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**Research Paper :** 

# An experimental study of some comfort-related properties of fabrics SHIKHA BHARDWAJ AND SHALINI JUNEJA

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# ABSTRACT

Synthetic fibres are non-biodegradable and through blending of natural fibre, they can be made biodegradable to some extent. The study world proves to be helpful in establishing eco-friendly process in textile world. The plain woven union fabrics have been prepared from three different ratios of blend jute/viscose polyester with cotton. Jute/viscose polyester used 30/70, 50/50, 70/30 ratio in the filling direction and 100% cotton was used in warp direction. Their utility and mechanical properties studied. It was obversed that 30/70 jute/viscose polyester union fabric was better. The quaternary blend reduced the cost of the product and it was also used in apparel and furnishing.

Key words : Union fabric, Blending, Weaving properties, Apparel uses

There is no perfect fibre. All fibres have poor characteristics blending, which enables the technician to combine fibres so that the good qualities are emphasized and poor qualities are minimized. One of the objectives of blending is to improve functional properties. The fabrics may be designed specifically to enhance the physical properties. Blend of synthetic polymer with natural fibres offer the most valuable possibilities because the two components are very dissimilar. Blending also makes the fabric manufacturing process economical. The price of man-made is much more stable.

A highly sophisticated textile art, blending today is creating new fabric types, performance characteristics, and dyeing and finishing effect. In blends of polyester or viscose/jute blend with cotton, the synthetic fibres provide crease recovery dimensional stability, tensile strength, abrasion resistance moisture absorption drape ability.

Jute also has some favourable properties like high tensile strength, bulk, and good dye ability. Jute also has some drawbacks such as brittleness, harshness to fell, hairiness, rugged appearance, inextensibility and fibreshedding. Jute has a property of high tensile strength, good dye ability and antistatic property and when it blended with viscose it may provide cheaper substitute for apparel use, decorative, furnishing and other end-use. Jute being much coarser when blended with viscose which has wider choice of fineness will improve the resultant yarn in different parameters including aesthetic values, blending will help diversification of fabric goods. Polyester is known for its wrinkle – free appearance and easy care. The strength, durability, abrasion resistance, wrinkle resistance shape and size retention of these blended fabrics increase due to polyester. Cotton is a cool, soft comfortable and is the principal clothing fibre of the world. This fabric absorbs and releases perspiration quickly, thus allowing the fabric to "breath." Cotton provides absorbency and consequent comfort.

Quaternary blends are normally used for the reasons of economy by explaining name of prestigious fibres or for styling and obtaining special effect. The quaternary blends can be used for the production of yarn with fancy effects after processing with great skill on part of dyer.

### **METHODOLOGY**

### **Raw material procurement:**

- Jute/Viscose Blend - 30:70 %

- Polyester 100 %
- Cotton 100%

Jute /Viscose and Polyester yarn were used in weft direction.

Cotton yarn was used in warp direction

Quaternary blend of fabric had plain weave and blend ratio were

Jute/Viscose 70% and Polyester 30% Jute/Viscose 50% and Polyester 50% Jute/Viscose 30% and Polyester 70%

### Abrasion resistance:

The machine essentially consists of a duo-aluminium plate supported by 3 pillars. On the top of each pillar is a