Overview on DG Environment project

“Development of guidance for establishing Integrated Pest Management (IPM) principles”

First meeting of the expert group on the Thematic Strategy on the sustainable use of pesticides

Brussels, 04 June 2009

BiPRO

Beratungsgesellschaft für integrierte Problemlösungen

JKI

Julius Kühn-Institut

Basic information

- Project start 17.07.2008
- Project duration: 9 months
- Final report available
- Draft guidance document available

Overall project objectives

- Development of general principles for IPM including possibilities of compliance monitoring as well as crop specific principles for IPM including the linkage to general IPM principles
  - check of already existing IPM material for general and crop specific principles
  - discussion on minimum and maximum approach
  - evaluation of the proposals made by the Council and the EP
  - distinction of IPM and GPPP
  - link between general and crop specific principles

- Preparation of a draft guidance document for establishing IPM principles

Reminder: General requirements related to IPM

1. Member States shall **take all necessary measures to promote low pesticide-input pest management**.
2. Member States **shall establish or support the establishment of necessary conditions for the implementation of Integrated Pest Management**.

→ reporting on these two issues in 2013 to EC

3. Member States shall describe in their National Action Plan referred to in Article 4 how they **ensure that the general principles of Integrated Pest Management as set out in Annex III are implemented by all professional users by 1 January 2014**.
4. Member States shall establish appropriate **incentives to encourage professional users to implement crop or sector specific guidelines for integrated pest management on a voluntary basis**.

Reminder: General IPM Principles

Annex III describes the general principles of Integrated Pest Management:

(1) Measures for prevention and/or suppression of harmful organisms
(2) Tools for monitoring
(3) Threshold values as basis for decision-making
(4) Non-chemical methods to be preferred
(5) Target-specificity and minimization of side effects
(6) Reduction of use to necessary levels
(7) Application of anti-resistance strategies
(8) Records, monitoring, documentation and check of success

EU definition of IPM

The new EU definition in Regulation concerning the placing of plant protection products on the market (2009) based on the new FAO definition provides an appropriate and recommendable definition:

"***Careful consideration*** *of* ***all available pest control techniques*** *and subsequent* ***integration of appropriate measures*** *that discourage the development of pest populations and keep plant protection products and other interventions to levels that are* ***economically justified*** *and* ***reduce or minimise risks to human health and the environment****. IPM emphasises the growth of a healthy crop with the least possible disruption to agro-ecosystems and encourages natural pest control mechanisms.*"

1

General IPM principles – Existing approaches

→ To check if additional principles should be added to the eight available principles or if some of them seem to be not necessary

- individual elements of all approaches have been identified
- subsequently elements have been linked to the eight general IPM principles
- it has been checked if elements are covered already by different articles in legislation

1

Results - Existing approaches

Nearly 30 additional elements could be identified mentioned in the IPM material of international organisations and EU Member States

- Several of these elements are covered correspondingly by principles of the Common Position
- Several elements are considered within other general articles of the Framework Directive

1

Results - Existing approaches

A comparison of the eight general principles and other concepts showed:

- IPM is addressed in different ways - most identified elements are not directly related to IPM

•The agreement reached by EP and the Council focuses on principles to be applied by the professional user, i. e. farmer and crop grower

→ defined to-dos for the user

•IPM concepts of other organisations and Member States also include several principles referring more to the national or political level, e. g. Regulative political framework conditions → These principles do not address the user directly but the policy maker and are not directly linked to IPM

1

Existing approaches – link to general principles

A comparison of the eight general principles and other concepts showed:

→ 8 principles cover major important aspects of IPM

→ Important additional point: IPM specific training (but not mandatory)

2

Minimum and maximum requirements for IPM

→ To see what is necessary at a minimal level to call a framework IPM and what can be regarded as maximum approach

- With the eight general principles all necessary elements related to IPM are covered
- It is not efficient to apply individual elements without considering the others

→ The minimum requirements are covered with the eight general principles

- Additional requirements to make principles operational are necessary
- Such additional requirements can range from a basic scenario to an extended scenario

→ The way how such additional requirements are addressed can lead to a maximum approach

3

Additional aspects raised by experts

Even if not addressed in the IPM related legislation there are several aspects which are important for Commission Services and which have been stressed by several Member States experts namely that it is of importance to:

•carry out **continuous training activities** for professional users
•have **funds for advisers**, both qualified and independent, available
•raise **awareness for IPM at Community level**; marketing must be promoted in order to **increase the value of IPM products**; information regarding the advantages and benefits obtained by IPM programs for the environment, farmers and consumers must be provided to customers.
•**carry out and support research in this field**, funds for research and experimentation must be made available
•have **sufficient personnel ava**ilable in the countries to enable effective IPM
•have **funds for monitoring, forecasting and warning** available
•find way to guarantee **funds for farmers adopting IPM** measures

4 Evaluation of the pros and cons of the proposed principles

→ To have a closer look on the 8 principles and to check them on several necessary criteria

The eight general principles have been evaluated on the basis of seven specific criteria:

(A)Usability

(B)Feasibility

(C) Efficiency

(D) Implementability

(E) Acceptance

(F) Cost/benefit ratio (economic justifiability)

(G) Enforceability

All principles are appraised with regard to each criterion as:

0 = criterion not fulfilled; 1 = criterion only partly fulfilled; 2 = criterion fulfilled

→ Evaluation has been performed for two points of views – national authorities and professional users.

4

Results of evaluation

- None of the principles currently proposed is expected to fail for the criteria
- In some cases, however, a complete fulfilment seems not to be expected

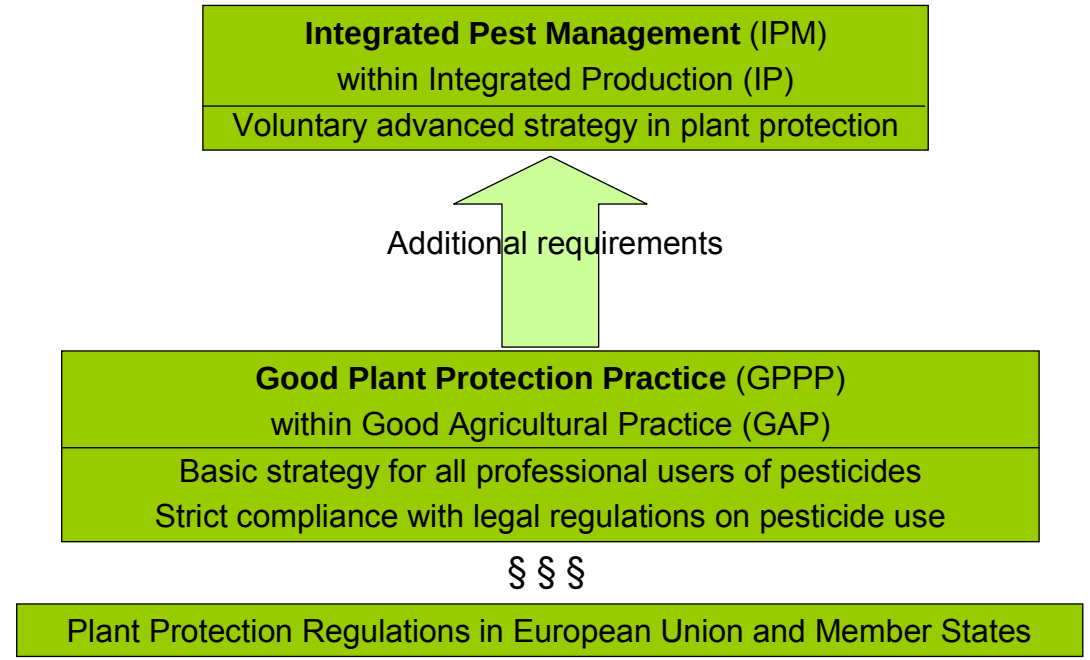
Aspects which seems problematic from the point of view of a professional user	Aspects which seems problematic from the point of view of a national authority
Implementability	Feasibility
Acceptance	Implementability
Cost benefit ratio	Controllability

MS can help to overcome these critical points

MS are in a position to overcome these critical points

5

Distinction between IPM and GPPP



Source: JKI

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Crop specific IPM elements – selection of main crops

Criteria taken into consideration are

→ the quantitative relevance of the crops with respect to:

- Use of plant protection products, crop protection market
- Treatment index for pesticide application
- Volume of harvested production
- Area cultivated

→ a well balanced representation of:

- geographic distribution area of the European Union (North / South)
- Cereals, oilseeds, fruits, crop trees, vegetables and potatoes
- Crop rotation systems and individual crops
- Field growing and greenhouse growing

6

Selected main crops

Taking these criteria into account, the following main crops cultivated in Europe have been selected:

• Common wheat • Maize • Rapeseed	Typical crop rotation system of arable crops
• Potato	
• Tomato	Greenhouse growing with increasing importance (Spain, Netherlands) and field growing considered
• Vine	Perennial crops with high protection volume
• Apples	Most important crop of the category crop trees; historic prototype of IPM

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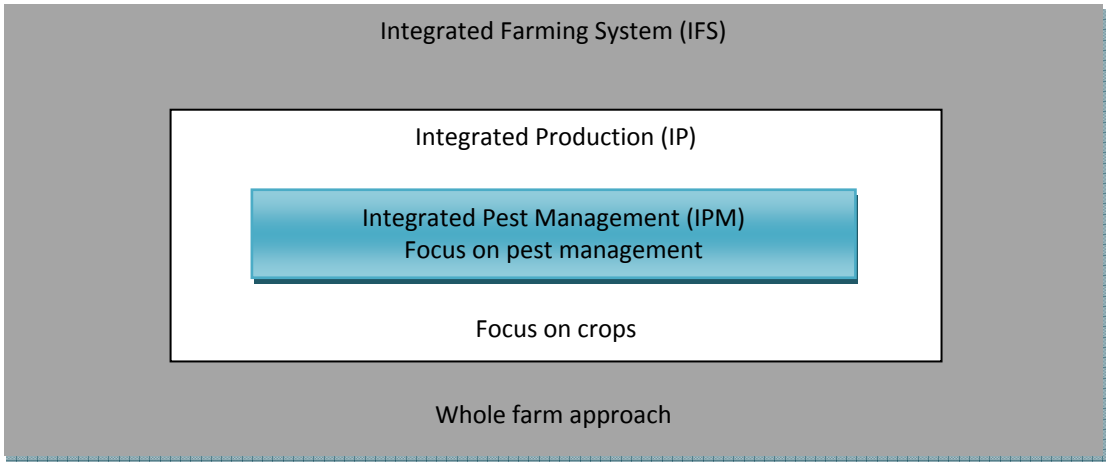
Existing crop specific guidelines

It has been recognised that crop specific guidelines are most often part of an Integrated Production approach of which IPM is one part.



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Link between general and crop specific elements

- Major parts addressed in crop specific guidelines are related to the eight general principles
- Only principle 8 “checking of success” and the element “hygiene measures” within principle 1 could not been identified in crop specific guidelines
- Additional elements in crop specific guidelines are not related to IPM but to Integrated Production (e.g. conditions for harvest, consideration to nutrition values, etc.)

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Link between general and crop specific elements

- The eight general principles are the basis and are mandatory.
- For each of the eight principles addition requirements will come up when they are translated into practise this means crop specific specifications will be necessary.
- There might be several possibilities available or even there will be changes over time in order to comply with the general principles.

→ Therefore, these additional requirements are necessary but they are not mandatory.

7

Structure of Draft Guidance Document

→ Addressed to MS authorities

1. Introduction
2. General IPM principles
   - What is IPM and what are the differences to GPPP?
   - What are the legal requirements related to IPM?
3. Compliance monitoring
4. Communication with professional users
5. Crop specific IPM principles
6. Annex 1 – Examples
7. Annex 2 – Communication to professional user
8. Annex 3 – Recommendation for crop specific guidelines

→ It was agreed to restrict the main part (chapter 1-5) to a volume of about 30 pages in order to keep it user friendly.

7

Draft Guidance Document – General IPM principle

For each of the eight principles the following aspects have been elaborated:

W[illegible]oes this principle mean?

W[illegible]ools need to be set up by MS before a professional user can apply the [illegible]ciple?

7

Draft Guidance Document – General IPM principle

Principle 1 – Measures for prevention and/or suppression of harmful organisms

Which tools need to be set up by MS before a professional user can apply the principles

- Define and provide clear **guidance related to best practise for the elements mentioned in this principle** e.g. information related to appropriate crop rotation.
- Guidance for all elements **at least related to the main crops** in country
- **Information should be accessible for all professional users** easily; therefore, e.g. a **web-based system** might be an appropriate solution. **Information offices or reference farms** can be also a tool to provide information. The same is valid for **newsletters or regular meetings**.
- For **minor plants**, which are not very common the possibility to involve an **external independent advisor** should be considered.

7

Draft Guidance Document – General IPM principle

Principle 2 – Tools for monitoring

Which tools need to be set up by MS before a professional user can apply the principles

- Precise **framework for monitoring activities** which can be used by professional user (when, how, who, etc.) → logical guidelines
- Information on **specific early warning systems supervised by national authorities** → what is monitored on a national level and what shall be monitored at farm level
- **Research activities** in order to keep track of changes over time and to improve e.g. warning systems

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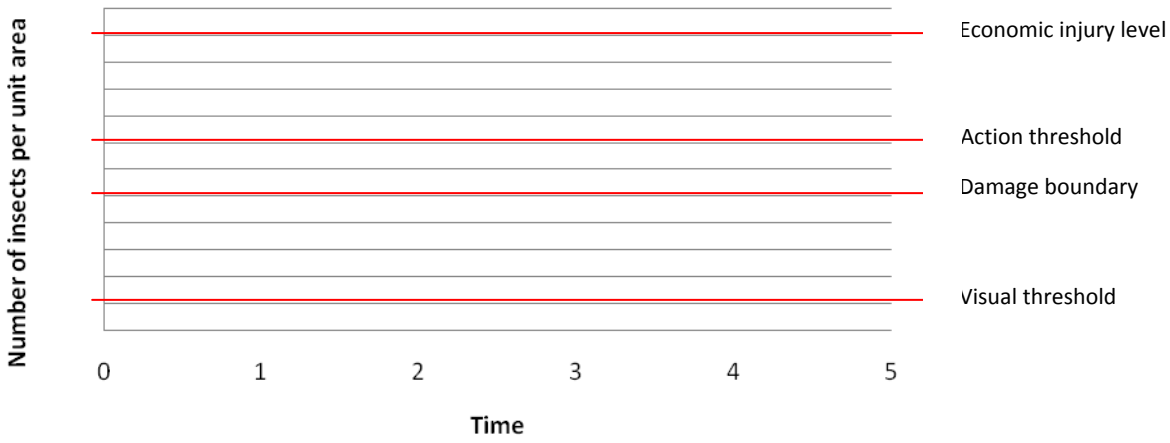
Draft Guidance Document – General IPM principle

Principle 3 – Threshold levels for decision making

Wh ols need to be set up by MS before a professional user can apply the pri

- Information on the **importance of the link of decision making and monitoring**
- Provision of **threshold levels** to be applied – different levels for different crops and pests



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Draft Guidance Document – General IPM principle

Principle 4 – Non-chemical methods to be preferred

Wh[illegible]ols need to be set up by MS before a professional user can apply the pri[illegible]

- Information on **appropriate non chemical methods**
- Information on **what "satisfactory" means** – it should be made clear that not a complete extinction of the pests should be achieved but a decrease below a specific threshold

7

Draft Guidance Document – General IPM principle

Principle 5 – Target-specificity and minimization of side effects

Wh ols need to be set up by MS before a professional user can apply the pri

- **Recommendation** for pesticide use
- Involvement of **advisory services**

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Draft Guidance Document – General IPM principle

Principle 6 – Reduction of use to necessary levels

Which tools need to be set up by MS before a professional user can apply the principle

- Information on **necessary minimum**
  - General recommendations showing exact figures for all crops and pests → any unforeseen difference like weather would not be regarded
  - Strengthening the position of independent advisors
  - Establishment of reference farms
- One possibility: Establishment and use of the **treatment frequency index** as indicator for pesticide use intensity. The necessary minimum can be determined as a target corridor around the average

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Draft Guidance Document – General IPM principle

Principle 7 – Application of anti-resistance strategies

Wh[illegible]ols need to be set up by MS before a professional user can apply the pri[illegible]

- Information on **known risks of resistance development** for specific plants and pests
- Information on **how to apply chemicals** in a way that resistance problems are kept to a low level
- **Recommendations for anti resistance strategies** ensuring alternatives to relevant pesticides with a different mode of action

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Draft Guidance Document – General IPM principle

Principle 8 – Records, monitoring, documentation and check of success

Wh ols need to be set up by MS before a professional user can apply the pri

- Information on **how to check the success** and **what does success mean**
- Information on **reporting format**

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Draft Guidance Document – General IPM principle

Which tools need to be set up by MS before a professional user can apply the principle?

Aspects which are important for all principles:

-Provision of recommendations and information material in an easily accessible way

-Information has to be as specific as possible for crops and pests

-Update and reconsider the provided guidance continuously (need for research)

-Strengthen the position of independent advisor where no information is/can be provided

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Draft Guidance Document – General IPM principle

Compliance monitoring

Role of a Member State:

- To encourage and promote compliance
- To inspect for compliance
- To respond to situations of non compliance

→ No fixed system for all MS

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Draft Guidance Document – General IPM principle

Compliance monitoring

Effectiveness of deterrence:

- the perception by the potential violators that they are likely to be detected;
- a quick response when non-compliance is detected; and
- penalties that encourage violators to change their behaviour.

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Draft Guidance Document – General IPM principle

Compliance monitoring

Possibilities:

- Compliance expected in case of support by independent advisor (responsibility shifted more towards advisory services)

Monitoring can focus on:

→ MS have to ensure that independent advisor and thus also the professional user comply with legal requirements

→ Evidence that a farmer is consulted by advisor

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Draft Guidance Document – General IPM principle

Compliance monitoring

Possibilities:

- Responsibility placed directly on the farmer

Monitoring can focus on:

→ Inspections and follow up visits
→ Surveillance inspections

→ Check if the framework of IPM is in place and if the farmer is aware of all requirements

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Draft Guidance Document – General IPM principle

Compliance monitoring

Penalties in case of non compliance:

→ It is important to have a transition period in which the focus should be on helping the professional user to improve his/her behaviour related to IPM (e.g. via education letters, obligatory training seminars).

7

Draft Guidance Document – General IPM principle

Compliance monitoring

Added value of compliance monitoring:

→ MS can collect a lot of data for statistical use which can be used for reporting back to the European Commission

7

Draft Guidance Document – General IPM principle

Communication to professional users

- For all principles the main elements are mentioned in the guidance document
- Some examples are given in the annex

Important parameters:

→ Professional user should easily have access to information

→ Information should be up to date, comprehensive and easily understandable

7

Crop specific IPM principles

- Difference to general principles is explained
- To Do's to bridge the gap are explained

TO DO's

- Recommendation for framework is provided

7 Crop specific IPM principles – recommendation for framework

Integrated and holistic approach and ensuring availability of necessary information

Within this aspect, the following aspects can be mentioned:

•Production according to a certified IPM guideline might be made mandatory for professional user

•The guideline must enable situational decisions in terms of IPM

•National/regional institutions provide IPM specific information, annual trainings and on-site advice; professional user has to be aware how to access the information

•The professional user is obliged to procure required information on IPM and to participate in continuous training activities

7 Crop specific IPM principles – recommendation for framework

Support and use of natural control mechanism (general principle 1)

Under this topic, elements can be compiled, like:

•Measures for protection and support of beneficial organism have to be considered

•Use of protecting strips to avoid contamination of other bordering environment

•Increase of biodiversity

Measures which prevent pest infestation (general principle 1)

The following should be addressed here:

•Use of appropriate crop rotations systems

•Use of balanced fertilisation, liming, irrigation/drainage

•Use of appropriate planting material

7 Crop specific IPM principles – recommendation for framework

Identification of infestation and application of decision making system (general principle 2-3)

Within this aspect, the following aspects can be mentioned:

- Use of appropriate monitoring system
- Application of threshold values

Application of non chemical and chemical pest prevention measures (general principle 4-7)

Under this topic, elements can be compiled, like:

- Preference to non chemical methods
- Application only of necessary doses
- Use of adequate pesticides considering hazardous properties
- Use of appropriate application techniques
- Handling and storage of pesticides

7 Crop specific IPM principles – recommendation for framework

Control of success and documentation (general principle 8)

The following should be addressed here:

- Check of success
- Documentation of monitoring results

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Summary of key messages

- the eight general principles cover all necessary aspects of IPM
- in order to make them operational MS have to provide manifold information
- such information has to be updated and reconsidered continuously
- therefore sufficient resources (man power / budgets) have to be available
- qualified advisory services or reference models are important
- crop specific guidelines consist to major parts of a concretisation of the eight general principles
- additional elements of crop specific guidelines are most often related to the framework “Integrated Production”
- training activities for professional user are highly recommended