

Herbal Infant beddings by Cotton, Bamboo Fibers and Vetiver Root grains of combo artifact

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Abstract: *The abstract or idea of this project is to produce Infant beddings by using grains vetiver roots and both Cotton Bamboo fibers mixed in 1:3:1 ratio, (ie) 20 % bamboo and 60% cotton fiber, 20 % of cut pieces of vetiver roots. This infant bed will be highly Anti-Microbial smooth, soft, herbal smell and back rest material will be having the cooling property and fragrance with more comfortness for the babies. More over this product has medical nature and medical usage that is this product an my application of this material will be in carrying the babies in bedding cushion for the travels in Train, Aero planes, Car since it act as beds, pillows, Sofas, cushions, Quilts and some back rest to carry the infant enhance to impact the root essence more comfortness. Combination of textile technology, Home textile product and medical herbal sciences has resulted into Infant beddings. This cushion bed for the infants project work, a successful attempt had been made to develop an eco-friendly non-woven fabric Bed cover cushion made up of Cotton & bamboo fiber and grains of vetiver, which is a new approach.*

Key Words: *Bamboo, Grains of Vetiver roots, Cotton, Infant Beddings*

1. INTRODUCTION:

1.1 Introduction of the Product

This is a product made of 60% cotton, 20% bamboo and 20% grains of vetiver roots which has many medical properties like Anti-microbial property. It is done by mixing the three fiber materials together and by using needle punching technique by taking materials in the ratio of 3:1:1 ratio. It will be placed in a sandwich form i.e. cotton fiber in the upper and lower layer and bamboo and vetiver coming in the middle layer. This is done because the irritation which is made by the vetiver can be reduced by the softness of the cotton fiber. This product gives more comfort and this since it cannot be classified in apparel textile, it is more of a techno mechanical application of textile. Industrial textiles are widely used in transportation vehicles and systems including cars, trains, buses, airplanes and marine vehicles and travels.

1.2 Infant Beddings

Bedding, also known as bedclothes, is the materials laid above the mattress of a bed for hygiene, warmth, protection of the mattress, and decorative effect. Bedding is the removable and washable portion of a human sleeping environment. Multiple sets of bedding for each bed will often be washed in rotation and/or changed seasonally to improve sleep comfort at varying room temperatures. In American English, the word bedding generally does not include the mattress, bed frame, or bed base (such as box-spring), while in British English it does. In Australian English, bedding is often called Manchester. A set of bedding usually consists of a flat or fitted bed sheet that covers the mattress; a flat top sheet; either a blanket, quilt, or duvet, sometimes with a duvet cover which can replace or be used in addition to the top sheet; and a number of pillows with pillowcases, also referred to as pillow shams. Additional blankets, etc. may be added to ensure the necessary insulation in cold sleeping areas. A common practice for children and some adults is to decorate a bed with plush stuffed animals, dolls, and other soft toys. These are not included under the designation of bedding, although they may provide additional warmth to the sleeper.

1.3 Medical Textile

Combination of textile technology and medical science has resulted into a field called medical textiles. Medical textiles are one of the most rapidly expanding sectors in the textile market, according to reports, and hosiery products with medical industry applications are among a long list of textile products being consumed in that market. New areas applications for medical textiles have been identified with the development of new fiber manufacturing technologies for yarns and fabrics. Development in the field of textiles, either natural or manmade textiles, normally aimed at how they enhance the comfort to the users. Development of medical textiles can be considered as one such development, which is really meant for converting the painful days of patients to comfortable days.

2. MATERIALS & METHODS:

2.1 Cotton & Vetiver

Cotton, bamboo fiber and vetiver has got many properties. Products of these materials with different properties are available. But a non woven product or product made of these materials is for the first time in the textile industry for the car seats. This is the most specialty of this material, Bamboo and vetiver grains have got anti-microbial properties in nature. By enhancing that properties plus the anti-fungal cooling effect, fragrance of the vetiver and the UV protective nature of the bamboo fiber, this product has been developed.



2.2 Bamboo

Bamboo fiber is cellulose fiber extracted or fabricated from natural bamboo (and possibly other additives) and is made from (or in the case of material fabrications, is the pulp of bamboo plant.



It is usually not made from the fibers of the plant, but is a synthetic viscose made from bamboo cellulose. (In the US, the Federal Trade Commission (FTC) has ruled that unless a yarn is made directly with bamboo fiber- often called “mechanically processes bamboo” – it must be called “rayon” or “rayon made from bamboo”.

Bamboo has gained popularity as a “green” fiber. Manufacturers tout the fact that bamboo can be cultivated quickly, can be used as a cash crop to develop improvised regions of the third world, and is a natural fiber (as opposed to popular synthetics like polyester) whose cultivation results in a decrease in greenhouse gases.

2.3 Vetiver

A fragrant extract or essential oil obtained from the root of an Indian grass, used in perfumery and aromatherapy. The grass is *Vetiveria zizanioides*, *family* Gramineae. A member of the Gramineae family, vetiver is native of the South Asian region which includes India.



Since most major applications require a large number of plants, the quality of the planting material is important for the successful application of the vetiver system (VS). This requires nurseries capable of producing large quantities of high quality low cost plant materials. The exclusive use of only sterile vetiver cultivars will prevent weedy vetiver from becoming established in a new environment. DNA tests prove that the sterile vetiver cultivar used around the world is genetically similar to Sunshine and Monto cultivars, both of which originate in Southern India. Given its sterility, this vetiver must be propagated vegetative stress and balance hormonal system.

2.3.1 Medical Impacts of Vetiver Roots

Muscular problems: aches and pains, arthritis, rheumatism, stiffness.

Nervous system: insomnia, depression, and nervous tension.

Skin: for oily skin, cuts and wounds, acne. It balances the activity of the sebaceous oil glands. It has deodorizing properties and helps normalize oily skin and clear acne. It replenishes moisture in dry and dehydrated skin. When used regularly during pregnancy, vetiver oil repeatedly prevents stretch marks and The oil strengthens the central nervous system. Infusion of roots is a refreshing drink in fever, inflammation and irritability of the stomach.

2.3.2 Properties

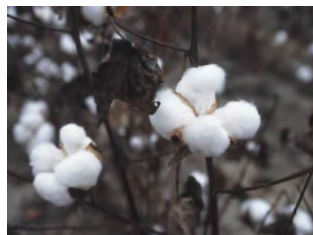
It will provide high anti-microbial activity.

As it contains vetiver it will provide cooling effect. If it is used as comfort cover it reduces back pain. If it is used regularly the skin will get a sheer effect. It will reduce mental depression, insomnia and nervous tension.

It will reduce muscular problems like aches and pains. The most important thing in vetiver is it reduces cough and fever.

Vetiver won't give any irritation to the user as it is made in a sandwich form by using needle punching technique.

2.4 Cotton



Cotton is a plant that produces fibers, which are used to make clothes and other products, like towels, carpets or sheets. Clothes made out of cotton are especially light and comfortable. Every part of the cotton plant can be used. The long cotton fibers are used to make cloth, the short fibers can be used in the paper industry. You can make oil or margarine out of the seeds of the cotton plant. The leaves and stalks of the cotton plant are plowed into the ground to make the soil better. Other parts of the plant are fed to animals.

2.4.1 Characteristics of cotton

Cotton, as a natural cellulosic fiber, has a lot of characteristics, such as;

Comfortable Soft hand , Good absorbency ,Color retention ,Prints well Machine-washable, Dry-cleanable, Good strength, Drapes well, Easy to handle and sew.

3. METHODOLOGIES:

This chapter deals the material used, methodology and procedures adopted for the development of non woven material of automobile textile for car seats made of 60% of cotton fibers, 20% of bamboo fibers and 20% of vetiver roots, which is anti-microbial and an eco-friendly product in nature.

3.1 Methods

The experimental plan consists of the following stages: How to manufacture the an infant bedding product of by using the mixture of 60% cotton,20% bamboo and 20% vetiver grains is by the formation of the above mentioned material as a non woven web sheet in the ratio of 1:3:1.Thus produced layer is sandwiched between the cotton sponge to produce a beddings with a non woven layer is Covered by Cotton Fibers on both sides to make it as cushion effect.Stitched with the surface cloth (plain weave) to produce a Infant bed covers textile product is produced (as cushions form).

3.2 Parameters Tested

- Colour Fastness
- Products are subjected to Mothers survey

4. ANALYSIS OF THE SURVEY

The survey is taken towards the mothers towards this product can be based on questionnaires,

4.1 Colour

An attribute of things that results from the light they reflect, transmit or emit in so far as light causes a visual sensation that depends on the wave length the product while is used to carry the baby.

4.2 Baby Comfortness

A state or situation in which you are relaxed and do not have any physically unpleasant feelings caused by pain, heat, cold, etc. : a state or feeling of being less worried, upset, frightened, etc., during a time of trouble or emotional pain is comfortness. Implies that the subject is in state of pain, suffering or affliction and comfort in carrying. One can provide physical comfort to someone who is not in a position to be uncomfortable.

4.3 Smoothness

This fabric gives smoothness and softness because it is made of natural fibers and the smell gives the pleasant odour.

4.4 Feel

The person who drives at very first time will not feel much comfortable when they use this often they feel better.

4.5 Experience

Experiencing will not be the correct method for survey the beddings but the collective opinion regarding the comfortable for the baby who uses this comfort covers at very first time. It takes time for them to make themselves comfortable while carrying the baby.

4.6 Product Sample:



5. RESULTS AND DISCUSSIONS:

5.1 Analysis of the Survey 100 mothers with 40 set of questions

X-axis – Aesthetic properties

Y-axis – Grade points

5.2 Grade Points

- 1- Fair
- 2- Average
- 3- Good
- 4- Very good
- 5- Excellent.

5.3. Age Split

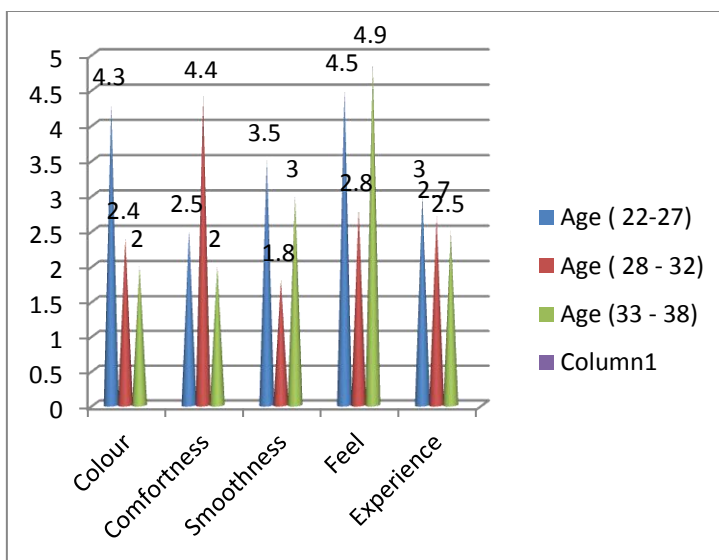
The age of usages?

- a. 22 - 27
- b. 28 - 32
- c. 33 - 38

5.4 Colour fastness towards Washing

- 1st Wash – 4/5
- 2nd Wash – 4/5
- 3rd Wash – 4/5
- 4th Wash – 4
- 5th Wash – 4

5.5 Analysis of the Survey



Note: Feel of the Infant Bed Cover textile product ranges high ratings then compared to others.

6. CONCLUSIONS:

The new product which is produced by the cotton, bamboo fiber and vetiver beddings has Medical accept is the most important properties which have to be noticed is that it's Anti- microbial and Anti-fungal property as well as its fragrance it will attract the mothers and the infants. Our ultimate aim was to develop an infant textile product of beddings which has got medicinal values rather alone a cushion effect. From the above observations the mothers are considered for the survey and they are found of this material textile beddings will have the medicinal properties of cotton, bamboo and vetiver. Hence there is no usage of chemicals for the development of this product it is said to be an Eco-friendly too. Then the colour fastness rating is also quite in good value of Average of 4 ratings.

7. END USES:

Applications in Medical field for reducing the tension, back pain, skin rashes and other Anti – microbial clearance. Due to its pleasant smell of the roots it can be used as intelligent textiles. Rather other new yield in Wide Home Textiles like beds, cushions, pillows & Sofas etc. A new Stuff towards Textiles for the infants as beddings.

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