EFFECT OF YARN PARAMETERS ON SHADE VARIATION OF DYED COTTON WOVEN FABRIC

A thesis submitted to

School of Textile and Design

In partial fulfillment of the requirements for the

degree

Master of Science

in

Textile

By

Name: Almas Anwar **ID:** 14023089001

UNIVERSITY OF MANAGEMENT AND TECHNOLOGY, LAHORE

Session: 2013-2015

DEDICATION

This modest efforts is dedicated to my

Parents

&

Teachers

ACKNOWLEDGEMENT

I always pray to **Almighty Allah** for His blessings and guidance, and my deepest gratitude are to Him for opening new horizons in our pursuit for knowledge. Undertaking project appeared to be difficult in the start but with Allah's benevolence this apparently difficult task became easy step by step and finally I have been able to formulate this study project.

Special extolments and honors are for the **HOLY PROPHET** (**Sallallaho Alaihe Wa Aalihe Wassalam**), the beacon of knowledge who edified the soul of humanity with the inspirit of Islam and guided to gain knowledge wherever it.

This thesis has been completed by the aid of many kind people whom I want to acknowledge here.

First of all, I would like to express my sincerest gratitude to my supervisor Dr. Nabeel Amin, Dean School of Textile and Design, for his continuous support during my M.Sc research project. The task would never have been accomplished without his supervision and guidance. I recognize with gratitude all his efforts and contributions of time, ideas and counseling to make my MS study fertile.

The experimental work for this study was carried out in different organizations. For this purpose, I am thankful to Mr. Zahid (Technical Director) Rayaz spinning mills pvt Ltd., Mr. Deyian (General Weaving Manager) Faisal fabrics pvt Ltd., Mr. Ahmad (General Manager) Al-Rehmat textiles pvt ltd., and Mr. Farhan Saleem (Manager Processing) Al-Rehmat textiles pvt ltd, for permitting me to accomplish my research work in their organizations.

Thank you.

Almas Anwar

14023089001

University of Management and Technology

August 2015

Declaration

I hereby declare that all the information in this thesis is the result of my concerted efforts and my original work. This research work, to the best of my knowledge and belief, reproduces no material previously published or written, or that has been accepted for the award of any other degree or diploma, except where due acknowledgement has been made in the text.

Student's Signature: _____

Name of Student: ___Almas Anwar_____

Date: _____

Supervised By

Dr. Nabeel Amin

Director/Dean,

School of Textile & Design,

UMT-Lahore.

Signature: _____

Date: _____

Table of Contents

List of Tables

List of Figures

Abstract

This research work is mainly focused on the effect of different yarn sources and yarn parameters on the vat dyed cotton woven fabric. In this research, plain cotton woven fabric is produced from the weft yarns of different sources with both carded and combed yarns, yarn counts and twist multiplier (T.M). These fabric samples are dyed with vat dye and color values of different fabric samples are measured by using Datacolor SF 600 spectrophotometer. It was found that fabric made from the weft yarn of different sources showed different lightness (L*), chroma (C*) and color strength (K/S) values. The fabric made from the combed weft yarn showed greater lightness (L*) and color strength (K/S) values as compared to carded weft yarn fabric. The woven fabric made from the high twisted weft yarn shows greater lightness (L*) but lower color strength (K/S) values as compared to fabric made from low twisted weft yarn. The woven fabric manufactured from the finer weft yarn shows greater color strength (K/S) but lower lightness (L*) value as compared to the fabric from coarser weft yarn.