

Tadsanawalai Kamnuansin 2011: Dyeing Silk with Acid Dye by Using the KU.3 Yarn Dyer.
Master of Science (Home Economics), Major Field: Home Economics, Department of Home
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The objectives of this research were to study 1) the color characteristics of acid dyed silk 2) the effects of silk quantity on the color values of the dyed silk 3) the colorfastness to washing of the dyed silk 4) the effects of silk quantity on the colorfastness of the dyed silk. Dyeing experiments were performed according to the Completely Randomized Design. The independent factor consisted of four different quantities of silk. Dyeing was performed with a liqo ratio of 1:30, dye concentration of 5 percent on weight of silk, temperature at 90 °C for 80 minutes. The color values, and colorfastness to washing were measured and analyzed.

It was found that the lightness (L*) values of the dyed silk were between 38.55 -39.38 ; the redness (a*) values were between 2.43 – 2.62 ; the bluness (b*) values were between (-34.10) – (-35.20) ; the brightness (C*) values were between 34.94 -35.29 ; and the hue (h*) degrees were between 274.03 – 274.22. The color obtained was bright dark blue. And it was also found that the quantity of silk had no significant effect on the color values at .05 level. The total color difference values between each pair of the experimental silk skeins were low. The study on colorfastness to laundering of the dyed silk revealed that the quantity of silk had no significant effect on the color change and the color staining values at .05 level. The colorfastness was at a very good level.

The results of this study showed that the KU.3 yarn dyer had a good efficiency in dyeing silk yarn in any quantity. Moreover, it also provided a good levelness and colorfastness. It is therefore recommended to be used in communities to further improve the quality of dyeing silk of local silk producers.

Student's signature

Thesis Advisor's signature