WHO/CDS/WHOPES/GCDPP/2005.13

GUIDELINES FOR LABORATORY AND FIELD TESTING OF MOSQUITO LARVICIDES

WORLD HEALTH ORGANIZATION
COMMUNICABLE DISEASE CONTROL, PREVENTION AND ERADICATION
WHO PESTICIDE EVALUATION SCHEME

CONTENTS

ACKNOWLEDGEMENTS

The Department of Communicable Disease Control, Prevention and Eradication (CPE) wishes to thank Dr P. Jambulingam, Vector Control Research Centre, Pondicherry, India, for drafting this document.

CPE also wishes to thank the following for their valuable contribution to the development of this document.

Dr M.K. Cham, Roll Back Malaria Department, World Health Organization, Geneva, Switzerland.

Dr V. Corbel, Institut de recherche pour le développement (IRD), Montpellier, France.

Dr P. Guillet, WHO Regional Office for Africa, Harare, Zimbabwe.

Dr H. Ladonni, Department of Medical Entomology and Vector Control, School of Public Health, Tehran University of Medical Sciences, Tehran, the Islamic Republic of Iran.

Dr C. Lagneau, Entente interdépartementale pour la démoustication du littoral méditerranéen, Montpellier, France.

Dr H.H. Lee, Institute for Medical Research, Kuala Lumpur, Malaysia.

Dr L. Manga, WHO Regional Office for Africa, Harare, Zimbabwe.

Dr M. Mazzarri, Division of Control of Vectors, Ministry of Health, Maracay, Venezuela.

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Dr M. Nathan, Department of Communicable Disease Control, Prevention and Eradication, World Health Organization, Geneva, Switzerland.

Dr S.N. Sharma, National Institute of Communicable Diseases, Delhi, India.

Dr E. Walker, Department of Microbiology and Molecular Genetics, Michigan State University, East Lansing, Michigan, USA.

Dr M. Zaim, WHO Pesticide Evaluation Scheme (WHOPES), Department of Communicable Disease Control, Prevention and Eradication, World Health Organization, Geneva, Switzerland.

This publication has been funded by the Global Collaboration for Development of Pesticides for Public Health (GCDPP).

1. INTRODUCTION

The purpose of this document is to provide specific and standardized procedures and guidelines for testing larvicides, including bacterial larvicides and insect growth regulators (IGRs), against mosquitoes. Its aim is to harmonize the testing procedures carried out in different laboratories and institutions to generate data for the registration and labelling of larvicides by national authorities.

The document is an expanded and updated version of the guidelines recommended by the WHO Pesticide Evaluation Scheme (WHOPES) Informal Consultation on the evaluation and testing of insecticides, held at WHO headquarters (HQ), Geneva, 7–11 October 1996 (*1*). The guidelines were reviewed and recommended by the Eighth WHOPES Working Group Meeting, held at WHO-HQ, Geneva, 1–3 December 2004 (*2*).

The document provides guidance on laboratory studies and small-scale and large-scale field trials to determine the efficacy, field application rates and operational feasibility and acceptability of a mosquito larvicide. The table below summarizes the sequence and objectives of the studies and trials. The procedures provide some information on the safety and toxicity of the larvicides for non-target organisms, but it is presumed that preliminary eco-toxicity and human assessments have been undertaken before any field study is carried out – detailed treatment and analysis of these extra data are beyond the scope of this document.

Table 1.1
Sequence of the stages of evaluation of mosquito larvicides

Phase	Type of study	Aim
Phase I	Laboratory studies	• Biopotency and activity • Diagnostic concentration and assessment of cross-resistance
Phase II	Small-scale field trials	• Efficacy under different ecological settings • Method and rate of application • Initial and residual activity • Effect on non-target organisms
Phase III	Large-scale field trials	• Efficacy and residual activity • Operational and community acceptance • Effect on non-target organisms