

**EUROPEAN PARLIAMENT
INTERGROUP ON CLIMATE CHANGE,
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Redefining Integrated Pest Management
(Is it necessary?)

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IPM ACCORDING TO DIRECTIVE 2009/128/EC

1. Before any decision on pest control is taken, harmful organisms must be monitored with adequate methods and tools, where available; tools should include observations in the field as well as scientifically sound warning, forecasting and early diagnosis systems.
2. Crops may only be treated when and where the assessment has found that levels exceed set economic thresholds.
3. When economic thresholds are exceeded, agronomic solutions, mainly rotation, should be considered to prevent crop damage, as tillage timing, choice and changing of sowing dates, and crop rotation interfere with newly established pest populations.

IPM ACCORDING TO DIRECTIVE 2009/128/EC

4. When economic thresholds are exceeded and no agronomic solutions are available, biological control, physical treatment or another non-chemical pest control method should be considered as a replacement for chemical treatment.
5. When economic thresholds are exceeded and no agronomic solutions, biological controls, physical treatments or other non-chemical pest control methods are available, chemical treatments should be selected from options that pose the lowest risk to the environment and human health. It should be used so that the risk of pest resistance is minimised

WHAT INTEGRATED PRODUCTION (IP) IS?

Integrated Production

A complex of adequate farming practices including the optimal use of natural resources, the protection and augmentation of natural antagonists of pest organisms, the elimination of farm operations with negative impact on the agroecosystem. Rotation, multi-component landscape, soil health and suitable fertilization (e.g. no excessive fertilizer use and organic matter preservation), tillage practices ensuring good soil structure, etc. are key parts of the complex of adequate farming practices

WHAT IP IS?

Integrated Production

IP not only allows the production of healthy food but becomes a complex of preventive measures on the farm that reduces the need of pest control, due to:

- 1) higher tolerance of plants to harmful organism (good plant health);
- 2) a lower general pressure of pests because of an higher presence of pest antagonists.

IP AND IPM – IPM AND IP

INTEGRATED PEST MANAGEMENT directly concerns harmful organisms and may give the maximum benefits in the framework of IP and IP tools may be also IPM strategies

IPM exclude the prophylactic use of chemicals (while the prophylactic sustainable exploitation of natural resources through adequate farming practices of IP is a positive factor)

Monitoring and forecasting systems are the base to decide if a pest control is needed providing the necessary instruments for the decision (if and when direct plant protection has to be applied)

IP AND IPM – IPM AND IP

However, the use of non-chemical control options has priority and pesticides are used only as the last resort if other methods do not produce acceptable results

The Integrated approach means trying to get the best protection results also integrating all the sustainable tools/tactics taking into the consideration all the interactions between the harmful organisms, between harmful organisms and beneficials, between control tools, between control tools and harmful organisms and beneficials, etc.

IP AND IPM – IPM AND IP

IN OTHER WORDS

IP REDUCES THE PROBABILITY THAT **IPM**
PROCEDURE FINDS HARMFUL ORGANISM
POPULATIONS EXCEEDING THE DAMAGE
THRESHOLDS AND CAN BECOME PART OF THE IPM
STRATEGY

CAN IPM BE USED?

**For each combination
crop/agronomic-climatic conditions
we need to answer the following questions:**

1. What is the risk level? Do population levels exceed thresholds everywhere? Is treatment needed in all fields, or just some?
2. Are IPM strategies available (e.g. monitoring methods, risk assessment, key-pest thresholds, agronomic and/or biological alternatives)?

**AN IMPORTANT CASE
STUDY:
ARABLE CROPS/MAIZE**

IPM ACCORDING TO DIRECTIVE 128/2009/EC ON ARABLE CROPS: A TOUGH CASE

Although most pesticides worldwide are applied
to control arable-crop parasites

IPM IS NOT USED EXTENSIVELY
ON ARABLE CROPS
(but is widely implemented
on other crops, e.g. orchards).

Therefore:

- ❖ ARABLE CROPS (e.g. maize) make it tougher to implement Directive 2009/128/EC properly.
- ❖ A SPECIAL EFFORT is needed to make the directive work for arable crops.

IPM OF ARABLE CROPS

A REVOLUTION

IPM OF ARABLE CROPS

- Low-income crops;
- Little manpower available;
- General low technical knowledge;
- Little tradition/experience of monitoring and IPM, unlike in orchards/vineyards.

REQUIREMENTS

- Low-cost strategies;
- Time-saving tools;
- Sustainable technical tools.

REQUIREMENTS

Do we have the
knowledge to implement
IPM of arable crops?

yes

REQUIREMENTS

- Area-wide observations (low cost/ha);
- Complementary limited in-field evaluation, where needed.

REQUIREMENTS AT AREA-WIDE LEVEL

- Mainly semio-chemical based tools;
- Statistical evaluation methods (e.g. Geostatistics);
- Meteorological information / forecasting models;
- Agronomic information.

BASIC STRATEGIES

- Real-time dissemination of area-wide and model information by email/text;
- Technician training.

CAN IPM BE USED ON MAIZE?

1. What is the risk level? Do population levels exceed thresholds everywhere? Is treatment needed in all fields, or just some?
2. Are IPM strategies available (e.g. monitoring methods, risk assessment, key-pest thresholds, agronomic and/or biological alternatives)?

EXAMPLES

BLACK CUTWORMS: CAN IPM BE IMPLEMENTED?

1. What is the risk level? **Low, < 1%**
2. Are IPM strategies available (e.g. monitoring methods, risk assessment, key-pest thresholds, agronomic [and/or biological alternatives)? **Yes, black cutworm alert programme producing accurate results in Italy since 1991.**

WIREWORMS: CAN IPM BE IMPLEMENTED?

1. What is the risk level? **Low**
2. Are IPM strategies available (e.g. monitoring methods, risk assessment, key-pest thresholds, agronomic and/or biological alternatives)? **Yes, and MUTUAL FUNDS may allow IPM to be implemented rapidly.**

**SEE FULL PRESENTATION FOR
DESCRIPTION OF IPM
STRATEGIES AGAINST THE
DIFFERENT KEY HARMFUL
ORGANISMS AND LARGE SCALE
PRACTICAL IMPLEMENTATIONS**

A NEW “INSURANCE” APPROACH

MUTUAL FUNDS INSTEAD OF INSECTICIDE TREATMENTS

**WHEN RISK IS LOW, THE INSURANCE
APPROACH IS AFFORDABLE AND MUCH
SAFER FOR PEOPLE & THE
ENVIRONMENT
(INCLUDING BEES)**

MUTUAL FUNDS TO ALLOW RAPID AND EFFECTIVE IMPLEMENTATION OF IPM

RISKS COVERED	<ul style="list-style-type: none"> • Insufficient plant density (stand) due to adverse weather conditions (i.e. drought, flooding, freezing cold) • Insufficient plant density (stand) due to soil pests (e.g. wireworms, black cutworms), or diseases, such as Fusarium spp. (rotten roots, seedlings)
TARGET	Members of farmer consortia
OBLIGATIONS	<ul style="list-style-type: none"> • Contract to be signed before sowing; • Implementation of good cultivation practices; • Implementation of Directive 128/2009/EC; • Connection and implementation of suggestions in “Arable Crops Bulletin”
COSTS	€15/ha all inclusive (including flooding [excessive rain], freezing cold, drought); pest risk alone is covered with less than €15/ha
COMPENSATION	<p>Up to € 500/ha including:</p> <ul style="list-style-type: none"> • Resowing (up to € 250/ha) if stand below 4 pls/m² • Yield reduction (up to € 250/ha) based on sowing delay, crop change
COMPENSATION LIMITS	<p>According to farm size:</p> <ul style="list-style-type: none"> • Up to 10 ha: €2,000 limit; • Between 11 and 20 ha: €4,000; • > 20 ha: 10 times the total cost, or €50,000

ADVANTAGES OF MUTUAL FUNDS

1. Reduces costs/ha;
2. Covers risks due to mistakes or difficulties in IPM implementation (e.g. delay in black cutworm treatments);
3. Covers other risks, e.g. flooding and drought, not covered by insecticides;
4. Reduces health risk for farmers, as there is no contact with insecticides;
5. No negative impact of insecticides on soil beneficials;
6. No pollution risks for soil and water tables;

REDEFINING IPM?

**PLEASE JUST MAKE POSSIBLE IMPLEMENT
DIRECTIVE 2009/128/CE**

ALSO DEFINING

- **CLEAR PESTICIDE REDUCTION TARGETS**
- **DEADLINES FOR MEETING TARGETS**