

THE ABCs

OF CROP PROTECTION:
FAST FACTS FOR EUROPEAN POLICY-MAKERS



CROP PROTECTION

Crop protection products are the treatments used to protect crops and keep them healthy. Also known as pesticides, they are the crop growing equivalents of the medicines doctors use to safeguard our own health. They provide many benefits and are available for use not only in agriculture, but also in horticulture, forestry and gardening.

Crop protection combines innovative science and technology to protect farmers' crops from the many dangerous pests and diseases that threaten the quality and safety of our food.

In Europe, there are over 30,000 employees of pesticide manufacturing companies, with an estimated additional 20,000 people employed in distribution and support.

Value of European agrochemical market*

Herbicides	2,313	41%
Fungicides	2,054	37%
Insecticides	948	17%
Others	269	5%
Total	5,584	

* Figures in €m and calculated at the end of 2003.





DID YOU KNOW...?

- **In the EU, around 3% of the population produces three-quarters of the food supply.**
- **Organic farming makes use of both natural and man-made pesticides.**
- **It is estimated that the amount of food produced in the next 25 years must equal twice that produced in the last 10,000 years.**

HEALTH & FOOD SAFETY

Life expectancy has improved dramatically since the consumption of fresh fruit and vegetables became a daily reality for most European consumers. Pesticides, by ensuring consistently high yields of fresh produce, have helped to make this possible.

All food, treated or untreated, is a collection of thousands of chemicals. In small quantities our bodies can easily process all these chemicals on a daily basis. In doing so they make no distinction between nature's own pesticides and man-made ones.

The regular consumption of fresh fruit and vegetables is an important part of a healthy diet and helps reduce the risk of ailments like coronary heart disease, cancer and diabetes.



Safeguarding human health by correct use of pesticides is ensured by legal requirements that any residues in food do not exceed three limits: the **Acceptable Daily Intake (ADI)**, the **Maximum Residue Level (MRL)** and the **Acute Reference Dose (ARfD)**.

- The **ADI** is a health-based value which estimates the human daily intake of a product over a lifetime which would have no harmful effects. It incorporates a large safety factor.
- The **MRL**, a trading standard, is the maximum amount of residue which may be on a crop if a product has been used as instructed on the label. The possible presence of a residue, even at a level equal to the MRL, does not indicate a health risk. It simply acts as a guideline for checking that a product is being applied correctly.
- The **ARfD** is the highest value that will not harm the consumer after a single exposure. There is currently no universally accepted risk assessment methodology available for establishing an ARfD; therefore, it is calculated using very stringent worst-case assumptions.

A child wearing a wide-brimmed straw hat and a dark blue long-sleeved shirt is shown from the chest up, holding a yellow apple with both hands and taking a bite. The background is a soft-focus green field. The text is overlaid on the upper portion of the image.

LIFE WITHOUT PESTICIDES:

- Harmful pests and diseases damage and infest crops
- Farmers are unable to sell poor-quality produce to retailers
- Stability of high-quality food supply is threatened
- Fresh produce is less available and less affordable to consumers
- Consumers' choice of fresh fruit and vegetables is restricted
- Consumers suffer negative health effects of a diet that is poor in fresh produce

A child wearing a wide-brimmed straw hat and a dark blue long-sleeved shirt is shown from the chest down, sitting on the ground. A woven basket filled with yellow lemons is visible in the lower-left corner. The background is a soft-focus green field. The text is overlaid on the lower portion of the image.

DID YOU KNOW...?

- There are more known carcinogens in a single cup of coffee than in the pesticide residue on food one could comfortably eat in a year.

AGRICULTURE

Without adequate use of pesticides, farmers would quickly find their crops infested, diseased, unattractive and therefore unmarketable. Crop protection makes it possible for farmers to double their yields and grow their crops with more flexibility. As a result, European countries have become more self-sufficient in cereals and other crops, reducing the need to import produce and thereby improving the EU trade balance.

Because pesticides enable farmers to produce healthier, more abundant crops on less land, food manufacturers and retailers can offer food that is affordable to all consumers.

Farmers take pride in what they produce and are concerned about the safety of their crops as much as consumers are.

Farmers are very careful to use and store the products properly, and they precisely assess how and in which quantities products are applied to the crops. The products they've chosen have been thoroughly tested for safety and are made to naturally break down and disappear from the environment.





IF WE REDUCED PESTICIDE USE*:

- **Wheat and grain production falls by 40%**
- **Oilseed production falls by 50%**
- **Fruit and vegetable production falls by over 30%**
- **Revenue of EU farmers and food industry falls by € 10 billion**
- **Total welfare loss in the EU of € 45 billion**

* study based on 75% reduction of pesticide use in EU, Professor Dr P Michael Schmitz, University of Giessen, 2002.



DID YOU KNOW...?

If the world's farmers today got the yields they achieved in 1950, the world would need nearly three times as much cropland to produce today's food supply.

ENVIRONMENT

The need to produce food must be balanced by the need to protect the environment: The crop protection industry invests heavily into researching and developing products that are target-specific, short-lived and do not accumulate in the food chain.



Water protection takes a high priority in EU policy-making. Before any product can be sold, safety and efficacy must be proven to the satisfaction of EU and national authorities. Companies must aim for products which do not appear in ground and surface water when used correctly by the farmer.

With the high yields made possible by pesticides, farmers can produce more food on less land. By ensuring food production on existing land, pesticides help reduce soil erosion, preserve wildlife-rich habitats and so support biodiversity.



DID YOU KNOW...?

The low level of pesticides allowed in drinking water in the EU is equivalent to one part per ten billion (1 in 10,000,000,000) or 4mm on the entire length of the equator.

EU REGULATION

Pesticides are the most highly regulated chemicals in Europe. Every pesticide used in the EU must be evaluated covering everything from physical chemistry and the environment to toxicology, ecotoxicology, analytical methods and residues.

A comprehensive legal framework ensures that appropriate tests are conducted, data meets the highest scientific standards, and local conditions are taken into account. Regular reviews ensure older products meet current safety standards.

Before registration is granted in the EU, more than 100 specific tests of a product's environmental and health impact must be completed. This takes on average 9 years at a cost of € 200 million. Products are approved only if they are effective, can be applied safely and do not pose any unacceptable risks.

Core legislation: **Directive 91/414/EEC**



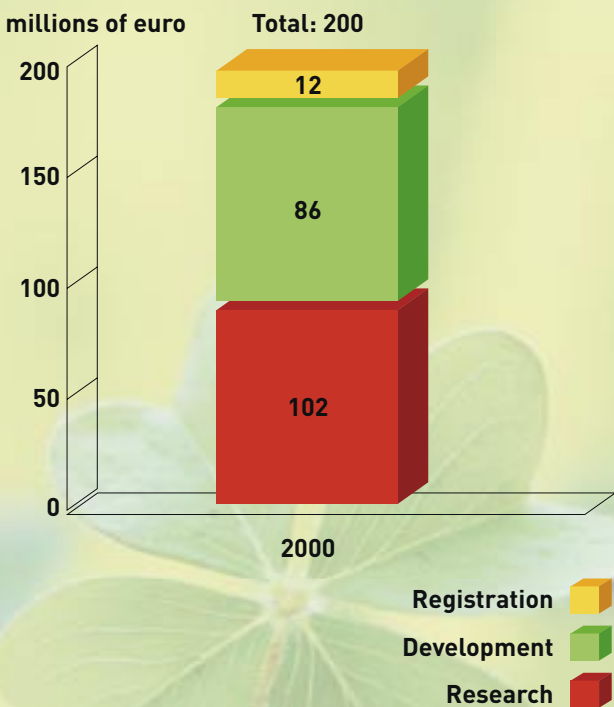
Primary legislation:

Accident Prevention Directive 1996/82/EC
Baby Food Directives 1996/5/EEC and 1991/321/EEC
Biocides Directive 1998/8/EEC
Classification & Labelling Directive 1999/45/EEC
Drinking Water Directive 1980/778/EEC
EFSA Regulation EC(02)178
Endocrine Disruptors COM(01)262
Environmental Liability Directive 2002/17/EEC
Framework for Water Policy Directive 2000/60/EEC
Proposal for Directive on Protection of Groundwater COM(03)550
Proposal for Regulation on Maximum Residue Limits (MRLs) COM(03)117

Other policies:

Common Agricultural Policy (CAP)
Thematic Strategy on Soil Protection COM(02)179
Thematic Strategy on Sustainable Use COM(02)349

DISCOVERY AND DEVELOPMENT COSTS OF A NEW CROP PROTECTION PRODUCT



DID YOU KNOW...?

- Pesticides are the most highly regulated chemicals in Europe.
- For every active ingredient that is registered for use on the market, there are over 139,000 that do not make it past the development stage.
- On average it costs € 200 million and 9 years for a pesticide to be brought to the EU market.

ABOUT ECPA

The European Crop Protection Association (ECPA) is the pan-European representative of the crop protection industry. ECPA represents both member national associations and member companies throughout Europe, including Central and Eastern Europe.

ECPA'S MAIN OBJECTIVES ARE TO:

- **facilitate constructive dialogue between the crop protection industry and the European institutions;**
- **work towards improved understanding and recognition of the crop protection industry's contribution to the production of healthy and high-quality food through sustainable agriculture;**
- **achieve balanced policies and legislation;**
- **provide business support and services to association members.**

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