

# RESPONSIBLE PESTICIDE USE

[MODULE 1 - BACKGROUND...](#)[MODULE 2 - APPROACH...](#)[MODULE 3 - PROMOTION](#)[RESOURCES](#)

## Responsible Pesticide Use

### Introduction

The vast majority of farmers perceive crop protection chemicals to be key weapons in their efforts to protect their crops. It is therefore critically important that they, and the farmers they serve, know if and when they should be used and how to use them responsibly. They also need to be aware of the health and environmental risks associated with improper use and know how to minimize these risks. This course is designed to give agricultural professionals a broad understanding of responsible pesticide use and also to serve as a comprehensive reference on the topic. It will also introduce suggested approaches and examples of activities that might be used to promote more responsible pesticide use by farmers.

### Course Objectives

The Responsible Pesticide Use course is designed to improve participants' knowledge and skills related to using pesticides. With the knowledge gained in this course, agricultural professionals will develop a better understanding of:

- The basic concepts underlying responsible pesticide use and the implications of the major International Code governing pesticides;
- The 7 rules of responsible pesticide use; and
- How to design change programs to influence farmers' behavior when using pesticides.

### Target Audience

This course is designed to improve knowledge of the principles and practices associated with responsible pesticide use and its promotion. It is expected that participants will have some responsibilities for working with farmers and are in a position to advise them on pesticide use.

### Modules & Downloads

The Responsible Pesticide Use course is comprised of three modules:

- [Module 1 - Background Concepts](#)
- [Module 2 - A Basic Approach to the Responsible Use of Pesticides](#)
- [Module 3 - Promoting Responsible Use Among Farmer Communities](#)


In addition, there are a number of supporting documents available as Adobe PDF files:

- [Hazard Classes](#)
- [Pictograms](#)
- [Personal Protection](#)
- [Pest Application Methods](#)
- [First Aid Treatments](#)
- [Protection According to Task](#)
- [Protection of Other People](#)
- [Protection of other Organisms and the Environment](#)



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[Home](#) - [Responsible Pesticide Use](#) - [Introduction to IPM](#) - [Cotton IPM](#) - [Rice IPM](#) - [Vegetable IPM](#) - [Soil Fertility Management](#) - [Contact Us](#)

# RESPONSIBLE PESTICIDE USE

## Module 2: A Basic Approach to the Responsible Use of Pesticides

### Responsible Pesticide Use

#### Module 2: A Basic Approach to Responsible Use of Pesticides

##### Module overview

Welcome to Module 2. In the previous lessons we hope you learned something about the kinds of risks posed by pesticides and the main international initiative designed to address these problems. In this module we would like to give you an idea of a basic approach to minimizing the risks we talked about. In the lessons included in this Module we will cover the following 7 basic responsible use rules:

1. Apply Integrated Pest Management principles as the first choice.
2. Read, understand and obey the pesticide label.
3. Only use pesticides for which the proper Personal Protective Equipment is available and use them properly.
4. Handle, mix and apply according to label instructions.
5. Know poisoning symptoms and first aid procedures.
6. Observe recommended Withholding Periods to ensure that harvested crops meet Maximum Residue Levels.
7. Follow recommendations when transporting, storing, disposing of pesticides and cleaning up pesticide spills.

##### Rule 1: Apply Integrated Pest Management Principles as the First Choice

Integrated Pest Management, or IPM, is characterized by management of pests rather than their control. It is a way to keep pest densities below the level where they 'eat' into farmer profits. IPM practitioners use a holistic approach to managing pests, integrating methods and ideas from a broad range of disciplines into a comprehensive program. Agricultural professionals and farmers who understand and use IPM have a powerful tool at their disposal. A definition that we like and use in our agLearn program is as follows:

"IPM is a set of management activities that farmers implement to maintain the intensity of potential pests at levels below which they become pests, without endangering the productivity and profitability of the farming system as a whole, the health of the farm family and its livestock, and the quality of the adjacent and downstream environments." (John Wightman, 1998)

One of the most fundamental premises of IPM is also one of the most important concepts of responsible use. This is that every effort should first be made to prevent the need for pesticides and that they should only be used as a last resort. Prevention, preventing the occurrence of pest problems before they can cause economic damage or require an intervention, is by far the most preferred and most responsible tactic.

##### *Supplementary Readings:*

For additional information on Integrated Pest Management:

- [Integrated Pest Management](#)
- [The Fundamentals of Integrated Pest Management](#)

For additional information on health and environmental risk assessment:

- [Office of Environmental Health Hazard Assessment: Ecotoxicology - Risk Assessment Documents](#)
- [Office of Environmental Health Hazard Assessment \(OEHHA\) Web site for educators and students!](#)
- [Risk Assessment Methodology](#)
- [Adverse Health Risks](#)

##### Rule 2: Read, Understand and Obey the Pesticide Label

By law in most countries, all pesticides sold must have a label and users must read and obey it. In most countries, for example, it is illegal to use a pesticide on a crop unless the crop is listed on the label. It is also illegal to exceed the given rate of application on the label. Reading and understanding the label should be your starting point for responsible use once a decision has been made to use a pesticide as a control tactic.

The label should give you all the information you need for observing the remaining rules of responsible use. It will tell you how dangerous (risky) the chemical is by [hazard classes](#) (PDF 68K). It will give you some idea of what personal protective equipment you should use (precautionary statements), often through the use of [pictograms](#). It will provide information on handling, mixing, and application including recommended equipment. It should tell you the last date before harvest that it is safe to apply the chemical. It will give you advice on what to do if the chemical is accidentally swallowed or spilled.

Below are links to some recommended articles that you can read to increase your knowledge of pesticide labels.

#### *Supplementary Readings:*

- [Read the Label First!](#)
- [Interactive Label](#)
- [The Pesticide Label, Part 1](#)
- [The Pesticide Label, Part 2](#)
- [Pesticide Labeling](#)
- [Understanding Pesticide Labels](#)

#### *Additional Information:*

For additional and more complete information on all registered pesticides (including labels):

- [CDMS](#)
- [Pesticide Information Profiles \(PIPs\)](#)

### **Rule 3: Only Use Pesticides for which the Proper Personal Protective Equipment is Available and Use them Properly**

In the lesson on health risks of pesticides we presented a simple formula - **Risk = Toxicity x Exposure**. This relationship tells us that one way to decrease health risks is to reduce exposure to chemical pesticides. Avoiding exposure is the primary function of Personal Protective Equipment (PPE).

Choosing the proper PPE for any activity involving pesticides starts with reading the label. By law, all legally registered pesticides must tell the user if and what PPE's should be used. This information is usually in the form of **Precautions** statements on the label and many manufacturers also use [pictograms](#) (PDF 142K) to tell users what PPEs should be used when using their products.

There are 2 critical rules associated with PPE's. One is that if the required PPE's are not available for a particular product, or if they cannot be used for various reasons (e.g. too hot, too expensive, etc.), then the pesticide in question should not be used. The second is that if PPE's are available and appropriate then they should be used correctly.

A considerable amount of information on the proper use of Personal Protective Equipment (PPE) has been developed, collected and published by several organizations.

[Personal Protection](#) (PDF 260K 11pp.)

You are also encouraged to read the documents linked below.

#### *Supplementary Reading:*

- [Personal Protective Equipment](#)
- [Protective Clothing and Equipment](#)

### **Rule 4: Handle, Mix and Apply According to Label Instructions**

Handling is any activity that involves exposure to a pesticide. This includes mixing, transporting, storing, disposing, applying, or working on pesticide equipment. Of course, the primary concern when handling pesticides is for personal safety and there are a number of safety steps that any handler should make whenever pesticides are handled. Beyond these safety steps, a handler should minimize environmental risks by analyzing the situation and making informed decisions before applying any pesticide. Some of these decisions include what pesticide to use, what formulation of a particular pesticide is best, what application procedure will give the best result with the least risk, what is the best time to apply and how much

pesticide is needed. Responsible use involves selecting the least toxic and least persistent pesticide that will give the desired result. It also involves following all label recommendations when mixing, loading or applying any pesticide.

A key handling concern is the selection of the most appropriate application equipment. When equipment is selected the user should consider the type of pest, the pesticide that needs to be applied and the recommended method of application. Additional considerations are the size and type of area to be treated. Proper maintenance of application equipment is important because the applicator wants to be sure to apply only as much as is necessary and only put it where it will achieve the desired effect. Applying too little is a waste of the product, puts pesticide into the environment unnecessarily and can accelerate the development of pest resistance. Applying too much raises costs and increases risks. Applying pesticides outside the target area is again an uneconomical waste of product and poses unnecessary risks.

When you are thinking about pesticide application it might be helpful to remember the **"Three E's"** of application. These state that application needs to be:

- Effective
- Economical, and
- Environmentally friendly.

For more information on pesticide application you might want to click refer to the following tutorial:

[Choice of Pesticide and Application Methods \(PDF 257K\)](#)

Below are also a number of supplementary readings for additional information on responsible pesticide handling.

*Supplementary Reading:*

- [Pesticide Handling Decisions](#)
- [Mixing, Loading and Application](#)
- [Application Equipment \(PDF\)](#)
- [Applying the Correct Amount](#)
- [Drift of Pesticides \(PDF\) -](#)  
<http://www.ridgetownc.on.ca/oep/On-Line%20Tool/pdfGPSC/24-Drift.PDF>
- [OMAFRA Sprayer Calibration Calculator -](#)  
<http://www.gov.on.ca/OMAFRA/english/crops/sprayer/ep75.htm#instruct1>
- [Calibration of Application Equipment \(PDF\) -](#)  
<http://www.ridgetownc.on.ca/oep/On-Line%20Tool/pdfGPSC/23-Calibration.PDF>
- [Applying the Right Amount of Pesticide - \(PDF\) -](#)  
<http://www.ridgetownc.on.ca/oep/On-Line%20Tool/pdfGPSC/25-Applying.PDF>
- [Application Equipment and Calibration](#)
- [FAO Guidelines on standards for agricultural pesticide application equipment and related test procedures, Volume 1: Portable \(Operator-carried\) sprayers](#)
- [FAO Guidelines on standards for agricultural pesticide application equipment and related test procedures, Volume 2: Vehicle mounted and trailed sprayers](#)

## **Rule 5: Know Pesticide Poisoning Symptoms and First Aid**

As mentioned earlier, most pesticides are applied in order to kill, harm or repel a pest. As many pests have biological functions similar to humans it is not surprising that many chemical pesticides can also adversely affect humans. Of course, the most important thing to remember when dealing with pesticides is that prevention is the best protection and all efforts should be made to avoid exposure in the first place. To prevent accidental exposure you should:

- read the label before you use any pesticide
- follow all label directions
- keep all pesticides out of reach of children and animals
- store pesticides safely in a locked area
- dispose of unused pesticides properly
- keep pesticides in original containers with labels intact
- make sure the labels can be read
- never re-use pesticide containers for food or drink
- wear all the personal protective equipment the label suggests
- destroy any food (or other items) you suspect may have been contaminated by pesticides
- do not eat, drink or smoke when using pesticides
- provide good ventilation when using pesticides

We all know, however, that accidents happen - no matter how careful we are. People who use

or work around pesticides, or people like participants in this class who are working with farmers who are using pesticides, must therefore be familiar with the signs and symptoms of poisoning and know appropriate first aid procedures that should be applied while waiting for medical help. First Aid information is generally printed on the pesticide label.

To learn more about pesticide poisoning and first aid you might want to click through the agLearn tutorial [First Aid Treatment of Pesticide Poisoning](#) (PDF 176K 12pp.)

Some other good sources of information on these topics can be found in the supplementary articles.

*Supplementary Readings:*

- [Harmful Effects and Emergency Response](#)
- [Pesticide Poisonings \(PDF\)](#)
- [First Aid \(PDF\)](#)

### **Rule 6: Observe Good Agricultural Practice Including Recommended Withholding Periods to Ensure that Harvested Crops Meet Maximum Residue Levels**

One of the primary regulatory responses to promoting responsible pesticide use has been to establish maximum residue levels (MRLs). Any agricultural product with residue levels above this limit may not be sold or traded. This mechanism helps to ensure that products are used according to the label and minimize environmental and health risks. MRL's are established as a part of the approval process for pesticides. Doing this involves performing trials to determine what levels of residues are present at harvest when the product is used as directed (label instructions). The maximum residue level (MRL) found in these trials is usually incorporated into national food laws and produce with levels above the MRL is considered to be illegal and must be destroyed.

There are generally very large margins of safety between allowable exposure in the diet and levels of exposure which could cause health concerns. The reason for setting and enforcing MRLs is not so much to establish safety or health limits. They are primarily a mechanism used to make sure that pesticides are used responsibly and according to the label.

Because different countries grow different crops and face different pest pressures, there is great potential for countries to set MRLs to suit their own agronomic and economic needs and not those of their neighbors or their trading partners. This situation may result in trading conflicts unrelated to health or environmental concerns. To prevent such conflict an International Body created under the UN known as 'CODEX Alimentarius' was charged with setting international standards for food including chemical residues in food.

Participants interested in the recommendations of this body should visit the link below:

[FAO's CODEX ALIMENTARIUS: Pesticide Residues in Food](#)

Pesticide residue levels above the MRL may result from several practices: using a pesticide (or combinations of pesticides) not registered for the particular crop, over application of chemicals (never exceed the application rates or the total number of applications recommended on the label), or most commonly, chemicals applied too close to harvest time. In order for a grower to avoid having produce rejected, or in some cases even fined because of illegal residue levels, registration authorities have determined what are known as withholding periods. A withholding period is defined as the period of time that must elapse between the last application of a pesticide and:

- **harvesting of plants;**
- **grazing or cutting for stock food;**
- **consumption by a human or animal after post-harvest use.**

Most pesticide manufacturers include recommended withholding periods on the product label, generally under 'Directions for Use'.

### **Rule 7: Follow Label Recommendations when Transporting, Storing, Disposing of Pesticides and Cleaning Up Pesticide Spills**

Of course, the actual application of pesticides on the farm is only one activity where people need to observe responsible practices. Safety must also be a prime concern when transporting these products from the manufacturing site to the retailers and then on to the farm. After production, during their journey to users and upon reaching their final destination they will need to be safely stored. On many occasions pesticides, or their containers, will have to be disposed of in a manner that will cause the least impact to human health or the environment. Finally, accidental spills do occasionally happen that need proper attention.

Below are links to a number of documents that provide detailed information on all of these activities. Participants may also want to go through the following agLearn tutorials:

[Protection According to Task](#) (PDF 164K)

[Protection of Other People](#) (PDF 147K)

[Protection of Other Organisms and the Environment](#) (PDF 128K)

*Supplementary Readings:*

- [Transportation, Storage, Disposal, and Spill Cleanup](#)
- [How to Dispose of Pesticides and Pesticide Containers Safely](#)
- [Pesticide Spills](#)
- [Pesticide Fires](#)



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[Fertility Management](#) - [Contact Us](#)

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A key handling concern is the selection of the most appropriate application equipment. When equipment is selected the user should consider the type of pest, the pesticide that needs to be applied and the recommended method of application. Additional considerations are the size and type of area to be treated. Proper maintenance of application equipment is important because the applicator wants to be sure to apply only as much as is necessary and only put it

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- [Applying the Correct Amount](#)
- [Drift of Pesticides \(PDF\) -](#)  
<http://www.ridgetownc.on.ca/oep/On-Line%20Tool/pdfGPSC/24-Drift.PDF>
- [OMAFRA Sprayer Calibration Calculator -](#)  
<http://www.gov.on.ca/OMAFRA/english/crops/sprayer/ep75.htm#instruct1>
- [Calibration of Application Equipment \(PDF\) -](#)  
<http://www.ridgetownc.on.ca/oep/On-Line%20Tool/pdfGPSC/23-Calibration.PDF>
- [Applying the Right Amount of Pesticide - \(PDF\) -](#)  
<http://www.ridgetownc.on.ca/oep/On-Line%20Tool/pdfGPSC/25-Applying.PDF>
- [Application Equipment and Calibration](#)
- [FAO Guidelines on standards for agricultural pesticide application equipment and related test procedures, Volume 1: Portable \(Operator-carried\) sprayers](#)
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## **Rule 5: Know Pesticide Poisoning Symptoms and First Aid**

As mentioned earlier, most pesticides are applied in order to kill, harm or repel a pest. As many pests have biological functions similar to humans it is not surprising that many chemical pesticides can also adversely affect humans. Of course, the most important thing to remember when dealing with pesticides is that prevention is the best protection and all efforts should be made to avoid exposure in the first place. To prevent accidental exposure you should:

- read the label before you use any pesticide
- follow all label directions
- keep all pesticides out of reach of children and animals
- store pesticides safely in a locked area
- dispose of unused pesticides properly
- keep pesticides in original containers with labels intact
- make sure the labels can be read
- never re-use pesticide containers for food or drink
- wear all the personal protective equipment the label suggests
- destroy any food (or other items) you suspect may have been contaminated by pesticides
- do not eat, drink or smoke when using pesticides
- provide good ventilation when using pesticides

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## **Rule 6: Observe Good Agricultural Practice Including Recommended Withholding Periods to Ensure that Harvested Crops Meet Maximum Residue Levels**

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- harvesting of plants;
- grazing or cutting for stock food;
- consumption by a human or animal after post-harvest use.

Most pesticide manufacturers include recommended withholding periods on the product label, generally under 'Directions for Use'.

## **Rule 7: Follow Label Recommendations when Transporting, Storing, Disposing of Pesticides and Cleaning Up Pesticide Spills**

Of course, the actual application of pesticides on the farm is only one activity where people need to observe responsible practices. Safety must also be a prime concern when transporting these products from the manufacturing site to the retailers and then on to the farm. After production, during their journey to users and upon reaching their final destination they will need to be safely stored. On many occasions pesticides, or their containers, will have to be disposed of in a manner that will cause the least impact to human health or the environment. Finally, accidental spills do occasionally happen that need proper attention.

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*Supplementary Readings:*

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- [How to Dispose of Pesticides and Pesticide Containers Safely](#)
- [Pesticide Spills](#)
- [Pesticide Fires](#)

## Responsible Pesticide Use

### Module 3: Promoting Responsible Use Among Farming Communities

#### Module overview

It is important to have a thorough understanding of responsible pesticide use and associated practices. However, the value of this knowledge can be multiplied several fold if you also know how to effectively pass this information on to farmers and convince them to change their behavior. The concept of behavioral change is key. Many educational activities, even if they are successful in giving a target group the knowledge and skills required, must be judged as unsuccessful if behavior is not influenced. This is a particularly common concern when promoting responsible use. Farmers may know a certain activity is wrong or dangerous but continue to practice it.

In this final module we would like to give you some references, examples and ideas about designing change programs for farmers and let you think about how these principles might be applied.

We will start this module by giving you a suggested approach to designing a change program. In the promotion of responsible pesticide use, some of the most recent success stories have come from strategic extension campaigns and traditional Extension approaches. More and more, development professionals are looking at ways to use modern information and communication technologies (ICTs) to facilitate rural access to knowledge and information. Links to sites with information on these approaches will be provided.

#### Designing Change Programs

A change program is, "A series of sequentially planned learning opportunities to achieve an objective and that encompasses both content and method." The content is essentially the information you feel to be important for any particular target audience. Methods are techniques and mechanisms you use to deliver your content and bring about the desired change and include such activities as demonstrations, meetings, tours, contests, radio and TV shows and commercials, print media, etc.

Designing a change program involves a number of steps and generally includes:

1. **Specification of target group:** the planning process usually starts with a choice of target group. Safe use projects target diverse clientele including: primary and secondary school children, extension agents, farmers, retailers, development workers.
2. **Needs assessment and goal identification:** allows planning to be guided by client needs. Planners can use a variety of methods including:
  - o screening records and reports
  - o direct observation of behavior
  - o focus groups
  - o face-to-face interviews
  - o questionnaires.
3. **Developing a sound plan of action:** a plan that identifies the problem and states the means for addressing that problem. Specifies learning opportunities by content and method. A plan should include:
  - o A situational statement or rationale for the program -establishes the need for the program and sets the stage for specifying the program's objectives and activities.
  - o Purpose of the program - goal statement of what the program is intended to do.
  - o Description of current situation - practices, behaviors, and consequent conditions (use quantitative data, if available).
  - o Description of preferred situation - what the situation could or should be (use research findings, adoption theory, practical experience, or comparisons to identify the preferred situation).
  - o Significance of change - tells why the program is important and what difference the program will make if it achieves the preferred situation.
  - o Reasons for the gap between the current and preferred situation - why the need exists. Includes identifying other factors which influence the attribute or behavior of the target audience that your program is intended to change. These factors also can help you define the specific content of the educational program and the methods for delivering the information.
  - o Program logistics - the financial and time aspects of the program. Specifies format, schedules, staff needs, budget, and facilities.
4. **Identifying resources and constraints:** brings a planning effort into perspective and ensures that planning is performed with people-not for people. In addition, it ensures that everyone involved understands the dimensions of the effort. Materials and equipment.
5. **Determining objectives:** the process of analyzing the goal statement (step 2) and

breaking it into workable parts around which programs and activities are developed. Objectives describe the intended results/impacts on the targeted clientele and must be measurable.

6. Designing the program focuses on specifying the methods, instructional techniques, activities and schedule that will bring about the desired outcomes stated in the objectives.
7. Marketing the program: to ensure participation and to communicate what the program is all about. In marketing, consider the four P's: product, price, place and promotion.
8. Program implementation: activates the goal statement, the objectives, the methods, and the activities previously planned.
9. Evaluation can be used at any step in the pro-gram planning and implementation process. For example, evaluation can be used during needs assessment to develop a program or improve an existing program. Impact evaluation is used to determine if a program met the goals and objectives, identify program impact on individuals and communities, provide documentation for stakeholders, and meet account-ability requirements.

#### *Supplementary Readings:*

- [Program planning facts](#)
- [Program Development](#)

### **Strategic Extension Campaigns**

Strategic extension campaigns (SECs) use mass media convey research findings and recommendations in a simplified form in order to motivate attitude change. SECs have been shown to achieve rapid impact because they reach large numbers of farmers in an area all at once, including remote locations normally not visited by extension trainers.

#### *References on SECs*

- Strategic Extension Campaign: Increasing Cost-Effectiveness and Farmers' Participation in Applying Agricultural Technologies - <http://www.fao.org/sd/EXdirect/EXan0003.htm>
- Strategic extension campaign - A participatory-oriented method of agricultural extension- <http://www.fao.org/docrep/u8955e/u8955e00.htm#Contents>
- Getting farmers to adopt IPM principles <http://www.irri.org/publications/annual/ipm96.asp>

### **Traditional Extension Techniques**

Although the Training and Visit system of Extension has largely been discredited as an effective way to promote IPM, good ideas can be found by looking at some of the tried and true Extension methodologies developed over the years. Below are links to two excellent resource sites with extensive information on various Extension methods and Extension training.

- Improving agricultural extension. A reference manual - <http://www.fao.org/docrep/W5830E/W5830E00.htm>
- Guide to extension training - <http://www.fao.org/docrep/T0060E/T0060E00.htm>

### **Information and Communication Technologies**

A major problem rural populations have traditionally faced has been their inability to access needed information and knowledge. This has been the driving force behind both traditional Extension activities as well as the newer, more participatory approaches.

- But now, with the explosion of new information services, even remote areas in many developing countries are able to take advantage of global information sources. Information and Communication Technologies (ICTs) are, more and more proving their value in addressing the information and knowledge needs of rural people. While reaching farmers with these tools is still not widespread, they are being successfully used to deliver information to and from intermediary information providers such as universities, government offices, telecenters, NGOs and libraries.

### **Example Programs**

Before you go on to design your own change program you might want to take a bit of time to look at some other initiatives and what has been said about them. An excellent way to learn is from other's mistakes and successes. The two main examples we would like to highlight here are FAO's **Farmer Field School** approach and the **Safe Use Programs** sponsored and implemented by the Global Plant Sciences Industry. As you will see, both of these approaches have been shown to have strengths and weaknesses.

#### *FAO Farmer Field Schools*

The IPM Field School is a field based programme that provides learning experiences usually for groups of up to 25 farmers. This approach to promoting responsible use deals with the topic in the context of IPM and minimizing risks associated with the use of chemical insecticides – primarily by advocating that they are not used or used less often and in lesser amounts. The Field School lasts for a full cropping season and meets at least 12 times for about four to five hours per meeting. At each meeting, farmers are guided through several activities: agroecosystem field observation, analysis and presentations; special topics; and group dynamics. Participants are given the opportunity to observe and analyse the dynamics of the rice field ecology across a full season. Schools are based on the four IPM implementation principles previously discussed:

1. Grow a healthy crop.
2. Observe fields weekly.
3. Conserve natural enemies.
4. Farmers are IPM experts.

#### *CropLife International's Safe Use Projects*

The Global Plant Science Industry developed its safe use projects in response to its commitment to the FAO Code of Conduct for the Distribution and Use of Pesticides. Additionally, this industry has a firm commitment in promoting stable and sustainable agriculture throughout the world. Their Safe Use projects were piloted in 3 countries in collaboration with national and international organizations, government agencies, donors, aid agencies, NGOs etc.. Farmers are an active and integral part of these efforts.

The three Safe Use projects under this Initiative share some common objectives but each has its own goals to deal with the particular circumstances found in each of the project areas. The overall objectives of the projects are:

- To effect sustainable change in the culture of the people such that there is a significant and measurable improvement in meeting the latest international safety standards;
- To draw attention to the need for joint action by the public and private sectors;
- To act as pilot programmes to stimulate other organisations to develop similar initiatives in other regions/countries;

*A complete description of the projects can be found through the link below:*

- Safe Use -

<http://www.croplife.org/issue.aspx?issue=ba866cc7-dae7-4a59-862b-ca6051ccfetc&activity=a862b794-8571-4be5-ab0a-2ad7177d6985>

