

## Why is the use of pesticides for public health such an important issue?

Vector-borne diseases and those with intermediate hosts are among the major causes of illness and death in many tropical and subtropical countries. Such diseases, which include African trypanosomiasis, Chagas disease, dengue, leishmaniasis, lymphatic filariasis and malaria significantly impede economic and social development.

Vector control plays a key role in the prevention and control of major vector-borne diseases such as Chagas disease, dengue, and malaria and often constitutes the first line of defense in case of epidemics of vector-borne diseases.

**Chemical control (use of pesticides) is still the most important element in the integrated approach to vector control.**

Safe, cost-effective, and operationally acceptable pesticides are required for public health use. The highly developed pesticides of today, which are formulated for a particular use pattern, require selection and use of the most appropriate active ingredients and formulations for the targeted pest and intended application.

## Why are quality pesticide products essential?

Good product quality is essential for effective and safe pesticide use. Impurities formed during manufacture of the pesticide or by interaction in unstable formulations can increase product toxicity to humans and the environment. Applying products that are lower in active ingredient content than declared could result in monetary loss and application of sublethal doses of pesticide, leading to ineffective control and development of resistance.



*Indoor residual spraying of insecticides for the prevention and control of malaria and Chagas disease*



*Insecticide-treated mosquito nets for prevention and control of malaria and leishmaniasis*

Products or formulations with inferior physicochemical properties such as suspensibility, emulsification or particle-size characteristics can also result in inadequate application and possibly increase the degree of risk for personnel, who may come into greater contact with application equipment contaminated by pesticides.

**WHOPES develops specifications for pesticides as part of the International Code of Conduct on the Distribution and Use of Pesticides for quality control and international trade. WHO specifications for public health pesticides are available at <http://www.who.int/ctd/whopes>**

## What about the arsenal of public health pesticides?

Public health programmes are faced with a shrinking arsenal of safe, efficient and cost-effective insecticides. This is mainly due to the resistance of major vectors to common insecticides that have been misused and overused in agriculture. In addition, the withdrawal or abandonment of certain pesticides for reasons of safety or the high cost of re-registration has further reduced the available options.

Considering that very few new insecticide compounds for vector control are coming to the market, a judicious, more selective and targeted use of available insecticides is essential not only to increase their effective lifespan but also for economic and environmental reasons.

**WHOPES and its partners promote the development of alternative pesticides and their safe and judicious use for public health.**



*Treatment of mosquito nets by householders with safe and efficient insecticides*

## What is WHOPES?

The WHO Pesticide Evaluation Scheme (WHOPES) was set up in 1960. WHOPES promotes and coordinates the testing and evaluation of pesticides for public health. It functions through the participation of representatives of governments, manufacturers of pesticides and pesticide application equipment, WHO collaborating centres and research institutions as well as other WHO programmes, notably the International Programme on Chemical Safety.

In its present form, WHOPES comprises a four-phase evaluation and testing programme studying the safety, efficiency and operational acceptability of public health pesticides and developing specifications for quality control and international trade.



*Space spraying of insecticides for epidemic response*

## What are the objectives of WHOPES?

- To facilitate the search for alternative pesticides and application methods that are safe and cost-effective.
- To develop and promote policies, strategies and guidelines for the selective and judicious application of pesticides for public health use and to assist and monitor implementation by Member States.

**WHOPES collects, consolidates, evaluates, and disseminates information on the use of pesticides for public health. Its recommendations facilitate the registration of pesticides by Member States.**



Treatment of mosquito nets with insecticides

### Further information from:

Parasitic Diseases and Vector Control (PVC)  
Tel: +(41) 22 791 3841/2498; Fax: +(41) 22 791 4869  
Department of Control, Prevention, and Eradication (CPE)  
Communicable Diseases Cluster (CDS)  
WHO, 1211 Geneva 27, Switzerland  
<http://www.who.int/ctd/whopes>

Spokesperson's Office (SPO)  
External Cooperation and Partnerships (ECP)  
Tel: +(41) 22 791 2599; Fax: +(41) 22 791 4858  
E-mail: [inf@who.int](mailto:inf@who.int)

© World Health Organization, 2001

This document is not a formal publication of the World Health Organization (WHO), and all rights are reserved by the Organization. The document may, however, be freely reviewed, abstracted, reproduced or translated, in part or in whole, but not for sale or for use in conjunction with commercial purposes.

## PROGRESS MADE SO FAR

- Testing and evaluation of 13 public health insecticide products and three types of pesticide application equipment since 1997.
- Development or revision of specifications for 29 technical materials and 53 formulated public health pesticides.
- Development of guideline specifications for vector-control equipment, household insecticide products and bacterial larvicides.
- Strengthening FAO and WHO collaboration on the development of pesticide specifications through the establishment of a joint meeting.
- Establishment of a unique public-private partnership called "Global Collaboration for Development of Pesticides for Public Health" (GCDPP) promoting development and safe and judicious use of pesticides in public health. Members of the GCDPP include industry (15), national and government-supported agencies (15), universities and research institutions (8), and regional and international organizations (6).
- Strengthening collaboration with industry to:
  - improve the cost-effectiveness and operational acceptability of pesticides;
  - identify new application technologies;
  - promote the development of alternative compounds.

## FLASH TIPS

*Do you know that...*

*...insecticide-treated mosquito nets reduce the malaria morbidity rate by 50% to 60% and overall child mortality from malaria by 25%–30%?*

*...in the absence of a vaccine, dengue control relies mainly on vector control using insecticides? It is estimated that 50 million dengue infections occur annually, including 500 000 cases of dengue haemorrhagic fever and dengue shock syndrome, with 24 000 deaths, mostly in children.*

*...indoor spraying of residual insecticides has been the main intervention used to eliminate Chagas disease in South America?*

*...agriculture has influenced the availability of insecticides for vector control, which constitute only 3% of the global insecticide market?*



WHO/CDS/CPE/SMT/2001.10

# WHOPES

## WHO Pesticide Evaluation Scheme

