Extended Abstract

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A comparative analysis of extracted fungal pigments and commercially available dyes for colorizing textiles

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With the resurgence in the interest of using natural textile dyes, a solution must be found that will overcome the limitations of traditional natural dyes. This solution must also be safer for both humankind and the environment than are synthetic dyes. This study compares the colorfastness of commercially available synthetic and natural dyes to wood-staining fungal pigments on both unmordanted and mordanted fabrics. Colorfastness to rinsing, washing, perspiration, and crocking were tested using AATCC standard test methods. A modification of the AATCC standard test method for colorfastness to light was developed using a QUV Accelerated Weathering Tester. Colorfastness was determined using statistical analyses of overall color changes as determined by color readings taken with a colorimeter and using the CIE L*a*b* color space. Results indicate that the wood-staining fungal pigments, especially xylindein, show good potential as a competitor to both synthetic and natural dyes. There are, however, some limitations, such as color intensity and consistency of performance, which still need to be researched and overcome.

Biography:

Eric M Hinsch has a BFA in Art and Design, a Master's Degree in Wood Science, and is currently a PhD candidate in Wood Science at Oregon State University, specializing in Applied Mycology. He has pioneered work in dying textiles with wood-staining fungal pigments, reducing or eliminating the need for heat and water during the dying process. He is currently, working on developing biopigmented inks for printing textiles utilizing fungal pigments.

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