EU Policy for a sustainable use of pesticides

The story behind the Strategy
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A great deal of additional information on the European Union is available on the Internet. It can be accessed through the Europa server (http://ec.europa.eu).

Cataloguing data can be found at the end of this publication.

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European environment policy has evolved significantly since the 1970s. It has given the EU cleaner air and water and a better understanding of our dependence on a healthy environment. It is one of the policy areas most supported by EU citizens, who recognise that environmental problems go beyond national and regional borders and can only be resolved through concerted action at EU and international level. From an initial focus on single pollutants and impacts it has moved into an integration phase, with the emphasis on understanding and addressing the pressures on the environment and examining the effects of different policies and behaviour patterns.

Seven thematic strategies were adopted by the Commission in 2005 and 2006. They address various environmental areas and form part of this new approach to environmental policy-making. They are based on a deep review of existing policy, and required several years of scientific and economic analysis together with extensive consultation. They exemplify the better regulation approach of the Commission and will make an important contribution to sustainable development and the agenda set in Lisbon to make EU the most competitive and dynamic knowledge-based economy in the world.

Moreover, the strategies are key mechanisms for delivering the objectives set out in the Sixth Environmental Action Programme (6th EAP) adopted by the Council and Parliament for the period 2002-2012. The strategies are specified in the 6th EAP and fall under its four main priorities: climate change, biodiversity, health and resource use. The seven strategies cover:

- Air quality
- The marine environment
- The sustainable use of resources
- Waste prevention and recycling
- The sustainable use of pesticides
- Soil quality
- The urban environment

The thematic strategies provide broad analyses of issues by theme. They look at pressures and impacts on the environment, which often cut across these themes. They examine the links between environmental impacts and sectoral policies. They look at a broad range of options and a varied policy mix, including the use of market-based instruments, technology and innovation to deal with the problems identified in a strategic and effective manner. They take a longer-term perspective, setting the framework for Community and Member State action for the next two decades, i.e. they propose strategic objectives and explore short- and medium-term measures where appropriate, thus helping to meet the EU's global commitments.

Each strategy takes the form of a package comprised of:

- an overall approach towards the thematic issue, presented in a Communication that highlights issues and proposes solutions,
- legislative proposals (for some of the strategies),
- an impact assessment.

Each strategy is the result of a thorough development process. There is first a preliminary communication – a kind of Green Paper – that sets out issues and possible approaches to dealing with them. These documents are then subject to extensive consultation in expert working groups, in the impact assessment process and on the internet. A broad range of stakeholders are consulted: Member States, academics, business and trade associations, individual companies, NGOs and other representatives of civil society. This process culminates in policy proposals that are knowledge-based and practical.

The thematic strategy on the sustainable use of pesticides ("the Strategy") was adopted by the European Commission on 12 July 2006. Its roots are in the 6th EAP (see page 8). It is accompanied by a detailed impact assessment and a legislative proposal to create an overall coherent and consistent policy framework for pesticide use.

The purpose of this summary brochure is to describe the process leading to the adoption of this Strategy and to summarise its content.

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(2) COM(2006) 372 final
(3) SEC(2006) 894 final
(4) COM(2006) 373 final

The Sixth Environment Action Programme (6th EAP) is a programme of Community action on the environment with key objectives covering a period of ten years. The priorities of the 6th EAP are climate change, nature and biodiversity, environment, health and quality of life, and natural resources and waste. Within these key priorities, the 6th EAP calls for the development of seven thematic strategies including a coherent and integrated strategy on the sustainable use of pesticides. The Thematic Strategy on the Sustainable Use of Pesticides is a coherent and integrated policy on the use-phase of pesticides. Its objectives are:

(i) to minimise the hazards and risks to health and the environment stemming from the use of pesticides;
(ii) to improve controls on the use and distribution of pesticides;
(iii) to reduce the levels of harmful active substances used, in particular by substituting the most dangerous with safer alternatives;
(iv) to encourage low-input or pesticide-free cultivation;
(v) to establish a transparent system for reporting and monitoring the progress made in achieving the objectives of the Strategy.
2. WHY A THEMATIC STRATEGY ON THE SUSTAINABLE USE OF PESTICIDES?

2.1. General context

Pesticides are active substances and products that have the inherent potential to kill or control harmful or unwanted organisms – such as pests and weeds. They can be used in agriculture or to control the growth of plants on non-agricultural surfaces (plant protection products), or for other purposes (biocidal products).

The European plant protection industry is a significant economic player on the world market. In 2002 it employed around 26 000 people in the EU-15. Three of the five largest global companies are based in Europe. A number of other companies are involved with plant protection products in one way or another (manufacturers of spraying equipment, service companies for aerial spraying, and so on).

The use of pesticides brings various benefits - mostly economic - in particular for farmers. Pesticides improve or safeguard agricultural yields and the quality of agricultural products. They also minimise labour input. They can help limit soil erosion by reducing tillage cultivation, and they contribute to ensure reliable supplies of a wide choice of affordable agricultural produce. Plant protection products also play an important role in meeting plant health requirements and allowing international trade in agricultural products. Outside the agricultural sector, pesticides have a wide range of uses, preserving wood or fabric, and protecting public health.

However, because of their intrinsic properties, pesticides can be harmful to non-target organisms, and can have unwanted adverse effects on human health and the environment.

2.2. Threats to human health and the environment

2.2.1. Risks to human health

A particular pesticide will have an adverse impact on human health when the degree of exposure exceeds the levels considered to be safe. There can be direct exposure to pesticides (by the industrial workers who produce pesticides and the operators – in particular farmers – who use them). There can also be indirect exposure (by consumers, residents and bystanders) in particular while or after pesticides are used in agriculture, landscaping, and on sports grounds, and for public building maintenance, road and railway side weed control, lawn care, and other activities.

According to a survey carried out by the European Federation of Agricultural Workers’ Unions (EAF), the most common adverse effects of pesticides on workers and operators include acute headaches, vomiting, stomach-aches, and diarrhoea. They occur through exposure during the application, preparation or mixing of pesticides, and the handling of containers. Low but constant exposure levels may lead to long-term and chronic health impairment (e.g. cancer, birth defects, reproductive problems, sensitisation). More often than not, people do not realise the connection between exposure to pesticides and the disease. This is because there are no obvious symptoms of poisoning immediately following exposure.

Residents and bystanders can be indirectly exposed to pesticides as a result of spray drift. So can consumers, through residual amounts in agricultural products or water. The consequences can be worse for highly vulnerable population groups, such as children (who are particularly sensitive to suspected ‘cocktail effects’), the elderly, or other particular risk groups (immunologically compromised people, the chronically sick, etc.), and of course workers (because they may suffer intensive exposure).

Exposure to pesticides exceeding safe levels is generally due to a lack of awareness of the risks which the use of pesticides entails and of how to reduce them.

2.2.2. Risks to the environment

Through misuse of pesticides, including overuse, chemical substances may end up contaminating water, air and soil, with adverse effects on plants and wildlife, and a loss of biodiversity in general (although the latter is also influenced by a number of other factors). In particular, plant protection products released into the environment in an uncontrolled way by spray drift, leaching or run-off may pollute soil, surface water and ground water.

Environmental contamination can also occur during and after application, when cleaning equipment, or through the uncontrolled illegal disposal of pesticides or of their containers (point sources).

According to the European water suppliers’ organisation, pesticide contamination of raw water is very severe in lowland rivers. Indeed, a high
proportion of contamination exceeds the 0.1 µg/l threshold value, in which case the water must be treated to remove the pesticides in excess before it can be distributed as drinking water. The potential contamination of surface water and ground water requires constant monitoring and high scrutiny in the regulatory process, because contamination and remediation take place over a long period of time.

2.3. Policy context

Existing policies and legislation on pesticides were first introduced at EU level in 1979 and have evolved considerably over the years, culminating in the adoption of Directive 91/414/EEC concerning the placing of plant protection products on the market, followed by Directive 98/8/EC on the placing of biocidal products on the market. Thus, all pesticides need to be evaluated and authorised before they can be placed on the market.

Despite the existing regulatory restrictions and despite the fact that the authorisation process is expensive and pushes prices up, the actual consumption and use of pesticides in the EU has not decreased over the last ten years. Nor has the percentage of food and feed samples in which residues of pesticides exceed maximum regulatory limits - it remains in the vicinity of 5% (see Figure 1). In addition, certain pesticides are commonly found in the aquatic environment at concentrations well above the regulatory limit, and there is no sign of decrease.

Figure 1. Results of inspections for residues of fruits, vegetables and cereals in EU-15

![Graph showing results of inspections for residues of fruits, vegetables and cereals in EU-15.](image)
Furthermore, existing legislation on plant protection products focuses on the placing on the market\(^8\) and on the end of the life-cycle of such products\(^9\), but scarcely addresses the actual use-phase. In order to correct this deficiency and create an overall coherent and consistent policy framework for pesticides, the Strategy focuses on the use-phase in the life-cycle of pesticides (see Figure 2). A number of other pieces of EU legislation and policies also affect the use of pesticides. In particular:

a. Environmental concerns have been integrated into the various regulations which make up the Common Agricultural Policy (CAP) since the mid 1980s, especially with the 1992 reform. This has had an enormous impact on agricultural production methods\(^10\). A study carried out in 1998 suggested that 20\% of changes in the use of plant protection products may be attributed to the effects of the CAP. This percentage may be higher in sectors which rely heavily on pesticides and large CAP payments, such as cotton or tobacco\(^1\).  

b. The Water Framework Directive (WFD)\(^12\) of 2000 created a framework for assessing, monitoring, and managing the ecological and chemical status of all surface water and ground water. It established a list of 33 priority substances that are particularly hazardous for water\(^13\), 13 of which are used as active substances in plant protection products. The present limit value (0.1 µg/l) for active substances, which is an exclusion criterion for authorisation purposes, is considered to be the maximum permissible concentration for defining good ground water chemical status.

c. The Regulation (EC) No 396/2005 on maximum residue levels of pesticides in food and feed\(^14\) sets maximum residue levels (MRL) of active substances in food and feed, with the aim of limiting the exposure of consumers at the end of the food chain. Furthermore, monitoring compliance with MRL makes it possible to assess whether professional users have implemented the good agricultural practices set out in the authorisations for

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\(^{(10)}\) Further information on Agriculture and Environment can be found at: http://ec.europa.eu/agriculture/envir/index_en.htm


\(^{(14)}\) See footnote (9)
plant protection products granted by the Member States.

d. The Waste Framework Directive\(^{15}\) and the Directive on hazardous waste\(^{16}\) establish provisions for the safe collection of waste and hazardous waste respectively. Empty pesticides packaging has to be collected and managed in conformity with the Waste Framework Directive, whereas unused pesticides that are banned or past their expiry dates have to be collected and managed according to the provisions of the Directive on hazardous waste.

e. Pesticides, and in particular research into reducing and rendering more sustainable the way pesticides are used, have been supported for many years in the context of the EU Research and Development Framework Programmes\(^{17}\). In 2003, the Commission adopted a European Environment and Health Strategy. Its aim is to reduce diseases caused by environmental factors, including exposure to chemicals and pesticides. This strategy focuses on the most vulnerable groups in society, in particular children, and it should contribute to a more sustainable use of pesticides\(^{18}\).

f. The use of pesticides is also partly covered by directives that protect the health and the safety of workers\(^{19}\). However, these do not apply to the largest group of users, namely self-employed farmers.

One of the shortcomings of the current legal framework is that the actual use-phase of pesticides is not sufficiently addressed, although it is a key element for determining the overall risks. The very purpose of this Thematic Strategy is to address this deficiency.

The 6th EAP refers only to the legal framework relating to plant protection products. The effects of the relatively new legislation on biocides will not become visible until well after 2006, when the first evaluations of active substances for use in biocidal products are finalised. For the time being, therefore, the Strategy deals only with plant protection products (for both agricultural and non-agricultural uses), which are much more important than biocides, in terms of both quantities used and the turnover. If it transpires that similar measures are necessary for biocides, the scope of the Strategy will be widened.

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\(^{17}\) Detailed information is available at: http://ec.europa.eu/research/index_en.cfm


3. DEVELOPMENT OF THE STRATEGY

3.1. Historical background

Since 1992, in co-operation with the Dutch authorities, the European Commission has been conducting a project on the sustainable use of plant protection products. The first phase ended in June 1994 with a workshop called “Framework for the Sustainable Use of Plant Protection Products in the European Union”; where recommendations were made for further studies. These studies were completed and discussed at a workshop held in Brussels from 12 - 14 May 1998.

3.2. Consultation process

A broad approach was chosen to define the Strategy, involving all stakeholders in a fully transparent two-stage process (see Figure 3).

3.2.1. Consultation on the preliminary communication

The first step was the presentation of a Communication, which was submitted for public consultation.

On the basis of preliminary studies, the Communication recounted the shortcomings of the current situation with regard to the use-phase in the life-cycle of plant protection products. It provided extensive background information on the benefits and risks of using pesticides, and presented a list of essential points to be addressed. It envisaged the kind of measures which could be taken to address the use-phase more specifically and to reverse negative trends. However, it did not go as far as prioritising such measures.

The Commission consulted the general public and all stakeholders and institutions on this Communication, including the European Parliament, the Council, the European Economic and Social Committee. It received more than 150 contributions from various stakeholders. In addition, on 4 November 2002 the Commission organised a conference with more than 190 participants representing all stakeholder groups.

Overall, there was a lot of support from all stakeholders for most of the measures listed in the Communication, although institutions and some stakeholders did differ on the details, e.g. on whether a measure should be implemented at Community level or Member State level, or whether it should be legally binding or voluntary. The most controversial issues were aerial spraying, quantitative use reduction targets, and taxation.

3.2.2. Consultation on the Impact Assessment

As required under the Better Regulation initiative, the Commission was then invited to assess the economic, social and environmental impacts of the future Strategy proposal. To that end, an Inter-Service Group (ISG) was set up in order to receive feedback from other Directorates-General of the Commission on the measures proposed.

A study was carried out by an independent consultant, BiPRO GmbH. As required by the Commission’s methodology, BiPRO developed a ‘Policy Option Paper’, outlining several options for potential measures, before estimating their impacts on the current legal situation in the Member States. For each of the measures proposed in the draft Directive, three to five options, ranging from voluntary to highly prescriptive, were examined with regard to their economic, social, health and environmental impacts on the various stakeholders and authorities. A “no-option scenario” was used as the reference against which to appraise the anticipated costs and benefits of the measures proposed. BiPRO delivered a report which was based on a survey of competent authorities and stakeholders. It contained recommendations on which stakeholders were invited to comment.

Numerous conferences were organised by various stakeholders on specific issues (e.g. comparative assessment/substitution, application equipment, IPM/ICM concepts, and others). The Commission itself organised meetings on issues such as aerial spraying. In addition, the Commission launched an open Internet consultation from March to May 2005, which gave rise to almost 1 800 responses.

The Commission used the report of the external consultant and the contributions of stakeholders to develop the proposal for the Thematic Strategy on the Sustainable Use of Pesticides.

(20) ‘Towards a Thematic Strategy on the sustainable Use of Pesticides’ COM(2002) 349 final
(22) Conference documents and proceedings available at: http://ec.europa.eu/environment/ppps/1st_step_conf.htm
(23) Reactions to consultant’s study available at: http://ec.europa.eu/environment/ppps/2nd_step_react.htm
4. BUILDING BLOCKS OF THE STRATEGY

Thematic strategies are a new, holistic approach to whole topic areas. They contain measures which are destined to be integrated into existing policies and legislation. Only when this is not possible is it necessary to propose new legislation or other appropriate instruments.

Accordingly, the Strategy on the Sustainable Use of Pesticides is composed of a number of individual measures that, in accordance with the concept of integration, will either be implemented using existing instruments or proposed as new legislation.

4.1. New measures that cannot be integrated, fully or to a large extent, into existing instruments

4.1.1. Establishment of National Action Plans to reduce hazards, risks and dependence on pesticides

The Strategy contains a proposal for a Framework Directive which will oblige Member States to set up National Action Plans (NAPs) that will (i) group together the measures set up to implement Community legislation related to pesticides, and (ii) set up individual objectives with measures and timetables to achieve them (see page 16). The NAPs will be a cornerstone of the Thematic Strategy.

In several countries, such national plans have been very successful. The NAPs will mirror the elements of Community legislation related to pesticides (in particular the Strategy) at national level. At the same time, they will help adapt the Strategy to the specific situations in the Member States by setting their own objectives.

When preparing their NAPs, Member States have to take into account the river basin management plans under the Water Framework Directive, together with national and regional rural development plans. They have two years after entry into force of the Directive to establish their plans and to start implementing the required measures.
4.1.2. **Involvement of stakeholders**

When preparing, implementing, and revising their NAPs, Member States should involve all stakeholders, including for example the stakeholder groups established under the Water Framework Directive for the river basin management plans and for the elaboration of rural development plans.

The Member States themselves will determine the detailed arrangements for public participation, and the level at which this will be organised. The public should be able to participate in the process as early and effectively as possible.

4.1.3. **Creation of a system of awareness-raising and training of professional pesticide users, distributors and advisers**

Users (in particular professional users) must be fully aware of the risks linked to the use of pesticides. Member States should therefore ensure that professional users, distributors and advisers have access to the minimum training required. Requirements regarding the training and official recognition of training (certification or licensing) should be established.

The general public should be better informed through awareness-raising campaigns, information passed on through retailers and distributors, and other appropriate measures.

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**Figure 3. Steps in the Thematic Strategy consultation process**

- **Stakeholders’ consultation**: July-Dec 02
- **Impact assessment by external consultant**: Sept 03- Nov 04
- **Consultation of EU institutions**: Dec 02-April 03
- **Consultant’s report on consultation**: Dec 04-Jan 05
- **Internet consultation**: 12/05/2005

**Steps**: 1st step consultation, 2nd step consultation, Final consultation.
Possible elements of National Action Plans

(1) Procedures for giving the public effective opportunities to participate in developing, implementing and monitoring the National Action Plan and any revisions.

(2) Setting individual targets for hazard and risk reduction. Member States may identify priority crops, activities, or active ingredients where trends are worrying, and may establish use reduction targets.

(3) Training distributors, advisors and professional users, including certification schemes.

(4) Awareness-raising campaigns to inform the general public and non-professional users about the hazards and risks associated with the use of pesticides.

(5) Organisation of effective structures to provide independent and objective advice to professional and non-professional users on the most appropriate pest control solutions.

(6) Regular inspection of pesticide application equipment.

(7) Specific measures regarding the general ban on aerial spraying, and possible derogations.

(8) Specific measures regarding the protection of the aquatic environment from pollution by pesticides.

(9) Designating areas of reduced and/or zero use of pesticides, in particular areas used by the general public or children, or in connection with Natura 2000.

(10) Collecting used packaging and obsolete pesticides.

(11) Introducing safe storage, handling, mixing and cleaning procedures.

(12) Establishing the necessary conditions for implementation by farmers of general standards of Integrated Pest Management that will become mandatory as of 2014, and promoting farming methods with low input of pesticides, such as organic farming.

(13) Checking that professional users comply with legal requirements concerning pesticides.

(14) Monitoring environmental media (in particular water) for the presence of pesticides, their residues or metabolites.

(15) Monitoring and reporting cases of poisoning with pesticides involving users, residents, bystanders, consumers, or wildlife.

(16) Promoting research activities to reduce the risks linked to the use of pesticides, including in particular developing and using non-chemical alternatives with less impact on the environment.

(17) Considering the application of standard VAT rates to pesticides (where reduced rates are still applied).

(18) Collecting data on the distribution and use of plant protection products, and calculating risk indicators at local, regional and national level.

(19) Reporting and publishing the effects of National Action Plans, including activities and results based on indicators.

(20) Financing National Action Plans. Member States might consider levying taxes or fees on products or activities, with differentiated rates to encourage users to select lower-risk products.
The organisational aspects (e.g. training institutions and bodies involved, certification of training bodies, financing aspects, licensing bodies, training frequency, etc.) remain at the discretion of the Member States.

Member States will report on the measures they have set up, and the Commission, in co-operation with the Thematic Strategy Expert Group, will develop guidelines for the training of professional users, distributors and advisers, taking into account the diversity of situations in the various parts of the EU.

4.1.4. Compulsory inspection of application equipment

Well maintained application equipment is essential for reducing the adverse impacts of pesticides on health (in particular of operators) and the environment, and to guarantee the most efficient and economic use of pesticides. Application equipment must be regularly checked and maintained.

The organisational aspects (e.g. public or private inspection systems, quality control of inspection bodies, financing, fees to be paid by owners, etc.) will remain at the discretion of the Member States, who will have to report to the Commission. Exchange of best practices should be developed in the framework of the Thematic Strategy Expert Group, made up of representatives of the Member States and of stakeholders.

4.1.5. Prohibition of aerial spraying

Aerial spraying can cause significant damage to health and the environment, in particular from spray drift. It should therefore be strictly regulated and used only where it represents clear environmental advantages compared to other spraying methods or where there are no viable alternatives.

The draft Directive therefore requires Member States to ban aerial spraying. It allows derogations for crops and areas where aerial spraying can have advantages or bring environmental or health benefits (e.g. treatment of greater areas in a shorter time, responding more quickly to pest forecasts and weather conditions, less refilling, washing and tank residues, reduced operator exposure, etc.), or where there are no viable alternatives (e.g. on specific crops such as rice, forests, etc.). Member States will have to report these derogations, which will be discussed in the Thematic Strategy Expert Group in order to define guidelines and criteria.

4.1.6. Enhanced protection of the aquatic environment

Specific measures to protect surface water and ground water are required to reduce the impact of pesticides on the aquatic environment. A number of pesticides are identified as “priority hazardous substances” or “hazardous substances” in the Water Framework Directive (2000/60/EC). As a result, coherence with Directive 91/414/EEC needs to be strengthened in order to better enforce risk mitigation measures. Such measures will be decided in the framework of the authorisation of plant protection products.

The draft Directive will require Member States to establish pollution reduction programmes addressing pesticides in the framework of the River Basin Management Plans, which must include measures such as buffer strips or the use of particular technical equipment to reduce spray drift. Member States will have to strongly reduce or ban the use of pesticides in the specific safeguard zones according to Article 7(3) of Directive 2000/60/EC (Water Framework Directive).

4.1.7. Defining areas of reduced or zero pesticide use

Member States must designate areas where the use of plant protection products is prohibited or restricted, in order to ensure coherence with measures taken under other legislation, and preserve biodiversity. This could be the case for the special protection areas designated in accordance with Directive 92/46/EEC (Habitats Directive) and Directive 79/409/EEC (Birds Directive), which make up the Natura 2000 network.

Such areas should also be designated as a function of the specific protection required by vulnerable groups such as children (e.g. in playgrounds, around schools). Member States should minimise or prohibit the use of pesticides in areas where public exposure might be high (such as parks or sports grounds).

The Commission and the Member States (through the Thematic Strategy Expert Group) will examine which zones have been designated by the Member States and come up with guidance, criteria for selecting areas, and best practices.

4.1.8. Storage and handling of pesticides, their packaging and unused products

Unused, past-expiry or banned pesticides and empty packaging have to be collected in a controlled way so that they are not stored carelessly prior to waste management. Obsolete pesticides have to be treated in accordance with the rules for hazardous waste. Collected packaging which has been rinsed three times is considered non-hazardous in most Member States, and has to be treated in accordance with the rules for waste. It should be treated for possible re-use and ultimately destroyed in a controlled way. When spraying equipment is cleaned, the residue must be disposed of in an environmentally-sound way.
Therefore, in the draft Directive, Member States are obliged to take measures to ensure safe storage and handling of pesticides, empty packaging and residue, in order to minimise point source emissions from diluting, mixing, loading, washing and storing. In this context, attention should also be paid to the use of pesticides by non-professional users (e.g. in private gardens), where appropriate rules need to be adopted to minimise the risks (e.g. sale of ‘ready-to-use’ formulations only). Member States would have full discretion to develop the aspects they consider necessary.

4.1.9. Implementation of principles of Integrated Pest Management (IPM) by professional pesticide users

Pesticides should be used only when there are no other ways of controlling and limiting the damage caused by pests. So more encouragement should be given to pest control techniques that make little or no use of pesticides. In the framework of agri-environmental measures under Regulation (EC) No 1698/2005, support is already provided to farmers who convert to certified Integrated Control, Organic Farming or other schemes with the objective of reducing pesticide application.

The Draft Directive requires Member States to establish all necessary conditions for the implementation of Integrated Pest Management (IPM) by professional pesticide users, and to promote implementation of IPM principles until they become mandatory as of 2014.

In addition to general Community-wide criteria, more specific IPM guidelines should be developed for particular crops, regions, or climatic zones. They would go beyond the requirements of the general criteria and would remain voluntary.

4.1.10. Measuring progress in risk reduction through appropriate indicators

Common and harmonised indicators are important for measuring risk reduction trends within and among the Member States. Up till now, there has been no agreement on indicators. Several Member States have decided to use certain national indicators, such as the “frequency of application” indicator in Denmark, but these are not necessarily truly risk-based, and instead express spraying intensity.

The OECD is developing harmonised risk indicators for water and soil. This work is being carried further through a project called HAIR (HArmonised environmental Indicators for pesticide Risk), which is financed under the EU’s 6th Framework Programme for Research and Development. Eight Member States, plus Norway and Switzerland, are involved in this project, which ends in spring 2007.

4.1.11. Establishment of a system of information exchange at Community level

In order to maintain a coherent Community-wide approach, a “Thematic Strategy Expert Group” will be set up. It will serve as a consultative forum and draw up guidance on best practices. It will also monitor implementation of the Thematic Strategy through:

- exchange of data and information by the Member States on progress achieved and on incidents having consequences for the health of professionals, private users, or for the environment;
- harmonisation of technical guidelines;
- establishment of a set of indicators to measure progress and establish quantitative risk reduction objectives.

The Expert Group should be made up of representatives from the Member State authorities, the Commission and other stakeholders (such as farmers, industry, environmental and consumer organisations). Meetings of the Group will be organised and chaired by the Commission.

4.1.12. Improved systems for collecting information on distribution and use

There is no reliable data on the distribution and use of pesticides as far as active substances are concerned. Yet it is necessary to calculate risk indicators. Greatly enhanced data collection schemes must therefore be launched, on the production, import/export, distribution and use of pesticides.

A separate Regulation on Pesticides Statistics, proposed in 2006, commits Member States to collecting data on the placing on the market and use of plant protection products, both via the distribution chain and from the professional users (in particular farmers). The proposal lays down rules for Member State authorities:

- on collecting this data regularly (annually for placing on the market, with five-year interval for use);
- on how to collect it, either by representative surveys or systematic collection;

(25) All information available at: http://www.rivm.nl/stoffen-risico/NL/hair.htm
on centralising the data on the placing on the market and the use of plant protection products collected by the Member States, which would best be handled by the Statistical Office of the Commission, while the Commission will publish regular aggregated reports;

on calculating the risk indicators at Community level as a basis for describing trends in risks from use of plant protection products.
4.2. Measures that can best be integrated into existing instruments

4.2.1. Improved systems for monitoring compliance with the legal requirements concerning pesticides

Current systems already set up in the Member States to monitor compliance with requirements regarding the safe use of pesticides (except monitoring residues in food and feed) are clearly insufficient. They need to be greatly reinforced. This applies in particular to the distribution and use of plant protection products in accordance with Directive 91/414/EEC. The proposed Regulation revising this Directive\(^{(26)}\) makes substantial changes. It defines in more detail the monitoring obligations of the Member States.

The revised provisions determine the most appropriate level of implementation, and the intensity, frequency and technical details of the control and monitoring schemes. The Commission and Member States will cooperate closely in defining the scope and detail of new specific annual compliance programmes.

Member States should also examine how food retailers could contribute by setting up their own monitoring schemes, preferably in co-operation with the national authorities, in order to ensure the collection of homogenous and reliable data.

4.2.2. Comparative assessment and substitution principle

One way of reducing risks from pesticides is substitution, i.e. replacing one pesticide by another lower-risk product or by a non-chemical alternative. The substitution principle can be implemented at different levels: inclusion of the active substance in Annex I of Directive 91/414/EEC (Community level), authorisation of products (Member State level), and choices made by the users from the different products available to them for the same application (user level).

On the basis of the results of the various consultations, the Commission has proposed including comparative assessment in the authorisation process for plant protection products. It will have to be applied – where relevant, practically feasible and economically viable – at EU level by identifying certain active substances as candidates for substitution, and then at Member State level for authorising plant protection products. Resistance management and all potential alternatives (organic, biological/microbials, GM technology, etc.) must be taken into account on a case-by-case (crop-by-crop) basis.

Guidance will have to be developed on how to compare risks and on how to balance out the economic, social and agronomic aspects. It would address Member States who will act as Rapporteurs for Community evaluation and when granting national authorisations.

4.2.3. Residue monitoring and epidemiological exposure studies

Annual programmes to monitor residues of pesticides in food and feed are already in place and being implemented\(^{(27)}\). Under the recently adopted Regulation on Maximum Residue Levels (MRL), monitoring is to be reinforced by increasing the intensity of sampling programmes and by focusing more appropriately on ‘crop / substance combinations at risk’. The collection of information on cases of exposure to pesticides exceeding safe levels also needs to be improved.

Every year, in close co-operation with the Member States, the Commission will define the scope and targets of a broader EU residue monitoring programme. The Food and Veterinary Office (FVO) will carry out more inspections in the Member States and its observations will have to be taken into account by Member States. Under the guidance of the FVO, best practices and recommendations for setting up national monitoring services and activities will be developed. When monitoring reveals systematic trends (e.g. persistent occurrences of residues of particular substances), this information has to be fed back into the authorisation process in Directive 91/414/EEC.

In the Regulation revising Directive 91/414/EEC, the Commission also proposed that Member States should report at regular intervals on poisoning incidents involving plant protection products. This would be similar to the rules in Directive 98/8/EC for biocidal products, which covers operators but also bystanders and residents in areas adjacent to treated fields, and consumers.

4.2.4. Environmental monitoring

Residues of pesticides and their metabolites are detected not only in food and feed. They can also be found in soil and water. The fate and behaviour of active substances and other components of

\(^{(26)}\) COM(2006) 388 final
\(^{(27)}\) Reports available at: http://ec.europa.eu/food/fs/inspections/fnaoi/reports/annual_eu/index_en.html
pesticides are thoroughly investigated during the authorisation process. However, the models and calculations used during the risk assessment might not always predict accurately the real behaviour of substances and their residues.

Therefore, it would be very useful to measure concentrations of pesticides and their residues in surface water and ground water in order to check whether the models and forecasting techniques are correct, and whether all risk mitigation measures and using pesticides according to Good Plant Protection Practice do actually result in acceptable concentrations in the environment.

Such measurements are technically difficult and expensive and have to be concentrated on a limited number of substances. The methodologies employed can also be used for other chemicals. Environmental monitoring for pesticides should therefore be integrated into monitoring under the Water Framework Directive\(^{(28)}\). In the Thematic Strategy Expert Group, the Commission, the Member States and other stakeholders, e.g. drinking water companies, should define the priority substances on which to focus.

**4.2.5. Research on pesticides**

Improving the health and well-being of European citizens, through higher quality food and improved control of food production and related environmental factors, is already the aim of a thematic priority within the 6\(^{th}\) Community Framework Programme for Research\(^{(29)}\). Research projects on this topic are pending.

Further research activities on the potential effects of pesticides on human health, in particular the effects of exposure to multiple substances – the "cocktail effect" – and epidemiological research involving workers and/or the general population, should also be financed within other areas of the thematic priority, such as Environmental Health Risks. In addition, there are possibilities under the Scientific Support to Policies Initiative to explore effects of pesticides on biodiversity and how these can be reduced.

As the 6\(^{th}\) Framework Programme ended in 2006, similar possibilities are maintained in the 7\(^{th}\) Framework Programme.

**4.2.6. Application of normal VAT rate to pesticides**

Differences in VAT rates can make the price of products containing the same active substances vary greatly between the Member States. This can encourage cross-border trade in products that are labelled in a language that the users might not understand, and that may even not be authorised in the Member State where they are used.

The Commission therefore invites those Member States who still apply reduced VAT rates to re-examine their position in order to help achieve the objectives of the Strategy. They should apply the standard Community VAT-rate of minimum 15% in order to reduce price differentials.

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\(^{(28)}\) All relevant information available at: http://ec.europa.eu/environment/water/index.html

4.2.7. International dimension

In the international arena, the Community and the Member States should contribute to the safe use of pesticides in third countries outside the EU (particularly in developing countries). They can do this by better monitoring and assessing their exports or donation of chemicals, by giving training in the safe use, handling and storage of pesticides, and the management of stockpiles of obsolete pesticides, and by supporting capacity building and information exchange.

The EU and the Member States have ratified and are implementing the Rotterdam Convention on Prior Informed Consent (PIC)\(^{30}\), and the Stockholm Convention on Persistent Organic Pollutants (POPs)\(^{31}\) which includes a fully-fledged technical and financial assistance mechanism addressing certain pesticides. Besides, the EU and the Member States provide financial and technical assistance (capacity building) through numerous bilateral and multilateral programmes which contribute to the safe handling and disposal of pesticides (including obsolete stocks of pesticides), such as the Cotonou Agreement with African, Caribbean and Pacific States\(^{32}\).

The EU and the Member States should increase their commitments under particular programmes, such as research on alternatives to DDT to combat malaria in the framework of the Community initiative on communicable diseases. The Commission and the Member States will continue to take part in work under the Codex Alimentarius to ensure that the maximum residue limits set by Codex provide for adequate protection of human health.

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\(^{30}\) Information available at: http://www.pic.int
\(^{31}\) Information available at: http://www.pops.int
\(^{32}\) Information available at: http://ec.europa.eu/development/body/cotonou/index_en.htm
4.3. Measures/actions that are currently not proposed as part of the Thematic Strategy, but could be examined again at a later stage

The following measures/actions were discussed extensively during the consultation but will not be proposed as part of the Strategy.

4.3.1. Definition of quantitative use reduction targets

The Strategy will not propose to set mandatory quantitative use reduction targets, in terms neither of volume nor of frequency of application.

The debate on this matter was extremely heated throughout the stakeholder consultation. The Commission considers that there is no direct link between the quantities of a substance used and the risks to human health or the environment. A purely mass-oriented approach might stimulate the use of products with lower dosing rates, but which may have other properties that are more problematic. Moreover, most Member States do not have sufficient knowledge about current use to set an appropriate baseline. Nevertheless, the implementation of other measures in the Strategy which target risk reduction will probably lead to a decrease in the range of 11% to 16% in the use of plant protection products.

It might be possible to draw up use reduction targets at a later stage, once we know much more about pesticide use.

4.3.2. Setting-up of a system of taxes/levies

It is true that several measures envisaged by the Strategy require resources and have to be financed, and so taxation of pesticides is a potential source of revenue.

However, it would be impossible for the time being to devise an efficient and manageable system of taxes or levies that reflects the true externalities of individual pesticides. These are difficult to assess since they are linked to the conditions of use of products. In order to be truly efficient, taxation would need to be based on the risk and toxicity classification of products, which will be available only once the review of active substances under Directive 91/414/EEC (for plant protection products) and Directive 98/8/EC (for biocidal products) has been completed.

It is also unlikely that a proposal for taxation would obtain the required unanimity in Council. Still, taxation should be investigated further in order to establish a ‘banded’ taxation system as a proxy for true externalities in the future.
5. THE STRATEGY ITSELF

The European Commission adopted the Strategy in July 2006. It is set out in a Communication that is accompanied by a proposal for a Directive establishing a framework for Community action to achieve sustainable use of pesticides, and by an Impact Assessment.

As part of the “Pesticide Package”, another legislative proposal has been adopted in parallel to the Strategy: a Regulation on the placing of plant protection products and adjuvants on the market. This revises Directive 91/414/EEC.


Another new proposal due to be adopted by 2008 will complete the Strategy: it will lay down essential environmental protection requirements for the placing on the market of new pesticide application equipment and accessories, possibly within the framework of Directive 2006/42/EC on machinery.

The most important expected outcome of the Strategy is a reduction of the overall risks and of the negative impacts on human health and the environment from the use of pesticides. This can be achieved by reducing:

- unwanted direct and indirect exposure,
- the hazard levels of the substances used, by substituting less harmful substances for the more dangerous ones, or by using alternative pest control measures.

Knowledge of actual pesticide use will be crucial to calculate risks using the appropriate indicators. Information gathering systems have to be set up quickly to allow calculation of indicators and trends in their development, even retrospectively. By and large, the Strategy is expected to greatly increase the level of knowledge about the use of pesticides. Currently, no universally accepted indicators are available to measure these risks and the development of indicators is one of the objectives of the Strategy. These will show decreasing trends over time.

The overall use of pesticides should decline steadily as better trained users, using optimum application equipment, use pesticides more efficiently and reduce losses into the environment (in particular the aquatic environment). Moreover, promoting pest control methods that use less pesticides (Integrated Pest Management, organic farming) and designating zones with reduced or zero pesticide use should also reduce the overall use of pesticides.

The percentage of food and feed samples where regulatory maximum residue levels are exceeded is also expected to decline. Incidents involving humans or wildlife should decrease.

However, for none of these trends is it possible to formulate quantitative targets, as the necessary baseline information is often missing or there are too many factors involved.
The Strategy, and in particular the draft Framework Directive, is now going through the EU decision-making process. It is being submitted to the EU Economic and Social Committee and to the Committee of the Regions for their opinions before it is adopted by the European Parliament and the EU Council of Ministers under the co-decision procedure.

The strategy establishes measures that will make it possible to reach the objective set in the 6th EAP, i.e. to minimise the risks to human health and the environment linked to pesticide use. It also ensures continued stakeholder participation and a transparent reporting process, in particular by involving the Thematic Strategy Expert Group in the exchange of information and the establishment of guidelines and recommendations.

For the time being, the Strategy deals only with plant protection products, but there is scope for widening the Strategy to include biocidal products.

6. NEXT STEPS
7. ANNEX

**Glossary**

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<td>CAP</td>
<td>Common Agricultural Policy</td>
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<td>EAP</td>
<td>Environment Action Programme</td>
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<td>FVO</td>
<td>Food and Veterinary Office</td>
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<td>HAIR</td>
<td>Harmonised Pesticides Risk Indicator</td>
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<td>ICM</td>
<td>Integrated Crop Management</td>
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<td>IPM</td>
<td>Integrated Pest Management</td>
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<td>MRL</td>
<td>Maximum Residue Limit</td>
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<td>NAP</td>
<td>National Action Plan</td>
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<td>PIC</td>
<td>Prior Informed Consent</td>
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<td>POP</td>
<td>Persistent Organic Pollutant</td>
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<td>PPP</td>
<td>Plant Protection Product</td>
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<td>WFD</td>
<td>Water Framework Directive</td>
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