

# Information Brochure

## Database on Safer Pesticides in Plant Protection

### Pesticides, their Classification based on WHO and Global Status of Hazardous Pesticides



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**Title of the Book:** Pesticides, their classification by WHO and global status of hazardous pesticides

**Editors:** Sumitra Arora, Prem Dureja, AK Kanojia and OM Bambawale

**Published by:** Dr. OM Bambawale  
Director,  
National Centre for Integrated Pest Management  
New Delhi, INDIA

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#### About the Book:

The book throws light on classification of pesticide active ingredients on the basis of their toxicity to non-target organism by WHO covering information on all the 217 pesticides registered in India as on date. It includes trade name, registered formulations, target pests and crops which they are applied to, dose of application, waiting period and their mode of action. Most important and valuable information, included in it, which is not available at one place, is the **maximum residue limit (MRL)** of almost all pesticides, fixed by ICMR (under Prevention of Food Adulteration Act 1954), on various crops. Besides, it gives information on status and impact of pesticides, latest consumption of pesticides crop wise and state wise, status of hazardous pesticides (as per WHO) in other

countries, various toxicity categories and decontamination methods of pesticides.

This book is useful to all the stakeholders of plant protection. The concept of classification of pesticide ingredients based on WHO is very useful and important in present day context.

Most of the farmers and researchers are unaware of hazardous nature of pesticide molecules used in agriculture. Researchers are continuing their efforts to develop effective IPM packages, for which it is mandatory to know which pesticides are safe to use for plant protection measures.

This book reviews the latest research in this field which is very informative and useful for all the concerned researchers, scientific community, institutions and NGOs across the country. It is hoped that this book would inculcate a kind of knowledge based support and enthusiasm for adopting pest management practices embedded with judicious use of pesticides in agriculture keeping in view their MRL and waiting period to have healthy crop with more production incurring with minimal environmental implications associated with pesticide usage.

#### Contents of the Book:

**Pesticides** (Brief history, classification, mode of action of insecticides, fungicides, herbicides, nematicides, rodenticides and plant growth regulators);

**Status and impact of pesticides on environment** (Production, state wise and crop wise consumption of pesticides, adverse effects of

pesticides on physical and biological environment); WHO classification of pesticides based on their toxicity (WHO classification of registered pesticides, their trade names, registered formulations, target pest and crop to which they are applied, dose of application, waiting period and their mode of action. Most important and valuable information provided is the MRL of almost all pesticides, fixed by ICMR, on various crops. The pesticides are categorized as Extremely hazardous, Highly hazardous, Moderately hazardous, Slightly hazardous, Obsolete pesticide, Unlikely to present acute hazard in normal use, and Pesticides not classified by WHO as per their hazard level);

**WHO ranking of pesticides based on their toxicity** (Ranking of pesticides as per color code and lethal dose);

**Status of extremely and highly hazardous pesticides in other countries;**

**Pesticide vs. poison** (Pesticide labeling, dose and poison);

**Determination of pesticide toxicity categories** (Toxicity categories based on LD<sub>50</sub> values);

**Decontamination of Pesticides** (Various physical and chemical methods for decontamination and detoxification);

**Conclusion;**

**References;**

**Annexures** (Banned pesticides, Pesticides refused registration, Pesticides restricted for use in India, Symptoms, antidotes and first aid for Pesticide Poisoning).

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