

**Zambia**  
**Pesticide**  
**Handling**  
**and**  
**Application**  
**Workshop**  
**1984**

## CONTENTS

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Capsule Summary .....	1
Narrative Summary .....	2
Background	
The Course	
Feedback / Evaluation .....	2
Schedule .....	4
Participants .....	8
Instructors .....	9
Materials Provided .....	10
Certificate .....	12
Acknowledgements .....	back cover

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**CAPSULE SUMMARY**

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Pesticide Handling and  
Application Workshop

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Natural Resources Development College, Lusaka, Zambia

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August 22-24, 1984

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Sponsored and/or supported by:

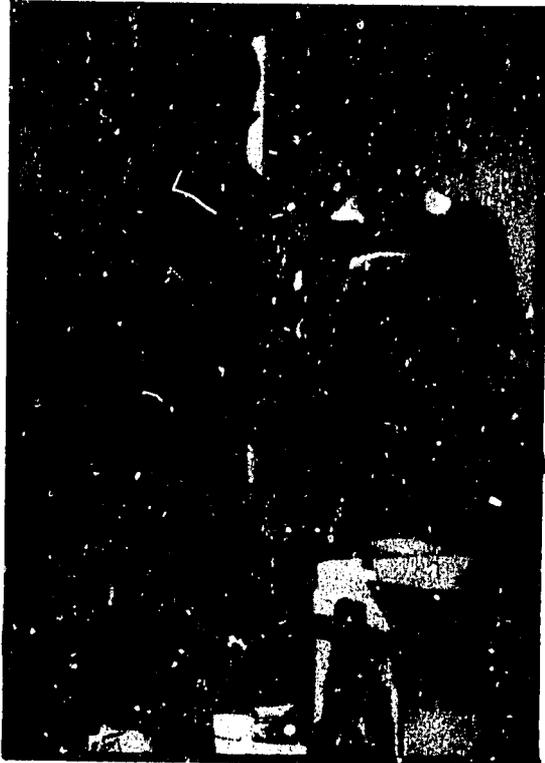
- \* Consortium for International Crop Protection (CICP)
- \* U. S. Agency for International Development (USAID)
- \* International Plant Protection Center, Oregon State  
University (IPPC/OSU)

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Summary report prepared and issued by:

International Plant Protection Center  
as document no. 59-C-84  
September 1984

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*Participants worked in groups  
while readying new knapsack  
sprayers for use during the  
course.*

## **NARRATIVE SUMMARY**

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### **BACKGROUND**

Continuing efforts to increase agricultural production in Zambia are expected to support the upward trend of chemicals for pest control. As pesticide use increases, so does the need for personnel trained in the proper handling of pesticides.

The Zambian Ministry of Agriculture and Water Development (MAWD) recognized this fact and requested assistance from the U. S. Agency for International Development (USAID) in providing training for key Ministry personnel charged with wholesale purchase, warehousing, retailing, and application of pesticides. One result was a three-day workshop sponsored by USAID, conducted in cooperation with the Consortium for International Crop Protection and the International Plant Protection Center, through contracts with USAID.

### **THE COURSE**

USAID responded to the MAWD request by organizing and funding a three-day workshop designed to provide practical, hands-on instruction in the fundamentals of safe handling and accurate and efficient application of pesticides.

The event was held at the Natural Resources Development College, Lusaka, during August 22, 23, and 24, 1984.

Thirty-one participants with backgrounds ranging from store managers to researchers attended the workshop. The trainees' relatively high level of professional and academic background, plus a high degree of participation by trainers and trainees, helped to make discussions and fieldwork lively and interesting.

Instruction included a combination of classroom lecture/discussion and field exercises. Sprayer familiarization and calibration, and pesticide rate calculations were a major area of concentration during the workshop.

### **FEEDBACK / EVALUATION**

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Reaction to the workshop generally was favorable with most participants agreeing that it met their needs. Some of their observations were:

- \* Informal group discussions were stimulating and useful.

- \* The use of visuals was effective; it would be helpful if a slide set could be provided for each region for further extending the important concepts and information presented.
- \* The printed materials provided each participant make excellent reference sources and tools for reinforcing many of the concepts presented at the workshop.
- \* For participants who had attended the USAID-FAO sponsored weed management course held several months earlier, the workshop proved a valuable supplement and follow-up.
- \* The practical field exercises were very useful; however, there was insufficient time to cover different types of sprayers, pesticides, and spraying situations. Also, more time would have allowed actual field trials using various pesticides as well as discussion of results.
- \* Each region should be provided a (knapsack) sprayer of the type used in the workshop for further training and research.
- \* Greater participation by sellers and manufacturers of pesticides and pesticide related equipment should be encouraged.

The instructors and organizers were pleased with the turnout and level of participation by the attendees. All participants were eager to learn about the handling of pesticides and, as a result, attendance was excellent. The relatively high professional and academic background of the participants also helped make discussions interesting and stimulating for participants and instructors alike.

The bringing together of professionals from both the public and private sectors is a desirable objective for a workshop of this type. Through participation in the workshop a network of professional contacts is established among individuals representing the various groups involved. This is one reason why careful pre-course selection of the target trainees is very important.

The observation that the workshop was not long enough to cover the subject thoroughly was valid. Handout materials play an important role in compensating for this by serving as refererces to relevant subject areas on which little time was spent in the workshop. Ideally, future courses should be longer and also should be followed up to assure that the information presented is being extended at the region and district level in the form of similar workshops conducted by the trainees.

## SCHEDULE

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August 22, Wednesday

WELCOME, OBJECTIVES, SAFETY, CALIBRATION

0830 - 0845	Official welcome - (J. B. Mutelo, MAWD)
0845 - 0900	USAID welcome and statement of workshop objectives - (J. Jensen, USAID)
0900 - 0915	Introduction of participants and speakers - (B. Chivunda, MAWD)
0915 - 0930	Pest recognition and control alternatives - (A. Cooper, IPPC)
0930 - 1015	Chemicals available in Zambia - (S. M. Mwansa, Shell)
	Types
	Distribution
	Small farmer packs
1015 - 1045	Tea break
1045 - 1115	Pesticide toxicity (explanation of LD <sub>50</sub> values) - (J. Jensen, USAID)
1115 - 1200	Pesticide labelling in Zambia - (S. M. Mwansa, Shell)
1200 - 1230	Handling and storage of agrochemicals - (R. Dedert, ARP Team, Kabwe)
1230 - 1330	Lunch
1330 - 1400	Equipment available in Zambia (sprayers, spare parts, protective clothing, etc.) - (S. M. Mwansa, Shell)
1400 - 1430	Classroom discussion of sprayer calibration and pesticide calculations - (A. Cooper, IPPC)
1430 - 1500	Tea break
1500 - 1700	Group sprayer assembly and familiarization - (A. Cooper, IPPC)

August 23, Thursday

FIELD PRACTICAL

0830 - 1030	Classroom discussion of calibration and calculations - (A. Cooper, IPPC)
1030 - 1100	Tea break
1100 - 1230	Group field exercises
1230 - 1330	Lunch
1330 - 1700	Group field exercises

August 24, Friday

SAFETY, ENVIRONMENTAL CONSIDERATIONS

0830 - 0930	Problems and review from previous day's field exercises - (A. Cooper, IPPC)
0930 - 1000	Residues on crops and in the environment - (J. Jensen USAID)
1000 - 1030	Review of pesticide precautions - (A. Cooper, IPPC)
1030 - 1100	Tea break
1100 - 1200	Pest control on grain stored in homes - (discussion lead by B. Patel, Mt. Makulu)
1200 - 1230	Question and answer session
1230 - 1330	Lunch
1330 - 1430	Disassemble and clean equipment
1430 - 1500	Team break
1500 - 1530	Course evaluation
1530 - 1600	Official closing - (C. W. Lubasi, MAWD)



*A group of workshop participants and instructors found a moment during a busy schedule to record this photo.*



## PARTICIPANTS

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### Acronyms:

MAWD - Ministry of Agriculture and Water Development

UNZA - University of Zambia

NAMBoard - National Agricultural Marketing Board

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## INSTRUCTORS

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- R. Dedert, Research Liaison Extension Officer, ZAMARE  
Project, Kabwe
- J. Jensen, Regional Pesticide Advisor/USAID-Lusaka
- A. Cooper, Agronomist, IPPC, Oregon State University,  
Corvallis, Oregon



*Working together,  
participant  
groups carried  
out knapsack  
sprayer  
calibration.*

## **MATERIALS PROVIDED**

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A. One each of the following materials was distributed to each participant:

1. Oudejans, Jan H. *Agro-pesticides: Their Management and Application*. 1982, UN, ESCAP, Bangkok, Thailand
2. Fraser, F. and L. Burrill. *Knapsack Sprayers: Use, Maintenance, Accessories*. 1979, IPPC, Oregon State University
3. *Guidelines for the Safe and Effective use of Pesticides*. 1983, GIFAP, Brussels, Belgium
4. Sample issue of INFOLETTER, IPPC, Oregon State University
5. *Diagnosis and Treatment of Pesticide Poisoning for Clinicians* (pamphlet), Office of Environmental Affairs, World Bank
6. List of available IPPC papers and publications

7. Six-page illustrated handout on pesticide misuse, storage, formulations and LD<sub>50</sub>'s. Extracted from: Davies, John E. et.al., An Agromedical Approach to Pesticide Management: Some Health and Environmental Considerations. 1982. USAID/CICP/U. of Florida, and Granovsky, T.A. et.al., Training Program for Pesticide Users - Trainers Manual. 1982, USAID/CICP
8. Three-page handout on sprayer calibration and pesticide calculation extracted from: Instructors Manual for Weed Management (draft), IPPC/FAO
9. Three-page handout titled Pesticides in the Environment
10. Two-page handout titled Pesticide Labeling
11. Copies of several pesticide labels
12. Solar calculator
13. Pen, pencil, and writing tablet

B. Copies of the following materials were distributed in limited numbers to key participants:

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1. Pesticide safety poster, Office of Environmental Affairs, World Bank
2. Guidelines for the Safe and Effective Use of Pesticides, poster, GIFAP
3. Davies, John E. et.al., An Agromedical Approach to Pesticide Management: Some Health and Environmental Considerations. 1982, USAID/CICP/U. of Florida
4. Formulation of Pesticides in Developing Countries. 1983, UN, New York
5. Miscellaneous safety and application equipment and supplies

C. Additional materials

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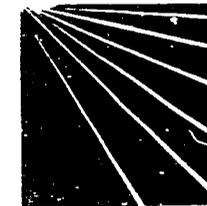
Shell distributed a handout titled "Chemicals Available in Zambia" to each participant.

It is hereby certified that

.....  
having satisfactorily participated in the

**PESTICIDE HANDLING AND  
APPLICATION WORKSHOP**

conducted at the Natural Resource Development College  
Lusaka, Zambia  
August 22 through 24, 1984,  
is duly awarded this



**CERTIFICATE OF  
ACHIEVEMENT**

.....  
**B. Chivunda**  
Ministry of  
Agriculture and  
Water Development

.....  
**J. Jensen**  
U.S. Agency for  
International  
Development

.....  
**A. Cooper**  
International Plant  
Protection Center/  
Consortium for  
International Crop Protection

## ACKNOWLEDGEMENTS

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- + Spraying equipment used during the workshop was provided by Shell Chemicals (Zambia) Ltd.
- + Local support for the workshop was provided through the ZAMARE Project.
- + Guest speakers included Mr. Steven Mwansa, Shell Chemicals (Zambia) Ltd., and Dr. B. Patel, Mt. Makulu Research Station, Chilanga.