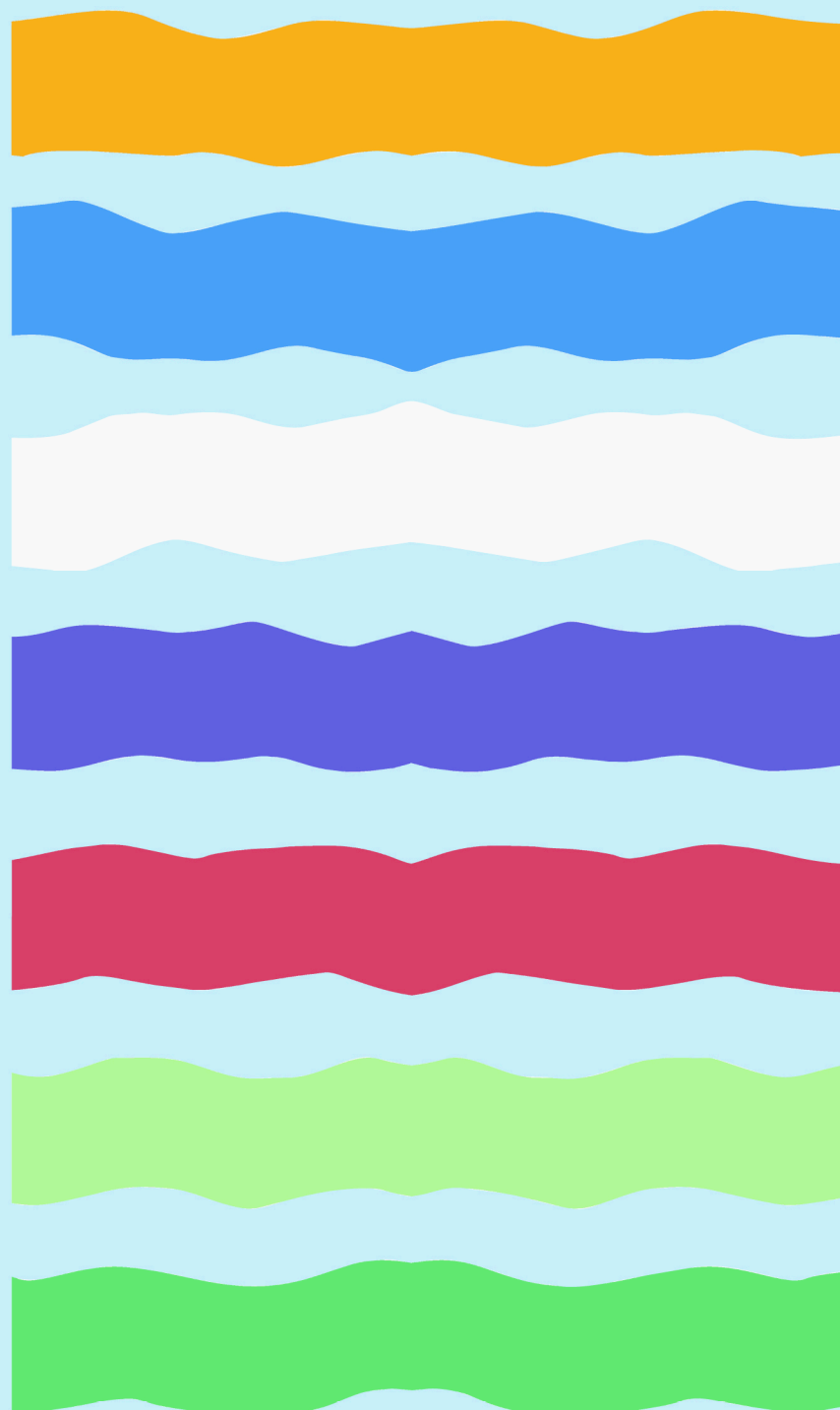


Protecting Workers'
Health Series N° 1

PREVENTING HEALTH RISKS FROM THE USE OF PESTICIDES IN AGRICULTURE

This booklet can be obtained from:
World Health Organization
Occupational and Environmental Health
CH-1211 Geneva 27
Switzerland



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International Centre for Pesticide Safety

Protecting Workers' Health Series n° 1

Preventing Health Risks from the Use of Pesticides in Agriculture

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PREFACE

This document is the first in a series of occupational health documents entitled: Protecting Workers' Health. It is published by the World Health Organization (WHO) within the Global Programme of Occupational Health. It is the result of the implementation effort of the Global Strategy on Occupational Health for All as agreed upon at the Fourth Network Meeting of the WHO Collaborating Centres in Occupational Health which was held in Espoo, Finland from 7-9 June 1999.

The text was prepared by the International Centre for Pesticide Safety of Milan (Italy) in close co-operation with the Institute of Occupational Medicine, Chinese Academy of Preventive Medicine of Beijing (China), acting as WHO Collaborating Centres for Occupational Health.

The application of pesticides on crops is necessary to prevent unacceptable losses of the agricultural production. However, their use may pose health risks to the farmers and pesticide workers, often as a consequence of improper or careless handling.

This booklet is written to give advice on how these health risks can be reduced. It gives a short introduction on pesticides and labelling/classification systems, a description of how exposure may take place and information on related health problems. It also provides practical advice on proper working procedures for mixing/loading, application, transportation, storage and disposal of the pesticides.

The document is published with the intent to promote health and safety of workers engaged in agriculture. It is targeted for use by workers all over the world, especially for those countries still under development where agriculture is the main source of sustenance and technology. The document is also meant to serve as a tool to help health professionals and pest managers in promoting safe working procedures.

In order to reach a broad and heterogeneous audience, the decision of the editorial team during the preparation was to deliver basic information, to make

extensive use of simple statements, and to provide illustrations as supplements or alternatives to text.

WHO offers special acknowledgement to the authors of the document and to the experts of the WHO Collaborating Centers, who provided assistance in reviewing the drafts of the manuscript. These are listed below:

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PESTICIDES

Pesticide is the name used to describe a range of substances or mixtures used to kill, reduce or repel many types of pests. The substances are named according to the type of pest they control, such as;

- Insecticides are used against insects.
- Herbicides are used against weeds.
- Fungicides are used against fungi and molds.
- Rodenticides are used against rodents.
- Molluscicides are used against molluscs.



**MOST PESTICIDES ARE TOXIC AND COULD CAUSE ILL-EFFECTS
IN YOUR BODY !!!!**

IMPORTANT

- Ask for advice to choose the best and least hazardous pesticide.
- Be sure that the pesticide you buy is exactly what you need.
- Try to use less pesticides: it saves money, and reduces health risks.
- Using more pesticide than recommended by the manufactures does not increase the crop yield.
- Crop rotation is very useful to control pests.
- Substitute non-resistant plants with pest-resistant ones.
- Reduce the need for pesticides by using substitutes such as biological control of insects or natural predators which are harmless to the crop.
- In cases of limited pest infestation, traps or manual removal could substitute for pesticides.

QUESTIONS AND ANSWERS

"What is Integrated Pest Management (IPM)?"

"IPM means Integrated Pest Management. IPM contributes to pesticide risk reduction by: reducing reliance on chemical pesticides and encouraging the use of non-chemical alternatives, encouraging the use of reduced-risk pesticides when pesticide treatment is necessary, preventing pest problems through better crop management and maintenance of natural resources, and by increasing farmer knowledge about agricultural pests and ecosystems."

"Are all pesticides liquids?"

"Not at all. Pesticides can be solids, applied either undiluted as dust, granules or from a smoke generator, or diluted as wettable powder, bait concentrate or soluble grain. As liquids they can be applied undiluted as aerosols, or as diluted emulsifiable concentrate or suspension concentrate".

DID YOU KNOW THAT

..there are many classes of pesticides according to use and to chemical composition.

Insecticides	Herbicides	Fungicides	Rodenticides
Organophosphates	Chlorophenoxy compounds	Substituted benzenes	Inorganics
Carbamates	Pentachlorophenol	Thiocarbamates	Coumarins / indandiones
Organochlorines	Nitrophenolic/cresolic compounds	Ethylene bis dithiocarbamates	Convulsants

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