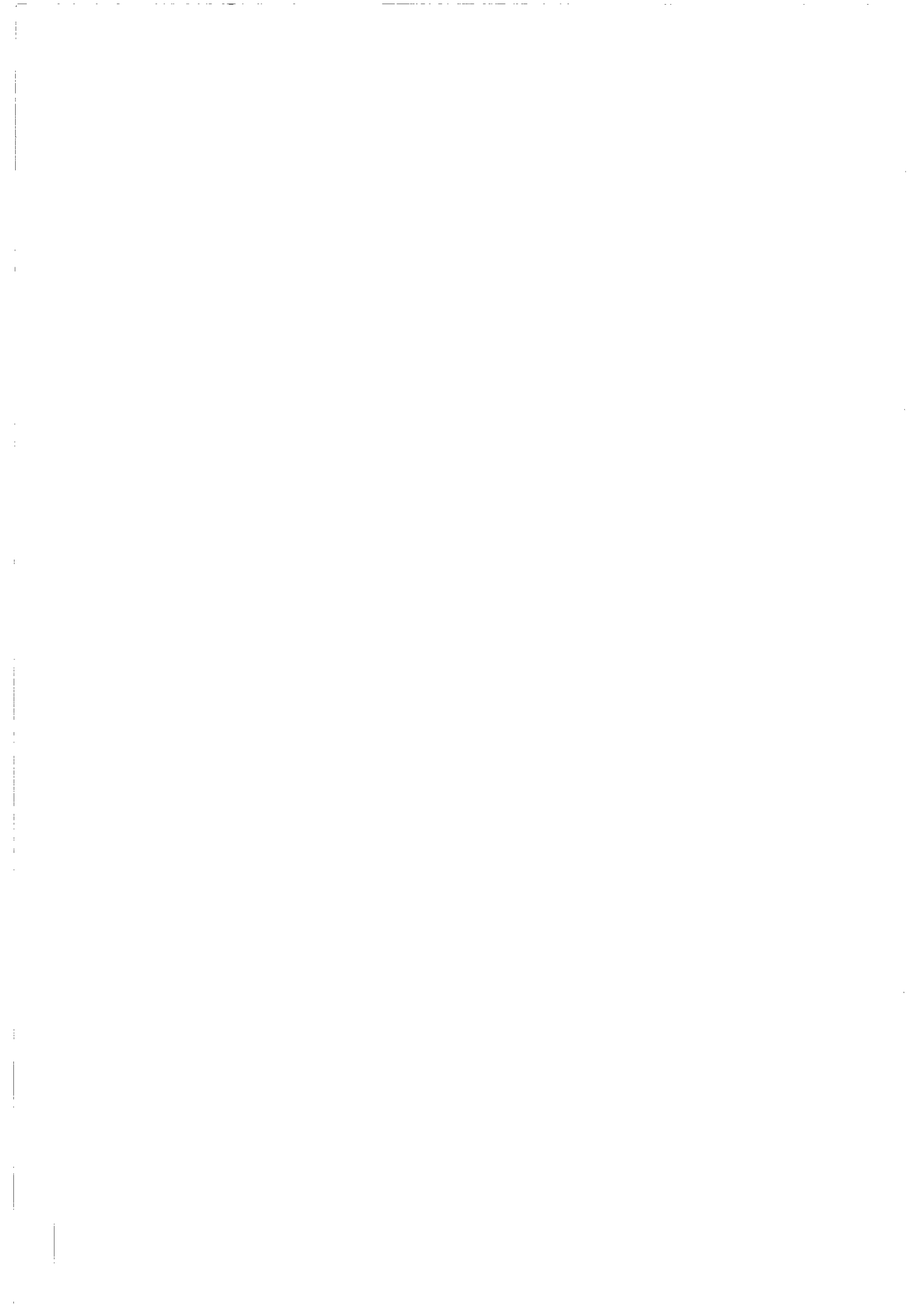


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**Report of the WHO
Informal Consultation
on the evaluation and
testing of insecticides**

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**WHO, Geneva
7-11 October 1996**



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**REPORT OF THE
WHO INFORMAL CONSULTATION ON THE
"EVALUATION AND TESTING OF INSECTICIDES"**

WHO/HQ, Geneva, 7 to 11 October, 1996

WHO PESTICIDE EVALUATION SCHEME (WHOPES)

**WORLD HEALTH ORGANIZATION
DIVISION OF CONTROL OF TROPICAL DISEASES (CTD)**

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CTD/WHOPES/IC/96.1

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1. INTRODUCTION

1.1. Introduction to the meeting

The consultation was opened on behalf of the Director-General of the WHO by the Assistant Director General, Dr. R. H. Henderson. He recalled that the last consultation on this subject was held in November 1987¹ and the present consultation was convened with the following objectives:

- to review and update the methods and criteria for the evaluation and testing of pesticides;
- to provide information to the pesticide industry about the requirements for pesticides in public health programmes;
- to draw the attention of the industry to the problems faced in vector-borne disease control, especially those due to the spread of resistance to insecticides;
- to stimulate the development of alternative chemicals and formulations for public health use; and
- to strengthen the relationship between WHO, industry and the WHO Collaborating Centres.

Dr. Henderson emphasized that the 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 malaria, filariasis, schistosomiasis, dengue, trypanosomiasis and leishmaniasis, represent a significant impediment to social and economic development.

Selective vector control is an integral part of many vector-borne disease control activities. Its implementation envisages targeted site-specific use of available vector control methods, taking into consideration the technical and operational feasibility, resources and infrastructures.

The available vector control methods are mainly based on environmental management, biological control and the use of chemicals. With rare exceptions, environmental management and biological control have limited applicability on their own, and chemical control is still considered as the most important element in the integrated control of vector-borne diseases. However, due to the resistance of important vectors to some pesticides and the need for the replacement of those whose use has been abandoned for safety, environmental

¹ Meeting of Directors of WHO Collaborating Centres on the Evaluation and Testing of New Pesticides, Geneva, 9-13 November 1987 (WHO/VBC/88.957).

or other considerations, the need for new chemical agents with different modes of action, as well as new formulations to be used in various ecological and epidemiological conditions and different application methods is clearly recognized.

The WHO Pesticide Evaluation Scheme (WHOPES) is the only international programme which promotes the development and evaluation of new pesticide products and formulations for use in public health. It functions through the participation of representatives of governments, the pesticide industry, WHO Collaborating Centres and universities, associate laboratories as well as other WHO Programmes, notably the Programme for the Promotion of Chemical Safety (PCS).

WHOPES should remain a technical resource for the validation, consolidation and dissemination of experiences in the use of pesticides as well as an important body to assist member states in the use of pesticides for public health. Necessary actions should be taken to ensure that the *specifications for pesticides*, will become widely available and used by all Member States for the purchase and quality control of pesticides. There is, therefore, a strong motivation to further strengthen the programme and to extend its activities to cover a greater variety of public health pests and pesticides.

Several activities have already been initiated to strengthen the scheme including moves to harmonize the many activities related to pesticide development and use.

1.2. INTRODUCTION TO WHO PESTICIDE EVALUATION SCHEME (WHOPES)

A programme for the evaluation of pesticides for use in public health was initiated by WHO in 1960. After more than a decade, during which over 1000 pesticides with potential public health use were tested, the number of compounds submitted to the programme began to diminish as interest in products such as herbicides and fungicides increased. Stricter regulation of pesticide toxicity was also a factor.

The reduction in the number of pesticides for public health purposes resulted in a sharp drop in the productivity of some WHO Collaborating Centres and WHO field units responsible for the medium and/or large-scale field evaluation of the products. This also coincided with the global attrition of medical entomologists as well as general lack of interest of certain Member States in the evaluation and use of insecticides for public health use. These Collaborating Centres and field units were therefore gradually abandoned. Nevertheless, programmes for the control of vector-borne diseases continued

to demand new products, particularly because the problem of vector resistance to pesticides was worsening.

The meeting of directors of WHO Collaborating Centres held in March 1982 in Geneva dealt with this problem; the meeting decided to set up a new evaluation programme. This was given the name of WHO Pesticide Evaluation Scheme (WHOPES). Unlike the previous programme, which comprised seven stages of evaluation, WHOPES has only four phases. The new programme also planned for a new method of collaboration between WHO, Member States and industry, for the field evaluation of pesticides.

WHOPES was reviewed in November 1987 by a further meeting of directors of Collaborating Centres in order to make the changes that were found to be essential after the new programme had been in operation for five years.

The activities which are conducted under each phase of WHOPES are summarized as follows (see table I):

Phase I: Evaluation of the new technical products or their formulations is performed on laboratory bred arthropods. This phase also comprises a study of cross-resistance with the various classes of pesticides currently available, together with toxicological studies and evaluation.

Phase II: The evaluation is performed in the field, on a small-scale (e.g. individual houses), under well-controlled conditions. The trials are performed on natural vector populations with the aid of formulated products. Where appropriate, the action of the products on the non-target fauna is verified. Phase II is also the first opportunity for making observations on any harmful effects of the product upon the operators.

Phase III: This is a joint undertaking with the participation of WHO, industry and

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