

Fungal Pigments For Fabrics Dyeing: Initial Tests Using Industrial Dyeing Conditions

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Abstract : Natural pigments have been proposed as an eco-friendly alternative to artificial pigments. Among the diverse organisms able to synthesize natural pigments, several wood colonizing fungi produce extracellular pigments which have been tested to dye fabrics at laboratory conditions with good results. However, the dyeing conditions used at laboratory level not necessary meet the real conditions in which dyeing of fabrics is conducted at industrial level. In this work, yellow and red pigments from the fungi *Penicillium murcianum* and *Talaromyces australis*, respectively, were used to dye yarn and linen fabrics using dyeing processes optimized according to the standard conditions used at industrial level. After dyeing treatments, fabrics were tested for color fastness to wash and to wet and dry rubbing, but also to tensile strength tests. Satisfactory result was obtained with both yellow and red pigments in yarn and linen, when used alone or mixed to different proportions. According to these results, natural pigments synthesized by both wood colonizing fungi have a great potential to be used in dyeing processes at industrial level.

Keywords : natural pigments, fungal pigments, yarn, linen

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