# Textile dyeing using traditional and biodegradable salts. A comparative study


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# Textile dyeing using traditional and biodegradable salts.

## A comparative study

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*In the name of Allah, the Most Merciful, the Most Kind*

# RESEARCH COMPLETION CERTIFICATE

Certified that the research work contained in this thesis titled, **"Textile dyeing using traditional and biodegradable salts.A comparative study"** has been carried out and completed by Muhammad Imran Bilal, ID: **15005140033**. The quantum and the quality of the work contained in this thesis is adequate for the award of degree of MS**.**

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# DECLARATION

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Session **2015-2017** hereby declare that the matter printed in the thesis titled "**Textile dyeing using traditional and biodegradable salts. A comparative study"** is my own work and has not been printed, published and submitted as research work, thesis or publication in any form in any University, Research institution etc. in Pakistan or Abroad.

*Dated:* _____ _____

***(Muhammad Imran Bilal)***

# Dedication

This thesis work is dedicated to my parents, who have always loved me unconditionally and whose good examples have taught me to work hard for the things that I aspire to achieve.

This work is also dedicated to my supervisor **Dr. Sohail Nadeem** and **Muhammad Farooq** who have been a constant source of support and encouragement during the challenges of this thesis work.

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All praises are for Almighty ALLAH, the most Merciful, Compassionate and Gracious. Creator of the entire universe with its amazing and unresolved mysteries, who guides us in the ocean of darkness and enables us to overcome the difficulties. In crucial situations, who blessed the researcher with the courage and power to complete her research and all respect and love for our HOLY PROPHET HAZRAT MUHAMMAD (PBUH), who enables us to understand the philosophy of life . I seek His succor and courage to explore the secrets of nature and the strength to follow the HOLY PROPHET HAZRAT MUHAMMAD (PBUH).

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**Muhammad Imran Bilal**

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## List of Abbreviation

| | |
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| AA= | Ammonium Acetate |
| SC= | Sodium Chloride |
| TDS= | Total Dissolve Solid |
| CI= | Color Index |
| K/S= | Color Strength Value |
| e.g. = | Example |
| g/l= | Gram per liter |
| $H_2O$ = | Molecular formula of water |
| Mins= | Minutes |
| $\lambda$max= | Maximum absorption wavelength |
| Vs= | Versus |

## Abstract

This theory shows the consequences of concentrates into the viability of biodegradable basic natural salts as contrasting options to customary non-biodegradable inorganic salts (electrolytes) and soluble bases utilized as a part of exhaust coloring of cotton with receptive colors.The essential goal of the investigation was to create enhanced earth economical coloring frameworks. A synozol blue, synozol red, synozol black and synozol Ultra Wine colors were utilized as a part of this study. After early reassuring outcomes utilizing ammonium acetic acid derivation salts. The colour fastness to laundering of all dyed fabrics, Color fastness to crocking and Color fastness to light of dyed fabric was found at good level. In replacement of sodium chloride, Ammonium acetate ($NH_4$ $CH_3$ $CO_2$ ) has been successfully employed to make the process environment friendly.

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## Introduction

Cotton dresses are used for at least 7000 years in the least use. Although, Polyesters such as polyethylene fibers, acrylic, polyamides and so on, has entered the market in the past 50 years, cotton is still consolidated demand for its strong consumers around the world. Cotton represents textile today More than half of the global textile market is expecting and demand is expected Continue. This dominance of cotton fiber is mainly due to its natural convenience, Performance and appearance. The cotton plant produce most natural fiber and is one of the main economies of the global economy. Cotton fibers, commonly known as cotton lint. Cotton usually increases 30 to 40 mm in length and thickness increases 15 μm in thickness and account for 90% of production in the world.

### Fiber textiles

Cotton textures are known to have been used at any rate for a long time, for example, polyesters, acrylics, polyamides, and polypropylenes have involved the market in the course of past years, and cotton has still kept up its solid buyer request around the world. Today, cotton materials speak to the greater part of the worldwide material commercial (King 2007), and the request are relied upon to operation. This predominance of cotton fiber is chiefly because of its regular use, execution, and appearance(Gohl and Vilensky 1983)