

# METHODOLOGY

## Introduction:

Participatory Integrated Pest Management (IPM) training has been a proven success in helping farmers to adopt and implement innovative and sustainable pest control strategies in a number of programmes or actions.

The different leaflets can show how to manage participatory training during different stages, such as in-front trainings, inter-sessions or field visits.

The methodology section of the training guide is developed under three main themes:

- ▶ **Tactical training methods** to be used at a precise, relevant moment
- ▶ **Building tools** to help the trainer to be more interactive
- ▶ Specific **sessions** to be prepared.

### 1. Tactical training methods

During training, it can be useful to develop short periods using participative methodologies to allow farmers to share experiences and ideas.

The methods presented in the guide are intended to be used on different occasions (room training, field visits).

▶ If the goal is to provoke brainstorming by encouraging the participation of all the trainees:

- ▶ In small groups: use **Hum group**;
- ▶ Individually: Use **Post-it**;

▶ If the objective is to verify the key points of the training with trainees:

- ▶ From group sharing: use **Restitution**;
- ▶ From documents and field visits:

▶ And a need to identify the participants' knowledge at the beginning of the training: Use **Before and After**;

▶ Without identifying the participants' knowledge:

- ▶ Guiding the search for information: use **Info hunt**;
- ▶ Considering the important points: use **Highlight**

### **hierarchy**;

▶ If the goal is to maintain contact after the training or between two sessions, use **Follow up**.

### 2. Building tools

Some tools are useful to illustrate or to facilitate participatory training such as **card games**, **checklists** or **webquests** during a training session.

Appropriate **training assessment** is used to evaluate the achievements of a training session in terms of results and impact.

### 3. Preparation of sessions

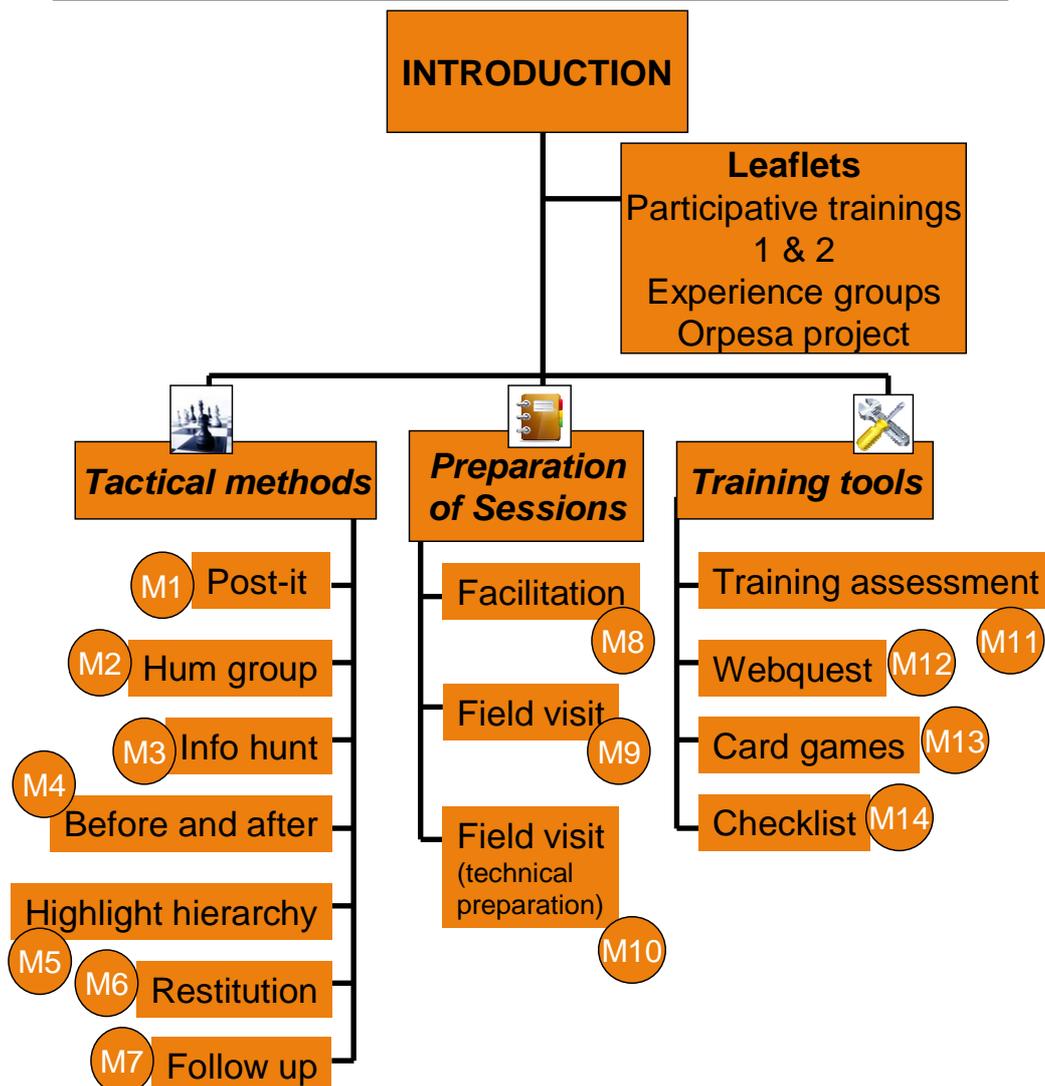
**Field visits** must be a special occasion for both farmers and technicians to view new technological developments and their results, but also to be a moment where experiences can be exchanged between researchers, technicians and farmers.

The **technical preparation** of these visits is very important (experiments, posters, documents) to ensure their value as a training tool is maximised.

In some cases, especially where the interests of participants differ, **facilitation** can be a particularly suitable method for a training session, to avoid conflicts and to help develop common ideas.



# Methodology section



<b>METHODOLOGY</b>  <b>M 1</b>	<h1>POST-IT</h1>
	<b>Tactical methods</b>

Date (05/05/2010)

<b>WHAT IS?</b>	<p>The 'post-it' method is an individual brainstorming device which allows you to take stock of previous experiences or opinions on a current topic. It is a variant of 'hum groups' (collective brainstorming, see Methodology sheet) that takes place in these subgroups. The post-it method can be used with a group that is limited in number (<math>\leq 10</math>) when you want to gather individual opinions of the various participants.</p> <p>A post-it is a re-attachable piece of paper which easily can be moved around during a training phase.</p>
<b>WHY</b>	<p>This technique allows each participant to state his ideas (on the post-it) while remaining anonymous and to learn about all the individual opinions about an IPM topic before engaging in the discussion (see examples).</p> <p>The results of this phase can be used to produce lists, matrices or trees and answers to a specific question. You can place post-it methods at the beginning of a training phase to get a broad collection of ideas and thoughts from the participants.</p>
<b>HOW</b>	<p>The first phase is preliminary work where each individual notes ideas and thoughts in relation to the question (one idea per post-it). The post-its are then collected and a collective list is prepared by the facilitator of the group. The making of this list is segmented into three parts: the 'hum' (five to 10 minutes), feedback (five to 10 minutes) and discussion (10 to 15 minutes). During the return and the discussion you can group, sort or relate the different post-its. Discussion is a very important component because the group and you have to define the different components of the answer. At the end, the group has to make an agreed list of answers.</p>

<p><b>WHAT I NEED TO?</b></p>	<p>You need three spaces:</p> <ul style="list-style-type: none"> <li>▶ A working area where every participant can answer the question without being affected by other participants.</li> <li>▶ A flipchart or blackboard where you can put the post-its and move them around them.</li> <li>▶ A board where you can write the results of the discussion.</li> </ul> <p>The facilitator should prepare the initial question. It must be sufficiently precise to garner consistent responses from the individual participants. The facilitator can browse through the room to check that the answers are consistent over the issue.</p>
<p><b>EXAMPLES</b></p>	<p>These are examples of relevant questions in relation to IPM:</p> <ul style="list-style-type: none"> <li>▶ Give three main words to define IPM</li> <li>▶ Which techniques do you think are most important to IPM?</li> <li>▶ In which areas does IPM have the largest potential?</li> <li>▶ What is required to turn the current production form into IPM?</li> </ul>

<b>METHODOLOGY</b>  <b>M 2</b>	<h1>HUM GROUP</h1>
	<b>Tactical methods</b>

Date (25/05/2010)

<b>WHAT IS</b>	<p>The 'hum group' method is a collective brainstorming which makes it possible to take stock of previous experiences or opinions on a current topic.</p> <p>You can use this method if you want to get opinions about a special topic and to encourage participants in a sub-group to work together to produce a result.</p> <p>To use this method, you have to propose sub-groups with a leader in each group.</p>
<b>WHY</b>	<p>This technique:</p> <ul style="list-style-type: none"> <li>▶ Provides a common understanding of the current levels of knowledge within a group.</li> <li>▶ Ensures that all participants are allowed to present their opinions.</li> </ul>
<b>HOW</b>	<p>Use the complete group (if it's small) or propose sub-groups of four to five persons. The creation of sub-groups can be crucial; they must be free or oriented only according to the expertise of the participants (geographic origin, type of farm etc.).</p> <p>This method has three separate periods: the 'hum' (five to 10 minutes), the feedback (five minutes) and the discussion (20 to 30 minutes).</p> <p><b>1. HUM</b>        Put a carefully phrased question onto a flipchart.        Brief the participants to work in sub-groups.        Have each group produce a list of ideas; prompt those who need help.</p> <p><b>2. FEEDBACK</b>        Write on a flipchart one point from each group until you have a list of points covering all main opinions. No further opinions or comments can be presented during this period.</p> <p><b>3. DISCUSSION</b>        From the list of points, mentally select which are the most important.</p> <ul style="list-style-type: none"> <li>▶ Indicate a point and ask who suggested it. Start the discussion by asking: 'What made you say this?' 'Can you give me an example?'</li> <li>▶ Ask for other examples, or points of view. When the point has been explored sufficiently, summarise briefly.</li> </ul>

	<p>▶ Indicate the next point and repeat the process.          At the end of the discussion, link positively with what comes next.</p>
<b>WHAT I NEED</b>	<p>You need two main spaces:</p> <ul style="list-style-type: none"> <li>▶ A working area where each sub-group can discuss to produce an answer to the question without influence from other sub-groups.</li> <li>▶ A flipchart or blackboard where you can write the different ideas during the feedback and discussion phases.</li> </ul> <p>The facilitator should prepare the initial question. The facilitator can browse through the room to check that the answers are consistent over the issue.</p>
<b>EXAMPLES</b>	<p>These are examples of relevant questions in relation to IPM:</p> <ul style="list-style-type: none"> <li>▶ IPM techniques you tested on your farm? Key to success?</li> <li>▶ Best techniques to control special pests ?</li> <li>▶ Legal or technical constraints when you use pesticides ?</li> </ul>
<b>SOURCES</b>	<p>Rodwell J., 1994. Participative training skills. Gower, UK.</p>

<b>METHODOLOGY</b>  <b>M 3</b>	<h1>INFO HUNT</h1>
	<b>Tactical methods</b>

Date (13/08/2010)

<b>WHAT IS?</b>	<p>This method forces trainees to read and search through all of the material to hunt out the information to answer some key questions.</p> <p>So, info hunt is a good way of getting people to become familiar with a relatively large amount of written material.</p> <p>It is also useful for helping people remember key items of information.</p> <p>The questions are not designed to test learners' knowledge or memory but to help them to realise the scope and coverage of the information that is provided in the written material.</p> <p>The questions will appear in the same sequence as the information.</p>
<b>WHY</b>	<p>This method is useful because it promotes the reading of a relatively long document or several documents during a field visit. People have to read and search through all the written materials to hunt out the information needed to answer the questions</p>
<b>HOW</b>	<p>This activity is justified where there is an appropriate piece of written material that your learners need to become familiar with.</p> <p>For example, the written material is given to be read between two training sessions or presented during a field visit through posters. But it could also be presented using commentaries during the field visit.</p>
<b>WHAT I NEED</b>	<p>You have to prepare a sheet with a collection of different questions based on the topic which participants will read about in a document or will receive written or oral comments on during a field visit.</p> <p>The most effective types of question for this activity are a mixture of:</p> <ul style="list-style-type: none"> <li>▶ <b>True/false questions:</b> This type of question is produced by simply taking a statement from the text, and reproducing it as a true statement or changing it in order to make it false. Try to ensure that each statement represents an important piece of information and word it so that it is unequivocally true or false.</li> <li>▶ <b>Short answers:</b> This kind of question can be drafted</li> </ul>

	<p>in two main styles: accompanied by a box or by a sentence with a blank to fill-in.</p> <p>► <b>Multiple choice:</b> This kind of question consists of a 'stem', which is the question, with several alternative answers for people to choose from. One or several are correct answers. The incorrect answers should not be too obviously incorrect.</p>
<b>EXAMPLES</b>	<p>► <b>True/false questions</b></p> <p>Seeing the results during the visit, we can say that mechanical weed control has a better effectiveness than the thermic one on blackgrass.</p> <p><input type="checkbox"/> True                      <input type="checkbox"/> False</p> <p>► <b>Short answers</b></p> <p>How many alternative measures available on Oriental fruit moth did you see during the visit?</p> <div style="border: 1px solid black; width: 150px; height: 15px; margin: 5px 0;"></div> <p>There are _____ alternative measures available on Oriental fruit moth</p> <p>► <b>Multiple choice</b></p> <p>The following alternative measures are available to fight the Oriental fruit moth:</p> <p><input type="checkbox"/> 1. Natural beneficial insects</p> <p><input type="checkbox"/> 2. Introduced beneficial insects</p> <p><input type="checkbox"/> 3. Bt products</p> <p><input type="checkbox"/> 4. GMO peach trees</p> <p><input type="checkbox"/> 5. Mating disruption</p> <p><input type="checkbox"/> 6. Virus products</p>
<b>SOURCES</b>	<p>J. Rodwell: Activity-based training design - Gower editions</p>

<b>METHODOLOGY</b>  <b>M 4</b>	<h1>BEFORE AND AFTER</h1>
	<b>Tactical methods</b>

Date (11/07/2010)

<b>WHAT IS?</b>	<p>This method is a pre and post-testing element that can be used during a training session or a field visit and which will allow you to identify, and quantify if necessary, how much knowledge has been gained. If it is interesting for the participants, you can also present the pre and post-testing scores to the participants.</p> <p>This method works very well if the reading material is available:</p> <ul style="list-style-type: none"> <li>▶ Before and between two training sessions</li> <li>▶ During a field visit</li> </ul> <p>The first step (before) can be achieved during preparation of the training phase (session, visit) and the second step (after) is taken at the end of the training phase.</p>
<b>WHY</b>	<p>This method enables people's reading to be more focused and concentrated.</p> <p>The after reading, especially, tunes people in to find out whether or not their original answers were correct. It therefore avoids a common problem which is just skimming the content and reading with no real desire to identify any key points.</p> <p>This method also allows the expression of views and opinions on a particular subject to emerge (from the 'before' questions), enabling the trainer to appreciate some of the attitudes that may exist within the group.</p>
<b>HOW</b>	<p>You issue a sheet with written questions relating to a topic for which there is some associated reading material. The sheet is completed in small groups (with discussion and debate about the answers) or individually. The sheet is completed before reading the written material.</p> <p>You then issue the written material for people to read, after which they put it away or return it to the trainer</p> <p>People are then asked to answer the same questions after they have read the material.</p> <p>At the end, you can review the results, paying particular attention to any difference.</p>
<b>WHAT I NEED</b>	<p>You have to prepare a sheet with 3 columns:</p> <ul style="list-style-type: none"> <li>▶ One for the questions</li> <li>▶ One for the 'before' answers</li> <li>▶ One for the 'after' answers</li> </ul> <p>The number of questions will depend on the activity. The questions should be based on the key points of the training sessions or the field visit.</p>

<b>EXAMPLES</b>	In the first case, you can quickly answer with a mark, in the second case, you wait a more complete answer.		
	<b>1/ true / false basis questions</b>		
	<b>Before reading (true)</b>	<b>Topic and questions</b>	<b>After reading (true)</b>
		Blackgrass is resistant to glyphosate	
<b>SOURCES</b>	<b>2/ opinion questions</b>		
	<b>Question</b>	<b>"Before" answer</b>	<b>"After" answer (if different)</b>
	Do you think that Bt products have an efficacy on the Oriental peach moth?		
	J. Rodwell: Activity-based training design - Gower editions		

<b>METHODOLOGY</b>  <b>M 5</b>	<h1>HIGHLIGHT HIERARCHY</h1>
	<b>Tactical methods</b>

Date (12/07/2010)

<b>WHAT IS?</b>	<p>This method makes it possible for trainees to search for key elements in written material or during a field visit. This method is useful in the preparation of a session where you want participants to identify key elements. The strength of this method is it brings people together to compare results and ideas, and to reach a common consensus in the group.</p>
<b>WHY</b>	<p>A lot of written material contains many more words than the essentials and sometimes key pieces of information can be overlooked. This method is a straightforward way to ensure that readers become familiar with relevant written material, and are able to identify the most important elements.</p>
<b>HOW</b>	<p>First, you have to:</p> <ul style="list-style-type: none"> <li>▶ Distribute the written material before the session</li> <li>▶ Reserve time at the beginning of the session</li> <li>▶ Alternatively, a field visit can be envisaged and coupled with a reviewing session after the visit.</li> </ul> <p>The second part of this method is used to review the ideas and comments from the trainees.</p>
<b>WHAT I NEED</b>	<p>There is very little preparation required for this activity. Initially, you need written material that conveys some important items of information. You need:</p> <ul style="list-style-type: none"> <li>▶ A copy of the material for each participant</li> <li>▶ Markers, pens or pencils</li> <li>▶ A space with a flipchart.</li> </ul> <p>If you use this method during a field visit, <b>each poster should be printed on a paper.</b></p>
<b>EXAMPLES</b>	<p>The following are examples of themes for which this method could be relevant:</p> <ul style="list-style-type: none"> <li>▶ A leaflet on new techniques that you want to show to trainees</li> <li>▶ An extract of a technical study that you want to exploit during the training</li> <li>▶ An extract of legislative text from which you want to identify the main consequences during a session.</li> </ul>
<b>SOURCES</b>	<p>J. Rodwell: Activity-based training design, Gower, UK.</p>

<b>METHODOLOGY</b>  <b>M 6</b>	<h1>RESTITUTION</h1>
	<b>Tactical methods</b>

Date (05/05/2010)

<b>WHAT IS?</b>	<p>Having presented or discussed a subject in detail, it is often valuable to sum up the findings before continuing with another subject. Restitution is a method that can be used for this purpose. The method (10 to 15 minutes) is used at the end of each sub-session and may be combined with a general session to make a summary of the key points coming from the sub-sessions.</p>
<b>WHY</b>	<p>The method encourages participants to reflect upon the themes and subjects presented and discussed, and put them into a practical perspective. It should also encourage them to initiate individual action plans. Finally, it assesses the impact of the session on the participants: what messages have been most accepted during the training session by participants?</p>
<b>HOW</b>	<p>Restitution collects brief reviews from each participant without engaging in a new group discussion. It is divided into three phases: the 'debriefing' and 'solo' (five minutes each) and 'return' (five to 10 minutes).</p> <p>The debriefing by the facilitator summarises the key points which have evolved during the session and introduce an issue for the participants to evaluate. For example, each participant may be asked to list three IPM techniques discussed during the session that they would be willing to put into practice in the near future.</p> <p>The 'solo' phase allows each participant to choose and formulate his own key points.</p> <p>Finally, the 'return' allows the different key points to be shared between the participants.</p>
<b>WHAT I NEED</b>	<p>You have to prepare a sheet that you'll give to each participant at the beginning of the restitution session. This sheet will be used to write down the different key points of the session or sub-session and to note the participants' <b>engagements</b>.</p> <p>You can make a copy of this sheet, for a follow up meeting or training session, to remember the different <b>engagements</b> of each participant.</p> <p>You can use this during the inter session (see follow-up) when contacting participants to evaluate the level of their <b>engagements</b>.</p>
<b>SOURCES</b>	<p>Orpesa project leaflet</p>

<b>METHODOLOGY</b>  <b>M 7</b>	<h1 style="margin: 0;">FOLLOW UP</h1>
	<b>Tactical methods</b>

Date (15/06/2010)

<h2 style="margin: 0;">WHAT IS?</h2>	<p>It has been shown that training, particularly in IPM, without adequate follow-up will often have a limited effect. This method allows contact with participants to be continued after the initial exchanges.</p> <p><b>The objectives of follow-up techniques with trainees are to:</b></p> <ul style="list-style-type: none"> <li>▶ Help maintain and improve provider competence and confidence in performing thorough on-the-job training, support and guidance.</li> <li>▶ Reinforce knowledge and skills.</li> <li>▶ Identify and resolve problems or challenges that limit the application of the training content.</li> </ul> <p>The initial idea is to separate training into a minimum of three phases:</p> <ol style="list-style-type: none"> <li>1. First session: input and exchanges of experiences</li> <li>2. Field experience</li> <li>3. 'Follow-up'</li> </ol>
<h2 style="margin: 0;">WHY</h2>	<p>IPM training is an evolutionary process. Each participant learns at their own pace and to ensure that what is learned is being used, it is important to make steady state of the art <b>advancements of each</b>.</p> <p>In addition, it may be useful to use feedback to plan and schedule a new training session.</p>
<h2 style="margin: 0;">HOW</h2>	<p>This may take mainly two different forms:</p> <p><b>1. A 'feedback' session</b></p> <p>This session helps to:</p> <ul style="list-style-type: none"> <li>▶ Give an update on the progress of new experiences of IPM</li> <li>▶ Identify problems</li> <li>▶ Allows a group to be created for reflection and exchange</li> <li>▶ Exchange information between participants</li> <li>▶ Highlight the conditions for success</li> <li>▶ Use another form of training (for example, a field visit)</li> </ul> <p><b>2. A follow-up survey:</b></p> <p>With this tool, you can:</p> <ul style="list-style-type: none"> <li>▶ Circulate relevant new information</li> <li>▶ Make a summary of experiences</li> </ul> <p>However, it's more difficult to have a really active experience group <b>sharing their field tests</b>. This second solution is more of an informative tool and the first solution should be given priority if possible.</p>

<b>WHAT I NEED</b>	Highlight the value of 'follow up' early in the training. Choose one of the two forms. Justify the form and schedule the calendar with farmers.
<b>EXAMPLES</b>	Use follow-up: <ul style="list-style-type: none"><li>▶ In multi-session training: to facilitate the feedback session.</li><li>▶ If you want to organise a two-way flow of information between the participants: sending a survey and making a summary.</li></ul>

<b>METHODOLOGY</b>  <b>M 8</b>	<h1>FACILITATION</h1>
	<h2 style="color: #f4a460;">Preparation of session</h2>

Date (10/05/2010)

<h2>WHAT IS</h2>	<p>Essentially facilitation is a negotiation process to resolve differences which is conducted by an impartial party. Facilitation in agriculture is often used as a methodology that takes different views on a particular topic into account during the creation of a territory project or local action plan. When facilitating, the different points of view in a group, composed of different actors in the project, are perceived as more of an opportunity than a source of irritation. Participants have to open their minds and accept dialogue with people who do not usually participate in these groups (for example, local residents or users of the countryside). This approach allows projects to be improved but is difficult to manage.</p> <p>Facilitation is also a separate profession. There are several indicators of a good facilitator (for example, good organisational and time management skills, a feeling for psychology, sense of humour, etc.)</p> <p>The facilitator has to be able to:</p> <ul style="list-style-type: none"> <li>▶ Manage the whole meeting in participatory way</li> <li>▶ Manage conflicts</li> <li>▶ Lead the discussion in the appropriate direction</li> <li>▶ Involve all participants in the discussion</li> <li>▶ To focus on time (to ensure discussions are not too long)</li> </ul> <p>The facilitator is the key to the success of a meeting. However, the above skills can be enhanced through training and on-the-job experience.</p> <p>The ability of the facilitator to remain impartial is also crucial.</p>
<h2>WHY</h2>	<p>The objective of a facilitator is to allow easy coordination between interacting territory actors to agree on a common goal. The main objective could, for example, be to improve the water quality in a catchment area.</p> <p>The facilitator brings together the different actors and uses</p>

facilitation to highlight the different views and opinions among stakeholders. In some cases, facilitation may not be the most suitable method for negotiation (for example, if tensions have already grown among stakeholders). The following table indicates under which circumstances facilitation may be a valuable tool in territory management (for example, landscape management or area-wide pest management programmes using mating disruption):

		<b><i>The Project has an objective with territory management</i></b>	<b><i>The Project doesn't have</i></b>
Work context	Quiet without conflicts	<b>Very favourable</b> Use this favourable context. You have to adapt to the actors' questions to train you and to experiment new training techniques	<b>An opportunity</b> Don't hesitate to work with a specialist, making sure that the two approaches are supplementary OR Enlist the speciality work into your own approach (but you will probably need training)
	Tense, conflictual	<b>! Good luck !</b> Use facilitation to move the actors away from the areas where conflict occurs. Use this technique to help you to understand every actor's game, the conflict's causes and the levers	<b>!!! Danger !!!</b> Do not choose facilitation if you do not have long experience. You can search for an external trainer to play the role of facilitator of the debate (to release conflicts)

## HOW

The central objective is not to find a consensus but to facilitate the debate and the emergence of new ideas.

The facilitator is a helping hand to participants in building their point of view on a topic.

The facilitator has to organise the different points of view and to separate the description of the facts from their explanation and judgements about them. Training supports are very important to facilitate this. For instance, you have to choose the right time and right place to find a good ambiance to work between the participants. It is, for example, important to have the meeting before unsolvable conflicts are built.

<p><b>WHAT I NEED</b></p>	<p>This is a participatory method: you have to invest for true sharing of points of views without aggression or untruths.</p> <p>The method has to take into account the positions of strength: to associate, help to define and facilitate the cooperation.</p> <p>You have to define the problems and to search for solutions together.</p> <p>The choice of venues for facilitation is very important: some are good for strategic discussions and others for practical debate; the place will have to be not rigid and the design and the decoration influence the debate and its serenity; you have to have some supports (pictures, diagrams) to facilitate the sharing of points of view during the movement of participants to see the supports.</p>
<p><b>SOURCES</b></p>	<p>French website about agriculture and landscape (in French) : <a href="http://www.agriculture-et-paysage.fr/">http://www.agriculture-et-paysage.fr/</a></p>

<p><b>METHODOLOGY</b></p> <p>M 9</p>	<h1>FIELD VISIT</h1>
	<p>Preparation of session</p>

Date (26/03/2010)

<p><b>WHAT IS?</b></p>	<p>Field visits are a type of training where farmers and advisers can see new technical solutions and are valuable not only for the fact participants can learn about how to implement new solutions, but also through the discussions which can held during the visit. Demonstration trials and results can be ideal for launching these discussions, as can farmers' own experimental plots. In the latter case farmers set up a research field and employ different management options (farmers' practice versus new technology recommended by the adviser). Therefore, you need special methodologies to facilitate the sharing of experience between participants during field visits. The effectiveness of field visits can be increased if several visits are conducted during the season. The ideal is once or twice a month during the growing season.</p>
<p><b>WHY</b></p>	<p>Field visits are a special event where many people (farmers, advisers, consultants and other stakeholders) are present. This is the moment to pass on new messages and to begin a discussion with stakeholders or end-users about the advantages and how to overcome problems when employing new management options.</p> <p>With regular field visits, farmers have opportunity to follow the development of the plants, pests and diseases, and in general the effect of the tested management options.</p>
<p><b>HOW</b></p>	<p>We suggest a two-step process:</p> <ul style="list-style-type: none"> <li>▶ First, participants have to search for information during the field visit on posters, demonstration plots, a farmer's field etc.</li> <li>▶ Second, you ask participants to share their information and their own experiences or questions about technical solutions.</li> </ul> <p>To encourage participants to search for information, you can use different approaches :</p> <ol style="list-style-type: none"> <li>1. Introduction: explain the cultivation/growing/pest/disease problem.</li> <li>2. Field visit: to encourage participants to find/propose a solution, different approaches exist and we suggest the following (see Methodology sheets) :             <ul style="list-style-type: none"> <li>▶ <b>Info hunt:</b> participants search for information individually during the visit using a written questionnaire. At some point, participants exchange information.</li> <li>▶ <b>Before and after:</b> participants write their opinion about</li> </ul> </li> </ol>

	<p>some technical solutions before the visit or after the introduction. During the visit, they can change their opinion or hold on to their original opinion.</p> <p>► <b>Highlight hierarchy:</b> every participant writes key points they think the most important, <b>looking after different information given during the visit</b>. At a convenient point, you can review participants' key points and compile a list of the group's top five to 10.</p> <p>► <b>Agro-Ecosystem Analyses:</b> field observations on the agro-ecosystem (biotic factors such as plants, weeds, pests and diseases, and abiotic factors such as soil and weather, etc.) The goal of Agro-Ecosystem Analysis (AESAs) is to assess what type of action will be needed to best produce a profit for the farmer.</p> <p>3. Explanation: the theory behind the new approach, the rationale and leverages for change and problems which needed to be overcome.</p> <p>4. An indoor concluding session, evaluating the pros and cons of the new strategy or adaptations.</p>
<p><b>WHAT I NEED TO?</b></p>	<p>Prepare posters or documents giving information about technical solutions and how to implement them so participants can see and read information.</p> <p>► Prepare questionnaires, using one or more of the three methodologies (see methodology sheets)</p> <p>► Arrange discussion points during the visit. These discussions should not be one-way, but the point at which participants can share their experiences.</p>
<p><b>SOURCES</b></p>	<p>John Rodwell : Activity-based training design (Gower, UK, 2007)</p> <p>ENDURE: Training in Integrated Pest Management No.3</p>

<b>METHODOLOGY</b>  <b>M10</b>	<h1>FIELD VISIT</h1> <p>(Technical preparation)</p>
	<b>Preparation of session</b>

Date (08/07/2010)

<b>WHAT IS?</b>	<p>Field visits are a type of training whereby farmers and advisers can learn and gain experience about solutions to plant protection problems through discussions in the field. Farmers' fields can be the launching point for these discussions, as well as demonstrations and field experiments.</p>
<b>WHY</b>	<p>A well-prepared event will create the optimal forum for learning and discussing during a field visit.</p>
<b>HOW</b>	<p>Before planning the actual field visit, identify the kind of people who will attend the field visit, as different groups have different expectations:</p> <ul style="list-style-type: none"> <li>▶ Farmers: Will need concrete discussions on subjects in the field.</li> </ul> <p>Use, for example, <b>Experience groups</b> for farmers, as this creates an optimal environment for farmers to share knowledge and experiences (see case below).</p> <ul style="list-style-type: none"> <li>▶ Advisers: Will need advanced discussions among colleagues on relevant subjects.</li> </ul> <p>Advisers benefit from being put together in the field, where more specialised challenges can be discussed</p> <p>For both types of audience, it is important that most of the session takes place in the field, where the problems occur.</p> <p>As host of the event, you should establish what you want to show to the participants. As a rule of thumb, there are two options:</p> <ul style="list-style-type: none"> <li>▶ Farmers fields</li> <li>▶ Field experiments</li> </ul> <p>Often it is enough to spend time in farmers' fields, if they are suitably located.</p> <p><b>Case: grass weed management</b></p> <div style="border: 1px solid black; padding: 5px;"> <p>You are advising a group of farmers, who all have problems with grass weeds in their cereal dominated crop rotations. They ask you to help them learn more about grass weed management.</p> <p><b>Before the meeting:</b></p> </div>

	<p>Before the meeting, prepare a sheet on, for example, four dominant grass weed species, where you list the main biology and control measures. <a href="#">See an example from the Danish IPM homepage here.</a></p> <p><b>The meeting:</b></p> <p>At the meeting, start by introducing the four species and provide information about the sheet. Move then to one of the fields with grass weed problems and discuss both identification and management. In this case it is both relevant to discuss preventive measures (for example, crop rotation, stubble management, weed mapping etc.) and curative measures (for example, optimised herbicide use).</p> <p>Depending on the number of fields visited, this type of field visit should not take more than approximately two hours.</p> <p>By including the sheet as a tool in the field visit, it ensures farmers keep a reminder with them, about something new, something they did not know before. This is the key to a successful field visit.</p>
<b>WHAT I NEED</b>	<p>Before a field visit, the following should be in place:</p> <ul style="list-style-type: none"> <li>▶ Identify the target group</li> <li>▶ Decide on an appropriate technique for sharing the knowledge (see the sheet on <b>Preparation of session</b>)</li> <li>▶ Determine what should be the outcome of the meeting, what should the farmers/advisers know when they have attended the field visit?</li> <li>▶ Locate the right fields!</li> <li>▶ Decide if it is relevant to make/visit field experiments.</li> </ul>
<b>SOURCES</b>	<p>For further information on methodologies etc. download the other sheets and leaflets in the ENDURE IPM Training Guide.</p>

<b>METHODOLOGY</b>  <b>M11</b>	<h1>Training Assessment</h1>
	<b>Build tools</b>

Date (29/09/2010)

<b>WHAT IS...</b>	Training assessment is used to evaluate the achievements of a training session in terms of results and impact. Three tools are presented here.																																								
<b>WHY</b>	Each training session, as well as season-long training, has to be evaluated to see: <ul style="list-style-type: none"> <li>▶ If the goal of the training was reached</li> <li>▶ If the expectations of the participants were met</li> <li>▶ What was good, and what has to be improved, for the next training session or course</li> <li>▶ If season-long training has had an impact on farmers' knowledge</li> <li>▶ If season-long training has had an impact on farmers' practice.</li> </ul> Training assessments help trainers (advisers) and participants to get a clear picture of the achieved results.																																								
<b>HOW</b>	Assessment can done: <ul style="list-style-type: none"> <li>▶ In written form or by discussion</li> <li>▶ Personally or in sub-groups</li> <li>▶ In rigid form (tests) or in unbound form (discussions).</li> </ul> It can be interesting to give a written comment on the assessment result to the participants as, first, you maintain contact with them and, second, they can react to your comments and give more information.  Some possibilities for training assessments are: <ol style="list-style-type: none"> <li><b>1. Evaluation matrix</b></li> </ol> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 15%;">Good ☺</th> <th style="width: 15%;">Moderate ☹</th> <th style="width: 15%;">Need some improvement ☹</th> <th style="width: 25%;">Comments</th> </tr> </thead> <tbody> <tr> <td>Training contents</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Field visit</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Special topics</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Training method</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Participation</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Facilitation</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Etc.</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li><b>2. Checking expectations list</b>            Make a list of the expectations of the training session before the session begins. Check the list after training, to assess the effectiveness of the training.</li> <li><b>3. Written quiz</b></li> </ol>		Good ☺	Moderate ☹	Need some improvement ☹	Comments	Training contents					Field visit					Special topics					Training method					Participation					Facilitation					Etc.				
	Good ☺	Moderate ☹	Need some improvement ☹	Comments																																					
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	The impact of season-long training on farmers' knowledge can be assessed by 'before and after training tests'. Be careful not to make the tests too scientific.
<b>SOURCES</b>	Frederike Praasterink: A facilitator's field guide

<b>METHODOLOGY</b>  <b>M 12</b>	<h1>HOW TO MAKE A WEBQUEST?</h1>
	<b>Build tools</b>

Date (25/03/2010)

<h2>WHAT IS A WEBQUEST ?</h2>	<p>“A WebQuest is an inquiry-oriented activity in which some or all of the information that learners interact with comes from resources on the internet” (Dodge, 1995).</p> <ul style="list-style-type: none"> <li>▶ It can be as short as a single class period or as long as a month-long unit.</li> <li>▶ Usually involves group work, with a division of labour among students who take on specific roles or perspectives.</li> <li>▶ Is built around resources preselected by the teacher. Students spend their time <b>USING</b> information, not <b>LOOKING</b> for it.</li> </ul>
<h2>WHY</h2>	<p>WebQuests are tools that allow the students to:</p> <ul style="list-style-type: none"> <li>▶ Work in teams</li> <li>▶ Move through several information sources</li> <li>▶ Face increasingly complex problems, multidisciplinary approaches or different levels</li> <li>▶ Filter and verify from different sources of information.</li> </ul> <p>Using WebQuests we can help students to build a solid foundation that prepares them for learning, honouring multiple perspectives and evaluating information before acting on it.</p>
<h2>HOW</h2>	<p>Technologically, creating a WebQuest is very simple. If you can create a document with hyperlinks, you can create a WebQuest.</p> <p>A real WebQuest:</p> <ul style="list-style-type: none"> <li>▶ Is wrapped around a do-able and interesting task.</li> <li>▶ Does not require simply summarising, but processing the information. This includes synthesis, analysis, problem-solving, creativity and judgment.</li> <li>▶ Makes good use of the web. A WebQuest that is not based on resources from the web is just a traditional lesson.</li> <li>▶ Is not a research report or a step-by-step science or maths procedure. Having learners simply searching among websites and making a presentation about them is not enough.</li> <li>▶ Is not just a series of web-based experiences. Having learners follow mechanically some instructions does not require high-level thinking skills, and so is not a WebQuest.</li> </ul>

	<p><b>Webquest components</b></p> <ol style="list-style-type: none"> <li><b>1. Introduction.</b> Sets the stage and provides background information.</li> <li><b>2. Main task.</b> Do-able and interesting.</li> <li><b>3. Information sources.</b> Needed to complete the task. Many (though not necessarily all) of the resources are embedded in the WebQuest document itself as anchors pointing to information on the World Wide Web. Information sources might include web documents, experts available via e-mail or real-time conferencing, searchable databases on the net, and books and other documents physically available in the learner's setting.</li> <li><b>4. Description of the process.</b> Describes the process learners should go through in order to accomplish the task. The process should be broken down to clearly described steps.</li> <li><b>5. Guidance.</b> On how to organise the information acquired.</li> <li><b>6. Conclusion.</b> Brings closure to the quest, reminds the learners about what they have learnt and encourages them to extend the experience into other domains.</li> </ol> <p>Some non-critical attributes of a WebQuest include:</p> <ol style="list-style-type: none"> <li>1. WebQuests are most likely to be <b>group activities</b>, although one could imagine solo quests that might be applicable in distance education or library settings.</li> <li>2. WebQuests might be enhanced by wrapping <b>motivational elements</b> around the basic structure by giving the learners a role to play.</li> <li>3. WebQuests can be designed within a <b>single discipline</b> or they can be <b>interdisciplinary</b>.</li> <li>4. The best use of the WebQuest format is for topics that are less well-defined - tasks that invite creativity and problems with several possible solutions.</li> </ol>
<p>WHAT I NEED TO CREATE A WEBQUEST ?</p>	<p>Once designed and set up, a WebQuest is really just a web page in a particular format. A Web editor is the only specialised equipment needed to get started, and it is no harder to use than a word processor. In fact, most new word processors allow you to save your work in HTML form, which is the basic language for designing Web pages.</p> <p>Ordinarily, you will also need to have a <b>Web server</b> available to <b>post</b> your WebQuest. Some Web pages offers lots of pre-made templates for page design, and some content hints to help you build your own WebQuest.</p>

**SOURCES**

Dodge, B. 1995. "WebQuests: a technique for Internet-based learning". Distance Educator, 1, 2: 10-13.

<http://webquest.org/forum/index.php>

<http://www.thirteen.org/edonline/concept2class/webquests/index.html>

<http://webquest.org/>

**How to create a Webquest**

<http://projects.edtech.sandi.net/staffdev/webqmm/>

<p>METHODOLOGY</p> <p>M 13</p>	<h1>How to make an IPM card game</h1>
	<p>Build tools</p>

Date (25/01/2010)

<b>WHAT IS</b>	<p>An IPM card game is essentially <b>a tool</b> designed to introduce farmers, advisers or others to IPM and the theory behind it. The card game consists of two types of cards:</p> <ol style="list-style-type: none"> <li>1. Case cards, typically a crop protection issue/problem in the region</li> <li>2. Cards with potential solutions. Each solution card contains one of the <b>central IPM measures</b> (for example, crop rotation, decision support systems, weed maps, mechanical weed control etc.).</li> </ol> <p>The cases are examples of problems which are very hard or maybe even <b>impossible to control with chemicals</b>. An example could be the problems with <b>resistant Black grass</b> (<i>Alopecurus myosuroides</i>) in the UK. The more local the problems are, the more interest the participants will pay to the <b>solutions</b>.</p>
<b>WHY</b>	<p>Using the card game motivates participants to be more actively involved in the consideration and evaluation of <b>IPM-based crop protection</b>. Furthermore it opens up possibilities for the introduction of <b>new options</b> and the discussion of personal experiences.</p> <p>The card game is played by sub-groups of three to five. This motivates each group member to <b>actively participate</b> with their comments, personal experiences and other inputs to the discussions.</p>
<b>HOW</b>	<p>The game is played in 5 steps:</p> <ol style="list-style-type: none"> <li>1. Divide the participants in groups of three to five people</li> <li>2. Give each group a case and a set of solution cards</li> <li>3. Ask the groups to <b>identify, discuss</b> and <b>prioritise</b> the three solutions they believe are the best to solve the problem</li> <li>4. One participant from each sub-group summarises the solutions from the sub-group</li> <li>5. The course leader summarises the solutions of the sub-groups, generates discussion on the outcomes and gives <b>professional feedback</b> to the participants.</li> </ol> <p>It may be an advantage to give the same case to several groups, as <b>different solutions may emerge</b> and provide an interesting basis for discussion. Here is a minimised example of a case and a solution card:</p>

	 <p><b>Danish Agricultural Advisory Service</b></p> <p><b>Case:</b> "After 15 years of primarily winter wheat in the same fields, black grass (<i>Alopecurus myosuroides</i>) has become a big problem. The soil type is clay. What will you have to do to solve this problem?"</p> 	 <p>Danish Agricultural Advisory Service</p> <p><b>Solution:</b> <b>Crop rotation</b></p> <ul style="list-style-type: none"> <li>• Amount of spring crops</li> <li>• Amount of winter crops</li> <li>• Other crops?</li> </ul>  <p>Danish Agricultural Advisory Service</p>	
<p><b>SOURCES</b></p>	<p>Find more information about the game (including cards and cases) in the ENDURE Information Centre: Measures &gt; Training material: <a href="http://www.endureinformationcentre.eu">http://www.endureinformationcentre.eu</a></p>		

<p>METHODOLOGY</p> <p>M 14</p>	<h1>Checklists</h1>
	<p>Build tools</p>

Date (23/03/2010)

<p><b>WHAT IS</b></p>	<p>A checklist is a list of items to be checked or consulted. Checklists are used for a variety of purposes. Often they are used as a method to remember all parts of a complex task, by dividing the task into small steps. Checklists may also be used in a more active way, to inform and teach the reader/user about a pertinent subject. In relation to Integrated Pest Management (IPM), checklists may be used to inform farmers about what it takes to be an <b>'IPM-ready' farmer</b>. Farmers may also use it to define strategy, and self-evaluate their performance, strengths, and weaknesses.</p>
<p><b>WHY</b></p>	<p>IPM is still a confusing term to many people (not only farmers). Providing these people with very practical and <b>concrete examples</b> of the concept of IPM, will assist them in a better <b>understanding of IPM</b>.</p> <p>In many cases it is also a good exercise for the trainer to write down the <b>basics of IPM</b>, and what the implications are in-field or the on-farm reality for the individual farmer. It is certainly an advantage to split the check-list into crop specific IPM, as it allows more details to be included.</p>
<p><b>HOW</b></p>	<p>In collaboration with the ENDURE network, three checklists addressing IPM have been developed; one list for general IPM principles, one for IPM in winter cereals and one for IPM in winter oilseed rape. All three lists ask the simple question: 'How do you use IPM?'</p> <p>The checklist provides the reader with a number of <b>statements suitable for IPM farming</b>. The more statements that fit the current practice, the closer the farmer is to being an IPM farmer. The statements may of course not apply to all farmers across every European region, that's why it is essential that the trainer adapts the checklists to the local situation. A series of checklists may be prepared, from the very detailed ones, asking for example about the precise use of pesticides, or the preference and combination with non-chemical methods, to more general ones, asking for example about the degree of protection of biodiversity. The trainer may then focus on how a general principle may be accomplished while still satisfying the requirements of the detailed questions.</p> <p>The lists are especially appropriate for dissemination before</p>

and/or after a course in IPM. Below is an example of a checklist. All three checklists are available in the [ENDURE Information Centre](#) (see "sources").




### How do you use IPM in Cereals?

*(Put a X at the statements that best describes your current practice)*






- I have a varied crop rotation with winter and spring crops *(allowing me to depress winter annual weeds and keep harmful organisms at a low level)*
- I have made a "weed map" with registration of the dominating and problematic weeds in my fields
- In the autumn I use the information in the weed map to decide on herbicide and dose
- I use soil cultivation as a method to control harmful organisms *(e.g. stale seedbed, plough or delayed sowing)*
- I only use clean seeds with good vigour and no weed seeds
- Monitoring of weeds, pests and diseases is used, where relevant *(e.g. to decide pesticide & dose in the spring)*
- Pest and disease control is only performed if the rate of attack exceeds the scientific threshold
- I use varieties which have proven tolerant/resistant towards diseases
- Before harvest my weed map is updated, based on the survived weeds
- I use pesticides according to the need *(based on e.g. advisors, early warnings or decision support systems)*
- Resistance development is prevented *(e.g. by using pesticides with different modes of action in mixtures or sequence etc.)*
- I attend updating courses on weed, pest and disease identification during the winter time.

**The more X, the more you are IPM-ready!** 😊

Further information may be found online at [www.endure-network.eu](http://www.endure-network.eu)  
DAAS functions as a partner in European network termed ENDURE. The objective of this network is to restructure the European research and development on pesticide use and become a world leader in the development of durable pest control strategies.




## SOURCES

Find the checklists in the ENDURE Information Centre:  
measures > training material  
<http://www.endureinformationcentre.eu>