

TO EXPLORE THE PROPERTIES OF LEECH BITE FINISH OF TWO HERBS ON COMPRESSION STOCKINGS

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ABSTRACT

Travel helps us leave the reality of our lives behind. We escape our monotonous lives in travel but what we are never going to escape is the presence of Leeches. Leeches are found on pretty much every continent. Trekking is one of the common adventure travel that is enjoyed by several people. Leeches have made many a treks a nightmare for some travellers. The existing market has some highly advertised socks, which are thick enough that the leeches don't bite through them. Getting rid of these leeches permanently is tricky though as they have the ability to crawl up the leg and attack on any available skin surface. The new socks proposed by us act as a repellent to the leeches due to the finish by homemade remedy's such as tobacco and turmeric and dissuade it from the surroundings of the traveller.

In this study we are taking turmeric and tobacco as an anti repellent finish to consider whether tobacco and turmeric can be taken as a better alternative.

Keywords

Trekking, Leech bite, Home remedy's, Tobacco, Turmeric, Repellent's

Introduction

“Travel isn't always pretty. It isn't always comfortable. Sometimes it hurts; it even breaks your heart. But that's okay. The journey changes you; it should change you. It leaves marks on your memory, on your consciousness, on your heart, and on your body. You take something with you. Hopefully, you leave something good behind.” was once by the great travel documentarian Anthony Bourdain.

As beautiful as it sounds it wouldn't sound as good if what you take with you were the horror of leech bites.

Mother Nature is a common personification of nature that has high focus on the natural flora and fauna. The heritage of nature has a capacity to heal and cure. The nature's beauty evolves mountains, valleys, waterfalls, forests, hill stations and so on. The mountain and valleys are rich sources in eco friendly and non-toxic bio l resources. Trekking in the Ghats is an amazing experience with a beautiful weather and the environment. The best time for trekking is also known for the breeding season for leeches. Leeches have heat seeking sensors which are sensitive to human body heat. Leeches will crawl into places with the maximum heat Ankles are the most common places for leech bites. They can also bite

through the loosely woven material .To tackle the leeches and get rid of the bleed there are some natural home remedy's which have been used since our olden days. Hence the trekking socks have come up with a solution to prevent leech bites. But those socks are fully nylon woven structure which does not give a grip during the trekking and has low air permeability and more than that the socks made are not leech repellent which helps the leeches to crawl from the ankle to any other part of the body.

As a remedy for this socks are being given a leech repellent finish with the naturally available product tobacco and turmeric so that it will prevent the leeches get on to the body.

Material selected for the study

The sample used here is compression stocking which helps to compress the muscles and improves the blood supply while trekking.



Herbs used for the study

To have a comparative study the herbs used as repellent finishers are tobacco and turmeric. This herbs are dried and powdered and are used for the further proceedings.

METHODOLOGY

Pre-Mordanting technique

Methodology involves treating the sample in high temperature high pressure method and padding method. Both the herbs (turmeric and tobacco) are treated simultaneously at a material liquor ratio of 1:15 with alum as mordant at 60 degree Celsius for one hour followed by rinsing with cold water and kept for drying.

TREATING THE SAMPLES WITH TURMERIC

With High temperature/High Pressure method :

Premordanted samples are taken into the dye bar containing two percentage of turmeric at an MLR of 1:15 at 121 degree Celsius with a pressure of 15 Psi. The dye bar was maintained in that temperature for 1.5 hours and gradually bring into the room temperature .Later the treated samples were washed in cold water and dried well.



With Padding method :

The sample is pretreated in hot water then it is dried again .First 1 gm of gumindalga is dissolved in 100 ml of water. Take 1.5 litres of water in vessel and heat it at low temperature .Mix the dissolved solution towards the boiling water. At the mean time turmeric powder to the boiling water. The water will turn into the jelly substance. Add sample towards the jelly substance and allow the substance to fix well with the sample. After one hour take the sample feed it into the padding manual to get the uniform finish all over the socks . Then dry it after mixing it with the cold water.

**Treating the samples with tobacco****With High temperature/High Pressure method**

Premordanted samples are taken into the dye bar containing two percentage of tobacco at an MLR of 1:15 at 121 degree Celsius with a pressure of 15 Psi .The dye bar was maintained in that temperature for 1.5 hours and gradually bring into the room temperature .Later the treated samples were washed in cold water and dried well.

**With Padding method:**

The sample is pretreated in hot water then it is dried again .First 1 gm of gumindalga is dissolved in 100 ml of water. Take 1.5 litres of water in vessel and heat it at low temperature .Mix the dissolved solution towards the boiling water. At the mean time tobacco powder to the boiling water, the water will turn into the jelly substance. Add sample towards the jelly substance and allow the substance to fix well with the sample. After one hour take the sample feed it into the padding manual to get the uniform finish all over the socks . Then dry it after mixing it with the cold water.



Evaluation

The dyed samples have to be tested by its change in the properties if any; The fabrics was evaluated by the following methods :

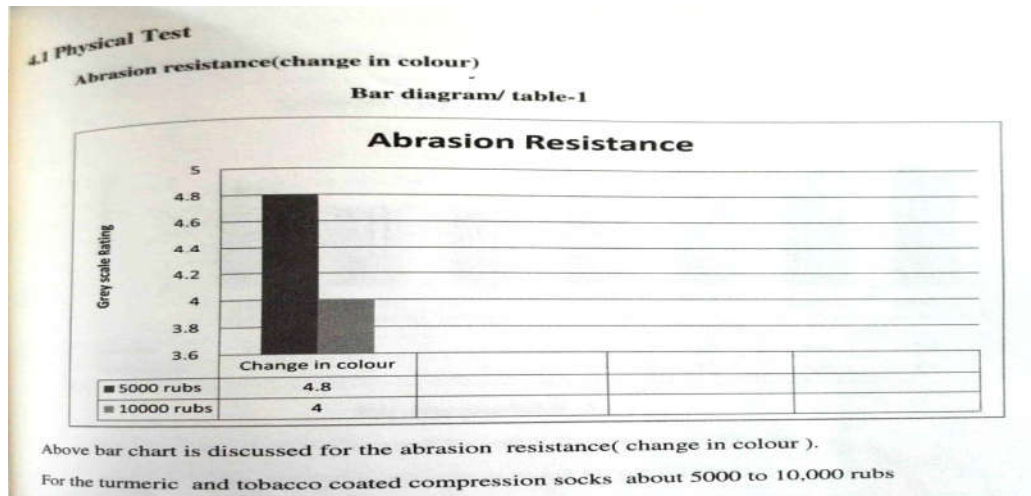
- Physical Tests
- Chemical Tests
- Visual Inspection
- Statistical Analysis

Physical Tests

The performance of the finished sample is being physically evaluated by abrasion resistance.

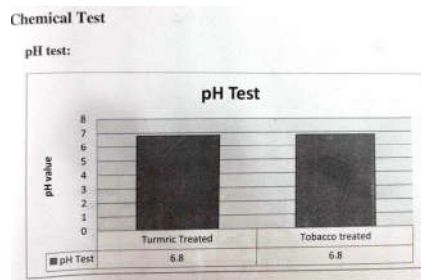
Abrasion resistance

A sandpaper was cut in 15:15 cm size and fixed in the lower part of crock meter machine to form the abrasion surface. The cut sample of 38mm diameter was placed inside the abrasion heat and fastened into the machine .It has been rubbed by multidimensional movement against the abrasion surface. Assessment was done by comparing between the original sample and the abrasion material. The weight loss of the sample is being calculated by this method.



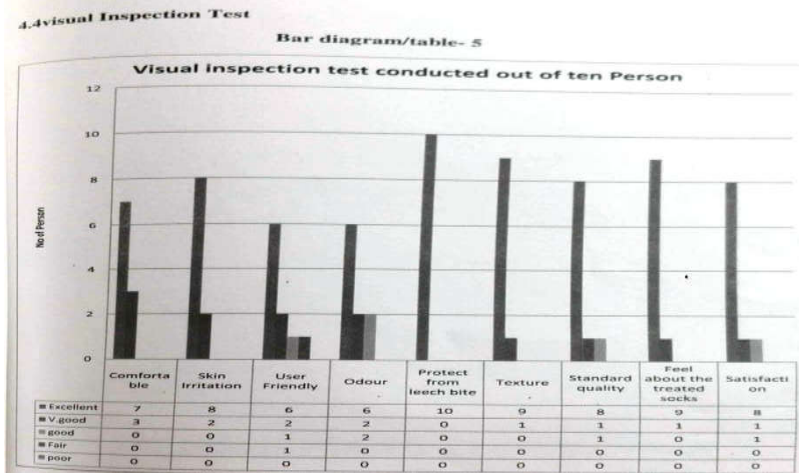
Chemical Test

Chemical test is being valued by ph value. Human skin is slightly acidic in nature and for the above mentioned test the ph value of both the samples remain 6.8.



Visual Inspection

The wearers form different sectors of life working in the forest department have been selected by the nature of there job and sample was visually analysed on the basis of comfort, skin irritation ,user friendly, odour, protection from leech bites, texture ,standard quality ,feel and personal satisfaction .



Results and conclusion

From the above mentioned studies a detailed analysis of the sample which was treated in tobacco and turmeric were analyzed and has been summarized as a finish which was given with turmeric and tobacco was very effective for the leech bites and to conclude that the sample treated with turmeric gave a better leech repellent finish when compared to tobacco.

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