

- Ecophyto 2018 –

Selected items from the French pesticide reduction plan

Drafted 22 June 2009

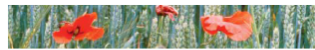
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General context

Among OECD countries and the EU, France is a major agricultural producing country and counts as one of the high pesticide users. Until recently, there is a general agreement among the French crop protection research community that innovation in crop protection for mainstream agriculture has been by-and-large led by the chemical industry. INRA was at the forefront of developing biological control and resistant cultivars, but these efforts have not had a major impact in mainstream agriculture.

History

Pesticides, agriculture and the environment



Reducing the use of pesticides
and limiting their environmental impact

Collective Scientific Expert Report

Executive Summary of the Expert Report written by INRA and Cemagref
in response to a request from the Ministry of Agriculture and Fisheries
and the Ministry of Ecology and Sustainable Development

December 2005



Responding to a demand from the French Agriculture (MAP) and Environment (MEDD) Ministries, INRA and Cemagref jointly delivered in December 2005 a “collective scientific assessment” on the current status of pesticide use in France and prospects for the reduction of its use and impacts. The assessment – based on analysis of 2,300 scientific papers by 30 researchers – marked an institutional turning point signalling that public research recognised

the need for a new approach if results in terms of reduced use and reduced impacts of pesticides are to be achieved. One outcome of this process was an inter-ministerial plan on pesticide risk reduction (PIRRP) which launched Ecophyto R&D, an ambitious research initiative that would lay the groundwork for the adoption of practices that would reduce pesticide use.

In July 2007, the French government launched the “*Grenelle de l’environnement*” a comprehensive multi-stakeholder consultation on environmental protection. The “*Grenelle*” is turning point as well. It marks a change from a long-lasting and non-constructive conflict among stakeholders toward real dialogue among a wide diversity of stakeholders within the context of the French Government’s commitment to support the environmental protection agenda.

Pesticides in the Grenelle de l’environnement



Among the 30 working groups set up by the *Grenelle*, two are pertinent to crop protection:

- The working group “in support of an environmentally-sound and productive agriculture”, from which emerged three proposals to be noted here: Ecophyto 2018, High Environmental Value (HVE) certification of farms, and Energy-efficient farms. The highlighted goal of Ecophyto 2018 is: “to achieve 50% reduction in the use of pesticides by 2018, if feasible”. The Ministry of Agriculture and Fisheries was given the mandate to draft the plan of action under Ecophyto 2018.
- The working group on organic agriculture.

The “*Loi Grenelle 1*” (voted by Senate Feb. 2009) is the first piece of legislation to be passed.

It requires:

- That the total area certified as organic agriculture go from the present 2% to 6% in 2012, and eventually to 20% by 2020.
- That 50% of farms fall under HVE certification by 2012.

- The withdrawal from commercial use of 40 of the most preoccupying pesticides.
- Support for research aiming to reduce pesticide use.
- A 50% reduction in the use of plant production over a ten-year period.

To measure progress toward use reduction, the NODU – *Nombre de Doses Unitaires* – an indicator related to the Treatment Frequency Index was adopted. The NODU is based on nationally aggregated sales of active ingredient and an agreed-upon unit dose for each active ingredient.

There has been much debate over the meaning of the “*if feasible*” qualifier added to the 50% reduction goal. Some have taken it as an invitation to demonstrate that such a reduction would threaten the viability of producing certain crops. In such a case, the objective would be dropped. Others – farmers as well as researchers – have taken it as a challenge to develop new practices or cropping systems that make this goal feasible or, alternatively, to show how certain current innovative practices already contribute to this goal.

A “Loi Grenelle 2” is due to come into force in Fall 2009. It is expected to be more specific, more binding, and will address basic rural law.

The Ecophyto 2018 plan of action



To achieve 50% reduction in pesticide use by 2018, the Ecophyto plan encompasses eight sets of actions to manage risks and monitor impacts, on the one hand, and to reduce cropping system dependence on pesticides, on the other hand.

- Action set n°1: Assess progress in pesticide use reduction.
- Action set n°2: Identify and mainstream means and existing agricultural systems enabling pesticide use reduction by mobilising all research, extension and agricultural development partners.
- Action set n°3: Innovation on the design and development of low pesticide input practices and cropping systems.
- Action set n°4: Training in use reduction and safe use of pesticides.

- Action set n°5: Strengthen surveillance networks on pests and on the monitoring of non-intentional effect of pesticide use.
- Action set n°6: Adaptation to French overseas specificities.
- Action set n°7: Reduce use and improve safety of plant protection products in non-agricultural areas.
- Action set n°8: Overseeing the plan at national and sub-national levels and communication on reduction of the use of plant protection products.

The plan is ambitious. As of April 2009, it calls for the implementation of 105 actions. Only a few of the actions related to research (within set n°3) and the availability of inputs (within set n°2) are highlighted here.

Under set n°3, 14 actions for innovation on the design and development of low pesticide input cropping systems have been agreed to. They cover research efforts on:

- Eco-physiology and population dynamics for the reduction of pest pressure as essential components within a systems or agro-ecological approach.
- Cultivars with low pesticide dependence and steering breeding toward this priority.
- Systems approach for the development of a suite of innovative low-input practices.
- Health and environmental impacts for future adoption considering that current risk indicators are not ready for use at present and noting that the NODU – *Nombre de Doses Unitaires* – the French treatment frequency index adopted does not take risk into account.
- Public policies, social and economic aspects of mainstreaming new practices in terms of barriers and drivers of changes, required organisational changes, needed incentives and an economic evaluation of the consequences brought about by 50% reduction.
- Basic research needed for lower impact molecules via public-private partnerships to ensure access to lower-impact viable active substances.
- Application technologies and approaches.

Set n°3 includes the development of national scenarios on the reduced use of pesticides. This exercise, planned for completion in 2009, will help to identify alternative cropping systems that would result in 50% use reduction overall. It will offer a cost-benefit assessment of these

alternative systems as well as a study on the social processes associated with the scenarios. Results will go toward producing policy recommendations.

A study on the potential of green insurance schemes and their compatibility with existing European and other insurance schemes is also planned under set n°3. Such schemes will cover both the learning phase and compensation of the added risk associated with reducing or foregoing the use of pesticides.

Set n°2 on mainstreaming the means that enable pesticide use reduction is also of particular interest to ENDURE. It identifies two actions to improve the availability of inputs that favour pesticide use reduction. One addresses the need to change the evaluation criteria used in cultivar registration to make varieties adapted to low input more readily available to growers. The other addresses the need to change the evaluation of plant protection products of natural origin that can be used for candidates for substitution and the need to change the process by which biological control agents are authorised.

ENDURE researchers in France consider the Ecophyto plan as both a challenge and an opportunity – particularly if targeted support for research and development does materialise – to generate new Integrated Pest Management solutions that contribute to sustainable development while preserving the competitiveness of European agriculture.