

Srikanjana Jatuphatwarodom 2010: The Development of Thai Standard Size Models. Doctor of Philosophy (Tropical Agriculture), Major Field: Tropical Agriculture, Interdisciplinary Graduate Program Thesis Advisor: Mrs. Kajjarus Piromthamsiri, Ph.D. 108 pages.

The objectives of this dissertation were: 1) to determine standard sizes of Thai men and women. 2) to compare the particular standard sizes among Thai, American, British and Japanese. 3) to select the suitable materials for Thai model construction and 4) to construct and evaluate the performance of the developed models. The Thai body structure data (Step 4) collected in the years 2000-2001 were used to determine the Thai sizes. The grading sizes were calculated by dividing the range into 7 intervals. By considering those intervals, the mean was assigned as medium sizes (M). The others were extra extra small (XXS), extra small (XS), small (S), large (L), extra large (XL), and extra extra large (XXL). The shell fabrics used were the light weight cotton (A1), the medium weight cotton (A2) and the heavy weight cotton (A3). The underlining fabrics consisted of 8 mm. thick sponge (B1), 600 g/m² polyester nonwovens (B2) and 200 g/m² polyester nonwovens (B3). There were nine sets of combination between the shell fabrics and underlining fabrics. The first was A1B1. The others were A1B2, A1B3, A2B1, A2B2, A2B3, A3B1, A3B2 and A3B3. All of nine sets had been tested for tensile strength and bursting strength before and after needle punching. The best three sets were selected for the models construction. Thai standard size models were constructed by papier - mache techniques. Three male models and three female models were constructed.

The results were as follows: 1) Thai men's small sizes were 87.00 cm bust, 79.00 cm waist, 90.00 cm hip. Thai men's medium sizes were 90.00 cm bust, 82.00 cm waist, 93.00 cm hip. Thai men's large sizes were 93.00 cm bust, 85.00 cm waist, 96.00 cm hip. Thai women's small sizes were 84.00 cm bust, 68.00 cm waist, 91.00 cm hip. Thai women's medium sizes were 87.00 cm bust, 71.00 cm waist, 94.00 cm hip, and Thai women's large sizes were 90.00 cm bust, 74.00 cm waist, 97.00 cm hip. 2) The bust size of Thai men was smaller than Japanese, British and American sizes while the waist and hip sizes were smaller than British and American sizes but larger than Japanese size. The bust size of Thai women was smaller than British and American sizes but larger than the Japanese size. The waist size of Thai women was larger than Japanese, British and American sizes. The hip size of Thai women was smaller than British size but larger than Japanese and American sizes. 3) A2B2, A3B2 and A3B3 fabric combinations were most strong regarding to before and after needle punching tensile strength and bursting strength. Therefore, the fabrics had been used to make three men models and three women models. 4) The results of performance evaluation indicated that the No.2 (A3B2) men model and the No.2 women model had higher performance score than the No.1(A2B2) and the No.3 (A3B3) models due to the ease of fixing pin.

Student's signature

Thesis Advisor's signature