

TEST REPORT



Your Ref:

Date: 13 Nov 2006

Our Ref: **57S065995_Corr 1**

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DID: 6885 1330 / 6885 1313

Fax: 6778 4301

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SUBJECT

Washing Effect on Total Deltamethrin Content for Two Different Brands of Polyester Mosquito Net Samples.

CLIENT

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

Attn: Ms Ong-on Tanthai

DESCRIPTION OF SAMPLE

Two different brands of mosquito net samples (5 nets per brand) labeled as follows were received on 5 Jul 2006.

Table 1. "DawaPlus®" Mosquito Net Sample *

Manufacturer	Tana Netting Co., Ltd
Material of the fabrics	100% Polyester
Denier	75 Denier, Mesh 156
Color	White
Size	190 x180x150 cm
Treatment method	Pretreated LLINs (Deltamethrin)
Production Date	-
Batch no	-
Quantity of Samples Enclosed	5 Rectangular Nets.

*The sample information was provided by the client.



Table 2. "Permanet®" Mosquito Net Sample *

Manufacturer	Vestergaard Frandsen Group
Material of the fabrics	100% Polyester
Denier	75 Denier, Mesh 156
Color	White
Size	1000 x 250 x 65 cm
Treatment method	Pretreated LLINs (Deltamethrin)
Production Date	02/2004
Batch no	10184
Quantity of Samples Enclosed	5 Conical Nets.

*The sample information was provided by the client.

DATE OF ANALYSIS

Aug 2006 – October 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

Six 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 3. Total Deltamethrin Content and Deltamethrin Retention Index for “DAWAPlus®” Mosquito Net Sample.

Washing Treatment	Number of Washes	Total Deltamethrin Content mg/m ²	Deltamethrin Retention Index ^a
Before Washing, W ₀	0	47.3	-
After 5 th Time Washing, W ₅	5	41.4	88%
After 10 th Time Washing, W ₁₀	10	40.9	86%
After 15 th Time Washing, W ₁₅	15	38.4	81%
After 20 th Time Washing, W ₂₀	20	37.6	79%
After 25 th Time Washing, W ₂₅	25	26.8	57%
After 30 th Time Washing, W ₃₀	30	23.8	50%

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

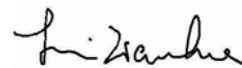
Table 4. Total Deltamethrin Content and Deltamethrin Retention Index for “Permanet®” Mosquito Net Sample.

Washing Treatment	Number of Washes	Total Deltamethrin Content mg/m ²	Deltamethrin Retention Index ^a
Before Washing, W ₀	0	69.4	-
After 5 th Time Washing, W ₅	5	56.2	81%
After 10 th Time Washing, W ₁₀	10	54.4	78%
After 15 th Time Washing, W ₁₅	15	47.7	69%
After 20 th Time Washing, W ₂₀	20	46.0	66%
After 25 th Time Washing, W ₂₅	25	36.8	53%
After 30 th Time Washing, W ₃₀	30	32.2	46%

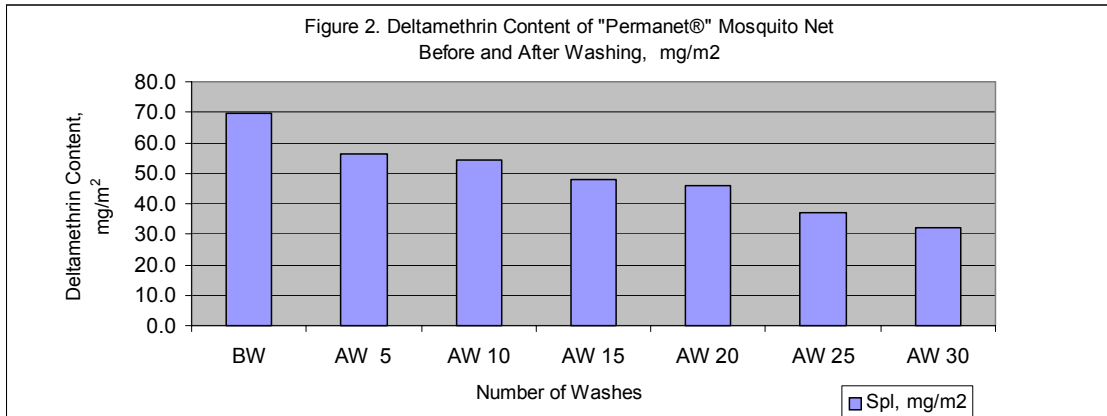
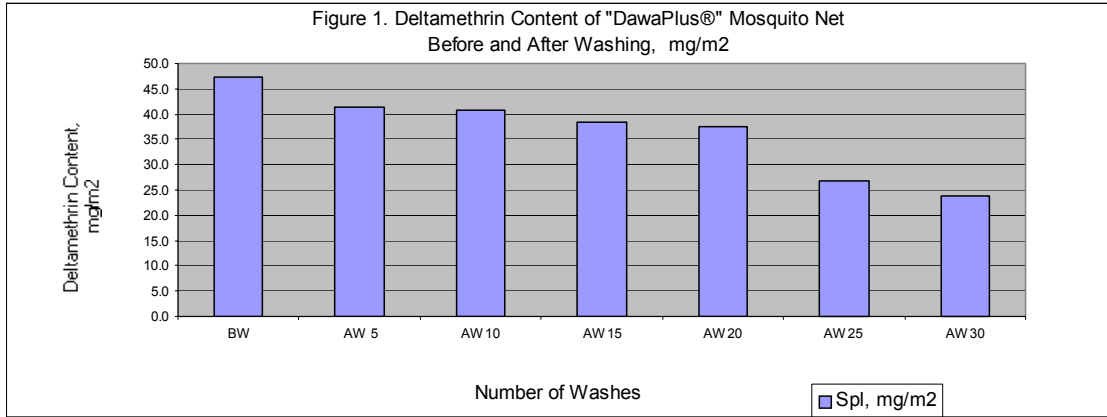
a) The Retention Index (R.I.) was calculated by $R.I. = (W_n / W_0) \times 100\%$.



JULINE SIM
TECHNICAL EXECUTIVE



DR LIN JIANHUA
ASSISTANT VICE PRESIDENT
MICROCONTAMINATION DIAGNOSIS
TESTING GROUP



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June 2006