

TEST REPORT



Your Ref:

Date: 20 April 2006

Our Ref: **57S061730**

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SUBJECT

Study of Washing Effect on Total Deltamethrin Content for "DAWAPlus®" Pre-treated LLIN Mosquito Net" Sample.

CLIENT

Tana Netting Co., Ltd.
15 Sukhumvit Soi 33
Klongton Nua
Wattana
Bangkok 10110

Attn: Ong-on Tanthai

DESCRIPTION OF SAMPLE

1. One type of mosquito net sample (5 Nets) labeled as follows was received on 16 Feb 2006.

Manufacturer	Tana Netting Co., Ltd
Size	W 190 x L 180 x H 150 cm
Production Date	-
Batch No.	-
Composition	100% Polyester
Color	White
Denier	100 Denier, Mesh 156 (12 x 13)
Quantity of Samples Enclosed	5 Rectangular Nets.

DATE OF ANALYSIS

Mar 2006 – April 2006



METHOD OF TESTS**1. Determination of Total Deltamethrin Content before Washing****1) Preparation of Sample Test Specimens**

18 pieces (about 50cm² per piece) were cut from one mosquito net – 6 pieces from top and 12 pieces from four sides.

2) Analysis of Total Deltamethrin Content before Washing

By High Performance Liquid Chromatography (HPLC) based on *WHO Full Specification of Technical Deltamethrin – WHO/SIT/24.R2-1999*, as reference.

2. Determination of Total Deltamethrin Content after Washing**1) Preparation of Sample Test Specimens**

Twenty pieces of net (25cm x 25cm) were cut from the net sample for washing. Each piece of net was washed for the specified number of washes.

2) Washing Method

According to WHO washing method as reference – *Guidelines for Laboratory and Field Testing of Long-Lasting Insecticidal Mosquito Nets - WHO/CDS/WHOPES/GCDPP/2005.11*.
0.2% of ECE Non-Phosphate Reference Detergent Type A was used.

3) Drying Method

After washing, the nets were dried at room temperature between washes.

4) Analysis of Total Deltamethrin Content after Washing

By High Performance Liquid Chromatography (HPLC) based on *WHO Full Specification of Technical Deltamethrin – WHO/SIT/24.R2-1999*, as reference.

RESULTS**Table 1. Total Deltamethrin Content and Deltamethrin Retention Index**

Washing Treatment	Number of Washes	Total Deltamethrin Content mg/m ²	Deltamethrin Retention Index ^a
Before Washing, W ₀	0	50.0	100%
After 1 st Time Washing, W ₁	1	49.4	99%
After 2 nd Time Washing, W ₂	2	47.0	94%
After 3 rd Time Washing, W ₃	3	45.3	91%
After 4 th Time Washing, W ₄	4	44.0	88%
After 5 th Time Washing, W ₅	5	44.0	88%
After 6 th Time Washing, W ₆	6	43.9	88%
After 7 th Time Washing, W ₇	7	43.8	88%
After 8 th Time Washing, W ₈	8	42.9	86%
After 9 th Time Washing, W ₉	9	42.7	85%
After 10 th Time Washing, W ₁₀	10	38.1	76%
After 11 th Time Washing, W ₁₁	11	37.5	75%
After 12 th Time Washing, W ₁₂	12	37.1	74%
After 13 th Time Washing, W ₁₃	13	36.1	72%
After 14 th Time Washing, W ₁₄	14	35.7	71%
After 15 th Time Washing, W ₁₅	15	34.6	69%
After 16 th Time Washing, W ₁₆	16	35.2	70%
After 17 th Time Washing, W ₁₇	17	34.9	70%
After 18 th Time Washing, W ₁₈	18	34.3	69%
After 19 th Time Washing, W ₁₉	19	31.1	62%
After 20 th Time Washing, W ₂₀	20	29.5	59%

a) The Retention Index (R.I.) was calculated by $R.I. = (W_n / W_0) \times 100\%$.

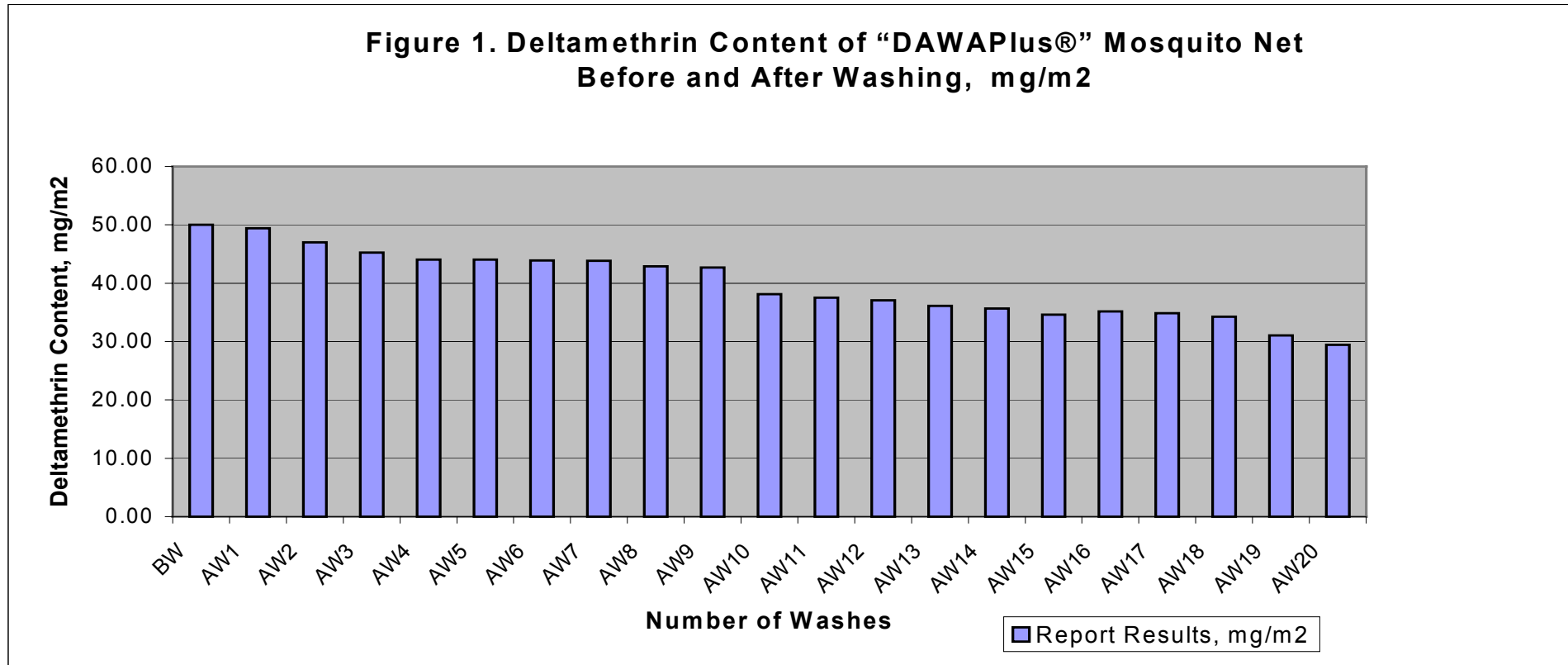


JULINE SIM
TECHNICAL EXECUTIVE



DR LIN JIANHUA
ASSISTANT VICE PRESIDENT
MICROCONTAMINATION DIAGNOSIS
TESTING GROUP

Figure 1. Deltamethrin Content of “DAWAPlus®” Mosquito Net Before and After Washing, mg/m²



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May 2005