3836244 ENAT/M : MAJOR : APPROPRIATE TECHNOLOGY FOR RESOURCE DEVELOPMENT ; M.Sc. (APPROPRIATE TECHNOLOGY FOR RESOURCE DEVELOPMENT)
KEY WORDS : SIDA ACULA BURMT. FIBER / TEXTILE / SPINNING

NATEE SRISAWAT : A FEASIBILITY STUDY USED THE FIBER FROM SIDA ACULA BURMT. FOR UTILIZING IN TEXTILE INDUSTRY., THESIS ADVISORS : GRITSANARUCK THEERARAJ, M.Sc. , TIRAPONG CHAICHALERMVONG, M.Sc. , SOMNUK SONGNOO, Ph.D. , 138 P. , ISBN 974-662-782-1

Textile fiber is 'a generic term for the various of matter that form the basic elements of textile fabrics and other textile structure'. Many different types of fibers form yarn and fabrics, but the most common fiber is cotton. Even though our world is filled with numerous types of textile fibers, the new types continue to be developed.

This research was focused of SIDA ACULA BURMT. fiber which is a natural cellulose fiber. A roper treating process is necessary before the SIDA ACULA BURMT. fiber can be utilized.

First, the SIDA ACULA BURMT. was fermented for 15 days. The resulting SIDA ACULA BURMT. fiber weight was 5-6 percent of the original weight of SIDA ACULA BURMT., the moisture regain was approximately 10.65 percent, length of the SIDA ACULA BURMT. fiber was 57.99 centimeters and solvency in the chemicals and burning behavior were the same as for other cellulose fibers.

It was necessary to open the disorder bulk of fiber before further processing by carding and treating with cationic softener. Fiber was then passed through the carding machine for another four rounds. The SIDA ACULA BURMT. fiber was most applicable when mixed with cotton fiber in the ratio of 50:50. However, during the next carding process some SIDA ACULA BURMT. fiber is lost, resulting in a final sliver with 35.48 percent SIDA ACULA BURMT. fiber content. The weight of sliver was 34.70 grain per yard. The sliver passed through the draw frame machine had a weight of 45.31 grain per yard. The sliver was passed through the end spinning machine to spin three sizes of yarn – 11.1 , 16.61 and 21.38 Ne. (Cotton Count). The yarn was spined as 'Z' twist and number of twists were 21.38 , 17.47 and 17.10 twists per inch. The tensile strengths were 7.61 , 6.30 and 6.63 cN/Tex and percentages of elongation at break were 9.08 , 11.31 and 9.28 percent.

For further processing, the fiber was knitted into fabric, then bleached and dyed with direct and reactive dyes. The cost of spinning was 425.97 baht/kilogram, calculated based on spinning of cotton 20 Ne. open end spinning.