 (5), 1-8].

NPARR 4(4), 2013-0346  *Antimicrobial activity of cotton fabrics treated with curcumin*

Curcumin, a yellow pigment known to have various biological activities, was applied onto cotton as an antimicrobial agent. Curcumin could provide both color and antimicrobial activity to cotton and can be dyed using a batch or continuous process. However, curcumin and cotton have low affinity and therefore the ability of curcumin to impart durable antimicrobial activity on cotton needs to be studied. In this research, the ability of curcumin dyed onto cotton fabrics to inhibit the growth of Escherichia coli and Staphylococcus aureus was studied. Relationships that can predict the rate of inhibition based on the curcumin concentration or shade depth (K/S values) were developed without the need for an antimicrobial test. Durability of antimicrobial activity to laundering and to light was also studied. Curcumin was more effective in inhibiting S. aureus than E. coli. The reduction of bacteria and durability of antimicrobial activity of curcumin to laundering was inferior on cotton fabrics compared with wool [Narendra Reddy*, Shinyoung Han,Yi Zhao and Yiqi Yang (Department of Textiles, Clothing & Design, University of Nebraska-Lincoln, Lincoln, Nebraska), Journal of Applied Polymer Science, 2013, 127 (4), 2698-2702].

NPARR 4(4), 2013-0347  *Ecofriendly Dyeing and Antibacterial Finishing of Soyabean
Protein Fabric Using Waste Flowers from Temples

Soyabean Protein Fibre (SPF) is considered to be important regenerated protein fibre for various applications in textiles because of its unique properties. However the lack of antibacterial properties of such protein containing polymers is held as a severe limitation for its applications in hygienic textiles and the need to make it antibacterial is quite intense. A lot of marigold (which is antibacterial), used in Idol worship forms a temple waste and there is tremendous potential to use this waste as a good source of natural dye. In the current study, the tannin mordants were extracted from tamarind seed coats, amla (Indian gooseberry) and harda (Myrobalan fruits) and their application in natural dyeing using temple waste marigold as a dye was carried out. Marigold dyeing using most commonly found alum mordant was also carried out for comparison of the purpose. The dyed SPF fabrics were then evaluated for colour values, fastness properties, antibacterial activities as well as durability of the same. The results clearly indicated the advantages of using such mordants both in case of achieving antibacterial functionality as well as eco-friendliness [M D. Teli*, Javed Sheikh and Maruti Kamble (Department of Fibres and Textile Processing Technology, Institute of Chemical Technology Matunga (E), Mumbai, India), Textiles and Light Industrial Science and Technology, 2013, 2(2), 78-84].