

## Organisation

**Governing Council**  
High level institutional representation

### External Advisory Board

Representatives of  
Scientific research  
Industry  
Farming  
Consumers  
Environmental groups  
Policy makers

### Executive Committee (coordinator, activity leaders)

#### Building the network

Competence mapping, knowledge management, foresight study, mobility...

#### Joint research

Optimising and reducing product use through case studies, developing innovative strategies, multi-criteria assessment

#### Dissemination

Training, education, technology transfer, communication

### Crop Protection Network

Research networks  
Related EU projects

Research agenda

Virtual laboratory

Information centre

Budget: 11,2 million € from the European Commission FP6 call on Food Quality and Security will provide four years (2007-2010) of support to ENDURE.  
Contract number: 031499

## Participants

### > Research organisations

**Agros**, Agroscope Swiss Federal Research Station > Switzerland

**CIRAD**, Centre de coopération internationale en recherche agronomique pour le développement > France

**CNR**, Consiglio Nazionale delle Ricerche > Italy

**IHAR**, Plant Breeding and Acclimatization Institute > Poland

**INRA**, Institut national de la recherche agronomique > France

**JKI**, Julius Kuehn Institute > Germany

**PRI**, Plant Research International; **PPO**, Applied Plant Research; **LEI**, Agricultural Economic Institute > The Netherlands

**RRES**, Rothamsted Research > United Kingdom

### > Universities

**AU**, University of Aarhus > Denmark

**SSSUP**, Scuola Superiore di Studi Universitari e di Perfezionamento Sant'Anna > Italy

**SZIE**, Szent István University > Hungary

**UdL**, Universitat de Lleida > Spain

### > Extension

**ACTA**, Association de coordination technique agricole > France

**DAAS**, Danish Agricultural Advisory Service > Denmark

### > Industry

**IBMA**, International Biocontrol Manufacturers Association > International

### > Management

**IT**, INRA Transfert > France



## Contact

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European Network for the Durable Exploitation of Crop Protection Strategies



Food Quality and Safety



## > Context

Advances in crop protection have helped boost agricultural yields and consistency, but new concerns about human health and the environment and increased public awareness about the negative impact of pesticides mean **farming systems less reliant on pesticide use** need to be developed.

In Europe, **tougher regulations** on registering plant protection products and protecting water resources are coming into force. In addition, a strategy is being developed to fill the legislative gap regarding the use-phase of pesticides. It is leading to a Directive establishing a framework for Community action on achieving sustainable use of pesticides.

These changes have placed the emphasis on **diversified crop protection strategies** based on new technologies and new approaches, making it imperative that a broader range of tactics be offered to and developed with growers and their advisers.

Stakeholders in this sphere need **independent science-based advice**.

Policy makers, in particular, need it to help them implement the new regulations and, more generally, all interested parties need it as they seek to reach agreement on how to reconcile sustainability and farm productivity.

*ENDURE was launched in January 2007, bringing together more than 300 researchers from 18 partners in 10 countries committed to meeting these needs through the long-term restructuring of European research and development on pesticide use and establishing ENDURE as a world leader in the development of durable pest control strategies.*

**Launching ENDURE**

## > Four integrating themes

Heading into the second year, four themes cutting across all the various ENDURE projects have been identified and provide a coherent approach to achieving its objectives

### Identifying short-term solutions

Farmers facing new constraints require new solutions. ENDURE believes some solutions are achievable in the short term, allowing farmers to respond to the new demands placed on them while remaining competitive.

Significant short-term progress on optimising and reducing pesticide use in existing farming systems can be made by **exploiting the current knowledge and resources** in the ENDURE network to improve farming practices. This is being achieved through the use of **case studies** demonstrating the feasibility of changing farmer practices and transferring crop protection methods already implemented at a research level. Case studies underway address specific problems in wheat, apple and pear, tomato, potato, banana, field vegetables and maize, in addition to integrated weed management.

The best solutions devised and experienced locally in different agro-ecological contexts are being shared and compared to check their relative advantages, possible complementarities and their potential for being extended at the European level.

### Introducing innovative strategies and reducing cropping system reliance on pesticides

In the long-term, optimising existing systems and substituting today's technology and inputs with new devices and material will probably not sufficiently improve agricultural systems made vulnerable by years of reliance on pesticides. Supporting the concept of **integrated pest management (IPM)**, ENDURE is building on and integrating approaches from modelling, the study of plant resistance, decision support systems, landscape ecology, sociology, economics and agro-ecology to revisit the basic design of agricultural systems and generate wholly innovative strategies.

The aim is to reduce the use of chemical pesticides, mitigate their negative environmental impacts and improve agricultural sustainability, integrating innovations from fast-developing areas such as molecular technologies and landscape ecology.

To select the most efficient solutions as early as possible, special emphasis is being given to modelling approaches and to the design of **multi-criteria assessment tools**. Multi-criterion assessment of crop protection methods and cropping systems takes into account a wide range of sustainability criteria which are significant not only for the environment but for the economics of the farming community and for their impact on society as a whole.

In addition, ENDURE is seeking to improve the **basic understanding of crop-pest systems**, with a special focus on pesticide resistance management, durable exploitation of plant genetic resistance, exploitation of natural biological processes, invading and emerging pests and weed biology and management.

### Assembling a permanent research community

The goal of a Network of Excellence such as ENDURE is to create a coherent and sustainable group on a European scale. ENDURE is well placed to achieve this, bringing together a research community committed to the scientific basis and the implementation of sustainable crop protection.

ENDURE is building key components that can be jointly exploited by the scientific community such as a **common research agenda**, identifying gaps in current knowledge and harmonising research programmes to cover unaddressed issues. Long-term research priorities are being defined through a foresight study examining European crop protection heading towards the year 2030.

Another essential component of ENDURE is the **Virtual Laboratory**, which provides the infrastructure needed to overcome the fragmented nature of crop protection research. Further, it creates the scales of research input necessary to exploit new technologies and ensures all necessary scientific support is available for reducing and optimising the use of plant protection products.

Interaction between members is further encouraged by the human resource exchange, an efficient **mobility programme** targeting both experienced scientists and younger researchers.

Links have been established with scientists outside ENDURE by setting up the **Crop Protection Network (CPN)**, which provides exchanges with permanent networks such as the IOBC (International Organisation for Biological Control of Noxious Plants and Animals) and EWRS (European Weed Research Society). The CPN also ensures that advances produced in other relevant EU projects are fully taken into account in ENDURE activities.

To ensure that the information collected and new results produced by ENDURE are effectively put into practice, ENDURE has created the **Information Centre (ENDURE IC)**. For the first time, agricultural advisers are being provided with a European-level point of reference for recommendations and advice. It draws on expertise from across Europe including all aspects of crop protection research and aims at covering all major cropping systems. ENDURE IC will also disseminate more general information on pest incidence, perceived new threats to European agriculture and progress with research on new control tactics.

### Informing policy makers

ENDURE is providing scientific support in response to questions arising from the implementation of the Directive establishing a framework for Community action on sustainable pesticide use.

ENDURE is analysing the drivers and barriers to IPM implementation in order to help policy makers in the different member states identify preferable contextual factors and the possible consequences for the implementation of their own action plans.



Developing biological controls.  
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Managing landscapes.  
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Preparing crops for tomorrow.  
© JKI, B. Hommel

Sharing methods.  
© SZIE



## > Dissemination of results and knowledge

ENDURE encourages links with the wider scientific community, beyond the limits of the network (the first ENDURE International Conference will be held in France in October 2008), and the development of future generations of researchers in crop protection (its first PhD summer school was organized in Italy in 2007).

It also addresses policy makers with scientific advice on IPM implementation and will provide scientific support for a European policy seminar, sponsored by the French Presidency of the Council of the European Union, 'Sustainable Agriculture and Pesticides: What is at stake? What are the options?' in November 2008.

Although its main focus is on crop protection in Europe, ENDURE aims to develop the participation of research teams from INCO (International Cooperation) countries.

