

The publications of the Delegation for Collective Scientific Expertise, Foresight and Advanced Studies

The mission of the Delegation for Collective Scientific Expertise, Foresight and Advanced Studies (DEPE) is to enlighten decision-making in the fields of the environment, agriculture and food. To do so, it pools relevant available knowledge to answer the questions facing public action. In this context, the scientific reports, foresight work and advanced studies produced help to build public policies, provide arguments for debate over social issues and participate in the formulation of new research questions. Such studies mobilise dozens of scientists and experts for several months, culminating in the production of a public report as well as documents of a more general nature intended for a wider audience. All of this work can be found in the publications presented here; current projects are also mentioned on the final page.

The DEPE is composed of about fifteen staff. It carries out **collective scientific expertise** actions in response to requests by Ministries, in particular those in charge of Agriculture, the Environment and Research. These expert reports are based on the analysis, by researchers, of international scientific literature, therefore on knowledge that has been published and validated. The **studies** on the other hand may use less certified knowledge, requiring data processing or ad hoc investigations to be carried out. The DEPE leads **foresight studies**, following external or internal submissions, to construct long term scenarios. It also participates in ANR **foresight workshops** led by INRA at different levels, from methodological support to the implementation of studies. These operations are usually situated at the interface between biotechnical sciences and human and social sciences.



• Collective Scientific Expertise



2010
On line:
Synopsis (8 p.)
Combined report (65 p.)
Full report (277 p.)
Videos of the symposium

Eating patterns What are their determining features? What actions for what effects?

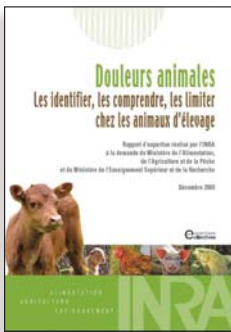
Food is an important element of well-being, a health protection or risk factor, and more generally, a challenge for society with the lengthening of life spans. For several years, public policies have been used to encourage the development of healthy eating patterns. To ensure the success of such policies it is essential to know how food preferences are created. Expert reports have called on epidemiology, nutrition, food science, psychology, sociology, and economics to describe how behaviour patterns are formed and discover the drivers that can be activated to guide them towards diets that are more in keeping with nutritional recommendations.



2006
On line:
Synopsis (8 p.)
Combined report (76 p.)
Full report (380 p.)

Drought and Agriculture Reducing the vulnerability of agriculture to increased risk of water shortage

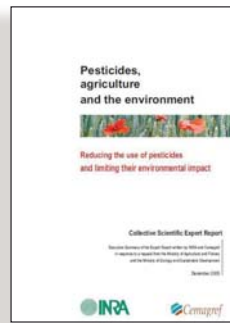
The recurrence of drought episodes, which is liable to increase with the impact of climate change, compels public authorities to examine the capacities of farming systems to adapt to drought conditions. This report approaches the relations between drought and agriculture from two angles: the incidence of agriculture on water resources and the sensitivity of cropping and production systems to water shortages. It explores possible adaptation methods at plant, crop and system level, assesses the possible leeway and the limits of these adaptations, and analyses the organisation of water governance in which agriculture is just one of several players.



2009
On line:
Synopsis in French and English (8 p.)
Combined report (98 p.)
Full report (339 p.)
Videos of the symposium

Animal Pain Identifying, understanding and minimising pain in farm animals

Commissioned by the French Ministries of Agriculture and Research, this expert report sheds light on a central question in the debate on man-animal relationships: what is known about pain in animals, in particular farm animals? How can it be identified, assessed, treated and reduced? This report called on various fields of expertise; researchers in human and social sciences who placed this question in a historical and philosophical context; specialists in human pain who showed that researching and directly observing pain is a recent phenomenon; animal scientists and veterinarians who identified painful situations in livestock farming and indicated margins of progress to limit such cases.



2005 • Editions Quæ
On line:
Synopsis (8 p.)
Combined report French and English (68 p.)
Full report (720 p.)

Pesticides, Agriculture and the Environment Reducing the use of pesticides and limiting their environmental impacts

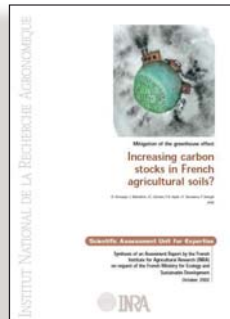
As a large consumer of plant health products, French agriculture is faced with questions as to their use. The Ministries of Agriculture and the Environment commissioned INRA and CEMAGREF to produce a collective scientific expert report reviewing available knowledge on the conditions of pesticide use in agriculture, the means of limiting their impacts and the options for reducing their use.



2008 • Editions Quæ
On line:
Synopsis in French and English (4 p.)
Combined report in French and English (116 p.)
Full report (627 p.)
Videos of the symposium

Agriculture and Biodiversity Benefiting from synergies

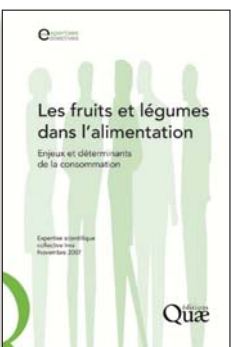
An expert report commissioned by the Ministries of Agriculture and Ecology, assessing current knowledge on the impacts of agriculture on biodiversity, and the services that biodiversity can render to agricultural production processes. It examines methods for better integration of biodiversity into agriculture and reviews tools for public action.



2002
On line:
Synopsis (4 p.)
Combined report French and English (36 p.)
Full report (332 p.)

Mitigation of the Greenhouse Effect Increasing carbon stocks in French agricultural soils?

In the context of the implementation of the Kyoto Protocol, the French Ministry of the Environment has been considering the possibility of promoting organic carbon storage on farming and forestry land. This report reviews the importance, variability and dynamics of carbon storage for the various land uses and cropping practices. It addresses the possibilities of providing evidence of this storage of CO₂ in soils and reports on the economic policy tools that may be used to promote suitable land use changes.



2007 • Editions Quæ
On line:
Synopsis (4 p.)
Combined report (82 p.)
Full report (375 p.)
Videos of the symposium

Fruit and Vegetables in the Diet Issues and factors determining Consumption

Information campaigns such as the "5 fruit and vegetables a day" programme seem to have made little impact on the consumption of these products. However the fruit and vegetable market is an important economic sector. This report assesses the health benefits of fruit and vegetable consumption, and goes on to examine the impact of their production, preservation and processing methods on their nutritional qualities. The socio-demographical, economic and sensorial determinants of consumption are also assessed, and a review is made of the public action means that could improve supply.

• Advanced study

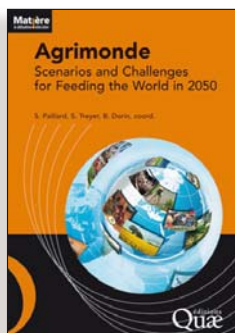


2010
On line:
Synopsis French and English (8 p.)
Combined report (90 p.)
Full report (966 p.)
Player notebooks (68 p.)
Videos of the symposium

Ecophyto R&D How can pesticide use be reduced?

Complementary to the 2005 "Pesticides" report, this study of low pesticide cropping patterns was launched by the INRA in 2007, at the request of the Ministries of the Environment and Agriculture. It brought together experts from research and higher education establishments, as well as farming development organisations and the ministries' technical services. It reviews the agronomic options available for reducing pesticide use and estimates the effects their implementation could have on the national consumption of plant health products whose reduction is written into the Ecophyto Plan 2018.

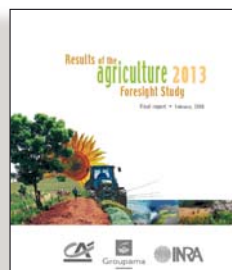
• Foresight



2010 • Editions Quæ French and English
On line:
Booklet in French and English (8 p.)
Combined report in French and English (34 p.)
Videos of the symposium

Agrimonde Scenarios and Challenges for Feeding the World in 2050

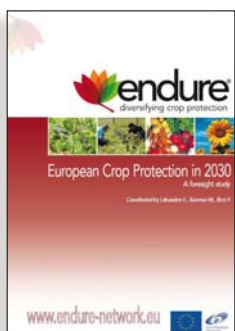
This foresight study explores the possible futures of agriculture and food in the world in 2050. It seeks to identify the fundamental issues confronting agronomic research, so as to provide CIRAD and INRA with the means of anticipating and preparing for the future, in terms of public research systems and priorities as well as their strategic positioning at international level.



2007
On line:
Objectives and methodology
Scenarios
Results per theme
Videos of the symposium

Result of the Agriculture 2013

This foresight study proposes three types of scenarios and analyses their consequences on French and Community agriculture beyond 2013. It invites debate on the objectives of a European agricultural policy, before considering possible additional tools within the framework of the new CAP reform in 2013.



2010
On line:
Combined report in French (39 p.)
Full report in English (82 p.)
Project website: <http://www.endureinformationcentre.eu>

Endure: European Crop Protection in 2030

Conducted within the framework of Endure, the European scientific network of excellence which aims at making farming systems less dependent on pesticide use, this foresight study, which mobilised a group of international experts for two years, has developed an approach to the possible futures of crop protection in Europe in 2030. This exercise notably identified future research priorities on plant protection and formulated recommendations at European level.

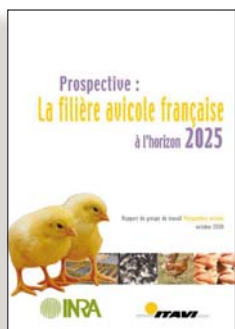
• Foresight reflection workshop



2010
On line:
Workshop results
Synopsis of the workshops
Booklet (12 p.)
Videos of the symposium

Adage Defining research priorities to adapt agriculture and anthropised ecosystems to climate change

Adage is a foresight workshop which identifies the research required to adapt agriculture and ecosystems managed by man, such as forests, grasslands and wetlands, to climate change. Coordinated by INRA, in the framework of an ANR call for projects, it has led to concrete proposals put to the ANR and Ministries concerning a national research strategy.



2009
On line:
Synopsis (7 p.)
Report (90 p.)

The French Poultry Industry in 2025

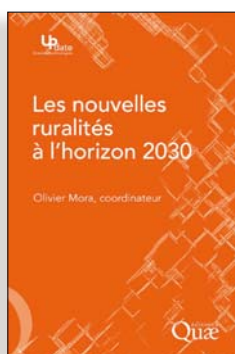
Confronted by increased competition in a context of stabilised consumption, French poultry meat production has dropped by 20 % in 10 years. Exploration of the situation in 2025, through four contrasting scenarios, reveals future challenges and leeway for action for players in the French poultry industry to promote or prevent certain developments.



2010
On line:
Foresight study report (92 p.)
Project website:
<http://www.inra.fr/larpvega>

VEGA Non-food uses of plant biomass in 2050

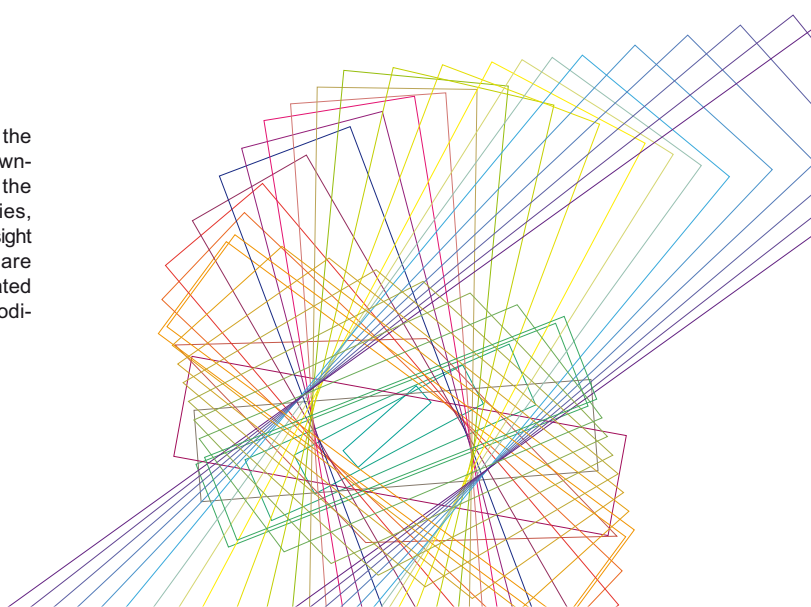
Conducted within the framework of the VEGA workshop, this foresight study explores possible uses of plant biomass for energy and chemistry. It stresses the importance of environmental, geopolitical and societal issues and the driving role of public policies, as well as the different models of possible innovation for socio-ecological transition. Each scenario is analysed from the angle of spatial tensions between food and non-food uses of biomass and the sustainability of production systems.



2008 • Editions Quæ
On line:
Booklet (4 p.)
Combined report (84 p.)
Videos of the symposium

New Ruralities by 2030

Four scenarios were used to illustrate the potential effects of several factors: town-country mobility, economic dynamics in the countryside, governance of rural territories, and natural and heritage resources. This foresight study shows that new forms of rurality are appearing in rural areas. Closely associated with urban dynamics, they produce a geodiversity of territories.



• **Collective Scientific Expertise**



Balance of nitrogen flows connected with livestock farms and other related flows

Whilst a fair number of regulations, directives and international reports underline the environmental impact of livestock, the purpose of this expert report is to review scientific knowledge of nitrogen flows linked to livestock farms to better understand the environmental pressures they cause and consider the possible means for the reduction of these pressures.

To be completed in the autumn of 2011.
Commissioned by the Ministry of Agriculture, Food, Fisheries, Rurality and Town and Country Planning and the Ministry of Ecology, Sustainable Development, Transport and Housing.

• **Advanced Studies**



Inter-cropping Management Using Intermediate Crops

The French programming law of 3 August 2009 concerning the implementation of the Grenelle Environment Forum provided for the generalisation of plant cover in autumn, in particular in vulnerable areas, the major concern being to limit nitrogen losses to streams and rivers. The project aims at establishing "a review of present knowledge of nitrogen management in inter-crop periods and a more thorough investigation with a view to generalising plant cover in autumn".

To be completed in the autumn of 2011.
Commissioned by the Ministry of Ecology, Sustainable Development, Transport and Housing and the Ministry of Agriculture, Food, Fisheries, Rurality and Town and Country Planning



Herbicide Tolerant Plant Varieties

Conducted jointly with CNRS, this is a critical report of the scientific knowledge presently available on varieties of cultivated plants which present the genetic trait of herbicide tolerance, no matter how this trait was obtained. The aim of this analysis is to identify the specific questions posed by their production and use, in terms of agronomic, environmental and socio-economic impacts.

To be completed in the autumn of 2011.
Commissioned by the Ministry of Agriculture, Food, Fisheries, Rurality and Town and Country Planning and the Ministry of Ecology, Sustainable Development, Transport and Housing.



Crop Diversification

This study aims at identifying the main obstacles and opportunities for players in the agro-industrial sectors and farmers, in order to promote greater diversity of cultivars and introduce them into their productive system. Different studies and reports already carried out have in fact shown that crop diversification could be a means of reducing input use. Its introduction may disrupt the highly specialised standard production programmes of the agro-industrial sectors and create new ones.

To be completed in June 2012.
Commissioned by the Ministry of Agriculture, Food, Fisheries, Rurality and Town and Country Planning and the Ministry of Ecology, Sustainable Development, Transport and Housing.

• **Foresight**



The Landes of Gascony Forest

This foresight report investigates contrasting evolution scenarios in which the possible futures of the forest and the forestry industry take place in different territorial configurations. It is a response to two issues: the demand for support prior to public decision-making on territorial planning and the identification of research avenues to anticipate the effects of climate change.

To be completed in the autumn of 2011.
Launched jointly by the Regional Council of Aquitaine and INRA.

• **Foresight reflection workshop**



DUALINE

A foresight study of interactions between food and sustainable development in order to better understand and react to unsustainable food systems. It tackles diets, impact analysis methods, critical points and research requirements, the evolution of Western food systems and finally urban dynamics and the location of production, processing and distribution units.

Launched in November 2009 at the initiative of INRA and CIRAD.



> **To order a publication:**
on-line catalogue and ordering on www.quae.com
> **Documents on line on:**
<http://www.paris.inra.fr/prospective>

INRA

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