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EU Expert Meeting on
"National plans and programmes for the reduction of risks associated with the use of plant protection products"
Berlin, March 13 – 14, 2007

Characteristic landscape in the region Oderbruch (September, 2002), 70 km to the east of Berlin

Compiled by Bernd Hommel & Silke Dachbrodt-Saaydeh

Kleinmachnow, 10.04.2007

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AGENDA
of the Expert Meeting "National plans and programmes for the reduction of risks associated with the use of plant protection products" in Berlin

Tuesday March 13, 2007

11:00 to 13:00 Registration

13:00 Welcome and Introduction
Georg F. BACKHAUS, President of the BBA
Wolfgang ZORNBACH (Chairman), BMELV

13:30 to 15:00 Session 1: Presentations and discussions
13:30 – 14:00 Austria (Matthias LENTSCH)
14:00 – 14:30 Belgium (Vincent van BOL)
14:30 – 15:00 France (Edwige DUCLAY)
15:00 – 15:30 Germany (Bernd FREIER)

15.30 to 16:00 Coffee Break

16:00 to 17:30 Session 2: Presentations and discussions
16:00 – 16:30 Greece (Dimitra GILPATHI)
16:30 – 17:00 Hungary (Miklos TOTH)
17:00 – 17:30 Netherlands (Jouke KNOL)

19:30 Conference Dinner

Wednesday March 14, 2007

09:00 to 10:30 Session 4: Presentations and discussions
09:00 – 09:30 Sweden (Magnus FRANZÉN)
09:30 – 10:00 United Kingdom (Grant STARK)
10:00 – 10:30 Denmark (Lene GRAVESEN)

10:30 to 11:00 Coffee Break

11:00 to 11:30 Session 5: Views of the European Commission

11:30 to 12:30 Session 6: Conclusions and Recommendations

List of participants

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UK Pesticides Campaign	--	--

ECPA = The European crop protection association
BEUC = The European consumers' organization
COPA-COGECA = Committee of professional agricultural organisations in the European Union & General confederation of agricultural co-operatives in the European Union
PAN Europe = Pesticides action network
EEB = European environmental bureau
UK Pesticides Campaign = Pesticide exposures for people in agricultural areas
EUREAU = European union of national associations of water suppliers and waste water services

EU Expert Meeting on "National plans and programmes for the reduction of risks associated with the use of plant protection products"
Berlin, March 13 – 14, 2007

Summary Report


BBA's President Dr. G. F. Backhaus

The EU Expert Meeting on "National plans and programmes for the reduction of risks associated with the use of plant protection products" was held on invitation of the Federal Ministry of Food, Agriculture and Consumer Protection (BMELV) at the venue of the Federal Biological Research Centre for Agriculture and Forestry in Berlin-Dahlem. The meeting was chaired by Dr. Wolfgang Zornbach (BMELV).

Delegates from 23 EU-Member States, 5 NGOs and the European Commission attended the meeting. 10 Member States presented and discussed in plenary sessions their national activities, planes and programmes considering development process, essential goals, objectives and milestones, measures and instruments, as well as results, achievements and long-term perspectives with all the participants.

At the end of the meeting a broad discussion on possible elements and basic conclusions and recommendations was held. The summarised conclusions and recommendations are as follows:

1. Development process

- National legislation concerning plant protection, different legal frameworks (e.g. the WFD) and other legal based and/or voluntary programmes are the basis for the development of National Action Plans.
- Status quo analysis is one of the initial steps leading to the development of national programmes.

- Programmes and plans should address the need for national flexibility and adaptation on national characteristics.
- Programmes with regional and/or national scope are developed focussing on the particular needs of Member States.
- The involvement of all relevant stakeholders in development process of national programmes constitutes a very important step to promote acceptance and support of those plans. Responsibilities among stakeholders should be shared and a consensus reached about essential targets and goals.
- The Action Plans should always take a safe income for farmers in account. Otherwise acceptance of activities is rather poor.

2. Essential goals, objectives and milestones

- In the past national activities mainly focused on volume reduction in the use of plant protection products and the ban of certain hazardous substances. Currently developed programmes follow approaches of risk reduction and reduction of intensity of treatments as means of risk reduction. They set up targets with short or long term perspective. These targets differ from Member State to Member State and include quantitative as well as qualitative targets.
- All goals, objectives and milestones should be related to specific situations in Member States.
- Outputs of programmes are very often recorded. Outcomes are more important, but not so easy to define.
- The availability of sufficient plant protection products has to be maintained to ensure the competitiveness of production as well as resistance management strategies.
- Sufficient and modern methods and techniques for risk reduction in the field, which are technically and economically feasible, should be introduced and applied.

3. Measures and instruments

- Status quo analysis needs to be carried out and for observation of trends a clear reference has to be set up.
- Communication and involvement of stakeholders (incl. farmers) is a very important component to gain wide support for the plans.
- The involvement of R&D, reference and demonstration farms and the use of advisory services can provide additional support for the implementation of programmes.
- Action plans have to take the properties of different sectors into account. This can for instance relate to specified requirements concerning training, testing and inspection of equipment and facilitating information programmes.

- Implementation of mandatory or/and voluntary measures as well as a combination of both is important for a successful Action Plan.
- Providing incentives to farmers for implementation of certain risk reduction measures promote behavioural changes.
- In the evaluation processes harmonised risk indicators and other existing national indicators should be used.
- Indicators should mainly comprise risks of the use of plant protection products.

4. Recommendations

- Flexibility for Member States in the continuation and development of their national plans should be guaranteed.
- Work sharing throughout Member States in research on risk reduction might be an efficient tool to trigger faster development.
- A status quo analysis of indicators used in different Member States should be carried out.

Summaries and presentations

Matthias Lentsch, Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW), Austria

REDUCTION OF RISKS ASSOCIATED WITH THE USE OF PLANT PROTECTION PRODUCTS - THE AUSTRIAN APPROACH

SUMMARY

In Austria there are a number of activities and measures to reduce the risks of plant protection products, at national level as well as at regional level. The environmental aspect, which is of great importance in Austria, has gained even more importance in the last two decades.

In accordance with all stakeholders under the leadership of the Federal Ministry of Agriculture, Forestry, Environment and Water Management, acts and regulations which contain very strict and restrictive provisions were passed. Secondly, a number of incentives were created, in particular in the form of subsidies, which directly or indirectly aim at specifying and optimizing the application and minimizing the risks of plant protection products and enable farmers to produce in the spirit of the above-mentioned acts and regulations and to use production methods compatible with the requirements of the protection of the environment.

In order to minimize the risks, Austria does not rely on one general programme, but on numerous measures and provisions from various legal fields, which are supported by additional measures ("measure-mix").

It is also generally agreed that Austria cannot refrain completely from chemical-synthetically plant protection. Even though there are very strict safety regulations, the risks cannot be completely eliminated, but only reduced to a minimum according to the present level of science and technology.

Most of the proposed measures and targets Member States shall set up in a "National Action Plan (NAP)" to reduce risks and dependence on pesticides according to Article 4 of the draft "Directive of the European Parliament and the Council establishing a framework for Community action to achieve the sustainability use of pesticides" are already implemented in Austria or underway to be implemented. Some of theses proposed measures are similar to measures of already existing programmes or part of Austrian national legislation.

<u>Examples for existing national legal measures similar to Article 4 of the draft Directive:</u>

- *Plant Protection Products* Act (e.g. ordinances for prohibition of certain active substances and for additional risk mitigation measures such as buffer zones to surface water or spray drift reducing plant protection equipment)
- *Chemical Act* (e.g. ordinances for prohibition of certain active substances and for specific requirements for toxic or very toxic plant protection products such as training requirements for the farmers and licence system allowing buying and using such products)

<u>Other measures and activities similar to Article 4 of the draft Directive (incentives and financial support):</u>

- *Austrian Agri-environmental Programme (AEP)*

- *financial support for forecasting systems*
- *promotion and use of beneficial organisms*
- *grants for the inspection of sprayers*
- *promotion of advisory services dealing with IPM*
- *research*

The Austrian Agri-environmental Programme (AEP) is one of the most comprehensive and most differentiated programmes of all the Member States under the second pillar of the CAP with a catalogue of more than 30 different measures carried out on the whole territory of Austria. Farmers who opt for at least one of theses measures complete a contract for a period of several years and commit themselves to fulfil the specific requirements. Income losses due to a decline in production and increase in additional production costs shall be compensated for.

Measures in the AEP with influence to plant protection products use:

- *organic farming* (situation in Austria 2004: organic farming on 13.5% of agriculture area and on 11.3% of the farms)
- *integrated production measures* (IP-measures provided for wine, fruit, hop, vegetable, ornamental, sugar beet and potatoes according to comparative assessment und substitution principle)
- *inspection of plant protection equipment already in use*
- *renunciation of inputs* (e.g. grow regulators, fungicides)

The Austrian approach with a measure-mix consisting of various legal measures accompanied by additional measures with financial compensation is very successful and broadly accepted by the Austrian farmers and the Austrian society and leads to production methods compatible with the protection of the environment.

Focusing the proposed measures in the draft “Directive of the European Parliament and the Council establishing a framework for Community action to achieve the sustainability use of pesticides” a balance between legally binding instruments and additional incentives is necessary to guarantee both, the survive of the farmers and further risk reduction of plant protection products.

REDUCTION OF RISKS ASSOCIATED WITH THE USE OF PLANT PROTECTION PRODUCTS – THE AUSTRIAN APPROACH

lebensministerium.at

Expert Meeting in Berlin, 13 and 14 March 2007

Matthias Lentsch, 13 March 2007

NATIONAL ACTION PLANS (NAPs)

ACCORDING TO THE DRAFT DIRECTIVE FOR THE SUSTAINABLE USE OF PESTICIDES

OBJECTIVES: ➡ **set up targets, measures and timetables to**

- reduce hazards
- reduce risks
- reduce dependence on pesticides

BUT: ➡ **necessary flexibility to**

- adapt the measures to the specific situation in the MS
- include already existing programmes and measures
- consider the social, economic and environmental impacts

DRAFT DIRECTIVE FOR THE SUSTAINABLE USE OF PESTICIDES - MEASURES

- training and awareness programmes
- requirements for sales of pesticides
- regular inspection of plant protection equipment in use
- prohibition of aerial spraying (with derogations)
- specific measures to protect the aquatic environment
- reduction of use of ppps in sensitive areas
- handling and storage of ppps, packaging and remnants
- integrated pest management (IPM) – standards / criteria

STATUS QUO IN RISK REDUCTION

AUSTRIA

- does not rely on one general programme
- numerous measures and provisions on legal basis
- supported by accompany measures / programmes with
  - incentives
  - financial support
  - compensation

→ "measure mix"

LEGAL MEASURES

ON FEDERAL LEVEL

- Plant Protection Products Act
- Chemicals Act
- Act on Water Rights
- Food Safety and Consumer Protection Act

ON REGIONAL LEVEL

- Acts on plant protection of the individual federal provinces

LEGAL MEASURES

PLANT PROTECTION PRODUCTS ACT

- prohibition of certain active substances by ordinance
- additional risk mitigation measures
  - buffer zones to surface water
  - planting hedges along surface water (to reduce exposure)
  - spray drift reducing plant protection equipment and nozzles
  - spray drift reducing application measures

LEGAL MEASURES

CHEMICALS ACT

- prohibition of 90 certain active substances by ordinance (1991)
- specific requirements for toxic or very toxic ppps
  - basic and further training requirements for the farmers to ensure knowledge about
    - ⇒ plant protection in general
    - ⇒ symptoms of poisoning and first aid measures
  - licence system for farmers using toxic or very toxic ppps

OTHER MEASURES AND ACTIVITIES – INCENTIVES AND FINANCIAL SUPPORT

- AUSTRIAN AGRI-ENVIRONMENTAL PROGRAMME - AEP
- INVESTMENTS IN WARNING SYSTEMS (INCL. SERVICE COSTS)
- SUPPLY AND BREEDING OF HEALTHY PLANT MATERIAL
- PROMOTION AND USE OF BENEFICIAL ORGANISMS
- GRANTS FOR THE INSPECTION OF SPRAYERS
- PROMOTION OF ADVISORY SERVICES DEALING WITH IPM
- RESEARCH

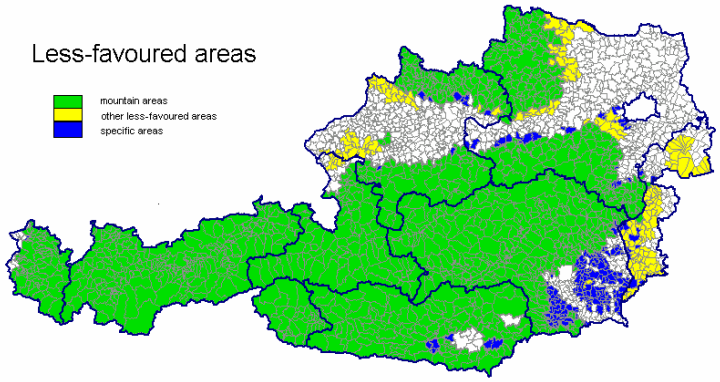
AGRI-ENVIRONMENTAL PROGRAMME - AEP

- promoting extensive agriculture
- compatible with the protection of the environment
- maitenance of the countryside
- encourages farmers contributing to an ecological balance

- most comprehensive and most differentiated programme in EU
- carried out on the whole territory of Austria
- contract with the farmer for a period of 5 (7) years
- compensation for decline in production and add. costs

Reduction of risks – Austrian approach 9 M. Lentsch, 13 March 2007

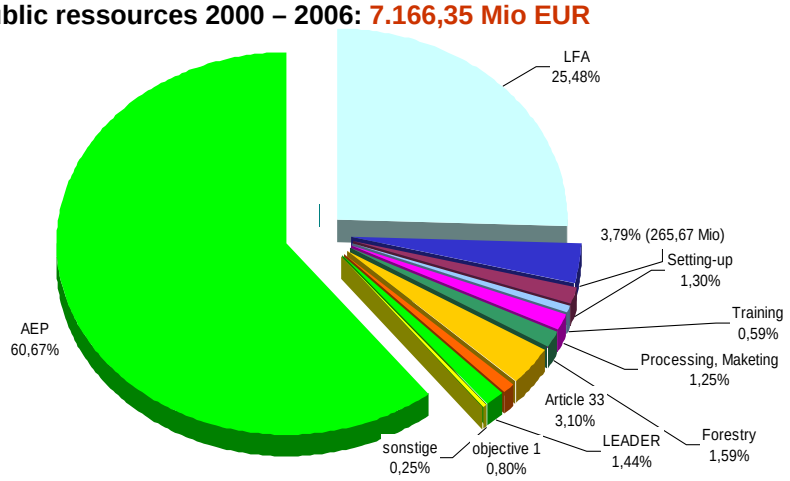
AUSTRIA



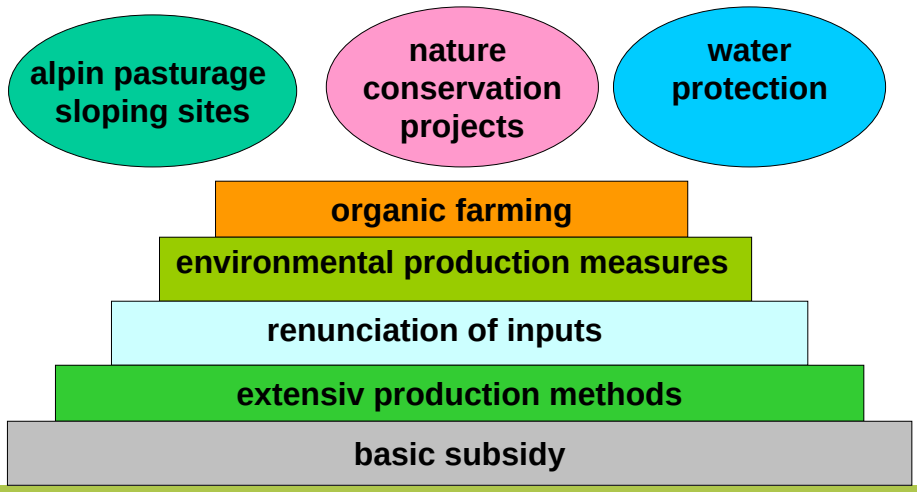
Reduction of risks – Austrian approach 10 M. Lentsch, 13 March 2007

AGRI-ENVIRONMENTAL PROGRAMME - AEP AUSTRIAN RD PROGRAMME

Public ressources 2000 – 2006: 7.166,35 Mio EUR



AGRI-ENVIRONMENTAL PROGRAMME – AEP SCHEME



AGRI-ENVIRONMENTAL PROGRAMME - AEP

MEASURES WITH INFLUENCE TO PLANT PROTECTION PRODUCTS USE

- organic farming
- integrated production measures
- inspection of the plant protection equipment in use
- renunciation of inputs (e.g. grow regulators, fungicides)
- crop rotation

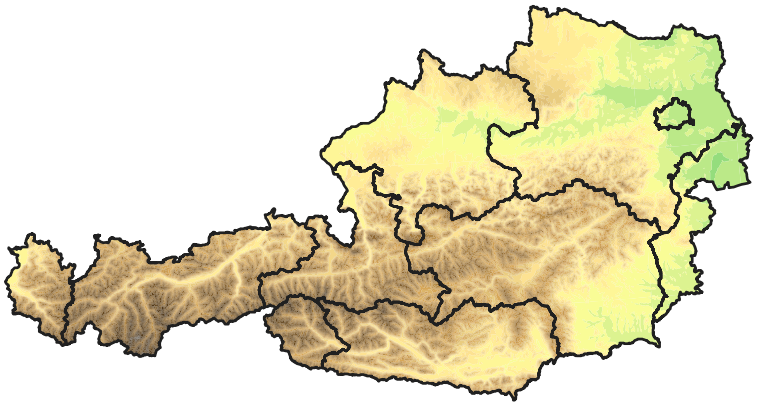
AGRI-ENVIRONMENTAL PROGRAMME - AEP

ORGANIC FARMING IN AUSTRIA

YEAR	FARMS	HA
2000	18,645	276,000
2001	17,773	278,000
2002	18,191	300,000
2003	18,760	327,000
2004	19,826	343,000
2005	20.310	360,000

- 15% of the agriculture area
- 13% of all farms
- 10% of the arable land
- 10% of the potatoes growing area

AGRI-ENVIRONMENTAL PROGRAMME - AEP



AGRI-ENVIRONMENTAL PROGRAMME - AEP

ORGANIC FARMING IN EUROPE (2004)

MS	% of agriculture area	% of farms
AT	13,5	11,3
FI	7,3	6,0
SE	6,6	3,9
IT	6,2	1,7
CZ	6,1	2,2
DK	5,8	5,5
DE	4,5	4,1
UK	4,4	1,7
ES	2,4	1,4

Source: EUROSTAT

AGRI-ENVIRONMENTAL PROGRAMME - AEP

INTEGRATED PRODUCTION MEASURES – IP-MEASURES

- Integrated wine growing
- Integrated fruit growing
- Integrated hop growing
- Integrated vegetable growing
- Integrated ornamental growing
- Integrated sugar beet growing
- Integrated strawberry growing

AGRI-ENVIRONMENTAL PROGRAMME - AEP

IP-MEASURES

- production according the special guidelines for integrated and controlled production measures
- inspection of plant protection equipment in use
- use of plant protection products according to the "ppp positive list"
- record keeping (e.g. ppp, reg.no., amount/ha, dosis)
- specific training requirements

AGRI-ENVIRONMENTAL PROGRAMME - AEP

PPP POSITIVE LIST

- substitution principle and comparative assessment

Criteria (examples):

- number of ppps / a.s. available for intendet use
- necessity of the use of the ppp (e.g. economic importance of the harmful organisms)
- efficacy and resistance management
- toxicity, user safety
- environmental behaviour (e.g. persistence, ecotoxicity)

AGRI-ENVIRONMENTAL PROGRAMME - AEP

INSPECTION OF PLANT PROTECTION EQUIPMENT IN USE

- requirement for all IP-measures and organic farming
- obligation for regular technical inspection (at least within a period of 3 years) and maintenance
- standard and essential technical requirements relating to the inspection similar to annex II of the draft Framework Directive

AGRI-ENVIRONMENTAL PROGRAMME - AEP

RENUNCIATION OF CERTAIN YIELD-INCREASUNG INPUTS

- use of certain chemical-synthetical ppps prohibited on all arable land
- e.g. plant grow regulators, fungicides
- ppps enumerated in annex II, part B of Regulation (EEC) No 2092/91 and seed dressing are permitted

SUBSIDIES OF THE BMLFUW

WARNING SYSTEMS

- weather observation systems in order to estimate more precisely the pressure of pest infestation
- possible reduction of ppp input (depending on the crop and weather)
- financial support for installation of warning systems
- financial support for running warning stations (service costs)

SUBSIDIES OF THE BMLFUW

USE OF BENEFICIAL ORGANISMS

- to encourage non-chemical plant protection measures
- financial support for breeding beneficial organisms (breeding station in Vienna)
- financial support for training using beneficial organisms

SUBSIDIES OF THE BMLFUW

RESEARCH

- e.g. non-chemical alternatives
- financial support for breeding beneficial organisms (breeding station in Vienna)
- financial support for training using beneficial organisms

INFORMATION SERVICE AND AWARENESS PROGRAMMES

- e.g. non-chemical alternatives, health and environmental effects and also on advantages of IPM

Programme de Réduction des Pesticides et des Biocides
Programma voor de Reductie van Pesticiden en Biociden
Program for Reduction of Pesticides and Biocides

04/04/07

Policies regarding pesticide and biocide risk management in Belgium

During the last fifteen years, several efforts were done in Belgium to better manage the risk and control the use of pesticides and biocides.
Federal and national competent authorities initiated many of these efforts. At federal level, restrictions of authorisation of pesticides involved protection measures of water bodies in order to introduce appropriate buffer zones. Some pesticide application dosages were also limited and the aerial spraying of pesticides was severely controlled.
Professional applicators of toxic or very toxic pesticides are obliged to dispose of a certificate of knowledge. The website "Phytoweb" was developed in order to provide all useful information and legislation for both professional and amateurs. Recently, the EU Dir 2003/4 and 2003/35 related to the public access to environmental programmes and information were transposed into Belgian legislation.
Compulsory controls were organised since 1995 for the application machinery, and controls are also carried out for the pesticide storage area and the residues in food. Monitoring of pesticide use is realised since 1998.

Regions also defined their policy regarding pesticides. This concerns the support to low-input farming methods or systems by the way of financing research studies centres or supporting advisory services and private initiatives for labelling and certification systems.

Regions also restricted the use of pesticide in sensitive areas such as public areas (Zonder is Gezonder) and water catchments areas. Information for professional (Good Plant Protection Practices Guidelines, training, demonstrations, etc.) and awareness raising programmes for both professional and amateurs were organised.

Regions also implemented the monitoring of ground- and surface- water quality.(Flanders; Walloon)

Initiated by an eco-taxation system and awareness of pesticide industry, a system to recover the pesticide packaging and remnants was implemented by the industry under the control of Regions since 1997.

This is the context in which, Belgium has adopted in 2005 the Program for Reduction of Pesticides and Biocides (PRPB). The objective is to reduce by 2010 the risks from pesticide and biocide uses to 50% of the value calculated for 2001. For agricultural use, the objective was lowered up to 25% because of the efforts already realised by the sector in the decade preceding the PRPB. (See above)

The PRPB was implemented on the basis of a very intensive participation of stakeholders. Information, consultation and dialogue initiatives were taken in order to define and to rank by order of priority the actions to comply with the objectives.

Participation pillar

The stakeholders are informed by the way of seminars focussed on conclusions of studies, development of research programmes and consultations related to the PRPB. A national forum for exchange of information will be established. Information is also ensured by the way of several reports of the PRPB activities. The PRPB organises several committees to collect information and opinions about the pesticide or biocide risk management. Here are to be mentioned:

- The Advisory Council of the PRPB composed of stakeholders (Authorities, Water suppliers, Farmers, Environmental associations, Consumers, Scientists, PPP industry).
- The Advisory group for impacts on bees problematic.
- The Thematic groups for risk reduction proposals in several fields of expertise (15 groups, 270 participants).
- The Advisory group for biocide indicators development with stakeholders.

Opinion about the PRPB is also gathered in 4 federal councils every two years when the programme is updated. These councils are: Consumption Council; Federal Council for Sustainable Development; Superior Health Council; Central Economy Council.

PRPB contributes expertise into various committees related more or less to the biocide and pesticide risk management:

- Poisoning of bird of prey.
- Bio-fuel Commission – guidelines for bio-fuel crops.
- OECD working group on pesticides.

Dialogue structures were implemented by the PRPB in order to define priorities, budgets and programmes. The most important is the Belgian dialogue committee with federal, regional and communities' authorities devoted to draft and agree on conventions in order to implement the PRPB measures where multi-level competencies are concerned. The future National Action Plan (NAP) will be discussed and adopted at this level. Other dialogue structures are:

- The Pesticide Application Licence group.
- The Indicators Committee composed of authorities and scientists in order to coordinate and to optimise the Belgian indicators research related to pesticides and biocide risk management.

PRPB also contributes to define priorities, budgets and programmes in the following structures:

- Studies/ researches related to pesticides and biocides.
- European debates and positions about pesticide related legislation (presently: placing on the market; Thematic Strategy and Framework Directive for a sustainable use of pesticides). Soon: regulation about statistic of pesticide use and sales.

Outcomes of the PRPB

At the beginning of the PRPB, the majority of efforts were devoted to develop the participation pillar. Presently, committees are in function and the outcomes pillar is emphasised. This is organised around three topics: survey of the problem, modification of the production and societal structures, and modifications of the behaviour, all three topics in relation with pesticide and biocide risk management.

In the framework of the structural modifications, two actions are realised at the level of authorisations for placing on the market of products:

- Splitting of registrations between professional and non-professional products for pesticides and biocides.
- Support for registration of pesticide for use under Organic Farming schemes.

A pesticide/biocide user certification for professional sis also presently studied. Concerning the *Methyl Bromid*e (MeBr) phasing out, gas recuperation processes have been imposed and training sessions for applicators using *Sulfuryl Fluoride* (an alternative to MeBr) are organised.

Also information structures are concerned by this outcomes pillar: a permanent dialog with the official website for authorised pesticides (Phytoweb) is organised in order to make it more friendly.

A web site devoted to the PRPB is in development in order to provide information and to promote the communication campaigns. Conventions with the industry are presently in progress in order to reduce the confidentiality of the sales data to a minimum.

Financing of pesticide registration activities and PRPB was updated recently with a new contribution from industry based on the hazard of the products (risk phrases) and the quantity sold.

A second part of the PRPB outcomes is related to the survey of the problem. Actions are developed in order to monitor the pesticide and biocide exposure:

- Sales and market structure for type 18 biocides (rodenticides, insecticides, … for domestic use)
- Use of pesticides for several crops (continuation of a monitoring program running since 1998).
- Consumer exposure in Belgium.
- Development of a pesticide use monitoring system in agriculture in order to obtain a sufficient representative data set as to assess the risk for Belgium every two years.

The dependency concept is further studied in close collaboration with stakeholders in order to obtain a common definition, and ultimately a dependency indicator.

An inventory of the pesticides and biocides impact on health and environment was realised in order to have a hazard description focused on the Belgian case.

Based on the conclusion of the scientific commission for the selection of the PRPB indicators, it was decided, in 2004 to work with several indicators types, namely: risk, mass and frequency indicators. A lot of actions of the PRPB are devoted to develop the risk indicators.

- Toxico-vigilance: monitoring of poisoning of humans and pets with pesticides and biocides.
- Development of the multi-compartmental risk indicator PRIBEL (Pesticide Risks Indicator for Belgium)
- Calculation of the PRPB reference values for 2001 ± 1 with the PRIBEL indicator.
- Comparison of pesticide application schemes with PRIBEL.
- Development of a bi-compartmental (human health and environment) risk indicator for biocides

- Pesticide risks assessment for the years previous to the PRPB (i.e. 1991 and 1996)

Finally, a third part of the outcomes pillar is related to the behavioural approach of the users.

Publication of leaflets

- Drift reduction: for farmers.
- Risk management at home: prevention and alternatives to pesticide and biocide use in the kitchen, in the house and in the garden.

Communication plan

- Analysis of the major needs in communication for professional and non-professional users.
- Development of a communication strategy

Research

- Participation to sociological analysis of the dialogue between stakeholders and authorities in a crisis situation: example of the impacts of pesticides on bees.

Federal Public Service HEALTH, FOOD CHAIN SAFETY AND ENVIRONMENT

1

Programme de Réduction des Pesticides et des Biocides

Programma voor de Reductie van Pesticiden en Biociden

Program for Reduction of Pesticides and Biocides

.be

Berlin, 13-14 March 2007

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2

Time line

< 2005	Initial situation
2005	First PRPB
2010	*Splitting of the registrations for professional and non-professional pesticides*
2010	*Pesticide Application Licence*
2011	*Second PRPB = Belgian NAP*

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3

Initial situation in matters related to the Pesticide Framework Directive proposal

Federal competencies

Placing on the market authorisations

- Restriction for use of several PPP along water bodies (appropriate buffer zones)
- Restrictions in pesticide application dosage (Pesticide authorisation)
- Restriction for aerial spraying

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4

Initial situation - Federal (continued)

Information, certification

- Certification system for users and sellers knowledge
- Information for professionals (Phytoweb, etc.)
- law for public access to environmental programmes and information: transposition of the EU Dir 2003/4 and 2003/35.

Controls

- Monitoring of pesticide use (for 80% of agricultural area and 55% of pesticide sales every 5 years) and of pesticide and biocides sales every years
- Application machinery (every 3 years)
- Storage areas
- Food residues (pre- and post harvest)

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5 Initial situation – Regional competencies

Various regional policy

Support to low-input farming systems
- IPM and related activities (epidemiology surveys, advisory services, research centers, research funding)
- Agri-environmental measures (rural development policy-CAP)
- Organic Farming (research funding, research centers, direct support)

Reduction of pesticide use in sensitive areas
- Restriction or banishment of PPP use in public areas (e.g. Flanders plan)
- Protection of the water catchment areas (safeguard zones)

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6 Initial situation – Regions (continued)

Information, awareness
- Awareness programmes, discussion forum (e.g. Zonder is geZonder)
- Information for professionals (e.g. Comité Régional Phyto)
- Trainings for professional users
- Good Plant Protection practices Guidelines

Controls
- Monitoring of ground and surface water quality

Handling and storage of pesticides and their packaging and remnants
- Recovery system for packaging and remnants of pesticides
- Treatment of mixtures remaining after application

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7 Objectives of the PRPB

For 2010: reduction of 50 % (25% in agriculture) of the risk from pesticides and biocides uses for environment and public health compared to 2001.

The risk is assessed by multi-compartmental indicators still in development.

The PRPB is updated every two years

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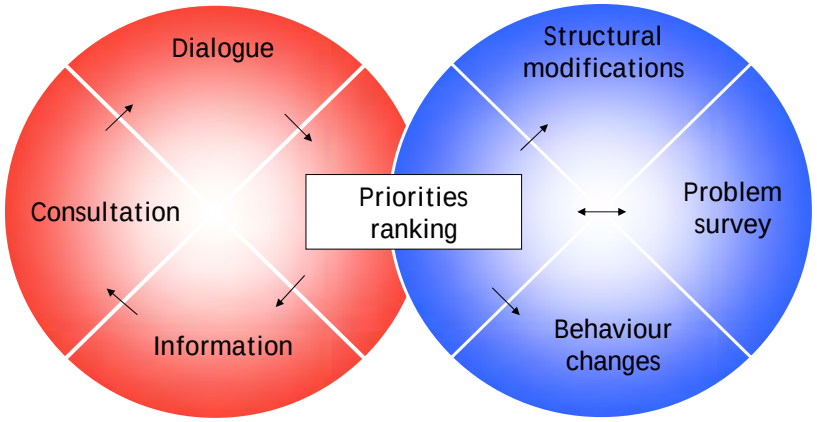
8 Risk management of the PRPB



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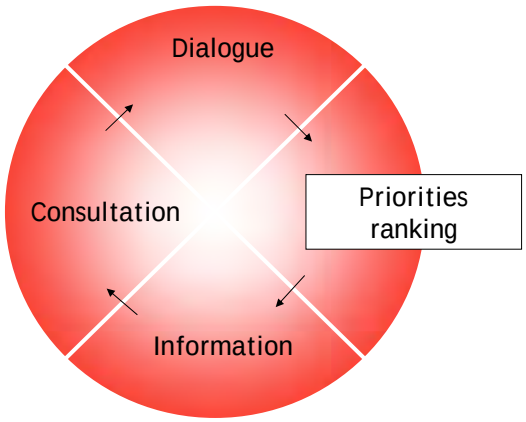
9 PRPB risk management: Participation



Participation

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10 PRPB – **Information**

Organisation of seminars to analyse and discuss the studies, research and consultation results. Ultimately, a national forum for exchange of information is projected.

Answers to parliamentary questions.

Publishing of PRPB's activity reports for various publics or participation to various reporting activities: OECD 'Environmental Performance Review', evaluation of Sustainable Development programme, National Environment and Health Action Plan, etc.

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11 PRPB – **Consultation (1/2)**

Organisation of various committees to obtain information or opinion about the pesticide or biocides risk management

- Advisory Council of the PRPB composed of stakeholders (Authorities, Water distribution companies, Farmers, Environmental associations, Consumers, Scientists, PPP industry).
- Advisory group for bees problematic
- Thematic groups for risk reduction proposals in various fields of expertise (15 groups, 270 participants).
- Advisory group for biocide indicators development with stakeholders.

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12 PRPB – **Consultation (2/2)**

Consultation of Federal Councils for the bis-annual update of the PRPB

- Consumption Council; Federal Council for Sustainable Development; Superior Health Council; Central Economy Council.

Expertise in various committees in relation with pesticide or biocides risk management

- Birds of prey poisoning.
- Bio-fuel Commission – guidelines for bio-fuel crops.
- OECD working group on pesticides.

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13

PRPB – **Dialogue (1/2)**

Organisation of dialogue structures in order to define priorities, budget or programmes

- Belgian authorities dialogue committee for monitoring exchange data or for conventions between competent authorities in order to define and implement specific measures. The NAP will be discussed and decided at this level.
- Pesticide Application Licence group.
- Indicators Committee composed of authorities and scientists in order to coordinate and to optimise the Belgian indicators research in relation with pesticides and biocide risk management.

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14

PRPB – **Dialogue (2/2)**

Participation to dialogue structures in order to influence on priorities, budgets and programmes in function of the objectives of the PRPB.

- Authorisation of placing on the market for pesticides and for biocides.
- European debates and positions about pesticide related legislation (presently: Placing on the market; Thematic Strategy and Framework Directive for a sustainable use of pesticides). Soon: regulation about statistic of pesticide use and sales.

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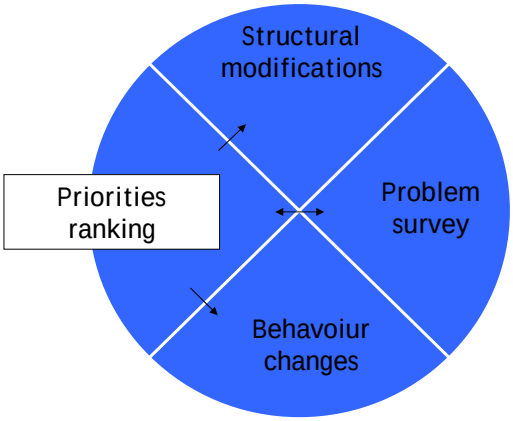
15 **PRPB risk management: Outcomes**



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16 PRPB – Structural modifications (1/2)

Authorisations for placing on the market of products
- Splitting of registrations between professional and non-professional products for pesticides and biocides.
- Support for registration of pesticide for use in Organic Farming

Pesticide/biocide users certification
- Alternative to MeBr use: training for users.
- Development of a Pesticide Application Licence for all professional users including a basic formation and mandatory further training.

Alternatives MeBr
- gas recuperation processes; use of *Sulfuryl fluoride*

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17 PRPB – Structural modifications (2/2)

Information structures

- PRPB Web site (www.prpb.be) and organisation of dialogue with web users to improve the official sites for pesticides (www.fytoweb.fgov.be) and for biocides.
- Conventions with the pesticide industry in order to restrict to a minimum the pesticide sale data confidentiality

Financing system for PRPB

- pesticide producers contribution based on risk phrases and quantity of sold products

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18 PRPB – Problem survey (1/2)

Monitoring of pesticide and biocide exposure

- Sales and market structure for type 18 biocides (rodenticides, insecticides, … for domestic use)
- Use of pesticides for several crops (continuation of a monitoring program running since 1998).
- Consumer exposure in Belgium.
- Development of a pesticide use monitoring system in agriculture in order to obtain sufficient representative data as to assess the risk for Belgium every two years.

Conceptual development

- Definition of the dependency concept in close collaboration with stakeholders

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19 PRPB – Problem survey (2/2)

Description of the hazard

- Inventory of pesticide and biocide impact on health and environment

Assessment of the risk

- Toxico-vigilance: monitoring of poisoning of humans and pets with pesticides and biocides.
- Development of the multi-compartmental risk indicator PRIBEL (Pesticide Risks Indicator for BELgium)
- Calculation of the PRPB reference values for 2001 ± 1 with the PRIBEL indicator.
- Comparison of pesticide application schemes with PRIBEL.
- Development of a bi-compartmental (human health and environment) risk indicator for biocides
- Pesticide risks assessment for the years previous to the PRPB (i.e. 1991 and 1996)

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20 PRPB – Behaviour changes

Publication of leaflets

- Drift reduction: for farmers.
- Risk management at home: prevention and alternatives to pesticide and biocide use in the kitchen, in the house and in the garden.

Communication plan

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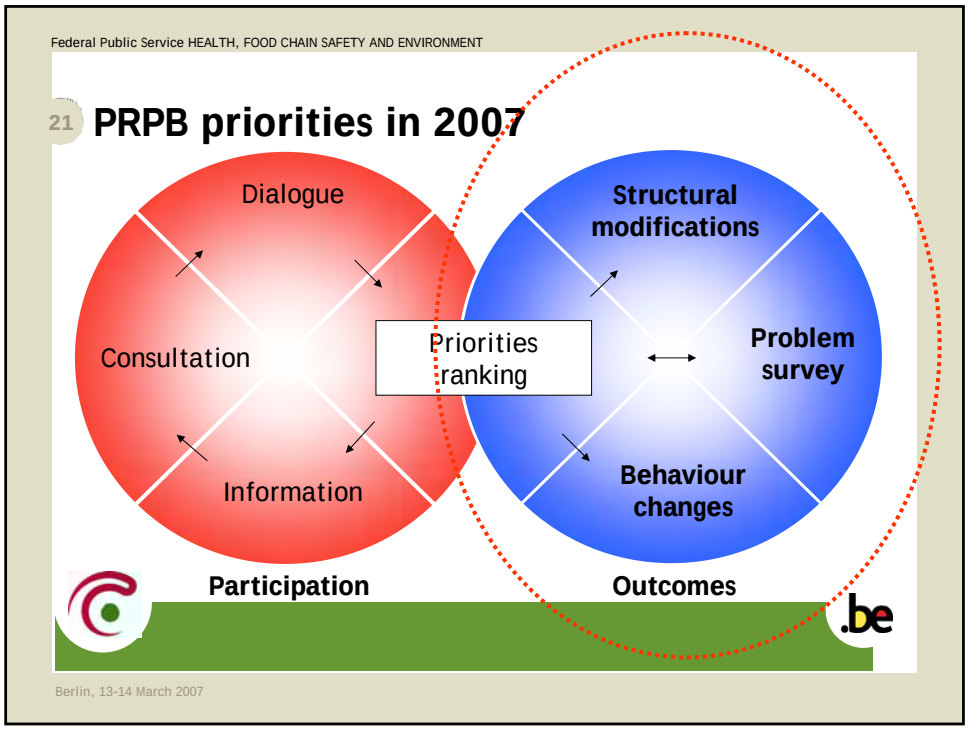
Berlin, 13-14 March 2007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21
PRPB priorities in 2007
Dialogue
Consultation
Information
Priorities ranking
Structural modifications
Problem survey
Behaviour changes
Participation
Outcomes
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Berlin, 13-14 March 2007

Pesticide Plan 2004 - 2009

for reducing pesticide consumption and its impact on the environment

The Ministry of the Environment & The Ministry of Food, Agriculture and Fisheries

Introduction

Pesticides are used for weed and pest control, and for control of fungal diseases in agriculture, forestry, fruit growing and horticulture (commercial use), as well as in public areas and private gardens (non-commercial use).

The Government's manifesto and "Denmark's National Strategy for Sustainable Development: A shared future - balanced development" confirm that the use of pesticides must be minimised as far as possible. Pesticides with unacceptable effects on the environment and human health must be prohibited.

The use of pesticides not only influences weeds, pests, and fungal diseases, it also effects the remaining flora and fauna. Moreover, pesticide residues may spread in the environment and end up in our food.

Efforts must therefore be based on an efficient approval scheme and on minimisation of the use of pesticides to a level still allowing for profitable cultivation. Among other things, such efforts must contribute to the continued security of the supply of clean groundwater and clean food.

Thus, the Danish Government aims to ensure active and restrictive regulation of pesticides- also within the EU. Denmark must be among the best at reducing the consumption of pesticides, and at protecting the environment and minimising concentrations of pesticide residues in food.

The Bichel Committee's comprehensive analyses serve as the point of departure and basis of this Pesticide Plan.

A great deal of knowledge has been established over the years regarding possible ways of reducing the consumption of pesticides as well as knowledge on how to convert methods for the reduction of pesticide use into practice. This knowledge must now be applied by those using pesticides. An evaluation report with a summary of recent knowledge within the area is appended to this Plan.

At the end of2002, the treatment frequency index had been reduced to 2.04; almost 8,000 ha of land along targeted watercourses and lakes had been laid out as spray-free buffer zones; and around 180,000 ha of acreage was under organic cultivation.

The Area Aid Scheme in favour of organic farming is a voluntary tool established in support of the nitrogen targets in the Action Plan for the Aquatic Environment 11. Organic farming is also helping reduce the use of pesticides in agriculture.

In order to maintain positive growth in acreages being cultivated according to organic guidelines, the Area Aid Scheme has been developed further and made more flexible. From 2004, farms not authorised for organic farming will be able to receive area aid for acreage cultivated according to the same environmentally friendly terms as used on organic farms.

An assessment of conversions to organic farming as a voluntary tool will be carried out in connection with the forthcoming evaluation of the Action Plan for the Aquatic Environment 11 and in connection with the preparation of the Action Plan for the Aquatic Environment Ill.

The Danish Government will work within the EU and other international forums to minimise the use of pesticides and their impact on the environment. This work will be in connection with e.g. the amendment of Council Directive 91/414/EEC on the placing of plant protection products on the market, and negotiations concerning the thematic strategy on the sustainable use of pesticides within the EU. At the same time, maximum limit values for pesticide residues in food will be established. The Government supports setting a maximum limit value at LOD level (Limit of Determination) for substances not covered by the EU MRLs in the proposed Regulation on maximum residue levels of pesticides, currently being negotiated in the EU.

Reducing the use of pesticides by agriculture

The Government aims to:

- Reduce the treatment frequency index by agriculture to 1.7 (calculated according to the method of calculation applied by the Bichel Committee) by the end of 2009.
- Promote the conversion to pesticide-free cultivation.

The Bichel Committee's operating costs analyses were carried out on the basis of the economic conditions prevalent in 1995/96, as well as on the basis of contemporary knowledge about the potential within agriculture for reducing the use of pesticides. As part of the evaluation, these analyses have now been updated to 2000/2001 levels.

The Bichel Committee concluded that the treatment frequency index could be reduced by 30-40 per cent within 5-10 years without substantially effecting operating costs. The new analyses support the Committee's conclusion that it is possible to reduce the use of pesticides without significantly effecting operating costs.

The target of a treatment frequency index of 1.7 is to be achieved through:

- Targeted communication and consultancy at farm level, so that existing knowledge is disseminated to farmers.

A targeted communication and consultancy effort to bring existing knowledge to farmers, who have not before received such consultancy, will ensure focused use of experience already gained.

According to assessments, there will be a further potential for reducing the use of pesticides after 2009 to an extent exceeding what analyses have showed so far. For example, the distribution of decision-support systems to more farmers can help further reduce the use of pesticides. Similarly, a great potential is believed to exist in the increased use of precision farming, in which pesticides are only applied to those areas of the plant or the field where the animals or organisms causing damage are present. Projects will be initiated in this respect under the Danish Pesticides Research Programme. Focus will be on further development of plant protection methods and strategies, including the development ofnew technologies able to enhance the use of mechanical or partly mechanical weed control. A requirement will be that the methods developed may be put to use within a foreseeable future.

The target of pesticide-free cultivation will be enhanced through subsidised conversion to and operation of organic farming. Furthermore, a subsidy scheme for environmentally friendly farming will be established. Subsidies under this scheme will be granted to acreage belonging to farms not authorised for organic farming but which is cultivated in accordance with the guidelines used on organic farms. According to the Danish Finance Act 2004, DKK 515.5 mill have been allocated to the scheme. Ofthis amount, DKK257.7 mill. will be transferred from the EU, and unused funds of DKK 111 mill. will be transferred. The amount allocated annually in future years will be DKK 240.6 mill. Ofthis amount DKK 120.3 will be transferred from the EU.

Reduction of the impact from pesticides in horticulture and fruit growing

The Government aims to:

- Reduce, as far as possible, the environmental and health impacts from use of pesticides in horticulture and fruit growing.
- Ensure the least possible concentrations of pesticide residues in food production in Denmark.

As follow up to the recommendations of the Bichel Committee a comprehensive analysis of the potential for reducing the impact from pesticides in horticulture and fruit growing has been carried out (the Kirsten Jensen Committee).

The analysis shows that the use of pesticides is relatively high in horticulture and fruit growing. At the same time, products from these industries are often used as food. A reduction in the use of pesticides will therefore mean a reduction in the impact on the environment as well as in the content of pesticide residues in food.

The analysis also shows that, unlike agricultural production, it is not possible to set up specific reduction targets for horticulture and fruit growing. This is partly because of inadequate statistics on use, and partly because the crops are high-value crops, for which failed pest and weed control etc. may lead to substantial losses.

Therefore, the target must be reached through:

- Targeted communication and consultancy aiming at gardeners and fruit growers with a view to reducing the use and impact of pesticides.
- Research and development of methods in connection with the use of pesticides in horticulture and fruit growing, so that pesticide residues in food and the exposure of the environment to pesticides are reduced.
- Increased focus on concentrations of pesticide residues in food.

The Kirsten Jensen Committee has recommended communication, consultancy, and supervision as central elements in a strategy to reduce the use of pesticides. Furthermore, the Committee has recommended further research and development within prevention and control of pests, spraying techniques, weed control, and decision-support systems. This will ensure priorities are set for efforts in order to achieve the greatest possible reduction in the use and impact of pesticides.

As recommended by the Committee, focus will be on those crops for which food safety and quality can be improved by reducing the content of pesticide residues in the products.

The increased focus must be achieved through consultancy targeted at agriculture and horticulture, and in connection with the authorities' assessment of legally permitted content of pesticide residues in food.

In 2004, cultivation/growing guidelines (data sheets) will be prepared for individual field crops, such as, for example, strawberries, apples, pears, carrots, and lettuce, including specific information to growers about how much the use of pesticides can be reduced, and to what extent. The guidelines will be prepared, so that they can be put to use by the individual farmer in 2005, at the latest.

Thus, the objective of the data sheets is to reduce pesticide consumption. The data sheets will enable the individual market gardener or fruit farmer to assess his or her own use of pesticides in relation to the information in the data sheets. In this way, the effect of the initiative will be made explicit to the individual grower. The effect of the initiative will moreover be assessed in connection with the special status report on the achievement of the overall strategy.

In addition, DKK 300,000 will be set aside in 2004 to prepare a catalogue, targeted at growers, concerning how to reduce the consumption of pesticides in horticulture and fruit growing to the widest possible extent. The catalogue will be prepared in cooperation with researchers, growers, and consultants and the point of departure will be the most recent results concerning alternative strategies and reduced pesticide use, from research and practice.

Cultivation/growing guidelines and the catalogue will be available for growers for free, and it is expected that, in this way, the tools will contribute to reducing the frequency of sprayings in this sector.

Finally, the need for and the effect of more restricted supervision of e.g. spraying equipment has been brought into focus. The working group on coordination of public authorities' supervisory tasks, counting participants from e.g. Local Government Denmark (LGDK), is currently working on an analysis of the overall supervisory area, including regulatory schemes concerning pesticides in agriculture.

Restrictive approval scheme

The Government aims to:

- Revise the approval scheme on a continuous basis and in step with most recent knowledge.
- Ensure compliance with the terms of use pertaining to pesticides.

- Ensure the lowest possible level of pesticide residues in food.
- Make the approval scheme more efficient.

Targets will be reached through:

- The implementation of projects concerning the prevention of environmental and healthrelated consequences of the use of pesticides under the Danish Pesticides Research Programme.
- The establishment of an intensified information campaign by Danish Agriculture (an amalgamation of the two agricultural organizations the Danish Farmers' Unions and the Danish Family Farmers' Association) about buffer zones and point sources, and compliance with terms.
- The enhancement of efforts in relation to the establishment of limit values for contents of pesticide residues in food.

The approval scheme is based on existing knowledge about the effects of the use of pesticides. This knowledge must be kept up-to-date with a view to curbing future environmental and health damage from pesticide use.

In the period up to end of 2009, projects will therefore be offered grants under the Danish Pesticides Research Programme, in order to enhance our knowledge about environmental and health-related consequences. This knowledge will be part of ongoing efforts to improve the approval scheme at national and international levels.

A significant prerequisite for using pesticides in a way that will not lead to unacceptable effects on human health and the environment is that terms associated with approval, such as use of personal protective equipment, distance to watercourses, maximum dosages, and time allowed between spraying and harvesting etc., are complied with in detail.

The Government wants to heighten user awareness of the significance of complying with the terms of approval. The Government has therefore agreed with Danish Agriculture, that the farmers' advisory service is to initiate information efforts to this end, the farmers' advisory service will moreover initiate information efforts concerning buffer zones and point sources.

Food safety for animal products begins with safe animal feed. The Government will therefore put more focus on contents of pesticide residues in animal feed. Within the Ministry of Food, Agriculture and Fisheries a study of the contents of pesticide residues in corn produced in

Denmark is being carried out. The study will be completed before the end of 2003 and decisions concerning any further initiatives will be made subsequent hereto.

Other initiatives for protection of groundwater

The Government aims to:

- Ensure that pesticides do not run off to the groundwater and exceed the limit value.

In order to ensure this, the Government will retain a restrictive approval scheme. In addition, the Government will:

- Safeguard the Warming System.
- Further develop the project by preparing the scientific basis for identifying areas that are particularly sensitive to pesticide runoff.
- Reduce the impact of pesticides from point sources.

- The Warning System

As extra safeguarding of the approval scheme, the Government will continue the Warning System in 2004 and up to and including 2009. The aim is for the Warning System to continue past 2009.

So far, results from the Warning System confirm that the approval scheme works. Ofthe 24 substances examined so far, only two substances have been proved to run off to near-surface groundwater, including drain water above the limit value. In these cases, approvals have been changed and banning procedures have been commenced.

- Particularly sensitive areas

Further safeguarding of the groundwater can be achieved by identifying areas most at risk of being polluted, so that the Government can establish cultivation agreements with farmers in order to minimise the risk of groundwater contamination. The aim is therefore to protect the groundwater in particularly sensitive areas.

The project to prepare the scientific basis for identifying such areas has shown that it is probably possible to identify those areas of arenaceous soil, which are most sensitive to runoffs of pesticides. The final report after completion of the project by the end of2003 will assess how to further develop the project into also including clay soil.

- Increased focus on point sources

In areas where spraying equipment is being cleaned after use or where filling of pesticides takes place, high levels of pesticide discharges may occur in very small areas. Experience from the Pesticide Action Plan 11 shows that on a number of farms, for instance, spraying equipment is still being cleaned on gravelled sites, which poses a great risk of pesticide runoffs into the groundwater.

Thus, in the continuation of existing activities, consultancy activities will be carried out at farm level in order to reduce the impact from point sources.

Moreover, more detailed rules on filling of spraying agents and cleaning of spraying equipment on hard-surfaced areas will be laid down.

Once completed, a draft of the new rules will be negotiated by the parties

Establishment of buffer zones/protection of surfacewater

The Government aims to:

- Establish 25,000 ha of spray-free buffer zones along targeted watercourses and lakes by the end of2009.

According to an estimate, almost 8,000 ha out of a target of 20,000 ha of spray-free buffer zones had been established by the end of 2002. Out of these, around one in four hectares is part of areas being cultivated organically. A project carried out by the Danish National Environmental Research Institute shows that the establishment of buffer zones can limit the content of pesticide residues in the aquatic environment. Therefore the aim is that the total area of buffer zones be increased to cover around 25,000 ha.

Targets will be reached through:

- An intensified information campaign by Danish Agriculture about the establishment of buffer zones under e.g. the Area Aid Scheme.
- More consultancy at farm level about the establishment of buffer zones.
- Conversion to organic farming and conversion to other pesticide-free farming.

The Set-Aside Scheme amongst other things provides the possibility of compensation payments to farmers in connection with establishment of buffer zones.

Consultancy about the establishment of buffer zones will be integrated into the targeted consultancy at farm level.

There will be annual status reports concerning the establishment of buffer zones. Furthermore, possible ways of converting farm subsidies to expedite the establishment of buffer zones will be examined.

Greener taxes on pesticides

The opportunity of implementing a revenue-neutral conversion of the tax on pesticides in order to base it more on the environmental impacts of the control agents will be examined in more detail.

Public sector use of pesticides

The Government aims to retain public sector efforts to minimise the use of pesticides. Local and regional authorities have reduced their pesticide consumption by over 80 per cent since 1995, whereas state authorities have reduced their consumption by 73 per cent in the same period. This positive trend must be maintained.

On the basis of a user interview survey, the parties behind the 1998 phase-out agreement are currently discussing results achieved and the need for possible adjustments to the agreement.

Private use of pesticides

The Government also wants to reduce the private consumption ofpesticides and prevent incorrect use and dosage of the control agents.

Thus, the Government will:

- Initiate an information campaign aiming at private garden owners.
- Strive to reach an agreement with industry on "ready-to-use" control agents.

In connection with the information campaign, the Ministry of the Environment will concentrate on incorrect dosage and handling of spraying agents as well as on alternatives to pesticides.

The Government will work on entering into agreement and cofinancing with relevant organisations such as Den 0kologiske Have (the largest organic garden in Denmark) situated in Odder, near Aarhus, and Det Danske Haveselskab (a non-profit association of Danish garden owners) about information, including establishing a Hot Line where garden owners

will be able to receive guidance and tips on how to deal with weed problems, fungal diseases etc. with no or with minimal use of pesticides.

A draft agreement with the Danish Crop Protection Association about sole marketing of "ready-touse" control agents for private garden use is currently being negotiated.

Evaluation

In the first half of 2010, an evaluation of target performance and measures applied will be carried out.

An evaluation of treatment frequency will be carried out each year in order to monitor target performance trends, however, considering annual variations. The treatment frequency index will be made public in the Danish Environmental Protection Agency's Pesticides Statistics.

The Pesticides Statistics shows significant fluctuations in consumption from year to year due to, for instance, climate variations or exceptional fluctuations in disease or pests. Similarly, the treatment frequency index will be made public as moving average over 3 years in order to adjust for such fluctuations not reflecting the general trend.

In connection with calculations of the treatment frequency index for 2007 a special status report about achievement of the overall strategy will be prepared. Provided the assumptions of the Bichel Committee concerning agriculture's production terms still apply, and provided it is technologically possible, the Government will discuss a possible reduction in the treatment frequency index by 0.1.

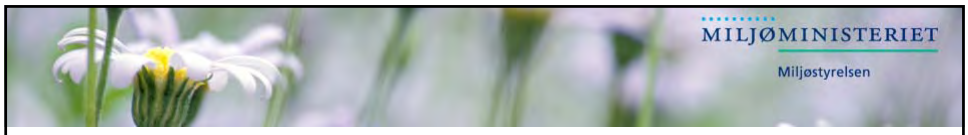
The process

In spring 2003, the Ministry of the Environment held meetings with the Pesticide Advisory Board and the Danish Water and Waste Water Association (DWWA) with a view to discussing the evaluation of the Pesticide Plan.

A draft Pesticide Plan was sent to the Danish Parliament's Environment and Regional Planning Committee and Committee on Food, Agriculture and Fisheries on 27 July 2003. At the same time, the plan was sent out for public consultation. The consultation period ended on 27 August 2003.

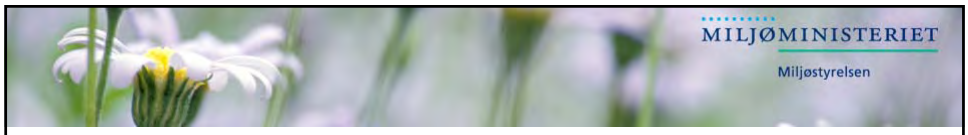
Annex 1.

Activity	2004	2005	2006	2007	2008	2009	Total
Consultancy and development hereof	**5.5**	**5.5**	**5.5**	**5.5**	**5.5**	**5.5**	**33**
Consultancy at farm level, including point sources agriculture	3.0	3.0	3.0	3.0	3.0	3.0	
Consultancy at farm level horticulture/fruit growing	0.5	0.5	0.5	0.5	0.5	0.5	
Development of method of consultancy	2	2	2	2	2	2	
Pesticide research	**5.5**	**5.5**	**5.5**	**5.5**	**5.5**	**5.5**	**33.3**
R&D into reduced pesticides use	2.8	2.5	2.5	2.5	2.5	2.5	
R&D into effects on the environment and health	3	3	3	3	3	3	
Buffer-zone project	**2**	**2**	**2**	**2**	**2**		**10**
Share of expenditure, Danish Institute of Agricultural Sciences	1	1	1	1	1		
Share of expenditure, Geological Survey of Denmark and Greenland	1	1	1	1	1		
The Warning System	**8.1**	**8.1**	**8.1**	**8.1**	**8.1**	**8.1**	**48.6**
Share of expenditure, Danish Institute of Agricultural Sciences	2.8	2.8	2.8	2.8	2.8	2.8	
Share of expenditure, Geological Survey of Denmark and Greenland	5.3	5.3	5.3	5.3	5.3	5.3	
Supervision of organic farms	**1.9**	**1.9**	**1.9**	**1.9**	**1.9**	**1.9**	**11.4**
Concentrations of residues in food	**1**	**1**	**1**	**1**	**1**	**1**	**6**
Reduction of pesticide consumption by the public sector	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**1.8**
Reduction of the impact of pesticides from use in private gardens	**0.6**						**0.6**
Total expenditure	**24.6**	**24.3**	**24.3**	**24.3**	**24.3**	**22.3**	**144.7**



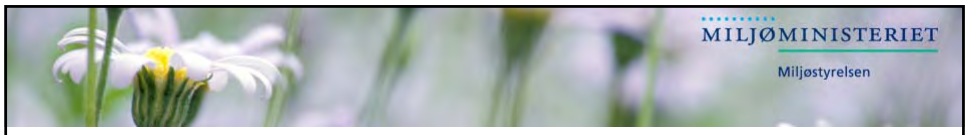
Pesticide Action Plans In Denmark
- aims, measures and lessons learned

Lene Gravesen
Pesticide Division
Danish Environmental Protection Agency



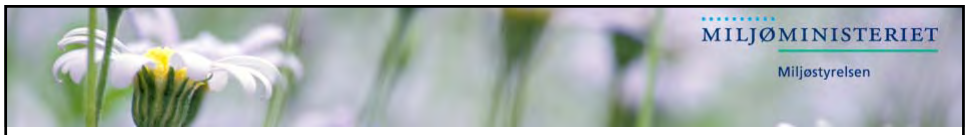
20 years with pesticide plans

- Pesticide Action Plan I 1986 - 1997
- Pesticide Action Plan II 2000 - 2002
- Pesticide Plan 2004 - 2009



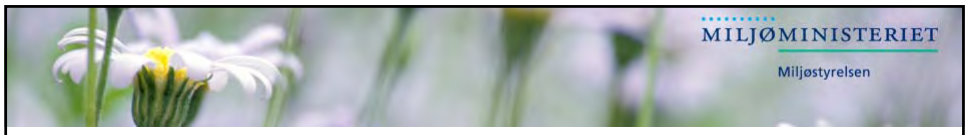
What got us started/keeps us going?

- Public/media focus on environmental consequences of increasing intensity of agricultural production methods
- More than 100% increase in spraying intensity 1981-1984
- Findings of pesticides in soil, water (groundwater, surface water, rain), air, and produce
- Protection of groundwater which in Denmark equals drinking water
- Thorough economic analysis of reduction potential



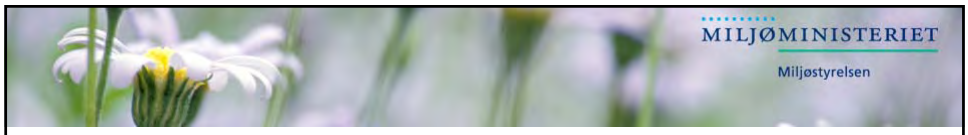
Two pronged strategy

- A strict authorisation system - no authorisation of pesticides that poses an unacceptable risk to human health or the environment
- Reduction of the total pesticide consumption (Frequency of Application)



Re-evaluation 1987 - 1997

- Amendment of the Chemical Act in 1987:
  - Legal basis for the re-evaluation
  - An alternative assessment/substitution
  - Updated datarequirements especially with regard to environmental issues
  - Substances considered especially hazardous to health or especially harmful to the environment could no longer be registered (10 cut-off criteria defined what was considered especially hazardous or harmful)



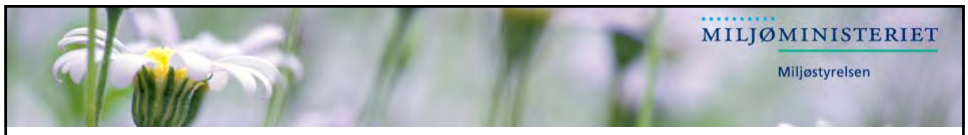
Out come of the re-evaluation

Out of a total of 216 active substances:

- 60 were not applied for
- 26 were rejected due to insufficient documentation
- 78 were approved
- 16 approvals/applications were withdrawn
- 30 were prohibited or strictly regulated

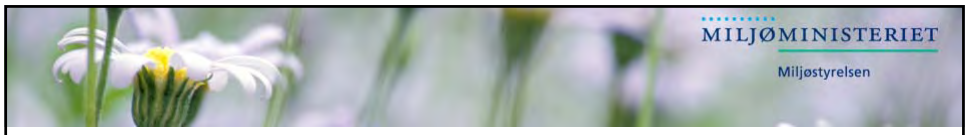
Lessons learned - re-revaluation and authorisation

- The re-evaluation was a laborious and difficult process in terms of developing a legal framework that worked
- Uses of pesticides that poses an unacceptable risk to health or to the environment are now banned or severely restricted
- Exemptions has eased agriculture's adoption to a situation with fewer pesticides
- Compared to other Member States relatively few pesticides/active ingredients are available in DK – but it hasn't been an obstacle to a highly productive agricultural sector



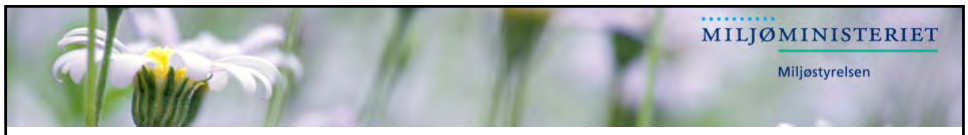
Strict registration system nationally – EU harmonization of registrations

- In order to sustain a strict authorisation system, local conditions must be taken into account in the risk evaluations, a certain free scope is thus necessary
- Proposal for alternative assessment/substitution and cut-off criteria's for inclusion of pesticides on EU's positive list is a positive step in the direction towards a high level of protection



Pesticide use reduction

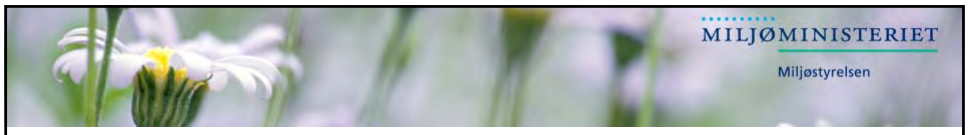
- Goal
  - Minimisation of the use of pesticides to a level still allowing for profitable cultivation
  - Frequency of Application reduced to1,7 by the end of 2009



Frequency of Application

Definition:

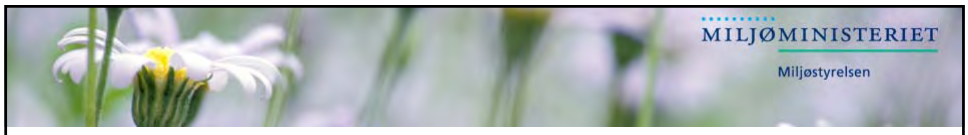
- The **Frequency of Application** is the calculated number of pesticide applications in agriculture per year, provided a fixed standard dose is used
- For some pesticides the standard dose is 1 kg active substance per hectare, whereas it for other (very potent) active substances is a few grams per hectare
- A Frequency of Application of e.g. 2.0 means that the area with arable crops on average has been sprayed 2 times with the fixed standard dose - be it 4 grams or 1 kg



Frequency of Application

Information needed to calculate the Frequency of Application:

- Acreage with relevant crops/crop types
- Sales of all relevant pesticides (products and/or active substances)
- Fixed standard dose for all active substances or products in relevant crops/crop types
- Knowledge of use patterns in order to allocate sales data to crops/crop types

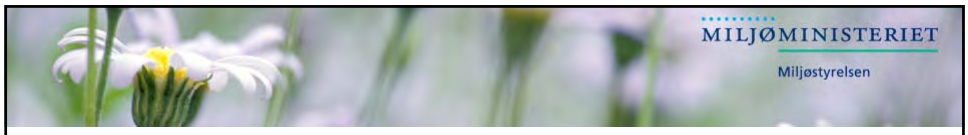


Frequency of Application

Example

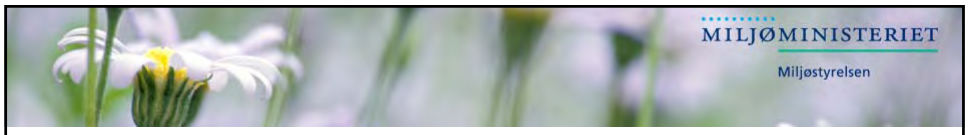
	Kg active	Potatoes	Peas	Vegetables	Total
Herbicides					
Aclonifene					
basis for distribution: %		80	10		10
kg active	9.483	7.586	948		948
standard dose: g/ha		1.500	1.200		1.500
treated area: ha		5.058	790	632	6.480
		.	.	. .	
		.	.	. .	
treated area, all herbicides:.ha		105.067	107.145	7.628	
area with crop: ha		37.224	29.534	5.092	
Frequency of Application		**2,82**	**3,63**	**1,50**	

treated area all herbicides, all crops. ha	2.561.001
agricultural area in rotation: ha	2.161.431
Frequency of Application herbicides	**1,18**
treated area all pesticides, all crops: ha	4.506.703
agricultural area in rotation: ha	2.161.431
Frequency of Application, all pesticides, all crops	**2,09**



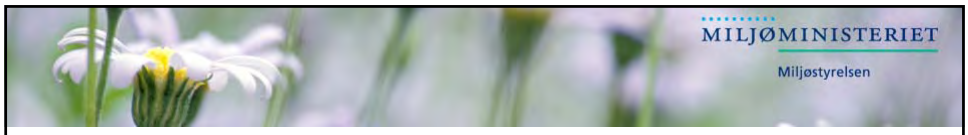
Frequency of Application as a pesticide use indicator

- The Frequency of Application reflects pesticide use in terms of spraying intensity
- The Frequency of Application reflects dependency on pesticides:
  - Use of preventive measures, adjusted pesticide use and non-chemical methods like e.g. crop rotation and resistant varieties, monitoring, forecast and mechanical weed control that leads to reduced use will be reflected in the Frequency of Application



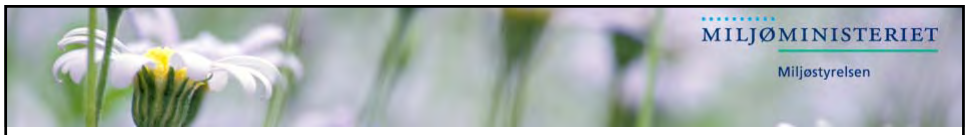
Frequency of Application and environmental impact

- The Frequency of Application is based on a fixed standard dose that relates to the biological active field dose and does thus reflect the direct effect on target organisms and related non-target organisms
- The Frequency of Application does also reflect indirect impacts on the ecosystem which results from changes in the quantities and species found in the food chain
- Projects under the Danish Pesticide Research Programme has shown a relation between pesticide use and bio-diversity
- All reports can be found on: www.mst.dk



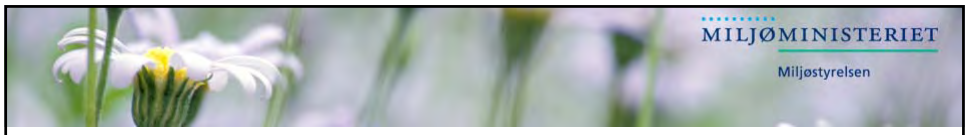
Status of Pesticide Action plan I 1997

- Sales of active ingredients reduced 40%
- Overall Frequency of Application largely unchanged
- Crop-specific frequency of application reduced 15-20%



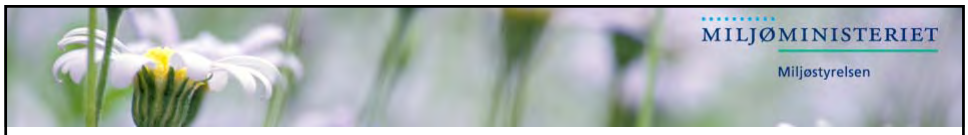
Parliamentary decision to asses the consequences of phasing out pesticides (1997)

- The Bichel-committee was formed to assess the consequences of various scenarios for phasing out pesticides
  - The committee analysed:
    - consequences for agricultural production
    - economic consequences for growers
    - socioeconomic consequences
    - health consequences
    - environmental consequences
    - legal consequences
- All stakeholders participated in the evaluation
- Costs: 1 million EURO ; Time: 1½ year



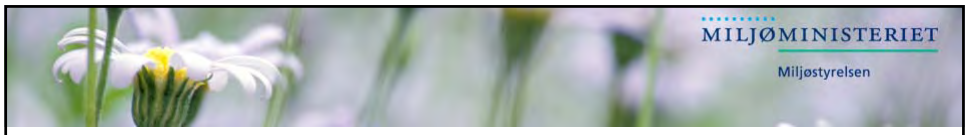
The Bichel-Committees main results

4 Scenarios	FA	Loss agri	Loss GNP
(2005	*2,32)*	bill. EURO	bill.EURO
Optimised use	1,4-1,7	None	None
Limited use	0,5	0,25	0,5
No pesticides	0	0,5	1.0
Organic farming	Eco-plan	?	1,5-3,5



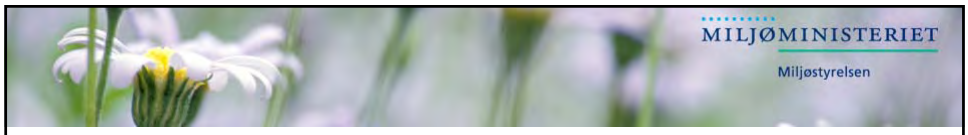
The Bichel-Committees conclusion

- The Bichel-committee (including all relevant stakeholders) concluded unanimously that the Frequency of Application could be reduced to 1.4 – 1.7 (30-40%) without significant losses to farmers and society if all available technology was implemented
- The committee unanimously recommended a general reduction of pesticide use
- An update of the economic analyses of the reduction potential in 2003 showed that a Frequency of Application of 1,7 was economical optimal for the farmers
- On average 5-15 EURO's per hectare can be gained by reducing the Frequency of Application to 1.7
- In other words: There is at present an overuse of pesticides



Measures to reduce the use of pesticides

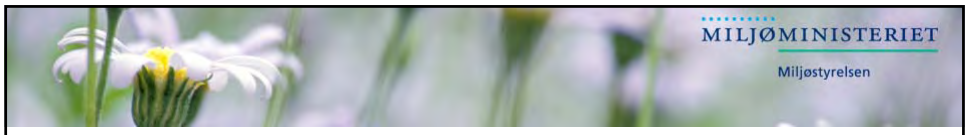
- Information and extension including Info-groups and Demonstration farms
- Compulsory training
  - 12 hours training (health and environment, no exams), or
  - 72 hours training (health, environment and pest control, 4 exams)
- Spraying logbooks
- Inspection of spraying equipment



Measures to reduce the use of pesticides

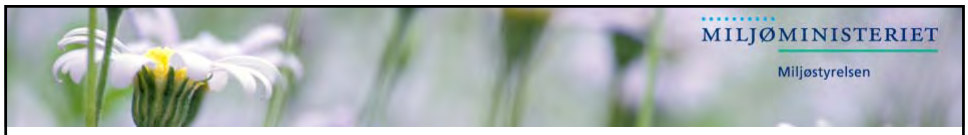
Pesticide tax (value added)

- insecticides and soil disinfectants 54%
- fungicides, growth regulators, herbicides, and repellents 33%
- The tax yield is used for:
  - reduced land tax
  - organic farming
  - research and monitoring
  - activities related to the pesticide action plan
  - administration of the approval system for pesticides



Targeted extension to reduce the Frequency of Application

- Reduction plans on farm level
- Target Frequency of Application for all main crops
- Extension officers and farmers work out how the Target Frequency of Application can be achieved on individual farms
- Decision support and warning systems
- The Frequency of Application on 6,660 farms, that have had a reduction plan (2000 – 2005), was between 1.7 and 2.0



Target Frequency of Application

Target Frequency of Application for herbicides, fungicides, insecticides and growth regulators has been established for all main crops

Crop	Target Frequency of Application				
	Herbicide	*Fungicide*	*Insecticide*	*Growth reg*	*Total*
Winter wheat	0.95	0.65	0.15	0.0	1.75
Spring Barley	0.70	0.35	0.25	0.0	1.30
Potatoes	1.60	5.00	0.50	0.0	7.10
Sugar beets	2.20	0.20	0.20	0.0	2.60
Peas	1.80	0.10	0.60	0.0	2.50
Other crops	.	.	.	.	.
All crops	**1.08**	**0.46**	**0.22**	**0.01**	**1.7**

MILJØMINISTERIET
Miljøstyrelsen

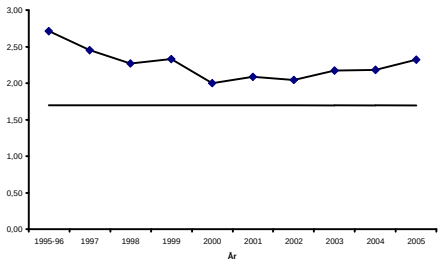
Reduction plans on farm level - results

Frequency of Application at farm level in relation to Target Frequency of Application for 2002 (goal 2,0)

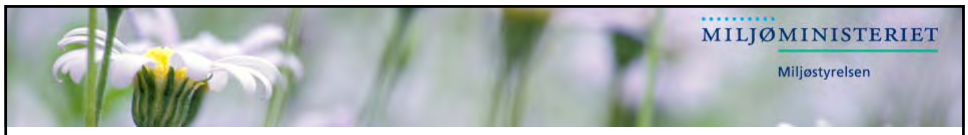
	2000	2001	2002	2003	2004	2005
FA/TFA	0,91	0,84	0,91	0,90	0,87	0,92
No. farms	1776	2985	3733	3155	1443	697

MILJØMINISTERIET
Miljøstyrelsen

Status



Frecuency of Application 95-1996 to 2005.



Status

- The Frequency of Application has been rising the latest years (2.04 in 2002; 2.32 in 2005)
- The government will consider the need for additional measures to reach the reduction goal, when the Frequency of Application for 2006 is calculated (Summer 2007)

Lessons learned - use reduction

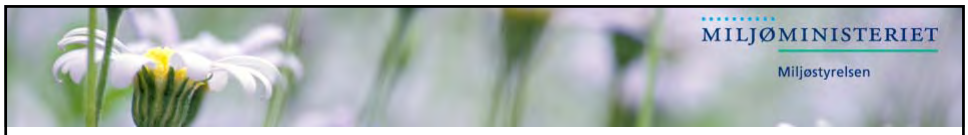
- Public/media focus on pesticide issues (ground water protection) has been a major driving force in Danish pesticide policy
- Fixed goals and fixed time tables have been helpful in maintaining and developing the pesticide policy
- Economic analysis of the reduction potential (The Frequency of Application) has made it feasible to establish tangible use reduction goals at national level, which can be understood and implemented at farm level
- Involvement of all stakeholders in the Bichel-committee has lead to a common understanding and acceptance of the goal to reduce the use of pesticide
- Financial support to projects and activities is important - in DK the activities related to the Pesticideplan is mainly financed by the pesticide tax.

National Action Plans – Framework directive for sustainable use of pesticides

- Thorough economic analyses have demonstrated that pesticide us in Denmark can be reduced without costs to the farmers if best practice is implemented – this may also be the case in other member states
- Quantitative use reduction goals (as intended in 6EAP) should be included in the framework directive for sustainable use of pesticides in order to eliminate overuse of pesticides

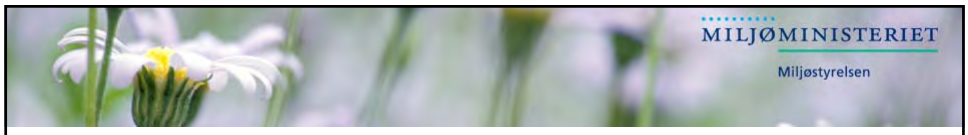
National Action Plans – Framework directive for sustainable use of pesticides

- The Thematic Strategy and proposal for a Framework Directive for Sustainable Use of Pesticides points towards low-pesticide input farming
- Setting quantitative use reduction targets will concretize, support and allow for monitoring progress towards the objective of encouraging low-input or pesticide-free cultivation (cf. the thematic strategy and the framework directive).



More information

- The Danish Pesticide Plan does also include:
  - Establishing of 25.000 hectare pesticide-free buffer zones along watercourses and lakes
  - Establishing rules for filling of cleaning application equipment
  - Phasing out pesticides on public areas
  - Reduction of pesticide use in private gardens
  - And much more…
- More information can be found on our web-page:
  - www.mst.dk



Thanks for your attention!

Sari Autio, Finnish Environment Institute SYKE
Eija-Leena Hynninen, Finnish Food Safety Authority Evira

13.-14.3.2007, BBA, Berlin

TOWARDS A NATIONAL ACTION PLAN FOR REDUCING RISKS OF PLANT PROTECTION PRODUCTS IN FINLAND

1. Legislation and system for the approval of plant protection products in Finland

The Finnish legislation on plant protection products is under development at the moment. A new Act on Plant Protection Products (1259/2006) came into force at the beginning of 2007. The National Regulations under this law are currently being reviewed. The EU directive (91/414/EEC) concerning the placing of plant protection products on the market is implemented by this legislation. The aim of the change of the legislation was to simplify the authorisation of plant protection products, renew the control system and change the grounds of payments.

The basis of our legislation is that plant protection products can be used in Finland only after approval. Our location in the North asks for careful risk assessments of the properties of a plant protection product before it can be approved.

The authority responsible for the approval of plant protection products is the Finnish Food Safety Authority Evira. The application for approval of a product for use as a plant protection product is made to Evira. After receiving the application Evira requests the different inspection authorities (Agrifood Research Finland MTT, National Product Control Agency for Welfare and Health STTV, and Finnish Environment Institute SYKE) to carry out inspections within their fields of activities and issue their statements to Evira on the conditions for approval on the basis of the results of the inspections. Based on the statements Evira will then decide on approval.

The plant protection products are approved for a maximum of ten years and the approval can be extended on application. The application for extension has to be made 12 months before the approval expires.

The Finnish approval authorities have prioritised new products in order to substitute old and possibly more harmful products by new and possibly less harmful ones.

Finnish Food Safety Authority Evira is the official national control organisation in the field of agricultural production inputs in Finland. They supervise the manufacture, import, trade in, storage, transport and use of plant protection products as well as other regulations issued on plant protection products. Evira makes an annual control plan and the inspectors of the Rural Departments of the Regional Employment and Economic Development Centres do the actual inspections. They report back to Evira.

2. Reducing the use of plant protection products

Finland has not yet any officially approved action plans for reducing the use of plant protection products. A draft was drawn up in the beginning of the 90s and it has been called

“the reduction program” although it was never officially approved. After that measures that could have formed part of a reduction program have been taken into the agri-environmental programs and partly that is why no new drafts for action plans have been made.

However, according to the draft Framework Directive for Sustainable Use of Pesticides such programs could be implemented and included in the National Action Plans. Many of the suggested elements are already voluntarily in use in Finland.
The Agri-Environmental Programs (1995-1999, 2000-2006 and 2007-2012) have as goals to reduce the environmental load caused by agriculture, especially the load in surface and ground waters and in air, protect the biodiversity and take care of the rural landscape. Measures concerning the use of PPPs form one part of the program.

Among the measures is that plant protection products should be used according to established need only. To determine the need control thresholds, forecasts and specialist systems have been developed. Emphasis has been put on crop rotation and integrated pest control.

All agricultural spraying equipments have to be tested regularly every five years.

The farmers have to attend training every five years. Further the program includes the extension service, advice to and training of the persons using pesticides. The environmental training for farmers covers also other issuers than just the use of plant protection products.

A project called "Balanced Crop Protection" formed the basis for the training in 2000 – 2006. A group of scientists, advisers, industry and administration jointly produced booklets for 24 different crops (A Balanced Crop Protection on wheat, on barley, on potatoes etc.) as well as one book on crop protection in ecological farming. Every farmer had to buy the booklets for the crops he grew. The booklets cover crop protection measures in a wide sense starting from the selection of the right variety, the right field, right crop rotation, through using the right cropping techniques to actual chemical crop protection. These booklets mainly cover the general IPM criteria to be developed according to the draft Framework Directive for Sustainable Use of Pesticides.

The farmers also have to keep records on pesticides used, their amounts etc.

The Agri-Environmental program has became very popular among the farmers as more than 90 % of all farmers applied for it and it covers more than 95 % of the cultivated area in Finland. In the beginning the measures of the program were maybe not always so popular, but the subsidies are very important for the farmers' economy and therefore also the measures became accepted.

As it covers almost all farmers and all cultivated land this is the instrument to affect farmer behaviour concerning environmental issues most extensively.

3. Special certificate

When approving a very hazardous plant protection product Evira can decide that the product may be sold to persons holding a special certificate only. This is for the plant protection products that are among the most toxic and most harmful to the environment. To get the

special certificate the user has to pass an examination arranged by Evira. The examination covers in general the areas of toxicology, operator safety and how not to harm the environment when using pesticides. Additionally it shortly covers the properties of the certain products, an overview of the harmful organisms that the products are used against and alternative ways of protecting the crop (biological and cropping techniques) and lastly the spraying equipment. The certificate is valid for ten years. The special certificate can replace the compulsory training required in the Agri-Environmental Program.

4. Label texts

The entire text that is printed on the label of each plant protection product has to be approved by Evira. The text covers the name of the product, amount and name of active substances, risk and safety phrases, safety equipment, use instructions and necessary restrictions of use as needed e.g. for protecting the environment.

Among these environmental restrictions are a prohibition to use a product along water courses closer than 10, 15 or 25 m depending on the aquatic toxicity of the product, a restriction of use in consecutive years in the same field or limited times during the growing season, restrictions of use in ground water areas or on areas with certain soil types. Further restrictions cover e.g. the use of products harmful to bees on flowering crops or in the neighbourhood of bee hives. The Finnish Environment Institute proposes the restrictions in its statement according to the risk assessment and on the basis of the properties of the product, its active substances and metabolites. The restriction phrases of each product are designed to fit the cultivation practices of certain crops in Finland.

The restrictions of use must absolutely be followed by the user and the farmers have to keep records on plant protection products used on each field sector. During the last years Evira has targeted its control measures on ensuring that the farmers really follow the restrictions.

5. Risk indicator and sales of plant protection products in Finland

Statistics on the sales of pesticides have been collected in Finland since 1953. The data covers the amount of active substances and the amount of products sold every year. The data is published every year (www.evira.fi). In the beginning of 2007 there were 295 approved plant protection products on the market in Finland containing 150 active substances. In the 1990s the sales of plant protection products went down for several years in Finland and reached a level of about 1000 tonnes of active substance per year, which corresponded to a use of approximately 0,5 kg/ha. The sales have, however, risen again during the last years.

SYKE calculates the risk indicator yearly. It indicates that the environmental risks of PPPs are growing together with the sales amount.

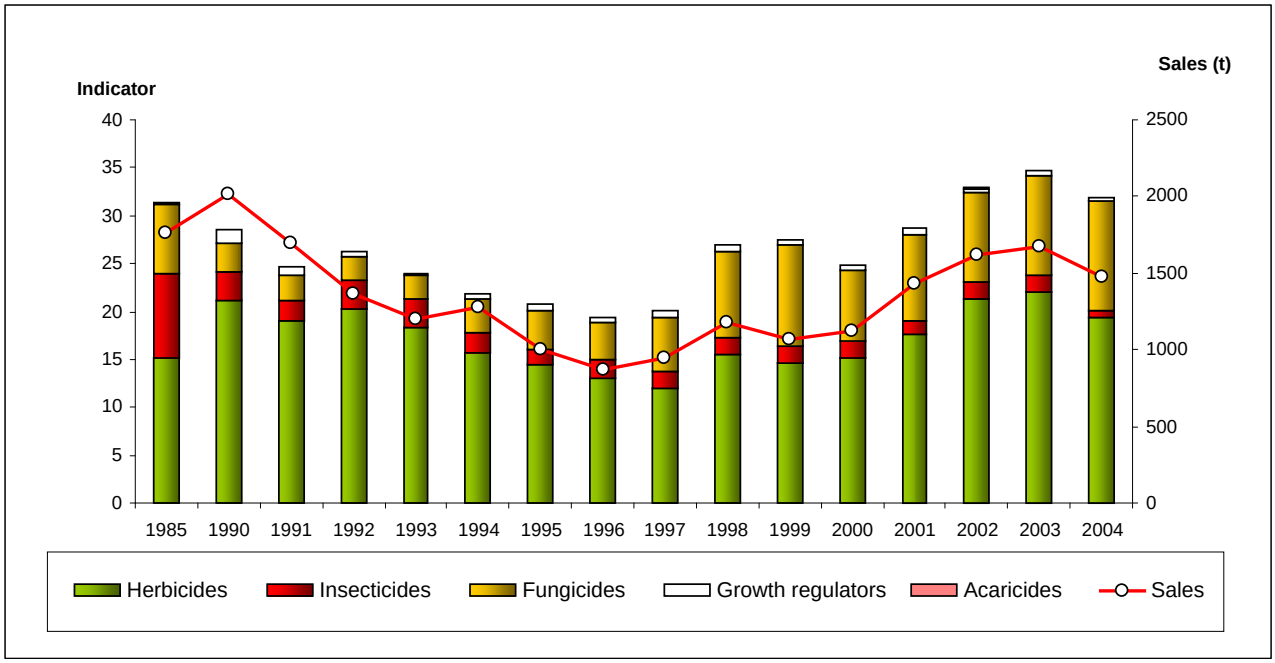


Figure 1. Risk indicator and sales of pesticides as active ingredients in Finland 1985 – 2004 (SYKE and Evira). Persistence, bioconcentration, leachability and ecotoxicological properties are accounted in the Finnish risk indicator.

Changes in cropping techniques, growing farm size and more professional use of PPPs, a larger part of the cultivated area in grain production and falling prices for glyphosate have been suggested as reasons for the growing sales trend.

6. Conclusion

The work on reducing the risks from the use of plant protection products has in Finland mainly consisted of an approval system where the products are evaluated and approved before they can be sold and used.

Based on the Finnish geographic position, the Northern cold climate and short growing season, the basic need for chemical crop protection is quite low. The pest and disease pressure is low compared to the rest of Europe. These are among the reasons for not having had a more active use reduction policy yet.

Through different systems, both voluntary and compulsory, and a broad co-operation between different stakeholders the farmers have been trained, the spraying equipment are tested and the scientists are developing new cropping methods. Emphasis has been put on training and advising mostly on a voluntary basis. Now we have started to analyse the situation and we will revise our policy taking into account the new requirements to be established by the Framework Directive on Sustainable Use of Pesticides.

INTERMINISTERIAL PLAN FOR REDUCING RISKS LINKED TO PESTICIDES 2006-2009

In 2004, in terms of quantities of substances sold, France held 3rd place in the world in the market for pest control products and 1st place in Europe (75,100 tonnes of active substances sold, 90% of which were for farming purposes) and 4th place in Europe per farmed hectare (not including grass covered areas). The inventory of biocides in France currently underway has already enabled more than 3,000 products to be identified. Beyond the role of these pesticides (phytopharmaceutics and biocides) in terms of combating against harmful organisms that could affect, in particular, the quantity and quality of agricultural production, their use can generate direct or indirect risks for humans (both users and the public in general, who are exposed via the air, water and foodstuffs) and ecosystems (biodiversity). Their use now constitutes a major challenge for society, further underlined by the results of the joint scientific expert appraisal carried out by the INRA (French National Institute for Agricultural Research) and CEMAGREF (French Research Institute for Agricultural and Environmental Engineering). The information available demonstrates:

- A worrying and generalised contamination of water by pesticides. Their presence has been detected in 80% of surface water measuring stations and 57% of ground water measuring stations. The good ecological and chemical condition of water, a requirement for 2015 with regard to the Water Framework Directive, is at present only attained for one third of water courses and one half of all ground water in France. On the other hand, the quality of the water supply is good with regard to pesticides, with 99% of the analyses carried out falling within the standards. Nevertheless, in 2003, 9% of the French population was supplied with tap water whose quality was, at least on one occasion, non-compliant with regard to pesticides.

- The detected presence of certain pesticides in other compartments of the environment: in soils, with for example a high persistence of organochlorines, which have been prohibited for more than ten years, or in the air.

- The potential effects on human health, through epidemiological studies, which can be either chronic (with for example congenital malformations, cancers and lymphomas), or acute, but without it being systematically possible to prove a causal relation. By way of example, it has been observed that the incidence of cancer in farmers is lower than other categories of the general public, but that an increased risk exists for certain specific cancers.

These elements lead to two findings: the necessity of acting on both products and practices in order to reduce the use, the presence and the impact of pesticides, and the necessity of having available scientific data concerning these products and their impact, in order to better understand their potential effects and contribute to preventing them.

It is for this reason that the ministers in France in charge of health, agriculture, ecology, competition and consumer protection and the repression of fraud have decided to implement a new interministerial plan for reducing the risks linked to pesticides. This aims to reduce their use and the risks that they create in health terms for the users of the products and the consumers of foodstuffs, as well as their potential effects on the different compartments of the environment (water, air and soil) and biodiversity.

One of the objectives of this plan is to reduce by 50%, between now and the completion of the plan, the quantities of the most hazardous active substances sold.

This plan complies with the commitments undertaken by the French government in the national health and environment plan published in June 2004 and the "Agriculture" action plan of French strategy for biodiversity published in November 2005. It is in keeping with the pursuance of the interministerial plan launched in 2000 by the ministers in charge of agriculture and the environment through the work of regional groups for combating pollution by pest control products and by reinforcing the actions already undertaken in this respect, as well as by the profession itself, and is based on the following five goals:

1. **Acting on the products by improving the conditions under which they are released on the market.**
2. **Acting on practices and minimising recourse to pesticides.**
3. **Reinforcing the training of professionals, the protection of users of pesticides and providing them with better information.**
4. **Enhancing knowledge and transparency in terms of the impact of pesticides on health and the environment.**
5. **Evaluating the progress made.**

GOAL 1: ACTING ON THE PRODUCTS BY IMPROVING THE CONDITIONS UNDER WHICH THEY ARE RELEASED ON THE MARKET

Pesticides are only released on the market after an assessment of the hazards and risks linked to their use, their effectiveness and their selectivity. The modalities for granting PMA (product marketing authorisations) are overseen on a European scale (list of authorised substances, provisions for evaluating and issuing PMA). These have been transposed to national regulations.

1.1. Improving the procedures for evaluating products prior to their being marketed

- By entrusting to the AFSSA (French Food Safety Agency), in July 2006, the evaluation of the benefits and the risks of pest control products, until then assured by the *Commission d'Etude* (French Toxicity Study Commission) and the *Comité d'Homologation* (French Approvals Committee). By separating risk assessment and risk management, this new set up will enable PMA to be granted in a more efficient and transparent manner. Linked to the increase in the amount of probate duties, this will make it possible to significantly reduce the time necessary for evaluating dossiers.

- By assuring the build up of measures for assessing and managing the risks of biocide products in particular, with the granting of the first PMA for products by the French Ministry of Ecology and Sustainable Development as of 2007. Active substances are already being evaluated and the first decisions to register active substances in EU lists will be taken in 2006. Financial resources are available thanks to the establishment of a specific fee paid by the company filing its PMA application with the AFSSET (French Agency for Environmental and Occupational Health Safety).

- By limiting the market release and the use of products containing CMR (i.e. those with carcinogenic (C) or mutagenic (M) properties or which are toxic to reproduction (R)). France will put before the European Commission a memorandum requesting the integration of the principle of substitution in EU regulations, which are currently being reviewed. This principle aims to favour, for the same use, substances and products that present less environmental and health risks. In this respect, new substances or CMR classified products that will be examined by the evaluation bodies will only be authorised for uses for which no efficient alternative exists, including non chemical methods, presenting a less significant risk for health or the environment. While awaiting this EU review, targeted inquiries will be undertaken on the conditions of use of existing products containing CMR substances and will lead to the withdrawal of products if the conditions set out in the PMA are not complied with. Finally, these substances will be taxed with regard to a fee that will replace the present TGAP (French general tax on polluting activities) on pest control products.

1.2. Reinforcing the management of risks linked to the distribution and the use of pest control products

- By reforming the system for approving distributors and applicators of pest control products, by reinforcing the professionalisation and the training of the players concerned and by taking into account advisory aspects towards users (recommendations) with regard to selling and traceability aspects. This means, within the scope of the overall plan, which provides for the updating of all of the phases extending from the evaluation of pesticides up to their use, placing particular attention on their distribution, their application and their recommendation. Measures for overseeing the applicators and distributors of biocide products will be envisaged on a case by case basis, when these products are covered by the new PMA measures, as of 2007.

- By improving transparency with regard to identical products, particularly by providing a framework for their being released on the market and by assuring that users are well informed (through product labelling and overseeing advisory aspects).

- By assuring traceability of the sale of pesticides by keeping registers of sales by the distributors of pest control products and by transmitting them to water agencies and to the ORP (French Pesticides Residues Observatory), which will make this information available to the public in summarised form. The registers will indicate the post code of the purchasers. The holders of PMA for biocide products will also have to make available to the authorities the quantities put on the market.

- By prohibiting the sale to amateur gardeners of products not bearing the phrase “Suitable for use in gardens”. Henceforth, this marking will be assigned after a specific evaluation of the products in question.

- By overseeing, in a more efficient manner, recourse to treatments by aircraft, in particular, by restricting aerial treatments to products bearing a specific marking “Aerial treatment”. These measures will be put in place in 2007, after specific evaluation of the products, taking account of the proposals of the AFSSET report of June 2005.

- By overseeing, in a more efficient manner, recourse to fumigation by reinforcing, between now and the end of 2006, the regulations concerning, in particular, the safety of operators, the traceability of products and the training of those involved.

- By providing a regulatory framework for the use of extemporaneous mixtures by subjecting the most hazardous mixtures of preparations to prior assessment and by reducing the number of such mixtures.
- By improving post accreditation health and environmental monitoring throughout the country in order to enable PMA to be adjusted, or even withdrawn, if specific undesirable effects not identified at the end of the prior assessment phase of the products (aquatic risks, phytotoxicity, resistance, etc.) appear. By taking into account, in a more efficient manner, the appraisals of the health and environmental monitoring measures and the ORP in order to revise the PMA and the management provisions.

1.3. Reinforcing controls during the distribution and the use of products

- By extending to all departments the annual control plan conducted by the services of the DGCCRF (French Directorate General for Competition, Consumer Protection and Fraud Control) and by developing the national network of investigators specialised in the control of pest control products, which was created in 2004, and by paying particular attention to products intended for amateur gardeners.

- By carrying out, as of 2006, at least 5,000 controls by the SRPV (French Regional Plant Protection Services) concerning the use of pest control products. These controls will be taken into account with respect to the conditionality of aid as of 2006. The carrying out of these controls will be subject to quality assurance between now and 2008.

- By targeting the controls carried out by the SITA (French Farm Work Inspection Services) on the most hazardous treatments (very hazardous substances, treatments in confined spaces, etc.).

- By developing surveys concerning occupational accidents and declarations of occupational illnesses linked to exposure to pest control products, particularly in liaison with the health and safety at work services of the MSA (French Agricultural Mutual Assistance).

- By authorising certain officers of the *Police de l'Eau* (French Water Police) to carry out controls with regard to the use of pest control products.

- By assuring control of the market release of biocides from 2006 onwards by the services of the DGCCRF.

GOAL 2 – ACTING ON PRACTICES AND MINIMISING RECOURSE TO PESTICIDES

INRA and CEMAGREF have carried out a joint scientific expert appraisal at the request of the Ministry of Ecology and Sustainable Development and the Ministry of Agriculture and Fisheries on the theme "*Agriculture et environnement : réduire l'utilisation des pesticides et en limiter les impacts environnementaux*" (Agriculture and environment: reducing the use of

pesticides and limiting their environmental impacts), the results of which were released in December 2005. It underlines the fact that a reduction in the use of pesticides is necessary to significantly reduce the risks linked to these products, particularly in areas where health and environmental issues are of considerable importance. Alternative agronomic reasoning and techniques exist to the use of such products.

Furthermore, it shows that it is necessary to acquire new scientific, technical, economic, environmental and ecotoxicological references on the conditions for implementing production systems minimising recourse to pesticides, while avenues for improvement can already be profitably employed.

According to the 2001 inquiry "*Pratiques culturales*" (Farming practices) conducted by the SCEES (French Central Office for Statistical Surveys and Studies) of the Ministry of Agriculture, areas for progress exist. Recourse to systematic treatments is still too frequent. Non agricultural uses present non negligible risks for the health of operators and the environment, even though such uses only concern 10% of the tonnage of active pest control substances sold.

Regional groups in favour of combating water pollution participate in improving practices by implementing action plans in priority zones.

2.1. Encouraging practices and production systems that minimise recourse to pesticides

- By developing a joint INRA / CEMAGREF research programme, extending the results of the collective expert appraisal carried out by these organisms, in order to develop farming systems that use pest control products sparingly.

- By initiating approaches in partnership with research establishments, technical institutes and farming development organisations in order to structure a network for acquiring environmental, technical and economic references on these production systems, by elaborating a methodology for the construction of technical frames of reference for each production system and by assuring they are disseminated to all users of pesticides and their partners. By encouraging, at a local level, experimentation of strategies that minimise recourse to pesticides.

- By initiating approaches in partnership with non farming organisations that use or sell pesticides in order to incite them to reduce recourse to pesticides and to improve their practices or their recommendations (local authorities, administrators of road and rail infrastructures, green spaces and leisure activities, amateur gardeners, garden centres, etc.).

- By assuring the promotion of integrated plant production farming systems within the framework of the farming advice that will be implemented on the 1st January 2007 with regard to the conditionality of aid provided by the Common Agricultural Policy, in particular in the *Avertissements Agricoles* (French information and advisory tool for farmers with respect to quality, health and plant protection) of the regional services for plant protection. A website hosted on the Ministry of Agriculture website will improve the dissemination of information provided in these *Avertissements Agricoles*.

- By supporting organic farming through a tax credit capped at 2000 Euros for farms in which more than 40% of income stems from organic farming. By boosting the financial resources of water agencies to combat water pollution by pesticides, through the creation of a nonpoint source pollution toll paid by authorised distributors of pest control products, worth an amount estimated at around 40 million Euros a year.

- By mobilising funding to develop production systems minimizing the use of pesticides, particularly within the scope of rural development regulations and water agency intervention programmes.

- By putting in place action plans for each catchment basin under the aegis of prefects to protect drinking water resources against nonpoint source pollution. Fifteen initial catchment basins were selected in 2006.
- By preventing the risks of the appearance and dissemination of harmful organisms (dealing with the causes rather than the effects), by reinforcing the monitoring provisions and by assessing the risks of dissemination.

2.2. Reducing the transfer of pesticides into water

- By making obligatory, as of the next crop year, compliance with a minimum non treated zone of 5 metres at the edge of water courses for all products applied by powdering or spraying and by encouraging the set up of permanent plant covered sites at the edges of such water courses.

- By improving the quality of the spreading equipment used, through obligatory regular inspections of sprayers in service and by imposing minimum standards of an environmental nature with respect to new or second hand sprayers sold by mechanised equipment professionals.

- By taking measures to protect drinking water distribution networks against pollution by pesticides while filling sprayers.

2.3. Improving knowledge of practices and promoting reasoned practices in the farming and non farming sectors

- By developing actions enabling the conditions of use of pesticides to be better understood.

- By controlling, with regard to the conditionality of CAP subsidies as of 1st January 2006, the registration of practices for all uses of pesticides on crops intended for human and animal feedstuffs. The obligation to register will be progressively extended to other uses.

- By modernising farming equipment with a view to adapting it to health and environmental requirements. A *Plan Végétal* (environmental plant programme) will be implemented in 2006. This will make it possible to support specific investments, guaranteeing a well managed and reasoned use of soil, the water resource and inputs (in particular, pest control products, etc.) by farming practices aiming, beyond complying with regulations, to reinforce the positive impacts on the environment and

to reduce their negative effects, without bringing into question the economic profitability of farms.

- By participating in the promotion of good farming practices, the specification of which includes requirements relative to the reasoned use of pest control products and the limitation of their transfer into the environment, with an objective of 30% for each qualifying farm in 2008. Aid of €1,000 for each qualifying farm has been implemented as of 2006.

2.4. Improving the management of pest control product waste and reducing point source pollution

- By promoting the operations undertaken by ADIVALOR for recovering and eliminating unusable pest control products and their packaging. The Ministry of Ecology and Sustainable Development and the water agencies will continue to support operations for recovering and disposing of unusable pest control products used by the ADIVALOR Company.
- By organising, in 2006, the elimination of stocks held by wine producers and the distributors of sodium arsenite, a highly toxic product that is now prohibited.

- By improving the management of pest control effluents: an Interministerial Order will provide the framework for the conditions for their elimination enabling, in particular and under certain conditions, safe spreading in fields of treated effluents and tank residues after dilution.

GOAL 3: REINFORCING THE TRAINING OF PROFESSIONALS, THE PROTECTION OF USERS OF PESTICIDES AND PROVIDING THEM WITH BETTER INFORMATION

Proper training of everyone involved in the distribution and the use of pesticides and their protection by appropriate means is indispensable in preventing risks.

3.1. Developing the training of professionals

- By completing the reference framework for the specific training of approved distributors and applicators of pest control products in order to integrate health and environmental risks more efficiently.

- By making obligatory, every 5 years, safety training for farm workers exposed to pesticides. The content of the training, which will include both theoretical and practical aspects, will be defined by the Ministry of Agriculture and Fisheries and will give rise to an attestation provided to the trainee.

- By developing the health-environment dimension in initial and ongoing training in preparation for jobs concerned by the use of pesticides, by integrating it in occupational frames of reference, professional guidelines that are planned to be updated in the period 2005-2009, and by drawing up, for the other reference frameworks, precise pedagogic recommendations to meet this objective.

- By encouraging the roll out of training modules on maintaining roads and green spaces limiting recourse to pesticides through framework agreements.

- By putting in place actions for informing and training medical practitioners in rural environments of the risks linked to pesticides.

3.2. Improving the protection of users of products and providing them with better information

- By establishing standards in order to ensure enhanced protection of users in the following areas: (i) criteria for ensuring the efficiency of the purification system of cabins of motorised sprayers and tractors used for farming with purified air systems, (ii) packaging of products in powder form in order to equip them with a leak proof sealing system and (iii) appropriateness of individual protection equipment with regard to the risks linked to the use of pesticides. The Ministry of Agriculture and Fisheries and the MSA will ensure such equipment receives wide publicity in order to encourage the distributors of pesticides to put on sale, alongside their products, the most suitable individual protection equipment and to inform those working in the farming sector of the most efficient protection in order to reduce the risks.
- By improving the information provided to users, by harmonising the labelling of products and by improving their legibility. A framework document will present all of the regulatory provisions and the official recommendations that have to be detailed on the labels of pest control products.

- By implementing a specific action plan in DOM (French overseas departments): by reinforcing the training of pesticide work inspectors appointed in DOM, by extending the "*Phyt'attitude*" (French pesticide awareness raising campaign) network put in place in metropolitan France by the MSA to make a census of intoxications linked to the use of pesticides declared by users or attending physicians, and by extending the Decree 87-361 relating to the protection of farm workers exposed to anti-parasite products for farming purposes.

GOAL 4. ENHANCING KNOWLEDGE AND TRANSPARENCY IN TERMS OF THE IMPACT OF PESTICIDES ON HEALTH AND THE ENVIRONMENT

The scientific, technical and statistical data currently available needs to be completed in order to estimate the exposure of the public and the environment to pesticides and to assess their impact on the health of the general public, farm workers and ecosystems.

4.1. Improving our knowledge of the presence of pesticides in different environments

- By reinforcing the set up of an ORP to collect, analyse and build on information on the presence of pesticides in different environments in order to characterise exposure of the public and ecosystems to pesticides and in order to improve the information available to the public, coordinate the monitoring plans of the public authorities and to facilitate risk assessment and scientific research in the health sector. The scientific and technical coordination of the ORP has been entrusted to the AFSSET. A website (www.observatoire-pesticides.gouv.fr) specific to the ORP, which will publish the works of the ORP and data on the presence of pesticide residues, will be consultable in June 2006.

- By reinforcing and coordinating (relying in particular on the works of the ORP) the effort to build up our knowledge of the presence of pesticide residues in all compartments of the environment (soil, air and water) and foodstuffs. The control and monitoring plans will be reinforced by the authorities (for example on drinking water abstraction) and complementary air quality monitoring measures will be put in place. Moreover, in application of the health package, the requirement for self-inspections will be extended to the stage of agricultural production intended for foodstuffs. The PNSE (French National Health & Environment Plan) provides for the implementation of this action in each region.

- By extending the areas of intervention of regional groups to monitoring pesticides in all compartments of the environment.

4.2. Improving our knowledge of the impact on the public and the environment of exposure to pesticides

- By promoting research in terms of increasing our knowledge of the impact of pesticides on the environment and biodiversity: the Ministry of Ecology and Sustainable Development will launch in 2006 a third call for research projects concerning *"L'évaluation et la réduction des risques liés à l'utilisation des pesticides"* (The assessment and the reduction of risks linked to the use of pesticides). Its objective is to make available to managers and administrators methods and risk assessment tools and systems minimising recourse to pesticides.

- By organising a monitoring and alert network with regard to acute health effects, capable of collecting, validating and analysing symptomatological data regarding exposure to pesticides. Entrusted to the INVS, it will coordinate the existing systems especially put in place by anti-poison centres, the MSA, the RNVPP (French National Network for Vigilance on Occupational Diseases) and the ANMV (French Agency for Veterinary Medicinal Products). A data base will enable cases of intoxication to be centralised.

- By better evaluating the impact of pesticides on the health of workers: by completing the measures of exposure to pest control products of users in farms conducted by the services of the Ministry of Agriculture and Fisheries, the MSA launched in April 2005 a study on the impact of pesticides on the health of active or retired farm workers in 12 departments with a record of cancers, reflecting the diversity of production systems. The first results of this study, entitled AGRICAN, and which concerns 500000 people, will be available in early 2008.

- By reinforcing epidemiological studies concerning the health of the general public: the InVS (French National Institute for Public Health Surveillance) will publish in 2006 a document entitled "*Pesticides et santé: connaissances épidémiologiques et état des lieux de la recherche en France*" (Pesticides and health: epidemiological knowledge and current state of research in France) based on a review of the scientific literature. On this basis, the InVS will make proposals to complete, as necessary, the epidemiological studies put in place particularly by the INSERM (French National Institute of Health and Medical Research) and the MSA on the deferred effects of pesticides.

- By reinforcing the actions of the public authorities concerning, in particular, chlordecone in Martinique and Guadeloupe. The conclusions of a prospective mission carried out by the INRA, CIRAD (French Agricultural Research Centre for Economic Development), and AFSSA will be published in the first half of 2006 and will make it possible to define different scenarios for the evolution of farming systems to deal with the contamination of soils and the accompanying measures that they presuppose. The results of the studies carried out, particularly by the AFSSA, InVS and INSERM with regard to the exposure of the public to chlordecone and its impact on health will be available in 2006 and 2007.

GOAL 5: EVALUATING THE PROGRESS MADE

Monitoring of the effectiveness of the plan will be based on the combination of several indicators, the definition of which forms part of the actions of the interministerial plan. The following actions are planned:

- Setting up of a monitoring committee open to civil society.

- Defining indicators that summarise the environmental risks linked to the use of pesticides.

- Establishing an indicator showing the frequency of the use of pesticides and measuring the margin of progress possible in terms of reducing the use of these products and the risks linked to their use.
- Mapping, on a national scale, the pressure and the potential impact exercised on surface and ground water by pest control products.

Expert meeting on national plan for reducing risks linked to pesticide use

French contribution

Marie-Christiane CASALA : ministry of agriculture
Edwige DUCLAY : ministry of environment

THE FRENCH SITUATION

- A very talked about subject
- About 80 000 tonnes of active substances sold every year
- Agriculture area : 30 million hectares
- Pesticide monitoring : presence detected
  - by more than 80% of surface water measuring stations
  - 57% of groundwater stations
- Pesticides residues
  - detected in 57% of food samples
  - 6% of samples are above permitted residue limits

NATIONAL POLICY

- A first national action plan adopted in 2000
  - concerning only water issues,
  - essentielly volontary measures
- A second national plan 2006/2009 adopted in June 2006
  - concerning health and environment issues
  - to complete and reinforce measures already implemented
- Four ministries involved
- Stakeholders were consulted

SCOPE

- Five goals through about 50 different actions
- Concerning biocides and plant protection products
- Concerning farmers and non farm users, professional and non professional users
- Different combinations of actions
  - Mandatory or voluntary measures,
  - tax on plant protection products
  - partenership between public authorities and stakeholders
  - reasearch programms

Let 's focus on the main actions linked with the commission's thematic strategy, and in particular its framework directive

MAIN GOALS

- **goal 1 :** Improving the approuvals process for bringing ppp to market
- **goal 2 :** changing practices and minimising recourse to pesticides
- **goal 3 :** reinforcing training (of professionals), and the protection of all users and provide them with better information
- **goal 4 :** Enhancing knowledge and transparency in terms of the impacts of pesticides on health and the environment
- **goal 5 :** Evaluating the progress made

GOAL 1 : IMPROVING THE APPROUVALS PROCESS FOR BRINGING PPP TO MARKET(1)

- Improving **risk** assessment by creating a special department within the French Food Safety Agency (AFSSA)
- Reducing by 50%, between now and the and of 2009, the quantities of the most hazardous active substances sold (47 substances)
- Reducing the putting on the market, and the use of products with carcinogenic (C) or mutagenic (M) properties or which show toxic effects on reproduction, by experimenting substitution with other products and by introducing higher taxes
- Improving knowledge of pesticide sales by recording all sales made at the scale of individual shop keepers

GOAL 1 : IMPROVING THE APPROUVALS PROCESS FOR BRINGING PPP TO MARKET(2)

- Improving the system for licensing distributors and certain profesionnal users (implemented since 1992) through more stringent requirements
- Prohibiting the sale to non professional gardeners of products not bearing the specific label “Suitable for use in gardens”.
- Improving rules for specific uses, especially aerial treatment : (specific measures already implemented since 2004), by creating a specific mention “Aerial treatment” category, following a specific risk assessment

GOAL 2 – CHANGING PRACTICES AND MINIMISING RECOURSE TO PESTICIDES(1)

- Developing a research programme in order to test and evaluate different kinds of low input farming for main crops
- Initiating partnership with research establishments, technical institutes and farming development organisations in order to acquire environmental, technical and economic data on low input farming production systems (First results expected before the end of 2009)
- Improving knowledge of current practices and promoting good practices in the farming and non farming sectors

GOAL 2: CHANGING PRACTICES AND MINIMISING RECOURSE TO PESTICIDES(2)

- Promoting integrated plant production farming systems in particular in the *Avertissements Agricoles* ® (French information and advisory tool for farmers with respect to quality, health and plant protection)
- Supporting specific investments, guaranteeing well managed use of soil and water and well controlled inputs (in particular pest control products)
- Special grants for low input farmers (two kinds of certification)

GOAL 2: CHANGING PRACTICES AND MINIMISING RECOURSE TO PESTICIDES(3)

Reducing water pollution by pesticides

- Implementing a minimum 5 m zone at the edge of rivers where use of plant protection products is forbidden (since January 2007)
- Improving the standards of the spreading equipment
  - through regular inspections of sprayers already on the market
  - by imposing minimum standards of an environmental nature with respect to new or second hand sprayers sold by mechanised equipment professionals (January 2009)

GOAL 2: CHANGING PRACTICES AND MINIMISING RECOURSE TO PESTICIDES (4)

- Implementing action plans for each catchment basin under the responsability of regional prefects to protect drinking water resources against non point source pollution. Fifteen initial catchment basins were selected in 2006.
- Implementing a new fee paid by distributors to the 6 water districts' agencies (amount estimated at around 40 million Euros a year)
  - in order to develop low input farming
  - which will improve knowledge of amounts sold

GOAL 2: CHANGING PRACTICES AND TO MINIMISING RECOURSE TO PESTICIDES(5)

Improving the management of pest control product waste and reducing point source pollution

- promoting the operations undertaken by ADIVALOR for recovering and eliminating unusable pest control products and their packaging. (Implemented since 2001 on a voluntary basis)
- Implementing mandatory measures to improve the management of residues of ppp left in equipments after usage effluents (since January 2007).

GOAL 3: REINFORCING TRAINING (OF PROFESSIONALS), AND THE PROTECTION OF ALL USERS AND PROVIDE THEM WITH BETTER INFORMATION(1)

Developing the training of professionals

- Implementing a mandatory training programmes every 5 years for farm workers exposed to pesticides
- Strengthening consideration of health and environmental risks, in initial and ongoing training in preparation for jobs involving the use of pesticides,
- encouraging the roll out of training modules on maintaining roads and green spaces supporting reduction of pesticide usage through framework agreements

GOAL 3. REINFORCING TRAINING (OF PROFESSIONALS), AND THE PROTECTION OF ALL USERS AND PROVIDE THEM WITH BETTER INFORMATION(2)

Improving the protection of users of products and providing them with better information

- establishing technical standards in order to ensure enhanced protection of users (eg. purification systems of motorised sprayers and tractors cabins, packaging of powdered products, individual protection equipment)
- improving the information provided to users, by harmonising the labelling of products and by improving their legibility.

GOAL 4 ENHANCING KNOWLEDGE AND TRANSPARENCY IN TERMS OF THE IMPACT OF PESTICIDES ON HEALTH AND THE ENVIRONMENT(1)

Improving our knowledge of the presence of pesticides

- Implementing a residue observatory to collect, analyse and build on information on the presence of pesticides in the environment (soil, air, water) and in foodstuffs in order to evaluate exposure of the public and ecosystems to pesticides
- Publishing the results: specific website to the ORP, www.observatoire-pesticides.gouv.fr (since June 2006

GOAL 4:ENHANCING KNOWLEDGE AND TRANSPARENCY IN TERMS OF THE IMPACT OF PESTICIDES ON HEALTH AND THE ENVIRONMENT(2)

Improving our knowledge of the impacts of exposure to pesticides

- promoting research programmes : a third call for research projects was launched in 2006
- organising a monitoring and alerts network with regard to acute health effects of exposure to pesticides
- launching in April 2005 a study on the impact of pesticides on the health of active or retired farm workers (concerns 500 000 people in 12 departments with a record of cancers, reflecting the diversity of production systems). First results expected in early 2008).
- reinforcing epidemiological studies concerning the health of the general public

GOAL 5: EVALUATING THE PROGRESS MADE

- Setting up of a monitoring committee open to stake holders and civil society (first meeting next Friday).
- Defining specific environmental risk indicators
- Establishing an indicator in order to define reduction target for the next action plan :
  - based on the frequency of the use of pesticides
  - evaluating the margin of progress possible in terms of reducing the use of these products and the risks linked to their use.

Thank you for your attention

PESTICIDE REDUCTION PROGRAM IN GERMANY

Bernd Freier

Federal Biological Research Centre for Agriculture and Forestry, D-14532 Kleinmachnow

The "Reduction Program Chemical Plant Protection", an initiative of the German Federal Ministry of Food, Agriculture and Consumer Protection (BMELV), was launched with two important workshops entitled “Guideline for the prospective plant protection policy” and “Guidelines for Plant Protection Policy – Reduction Program, Communication and Transparency”. The first workshop, held in Potsdam in 2002, marked the start of an extensive dialogue on plant protection policy in Germany. The second, also conducted in Potsdam in 2003, was designed to continue and deepen the discussion and to identify ways to mitigate the risks associated with pesticide use. As a result of these conferences, the Advisory Board of the “Reduction Program Chemical Plant Protection” was established in 2003, with offices at the Federal Biological Research Centre for Agriculture and Forestry in Kleinmachnow. The aim of the Advisory Board was to support the BMELV's efforts to develop the Reduction Program. Approximately 25 experts from governmental and non-governmental organisations and associations were included on the board, which published the final report in 2003. One year later, the BMELV issued a publication announcing the “Reduction Program Chemical Plant Protection”. The aims of Reduction Program are

- to reduce the risks associated with pesticide use,
- to reduce the intensity of plant protection product use (in terms of necessary minimum) and
- to reduce the percentage of domestic products exceeding the existing maximum residue limits to less than 1%.

A total of 19 actions were proposed. The most important ones are described below:

Action: Introduce a Treatment Index (TI).

The TI, or number of pesticide applications at the full authorised dosage, is used as an indicator of intensity of plant protection product use. So-called NEPTUN surveys, which were started in 2000, showed remarkable differences in the intensity of pesticide use between crops, landscapes and farms in different German regions.

Action: Establish a network of reference farms.

Reference farms supply annual TI data, provide background information on why pesticide use was necessary and suggest possible reduction potentials for the future.

Action: Support the development and implementation of innovations for integrated plant protection.

An innovative research program “Reduction Program Chemical Plant protection” with 20 perennial projects was established in 2006.

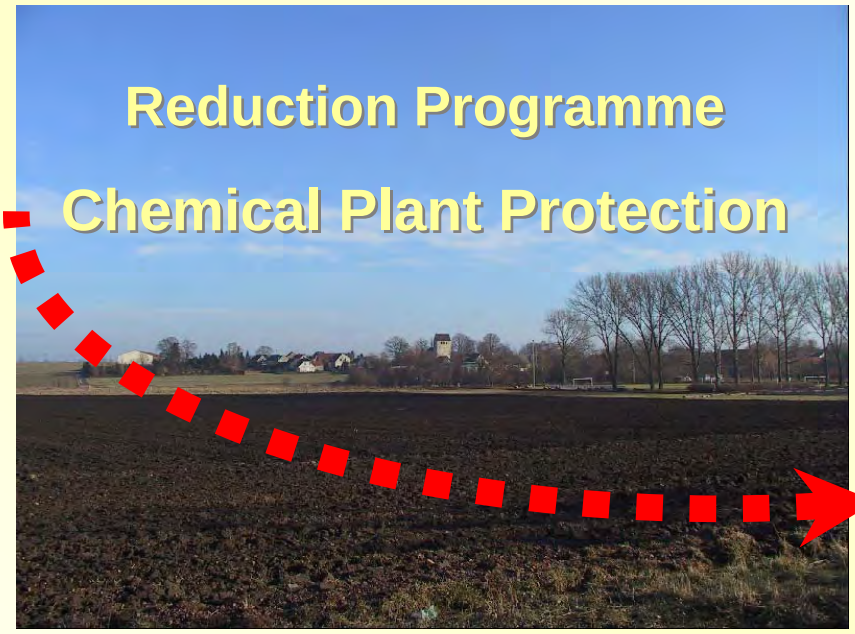
Other actions are aimed towards improving compliance. They include the introduction of Maximum Residue Limits (MRLs), “hot spot” management, improvement of professional knowledge, keeping records of pesticide use, improvement of plant protection inspections, the provision of more and better professional information, development and introduction of modern plant protection equipment, use of national and regional support programs for IPM and organic farming, co-operation with trade organisations and food processing industry and, last but not least, the improvement of consumer information.

The success of the Reduction Program shall be assessed based on three indicators:

- Treatment indices (established using data from NEPTUN surveys and reference farms),
- Rating of samples exceeding MRLs (based on data from the national monitoring program) and
- Risk indicators (established using models such as SYNOPS).

Simulations with the German risk indicator model SYNOPS showed that the relative risk has decreased since 1987 (baseline), particularly in the case of insecticides.

In 2006, the newly elected government decided to improve the program by following the same goals while placing greater emphasis on innovation, IPM and co-operation with the Federal states.



Cornerstones of Plant Protection Policy in Germany

1st Workshop

of Federal Ministry of Food, Agriculture and Consumer protection

"Guideline for the prospective plant protection policy" (Potsdam, 2002) marked the start of an extensive dialogue on plant protection policy in Germany

2nd Workshop

of Federal Ministry of Food, Agriculture and Consumer protection

"Guidelines for Plant Protection Policy – Reduction Programme, Communication und Transparency" (Potsdam, 2003)

In-depth discussion and identification of possibilities for mitigation of risk associated with plant protection product use

Federal Biological Research Centre for Agriculture and Forestry
Institute for Integrated Plant Protection

Advisory board:
"Reduction Programme Chemical Plant Protection"
established in 2003

Office: Federal Biological Research Centre for Agriculture and Forestry
(Institute for Integrated Plant Protection, Kleinmachnow)

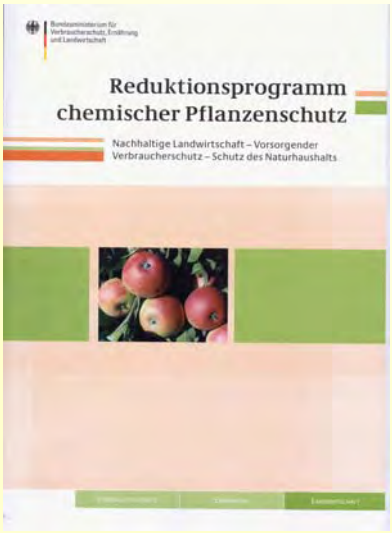
Aim:
To Support the Ministry in the development of the Reduction Programme

Members:
Approx. 25 experts from governmental and non-governmental organisations and associations

Report:
15th October 2003

Reduction Programme Chemical Plant Protection
of the Federal Ministry of Food, Agriculture and Consumer Protection

Published on 29 October 2004



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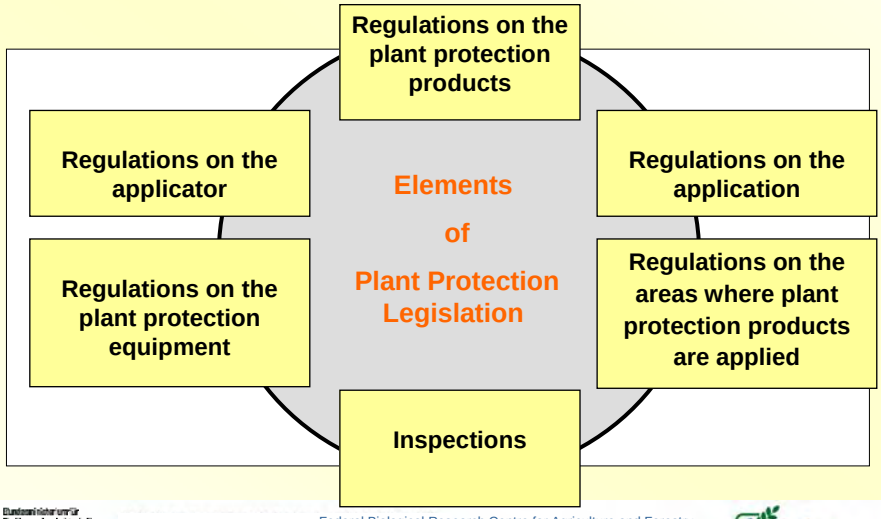
Aims of Reduction Programme Chemical Plant Protection

1. To reduce the risks associated with the application of plant protection products
2. To reduce the application intensity of plant protection products (necessary amount)
3. To reduce the percentage of domestic products exceeding the existing maximal residue limits to less than 1 %

Legal background for the Plant Protection Policy in Germany



Actions of Reduction Programme Chemical Plant Protection

Action:

Introduce the Treatment Index (TI) as an indicator of intensity of plant protection product use

Background

Surveys on use of plant protection products in specific crops and regions (NEPTUN)

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Action:

Establish a network of reference and demonstration farms

Reference farms

supply annual data on intensity of plant protection product use (TI),

provide background information on why the pesticide use was necessary,

suggest possible reduction potentials for the future.

Distribution of reference farms in arable cropping

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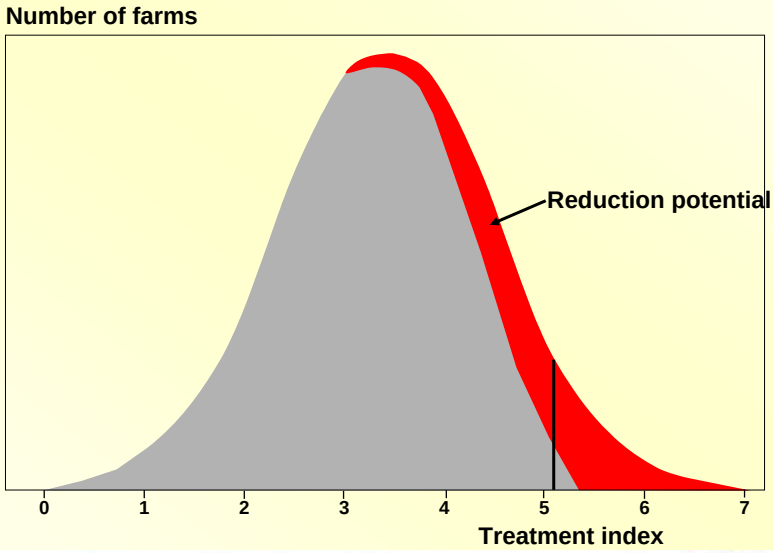
Institute for Integrated Plant Protection

Frequency Distribution of treatment index within a population of farms



Action:

Improve compliance with Maximal Residue Limits (MRL)

Indicator: Number of cases exceeding MRL´s

Package of measures

Action:

“Hot Spot” Management

Identification of “hot spots”

Hot-spot management

Development of decision support systems (Models must be developed and used)

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Action:

Improve professional knowledge

ensure knowledge and skills
provide training

Action:

Record keeping of plant protection product usage

Field-related recording of usage data

Action:

Improve plant protection inspections

National programme of plant protection inspections since 2004

Action:

Provide more and better professional information

provide advisory services
training for advisers
establish and maintain data bases

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Institute for Integrated Plant Protection

Action:

Research and introduction of modern plant protection equipment

Precision farming

Agrarian investment promotion programme

Action:

Support development and implementation of innovations for integrated plant protection

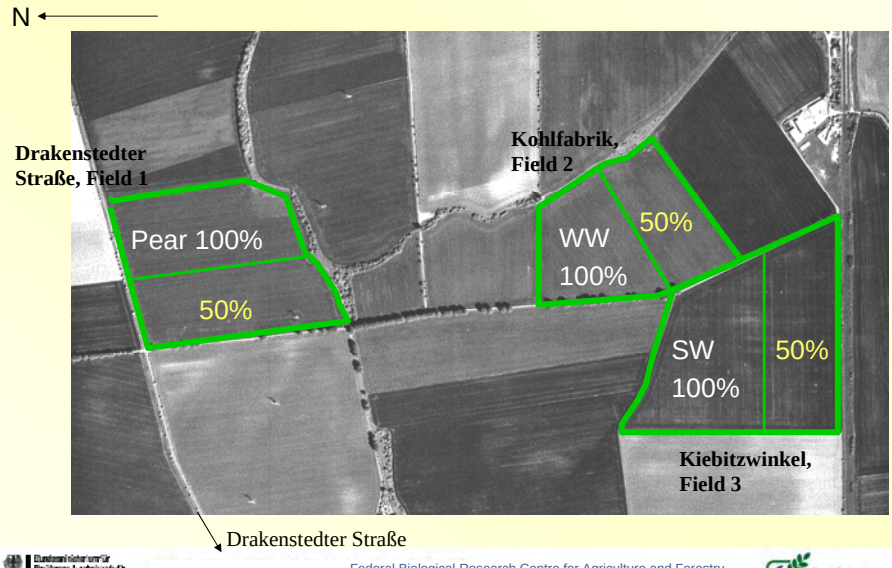
Biological control

Resistance of crop varieties to diseases and pests

Development of forecasting systems and other decision support systems

Long-term plot experiments in Dahnsdorf, Sickte, Oldenburg and Freising

Low-Input study in Ochtmersleben - 2004



Action:

Use national and regional support programmes for integrated plant protection (incentives)

Action:

Use national and regional support programmes for organic farming (incentives)

Action:

Co-operative with trade organisations and food processing industry

Action:

Improve consumer information

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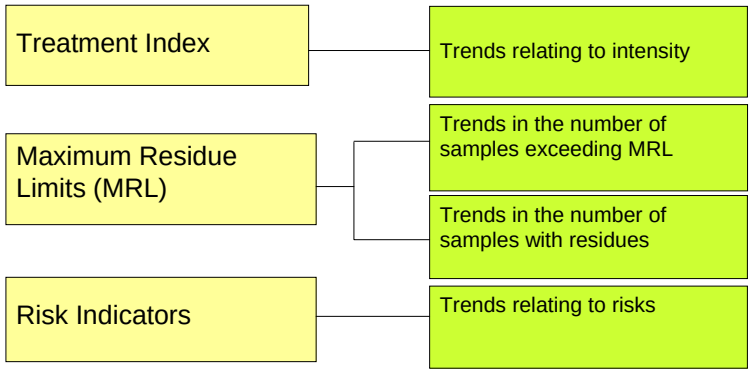
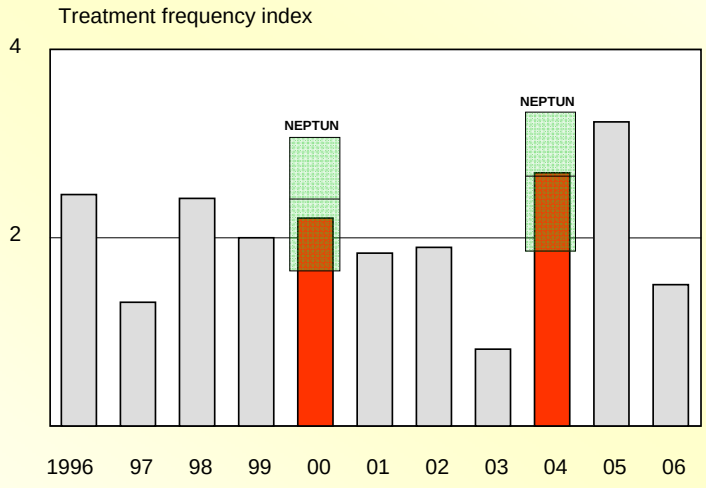
Use of indicators in the Reduction Programme

German Plant Protection Index (PIX)



Usage of indicators – long-term evaluation of treatment index using NEPTUN data and reference farm data



Approach of the German Risk Indicator Model SYNOPS

Based on sale data of 1987, 1991, 1994, 1998. 2002, 2004, 2005

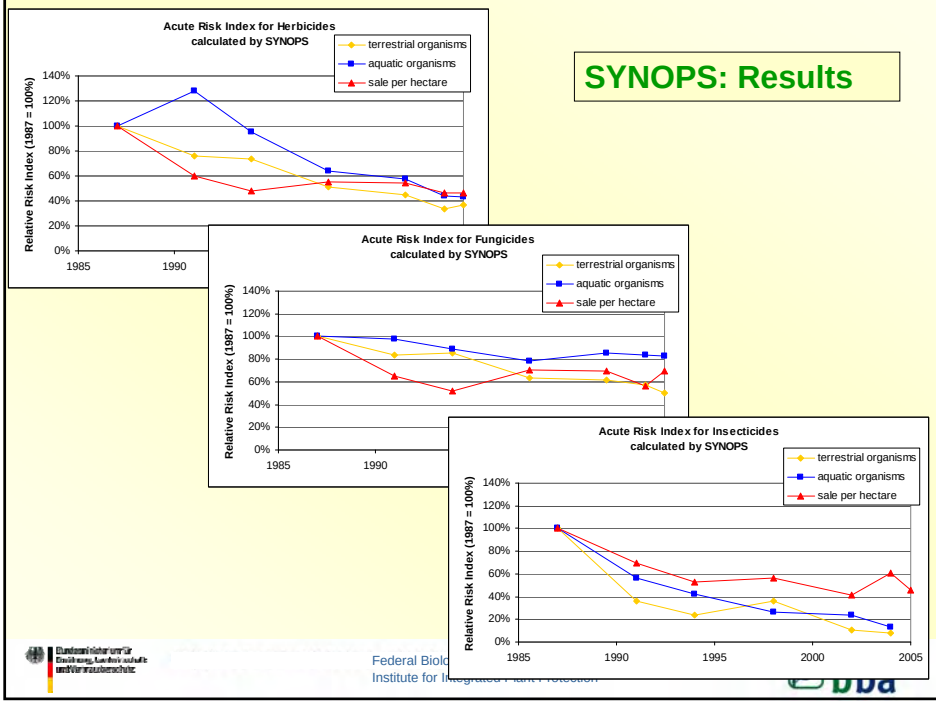
Estimation of application area for each crop and target (indication) = 4699 indications in these years

SYNOPS calculates the **exposure** for each indication by more or less sophisticated sub-models and relates the exposure to **toxicity** of test organisms:

Earthworm and bees for the terrestrial compartment, ***Daphnia*, fish** and **algae** for the aquatic compartment

SYNOPS aggregates the risk indices by relating to a base line (values of 1987)

SYNOPS: Results



Supporting measures

Federal facility “Reduction programme”

Expert forum (Governmental and Non-Governmental Organisations)

Innovation award

Self Commitments of Non-Governmental Organisations

In 2006 the new Government decided to improve the Programme:

The same goals, but better focus on

- Innovation,
- Integrated Plant Protection and
- better co-operation with the Federal states (Länder)

The original text is under revision.

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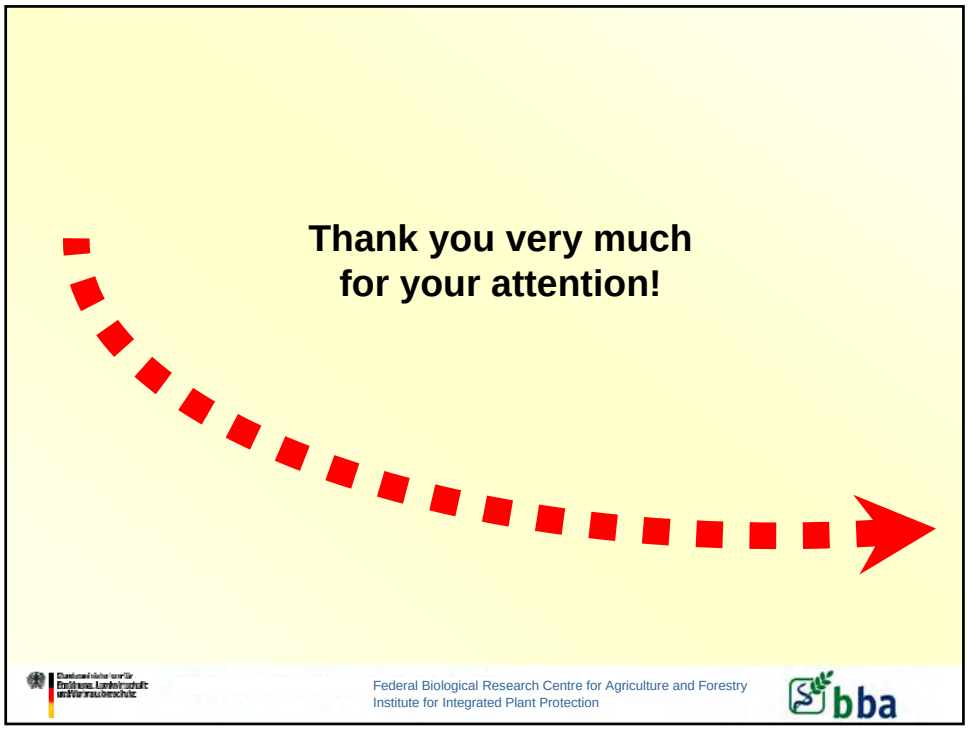

Thank you very much
for your attention!
Federal Biological Research Centre for Agriculture and Forestry
Institute for Integrated Plant Protection
bba

Sustainable Use of Pesticides

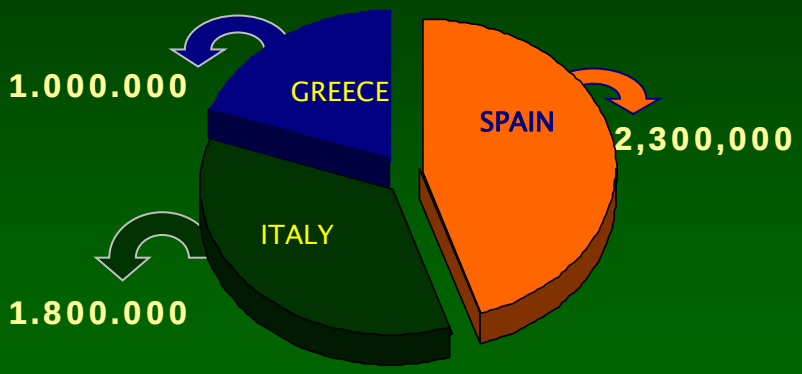
National Programme for the control of olive fly (*Bactrocera oleae*) in olive trees in Greece

(*50 years of experience*)

Dimitra Gilpathi (PhD)
Agronomist-Plant Pathologist
Greek Ministry of Rural Development and Food
Department of Plant Produce Protection
www.minagric.gr

Crop Area-Production

World: 10,000,000 ha
Mediterranean Basin:9,800,000 ha



PRODUCTION*

(2005/6)	OIL (1000 tm)	table olives (1000 tm)
WORLD	2,599	1785.5
EU (25)	1,946	648
GREECE	424	110

*Source: International Olive Oil Council

3

SCOPE OF THE PROGRAMME

PROTECTION OF THE OLIVE PRODUCTION FROM THE OLIVE FLY NATIONWIDE WITH THE MOST APPROPRIATE METHOD

Olive fly

UP TO 650 MILLION EUROS LOSS

YIELD LOSS FROM 35% TO 50%

4

QUANTITIVE LOSS

Early drop of the fruit

Decrease of the fruit size

QUALITIVE LOSS

Increase in the acidity of the oil

Alteration / Devalorisation of organoliptic properties

Loss of commercial value for edible olives

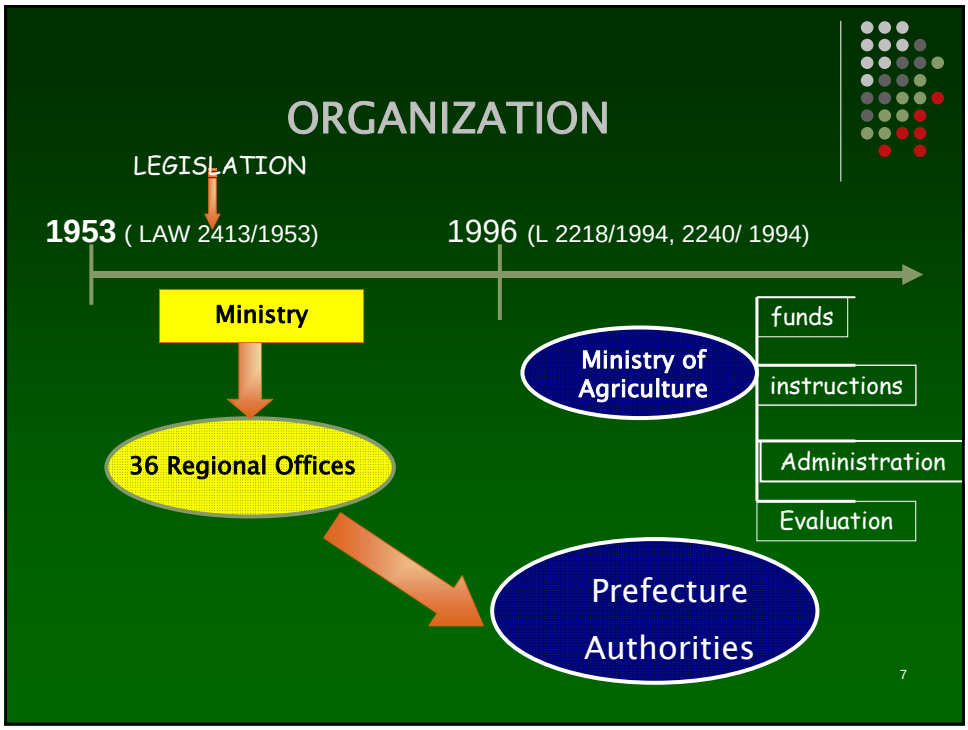
5

36 Prefectures

Area :700,000 ha

Trees: 100,000,000 trees

6


ORGANIZATION
LEGISLATION
1953 (LAW 2413/1953)
1996 (L 2218/1994, 2240/ 1994)
Ministry
36 Regional Offices
Ministry of Agriculture
funds
instructions
Administration
Evaluation
Prefecture Authorities
7


Setting the conditions - Local involvement
1. Municipality Decision-Approval by the growers that have at least 50% of the trees to be protected
2. Acceptance of the contribution payment
3 Fruit-bearing should be > 25% (cultivars for oil production) and >20% (cultivars of olive production) of full production
8

Method

- Early Years: Cover Spray applications
- 1950 Nationwide Control

Bait Applications by air
Or ground bait applications

preventive method using attractant + insecticide

Research-Optimization

- **Looking for alternatives methods**
- **Evaluation of the existing method**
- **Assessing the impact**

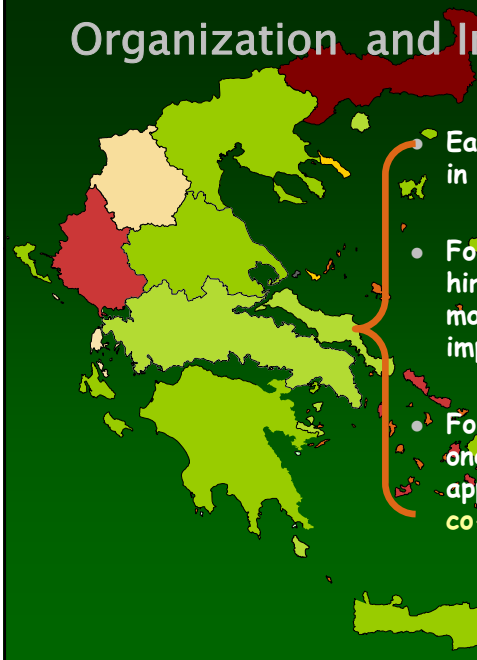
9

Bait Applications Advantages

- Spraying only a small part of the tree " spot spraying"
- In ground bait applications spraying only one every 2 rows or trees
- Timely applied
- Reducing the volume and the area.

10

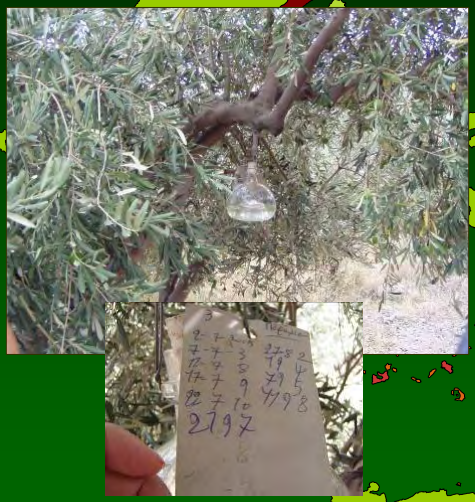
Organization and Implementation



- Each area /prefecture is divided in sectors of 270,000 trees
- For each sector an agronomist is hired (short term contract) to monitor, organize and assess the implementation (380 agronomists)
- For all the sectors in prefecture one or more co-ordinators are appointed and one supervisor (100 co-ordinators, supervisors)

11

Organization and Implementation



- Monitoring the insect population with traps
- 1 trap/1000 trees
- Check every 5 days

12

Making a decision-When and if

Timing of 1st application critical

1. Number of insects in the traps (5-20 / trap/5days
2. Sex Ratio $\frac{\text{Females}}{\text{Males}} > 1$
3. Female fly maturity >5%
4. Fruit susceptibility (pit hardening)
5. Local environmental conditions (temperature , relative humidity

+ Sampling 960 fruits from 24 trees

13

Spraying:

Duration : as short as possible

T = 28°C,
Relative Humidity < 25 %,
When about to rain
When raining

14

1996

Experience
Problems
New data

BAN AERIAL SPRAYING

ONLY GROUND BAIT APPLICATIONS

15

Looking for alternatives methods

1. Biological Control (using the parasitoid *Opius concolor*)

From 1980 (mass rearing and extrapolation)

- Extrapolation for the control of the spring generation
- Biological sprays (releases of the parasitoid from the beginning of the first infestation –October)
- Inoculative Releases

16

Looking for alternatives methods

- Biological Control
- From 1975-1986 recording indigenous natural enemies and parasitoids in Crete and their possible use
- Import and test non-indigenous parasitoids (*Dirhinus giffardii, Opius oophilus)*
- Using a natural predator: *Prolasioptera berlesiana*

17

Looking for alternatives methods

- Sterile Insect Technique (SIT)
  - 1980 : using irradiation
    - Good results in the lab
    - Limited success in the field

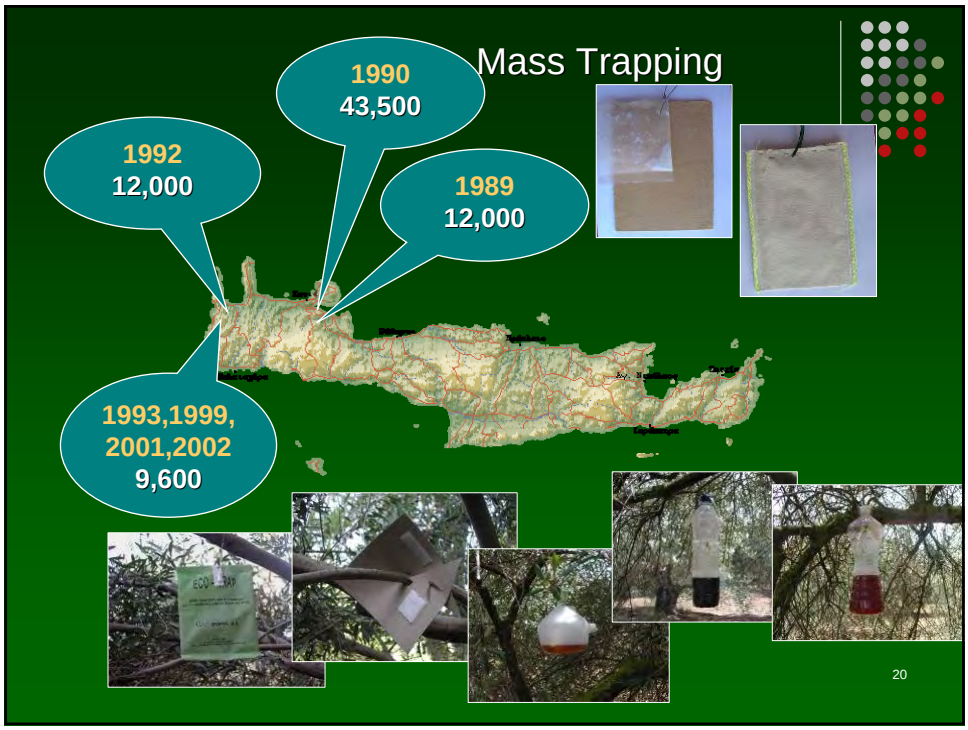
    Low competiveness of the mass reared males to the wild ones

18

Looking for alternative methods

- Mating disruption–Confusion
  Limited success
- **Mass trapping** (testing different traps in different areas)
  - Controversial results
  - Success depending on conditions and infestation levels
  - The programme is still going on

19



Optimization of the bait application method

- Testing new chemicals more friendly to the environment

Active Ingredient		YEAR						
		1996	1997	1998	1999	2000	2001	2002
Fenitrothion	(750 cc/hl)	√						
Formothion	(1000cc/hl)	√						
b- cyfluthrin	(500 cc/hl)	√	√	√				
	(350 cc/hl)			√	√	√	√	√
	(250 cc/hl)				√			
FENTHION		√	√	√	√	√	√	√
Deltamethrin	(365 cc/hl)	√	√	√	√	√	√	√
z-cypermetrhin	(300 cc/hl)	√	√	√	√	√	√	√
1a-cypermetrhin	(300 cc/hl)			√	√	√	√	√
	(200 cc/hl)			√				
Dimethoate	(750 cc/hl)				√	√	√	√
b-cypemethrin	(300 cc/hl)			√	√	√	√	√
Saccharopolyspora spinosa	30 cc/hl						√	√
	2400 cc/hl							√
L –cyalothrin	(125 cc/hl)							√
Beauveria bassiana	(750 cc/hl)							√

Optimization of the bait application method

- Study of different baits for the optimization of bait application
- Study in using color markers for monitoring the bait application
- Study on the environmental and bio-ecology factors that affect the control of *Bactrocera oleae*.

22

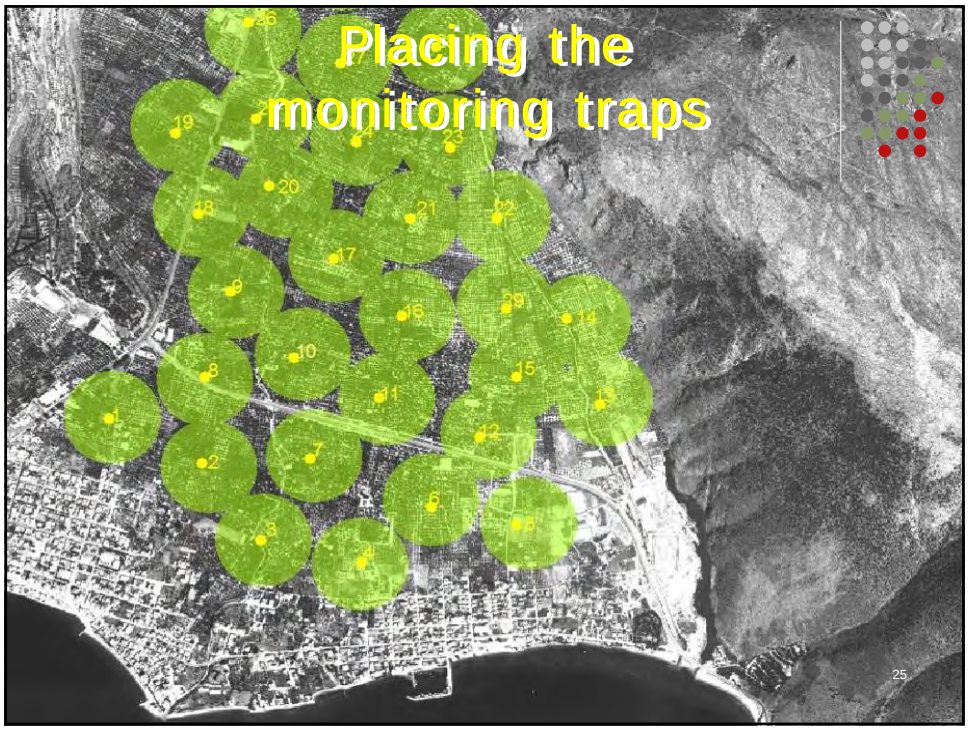
Optimization of the bait application method

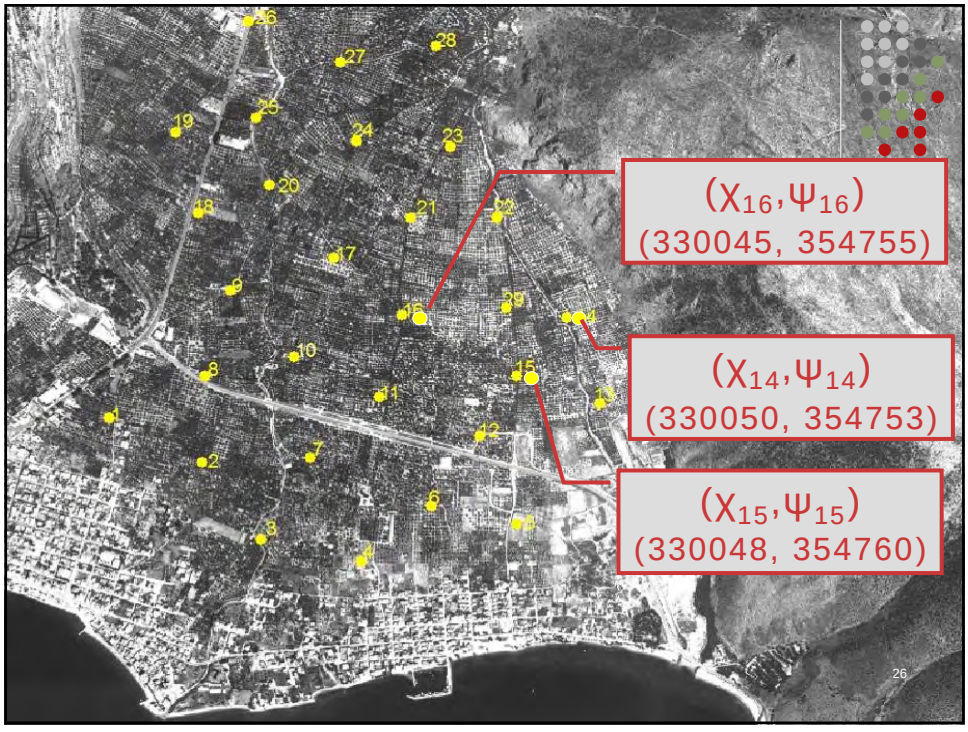
- Monitoring the effect on athropods fauna of olive orchards in Crete during 2000 to 2003
- Monitoring the effects on birds
- Study in using GIS and GPS technology for the monitoring the bait applications

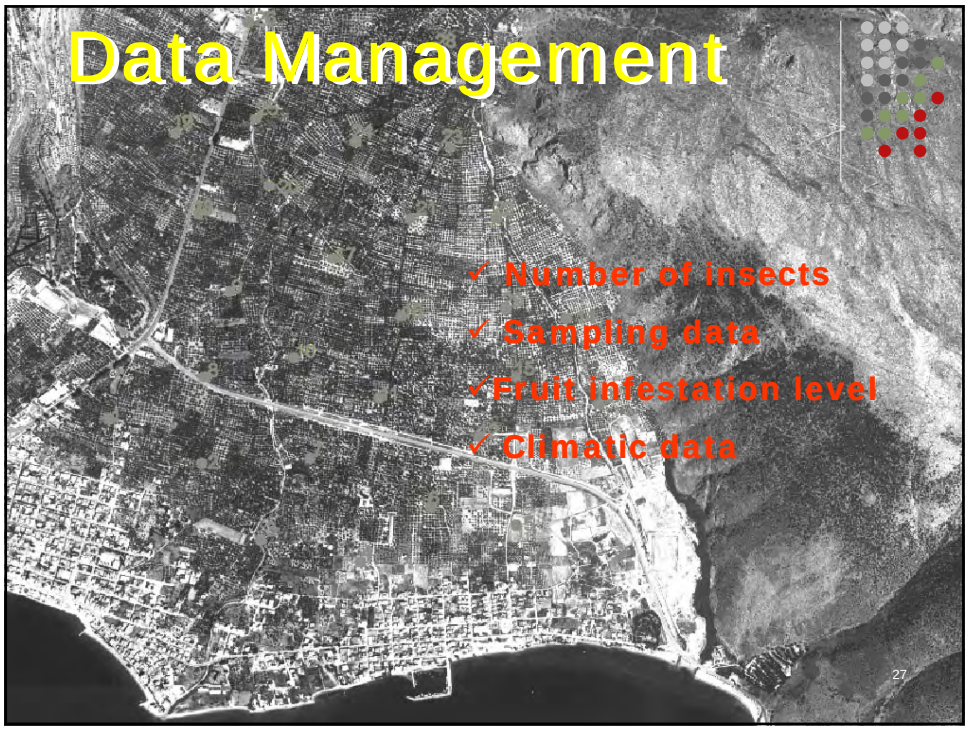
23

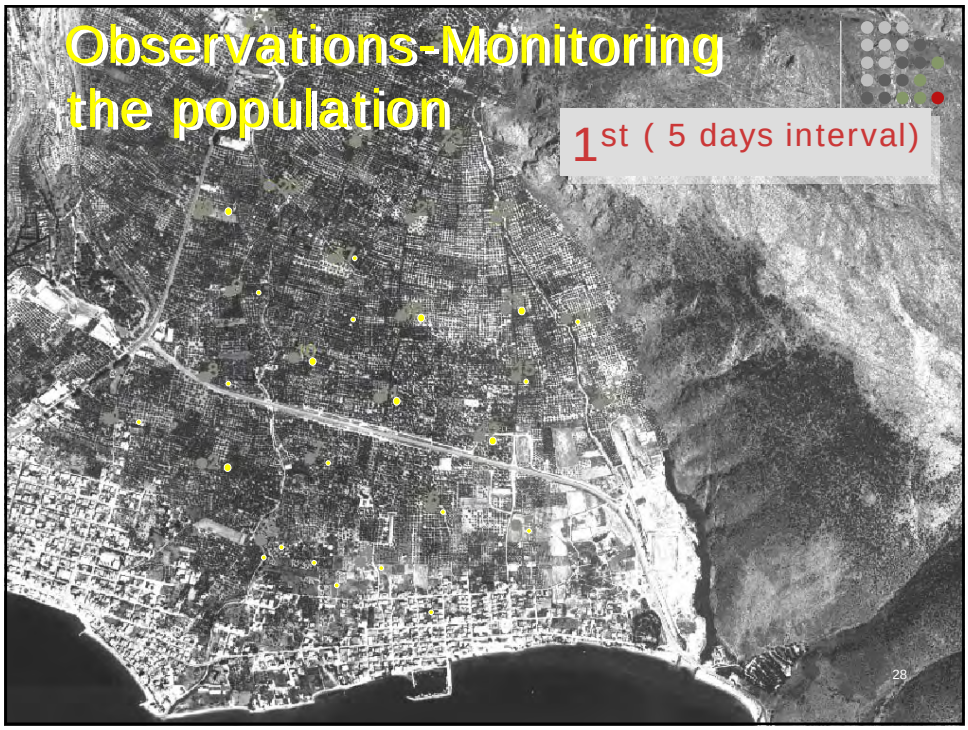
Trap number	Co-ordinnates	
	X	Ψ
Π 1	330054	354755
Π 2	330050	354753
Π 3	330048	354760
.....	.....	.....
Π 30	330100	354890

24

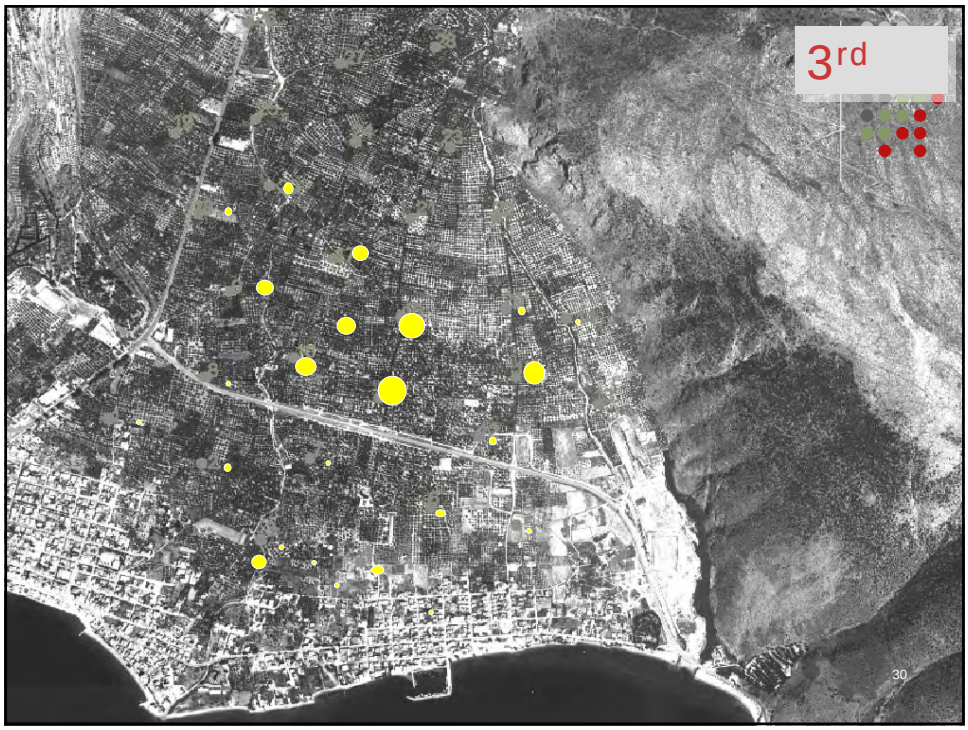

Placing the monitoring traps
25

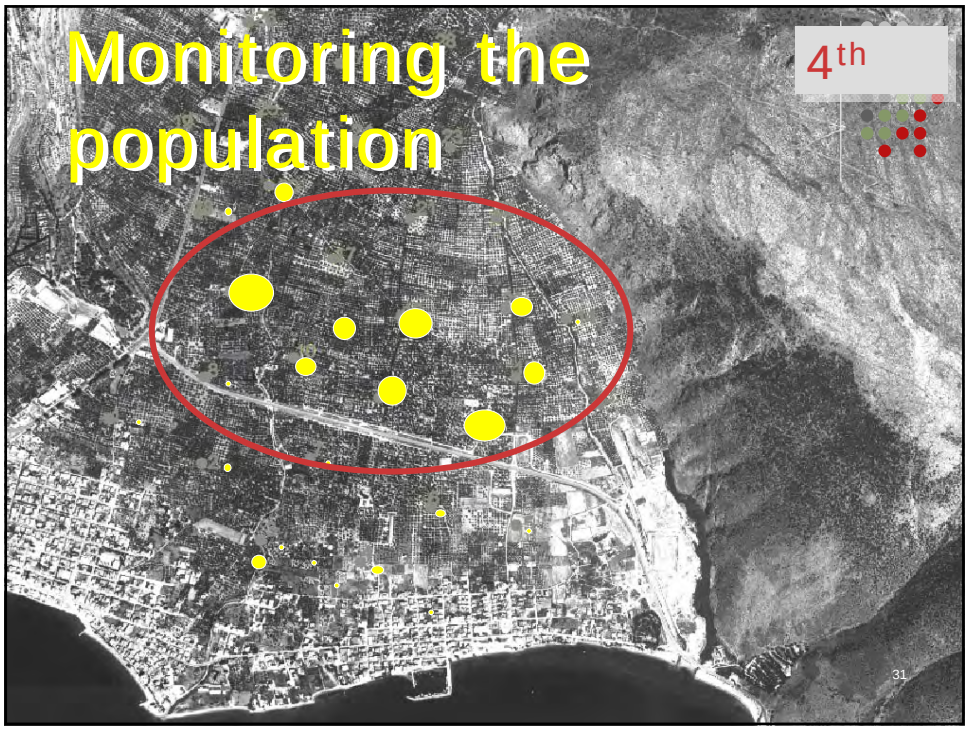

(X_{16}, Ψ_{16})
(330045, 354755)
(X_{14}, Ψ_{14})
(330050, 354753)
(X_{15}, Ψ_{15})
(330048, 354760)
26

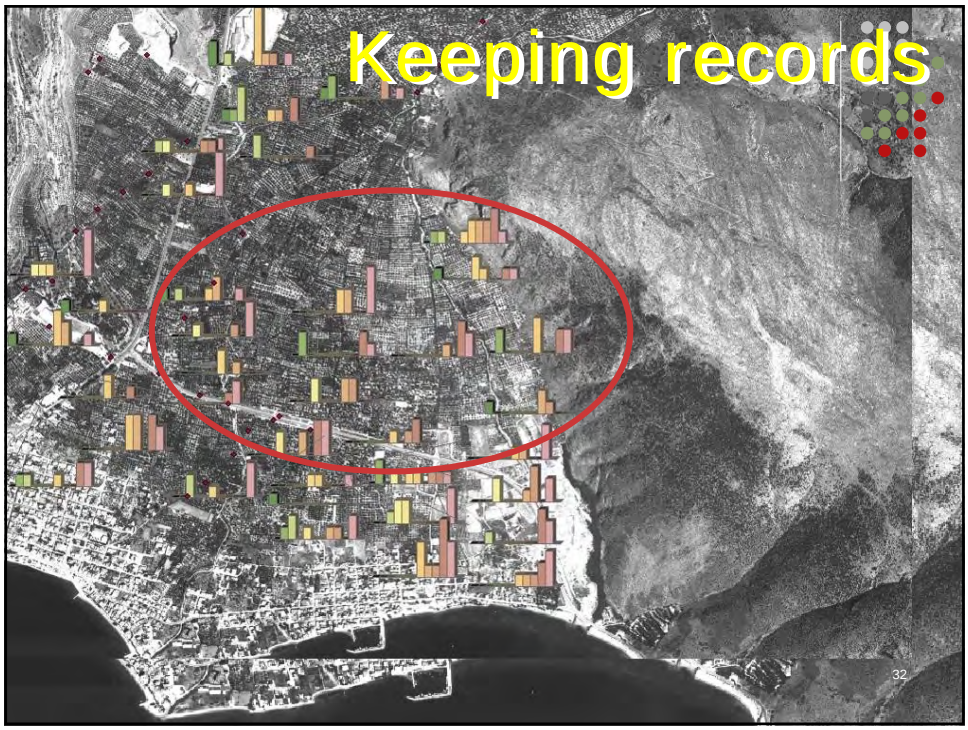

Data Management
✓ Number of insects
✓ Sampling data
✓Fruit infestation level
✓ Climatic data
27


Observations-Monitoring the population
1st (5 days interval)
28

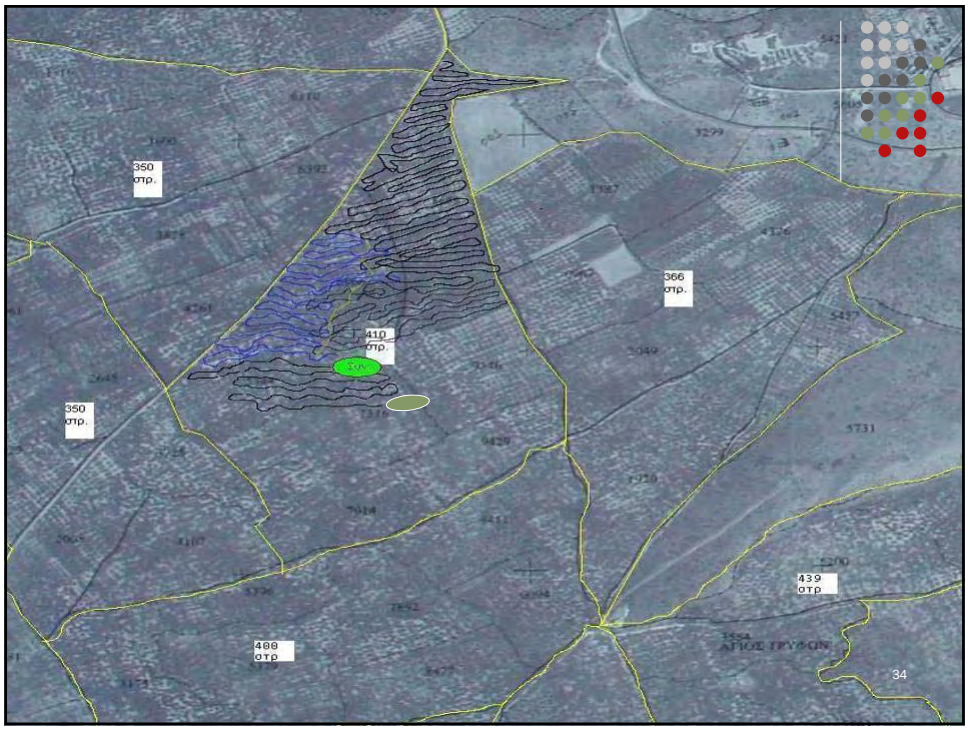

2nd
29

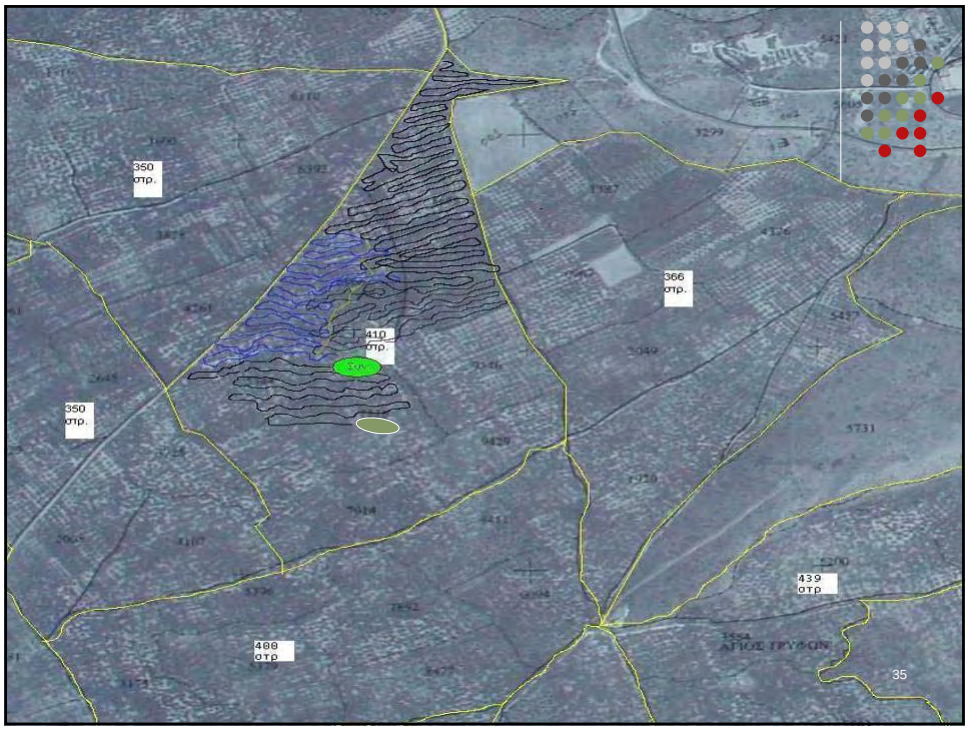

3rd
30


Monitoring the population
4th
31


Keeping records
32


350 отр.
410 отр.
350 отр.
400 отр
ZOOM
MOB
IN
OUT
NAV
PAGE
MENU
QUIT
ENTER
33


350 отр.
410 отр.
366 отр.
350 отр.
439 отр
400 отр
34


350
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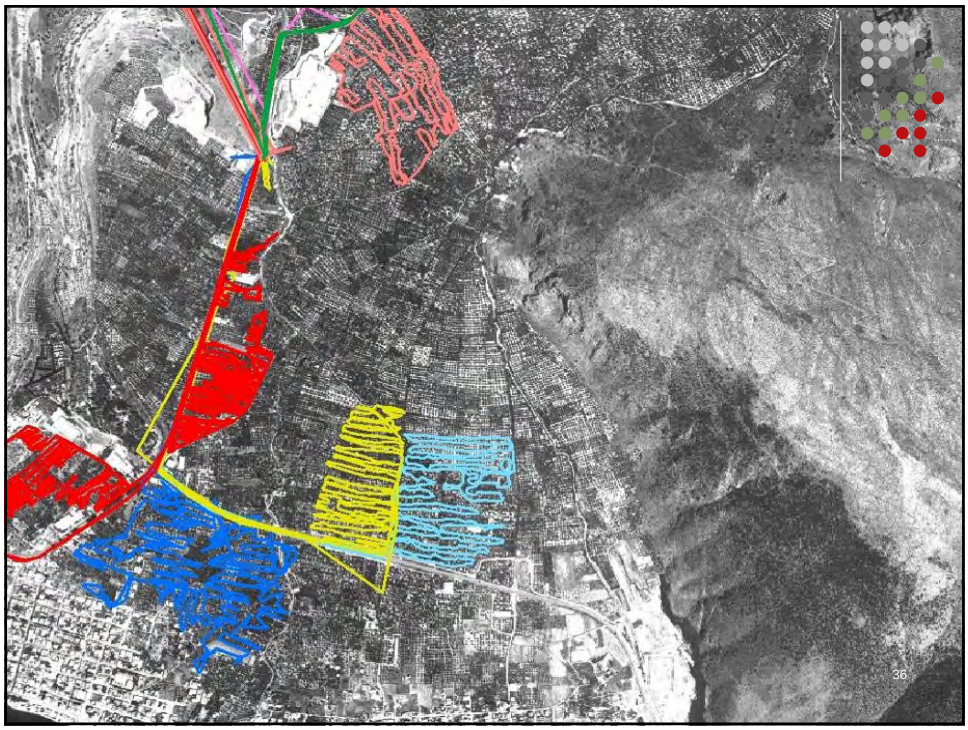
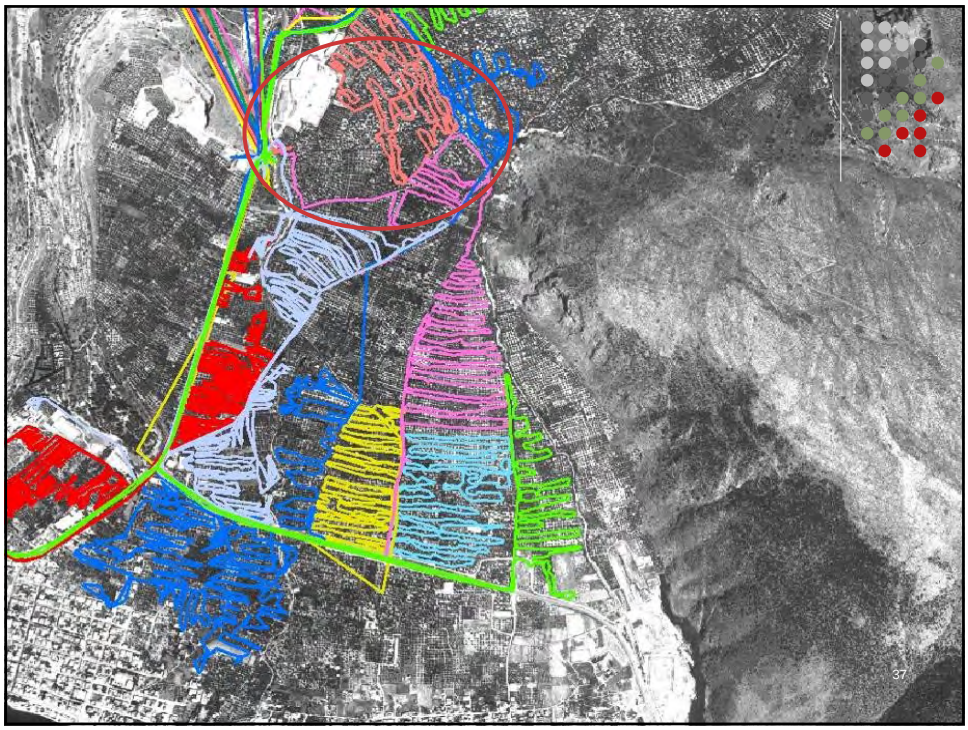

36



Human Health/Safety of operators /Storage and Handling/Residuals

- **Study of the exposure of the operator according to OECD directive**

  (OECD /GE (97) 148, Series on Testing and Assessment, No 6, *Guidance Document for the Conduct of Studies of Occupational Exposure to Pesticides During Agricultural Application*, Paris 1997, pp.55.)
- **Monitoring and Management of Used Containers**

  Programme: Collection, Destruction or Recycling of use containers

  Carried out by: Agrochemicals companies in cooperation with the Greek Ministry of Rural Development and Food and the Prefectural Authorities
- **Residuals Monitoring (in all implementation area) (250 samples/year) from all areas.**

38

Achievements –Perspectives

- Successful control and guarantee the income of the farmer
- Implementation of IPM principles
- Using the most environmentally friendly method which technically and economically feasible
- Reduction the volume of pesticides (1/10 to the conventional spraying

39

Achievements –Perspectives

- Quality products
- Monitoring –Stricter rules than label

Gaining from the experience

- Prohibition of Aerial spraying to all crops in Greece (derogations only for public health e.g mosquitoes)

40

FUTURE

- Extrapolation of the GPS technology to more area
- Using GPS and GIS technologies to monitor and calculate the actual volume during application.
- Further optimization of the method
  - by reducing the number of applications
  - by reducing the number of trees sprayed
  - Continue to look for alternative methods

41

FUTURE–GENERAL POINTS

- Action Plan should fit the plant production system of each Member State
- Build up on success
- Take into account human resources

42

FUTURE–GENERAL POINTS

THE ROLE OF ADVISOR

DETERMINE WHO (HIGH STANDARDS)

- (GREECE):THIRD GRADE EDUCACTION
- CERTIFICATION SYSTEM -CURRENT KNOWLEDGE OF PLANT PROTECTION

THE ROLE OF DISTRIBUTOR

•Greece: Distributor: third grade education, technical schools-Authorized

• Set Certification system

43

FUTURE–GENERAL POINTS

FARMER

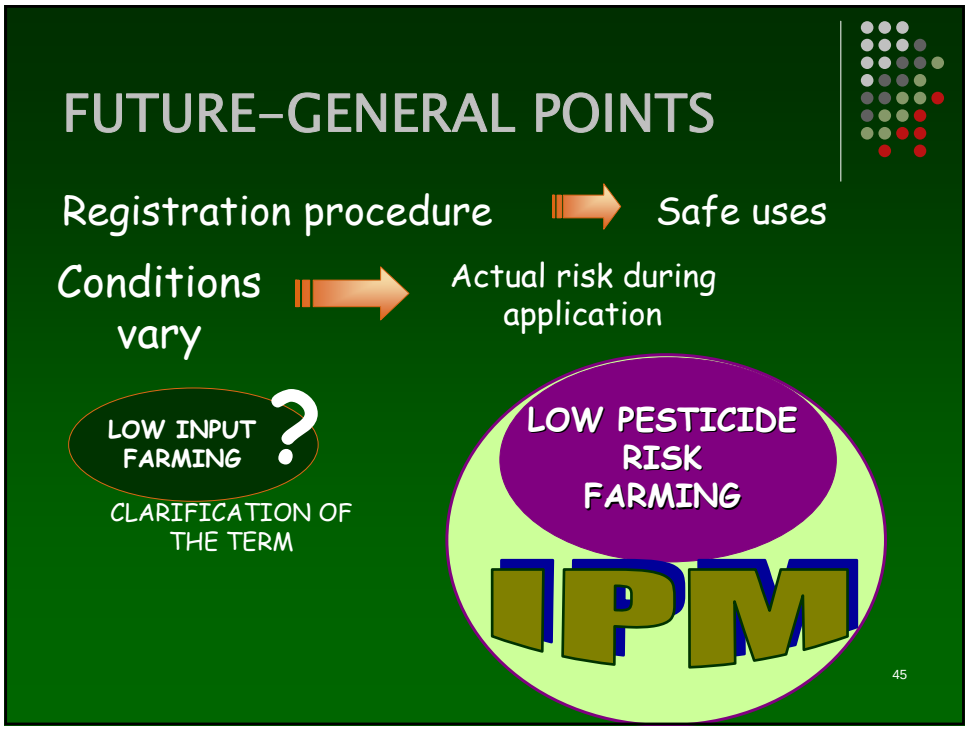
FULL TIME ver. PART TIME

Infrastructure investment

User: Distinction between professional and amateur users

Escalation of the availability of pesticides according to acquired education and training of professional user

44


FUTURE–GENERAL POINTS
Registration procedure
Safe uses
Conditions vary
Actual risk during application
LOW INPUT FARMING
?
CLARIFICATION OF THE TERM
LOW PESTICIDE RISK FARMING
IPM
45


Thanks for the attention

IPM in Hungary: Reality and Future

Miklós TÓTH Forecasting expert
Central Agricultural Office, Budapest
Directorate of Plant Protection, Soil Conservation and Agri-environment
Email: tothm@ontsz.hu

Since the 1970s, the scientific community has initiated in Hungary the reduction of human and environmental risks caused by plant protection. For this purpose, a new plant protection program has been worked out. As a result, the growers expected a decrease in the number of scheduled treatments. In the implementation of this program, the major role was played by the national plant protection organisation in close cooperation with the Plant Protection Research Institute (of the Hungarian Academy of Sciences).
The major objectives were:

- development of pest management programs,
- beginning of studies for biological control of pests (diseases, nematodes, arthropods) in agricultural crops,
- development of application techniques.

Established in 1973, the Laboratory for Biological Control greatly contributed to the developments. New pest management programs have been developed.
A new impulse was given by working out the National Agri-environment Program in 1998.
At the beginning, the legal frame for this program was the Council Regulation 2078/92 (EEC), later it changed with the entry into force of Council Regulation (EC) 1257/1999 in 2000.
The MARD and the National Plant Protection and Soil Conservation Service had the main tasks and responsibility for setting up this program.
The program has integrated the various activities into a system. The aims were

- to work out a comprehensive system for the whole production cycle, granting safety of the environment and human health during the entire production and in the end product,
- to recognise the special quality of the product which meets the requirements of the system – by granting a label.

Two main elements of this program are

- organic or ecological farming and
- integrated crop production.

Organic farming has established its own comprehensive system with all the necessary components, such as legislation, specific conditions, a qualification system and the related label for the certification of end products. It has also a support system. In Hungary, organic farming is a dynamically developing form of agriculture. The goal for the next 5 years is to duplicate the territory of organic farming (which is at present 130000 ha).
Objectives of integrated crop production are:

- to implement the IOBC General principles in the Hungarian practice,
- to classify PPPs - based on human and environment risk assessment,
- to assess pest management programs (can the protection of a particular crop be managed with IPM or not?),
- to run a support system – from EU and national sources,
- to operate a control system – administrative, on-the-spot, analytical; it is a feedback, as well,
- to work out conditions for granting the label.

Plant Protection Act 2000/35, Act 2000/84 on the Hungarian Plant Protection Chambers, Council Regulation 1698/ 2005 and Ministerial Decree 150/2004 (X. 12.) MARD gave the legal background for this program.
The system has been set up and introduced, it works. There are more growers (wanting to join) than available supports. At present an area of 350 000 hectares is included in the program. (Outside the program, IPM is used on more than 1 million hectares, without any supports.)

The future:

- Increase of area in the support system,
- Improvement of the system,
- Introduction of the label.

Details of future tasks:

- adaptation, application of damage thresholds,
- evaluation of pest management programs,
- prevention of the resistance development,
- applied research on including beneficial organisms in the management,
- getting forecasting closer to the farmers,
- working out labelling process.

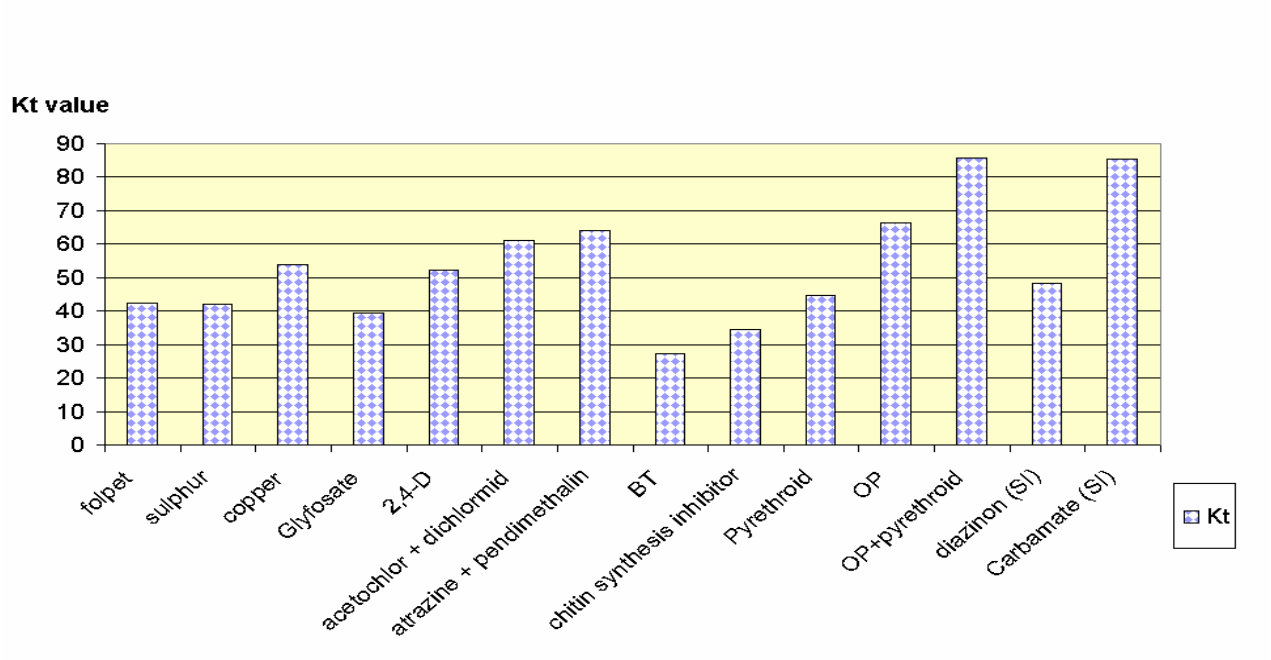
We do hope that we are in the final phase of labelling process. The system of conditions is ready and, once it is approved, the label can be introduced.

Classification of pesticides for IPM and other agri-environment management systems.
Parameters used for evaluation of environmental impact:

Parameter	Type	Taken from
Health hazard	Group-class	registration
Poison category	Group-class	LD50
Type of formulation	Group-class	registration
Preharvest interval	calculated	registration
Re-entry time	calculated	registration
Poisoning category to watery organisms	Group-class	registration
Effect on bees	Group-class	registration
Effect on beneficials/non target organisms	Group-class	Expert evaluation
Leaching potential of as	Group-class	Expert evaluation
Dose rate of as	calculated	registration
Contamination potential of as for surface water	Group-class	Expert evaluation

The overall environmental impact expressed is by a cumulated figure, composed by the impact on farmer+consumer+treated area (Kt = E farmer + E consumer + E area).

Examples of environmental impact values



Application of environmental impact value for classification
Practical limit values:
minimum: 23
maximum: 86
The range between the minimum and maximum values is divided into three parts. The range between 23 and 45 means green category, i.e. pesticides in this range can be used without any restriction. The yellow range is between 46-65, pesticides can be used in special conditions (with some restrictions). 66 or higher values means red category, in other words, prohibited products.
The calculation of environmental impact serves as aid for classification.

Classification exists for different crops to be cultivated according to:

- basic plant production,
- integrated pest management,
- small farms,
- sensitive agricultural areas.

Principles of „prohibited" or „red" classification of active substances for IPM:

- worst class in two of respective parameters;
- „not accepted for Annex I" according to directive 91/414;
- Kt > 65.

Additional conditions exist for sensitive agricultural areas, small farms. In the classification system we do not use only the value of overall environmental impact, we take some other information into consideration, for instance R phrases, S phrases.

In our judgement the classification system together with legal restrictions (e.g. safety bands, protection of bees) provide sufficient basis for the protection of human life and the environment.

Web link: www.fvm.hu

IPM in Hungary: Reality and Future

Miklós TÓTH
Forecasting expert
Central Agricultural Office, Budapest
Directorate of Plant Protection, Soil Conservation and Agri-environment

Early steps in 1970-s (1)

- Initiated by
  - Growers
  - Scientific institutions
  - Environment protection organizations
  - Consumer protection organizations
- Implemented by
  - National Plant Protection Organization in cooperation with the Plant Protection Research Institute
  - First in maize and apple orchards, later under greenhouse

Early steps in 1970-s (2)

- Objectives
  - Registration of new plant protection products and development of pest management programs,
  - Beginning of studies for biological control of pests (diseases, nematodes, arthropods) in agricultural crops,
  - Development of application techniques.

Early steps in 1970-s (3)

- Results
  - Establishment of Laboratory for Biological Control (1973),
  - New pest management programs,
  - Regular Conferences on Integrated Plant Protection from 1980: in spring – on arable crops, in autumn – in horticulture.

Early steps in 1970-s (4)

- Weak points
  - There was no concept available, therefore no overall development operated in systems,
  - High quality products were neither marked (label) nor recognised,
  - Growers were not motivated to observe IPM methods, no support available for ICP.

New impulse (1)

- Beginning of working out of National Agri-environment Program in 1998,
- Legal frame: Council Regulation 2078/92 (EEC),
- Main tasks and responsibility of the MARD and the National Plant Protection and Soil Conservation Service,
- From 2000, the legal frame changed : Council Regulation (EC) 1257/1999 came into force.

New impulse (2)

- Aims:
  - To work out a comprehensive system for the whole production cycle, granting safety of the environment and human health during the entire production and in the end product,
  - To recognise the special quality of the product which meets the requirements of the system – by granting a label.

Main elements of the Agri-environment Program

(The most important ones from our point of view)

- Organic farming
- Integrated crop production

Organic farming

- It has its own
  - legal instruments - Council Regulation 2092/91/EEC; Government Decree 140/1999
  - rules – basic conditions
  - qualification system
  - label
  - supports
- Today 130 000 ha in organic farming
- The goal for the next 5 years is to duplicate the territory of organic farming.

Integrated Crop Production Objectives (1)

- General principles – developed by IOBC – implemented in Hungarian practice.
- Classification of PPPs based on human and environment risk assessment.
- Assessment of pest management programs (can the protection of a particular crop be managed with IPM or not?).

Integrated Crop Production Objectives (2)

- Support system – from EU and national sources,
- Control system – administrative, on-the-spot, analytical. It is a feedback, as well,
- Conditions for granting the label.

Integrated Crop Production Legal instruments

- Plant Protection Act 2000/35
- Act on the Hungarian Plant Protection Chambers 2000/84
- Council Regulation 1698/ 2005
- Council Regulation 510/2006 and Commission Regulation 2006/1898
- Ministerial Decree 150/2004 (X. 12.) MARD

Integrated Crop Production Results

- The system operates
- Nowadays integrated production includes 350 000 ha

The future

- How to continue?
  - Increase of area,
  - Improvement of the system,
  - The label has not yet been introduced.

Future and tasks (1)

- To work out clear and observable instructions for the farmers,
- To grant increasing supports in the frame of farm advisory system
  - Adaptation, application of damage thresholds
  - Evaluation of pest management programs
  - Prevention of the resistence development
  - Applied research on including beneficial organisms in the management
  - Getting forecasting closer to the farmers

Future and tasks (2)

- **Label –**
  - Interbranch Association for North-East Hungarian Fruit Industry worked out requirement system for obtaining IPM label,
  - Supported by Hungarian Government and Hungarian Chamber of Professionals and Doctors of Plant Protection.

Classification of pesticides

for IPM and other agri-environment management systems

Theoretical basis and references:

- Kovach J., et al., A method to measure the environmental impact of pesticides, New York,s Food and Life Sciences Bulletin, No 139, 1992.
- Reus, J. et al., Comparison and evaluation of eight pesticide environmental risk indicators developed in Europe and recommendation for future use. Agriculture, Ecosystems & Environment, 2002. 90(2): p. 177-187
- Sallai P., Lantos J., Molnár M., Kajati I., Bubán T., Inántsy F., Eke I. Developments of integrated fruit production in Hungary, International Conference on Integrated Fruit Production, Leuven, Belgium, in Proceedings of the International Conference on Integrated Fruit Production, Eds Müller, Polesny, Verheyden, Webster, Acta Hort.525, ISHS 2000, IOBC/WPRS Bulletin, Vol 23(7) 2000. p.57-64

Parameters used for evaluation of environmental impact

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Leaching potential of as	Group-class	Expert evaluation
Dose rate of as	calculated	registration
Contamination potential of as for surface water	Group-class	Expert evaluation

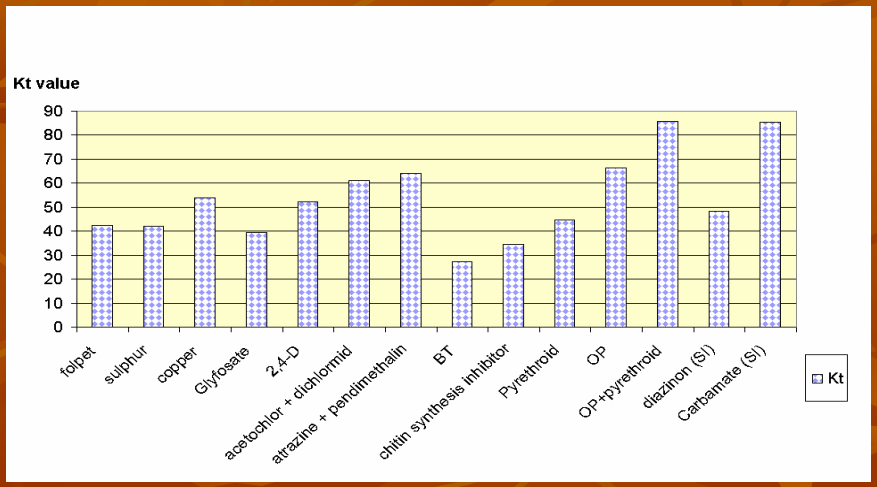
Calculation of environmental impact

- Cumulated environmental impact for farmer, consumer and treated area

$$Kt = E_{farmer} + E_{consumer} + E_{area}$$

- Different parameters evenly contribute to the overall impact.
- Impact of consumer: smaller proportion than that of farmer and treated area

Examples of environmental impact values



Application of environmental impact value for classification (1)

- Practical limit values
  minimum: 23
  maximum: 86
- The calculation of environmental impact serves as aid for classification.
- Classification exists for different crops to be cultivated according to:
  - basic plant production,
  - integrated pest management,
  - small farms,
  - sensitive agricultural areas.

Application of environmental impact value for classification (2)

- Principles of „prohibited" or „red" classification of active substances for IPM:
  - worst class in two of respective parameters;
  - „not accepted for Annex 1" according to 91/414 directive;
  - Kt > 65.
- Additional conditions exist for sensitive agricultural areas, small farms.
- The classification, together with legal restrictions (e.g. safety bands, protection of bees) provide sufficient basis for the protection of environment.

NL: Summary of the presentation on the Dutch NAP-experience

As presented on expert meeting in Berlin, 13-14 March 2007

The Netherlands is now executing its 3rd National Action Plan (2003-2010). This NAP aims at improving the sustainability of production and maintaining the competitiveness of Dutch agriculture.

The Netherlands NAP consists of national legislation (authorisation, leaching, worker protection, residues, IPM) and additional impact reducing measures (to improve knowledge; to encourage and educate growers to produce their crops in a sustainable way, using a.o. IPM; to keep enough PPP available, enforcement, encouraging sustainable consumption and production). These additional measures have been agreed upon within a multiple stakeholder working structure.

The Netherlands approach is based on reducing risks, not use/emission/dependency and has set quantative targets to be achieved in 2010:

1. -95% impact of PPP's on surface water (-75% in 2005; reference year 1998) ;
2. -95% problems in surface water used for drinking water (-75%; 1998);
3. -50% exceedance of MRLs (2003).

The qualitative goal is to maintain competitiveness of Dutch agriculture by having enough PPP's available.

In order to be able to measure the results, risk indicators have been developed by the Netherlands Environmental Plan Bureau:

Ad 1. Calculated concentration/norm. Only drift and yard leaching have yet been measured/monitored & calculated.

Ad 2 Presence of 1 (allowed) active substance exceeding 0,1 ug/l in 1 year at one measuring point.

Ad 3. Number of MRL exceedances/number of samples.

Dutch growers are relatively satisfied with the availability of PPP's (6,7 on a scale from 1-10).

On request by the Dutch government, the Netherlands Environmental Plan Bureau has performed an interim evaluation of the progress made between 1998/2003 and 2005. The

evaluation report has been published in the beginning of 2007.

These are the results:
Ad 1. -86 %: target reached, due to authorisation and leaching legislation.
Ad 2. -18 %: target not reached. The achieved reduction was accomplished due withdrawal of 3 herbicides from the market. 25 % of norm exceeding substances have a foreign origin and enter the Netherlands by the large rivers.
Ad 3. -30 % (from 3,5 % to 2,5%): no interim target was set. Evaluation period was too short to be able to conclude a downward trend.

So far the results are due to authorisation and leaching legislation that has been in place for a while. No conclusions can be drawn yet of the impact of the additional measures. They have not been in place long enough yet.

Looking at those results, one can conclude that Dutch plant protection has become a lot more sustainable, although the quality of surface water that is used for drinking water has not come close tot the target that was set. Also. Still action is needed to achieve the final targets.

In order to achieve the targets in 2010, the Netherlands will continue to execute additional measures, especially for reducing the problems in surface water for drinking water.
In the mean time, norms will be updated with the latest knowledge and the environmental impact indicator will be elaborated with more emission routes.

Finally, it is also important to underline the importance of the multiple stakeholder working structure where parties from all sides assume common and individual responsibilities and tasks to work on the goals set. This structure is considered to be an essential platform for moving ahead in achieving the NAP goals.

Reducing Environmental impact in Dutch Plant Protection

Jouke Knol
Ministry of Agriculture, Nature and Food Quality

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voedselkwaliteit

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Presentation Outline

- Development process
- Goals, objectives and milestones
- Measures and instruments
- Results and achievements
- Perspective

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Development process (1)
of planning reduction

- 1947: only agro effectivity
- 1963: human safety, environment
- 1975: more environment
- 1989: methyl bromide case lead to:
- 90-00: 1st plan for reduction (MJPG)

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Development process (2)

1st plan: MJPG (1990-2000)

Goal:

- Dependency reduction (no targets/definition)
- Volume/use reduction (-50%)
- Emission reduction (-50% air, -70% soil, -90% water)

Results:

- Dependency reduction: only soil desinfection
- Volume/use reduction: (-52%)
- Emission reduction: (54% air, 79% soil, 79% water)
- Shift to focus on environmental impact

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Development process (3)

2nd plan: ZOGT (2001-2002)

- Failed
- Withdrawal PPP's after 2000
- No support of growers/parliament for reduction measures

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Development process (4)

3rd plan: Sustainable Plant Protection (SPP)

- 2003-2010
- Reduce environmental impact
- Food Safety

- National legislation
- Additional measures **(covenant)**

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SPP: Goals, objectives & milestones

Main Goal SPP:

- Sustainable & economically viable Plant Protection Policy

Targets SPP for 2010:

- -95 % environmental impact surface water (98)
- -95 % problems in surface water for drinking water (98)
- -50 % MRL exceedance (03)

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SPP: Measures and instruments (1)

National legislation

- Authorisation (national specific circumstances)
- Emission
  - **Leaching (March 2000) - Reduction emission to surface water of 90 % by better spray practice and equipment/techniques + crop & spray free zones**
  - **Greenhouse (April 2002) - Reduction emission**
  - **Environmental management - leaching of machinery cleaning water**
- Residues
- Worker protection

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SPP: Measures and instruments (2)

Additional Measures

Work Structure: Covenant - 8 stakeholders

- Common responsibility for reaching targets
- Individual responsibility executing measures
- Government facilitates, is not responsible
- Need for compromise
- EU and 'the market' set the pace

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SPP: Measures and instruments (3)

Additional Measures

Additional measures

- Encourage innovation&IPM, Communication
- Encourage production & consumption of sustainable products
- Improve availability of PPP's
- Enforcement

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SPP: Measures and instruments (4)

Encourage innovation&IPM, communication

Spreading custom made knowledge

- Clean Sources project
- IPM: Growing with a future (growers), Best Practices (research), labels (report), legislation
- Renewal & improvement spraying license
- Trade: certification of and advising by sellers

Awareness

- Sector Plans (bottlenecks, action programs)

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SPP: Measures and instruments (5)

Encourage prod. & cons. of sust. products

- Internet publication for consumers of results of residue controls in wholesale and retail
- Government action to have government branches and companies purchase sustainable `green'

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SPP: Measures and instruments (6)

Improve availability of PPP's

- Temporary `essential uses'
- Fund for Minor uses
- Trustee

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SPP: Measures and instruments (7):
Enforcement

- Focus on encouragement, not legislation
- Enforcement of laggers on
  - Illegal use
  - Compliance with leaching legislation (spray equipment , crop & spray free zones)
- Announce inspections, publish results
- 47 inspectors perform 6.000 inspections/yr. on 35.000 growers

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SPP: Results and achievements (1)
Interim evaluation 2007

		Goal	Achieved	Goal	To be achieved?		
Operational Targets	**Ref. year**	**2005**	**2005**	**2010**	**2010**	**2015**	**Cause**
Environmental load surface water by agriculture	1998	-75%	-86%	-95%	not sure		75 % Leaching (2000). Crop/sprayfree zones, machinery. 25 % by PPP's
Problems in surface water for drinking water	1998	-50%	-18%	-95%	not sure	0 (FDW)	Withdrawal PPP, Foreign Origin, Hard surfaces. 2/3 = glyphosate.
MRL exceedances	2003		-30%	-50%	inconclusive		

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SPP: Results and achievements (2)

Interim evaluation 2007

Environmental impact in surface water

- Measurements and Calculations
- 2 lists of most harmful AS that exceed MTR
- Calculations with development of NM-Indicator (NMI) on surface water
- Drift + leaching from platform
- NMI: calculated concentration AS/Norm

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Environmental impact in surface water					
	1997/1999		2004/2005		Difference
	mln MIP	MIP/ha	mln MIP	MIP/ha	%
Agriculture	7,06	14	0,83	2	-88
Bulbs	2,08	114	0,17	8	-93
Trees, shrubs	0,34	27	0,09	6	-78
Fruit	1,83	89	0,36	22	-75
Vegetables	14,08	412	2,09	65	-84
Grass, maize (animal feed)	0,22	<1	0,07	<1	-68
Total	**25,65**	**12**	**3,6**	**2**	**-86**

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SPP: Results and achievements (3)

Interim evaluation 2007

Drinking Water (from surface water)

- Problem: presence of 1 (allowed) AS exceeding 0,1 ug/l in 1 year at one measuring point

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Number of exceedances of norm of AS in surface water at measurings points		
	# problem points	# problem points
	1998	2005
Atrazin	4	1
Diuron	5	4
Glyphosate	5	6
Isoproturon	3	2
MCPA	3	2
Mecoprop-P	5	3
Simazin	2	0
Rest of AS	6	9
Total	**33**	**27**

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SPP: Results and achievements (4)
Interim evaluation 2007

Residue

- Examined period to short for conclusions
- 2,5 % exceeds MRL (2005: 2003)
- exceedance on imported products x5

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Conclusions Evaluation

- Plant protection more sustainable
- Still: drinking water goals not met
- Competitiveness ok
- Legislation prime cause for reduction environmental impact; authorisation
- Covenant approach for broad support
- Extra measures needed in order to meet 2010 goals.

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Perspective

- Updating norms to current knowledge
- Authorisations based on these norms?
- Custom made solutions for harmful AS
- Continuation of
  - Impact reducing measures (a.o. IPM)
  - Enforcement
- Further development NMI: + other emissions: (waste/drainage water,leaching, greenhouse)
- Final Evaluation in 2010

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Netherlands Action Plan
4
after 2010

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Programme to reduce the risks connected with the use of pesticides in Sweden

In 1986 the first programme to reduce the risks connected with the use of pesticides was introduced in Sweden. The subject of the program was to reduce the risks to human health and the environment from the use of pesticides in agriculture and horticulture. Twenty years later this work is still going on. The first program has been revised several times. We are now working with our fourth program. The time frame for the present action program is 2002-2009

Objectives

The government has established 16 national objectives regarding the environmental quality. These objectives set the scene for the next generation. The objectives should be reached by 2020. The most important objective, when it comes to pesticides, is “A Non-toxic environment”. Others important objectives are for example Flourishing Lakes and Stream and Good-Quality Groundwater.

The objective ”A Non-toxic environment” states that the environment must be free from man-made or extracted compounds and metals that represent a threat to human health or biological diversity. It consists of six interim targets. One of them states that:

- Health and environmental risks associated with the manufacture and use of chemical substances will be reduced continuously up to 2010, as measured by indicators and ratios to be established by the competent authorities.

This gives a connection to the objectives of the action programme, which is part of the efforts to reach the National environmental quality objectives. The overall objective for the program is that national pesticide risk indicators shall continue to show a decreasing trend. In the programme there are also objectives concerning characteristics of plant protection products, residues in water and food and also risks with residues in water and food.

Measures

The programme comprises the following measures:

- Changeover to pesticides with less risk.
- Regulation of the handling of pesticides.
- Training and information in safer handling of pesticides.

- Control of pesticides residues in food and water.
- Pesticed taxe.
- Reduced use of pesticides.

The Swedish Board of Agriculture, answer for training, information and advisory service concerning safe handling of pesticides, reduced use of pesticides, integrated crop protection including pest prognoses and early warning. Activities are carried out by local extension officers and by the five plant protection centers that has been established.

The board also answer for the mandatory training courses for farmers and farm workers who carry out pesticide spraying professionally, the programme for voluntary tests of sprayers in operation and weed, pest and technical research and development. The board is responsible for the co-ordination of the programme.

The aim of the **Plant Protection Centers** is to make plant protection in agri- and horticulture both efficient and environment friendly. They are located in five different places in Sweden.

The presence of pests, and the need for pesticides, varies a lot from year to year, and also from field to field in one year. To adapt the use of pesticides according to actual need is therefore very useful both for society's environmental concerns and for the economy of the individual farmers. Pest and disease prognoses, early warning of pests and diseases and diagnoses are of great importance for this adaptation. There is a great need for information concerning the use of pesticides, and the risks associated with this use. The Plant Protection Centres take active part in a large number of courses, field excursions, telephone meetings, and national and international conferences. Most of the Plant Protection Centres' information is published on the Internet www.sjv.se/vsc.

Local extension officers' gives advise and information concerning the use of pesticides, and the risks associated with this use. In 2005 about 1 400 farmers received individual farm advise and about 5800 participated in different courses.

The National Chemicals Inspectorate evaluates the risks and benefits of the pesticides before they can be approved and used. During the extensive review of all existing pesticides during the beginning of the 90-ties, there was a considerable reduction in the number of active substances. 84 old substances (or 46 %) were removed from the market, many of them due to insufficient data. However, about 30 of these 84 substances were withdrawn due to clear environmental or health concerns. During the review, 25 new substances entered the market

as a result of the gaps that had appeared in certain uses as a result of the comparative risk assessments performed at that time.

The Swedish Environmental Protection Agency and The Occupational Safety and Health Administration, have issued regulations and guidelines aimed at reducing the health and environmental risks connected with the handling of pesticides. The legislation contains rules, i.a. regarding the filling and cleaning of equipment and application of pesticides. All farmers using pesticides professionally must take precautions to minimize the risk of leakage to surface or groundwater or to other vulnerable areas. According to the regulation they must also calculate proper buffer zones to prevent contamination of areas outside the field by wind drift.

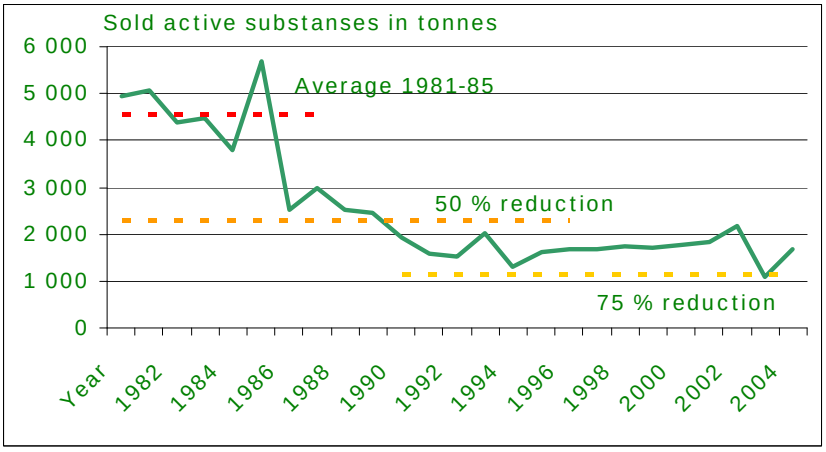
The Swedish Environmental Protection Agency also answers for monitoring of pesticide residues in surface- and ground water.

The Swedish National Food Administration answers for the control of pesticide residues in food and drinking water.

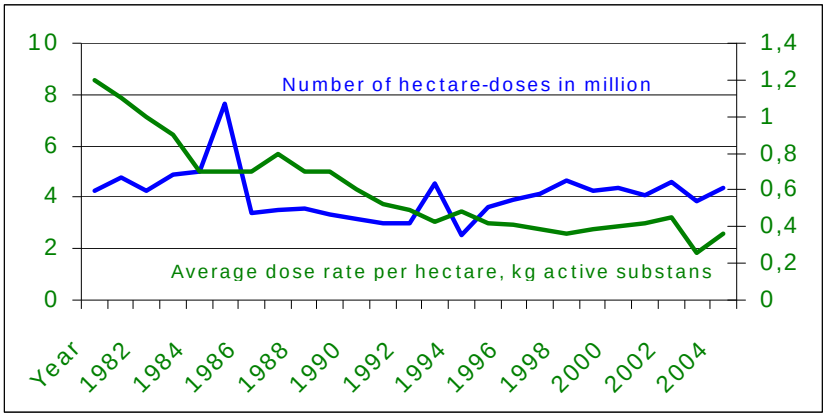
The **Federation of Swedish Farmers** supports the programme. Their support in this issue has very much facilitated the realisation of the programme. They have organized the information campaign **Safe Use of Pesticides (www.lrf.se/sakertvaxtskydd).** The campaign is built on collaboration between authorities, chemical companies and the farmer organisation. It is an example of the possibility for authorities to work together with the agricultural sector to successfully reach environmental goals. Federation of Swedish farmers (LRF), Swedish Crop Protection Association, The Nationals Chemicals Inspectorate (KemI), The Swedish Board of Agriculture (SJV) and The Swedish Environmental Protection Agency are all involved in the campaign.

Results

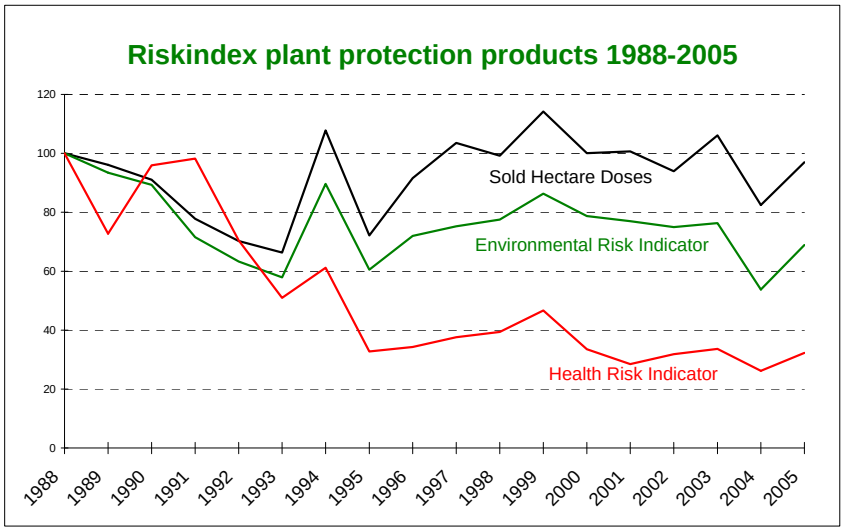
One of the most apparent goals of the earlier programmes was to reduce the used quantity of active ingredients. The average use between 1981 and 1985 was about 4500 tons active ingredient. In 2005 the sold amount of active substances was about 1700 tons. It is a reduction with about 62 %. Hoarding activities among farmers occured in 1986, 1994 and 2003 due to taxe raises on pesticedes. The peaks in the diagram do therefore not reflect the actual use these years.



The number of average number of sold doses in 2005 is almost the same as it was in the base period 1981-85, 4,4 million doses or 1,6 doses per hectare. The quantity of active ingredients per hectare treated area has decreased from about 1,2 in 1981 to 0,4 in 2005. Hoarding activities among farmers in occured in 1986, 1994 and 2003 due to taxe raises on pesticedes. The peaks in the diagram do therefore not reflect the actual use these years.



In 1998 the risks to health has been reduced by 75 % of the reference level (average for 1981-85), and the environmental risks by 63 % according to the health- and environment indexes and yearly statistics of sold amounts. Hoarding activities among farmers in occured in 1994 and 2003 due to taxe raises on pesticedes. The peaks in the diagram do therefore not reflect the actual use these years.



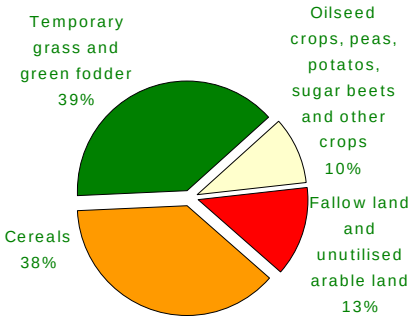
Programme to reduce the risks connected with the use of pesticides in Sweden

Magnus Franzén
The Swedish Board of Agriculture

JORDBRUKS VERKET

2007-04-10

- 450 000 km²
- 7 600 km long coast
- 95 000 lakes > 0.01 km²
- > 150 000 km rivers and water courses
- 65 % forest
- 7 % arable land or about 2.7 million hectare
- 75 000 agricultural holdings



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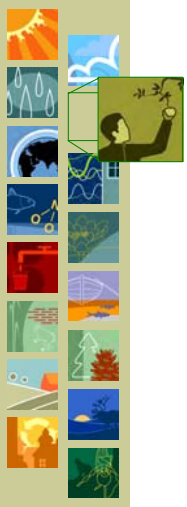

Illustrator Tobias Flygar

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2007-04-10

National environmental quality objectives

- 16 objectives established by the Swedish Government and the Parliament
- Setting the scene for the next generation
- A non-toxic environment
- The environment must be free from man-made or extracted compounds and metals that represent a threat to human health or biological diversity.
- Consists of 6 interim targets

http://www.miljomal.nu/english/english.php

Objectives with the action program

The overall objective is that national pesticide risk indicators shall continue to show a decreasing trend.

There are also objectives concerning:

- The characteristics of plant protection products
- Residues in water and food
- Risks with residues in water and food

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Three main risk areas

- Pesticides in the environment – effects on the ecosystem and vulnerable organisms
- Consumers – residues in food and water
- Users – risks when handling pesticides

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The present program focus on:

- Filling and cleaning of sprayers
- Use of pesticides in vulnerable areas
- Late and early use of herbicides
- Usage of herbicides in row sown crops on pervious soils
- Repeated use of fungicides
- Use of fan orchard sprayers
- Spraying in greenhouses and the following handling of treated plants

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Measures

- Pesticide approval - changeover to pesticides with less risk
- Regulations
- Training and information - reduced use and safer handling
- Voluntary test of sprayers in operation
- Levy on pesticides
- Monitoring of pesticide residues in food and water
- Research and development

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Plant Protection Centers

Tasks:

- **Pest and disease prognoses**
- **Early warning of pests and diseases**
- **Diagnoses**
- **Information**
- **Development**

www.sjv.se/vsc

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Advisory services

Local extension officers gives advise and information concerning the use of pesticides, and the risks associated with this use

In 2005:

- about 1 400 farmers received individual farm advise
- about 5800 participated in different courses

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Safe Use of Pesticides

- An information campaign
- Collaboration between authorities, chemical companies and the farmer organisation.
- An example of the possibility for authorities to work together with the agricultural sector to successfully reach environmental goals.

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Key elements

- Transfer of know-how, training and counselling.
- Active participation
- Up-to-date material that is used in courses, field trips and individual counselling.

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Main issues in the campaign

- Raise the awareness amongst farmers of the environmental and health risks
- Introduce new spraying equipment
- Promote filling and emptying spraying equipment on biological active grounds such as on a "biobedd"
- Use of alternative and preventive crop-protection measures
- Raise the awareness of the risks for wind- and soil losses and which precautions should be taken
- Facilitate the implementation of new legislation regarding the use of pesticides

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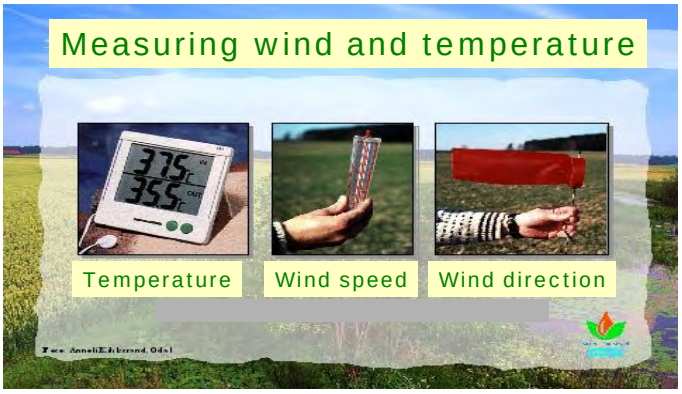
Regulation on the handling and application of pesticides



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Results

- Risk reduction
  Two types of indicators are used; one related to environmental risks and one to operator health risks
- Quantity reduction
  Statistics for sold amount active substances, number of hectare doses, average dose rate per hectare are used

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Pesticide risk indicators

Simple scoring approach

Based on (for each active substance):

- the theoretically maximum number of hectare doses
- current hazard classification (including also mobility, persistence and bioaccumulation properties)
- exposure related factors such as formulation type, application method and treatment frequency.

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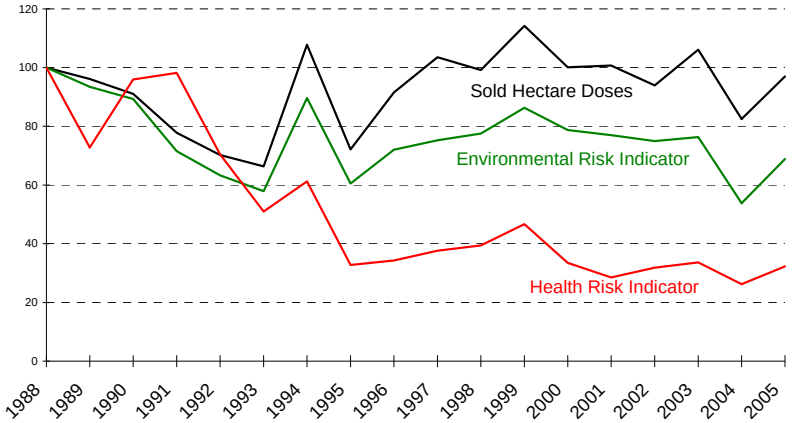
Riskindex plant protection products 1988-2005



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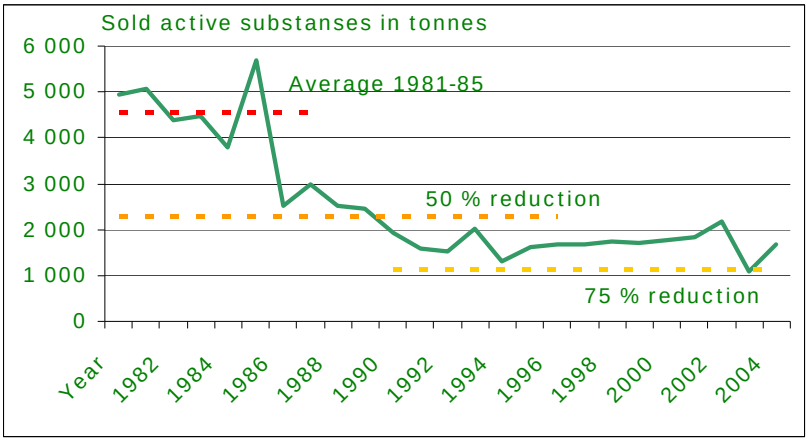
2007-04-10

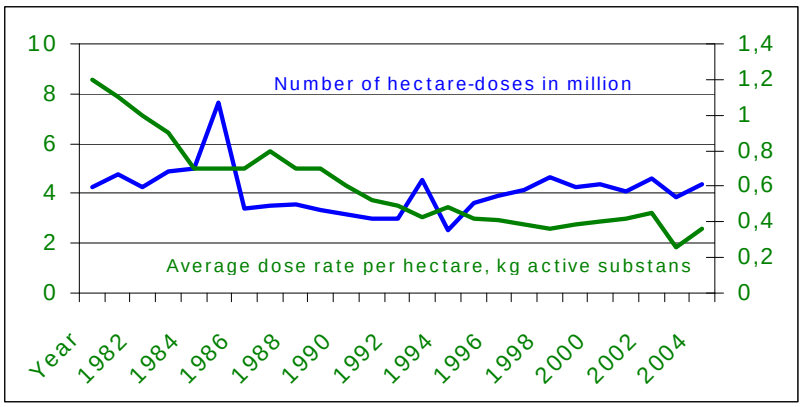
Results



JORDBRUKS VERKET

2007-04-10

Results



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What has contributed to the success?

- Balance between mandatory and voluntary elements
- Activities performed at different levels and driven by different stakeholders
- Full support of the programme from the Federation of Swedish farmers
- A joint work between the environmental and agricultural authorities
- Transfer of knowledge and information to the farmers has made it possible to handle pesticides in a correct way.

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UK PESTICIDE NATIONAL ACTION PLANS

The UK National Action Plan was developed as a result of the adoption of 'Pesticides and the Environment: A Strategy for the Sustainable Use of Plant Protection Products' in March 2006.

An extensive range of measures influence and control pesticide use. They can be broadly categorised as:

- regulatory controls (for example, the authorisation and maximum residue level legislation, water framework directive, birds and habitats directives and the UK Code of Practice);
- providing incentives to improve practice (largely through environmental schemes);
- research and development (government, industry and others); and
- voluntary/industry measures (assured produce schemes, the voluntary initiative, training programmes developed by organisations such as BASIS, promotion of IPM through organisations such as LEAF and measures proposed as part of the governments response to the Royal Commission for Environmental Pollution's enquiry on crop spraying and the health of residents and bystanders)

The UK Plan was developed following extensive consultations with stakeholders such as the farming, crop protection and distribution industries, training providers, machinery manufacturers, water and environmental regulators, water companies, NGOs, wildlife organisations, pesticide users, etc. The UK has a well-developed range of voluntary controls, and these feature prominently in the national plan.

The plan aims to 'promote uses of plant protection products that achieve high standards in environmental protection whilst maintaining the economic viability of crop production'. It will do this by:

- reducing water pollution caused by plant protection products to the standards required by the water framework directive;
- reversing the loss of biodiversity caused by plant protection products;

- encouraging the introduction of alternative chemicals, greater use of integrated approaches and lower product dependency;
- establishing best practice in the amenity sector;
- maintaining the availability of sufficient products, tools and techniques to control pests and disease; and
- preventing inappropriate disposal of amateur products.

There are five separate parts to the UK plan. They cover the subjects of: water protection; promoting biodiversity; amateur use; amenity use and availability. Separate plans are being developed for each of these subjects by groups of stakeholders. The plans contain the following elements: use of pesticide legislation and risk assessment processes, establishing appropriate links and supporting associated government initiatives, development of industry/voluntary approaches, communication, R&D and knowledge transfer (details in Annex A). The Pesticides Forum, a stakeholder group formed in 1996 to advise the government on practical measures to minimise pesticides use, reviews the work of the each of these groups to ensure that the package of measures will deliver the desired aim.

Indicators and targets are under development. Industry (represented by the Voluntary Initiative) and Government (represented by the Pesticides Forum) have jointly developed an indicators framework. The framework demonstrates how the work of the five plans support the economic and social and environmental elements of ‘sustainability’. Each plan will have a ‘headline indicator’ designed to provide high-level information on the impact the plan is having. They will also have a series of ‘core indicators’ which are designed to explain these impacts in a little more detail. Indicators will, as is practicable, be based on environmental outcomes, but it may be appropriate to include other types (including those which reflect the behaviour of users).

PSD is to consult on an update to the Strategy in April 2007. This will include proposals for a new human health part (covering users, consumers and by-standers). The UK Strategy and the plans developed under it will be reviewed every 5 years.

Pesticides Safety Directorate

March 2007

Annex A: details of the 5 Plans

The water protection plan contains to following measures:

- pesticide legislation and risk assessment (use of EU and national assessment processes, developing measures to ensure compliance with the sustainable use directive, possible use of synergistic and additive effects, review of aerial spraying arrangements, review of buffer zone policy);
- links with other government initiatives (improve water monitoring arrangements, identify sensitive and aquatic species and habitats and develop mitigation measures, support development of the water framework directive, develop closer links with waste and soil strategies);
- voluntary and industry initiatives (maintenance of key industry programmes, training, equipment testing, environmental information, crop protection management plans, etc);
- R&D and Knowledge transfer (review of R&D programme, news updates, develop guidance on importance of application technology).

The biodiversity plan contains the following measures:

- Pesticide legislation and risk assessment (use of EU and national assessment processes, developing measures to ensure compliance with the sustainable use directive, possible use of synergistic and additive effects, possible research on how to address biodiversity within the authorisation process);
- Links with other government initiatives (use UK Biodiversity Action plan to identify sensitive and species and habitats and develop mitigation measures, develop a 'whole-farm' approach (measures in environmental schemes and concept of compensatory measures), promote development and protection of farmland habitats, maintain environmental monitoring scheme);
- voluntary and industry initiatives (maintenance of key industry programmes, environmental training, equipment testing, environmental information, crop protection management plans, results from SAFFIE project);
- R&D and Knowledge transfer (review of R&D programme, news updates, develop guidance on importance of application technology).

The Amenity Use plan contains the following elements.

- Pesticide legislation and risk assessment (use of EU and national assessment processes, developing measures to ensure compliance with the sustainable use directive, use of HardSpec model to assess run-off, regular surveys of amenity use and practice);
- Links with other government initiatives (improved water monitoring, improving links with local authorities and other major amenity users);
- Voluntary and industry initiatives (Amenity Forum to develop best practice advice for users and those awarding contracts in amenity sector, amenity-specific training courses);
- R&D and Knowledge Transfer ((review of R&D programme, news updates, develop guidance on importance of application technology, liaison with Inter-Reg III project on amenity use of pesticides).

The Amateur use plan contains the following elements

- Pesticide legislation and risk assessment (use of EU and national assessment processes, developing measures to ensure compliance with the sustainable use directive, regular surveys of amateur use and practice, compliance with revised labelling guidance);
- Links with other government initiatives (improved water monitoring and links with local authorities to improve disposal facilities);
- Communication with users (development of specific training programmes/qualifications for retailers, communication strategy build around the gardeners 'annual calendar');
- R&D and Knowledge Transfer (reviews of programmes and stakeholders to share information).

The Availability plan contains to following elements

- EU approvals process (review data protection arrangements, support zonal authorisations, avoid setting of inappropriate MRLs);
- National approvals process (review operation of special off-label recognition scheme, possible fast-track schemes for semiochemicals, biopesticides and minor uses, promote mutual recognition);
- Communication (facilitate information exchanges between plant breeders, crop protection and farming industries, use of EC and national Minor Use groups)
- R&D and Knowledge Transfer (major review of alternatives programme, news updates).

Annex B: Web links

UK Pesticides Strategy
http://www.pesticides.gov.uk/uploadedfiles/Web_Assets/PSD/PB11721_Pesticidesenvironment_Lo.pdf

UK Pesticide Strategy Action Plan Groups
http://www.pesticides.gov.uk/environment.asp?id=1840

UK Pesticides Code of Practice
http://www.pesticides.gov.uk/uploadedfiles/Web_Assets/PSD/Code_of_Practice_for_using_Plant_Protection_Products_-_Complete%20Code.pdf

Assured Produce
http://www.assuredproduce.co.uk/ap/

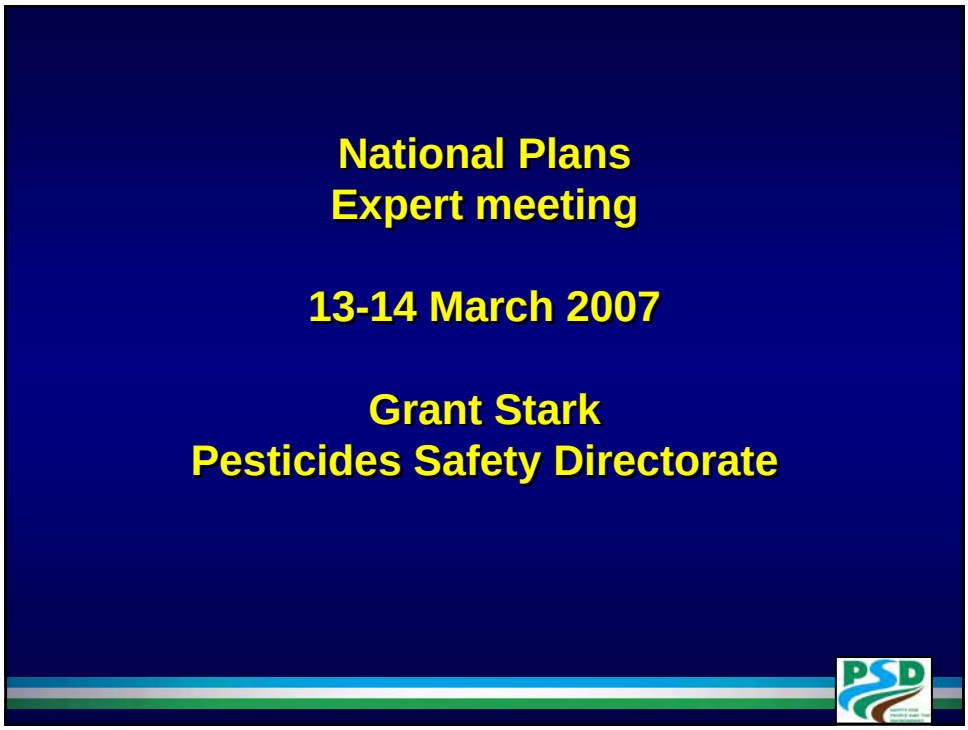
Voluntary Initiative
http://www.voluntaryinitiative.org.uk/Content/default.asp

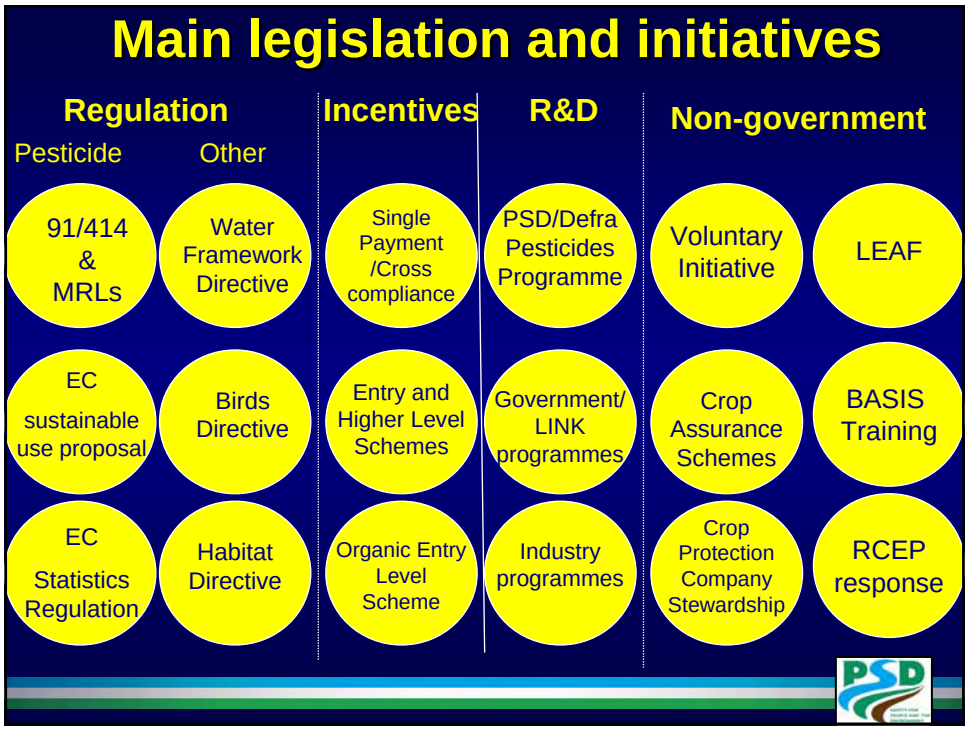
Amenity Forum
http://www.amenity.org.uk/content/About.asp

BASIS training
http://www.basis-reg.com/index2.asp

LEAF (Linking Environment and Farming)
http://www.leafmarque.com/leaf/

UK Government response on RCEP enquiry
http://www.defra.gov.uk/environment/rcep/pdf/rcepcropspray-response.pdf


National Plans
Expert meeting
13-14 March 2007
Grant Stark
Pesticides Safety Directorate


Main legislation and initiatives
Regulation
Pesticide
Other
Incentives
R&D
Non-government
91/414 & MRLs
Water Framework Directive
Single Payment /Cross compliance
PSD/Defra Pesticides Programme
Voluntary Initiative
LEAF
EC sustainable use proposal
Birds Directive
Entry and Higher Level Schemes
Government/ LINK programmes
Crop Assurance Schemes
BASIS Training
EC Statistics Regulation
Habitat Directive
Organic Entry Level Scheme
Industry programmes
Crop Protection Company Stewardship
RCEP response

Developing the UK plan

UK Parliamentary Committees

Consulting stakeholders
100+ responses
Support for Strategy
Differences of opinion on products and scope

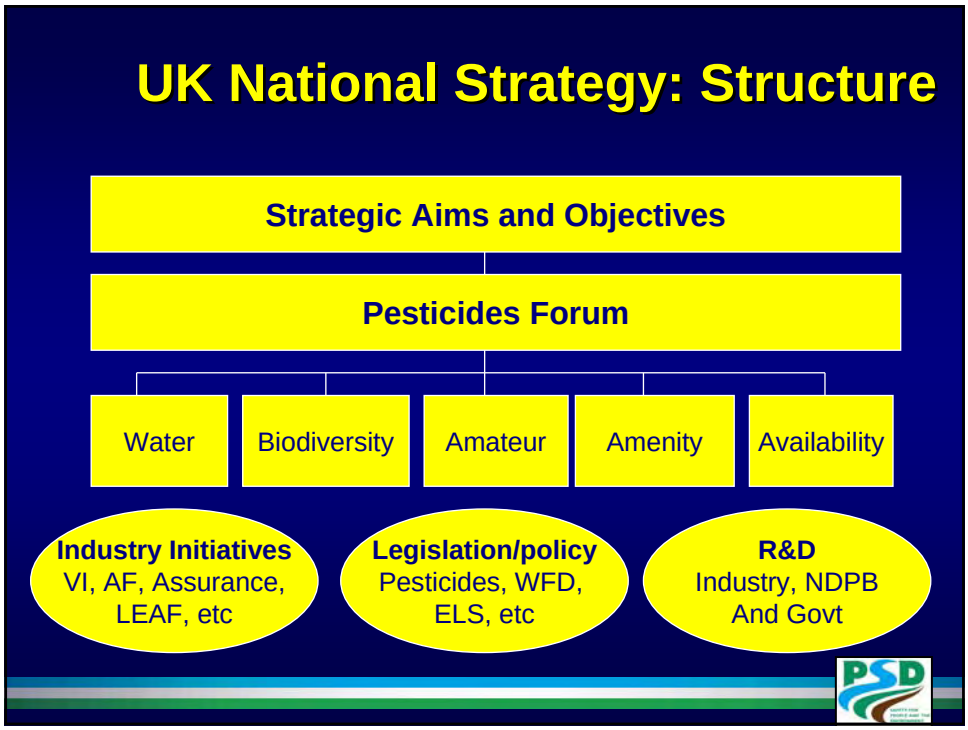
Policy Considerations
Need to promote sustainable use
Differing views of stakeholders
Mature policy environment
Uncertain future for farming
EU Thematic Strategy/RCEP report

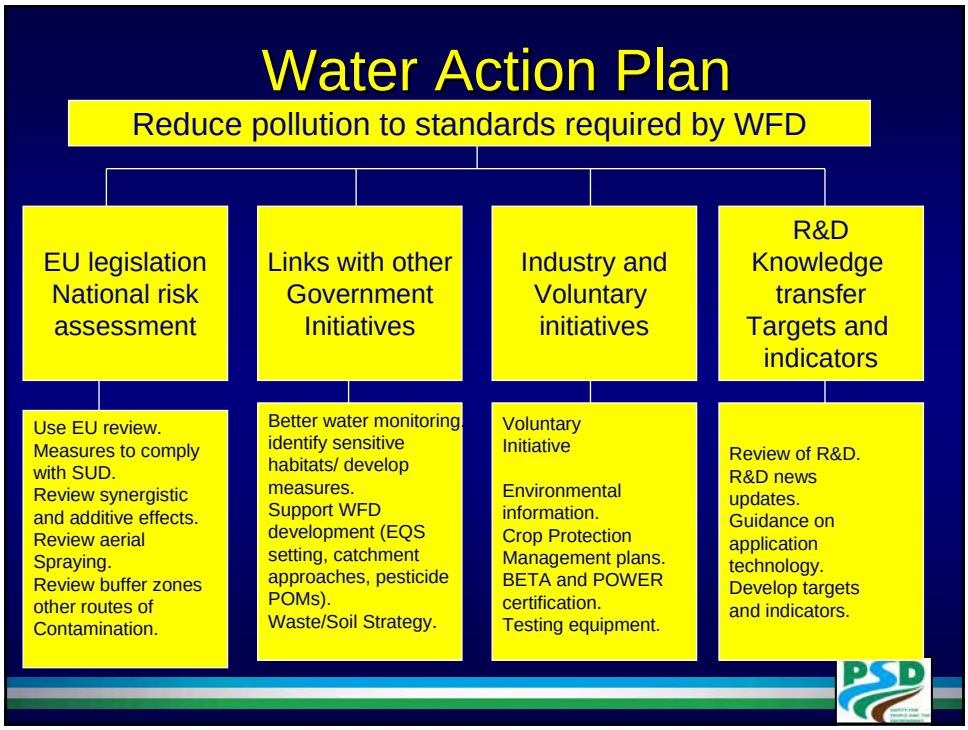
UK Strategy and Action Plans

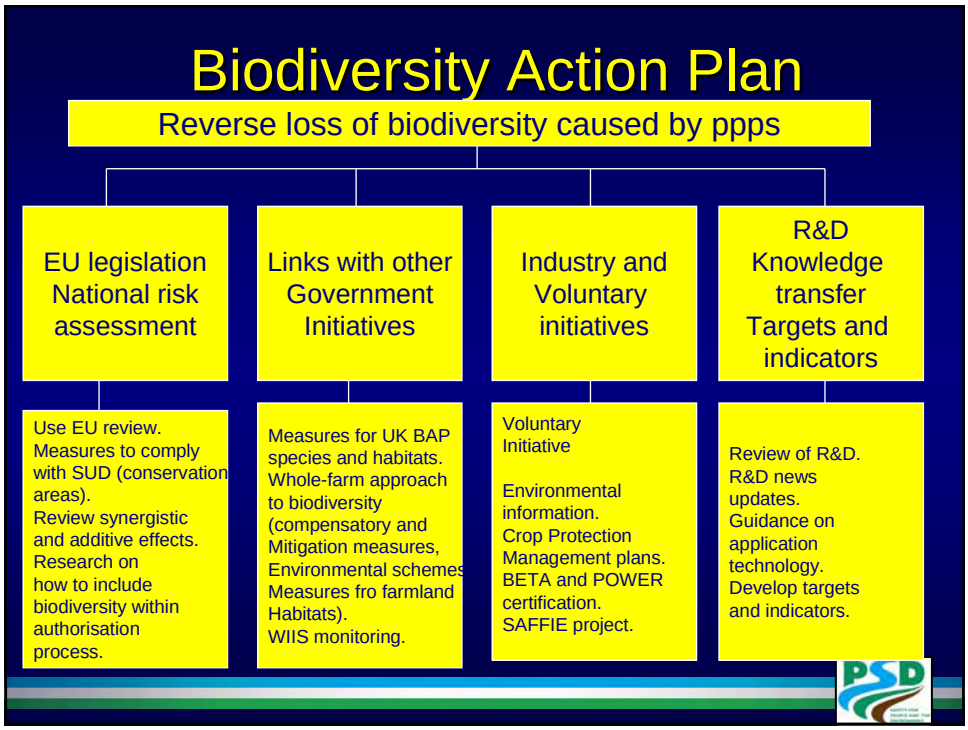
UK National Strategy

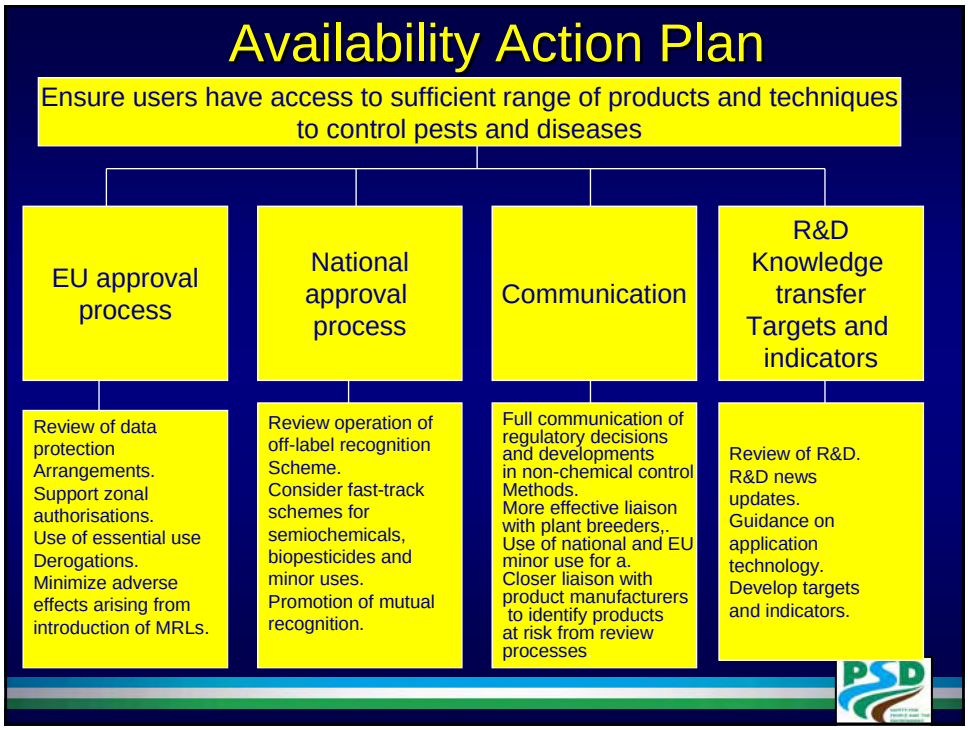
To promote uses of plant protection products that achieve high standards in environmental protection whilst maintaining the economic viability of crop production.

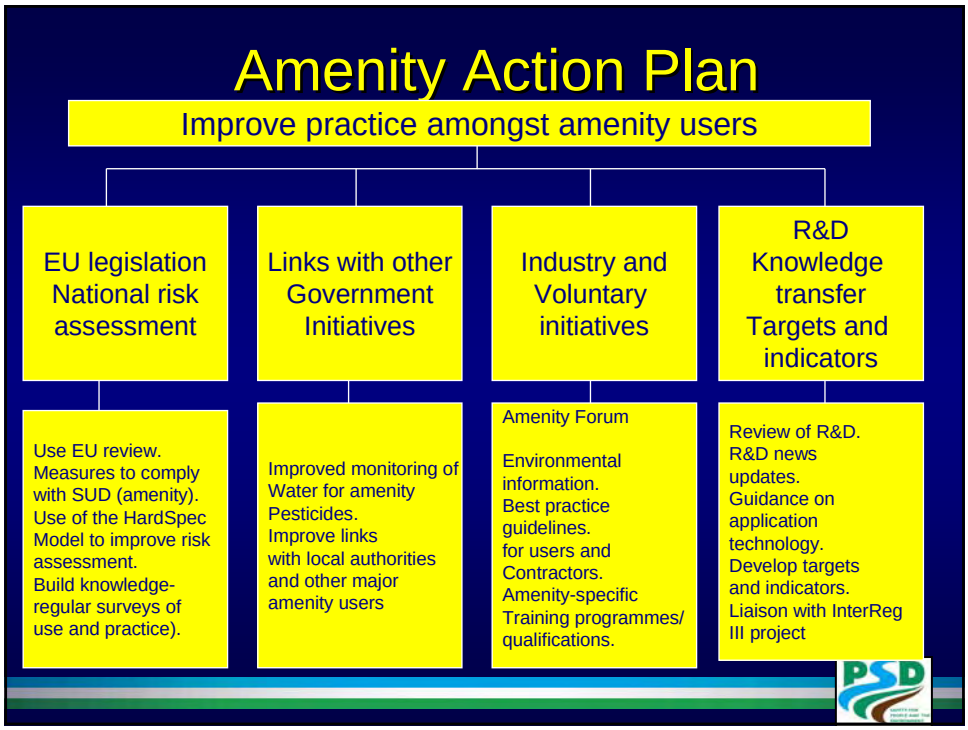
- Reduce water pollution caused by ppps to standards required by WFD
- Reverse the loss of biodiversity caused by ppps
- Encourage introduction of alternative chemicals, greater use of integrated approaches and lower product dependency
- Establish best practice in the amenity sector
- Maintain availability of sufficient products and techniques to control pests
- Prevent Inappropriate disposal of amateur products

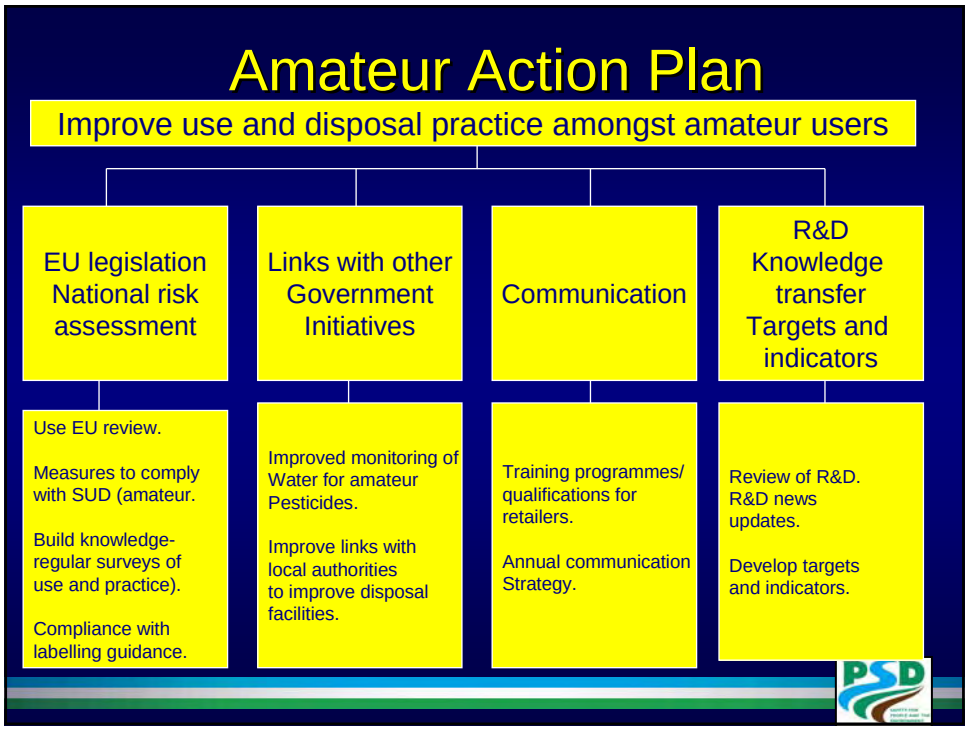

UK National Strategy: Structure
Strategic Aims and Objectives
Pesticides Forum
Water
Biodiversity
Amateur
Amenity
Availability
Industry Initiatives
VI, AF, Assurance, LEAF, etc
Legislation/policy
Pesticides, WFD, ELS, etc
R&D
Industry, NDPB And Govt
PSD

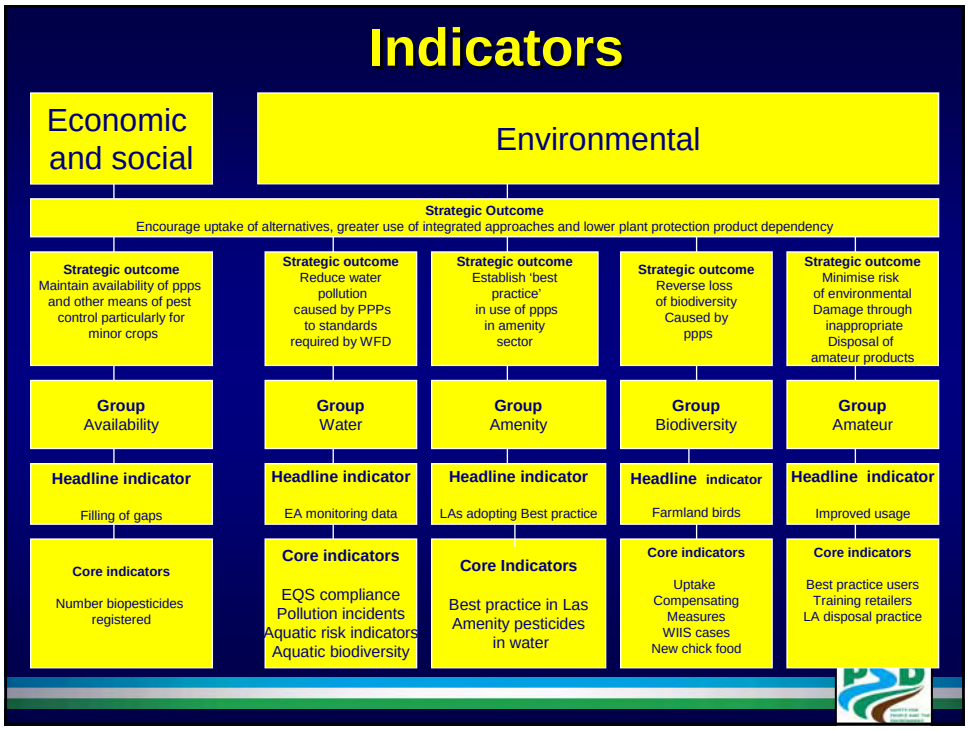

Water Action Plan
Reduce pollution to standards required by WFD
EU legislation National risk assessment
Links with other Government Initiatives
Industry and Voluntary initiatives
R&D Knowledge transfer Targets and indicators
Use EU review.
Measures to comply with SUD.
Review synergistic and additive effects.
Review aerial Spraying.
Review buffer zones other routes of Contamination.
Better water monitoring. identify sensitive habitats/ develop measures.
Support WFD development (EQS setting, catchment approaches, pesticide POMs).
Waste/Soil Strategy.
Voluntary Initiative
Environmental information.
Crop Protection Management plans.
BETA and POWER certification.
Testing equipment.
Review of R&D.
R&D news updates.
Guidance on application technology.
Develop targets and indicators.
PSD

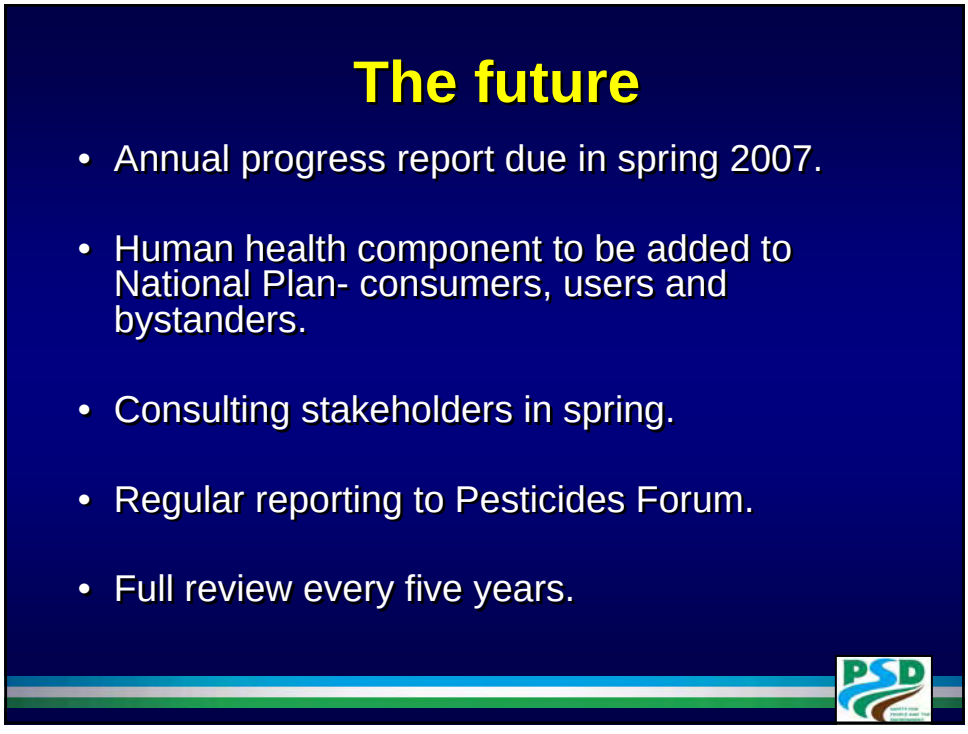

Biodiversity Action Plan
Reverse loss of biodiversity caused by ppps
EU legislation National risk assessment
Links with other Government Initiatives
Industry and Voluntary initiatives
R&D Knowledge transfer Targets and indicators
Use EU review. Measures to comply with SUD (conservation areas). Review synergistic and additive effects. Research on how to include biodiversity within authorisation process.
Measures for UK BAP species and habitats. Whole-farm approach to biodiversity (compensatory and Mitigation measures, Environmental schemes Measures fro farmland Habitats). WIIS monitoring.
Voluntary Initiative
Environmental information. Crop Protection Management plans. BETA and POWER certification. SAFFIE project.
Review of R&D. R&D news updates. Guidance on application technology. Develop targets and indicators.


Availability Action Plan
Ensure users have access to sufficient range of products and techniques to control pests and diseases
EU approval process
National approval process
Communication
R&D Knowledge transfer Targets and indicators
Review of data protection Arrangements. Support zonal authorisations. Use of essential use Derogations. Minimize adverse effects arising from introduction of MRLs.
Review operation of off-label recognition Scheme. Consider fast-track schemes for semiochemicals, biopesticides and minor uses. Promotion of mutual recognition.
Full communication of regulatory decisions and developments in non-chemical control Methods. More effective liaison with plant breeders,. Use of national and EU minor use for a. Closer liaison with product manufacturers to identify products at risk from review processes.
Review of R&D. R&D news updates. Guidance on application technology. Develop targets and indicators.


Amenity Action Plan
Improve practice amongst amenity users
EU legislation National risk assessment
Links with other Government Initiatives
Industry and Voluntary initiatives
R&D Knowledge transfer Targets and indicators
Use EU review. Measures to comply with SUD (amenity). Use of the HardSpec Model to improve risk assessment. Build knowledge- regular surveys of use and practice).
Improved monitoring of Water for amenity Pesticides. Improve links with local authorities and other major amenity users
Amenity Forum
Environmental information. Best practice guidelines. for users and Contractors. Amenity-specific Training programmes/ qualifications.
Review of R&D. R&D news updates. Guidance on application technology. Develop targets and indicators. Liaison with InterReg III project


Amateur Action Plan
Improve use and disposal practice amongst amateur users
EU legislation National risk assessment
Links with other Government Initiatives
Communication
R&D Knowledge transfer Targets and indicators
Use EU review.
Measures to comply with SUD (amateur.
Build knowledge- regular surveys of use and practice).
Compliance with labelling guidance.
Improved monitoring of Water for amateur Pesticides.
Improve links with local authorities to improve disposal facilities.
Training programmes/ qualifications for retailers.
Annual communication Strategy.
Review of R&D. R&D news updates.
Develop targets and indicators.


Indicators
Economic and social
Environmental
Strategic Outcome
Encourage uptake of alternatives, greater use of integrated approaches and lower plant protection product dependency
Strategic outcome
Maintain availability of ppps and other means of pest control particularly for minor crops
Strategic outcome
Reduce water pollution caused by PPPs to standards required by WFD
Strategic outcome
Establish 'best practice' in use of ppps in amenity sector
Strategic outcome
Reverse loss of biodiversity Caused by ppps
Strategic outcome
Minimise risk of environmental Damage through inappropriate Disposal of amateur products
Group
Availability
Group
Water
Group
Amenity
Group
Biodiversity
Group
Amateur
Headline indicator
Filling of gaps
Headline indicator
EA monitoring data
Headline indicator
LAs adopting Best practice
Headline indicator
Farmland birds
Headline indicator
Improved usage
Core indicators
Number biopesticides registered
Core indicators
EQS compliance
Pollution incidents
Aquatic risk indicators
Aquatic biodiversity
Core Indicators
Best practice in Las
Amenity pesticides in water
Core indicators
Uptake
Compensating Measures
WIIS cases
New chick food
Core indicators
Best practice users
Training retailers
LA disposal practice


The future
• Annual progress report due in spring 2007.
• Human health component to be added to National Plan- consumers, users and bystanders.
• Consulting stakeholders in spring.
• Regular reporting to Pesticides Forum.
• Full review every five years.