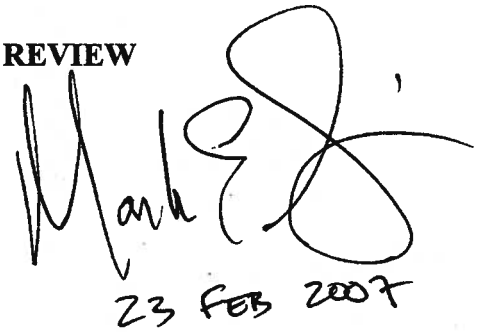
PRODUCT PERFORMANCE / EFFICACY REVIEW

Mark Suarez, Entomologist - IB



DATE:	23 February 2007
EPA REG. NUMBER:	4822-LUE
PRODUCT NAME:	NORM I
REGISTRANT:	S.C. Johnson and Son, Inc.
PM:	Richard Gebken, PM10
REVIEWER:	Mark Suarez
DECISION #.:	351073
DP BARCODE:	313254
ACTION:	R06
ACTIVE INGREDIENT(S):	109709, Metofluthrin.....100%
TYPE:	Insect Repellent Vapor
OPPTS GUIDELINE(S):	810.3100; 810.3300
MRID:	46402003 Submitted GLP? Yes. HSRB Review: N/A; Grandfathered Ethics Review: Acceptable
SITES & PESTS	Outdoor Mosquitoes
LABEL APPLICATION RATE:	Fixed: Volatilizing Active Ingredient
STUDY APPLICATION RATE:	Fixed: Volatilizing Active Ingredient

STUDY SUMMARIES:

MRID 46402003. Ropiak, D. (2004) Determining the Efficacy of Norm-1 in the Field Against a Biting Population of Mosquitoes: Final Report. Project Number: 208688, 508E1. Unpublished study prepared by S.C. Johnson & Son, Inc. 25 p.

The registrant submitted data from two field trials in Florida. One trial was conducted at Collier State Park, Naples (Site A); the second trial was conducted at Lake Kissimmee State Park, Lake Wales (Site B). The mosquitoes present at these sites and their frequencies are provided in Table 1. Mosquito species and percent abundance were determined by aspiration of mosquitoes by untreated control individuals or study director. Test subject were confined to a 5'x5' area during the trial. Test subjects were separated by at least 50'. Bite pressure prior to initiation of the study was determined by exposing skin on the lower leg of each study participant, including the control, for at least 1 minute. After the pre-treatment mosquito pressure determination, the test subjects activated the NORM I device with the metofluthrin insert. Three metofluthrin insert treatments were used: new, used for 5 hours and used for11 hours. The number of mosquitoes biting (including landing with probing) was recorded at 5, 10, 15, 20, 30, 40, 50, and 60 minutes following study initiation. A single control individual recorded the number of biting mosquitoes at each observation interval.

The data gathered indicate that the use of NORM 1 reduced mosquito bites by 91%, on average (Table 2). Reduction in mosquito biting (*i.e.,* repellency) was determined for each individual count using the Henderson-Tilton (1955) formula. The grand mean across sites was greater. However, the results observed for individuals ranged from 59 to 100%. The effectiveness of the product was relatively consistent regardless of the usage history of the metofluthrin insert (*i.e.,* new, used for 5 hours, or used for 11 hours). Mosquito pressure was adequate at the initiation of each trail and remained within acceptable parameters, based upon the counts observed for controls. Several trial included variation from the protocol, but each of these was documented and is not believed to have significantly affected that results presented.

ENTOMOLOGIST'S COMMENTS AND RECOMMENDATIONS:

The data presented indicate that use of the product resulted in decreased mosquito bites relative to controls. An average reduction in mosquito bites greater than 90% was noted for the product over a 12 hour use period. (Although, percent repellency below that level was observed with some regularity.) These data are adequate to support claims against mosquitoes, but do not meet the 100% effectiveness standard typically met by skin applied repellents. The subject product functions as an air column treatment. As such, the subject formulation is being considered here in comparison to other registered volumetric mosquito repellents.

The data support the following claims:

1. Reduces annoyance of/by mosquitoes.
2. Suppresses mosquitoes.
3. Repels mosquitoes.

Enclosure
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