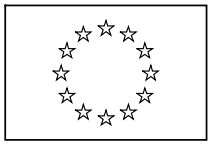

COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 1.7.2002
COM(2002) 349 final

COMMUNICATION FROM THE COMMISSION TO THE COUNCIL, THE EUROPEAN PARLIAMENT AND THE ECONOMIC AND SOCIAL COMMITTEE

TOWARDS A THEMATIC STRATEGY ON THE SUSTAINABLE USE OF PESTICIDES

EXECUTIVE SUMMARY

The 6th Environment Action Programme (6EAP) as adopted by the European Parliament and the Council[1] provides for the development of a *Thematic Strategy on the Sustainable Use of Pesticides* with the objective of reducing the impact of pesticides on human health and the environment and more generally of achieving more sustainable use of pesticides and a significant overall reduction in risks, while ensuring necessary crop protection.

The present legislative framework referred to in the 6EAP, in particular Directive 91/414/EEC and the directives on residues in food, mainly concentrates on the start and end-of-life stages of pesticides, i.e. the authorisation of substances for use in plant protection products (PPP) before they are placed on the market (prevention at source) and maximum residue levels (MRLs) on food and feedstuffs. Revision of these Directives is under way. The thematic strategy will complement the existing legislative framework by targeting the use-phase of plant protection products.

This Communication represents a major step in the preparation of the Thematic Strategy on the Sustainable Use of Pesticides. The main objectives of the thematic strategy are:

- to minimise the hazards and risks to health and environment from the use of pesticides.

- to improve controls on the use and distribution of pesticides.

- to reduce the levels of harmful active substances, in particular by replacing the most dangerous by safer (including non-chemical) alternatives.

- to encourage the use of low-input or pesticide-free crop farming.

- to establish a transparent system for reporting and monitoring progress including the development of appropriate indicators.

The current situation in the Community and the Member States is presented on the basis of the available preparatory work. This includes quantitative data on PPP use and the benefits, costs and risks associated with their use. An overview of the relevant Community legislation is also included (Directive 91/414/EEC, the Directives on the setting of maximum residue levels (MRLs) in foodstuffs, and Directive 2000/60/EC (Water Framework Directive)).

The Communication then explores the numerous links between the thematic strategy and other Community policies, such as the Common Agricultural Policy (especially agri-environmental measures), health and consumer protection, the new chemicals policy and other thematic strategies called for in the 6EAP (e.g. soil protection).

There is a short summary of policies and initiatives already in place in some Member States, which are not yet co-ordinated, and a review of available statistics and indicators. The lack of agreed and harmonised indicators makes it difficult to monitor quantitative progress towards a sustainable use of pesticides. The implications for enlargement and the Community's international commitments are also reviewed.

---

[1] Give reference when available

The core chapter of the Communication suggests several possible measures addressing the five above-mentioned objectives, which could become part of the thematic strategy, and states the Commission's preferences as to which measures could be proposed.

The purpose of the Communication is to launch a broad consultation involving all stakeholders such as farmers and growers, NGOs, industry, other social partners and public authorities. In addition to a conference for stakeholders in the fourth quarter of 2002 (open participation), the general public will be able to participate in the debate via the Internet. Obviously the opinions of the Council and the European Parliament will provide particular guidance.

Following the consultation process, the Commission will develop the thematic strategy specifying the proposed measures in the course of 2003 and present it for approval to Council and Parliament at the beginning of 2004.

I. INTRODUCTION

Sustainable use of pesticides is one of the objectives of the Fifth Environment Action Programme[2] (5EAP) as revised[3]. The chapter on agriculture and the chapter on management of water resources call for the development of

" further measures in the area of agricultural and non-agricultural pesticides with a view to ensuring their sustainable use" and a decrease in *"the input of chemicals to the point that none of the basic natural processes are affected"*.

In mid-1992, the Commission and the Dutch authorities launched a study for the development and evaluation of future strategies for plant protection products (PPP). The project was directed by a steering committee with representatives from the relevant Commission departments and the Dutch Ministries of Housing, Spatial Planning and the Environment and Agriculture, Nature Management and Fisheries.

The project was divided into two phases with an interim workshop in June 1994 and a final workshop in May 1998, involving representatives of all Member States and other stakeholders, i.e. farmers, industry, environmental and consumer groups. The project yielded a number of reports on pesticide use and policy options[4], and the workshop produced several recommendations.

There was consensus on *"the need for additional European Community PPP risk reduction policy instruments. These should have common goals and be tailored to meet the needs at EU, national and local levels"*.

In 1999, the Agricultural Council in Cardiff adopted specific objectives for agrochemicals in the "Council strategy on the environmental integration and sustainable development in the Common Agricultural Policy"[5], where it is stated that

> *"In addition to EU rules to control maximum levels of pesticides in farm produce and measures to reduce the environmental risks of pesticide use (water contamination, deterioration of biodiversity, etc.), further measures should be developed for sensitive areas."*
>
> *"PPP and biocides should only be used when needed and in accordance with the principle of good plant protection practices."*
>
> *"There is a need further to reduce the risks to the environment from the use of PPP and biocides and to continue to ensure that there are no risks to health in their use."*

On 24 January 2001 the Commission adopted its Communication on the Sixth Environmental Action Programme (6EAP) together with a proposal for a Decision of the European Parliament and the Council for its adoption[6]. The Decision was adopted on XXX[7]. Article 7(1) provides that the impact of pesticides on human health and the environment must be

---

2 OJ C 138 of 17. 5. 1993

3 OJ L 275 of 10. 10. 1998

4 References are listed in Annex 1. The full texts are available at: http://europa.eu.int/comm/environment/ppps/home.htm

5 Agricultural Council, annex 13078/99/Apri184/Env 398

6 COM (2001) 31 final

7 scheduled for adoption in June 2002

reduced and more generally that there is a need to achieve a more sustainable use of pesticides as well as a significant overall reduction in risks and of the use of pesticides consistent with the necessary crop protection. Pursuant to Article 7 (2) (c) this is to be achieved through:

- *full implementation and review of the effectiveness of the applicable legal framework in order to ensure a high level of protection, when amended. This revision might include, where appropriate, comparative assessment and the development of Community authorisation procedures for placing on the market;*
- *a thematic strategy on the sustainable use of pesticides.*

In addition, Article 7 (2) (d) calls for the following measures regarding pesticides:

- *swift ratification of the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and of the Stockholm Convention on Persistent Organic Pollutants;*
- *amendment of Council Regulation (EEC) No 2455/92 of 23 July 1992 concerning the export and import of certain dangerous chemicals* [8] *with the aim of bringing it into line with the Rotterdam Convention, improving its procedural mechanisms and improving information to developing countries;*
- *support for the improvement of the management of chemicals and pesticides in developing and candidate countries, including the elimination of stocks of obsolete pesticides inter alia by supporting projects aimed at such elimination;*
- *participation in international efforts to elaborate a strategic approach on international chemicals management.*

According to Article 4, the development of a thematic strategy requires a broad approach and should be developed and implemented in close consultation with the relevant parties, such as farmers and growers, NGO's, industry, other social partners, the scientific community and public authorities, while ensuring, as appropriate, consultation of candidate countries. Thematic strategies should be presented to the European Parliament and the Council within 3 years of the adoption of the 6 EAP.

This Communication represents a major step in the preparation of the ***Thematic Strategy on the Sustainable Use of Pesticides***. It contains an analysis of the present situation and of the measures that could be adopted under the thematic strategy. The purpose is to launch a broad consultation involving all stakeholders, and in particular the European Parliament and the Council. At the end of the consultation process, and taking into account of all comments received, the Commission will present to the European Parliament and the Council the thematic strategy specifying the detailed measures to be taken.

II. OBJECTIVES OF THE THEMATIC STRATEGY

Pursuant to Article 7 (1) of the 6EAP, the main objective of the thematic strategy is to reduce the impacts of pesticides on human health and the environment and more generally to achieve a more sustainable use of pesticides as well as a significant overall reduction in risks and of the use of pesticides consistent with the necessary crop protection.

---

[8] OJ L 251 of 29.8.1992, p. 13, as last amended by Regulation (EC) No 2247/98 (OJ L 282 of 20. 10. 1998, p.12)

As an element of the 6EAP, the thematic strategy should also contribute to the overall aims and be conform with the principles of the programme, as set up in Article 2 of the above-mentioned Decision. This requires, among others, that:

it contributes to ensuring a high level of protection of the environment and human health, in particular taking into account the specific needs for children and the environment;

it contributes to achieving a de-coupling between environmental pressures and economic growth;

it supports the improvement of the management of chemicals and pesticides in developing and candidate countries, including the elimination of stocks of obsolete pesticides inter alia by supporting projects aimed at such elimination and the strengthening of the pesticides policy within the context of the EC Development Policy[9];

it takes account the principle of subsidiarity and the diversity of situations in the various regions of the Community;

it contributes to the development of a plant protection practise that fits into the concept of sustainable agriculture including social and economic dimensions.

In particular, the specific objectives of the thematic strategy should be:

(i) to minimise the hazards and risks to health and environment 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 including through substituting the most dangerous with safer (including non-chemical) alternatives;

(iv) to encourage the use of low-input or pesticide-free crop farming, in particular by raising users' awareness, by promoting codes of good practices and consideration of the possible application of financial instruments;

(v) to establish a transparent system for reporting and monitoring the progress made in the achievement of the objectives of the strategy including the development of suitable indicators.

III. BACKGROUND, REVIEW OF THE CURRENT SITUATION AND EVALUATION

1. Background and Scope

1.1. Definitions

The term ‘pesticides’ is a generic name, which encompasses all substances or products that kill pests, whether used in agriculture or for other purposes.

---

[9] COM (2000) 212

Plant Protection Products (PPP) are active substances and preparations containing one or more active substances that are used to protect plants or plant products against harmful organisms (pests) or prevent the action of such organisms: they can function in many ways e.g. by killing pests (and then they are pesticides), but also in other ways such as by creating a physical barrier, by repelling, by attracting pests away from plants, by regulating the growth of the plants etc.. PPPs are used in a wide spectrum of applications, such as agriculture, landscape gardening and along transport routes. PPP are also used to some extent in forestry and domestic gardening.

Biocides are active substances and preparations containing one or more active substances that are used to destroy, deter, render harmless, prevent the action of, or otherwise exert a controlling effect of unwanted or harmful organisms (pests) utilised in non-agricultural sectors, e.g. for purposes such as wood preservation or disinfection, household uses, etc,. Borderlines between PPP and biocides have recently been clarified and documented[10].

Most of the important PPPs and biocides are specifically designed chemical compounds and have pesticidal effects. But PPPs can also be commodity chemicals (fatty acids, amino acids, other common chemicals), plant or animal extracts (plant or bone oils, gelatine,…), plant metabolite derivatives or other substances.

1.2. Scope of the Communication

Because of the particular circumstances of pesticide use – deliberate release into the environment irrespective of their hazard potential - they have been regulated for a long time in most Member States and the Community[11]. Most of the Community legislation has focused on the authorisation of substances for use in plant protection products before they are placed on the market (hence in the spirit of a prevention at source) and on maximum residue levels (MRLs) in food and feedstuffs (hence at the 'end-of-life' stage).

Over the years, a highly elaborate system has been developed for evaluating the risks of PPP use to human health and the environment, and with the adoption of Directive 91/414/EEC, the Community embarked in 1993 on a reassessment of all PPPs on the market (see next chapter for further details). A similar system for the evaluation of biocides has only recently been introduced through Directive 98/8/EC[12], which also obliged many Member States to introduce legislation on biocides for the first time. The effects of this relatively new legislation will not become visible until well after 2006, when the first evaluations of active substances for use in biocidal products will be finalised. Therefore, neither the Commission nor most Member States have currently sufficient knowledge or experience to propose further measures regarding biocides.

Furthermore, it is clear from the Decision of the European Parliament and the Council adopting the 6EAP that, although the term 'pesticides' is used, the main concerns are related to PPPs. This emerges from the fifth indent of Art. 7 (1), which calls for '… a significant overall reduction in risks and of the use of pesticides consistent with the necessary crop protection', and Art. 7 (2) (c), which specifies Directive 91/414/EEC as the applicable legal framework that is to be complemented by the thematic strategy.

---

[10] Guidance document agreed between the Commission services and the competent authorities of the Member States for the biocidal products Directive 98/8/EC and for the plant protection products Directive 91/414/EC (available at: http://www.europa.eu.int/comm/food/fs/ph_ps/pro/wrkdoc/wrkdoc17_en.html)

[11] Earliest Community Directives regulating plant protection products go back to 1979

[12] OJ L 123, 24. 4. 1998, p 1

Consequently, this Communication will focus on the use of Plant Protection Products (PPPs) and is an important step in the preparation of the thematic strategy as requested in the 6EAP. Should, in the future, comparable measures be considered necessary for biocides, they will be incorporated in the thematic strategy as appropriate.

1.3. Use of plant protection products: quantities, benefits, costs and risks of using them

1.3.1.Quantities of PPPs used in the EU

Agriculture is by far the biggest PPP-using sector[13]. The European Union currently accounts with approximately 320 000[14] tonnes of active substances sold per year for one quarter of the world market of PPPs. The major types of product are fungicides (ca. 43% of the market), followed by herbicides (36%), insecticides (12%) and other pesticides (9%).

The crop protection market is estimated to represent more than € 6 billion for the European Union. PPP sales measured in monetary terms increased annually in the years preceding 1999, whilst volumes have shown variable trends.

Figure 1 shows[15], that in 1991 and during the period 1993 to 1995 the use (volumes) of pesticides fell, partly in response to changes (like set-aside, direct payment,…) introduced in 1992 in the Common Agricultural Policy, but this trend seems to have reversed in the years thereafter with consumption rising again

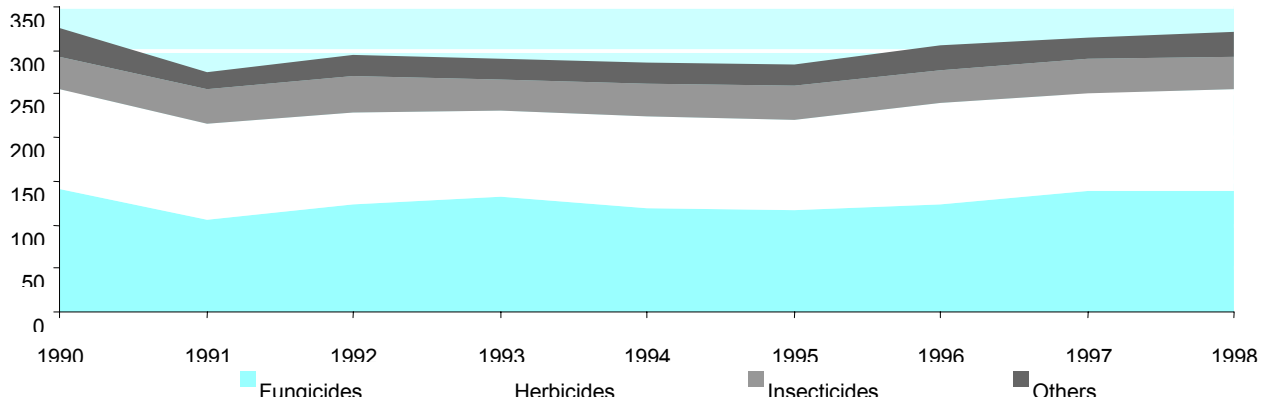

Figure 1: Total sales of pesticides in the EU-15 (in kilotonnes of active ingredients))

It should be noted that statistics concerning the total volume (or value) of pesticides sold or used in the 15 EU Member states are to be interpreted with caution to the extent that they say little about the nature of the active substances concerned and, consequently, about the risks of negative impacts associated with their use. Indeed, an increase (or a reduction) in the total volumes of pesticides sold/used is not necessarily equivalent to an increase (or a reduction) in the risks associated with their use. Thus, for instance, an increase in the volume of pesticides sold might be due to an increased use of less toxic and persistent and more narrowly targeted pesticides, which could eventually result in reduced risks of environmental damage.

---

13 Non agricultural use (such as in private gardens) is estimated to account for only 2% of total pesticide use (Environmental Pressure Indicators for the EU, June 2001, Eurostat)

14 Eurostat and European Crop Protection Association, 1999

15 Agriculture, Environment, Rural Development: Facts and Figures - A Challenge for Agriculture, 1999

The use (both nature and total volumes applied) of pesticides varies depending on the type of agricultural produces - the largest quantities of PPPs are used on vines, cereals, vegetables and potatoes - and on a range of factors, such as outbreaks of plant diseases or plagues of insects. Moreover, a number of other features affect figures from one year to the next, such as weather, seasonal factors, prices of pesticides and land set-aside obligations. Field research has also shown that the amount of active substance applied on the same crop in the same region during the same growing season can vary considerably.

The application of pesticides per hectare of agricultural land also varies widely between European countries. In the eighties and nineties, application was lowest in the Nordic countries, and highest in Southern and Western Europe. By far the highest application rates were observed in the Netherlands. Moreover, in the Northern and Central European countries, herbicides are predominant, whereas in the Southern and Western countries insecticides and fungicides dominate.

1.3.2. Benefits of the use of PPPs

There are significant economic benefits associated with the use of PPPs. They are used by farmers to improve or safeguard yields by eliminating or reducing competition from weeds and attacks by pests, to protect and preserve plant products against harmful organisms, to improve or protect quality of the produce, and to minimise labour input. PPPs also play an essential role in ensuring reliable supplies of agricultural products each year, by contributing to prevent fluctuations of annual yields. Moreover, the responsible use of PPPs contributes to ensuring the availability of low-priced fruits and vegetables of good quality, which makes them affordable for all consumers.

According to some sources, the use of fungicides also helps to reduce mycotoxins in food, such as aflatoxin or ergotamin. However, the Scientific Committee on Plants (SCP) examined the relationship between the use of PPPs on food plants and the occurrence of mycotoxins in foods[16]. It concluded that there is not sufficient evidence that pesticides play a prominent and consistent role in preventing or inhibiting the production of mycotoxins by toxicogenic fungi. Data from field studies are equivocal and the SCP recommended further research on the issue.

The use of PPPs reduces demand for land for food production[17] and enables the production of a wider variety of foods regionally, which in turn can reduce transport costs and make more land available for other uses, e.g. amenity, natural parks, protection of biodiversity.

Conservation tillage, which reduces erosion, and minimum tillage techniques, which reduce the demand for fossil energy in agriculture and decrease the leaching of nutrients, also partly depend on the use of herbicides.

However, no overall EU figures are available to evaluate these benefits.

The European plant protection industry is a significant economic player on the world market and an important employer in Europe (about 35.000 people). Three of the five largest companies are based in Europe.

---

[16] Opinion of the Scientific Committee on Plants adopted on 24 September 1999, available at: http://www.europa.eu.int/comm/food/fs/sc/scp/out56_en.html

[17] Oppenheimer, Wolf and Donnelly, 1998. Possibilities for future EU environmental policy on plant protection products, Synthesis report of six sub-reports in PES-A/phase 2

1.3.3. Risks and costs associated with the use of PPPs

Pesticides are chemicals that require particular attention because most of them have inherent properties that make them dangerous to health and environment[18]. The risks (and related costs) associated with their deliberate release into the environment during application, in particular for use in the agricultural sector, are accepted by society because there is a significant economic benefit related to the use of pesticides (see above).

Risks to human health can occur through direct exposure (industrial workers producing pesticides and operators using them), and indirect exposure (consumers and bystanders). According to a survey of the European Federation of Agricultural Workers' Unions (EAF), the most common observed adverse effects of pesticides on workers and operators are headaches, vomiting, stomach-aches, and diarrhoea, caused by exposure during application (39% of reported incidents), preparation or mixing (28% of reported incidents), and handling of containers (6% of reported incidents)[19]. A survey of the Health and Safety Executive in the UK for the year 2000/2001 reports 170 pesticide incidents, 71 of which involved allegations of ill health[20].

Consumers and bystanders can be subject to indirect exposure, due to the presence of PPP via residual amounts in agricultural produce. This exposure is evaluated by the authorities in the Member States and at Community level and by the WHO/FAO Codex alimentarius Committee on Pesticide Residues. Maximum Residue Levels (MRLs) have been set for many PPP commodity combinations, and national as well as co-ordinated Community programmes are in place for monitoring PPP residues in food[21].

Particular attention must be devoted to especially sensitive population groups, such as children (due to specific physiological and developmental factors), the elderly (due to their possibly compromised metabolic capacity), or other particular risk groups (immunologically compromised people, chronically sick, etc.), and workers (due to their possible intensive exposure). At present, the scientific community sees possible gaps in knowledge for children, which are probably also the most sensitive group with regard to suspected 'cocktail effects' (i.e. mixtures of several substances)[22].

Exposure via drinking water, although strictly limited by the EU Drinking Water Directive, requires constant efforts to monitor and – taking into account the long time scale of contamination and remediation – high scrutiny in the regulatory process.

---

18 Most PPP are dangerous substances. About 500 PPP are included in annex I of Directive 67/548/EEC on the classification, packaging and labelling of dangerous substances

19 Summary of the EFA questionnaire on the health and safety linked to pesticides presented in the second EFA colloquium on pesticides, 6-8/3/1997. 2160 workers in all Member States responded. About 20% reported adverse incidents.

20 Health and Safety Executive; Agriculture and Wood Sector. Pesticide Incidents Report 2000/01. Available on the Internet: www.hse.gov.uk

21 The latest monitoring programme was adopted in Commission Recommendation 2002/1/EC of 27 December 2001 concerning a coordinated Community monitoring programme for 2002 to ensure compliance with maximum levels of pesticide residues in and on cereals and certain other products of plant origin (OJ L 2, 4.1.2002, p. 8)

22 Children's Health and Environment : a review of evidence. A joint report from the European Environment Agency and the WHO Regional Office for Europe, Tamburlini *et al* (2002) (http://org.eea.eu.int/documents/newsreleases/our_childrens_health-en

Potential exposure of bystanders and residents to pesticides via the air might constitute an exposure route, which needs further attention by research and possibly also regulatory measures.

Risks to human health and the environment consist of acute and/or chronic adverse effects on humans and on non-target species. Acute effects are mainly due to the high toxicity of certain PPPs. Chronic effects which might also affect the fitness of exposed populations include those due to bioaccumulation and persistence of substances, irreversible effects such as carcinogenicity, mutagenicity and genotoxicity, or adverse effects on the immune or endocrine systems of mammals, fishes or birds. It has to be noted that so far no active substance, which is classified in category I for any of these effects, has been included in Annex I of Directive 91/414/EEC, certainly not if such effects are to be expected at environmental concentrations and exposure conditions.

Spray drift, leaching or run-off are diffuse sources of uncontrolled dissemination of PPPs into the environment leading to pollution of soil and water compartments (surface water and ground water[23]), which can be minimised by controls and respect of good application practices. Environmental contamination can also occur during and after application, cleaning of equipment or uncontrolled, illegal disposal of PPPs or their containers (point sources).

PPP use may also entrain additional indirect effects on the ecosystem, e.g. loss of biodiversity. If weed control is less systematic, the resulting increase in insect populations is beneficial for the populations of insect-feeding birds[24]. Over-efficient weed control means that such birds may suffer from shortage of food. Biodiversity, however, is also influenced by a number of other factors, such as agricultural practices, plot sizes, type of crops, etc.

In recent years, the emergence of a new type of hazard, endocrine disruption, has intensified the debate on health and environment protection. Endocrine disrupters are substances (including several pesticides), which are suspected of interfering with the endocrine systems of both humans and wildlife, and which may cause adverse health effects such as cancer, behavioural changes and reproductive abnormalities even through exposure to extremely low doses. In a recent Communication[25] the Commission described the problem of endocrine disruption, its causes and consequences and identified appropriate policy measures on the basis of the precautionary principle.

In developing countries, the risks are clearly higher. This is the consequence of various factors such as the continued use of older and more toxic products, the far less advanced infrastructures and capacity for testing (under local conditions), evaluating, authorising and controlling the use and disposal of pesticides and the unavailability of mitigation measures such as protective equipment. Many cases of poisoning and even death have been reported[26].

In practice, it is extremely difficult to quantify many of the actual adverse effects resulting from the use of pesticides and even more difficult to attribute monetary values to them, in particular as there are no agreed values for many of the so called 'externalities' such as effects

---

23 The most commonly found pesticides in groundwater are atrazine and simazine, broad spectrum herbicides used in high quantities (Source: Europe's environment: the Second Assessment (European Environment Agency, 1998)

24 Assessment of the Benefits of Plant Protection Products, Saub-Report, Eyre Associates, 1997

25 Communication from the Commission on Community Strategy for Endocrine Disrupters, COM (1999) 706

26 A recent case has been internationally recognised, following an evaluation in the context of the Rotterdam Convention during the 3rd meeting of the Chemical Review Committee in February 2002.

on the environment. Therefore, like for benefits, it is not possible to give a figure of the overall costs of the use of pesticides in the EU.

1.3.4. Reducing risks associated with the use of PPPs

Potential benefits accruing from the PPP use need to be weighted against the risks of negative impacts on human health and environment. Whereas the use of pesticides is necessary to secure crop protection, there is the need to reduce the risks associated with their use.

Also, there is a widespread perception that those drawing the benefits from the use of pesticides (in particular lower costs leading to higher competitiveness of the agricultural sector and industry as well as lower consumer prices) are not necessarily the same incurring the external costs linked to the adverse effects (in particular the environmental effects).

In practice, different PPP pose different types and levels of risk depending on a whole set of factors that are the basis of the risks[27]. In this context, it clearly appears that the volume applied is only one of the factors that are at the basis of risks associated with the use of pesticides. When identifying the best measures for reducing risks, attention has to be paid to all these factors, as well as to the different phases of the lifecycle of the pesticides, from the placing on the market to their distribution, application for crop protection purposes, and end-of-life (waste disposal and residues.

2. Overview of existing Community instruments and initiatives taken by the Member States

2.1. Community instruments which directly affect PPP use

2.1.1. Directives controlling the placing on the market of plant protection products

Community pesticide legislation distinguishes between "active substances" and "plant protection products" (PPPs). The active substance is the ingredient that carries the biological activity. The PPP is the form in which it is put on the market. Other ingredients may improve adherence to plant surfaces or help to achieve a homogeneous and stable mixture with water in the spray tank. Combination of several active substances within a PPP and of several PPPs in a tank mix is frequent.

The two key legal instruments at Community level are Council Directive 91/414/EEC concerning the placing on the market of plant protection products and Council Directive 79/117/EEC prohibiting the placing on the market of PPPs containing certain active substances.

The main objective of Council Directive 91/414/EEC is to guarantee that individual PPPs, placed on the market in the Community have no harmful effects on human and animal health or unacceptable effects on the environment. The Directive came to harmonize the provisions

[27] Risks of individual pesticides are characterised by the adverse effects which an active substance has the inherent capacity to cause (so-called hazards, which are reflected in the toxicological classification) and the likely exposure for human populations or environmental spheres, such as water, soil and air, which depends on, among others, the pathways and rates of movement of a substance and its transformation or degradation products after application. More information on risk assessment and its limits can be found for example in the Communication from the Commission on the Precautionary Principle (COM (2000) 1 final).

already in force in most Member States concerning the conditions and procedures for the authorisation of PPPs.

The Directive provides for a two-step process: active substances for which the evaluation has shown that there are uses which pose no such unacceptable risks are included in Annex I to the Directive. Only those active substances may be used in PPPs, which have to be individually authorised by the Member States. Active substances for which there is no evidence that their use presents no unacceptable risk for human and animal health or the environment must be withdrawn from the market. The Directive also contains a scheme for PPP risk assessment to be used for authorisations in Member States (the Uniform Principles set out in Annex VI). The Directive further provides for the possibility to restrict authorisation to certain uses only and to lay down specific application requirements, e.g. related to operator safety or to water protection[28].

The Directive initiated a 12-year programme to review all active substances that were on the Community market at the date of its entry into force. However, the process is slow and resource-intensive because of the complex scientific and administrative work involved (monograph written by a Rapporteur Member State, scientific peer review, discussions between experts at the evaluation meetings, consultation of the Scientific Committee of Plants and vote in the Standing Committee on the Food Chain and Animal Health). The Commission has recently submitted a report on the functioning of the Directive 10 years after its adoption to Council and Parliament[29]. The report suggests, among other things, that it is necessary to postpone the deadline for completion of the review-process to July 2008.

An important shortcoming of Directive 91/414/EEC is that it is primarily based on assessments of the effects of individual compounds, whereas potential additive or synergistic effects of mixtures containing several active substances are only evaluated to a very limited extent. Moreover, the Directive does not provide for explicit empowerment at Community level to check whether all conditions established by the Directive are enforced by Member States[30].

The 6EAP identifies full implementation and review of effectiveness of the Directive as an essential element to ensure a high level of protection of human/animal health and the environment. It also urges to improve the overall mechanism of the authorisation system, in particular by including, where appropriate, comparative assessment of active substances and the development of Community authorisation procedures for placing on the market.

In their reaction to the 10-year report, the Council and the European Parliament, while agreeing to a prolongation of the review-programme, underline the need for review of the

---

[28] Directive 91/414/EEC also foresees specific provisions related to the packaging and labelling of PPP. In particular, concerning labelling, the Directive establishes that it must indicate the uses for which the PPP has been authorised, the specific conditions under which it may be used, including directions for use and dose rates for each use provided for under the terms of the authorisation. Moreover, Member States are required to prescribe a proper use of PPP, including not only the exclusive use of PPP authorised, packaged and labelled in accordance with the Directive, but also compliance with the conditions specified on the labelling and the application of the principles of good plant protection practice as well as, whenever possible, the principle of integrated control.

[29] Report from the Commission to the European Parliament and the Council on the evaluation of the active substances of PPP. COM (2001) 444 final of 25. 7. 2001

[30] Based on provisions of the Directive (Art.17), Member States must also take inspection measures to check that placing on the market of PPPs, distribution and use comply with the requirement of the Directive, but this provision stays rather general.

Directive and provide guidance on a number of issues that the Commission should take into consideration[31].

2.1.2. Directives setting Maximum Residue Levels (MRLs)

Several Directives set Maximum Residue Levels (MRLs) in foodstuffs[32]. The Directives fix the MRLs for commodity/PPP combinations based on Good Agricultural Practices (GAP) taking into account the Acceptable Daily Intake (ADI). MRLs are expected to guarantee that likely exposure to PPP is toxicologically acceptable; they are under constant review. However, one element for future refinement may be the assessment of potential cumulative effects of different PPPs, which are currently not always taken into account when setting MRLs.

A recent report on the monitoring of residues in plant products on the market[33] has shown an increase in the percentage of samples without any detectable residues (from 60% in 1996 to 64% in 1999). MRLs were exceeded in around 4% of the samples in 1999, which also represented a slight increase in comparison to the years before (see figure 2). There was also a slight increase in the number of samples with multiple residues (13.1%-14.1%).

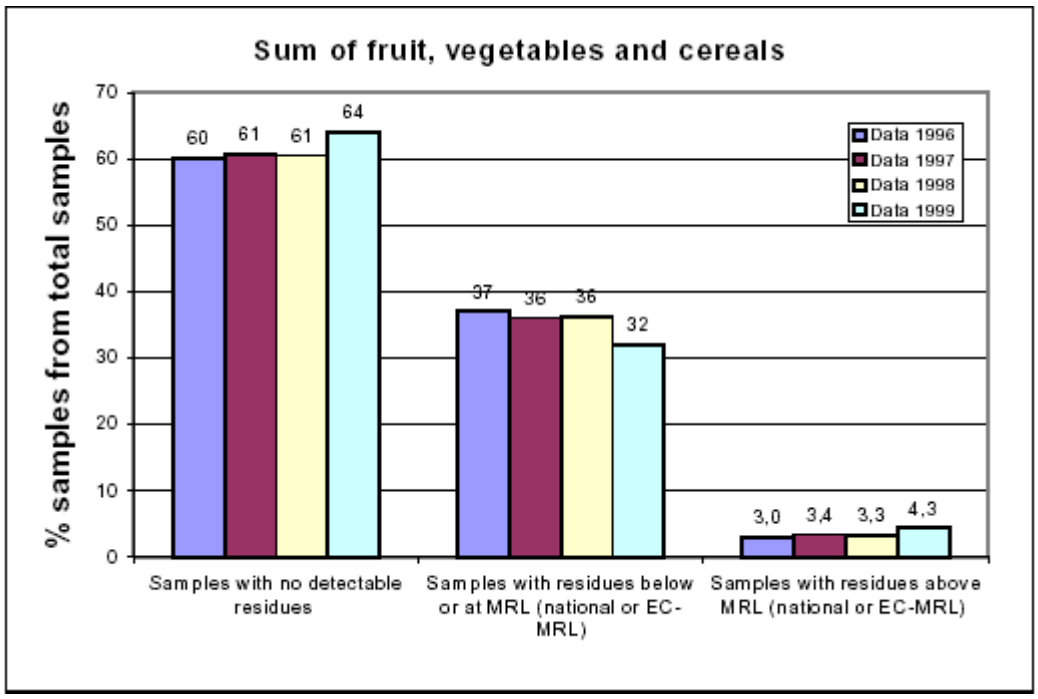

Figure 2: Monitoring Results (1996-1999) for fruit vegetables, and cereals

However, it should be noted that a considerable proportion of the cases in which MRLs were exceeded were found to be due to intentional or unintentional misuse. Also, actual consumer exposure to pesticide residues remains well below the acceptable daily intakes, even if MRLs are exceeded in such a relatively small percentage of products sampled.

---

31 Council Conclusions adopted on 12 December 2001. (Annex III to draft minutes of 29 January 2002 (Doc. 15287/01), available at: http://register.consilium.eu.int/pdf/en/01/st15/15287en1.pdf.
European Parliament Resolution on the Commission report – doc P5 (2002)0276 – 30 May 2002

32 Council Directive 76/895/EEC, 86/362/EEC (as last amended by Directive 2001/48/EC), 86/363/EEC (as last amended by Directive 2001/39/EC) and 90/642/EEC (as last amended by 2001/48/EC)

33 Monitoring of Pesticide Residues in Products of Plant Origin in the European Union, Norway and Iceland. 1999 Report (SANCO/397/01-final)

Implementation of the Directives on the setting of MRLs has not been as fast as expected and Community levels have been established only for a limited number of substances[34]. The Commission intends to put forward a proposal in the near future to consolidate and amend the legislation on residues. The philosophy underlying the new Regulation would be that any unnecessary exposure of consumers to residues through food should be prevented by the best available agricultural methods. Within these strict limits guaranteeing the highest level of protection for the European consumers, the new Regulation should also ensure that the setting of MRLs does not constitute an unnecessary technical barrier for the international trade of commodities, in particular from developing countries.

2.1.3. Directives controlling water quality in the Community

The new Water Framework Directive (WFD)[35] marks a change in Community water policy towards a coherent and integrated framework for assessment, monitoring, and management of all surface waters and groundwater based on their ecological and chemical status. The targets and principles set out in Directive 91/414/EEC for pesticides were translated into objectives for all waters and will be implemented on a river basin scale. With the adoption of the WFD, Community water policy is based firmly on the precautionary principle and the sustainable use of water.

Updated environmental requirements of the existing surface water Directive (75/440/EEC), the Directive on discharges of dangerous substances (76/464/EEC) and the groundwater Directive (80/68/EEC) have been incorporated into the WFD. It is planned that, once the WFD is fully operational, these Directives will be repealed in 2013.

For the protection of surface waters, the Directive introduces criteria for establishing a list of priority substances and priority hazardous substances, for which specific measures such as quality standards and emission controls must be taken in order to reduce or eliminate emissions, discharges and losses. A list of 33 priority substances was adopted in 2001[36]; 13 of these are used in PPPs. Whilst the Community will propose measures for priority substances by the end of 2003, Member States must prepare comprehensive programmes of measures within river basin management plans by 2009, which include measures against pollution due to pesticides.

In order to achieve good groundwater status, the Commission will propose, by the end of 2002, criteria for assessing the chemical status of all pollutants and the reversal of upward trends in their concentration. As regards active substances contained in pesticides (and their relevant metabolites) the present limit value (0.1 μg/l), which is an exclusion criterion for authorisation purposes, is considered as the maximum permissible concentration for defining good groundwater chemical status.

Full implementation of the WFD Directive is expected to make a considerable contribution to an overall reduction of risks from PPPs in the aquatic environment. However, the implementation process must be supported and complemented by specific initiatives regarding pesticides. These should be coherent and closely linked since the sustainable use of

---

34 Community MRLs have been established for the 130 most commonly used substances and various agricultural commodities amounting altogether to 17.000 MRLs.

35 Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy. OJ L 327 of 22. 12. 2000, p. 1.

36 Decision No 2455/2001/EC of the European Parliament and of the Council. OJ L 331, 15.12.2001, p. 1.

pesticides in European river basins is a prerequisite for the achievement of the objectives of the Directive.

2.2. Other Community instruments which indirectly affect PPP use

2.2.1. Common Agricultural Policy (CAP)

A principal function of agriculture is production. Maximising returns and minimising costs have given rise to increasing intensification of agriculture in the last 40 years. The CAP, in particular before the introduction of the 1992 reforms, has certainly contributed to intensification of production, and this is also reflected in the significant increase in PPP use.

First steps to integrate environmental concerns into the CAP date back to the mid-1980s when the promotion of environmentally friendly farming practices became a policy pursued by the CAP. In addition, the 1992 reform introduced some elements having beneficial side-effects. Cuts in institutional prices in combination with direct payments and set-aside have reduced incentives to intensify production and have therefore contributed to reduced use of PPPs in the subsequent years. Another important instrument to reduce intensity of production was introduced with Council Regulation (EEC) No 2078/92 on agricultural production methods compatible with the requirements of the protection of the environment and the maintenance of the countryside.

A study[37] carried out in 1998 suggested that 20% of the variation of PPP use is attributable to the effects of the CAP. This percentage may be higher in sectors with heavy pesticide reliance and large CAP payments such as cotton or tobacco.

In its Communication "Directions towards sustainable agriculture"[38], the Commission described in detail the general trends in European agriculture including intensification, specialisation, marginalisation and developments in organic farming.

The latest reform of the CAP, as established in the Agenda 2000, is designed to achieve improved competitiveness and further progress on integrating environmental requirements into the CAP. This has been pursued by further cuts in market support and a strengthening of rural development policy. Ensuring farming practices that protect the environment and preserve the countryside is an integral element of the agreed package of measures. Farming practices to safeguard the environment have been incorporated in Council Regulations (EC) 1259/1999 establishing common rules for direct support schemes under the CAP, and 1257/1999[39] on support for rural development and amending and repealing certain regulations, respectively.

Regulation 1259/1999 establishes a link between environmental protection requirements and direct support to producers from the CAP. Member States must take the environmental measures they consider appropriate such as:

- support in return for agri-environmental commitments,
- general mandatory environmental requirements,
- specific environmental requirements constituting a condition for direct payments.

---

37 See footnote 17

38 COM (1999) 22 final

39 OJ L 160, 26. 6. 1999, p. 80 and p. 113

With respect to the latter two options, Member States are authorised to use cuts in direct payments as sanction to support the enforcement of environmental requirements. The corresponding implementation Regulation (EC) 963/2001 provides for annual progress reports on the implementation of measures and penalties by Member States to be submitted to the Commission[40]. The first of these reports had to be submitted at the latest in April 2002. The Commission is currently evaluating the results of this survey.

Council Regulation 1257/1999 on support for rural development invites Member States/Regions to develop integrated programmes at regional level for the sustainable development of rural areas. For many measures (agri-environment, less favoured areas) farmers' eligibility for support has as a minimum requirement the respect of Good Farming Practice, which is the standard of farming a reasonable farmer would follow in his region in order to avoid negative impacts on the environment and which includes in any case the respect of mandatory environmental legislation. The national/regional rural development plans contain these Codes of Good Farming Practice. Also relevant for pesticide use are the agri-environmental measures, through which farmers are paid for environmental services they provide beyond the level of Good Farming Practice. Regarding pesticide use, this include reporting on actual use of pesticides, lower use of pesticides to protect soil, water, air and biodiversity, the use of IPM techniques, or conversion to organic farming.

Further positive impacts, particularly in sensitive areas, can be expected from a specific provision regarding "Less Favoured Areas" and areas with environmental restrictions in the framework of the regional development plans. Payments to farmers in the framework of these measures are conditioned on compliance with the above-mentioned codes of Good Farming Practice.

Agri-environmental measures have already influenced PPP use directly, for instance by promoting Integrated Pest Management / Integrated Crop Management techniques (IPM/ICM), and organic farming. Despite the fact that less than 3.5 % of the total CAP spending is devoted to agri-environmental measures, such measures affect more than 20% of the total agricultural area in the EU. There have been highly successful results in the reduction of PPP use in individual regions with specific programmes, for instance in Emilia Romagna (Italy), with reductions of up to 55% for certain types of production[41].

Organic farming, regulated by Council Regulation (EEC) 2092/91[42] and supported by agri-environmental measures, greatly reduces pesticide use. However, some PPPs, regarded as traditional in organic farming, are still authorised for specific purposes (the most controversial are certain copper salts, which are toxic for the aquatic environment). While these are also used in conventional agriculture, successful efforts have been undertaken to limit their use in organic farming.

In the framework of the Common Organisation of the Market in fruit and vegetables, support is granted to producer organisations for the implementation of operational programmes that must obligatorily comprise environmental measures (going beyond application of good farming practice), including measures aiming to reduce the use of PPP, for example through the development of organic or integrated production.

---

40 OJ L 136, 18.5.2001, p.4

41 Working Document: State of the application of Regulation (EEC) No 2078/92: Evaluation of Agri-Environment Programmes (Doc. VI/7655/98), p. 40 ff., available at: http://www.europa.eu.int/comm/agriculture/envir/programs/index_en.htm

42 OJ L 198, 22.7.1991, p. 1

Although all the above-mentioned measures helped to achieve a certain de-coupling of yield development from pesticide use, there is no sign of a significant downward trend in the dependency on PPPs in agriculture in general (see figure 1). However, the midterm review of the CAP reform under Agenda 2000 creates a new possibility for further integration of environmental concerns, including with regard to the use of PPPs.

2.2.2. Directives on the improvements of safety and health of workers at work

Council Directive 89/391/EEC[43] on the introduction of measures to encourage improvements in the safety and health of workers at work, in particular Directive 98/24/EC[44]on the protection of the health and safety of workers from the risks related to chemical agents at work and Council Directive 89/656/EEC[45] on the minimum health and safety requirements for the use by workers of personal protective equipment at the workplace, have created conditions for improvements in the safety of workers and operators. Whereas they only define minimum requirements, leaving scope for higher levels of protection in individual Member States.

Operator safety is another very important element in the evaluation process under Directive 91/414/EEC, and often constitutes a reason for non-inclusion of an active substance in the Annex to the Directive. Where appropriate, conditions ensuring sufficient operator protection are to be specified before the inclusion of an active substance in Annex I to the Directive.

2.2.3. Genetically modified organisms (GMO)

A new factor influencing the use of PPPs is the cultivation of genetically modified herbicide tolerant and pest tolerant plants (GMO). The adverse effects of widespread use of GMOs are currently under discussion and are taken into account in Directive 2001/18/EC[46] on the deliberate release into the environment of GMOs.

An evaluation of whether the cultivation of GMOs will lead to a reduced risk related to the PPP use is currently ongoing : Member States are engaged in substantial field trials on the environmental effects of GMO cultivation. The Commission has recently set up a Working Group on Herbicide Tolerant Crops in the framework of Directive 90/220/EEC[47], which among other tasks will consider the use of herbicides on such crops. One of the major problems is the possibility of uncontrolled transfer of the resistance genes to weeds, which has already been observed for rape and beet. In its Communication on Life Sciences and Biotechnology[48], the Commission has recently announced an action plan including a.o. the reinforcement of the monitoring of potential long term effects of GMOs.

2.2.4. Community research

The Community supports research efforts aimed at the reduction and sustainable use of pesticides. Over 200 projects related to pesticides have been funded under the five Community framework programmes on research and development. Most of these projects fall

---

43 OJ L 183 of 29. 6. 1989 p 1

44 OJ L 131 of 5.5.1998 p 11

45 OJ L 393 of 30. 12. 1989 p 18

46 Directive 2001/18/EC of the European Parliament and of the Council of 12 March 2001 on the deliberate release into the environment of GMO and repealing Council Directive 90/220/EEC. Commission Declaration. OJ L 106 of 17. 4. 2001 p 1

47 OJ L 117, 8.5.1990, p. 15. The Directive has been repealed by Directive 2001/18/EC with effect on 17.10.2002. The first meeting of the Working Group took place on 4 December 2001.

48 COM (2002) 27 final

under the Quality of Life programme and the Energy, Environment and Sustainable Development programme and relate, in particular, to food, nutrition and health; environment and health; sustainable agriculture, soil and water resources.

2.3. Further Community initiatives capable of contributing to sustainable use of pesticides

The Commission has already undertaken or is currently preparing several new initiatives or reviews of legislation in other areas which could directly or indirectly contribute to a more sustainable use of PPPs.

Also within the framework of the 6EAP, the Commission has adopted a Communication on soil protection[49], in which contamination is identified as a threat to soil. Whereas the use of PPPs can contribute to such contamination, measures to reduce PPP use (in particular herbicides) could increase the need for mechanical weed control, which in its turn would increase the potential for erosion (also identified as a threat to soil) and the consumption of fossil energy in agriculture. It is obvious that the two thematic strategies will have to be closely co-ordinated.

In addition, the Commission is preparing a Community Strategy on Environment and Health, which will seek to limit to an acceptable level human exposure to environmental threats, and in particular dangerous chemicals from all sources. Particular attention will be given to the more vulnerable groups of the population, such as children, and to the development of appropriate monitoring programs. Exposure of consumers to PPPs occurs mainly through diet, in particular residues in food and water. The Thematic Strategy on the Sustainable Use of Pesticides will have to take full account of the needs and actions identified in the strategy on Environment and Health, as well as new scientific evidence.

The Commission is also currently developing all necessary measures for a major overhaul of the general Community policy on chemicals[50]. As most pesticides are chemical substances, it is clear that the provisions and criteria (e.g. regarding persistence) under the new policy will have a direct influence on the use of PPPs. The Council and European Parliament have repeatedly called for complete consistency between the Community policy on chemicals in general and the policy on pesticides.

On January 2002, the Commission adopted a proposal for a Directive of the European Parliament and of the Council on environmental liability[51]. This proposal, currently subject to the appraisal of the European Parliament and the Council, aims to establish an environmental liability regime for the prevention and remedying of environmental damage. It covers pollution of water, damage to biodiversity and land contamination. Manufacture, use, storage, transport or release into the environment of PPP are among activities covered by the proposed Directive.

---

49 COM (2002)179 final

50 The preparatory work has been accomplished in the White Paper on a Strategy for a future Chemicals Policy (COM (2001) 88 final).

51 COM(2002)17 final.

2.4. National initiatives contributing to PPP risk reduction

A study relating to future EU policy on PPPs[52] mandated by the Commission and covering six Member States, identified the following "Top Ten" concerns in connection with PPP use in the Member States :

Contamination of water resources used for human consumption

Possible adverse effects on the ecology, e.g., non-target species

Risks to consumers from food via residues

Effects of exposure to residues in water, soil and air

Contamination of surface water or marine environments

Risks to users of agricultural chemicals

Misuse of PPPs due to lack of knowledge among the users

Specific concern about adverse effects on an ecosystem element

Dependence of agriculture on chemicals for pest control

Frequent and large-scale use of PPPs

These concerns have led to a number of national policy initiatives, the most frequent of which are:

Protection of watercourses, especially in sensitive zones, by monitoring and prohibition of use of certain products in water catchment areas.

Training and education programmes for PPP applicators and users.

National use reduction plans which have been developed and applied in Sweden, Denmark, Finland and the Netherlands.

Technical checks and certification of application equipment, implemented in several Member States with encouraging results.

Efforts to increase Integrated Pest Management (IPM), pest forecasting techniques, and biological control methods.

Prohibition of aerial spraying for targeted protection of sensitive species and habitats, and protection of waters in general.

Mandatory or voluntary collecting of packaging and unused products for safe destruction.

Several Member States (e.g. Sweden, Denmark, Belgium) have introduced taxes on PPPs to contribute to rationalising their use. In Sweden the levy is set at a fixed amount per kg of active ingredient regardless of the type of PPP. In Denmark, fixed rates have been set for all

---

[52] See footnote 17

insecticides (37% of retail price), fungicides, herbicides and growth regulators (25%) and microbiological agents (3%). In both countries[53] pesticide use has fallen, but less than was expected and it was not possible to relate this to the introduction of the levy or to other measures taken under the pesticide reduction plans set up in the countries at the same time[54].

Some Member States have developed strategies to promote organic farming. Additionally, within the Codes of verifiable Good Farming Practices in the Rural Development Programmes established under Regulation 1257/1999, some Member States have addressed the questions of safe use and good practices in regard to pesticides. In some Member States, producer groups and food retailers are developing accounting systems in relation to PPP use.

2.5. Instruments for monitoring progress: statistics on PPP use and indicators

Statistics on PPP sales broken down into four groups (herbicides, fungicides, insecticides and other pesticides) and expressed in tonnes of active ingredient are gathered annually in most Member States and transmitted to Eurostat (see Fig. 1). Data are available for the period 1990 to 1999, but there are gaps for some years and some Member States. From these data, the consumption of pesticides expressed in kg of active ingredient per hectare of agricultural area has been derived however with the same type of gaps. Also, in some Member States, sales figures include sales for non-agricultural use.

Unfortunately only a few Member States collect regular statistics on the quantities of individual active ingredients used on farms. For this reason, the Commission has encouraged Member States to set up specific PPP use data collection systems and DG Agriculture has via Eurostat provided financial support to Member States wishing to carry out pilot studies on the collection of PPP use data[55]. So far, the only more detailed information comes from industry, collected under contract to Eurostat[56]. At the level of active ingredients, parts of the data are confidential and have to be treated under the provisions of Council Regulation (EEC) 1588/90 on confidentiality.[57]

Evaluation of the statistics shows that the countries with the largest areas under crops (France, Italy, Spain and Germany) show the highest consumption of pesticides in absolute values. In terms of pesticide use per hectare, Italy, France, the Netherlands and Belgium emerge as heavy users, reflecting the intensive nature of agriculture in these countries and/or particular characteristics of the crops necessitating more intensive treatment than others (e.g. fruit and grapes). There is currently no harmonised environmental monitoring of PPPs in all Member States. Some data exist in certain Member States, e.g. on water contamination, but neither

---

53 The Belgian system as initially conceived exempted all agricultural uses from the levy.

54 A detailed analysis of both schemes is presented in a study finance by the Commission on the Economic and Environmental Implications of the Use of Environmental Taxes and Charges in the EU and its Member States, which is available at: http://europa.eu.int/comm/environment/enveco/taxation/environmental_ taxes.htm.

55 Such support was provided in the Technical Action Plan for Agriculture Statistics (TAPAS) programmes of 1999 and 2000.

56 The members of ECPA (European Crop Protection Association) agreed to provide Eurostat with their data on use of pesticides (by active ingredients), for the major agricultural crop groups in the EU. The data for 1992-1996 have been published in such a way as to respect confidentiality concerning volumes and uses of individual ingredients while still providing useful information. Similar data for the period 1997-1999 are currently being processed and will be published by Summer 2002.

57 Council Regulation (EURATOM, EEC) 1588/90 of 11 June 1990 on the transmission of data subject to statistical confidentiality to the Statistical Office of the European Communities. OJ L 151 of 15. 6. 1990 p. 1

agricultural nor forest soil is subject to regular or harmonised monitoring throughout the Community.

The European Councils in Cardiff and Vienna underlined the importance of developing environmental indicators to assess the progress of integration of environmental concerns into other policies, including agricultural policy. The Communication "Indicators for the integration of environmental concerns into the CAP"[58]deals with agri-environmental indicators and has identified a core set of indicators and areas where indicators need to be developed further. Among those are several related to risks from PPPs to the environment. The most important are:

- consumption of pesticides: however, the risks posed by pesticides vary considerably, depending on specific characteristics (i.e. toxicity, persistence) of active ingredients and use patterns (i.e. volumes applied, application period, method, type of crop treated, type of soil). Two complementary indicators can be envisaged: 1) index of pesticide use, weighted to take into account different types of toxicity and use patterns, 2) pesticide use, classified according to intrinsic characteristics, e.g. toxicity to non-target species, long term effects, persistence in the environment, etc
- soil contamination: extent to which pesticide residues or metabolites accumulate in soil.
- water contamination: the evolution of pesticide concentrations in ground and surface water.

A second Communication has identified the statistical needs for the elaboration of those indicators[59].

Several indicators were considered as (partly) useful for evaluating the "sustainability" of crop protection in the Member States. Sales (kilograms/ hectare) were the primary indicator used in the Member States having a national plan for "use" reduction. Other Member States did not accept this indicator, because it is not directly related to a reduction of "risks", as decreases in sales could be due to increased use of higher-activity substances and possibly higher risks. Frequency of application is considered a better general indicator (mainly by NGO's and the Northern Member States).

Within the OECD specific work has been started recently on risk reduction indicators based on the intrinsic characteristics of individual PPPs. The work is intended to provide a tool for users and policy makers to estimate the trend in the risks posed to the environment by the use of PPP. It is not intended to give an absolute measurement of the risks associated with an individual PPP and its effects under specified conditions of use. So far, most of the work has focused on aquatic risk indicators, where a pilot project involving six OECD member countries experimenting with three indicators developed in a previous project as well as several national indicators was completed in 2001. A technical report on the project will be made publicly available. The OECD Secretariat established early in 2002 a special web site on pesticide risk indicators, which carries all project documents and contains links to other relevant sites. A project on indicators for the terrestrial environment has recently started.

---

58 COM (2000) 20 final

59 Communication from the Commission to the Council and the European Parliament: Statistical Information needed for indicators to monitor the Integration of Environmental Concerns into the CAP. COM (2001) 144 final of 20. 3. 2001

The Food and Veterinary Office of the European Commission carries out audits and checks in the Member States, and reports its findings and recommendations, on monitoring of pesticides residues in foodstuffs, the application of Article 17 of Directive 91/414/EEC, and Directive 96/23/EC[60]. It also puts together the data provided by Member States on their national and EU-wide pesticide residue monitoring[61]. In addition, national monitoring programmes for pesticide residues (including fruit, vegetables, cereals and food of animal origin) have been developed.

All these initiatives, if developed further and well co-ordinated, should contribute to a more comprehensive picture of the situation, in particular when combined with actual monitoring data on the situation in the Member States, such as:

- percentage of agricultural surfaces or farms using integrated pest management and/or pesticide-free agriculture
- percentage using pest forecast systems
- quantity of collected empty packages in comparison with quantity (number of packages) sold
- surveys on residues, compliance with MRLs
- surveys of soil contamination by pesticides
- surveys of water quality, compliance with limits for groundwater and/or surface water protection
- number of people suffering injuries from pesticides (data not generally available)
- efficiency of spraying equipment and its compliance with relevant standards

3. Evaluation of the present situation

The foregoing overview of the present situation as regards the reduction of risks from PPP use shows that positive effects can already be seen as a result of national and Community efforts. The initiatives taken so far are encouraging, but they lack the overall coherence and level of application required to reduce PPP-related risks even further.

However, there is room for improvement of existing instruments, particularly concerning matters such as potential synergistic or cumulative effects of PPP, long-term risks for the marine environment, incentives for substitution and an effective shift of use from more dangerous active substances to safer alternatives, improvement of provisions on enforcement and controls on distribution or sales of PPP, educational requirements for users and technical requirements for application equipment.

The co-ordinated and harmonised full implementation of the existing legislative instruments, including the use of the powers already conferred on Member States in the CAP, could already have a significant downward effect on the risks associated with the use of PPP.

However, there will still be a need for new initiatives, such as those described in chapter VI, to keep user awareness high and to maintain lasting momentum towards further reducing the risks associated with PPP use throughout the Community.

---

[60] Council Directive 96/23/EC of 29 April 1996 on measures to monitor certain substances and residues thereof in live animals. OJ L 125, 23.5.1996, p.1.

[61] Annual EU-wide Pesticide Residues Monitoring Reports. There are, by now, five such reports available, corresponding to the years 1996-2000.

IV. IMPLICATIONS FOR CANDIDATE COUNTRIES

Because of the timeframe of the 6th EAP (2002-2011), any developments regarding pesticides must take account of the implications of any enlargement of the European Community. Enlargement will have significant effects on the candidate countries as they will have to comply with the policies in place at the time of accession. Candidate countries should therefore be involved in the process from now on, in direct consultations and as players concerned by the international aspects of the thematic strategy.

An important measure will be to improve the management of chemicals and pesticides in candidate countries, including the elimination of stockpiles of obsolete pesticides waste. The volume of such stockpiles is considerable, several hundred thousand tonnes[62], and their elimination will need to be consistent with future developments in waste policy.

A number of the governments in candidate countries need to be supported on a technical, financial and logistical levels to address the problem, which would best be achieved through systematic national action plans during the pre-accession phase. Development of such plans should be given specific support. They would need to include strategies to establish:

- nation-wide inventories of stocks of obsolete pesticides
- appropriate methods of treatment / disposal
- strategies for prevention of accumulation of new stocks

Many international organisations are already working on the problem, as are industry and the NGOs. Some Member States are also supporting projects directly. Co-operation among all these donors is important, as well as regional co-operation among the countries concerned.

The SAPARD Regulation on pre-accession measures for agriculture and rural development ((EC) No 1268/1999[63]) establishes the framework for Community support for sustainable agriculture and sustainable rural development. It provides for the launch of agri-environmental measures via pilot projects. Measures need to be programmed at the most appropriate geographical level. The financial contribution from the Community for the majority of the measures is 75% of total eligible public expenditure. It should be also noted that, for the ten SAPARD countries, the beneficiaries must respect environmental standards equivalent to that set out in Community legislation and the investments must comply with Community requirements. These obligations are an important element of the SAPARD Programme in the framework of the implementation of the *acquis communautaire*.

In numerous rural areas of the candidate countries, the intensity of agricultural production and the use of pesticides are very low and may be expected to have no significant effect on environment. However, the further development and establishment of agri-environmental schemes in some rural areas of these countries is an important task in reducing environmental and health impact of pesticides. Research and development efforts to support integrated pest management and organic production will also be of relevance.

---

62 As reported by the Czech Research Centre for Environmental Chemistry and Ecotoxicology at the 6th International HCH & Pesticides Forum, Poznan, Poland, 20-22 March 2001. The full report is available at: http://www.recetox.muni.cz/PBTs/content.htm

63 OJ L 161, 26.6.1999, p. 87

V. INTERNATIONAL ASPECTS AND REGIONAL CO-OPERATION

Any Community action in relation to pesticides has to take into consideration international work in the area. Conversely, the Community as a major player in international fora is in a position to influence international policies in accordance with its own objectives. The Intergovernmental Forum on Chemical Safety[64], which is responsible for the implementation of the "chemical chapter" of Agenda 21, has in its programme several activities and some key operational goals directly relevant for pesticides, in particular capacity building, information exchange, networking, risk reduction, illicit trafficking, and others.

Persistent Organic Pollutants (POPs) are bioaccumulative organic chemicals, which are prone to long-range transport and deposition. An international convention to eliminate, where feasible, emissions and discharges of 12 specified POPs, 9 of which are pesticides, and to identify others, was signed by more than 90 countries in May 2001 at Stockholm. The Community and its Member States are among those and will have to adopt all necessary measures to implement the Convention, which will include production bans[65]. Of particular concern in this context is DDT, which is one of the pesticides covered by the Stockholm (POPs) Convention, but is still widely used in developing countries to combat malaria. The Convention allows this, when the countries concerned request such derogation.

A key objective of several Conventions for the protection of the marine environment (**OSPAR**, **Helsinki**, and **Barcelona** Conventions[66]) is the cessation of discharges, emissions and losses of hazardous substances by 2020. Hazardous substances are defined through criteria on persistence, toxicity and potential to bioaccumulate *(PBT)*. The 'OSPAR Chemicals for Priority Action' and the 'OSPAR Substances of Possible Concern' include a considerable number of pesticides.

Many developing countries and New Independent States (NIS) do not have adequate legislation or infrastructure to ensure the safe use of chemicals. This problem is addressed by the Rotterdam Convention on the ***Prior Informed Consent Procedure (PIC)*** for certain hazardous industrial chemicals and pesticides in international trade, which was adopted in 1998, and will be implemented in the Community by amendments to Regulation 2455/92. Among other provisions, the Convention obliges exporters of chemicals on the PIC-list to obtain the consent of the receiving country before delivery and to guarantee appropriate labelling of exported chemicals, and establishes a system of information exchange on chemical risks. The Convention also gives the opportunity to developing countries to propose the listing of severely hazardous pesticides formulations, which cause problems under the specific conditions of use in the developing country. Of the current 31 PIC substances 26 are pesticides.

The ***OECD Pesticide Risk Reduction Project*** was initiated in 1994 to help OECD countries reduce risks associated with pesticide use. This project comprises three types of activity:

- collection and publication of information about risk reduction activities
- organisation of workshops at which governments and other pesticide risk reduction "stakeholders" can exchange information and identify issues that they would like to work on collectively

---

64 http://www.who.int/ifcs/ , in particular the Bahia declaration adopted in IFCS III in October 2000

65 It should be noted that use of all these pesticides has already been banned in the EU.

66 Oslo-Paris Convention for the North-East Atlantic, Helsinki Convention for the Baltic Sea, Barcelona Convention for the Mediterranean Sea

– development of indicators that can be used to measure progress in risk reduction.

Sharing experience with the other OECD countries is important for the Community to further advance the reduction of risks from the use of pesticides, in particular to agree on harmonised indicators to monitor progress.

The ***Codex Alimentarius*** influences the use of pesticides around the world. It includes recommendations of MRLs for pesticides in foodstuff. The Codex Alimentarius has particular relevance in international food trade. Codex recommendations have become the benchmarks against which national food measures and regulations are evaluated within WTO. As Codex MRLs are not necessarily the most conservative, there is growing pressure within the EU to set its own MRLs. Unless there is evidence to justify such EU MRLs, this could be perceived by developing countries as a protectionist barrier to trade, as they do not necessarily have the technical means to prove that their produce meets EU requirements. EU MRLs for non-authorised pesticides are normally set at the lower limit of analytical determination, which might constitute a problem for developing countries where these pesticides might still be in use, due to lack of affordable alternatives.

In November 2000, the Council and the Commission endorsed a **Development Policy Declaration**[67] that identified environment as a crosscutting issue. As a contribution to the "Cardiff" process, the Commission presented a Staff Working Paper in April 2001[68] promoting the search for synergies between environmental protection and poverty eradication and highlighting opportunities for environment integration into the six priority themes of the EC Development Co-operation Policy in order to make development sustainable. Various projects related to pesticides use have been and are financed through Development Programmes. They concern the promotion and implementation of Integrated Pest Management techniques, the elimination of stocks of obsolete pesticides[69], Pest management and Food security, capacity development for chemicals/pesticides management[70], information concerning MRL set at EC level[71] and others.

Many other international activities, such as those related to the ***ACP countries***, EPPO (the European and Mediterranean Plant Protection Organisation), or FAO (e.g. FAO International Code of Conduct for the distribution and use of pesticides) are affected by and influence the policies developed by the Commission, in particular regarding MRLs and their enforcement.

VI. POSSIBLE ELEMENTS OF A EUROPEAN THEMATIC STRATEGY ON THE SUSTAINABLE USE OF PESTICIDES

In the preparation of this Communication, all existing instruments and initiatives at Community and Member States level, as well as numerous background studies and preparatory work already carried out[72] have been considered.

---

67 Council document 13458/00

68 Commission Staff Working Paper "Integrating the environment into EC economic and development co-operation", 10 April 2001, SEC (2001) 609

69 Thousands of tons of obsolete pesticides are also stored in Developing countries, particularly in Africa. http://www.fao.org/ag/AGP/AGPP/Pesticid/Disposal

70 through the elaboration of National Profiles. http://www.unitar.org/cwm/nationalprofiles/index.htm

71 Pesticides Initiative Programme. http://www.coleacp.org

72 For details please refer to: http://europa.eu.int/comm/environment/ppps/home.htm

Given that

- many of the risks presented by pesticide use are similar in all Member States;
- risks have a cross-border character, especially in terms of water and air pollution;
- many Member States have already started risk reduction programmes and such unilateral action can expose farmers in different Member States to unfair competition in the Internal Market and give rise to unequal levels of protection of health and environment in the Community

it seems first and foremost necessary for all existing instruments and initiatives to be harmonised and fully implemented in a co-ordinated way. The direct benefits of any Community action would be to improve the possibilities for exchange of risk reduction experiences and to contribute towards a good functioning of the internal market for pesticides and plant products and a fair competition between the PPP users, mainly farmers, in the Member States.

In addition, new instruments and initiatives to address the risks associated with the use of PPPs will have to be developed. They should have common goals and be tailored to meet the needs at international, EU, national and local levels.

The Commission intends to propose a thematic strategy to achieve sustainable use of pesticides. The thematic strategy will complement the revision of the regulatory framework, in particular Directive 91/414/EEC, which has already started.

The purpose of this Communication is to consult all stakeholders on the potential measures set out below. Potential measures are classified under the main headings outlined by the Council and Parliament in their Decision xxxx .

1. Minimising the hazards and risks to health and environment from the use of pesticides, through:

a. establishment of national plans to reduce hazards, risks and dependence on chemical control.

Experience in Member States has shown the efficacy of risk or use reduction plans. Programmes have to be tailored to local conditions. Different regions should map out their specific needs such as particular pressures and impacts in water catchment areas.

Broad participation by all parts of society, particularly farmers, their unions, extension services and the public authorities should be encouraged when designing the specific programmes, targets and timetables. The plans could necessitate preliminary studies to evaluate different scenarios and their consequences. The results of these national plans must be regularly reported and evaluated.

The Commission proposes that all Member States establish such plans within two years and report regularly. Reduction measures for all areas under the control of public authorities should be exemplary parts of these plans. The plans should be closely co-ordinated or integrated with similar actions under other Community legislation such as the river basin management plans under the Water Framework Directive or rural development plans under the CAP.

b. reducing particular risks, such as:

1. pollution of watercourses, ditches, and water catchment areas both through diffuse and point source pollution
   The Commission is fully committed to promoting the successful implementation of the Water Framework Directive, which will achieve a high level of protection of the aquatic environment from pollution by pesticides. Within the context of the Common Implementation Strategy[73] for the WFD, the Commission proposes to introduce best practices in river basin management such as mandatory field margins or specific agreements between water companies and farmers.
2. chemical control measures in environmental sensitive areas, as defined e.g. in NATURA under Directive 92/43/EEC, which requires, in Article 6(2), measures to avoid the deterioration of natural habitats as well as disturbance of species and which encourages positive measures such as environmentally friendly farming.
   The Commission proposes that the Member States introduce measures to increase the protection of such areas by reducing the overall use of PPP and defining areas of zero PPP use.
3. aerial spraying
   The Commission proposes a general ban. Specific derogation may be given by the national authorities of the Member States if aerial spraying presents clear advantages and also environmental benefits compared to other spraying methods.

c. improving knowledge of risks by

1. monitoring of the health of users at particularly high risk such as agricultural workers and more sensitive consumers (epidemiological survey). Member States should conduct long-term research into different high-risk situations (including a register of the pesticides used) and regularly publish reports on residues in food including an evaluation of the total diet of consumers with particular emphasis on the more sensitive types of consumers such as children.
   Current residue monitoring programmes need to be re-inforced and enlarged in scope (to a broader range of food and feedstuff) and better co-ordinated among the Member States (all ministries and agencies concerned) with enhanced support from the Food and Veterinary Office (FVO) of the Commission. Further measures could be proposed in the framework of the strategy on Environment and Health regarding monitoring programmes and sharing of data.
   The Commission proposes that the Member States, including through possible Commission funded research programmes, initiate mid to long-term epidemiological research on PPP users at risk and launch broad investigation and monitoring programmes on pesticide residue levels for consumers, with particular emphasis on groups of the population at particular risk. National monitoring efforts should be coordinated for better efficiency with enhanced support by the FVO.
2. collection of data on incidents having consequences for health and environment of workers and private users (centralised recording and analysis of incidents)

---

[73] For details please refer to: http://europa.eu.int/comm/environment/water/water-framework/implemenation.html

The Commission proposes that Member States create new (where needed) or modify existing reporting systems, which should then be coordinated. Information should be centralised and evaluated for the whole Community.

3. collection and analysis of economic data on PPP use (benefits and costs) and alternatives

   Reliable figures for the actual costs of pesticide use (including external costs) and alternatives could help in the evaluation of the benefits in comparison with chemical-free methods of control.

   The Commission proposes to support together with the Member States further investigation on this point at national and international level (e.g. OECD).

d. further research and development into:

1. less hazardous methods of application and handling of PPPs such as
   – precision spraying, improved coating and packaging technology (new soluble packaging and packaging which retains less residual product when empty)
   – better adaptation and use of protective clothing
2. IPM techniques as part of ICM, such as early pest warning systems, disease forecasting, etc.
3. improved insurance schemes against potential crop losses in order to minimise preventive applications
4. potential synergistic and antagonistic effects of PPPs, in particular in frequently used combinations of active substances
5. quantification of point source pollution and practical solutions to address related hazards
6. improved methods to assess the chronic and acute risks from residues to infants and children when establishing MRLs to safeguard their health.

   The Commission proposes to support or create together with the Member States research and development efforts and calls on industry to contribute to the activities.

2. Improved controls on the use and distribution of pesticides

a. reporting of production and import/export quantities of PPPs by producers and distributors to national authorities. Under legal cover, national authorities would report to the Community, which would then prepare (through Eurostat) an annual report with an aggregated data analysis. The necessary protection of data of commercial value would have to be respected when using, compiling or disseminating the data. These should be as detailed as possible and would also be helpful for efficient follow-up of the Rotterdam (PIC) Convention;

b. reinforcement of ongoing work on the collection of data concerning use (quantities of PPPs applied per crop, product, area, time of application…). In this respect, progress in keeping of logbooks to record spraying data and circumstances of treatments, types and amounts of pesticides used could also contribute to enhancing the awareness of the users and allow better controls of the real patterns of use. Knowledge of actual use patterns would help to better identify unacceptable risks;

c. reinforcement of the system based on Article 17 of Directive 91/414/EEC (inspections / monitoring of uses and distribution of PPP by wholesalers, retailers and farmers) in a co-ordinated way;

d. introduction of a system of regular and safe collection, possible re-use, and finally controlled destruction of PPP packaging and unused products;

e. introduction of a system of regular technical inspection of application equipment[74];

f. creation of a system of mandatory education, awareness raising, training and certification for all PPP users (farmers, local authorities, workers, distributors, traders and extension services). The training should put emphasis on safe use, covering both human health and environmental aspects. It would further contribute to the free movement of workers through common and recognised training requirements. Best practice guidelines for the most essential parts of the training should be developed. This could be done against the background of the education programmes provided for in article 9 of Chapter III of Council Regulation (EC) 1257/99.

For all these points, the Commission will propose relevant mandatory requirements within two years of the adoption of the thematic strategy. Compliance needs to be assured through adequate monitoring measures. Where appropriate, support to farmers under the CAP is to be linked to compliance with the required measures.

3. Reducing the levels of harmful active substances by substituting the most dangerous with safer (including non chemical) alternatives

This goal will be achieved mainly by a quicker implementation of Directive 91/414/EEC and its amendments in the near future. Preparatory work is already in hand.

In practice this would entail systematic evaluation of the possible substitution[75] of a particular active substance for which certain concerns persist, either by another substance (on the basis of the inventory of active substances, when an alternative is available for a specific purpose) or a pesticide-free alternative. Examination of the possibility of introducing this principle at Community level is recommended in the 10-year report on the evaluation of Directive 91/414/EEC and has been emphasised by the Council and the European Parliament in their conclusions on this report.

The Commission proposes to amend Directive 91/414/EEC in order to include among other modifications the substitution principle. The Commission will study feasibility and possible methodologies for its application in practice. Member State Rapporteurs should then carry out comparative assessments under appropriate conditions (which need to be defined) when evaluating active substances, taking due account of possible resistance problems. The revision of the Directive will also take into account several other issues addressed in the Council Conclusions and the Opinion of the European Parliament on the 10-year report evaluating the functioning of Directive 91/414/EEC[76].

---

74 Already in application in several MS. Experience has shown mandatory systems to be more efficient than voluntary ones.

75 This concept is already included in the Biocides Directive 98/8/EC

76 See footnote 31

4. Encouragement of the use of low-input or pesticide-free crop farming particularly by raising user's awareness, promoting the use of codes of good practices and consideration of the possible application of financial instruments

a. Promotion and development of alternatives to chemical control via IPM agriculture, organic farming, and biological control for specific uses, such as glasshouse crops and examining the potential of the use of Genetical Modification Technology when its application is considered as safe for health and environment.

Promoting good practices by further developing Codes of Good Farming Practice integrating IPM concepts.

Further encouraging the allocation of funds by Member State and the adoption by farmers of Rural Development measures, in particular agri-environmental schemes designed to promote low-input farming beyond Good Farming Practice with less use of pesticides (organic farming, ICM and specific measures to reduce pesticide use), but also by training and other relevant measures.

b. Imposing penalties on users by reducing or cancelling benefits under support schemes

Member States should make more rigorous use of the possibility of applying penalties by cancelling or reducing benefits covered by Council Regulation 1259/1999 when environmental requirements which they have identified as appropriate in view of the situation of the agricultural land used or the product concerned have not been respected. Where not yet existing, these requirements should be defined.

For points a and b, the Commission proposes to implement the current provisions more rigorously and exploit them fully. The upcoming report on Regulation (EC) 1259/1999 will unveil what Member States have done on environmental protection requirements and indicate whether further steps will be necessary to reinforce their implementation. The Commission will include pesticides issues in the discussion on the future evolution of Good Farming Practices as a policy tool.

c. Special levies on PPPs

Some Member States have already introduced specific levies, while others are planning to do so. Introduction of an environmental charge would raise awareness of the detrimental effects of over-intensive PPP use and further reduce reliance on chemical inputs in modern agriculture. Such a levy would also make non-chemical methods more competitive and could contribute to the additional funds, needed to cover the external costs of PPPs, research and development work into more sustainable alternatives and further protection of sensitive areas and population groups.

The Commission carried out a study of the advantages, disadvantages and feasibility of an EU wide regulatory framework for levies on pesticides[77].

The study concluded that an 'ideal levy' would have to respect the following criteria:

---

[77] Final report by EIM / Haskoning, Zoetermeer, July 1999.

– discriminate effectively among the various pesticides (i.e. the levy should be proportional to the potential damage to the environment)
– be set at the correct rate (i.e. correspond to the marginal external costs)
– have an efficient collection and effective reimbursement system
– be fraud-proof
– provide a permanent incentive to farmers

According to the study, the first two of these criteria are confronted with major obstacles: there is inadequate information on the (long-term) negative environmental effects of pesticides and it is extremely difficult to summate the various effects into one single target (i.e. effects on the aquatic environment versus effects on the terrestrial environment). Furthermore, precise quantification (and costing) of the externalities is fairly impossible. Within the scope of the study it was not possible to propose a solution for an EU wide regulatory framework for levies on pesticides.

Nevertheless, the experience of two real cases of levies applied in practice (Denmark and Sweden) seems to indicate a certain impact, albeit more limited than originally expected. Demand for PPPs did decrease, indicating some price elasticity, but it was unclear whether this could be attributed to the levy alone or was due to a number of 'accompanying measures' taken at the same time. Instead, an important aspect has been the revenue-raising role of the levy. The funds raised were used (at least in part) to finance support programmes (such as advisory services) to optimise pesticide use. In both countries, significant organic agriculture sectors have developed as well.

In the light of experience to date, the Commission does not propose at this time to develop a fully-fledged EU-wide scheme of levies on PPPs that would reflect real marginal externalities. Further research into the full costs and benefits (including externalities) of using PPPs or alternative methods will be necessary first. The Commission considers that, if such a levy was to be introduced, Member State should be encouraged to apply tax differentiation, taking into account the general principles of the EC Treaty and their specific environmental concerns. Taxation should provide sufficient incentive to pesticide users to opt for pesticides less harmful for the environment in the particular context of the Member State concerned and contribute to internalise at least partly the external effects of the use of PPPs. It could further contribute to the financing of a number of measures under the national risk reduction plans and research and development as proposed in various earlier points.

d. Harmonisation of the Value Added Tax for PPPs

The current situation with VAT on PPPs ranging between 3 and 25% puts farmers in various Member States in an unequal situation. The current Community legislation allows Member States to apply a reduced rate of VAT for PPPs. It distorts the internal market and can lead to illegal import with increased uncertainties concerning potential negative consequences for health and environment resulting from the use of those illegally imported PPPs, like for example the increased risk from a label which is in a language unknown to the user.

To ensure the smooth functioning of the internal market, the rate of VAT should be approximated in all Member States. The Commission is currently preparing a revision of VAT legislation which could integrate this harmonisation purpose and propose to apply the normal VAT-rate (minimum 15%), excluding thereby all PPPs

from the exempted agricultural products, because of their overall harmfulness for the environment.

The Commission proposes that the harmonisation of VAT at the normal Community rate should be considered as the necessary first step to respect the requirements of a single market and to reduce risks of illegal imports.

5. A transparent system for reporting and monitoring the progress made in achieving the objectives of the strategy including the development of suitable indicators

a. Regular reporting on national risk reduction programmes

Once established, the national PPP Risk Reduction Programmes should be subject to specific and strict monitoring by the Member States. The result of this monitoring should be reported to the Commission.

b. Development of suitable indicators for monitoring and definition of quantitative targets

Most indicators currently used include quantitative change in volumes used and application frequency. But, because of the different chemical characteristics and methods of use of different PPPs, such parameters do not necessarily correlate with the decrease in risk. Therefore other types of measurement are needed, such as the percentage of certified applicators, of the area treated with PPPs and others still to be developed or a combination of all these.

Currently there are no generally accepted indicators (see chapter 2.5 for details). The development of such risk indicators is a research priority indicated in two recent Communications from the Commission to the Council and the European Parliament[78].

The Commission proposes that the Member States report regularly on progress with national risk reduction programmes. Pending the development of harmonised indicators, they should report on progress by using the most suitable indicators currently available to them. Monitoring should include agricultural and, where appropriate, forest soils, the aquatic environment, and residues in food and feedstuff. The Commission and the Member States should actively contribute to the international development of indicators (in particular within the OECD) and their subsequent use.

6. Candidate countries

a. The enlargement of the EU will have a major impact on the candidate countries as they will have to comply with the policies in place at the moment of accession.

The management of stockpiles of obsolete pesticides in a number of candidate countries has been mentioned repeatedly as an important problem in this context. Pesticides become obsolete when they can no longer be used for their intended purpose, and therefore require disposal. The common causes of this situation are:

– use of products has been prohibited or severely restricted

[78] See footnotes 43 and 44.

– the pesticide has deteriorated because of improper or prolonged storage

Many pesticides still in use in several candidate countries might become obsolete at the moment of accession. In addition, there are already considerable stocks of obsolete pesticides at the moment. According to Directive 91/689/EEC[79], pesticides are considered as hazardous waste requiring specific care during disposal (incineration in specific incinerators). If no appropriate measures are taken, candidate countries might not have adequate incinerators which respect the required emission limits; this will necessitate upgrading of incineration facilities or require transport to appropriate incinerators within the current Member States. Eventually other solutions have to be found. A proportion of the obsolete pesticides will be covered by the Stockholm Convention on POPs and measures for their disposal will be eligible for the funding provided through the Convention (Proposals from 7 candidate countries for inventory work for POPs related contamination have already been accepted). However, there might be a need for further support to the Candidate Countries.

The Commission proposes that, in close co-operation with candidate countries, specific support programmes be developed, which target the handling of stocks of obsolete PPP and their safe destruction. Such programmes should start with the identification and quantification of the existing and expected stockpiles (How big is the problem?[80]) and then propose appropriate disposal measures (preferably within the national hazardous waste management plans). Member States should provide technical (and if necessary financial) support to build the necessary administrative capacity to develop and manage such disposal programmes.

The Commission also proposes continued support of candidate countries for the pilot agri-environmental schemes, as established under the SAPARD Regulation, to develop them further, in particular in view to reducing risks associated with the use of pesticide, so that these schemes will be correctly established as a part of rural development schemes once accession takes place.

7. International aspects

The Community and the Member States should contribute to the safe use of PPPs in developing countries and NIS by better monitoring and assessing their exports or donation of chemicals, training and stewardship of the use, handling and storage of PPPs and the management of stockpiles of obsolete PPPs, by supporting capacity building and information exchange. Full implementation of the Rotterdam (PIC) and Stockholm (POPs) Conventions will be major steps in that direction. This includes financial support and technical assistance, both via the mechanisms provided in the Conventions, but also further assistance in capacity building through specific projects or in the framework of regional agreements (in particular the Cotonou Agreement). It also includes strenghtening the integration of environmental objectives into Development Policy and contributing to the goals of the Intergovernmental Forum on Chemical Safety.

The Commission has already proposed to the Council the necessary legislation to ratify and implement the Rotterdam Convention on Prior Informed Consent including an amendment of Regulation 2455/92. The Commission intends to present shortly the necessary proposals for

---

79 OJ L 377, 31.12.1991, p. 20.

80 The European Parliament sent a letter in July 2001 to all candidate countries requesting the governments estimates of the range and quantity of stocks of obsolete pesticides and the plans for disposal.

ratification and implementation of the Stockholm Convention on Persistent Organic Pollutants.

The Commission and the Member States will have to contribute to the technical and financial assistance provided for in the Conventions, as well as in specific bilateral agreements (such as with the ACP countries). In addition, they should increase their commitments under particular programmes, such as research on DDT alternatives to combat malaria (in the framework of the Community initiative on communicable diseases), capacity building for the management of chemicals, and support to enable developing countries to substitute pesticides no longer authorised in the EU and to prove compliance with Community MRLs on agricultural produce. The Commission will also seek to collaborate with the NIS on the management of chemicals[81].

The Commission and the Member States will continue to take part in work under the Codex Alimentarius to ensure that Codex MRLs provide for adequate protection of human health and to minimise the risks of challenges of Community measures under the WTO.

VII. CONCLUSIONS AND FURTHER WORK

This Communication has presented a wide range of background information on the applicable instruments and initiatives directly or indirectly affecting pesticides use in the Community and further measures already in place in some Member States and has identified remaining concerns regarding current patterns of pesticide use.

With a view to minimising further the risks presented by PPPs for human health and the environment, the Communication has identified a range of measures, which could make up a Community Thematic Strategy on the Sustainable Use of Pesticides which would usefully complement the existing legislative framework.

The Community and the Member States, in implementing such a strategy, could use many different instruments: legally binding measures, (economic) incentives, research or voluntary measures. Combination of all types of instruments is also possible. Many measures could most effectively be integrated in already existing or currently developing related policy areas, such as water protection, health and consumer protection (in particular food safety) and the Common Agricultural Policy.

It is obvious that most of the proposed measures fall currently within the purview of the Member States. This is the case for actions concerning Codes of Good Farming Practices, the promotion of IPM, training programmes for users, further promotion of organic farming and low-input agriculture and the application of penalties including the reduction or even cancellation of benefits from the CAP. In order to achieve a higher level of harmonisation and better implementation, it might, however, be necessary to define minimum requirements at Community level. Some of the proposed measures could be most efficiently regulated at Community level (in close co-operation with Member States), such as the definition of adequate monitoring requirements, collection of use data and harmonised systems to report any incidents related to health or the environment.

Public consultation on a future thematic strategy for the sustainable use of pesticides is proposed on the basis of these options. The Commission hereby invites all interested parties

---

81 Commission Communication-EU-Russia Environmental Co-operation (COM (2001)772 final)

to discuss and comment on this document. A public hearing will be organised in the 4th quarter of 2002.

Comments may be sent directly to the Commission not later than 30 November 2002. Submissions should be sent to Ms Hellsten, Head of the Chemicals Unit (DG Environment), 200 Rue de la Loi / Wetstraat 200, B-1049 Bruxelles/Brussel Belgium. Comments may alternatively be sent by e-mail to: ENV-SustainablePPP@cec.eu.int. The various language versions of this Communication, the background studies and other related documents used for its preparation can be found at: http://europa.eu.int/comm/environment/pppshome.htm.

On the basis of the analyses developed in this Communication and the outcome of the consultation process, the Commission will propose at the beginning of 2004 all necessary measures setting out a comprehensive Community Thematic Strategy on the Sustainable Use of Pesticides. Because of ongoing developments in other policy areas, in particular the revision of Directive 91/414/EEC and the CAP mid-term review, some of the measures envisaged will already be launched before the finalisation of the complete thematic strategy.

Annex 1: Studies carried out in the project Sustainable Use of Plant Protection Products[82]

Phase 1:

Pesticide use in the EC (Agricultural Economics Research Institute (LEI), The Netherlands 1994)

Towards a future EC pesticides policy (Centre for Agriculture and Environment (CLM), The Netherlands, 1994)

Phase 2:

Possible Arguments and Objectives of an Additional EC Policy on Plant Protection Products (Oppenheimer, Wolff & Donnelly, 1996)

Additional EU Policy Instruments for Plant Protection Products (Wageningen Agricultural University (Mansholt Institute) 1997)

Analysis of Agricultural Policy in Relation to the Use of Plant Protection products (Produce Studies Limited, 1996)

Assessment of the Benefits of Plant Protection Products (Eyre Associates, 1997)

Regional Analysis of Use Patterns of Plant Protection Products in Six EU Countries (Landell Mills Market Research Limited, 1996)

Further Analysis of Presence of Residues and Impact of Plant Protection Products in the EU (Soil Survey and Land Research Centre and sub-contractors, 1996)

Final workshop documents (May 98)

Possibilities for Future EU Environmental Policy on Plant Protection Products- Synthesis Report (Summary Report of all six studies) (Oppenheimer, Wolff & Donnelly, 1998)

Proceedings of the Workshop held in Brussels, May 1998

[82] Internet address: http://europa.eu.int/comm/environment/ppps/home.htm

Annex 2: Definitions

Good Farming Practice (GFP) is mentioned in Articles 14(2), 3rd indent, and 23(2) of Council Regulation (EC) No 1257/1999, on support for rural development from the European Agricultural Guidance and Guarantee Fund (EAGGF), as well as in article 29 of Commission Regulation 445/2002 laying down detailed rules for the application of Council Regulation 1257/1999. GFP is the standard of farming, which a reasonable farmer would follow in the region concerned. Member States shall set out such standards, which shall, in any case, entail compliance with general mandatory environmental requirements. In Particular, **Good Agricultural Practice (GAP)** is frequently used when pesticide use is concerned. Albeit not defined, in Directives 76/895/EEC, 86/362/EEC, 86/363/EEC and 90/642/EC relating to fixing of maximum levels for pesticide residues means the lowest amount of residues resulting in sufficient efficacy of the PPPs, making thereby clear that maximum residue levels are derived from the application point of view.

Good Plant Protection Practice is the terminology used in Directive 91/414/EEC (concerning the placing of plant protection products on the market) for the proper use of PPPs, but the directive does not provide for a clear definition. Such a definition is developed by EPPO with the full support of the Commission.

Best Environmental Practice (BEP) means the application of the most appropriate combination of environmental measures. Examples for their specific context are described in Annex II to the Convention on the Protection of the Marine Environment of the Baltic Sea Area.

Other concepts relating to production methods are also used in this Communication:

Organic Production is defined and regulated in Council Regulation (EEC) 2092/91 of 24 June 1991 on organic production of agricultural products and indications referring thereto on agricultural products and foodstuffs.

Integrated Agriculture, Integrated Production (IP), Integrated Crop Management (ICM) and **Integrated Pest Management (IPM)** are all concepts relating to farming systems. They include different minimum requirements for the protection of the environment or pest control, the use of a combination of measures including preventive measures, measures of forecasting and diagnosis and the selection of optimum tools for mechanical or chemical control. Different methods to minimise the use of PPPs, such as warning systems and "dosage keys" are also often used.

These concepts are the result of weighing a whole range of management factors: farm finances, pest and disease control, product quality, public health and food safety, working conditions and environmental impact.

"Certified" production schemes in line with IPM, ICM have been established in Europe.

Certification provides better guaranties for the effects of crop protection on the quality of the environment, public health (increase food safety and food quality) and working conditions. It makes farming practices visible as it shows how growers meet the demands for sustainable crop production.