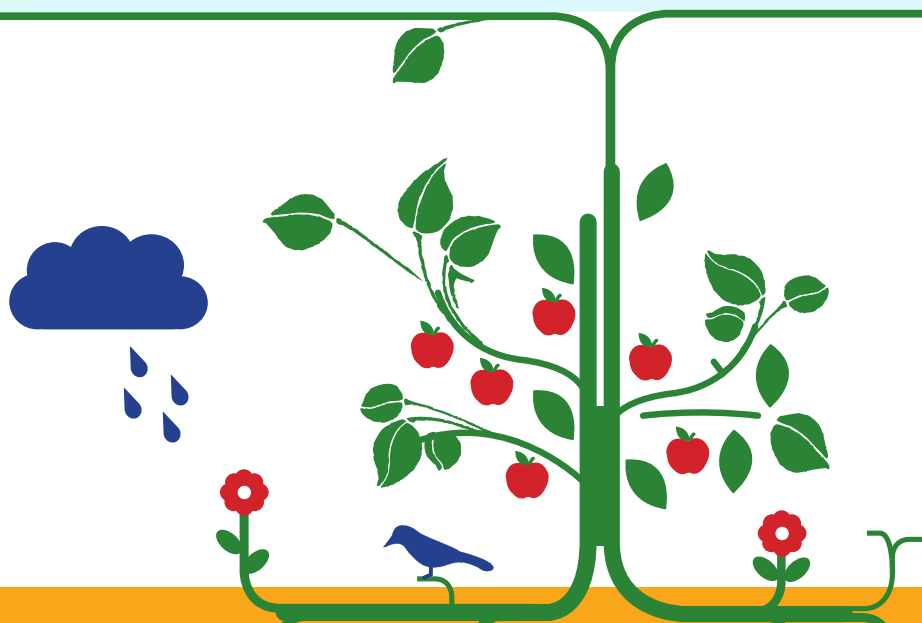




Semaine pour les alternatives aux pesticides
Alternatives to Pesticides Week



INTEGRATED PRODUCTION
Making change possible



Dear reader,

In this booklet you will see the posters which Pesticide Action Network Europe exhibited, in partnership with MDRGF, at the European Economic and Social Committee in Brussels from the 25-31 March to celebrate the Week for Alternatives to Pesticides.

PAN Europe has traditionally focused on getting harmful pesticides banned. This is still essential as many governments' pesticide evaluation lags behind product development by many years and Europe's pesticide approval process has yet to tackle new concerns like endocrine disruption and increased sensitivity by children and foetuses. We have also seen that the latest generation of pesticides being sold by chemical companies is not appreciably safer for the environment or our health. So replacing old pesticides with new won't do much to reduce risks. PAN Europe is therefore stressing that better agricultural practices and management are the best way of ensuring sustainability and high food quality.

Organic agricultural production is the best available practice, but we recognise that integrated production (IP) is often the most realistic short-term option for mainstream farmers. Prolonged lobbying by PAN-Europe and others has put IP on the political agenda as the alternative to high-input agriculture and IP has been adopted as mandatory for all European farmers from 2014. But this major policy success will only benefit the environment and human health if it is successfully implemented. Many players are busy 'greenwashing' pesticide-intensive practices by passing them off as IP. But IP is a holistic approach, a step towards fully sustainable agriculture, beginning with prevention, embracing biological control, and only allowing chemicals as a last resort if non-chemical methods fail.

Our main focus over the next four years is on making IP a success in Europe. PAN Europe and our members in EU countries are forming a major coalition of pro-change groups like IOBC, an international body promoting IP, and IBMA, which promotes biological control, and proactive EU countries including Denmark. We are also identifying tools for change like rewarding the best-performing IP-farmers with Common Agricultural Policy money, realising an independent extension service, and minimum IP regulation.

PAN Europe sees the new policy as an opportunity to change current agricultural practices with their harmful environmental, climatic and health consequences, into a multi-functional IP process providing top-quality food without chemical risks, and preserving biodiversity, the climate and the environment.

I hope you will find the posters of interest.

Kind regards,
Hans Muilerman

President for the Brussels office
Pesticide Action Network Europe





Semaine pour les alternatives aux pesticides

Alternatives to Pesticides Week

ORGANISED BY



European Economic and Social Committee

This exhibition is held in the framework of the Alternatives to Pesticides Week held at the European Economic and Social Committee from 20-30 March 2010



European Economic and Social Committee



Named after our two spotted ladybirds, **Adalia** is a Belgian non-profit association created in 2001 after a successful campaign named 'ladybirds instead of pesticides'. This year we are coordinating, for the third time, the 'Alternatives to pesticides week' campaign, which is supported by the Wallonian Ministry of Environment. www.adalia.be
Our goal is to encourage gardeners, professionals and officials to reduce their consumption of pesticides, particularly those which pollute our natural resources and threaten human health. To do this we tell them about the dangers of using chemical pesticides and advise them on using efficient alternatives.

L'ASBL **Adalia**, du nom latin de la coccinelle à deux points, est une association créée en 2001 suite au succès qu'a rencontré la campagne «Des coccinelles plutôt que des pesticides» menée par le Groupement d'Arboriculteurs pratiquant en Wallonie les techniques de la production intégrée (G.A.W.I. asbl).

Notre objectif est d'encourager les jardiniers, les professionnels et les fonctionnaires à réduire leur consommation de pesticides, en particulier ceux qui polluent nos ressources naturelles et menacent la santé humaine. Pour ce faire, nous leur parlons des dangers de l'utilisation des pesticides chimiques et leur conseillons sur l'utilisation de solutions de remplacement efficaces.



CARI is the bee research and information centre. Based in the Belgian region of Wallonia, it attempts to better respond to the problems faced by bee-keepers in providing a range of appropriate services: information, the periodical 'Abeilles & Cie', training, laboratory analysis of honey, a bee-keeping library, and applied research.

Le **CARI** est le centre apicole de recherche et d'information. Situé en Wallonie, il tente de répondre au mieux aux problèmes auxquels sont confrontés les apiculteurs en leur offrant une série de services adaptés: information, revue Abeilles & Cie, formations, laboratoire d'analyse de miels, bibliothèque apicole, recherche appliquée.

The **Mouvement pour les Droits et le Respect des Générations Futures** (Movement for the Rights and Respect of Future Generations), **MDRGRF**, is a non-profit association created in 1996 by François Veillerette, author of «Pesticides : révélations sur un scandale français», and Georges Toutain, engineer in agronomy. Informing on matters linked with chemical pollutions, in particular pesticides, the MDRGRF denounces the negative consequences of industrial agriculture and promotes true alternatives solutions such as biological agriculture or integrated production.

Le **Mouvement pour les Droits et le Respect des Générations Futures - MDRGRF** est une association sans but lucratif créée en 1996 par François Veillerette, auteur de « Pesticides révélations sur un scandale Français » et Georges Toutain, ingénieur agronome. En informant sur les questions liées aux pollutions chimiques, en particulier les pesticides, le MDRGRF dénonce les conséquences négatives de l'agriculture industrielle et fait la promotion de véritables solutions alternatives telles que l'agriculture biologique ou la production intégrée.



Pesticides Action Network Europe (PAN Europe) is a network of NGO campaign organisations working to minimise negative effects and replace the use of harmful chemicals with ecologically sound alternatives. Our network brings together consumer, public health, and environmental organisations, trades unions, women's groups and farmer associations from across 19 European countries. We work to reduce where possible dependency on chemical pesticides and to support safe sustainable pest control methods

Pesticides Action Network Europe est un réseau d'ONG qui travaillent ensemble pour minimiser l'impact négatif de l'usage des pesticides chimiques et promouvoir les alternatives viables. Notre réseau comporte des associations de consommateur, de santé publique, des organisations environnementalistes, des syndicats, des groupes de femmes et des associations d'agriculteurs venus de 19 pays européens. Notre rôle est de réduire, quand cela est possible, la dépendance aux pesticides chimiques et d'encourager les alternatives viables aux pesticides.

ALTERNATIVES TO PESTICIDES WEEK

Launched in 2006,

Alternatives to Pesticides Week this year celebrates its fourth anniversary. This event, initiated by ACAP (Citizens' Action for Alternatives to Pesticides), a network of French NGOs, and coordinated by MDRGF (Movement for the Rights and Respect for Future Generations), reminds us that it is both urgent and feasible to dispense with pesticides on farms, in the garden or at home.

Thus, in Europe and elsewhere, hundreds of associations, communities, businesses and other groups are putting on lectures, debates, exhibitions, film screenings, performances and tours of gardens and farms, to raise awareness of the dangers posed by pesticides and to present alternative options.

All these activities demonstrate that the issues and environmental and health risks associated with pesticide use are unacceptable and that alternatives to chemical treatments exist and are viable.



ALTERNATIVES TO PESTICIDES WEEK
LA SEMAINE POUR LES ALTERNATIVES AUX PESTICIDES

Lancée en 2006,
la Semaine pour les Alternatives aux Pesticides fête ses 4 ans. Cet événement, initié par un réseau français d'ONG, l'ACAP - Action citoyenne pour les alternatives aux pesticides - et coordonné par le MDRGF - Mouvement pour les droits et le respect des générations futures - nous rappelle qu'il est urgent et possible de se passer des pesticides aussi bien en agriculture qu'au jardin ou chez soi.

Ainsi, en Europe et ailleurs, des centaines d'associations, de collectivités, d'entreprises et autres acteurs proposeront conférences, débats, expositions, projections de films, spectacles, visites, portes ouvertes dans des jardins ou des exploitations agricoles, pour informer des dangers des pesticides et présenter les alternatives possibles.

Toutes ces actions citoyennes entendent démontrer que les problèmes et risques environnementaux et sanitaires liés à l'utilisation de pesticides sont inacceptables et que les alternatives aux traitements chimiques existent et sont viables.





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INTEGRATED PRODUCTION
Making change possible

European Commission logo. This exhibition is held in the framework of the Alternatives to Pesticides Week held at the European Economic and Social Committee from 20-26 March 2010.




INTEGRATED PRODUCTION

Working with nature

Outdoor farming interferes with many values such as environmental and ecological quality, landscape, biodiversity, and greenhouse gas emissions. Modern farming has to juggle all these potentially conflicting interests, while cost-effectively producing high-quality food, feedstuffs and resources. Integrated production is the agro-ecological answer to these challenges.

Integrated production is based on agro-ecological principles, optimising natural resource use, smart integration of various techniques, and reducing external input, while producing high-quality output with as little environmental and ecological impact as possible.

An integral approach. Integrated production requires an integral approach to total farming systems which favour various elements: crop rotation, fertilising, crop protection, soil tillage and ecological infrastructure management. To meet the objectives in one aspect of farming (eg optimal quality, minimum loss) the other aspects should be optimally managed. Many of these technologies and practices have multiple functions. So adopting them requires simultaneous changes in several areas of the farming system.

The key elements in integrated production:

- > **Crop rotation:** Proper crop rotation is the basis for optimal soil fertility management and crop protection. Under economic stress, most crop rotation on European farms is sub-optimal
- > **Integrated nutrient management:** An integral approach optimising nutrient cycles in the farming system, balancing input and output of phosphorus and potassium, maintaining good all-round soil fertility (biological, physical and chemical), cutting erosion and run-off, and minimising external nitrogen input. Nutrient loss is counteracted by appropriate crop rotation, cover crop use, and appropriate soil tillage systems
- > **Integrated crop protection (ICP):** is based on prevention, and good use of all other farming methods to minimise occurrence and potential damage by pests, diseases and weeds. ICP combines biological, physical and chemical methods in sustainable strategies with minimal environmental and ecological impact
- > **Soil tillage:** Soil tillage systems must support optimal crop production, maintain soil fertility and contribute to preventing pests, disease and weeds. Soil tillage is important in relation to water conservation, erosion and nutrient run-off. These are potentially conflicting objectives. In an integrated system, soil tillage should address these issues
- > **Ecological infrastructure management:** Good ecological infrastructure on farms is the basis for developing and maintaining high biodiversity. The infrastructure should enable the flow of flora and fauna. The effectiveness in terms of control of pests and disease by natural enemies is dependent on the size and shape of the fields in relation to the green 'veins' running through the fields and countryside. Management requires designing, establishing and naturally maintaining the ecological infrastructure

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INTEGRATED PRODUCTION LA PRODUCTION INTÉGRÉE

Working with nature

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Travailler avec la nature

L'agriculture interfère avec de nombreux secteurs comme la qualité environnementale et écologique, le paysage, la biodiversité et les émissions de gaz à effet de serre. L'agriculture moderne doit jongler entre tous ces éléments potentiellement conflictuels, tout en ayant une production rentable, économe des aliments, une nourriture pour animaux et des ressources de haute qualité. La production intégrée est la réponse agro-écologique à ces défis.

La production intégrée est fondée sur des principes agro-écologiques, en optimisant l'utilisation des ressources naturelles, l'intégration intelligente des différentes techniques et la réduction des apports extérieurs, tout en produisant de haut rendement de qualité avec aussi peu de répercussions environnementales et écologiques que possible.

Une approche globale. La production intégrée nécessite une approche globale à l'ensemble des systèmes agricoles qui favorisent les différents éléments: rotation des cultures, fertilisation des sols, protection des cultures, travail du sol et la gestion écologique des infrastructures. Pour atteindre au moins l'un des objectifs (par exemple une qualité optimale, une perte minimale) les autres aspects doivent être gérés de façon optimale. Nombre de ces technologies et pratiques ont des fonctions multiples. Donc, les adopter nécessite des changements simultanés dans plusieurs niveaux du système agricole.

Les éléments clés de la production intégrée:

- > **La rotation des cultures:** une bonne rotation des cultures constitue la base pour une gestion optimale de la fertilité des sols et la protection des cultures. Du fait des contraintes économiques, la plus part des rotations menées par les agriculteurs n'ont pas été optimales
- > **Gestion intégrée des éléments nutritifs:** Avoir une approche intégrée en optimisant les cycles des nutriments dans le système agricole, permet de maintenir une bonne fertilité des sols à tous les niveaux (physique, biologique et chimique), stopper l'érosion et les lessivements et minimiser l'apport extérieur d'azote. Les pertes d'éléments nutritifs sont contrecarrées par une rotation appropriée des cultures, par l'utilisation de plantes couvre-sol et par des systèmes appropriés de travail du sol
- > **La protection intégrée des cultures (PIC)** est basée sur la prévention et une bonne utilisation de toutes les autres méthodes de culture visant à minimiser l'apparition et les dommages éventuels causés par les ravageurs, les maladies et les mauvaises herbes. La PIC combine des méthodes biologiques, physiques et chimiques dans des stratégies durables avec un impact environnemental et écologique minimal
- > **Travail du sol:** le travail du sol doit permettre une production optimale des cultures, maintenir la fertilité des sols et contribuer à prévenir les ravageurs, les maladies et les mauvaises herbes. Le travail du sol est important en matière de préservation de l'eau, permet d'éviter l'érosion et le ruissellement des nutriments. Ce sont des éléments pouvant potentiellement être antagonistes. Dans un système intégré, le travail du sol doit répondre à ces problèmes.
- > **La gestion écologique des infrastructures:** une bonne gestion écologique des infrastructures dans les exploitations est une bonne base pour l'établissement et le maintien d'une biodiversité riche. L'infrastructure devrait permettre l'existence de la flore et la faune. L'efficacité en termes de contrôle des ravageurs et des maladies par des ennemis naturels auxiliaires dépend de la taille et la forme des champs en relation avec les corridors verts traversant les champs et les campagnes. Cette gestion nécessite de concevoir, établir et maintenir naturellement une infrastructure écologique



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INTEGRATED CROP PROTECTION (ICP)

Integrated crop protection (ICP)

All aspects of farming may affect the occurrence of pests, disease and weeds. Crop rotation, fertilisation, soil tillage, managing natural elements and ecological infrastructures and crop management, can all influence the occurrence of and potential damage of pests, disease and weeds. If we improve our methods in these areas using agro-ecological principles, we can decrease our use of crop protection in the form of active intervention.

Integrated crop protection combines biological, physical and chemical control methods into sustainable crop protection strategies which reduce the impact on the environment

Prevention is the key to ICP. This includes using sound agro-ecological methods for crop rotation, fertilisation, soil tillage and managing agro-ecological infrastructures for conservation bio-control. Prevention applied to crop management means focusing on cultivar choice, the sowing or planting date, crop density, and fertilisation.

Whenever possible, control of pests, disease and weeds must be based on the assessment of occurrence and potential damage which are available in decision support systems (DSS) or warning systems. Control itself should favour using mechanical, physical, biological and chemical methods in a feasible and cost-effective

approach. Two issues are key where chemicals are used. First, chemicals should be carefully selected on the basis of their agronomic and environmental/ecological properties. Second, use should itself be kept to a minimum and optimised by using low-dose techniques, seed or plant treatments, row applications, optimal spraying technique and good knowledge on weather efficacy interaction. Throughout Europe, ICP has proved to innovate crop protection approaches and produce good results in terms of control and a substantial decline in the use and impact of agrochemicals.

Footnote: IPM is integrated pest management, a concept known worldwide known, which integrates biological and chemical methods. ICP takes it a step further by making crop protection an integral approach in the overall farming system.



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INTEGRATED CROP PROTECTION (ICP)

LA PROTECTION INTÉGRÉE DES CULTURES (PIC)



Integrated crop protection (ICP)

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La protection intégrée des cultures (PIC)

Tous les aspects de l'agriculture peuvent influencer l'apparition de ravageurs, de maladies et de mauvaises herbes. La rotation des cultures, la fertilisation, le travail du sol, la gestion des éléments naturels et des infrastructures écologiques et la gestion des cultures, peuvent tous influer sur l'apparition des ravageurs, des maladies et des mauvaises herbes. Si nous améliorons nos méthodes dans ces domaines, en utilisant des principes agro-écologiques, nous diminuons le recours à la protection chimique des cultures.

La production intégrée des cultures combine des méthodes de lutte biologique, physique et chimique dans des stratégies de protection durables de culture qui réduisent l'impact sur l'environnement.

La prévention est la clé de la PIC. Cela inclut l'utilisation de méthodes agro-écologiques pour la rotation des cultures, de fertilisation, de travail du sol et de gestion agro-écologique des infrastructures. La prévention appliquée à la gestion des cultures met l'accent sur le choix des cultivars, de l'ensemencement ou la date de semis, de la densité des cultures et la fertilisation.



Chaque fois que cela est possible, le contrôle des ravageurs, des maladies et des mauvaises herbes doit être fondé sur l'évaluation du risque et les dommages potentiels qui sont disponibles via les systèmes d'aide à la décision (DSS) ou de systèmes d'alerte. Le contrôle devrait favoriser l'utilisation de méthodes mécaniques, physiques, biologiques et chimiques fondé sur une approche coût-efficace. Deux questions sont essentielles :

- > Où les produits chimiques sont utilisés ? Tout d'abord, les produits chimiques doivent être soigneusement sélectionnés sur la base de leurs propriétés agronomiques et environnementales.
- > Deuxièmement, ils doivent être réduits au minimum et optimisés en utilisant des techniques à faible dose, des traitements de semences ou de plantes, des applications en ligne ou une technique optimale de pulvérisation.

Au travers toute l'Europe, la PIC a prouvé qu'elle pouvait innover dans des méthodes de protections des cultures et produire de bons résultats en terme de contrôle et de réduction de l'utilisation et de l'impact des agrochimiques.

Référence: IPM est la gestion intégrée des ravageurs. C'est un concept mondialement reconnu qui intègre des méthodes biologiques et chimiques. La PIC, s'enrichit plus loin en faisant de la protection des cultures une approche intégrée dans le système agricole global.



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BIO DIVERSITY

Biodiversity is vital: Reducing pesticide dependency

Pesticides have a major effect on biological diversity. They can have short-term toxic effects on exposed organisms, and long-term effects can result from changes to habitats and the food chain.

What is biodiversity?

Biodiversity is our life. Biological diversity spans the immense range of ecosystems, species and individuals.

Why is biodiversity important?

Charles Darwin and Alfred Wallace recognised the importance of biodiversity for ecosystems, suggesting that a diverse mix of crop plants is more productive than monoculture. Recent studies confirm that an intact, diverse community generally performs better than one which has lost species.

How pesticides influence biodiversity

Pesticides harm all creatures. Insecticides, rodenticides and fungicides and the more toxic herbicides all threaten wildlife. Some pesticides directly poison species, causing major population decline. Other pesticides accumulate in the food chain. Non-targeted predatory mammals (eg dogs and foxes) and raptors often suffer 'secondary poisoning' by eating poisoned mice. Pesticides can also decimate weeds and insects which are important food sources. Despite decades of European policy banning harmful pesticides, their damaging effects on wild plants and animals persist. To restore biodiversity and create opportunities to grow crops using biodiversity-based ecosystem services (eg biological pest control), there must be a Europe-wide shift to minimal pesticide farming.

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We need a biodiversity rescue plan

The UN Convention on Biological Diversity requires EU countries to set targets for biodiversity conservation. The 2010 objectives to halt further biodiversity loss need a new rescue plan for 2020, with clear targets, deadlines and stringent monitoring.

Among other things, this means strictly enforcing new regulations on the authorisation of plant protection products, tough national implementation of the new directive on the sustainable use of pesticides, and the post-2013 reform of the Common Agricultural Policy.

The key target here must be for farmers to apply sustainable agricultural practices (integrated production). Farmers must also be obliged to sign a contract which stipulates the preventive measures they will take to discourage pests and, more generally, how they will protect human health, the environment, and biodiversity, and what special measures they will take to combat climate change.

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La biodiversité est indispensable. Comment réduire la dépendance vis-à-vis des pesticides

Les pesticides ont un effet majeur sur la diversité biologique. Ils peuvent avoir des effets toxiques à court terme sur les organismes exposés, et des effets à long terme peuvent découler de la modification des habitats et de la chaîne alimentaire.

Qu'est-ce que la biodiversité?

La biodiversité c'est le vivant. La diversité biologique englobe l'immense éventail des écosystèmes, des espèces et des individus.

Pourquoi la biodiversité est-elle importante?

Charles Darwin et Alfred Wallace ont reconnu l'importance de la biodiversité pour les écosystèmes, et ils ont suggéré qu'un mélange varié de plantes de culture est plus productif que la monoculture. Des études récentes confirment qu'une population diversifiée et préservée est généralement plus performante qu'une population qui a perdu des espèces.

Comment les pesticides influencent-ils la biodiversité?

Les pesticides peuvent nuire à l'ensemble des êtres vivants. Les insecticides, les rodenticides, les fongicides et les herbicides les plus toxiques menacent la faune et la flore. Certains pesticides empoisonnent directement les espèces, avec le résultat d'un déclin important de la population. D'autres pesticides s'accumulent dans la chaîne alimentaire. Des mammifères prédateurs non ciblés (par exemple, les chiens, les renards ou encore les rapaces) sont souvent victimes d'"empoisonnement secondaire" après avoir mangé des animaux empoisonnés. Les pesticides peuvent aussi décimer les mauvaises herbes et les insectes qui sont des ressources alimentaires importantes. Malgré des décennies de politiques européennes qui ont interdit certains pesticides mortels, les effets néfastes de ces derniers sur les plantes et les animaux sauvages persistent. Si l'on veut restaurer la biodiversité et utiliser des alternatives aux produits chimiques (par exemple, la désinsectisation biologique), il faudra établir une politique européenne visant à réduire l'usage des pesticides en milieu agricole.

Nous avons besoin d'un plan de sauvetage pour la biodiversité

La Convention des Nations Unies sur la diversité biologique oblige les pays de l'UE à établir des objectifs pour la conservation de la biodiversité. Les objectifs 2010 visant à arrêter la perte de la biodiversité ont besoin d'un nouveau plan de sauvetage à horizon 2020, qui propose des objectifs clairs, des délais et des contrôles rigoureux.

Entre autres choses, cela implique l'application stricte de la nouvelle réglementation relative à l'autorisation des pesticides, une application nationale stricte de la nouvelle directive sur l'utilisation durable des pesticides, et la réforme post-2013 de la Politique Agricole Commune.

L'objectif clé pour les agriculteurs, sera d'avoir recours à des pratiques agricoles durables (exemple: la production intégrée). Les agriculteurs doivent également signer un contrat qui stipule les mesures préventives afin de décourager les ravageurs et, plus généralement, qui vise à protéger la santé humaine, l'environnement et la biodiversité, et qui suggère les mesures particulières à prendre pour lutter contre le changement climatique.

INTEGRATED PRODUCTION
Making change possible



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CLIMATE CHANGE AND AGRICULTURE

Agriculture is a major contributor to climate change. According to the International Panel on Climate Change it accounts for up to 12% of all man-made greenhouse gas emissions

How does agriculture contribute to climate change?

Synthetic nitrogen fertiliser is the biggest contributor to climate change in agriculture owing to the potent greenhouse gas N₂O (nitrous oxide). Methane from cows and sheep is the second largest source. An even greater agriculture-related source is land conversion.

Can agriculture help reduce climate change?

Yes. We must halt land conversion and forest destruction. Our consumption must be cut to relieve pressure on newly-converted land. Meat consumption must be slashed and first generation biofuel production shelved.

Mitigating climate change in agriculture

Reducing our reliance on synthetic fertilisers in European farming and replacing them with animal manure, compost, green cover crops and more legumes in crop rotation would also help reduce our reliance on pesticides. Increasing the soil's organic matter from natural sources increases the number of beneficial micro-organisms, which helps crops cope better with disease-causing organisms. Excessive use of synthetic fertilisers often produces lush crop foliage which attracts more pests and diseases, leading farmers to apply more insecticides and fungicides.

Agriculture: A source of car fuel?

Growing fuel crops on fertile land does not help mitigate climate change. Climate gases released during production and the indirect change of land-use outweigh any benefits. This is true of most of the current 'first generation' fuels from food crops

Agriculture and animal products

A non-vegetarian diet requires 2.9 times more water, 2.5 times more primary energy, 13 times more fertiliser, and 1.4 times more pesticides than a vegetarian diet.

What must we do?

- **Crop management**
Agriculture should be transformed to integrated production (and ultimately organic farming), abandoning high-input agriculture, rejecting our current dependency on synthetic agrochemicals. The transition can deliver climate-neutral agriculture, producing high-quality food and feed.
- **Climate change adaptation**
Adapting to climate change requires a robust agricultural system which can deal with changes in climate and pests. Integrated production is a hardy system which deploys preventive measures and is the best way to prepare for adaptation to climate change.
- **Animal products**
If everybody had one meat and milk-free day each week, we would save 100m hectares of land and some 1 gigatonnes of CO₂-equivalent and the related climate change gases. Wealthier countries should lead the way given their huge meat consumption, but other countries including Brazil and China should strive for lower meat consumption. The substitution of soy beans from Latin America with leguminous crops (eg beans, peas) in Europe also contributes greatly to reducing climate change and forest destruction. The CO₂ production of ruminants can also be reduced by modifying feed.

CLIMATE CHANGE AND AGRICULTURE
CHANGEMENTS CLIMATIQUES ET AGRICULTURE

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CLIMATE CHANGE AND AGRICULTURE
CHANGEMENTS CLIMATIQUES ET AGRICULTURE

L'agriculture est l'un des secteurs économiques contribuant le plus à la production de gaz à effet de serre.

De quoi contribue l'agriculture au changement climatique?
En agriculture, les engrais azotés synthétiques sont la première source de changement climatique en raison du puissant gaz à effet de serre N₂O (protoxyde d'azote). Le méthane provenant des vaches et des moutons est la seconde source la plus importante.

Est-ce que l'agriculture peut contribuer à la réduction des changements climatiques?
Oui. Nous devons arrêter la destruction des forêts et la conversion des espaces agricoles en terres agricoles. Notre consommation doit être moins importante pour soulager la pression sur les terres nouvellement converties.

Diminuer l'impact de l'agriculture sur le changement climatique
L'agriculture européenne doit réduire sa dépendance aux engrais azotés synthétiques et être remplacée notamment par des engrais organiques (du fumier animal), par de nouvelles pratiques agricoles comme la rotation des cultures, la mise en place de cultures de couverture, l'augmentation de la matière organique du sol provenant de sources naturelles augmente le nombre d'organismes bénéfiques et aide les plantes à résister à leurs ennemis pathogènes.

L'agriculture: Une source de carburant pour les voitures?
L'augmentation des cultures destinées à produire du carburant pour les voitures ne contribue pas à réduire le phénomène de changement climatique. Les gaz à effet de serre induits par la production de ces agrocarburants et la transformation des terres dédiées à ce type de cultures annulent les avantages éventuels de ces agrocarburants.

L'agriculture et la production animale
Une alimentation non-végétarienne nécessite 2,9 fois plus d'eau, 2,5 fois plus d'énergie primaire, 13 fois plus d'engrais, et 1,4 fois plus de pesticides qu'une alimentation végétarienne.

Que devons-nous faire?

- **Gestion des cultures**
L'agriculture européenne doit être transformée en système agricole durable qui peut faire face aux changements climatiques et aux ravages. La production biologique est un système durable qui dépasse des mesures préventives et adapte le système à la modification pour préparer l'adaptation au changement climatique.
- **Adaptation au changement climatique**
L'adaptation au changement climatique nécessite un système agricole durable qui peut faire face aux changements climatiques et aux ravages. La production biologique est un système durable qui dépasse des mesures préventives et adapte le système à la modification pour préparer l'adaptation au changement climatique.
- **Production animale**
Si chaque pays avait un jour sans viande ou lait (un jour végétarien) 100 millions d'hectares de terres et près de 1 gigatonne d'équivalent CO₂ de gaz à effet de serre et de changements climatiques. Les pays riches doivent montrer le bon exemple en réduisant leur consommation importante de viande, notamment de porc, de bœuf et de poulet. Le Brésil ou la Chine devraient s'efforcer de réduire leur consommation de viande. La substitution de soja (provenant du Brésil) par des légumineuses (comme les pois, les fèves) en Europe contribue grandement à réduire le changement climatique et la destruction des forêts.

MIPROF

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FOOD CONTAMINATION

Food contamination caused by pesticides

In September 2008, the maximum legal level of pesticides allowed in food sold in the EU dramatically increased in several countries, as national food standards across the EU were harmonised to respect Regulation (EC) 396/2005 on maximum residue levels (MRLs) in food.

In 2005, the European Parliament and Council passed this Regulation which stipulated that new MRLs "should be set at the lowest achievable level consistent with good agricultural practice". However, as it considered each pesticide, the Commission chose to apply the limit in force in the country with the worst safety limit as the new EU standard.

Greenpeace and Global 2000 jointly published a study in August 2008 which showed that several hundred residue limits under the new law are unsafe, according to the EU's own standards. In particular, children's health might now be at risk from eating apples, pears, grapes, tomatoes and peppers.

What is more, this raised level is also not assessed on combination effects of pesticide residues so could in many cases be very risky. The hard-to-understand Regulation 396/2005, following pressure from the European Parliament, does state that the new MRLs should take account of cumulative and synergistic effects, when assessment methods are available. Although such knowhow exists, it was not used to help set the new MRLs.

Analysing 'cumulative and synergistic' effects is not confined to how poisonous a pesticide is. The process also takes account of the number of

pesticides people to which people are simultaneously exposed. But risk assessments and decisions under the current system are not based on any such comprehensive scientific point of view.

This is a problem, especially for children, who are particularly vulnerable during the first stage of their lives, and especially in the womb. Endocrine-disrupting chemicals are a worry because they can cause harm even in small doses. Chemicals which hamper a child's development are also a major concern. Their side effects in later life may include problems with memory, learning, and motility, and attention deficit hyperactivity disorder.

**FOOD CONTAMINATION
LA CONTAMINATION DES
ALIMENTS**

La contamination des aliments causée par les résidus de pesticides

En septembre 2008, le niveau maximal légal de pesticides autorisés dans les aliments vendus dans l'UE a augmenté de façon importante dans plusieurs pays. Cela est dû à l'harmonisation des normes alimentaires nationales de l'UE visant à respecter le règlement (CE) 396/2005 sur les limites maximales de résidus (LMR) dans les aliments.

En 2005, le Parlement européen et le Conseil européen ont adopté le présent règlement qui stipule que les nouvelles LMR devraient être fixées au niveau raisonnablement le plus bas et être compatibles avec les bonnes pratiques agricoles. Toutefois, après examen de chaque pesticide, la Commission européenne a choisi d'appliquer ces nouvelles limites de sécurité européennes sur les seuls en vigueur de pays ayant les plus mauvaises limites de sécurité.

En août 2008, Greenpeace et Global 2000, ont conjointement publié une étude qui a montré que des centaines de LMR, en vertu de ce nouveau règlement, ne sont pas sûres, selon les normes établies par l'UE elle-même. Ces normes posent problème quant à la santé des enfants qui pourraient avoir des risques plus importants de contamination lorsqu'ils mangent des fruits et légumes tels que des pommes, des poires, des raisins, des tomates ou des poivrons.

De plus, cette révision à la hausse des LMR ne prend pas en compte les effets combinés des résidus de pesticides qui pourraient dans bien des cas être synergiques. Le règlement 396/2005, sous la pression du Parlement européen, précise que les nouvelles LMR doivent prendre en compte les effets cumulatifs et synergiques, lorsque les méthodes d'évaluation sont disponibles. Or, les effets combinés n'ont pas été pris en compte dans le processus de décision des nouvelles LMR.

L'analyse des effets 'cumulatifs et synergiques' ne se limite à la toxicité des pesticides. Il prend également en compte le nombre de pesticides auxquels les gens sont exposés simultanément. Aujourd'hui, l'évaluation des risques et les décisions prises par la suite ne se basent pas sur les données scientifiques disponibles.

Les enfants sont particulièrement vulnérables pendant les premières étapes de leur vie, notamment in utero. Les produits chimiques qui perturbent le système endocrinien sont la cause de divers problèmes et peuvent provoquer des dommages, même à faibles doses. Certains produits chimiques qui entravent le développement de l'enfant sont particulièrement préoccupants. Leurs effets secondaires apparaissent parfois, plus tard, dans le développement de l'enfant et se traduisent par exemple par des problèmes de mémoire, d'apprentissage, des problèmes psychologiques des troubles du comportement notamment de l'hyperactivité.

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CHILDREN AND PESTICIDES

Why are children more vulnerable to pesticides than adults?

We should not see children as smaller versions of adults. Their bodies are still developing and they cannot get rid of toxic substances as efficiently as adults.

Children absorb more pesticides from the fruit and cereals they eat.

They often play on land where pesticides or herbicides have been used and are more likely to put their hands in their mouth.

Children breathe more than adults so they absorb more pesticides.

How do pesticides harm children's health?

- > Increasing the risk of asthma
- > Contributing to rising childhood cancer rates
- > Contributing to learning disabilities which affect one in six children
- > Potentially contributing to birth defects of baby boys' sexual organs

A recent survey on pesticide use in British schools from the Health and Environment Alliance's (HEAL) 'Sick of Pesticides' campaign found that children may be exposed to pesticides, including possible cancer-causing chemicals, which carry major negative health impacts. The results show it is high time to make schools and other areas where children spend time 'pesticide-free' areas.



The Health and Environment Alliance (HEAL) raises awareness of how environmental protection improves people's health, and works to promote health through strengthening European policies. HEAL is a diverse network of over 60 citizens, patients, health professionals, women's and environmental groups. www.env-health.org and www.pesticidescancer.eu

CHILDREN AND PESTICIDES

LES ENFANTS ET LES PESTICIDES



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Les enfants et les pesticides

Pourquoi les enfants sont-ils plus vulnérables aux pesticides que les adultes ?

Les enfants ne sont pas que des petits adultes, leur corps est en cours de développement et ne peut pas éliminer les substances toxiques aussi bien que celui des adultes.

A poids égal, les enfants absorbent davantage les pesticides contenus dans les fruits et les céréales qu'ils mangent.

Les enfants jouent sur le sol où des pesticides et des herbicides peuvent être utilisés et sont davantage susceptibles d'en ingérer en mettant les mains à la bouche.

Les enfants respirent proportionnellement davantage que les adultes et absorbent donc plus de pesticides.

Comment les pesticides affectent la santé des enfants?

- > En augmentant le risque d'asthme
- > En contribuant à augmenter les risques de cancer de l'enfant
- > En contribuant aux troubles de l'apprentissage qui touchent 1 enfant sur 6
- > En contribuant potentiellement aux malformations des organes reproducteurs des garçons à la naissance

Une étude récente sur l'utilisation des pesticides dans des écoles réalisée par HEAL l'Alliance européenne pour l'Environnement et la Santé dans le cadre de sa campagne Pesticides et Cancer montre que les enfants exposés à des pesticides peuvent développer des pathologies, comme le cancer. Les résultats montrent qu'il est grand temps de faire des écoles et des autres lieux de vie des enfants des « zones sans pesticides ».

Health and Environment Alliance (HEAL) a pour objectif d'améliorer la prise de conscience du lien entre protection de l'environnement et amélioration de la santé de l'Homme. Pour cela, HEAL oeuvre chaque jour pour la promotion de la santé auprès des instances Européennes. HEAL est un réseau divers de plus de 60 citoyens, patients, professionnels de santé, groupe de femmes et associations environnementalistes. www.env-health.org



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Bilder courtesy of Getty Images. This exhibition is held in the framework of the Alternatives to Pesticides Week held at the European Economic and Social Committee from 20-30 March 2012

IP AND THE CAP

Integrated production: The backbone of the new Common Agricultural Policy

SUSTAINABLE PRACTICES			
Crop	Banned practice	Mandatory practice	Voluntary practice covering among others
Cucumber	Use of synthetic insecticides	Use of mildew-resistant varieties	Use of biological control against fungi pests
Apple	Use of upward-spraying equipment	Use of pheromones against fruitmoth	
Potatoes	Use of late blight -vulnerable varieties	Potato growing rotation minimum 1 in 3 years in same field Use of decision-supporting systems for late blight	
Strawberries	Phytophthora/verticillium/mildew-vulnerable varieties	Use of decision-supporting systems for Botrytis	Use of biological control against spider mite

Today's agricultural practices contribute to several persistent environmental problems such as climate change, water contamination and biodiversity scarcity and loss. It is time for the European farming model to provide solutions instead of problems.

The post-2013 Common Agricultural Policy (CAP) reform needs to see transition towards sustainable agricultural practices so as to keep our soil, water, plants, animals, and ourselves, healthy.

The best way to do this is by encouraging more natural agro-ecosystems. Integrated production systems, starting with integrated pest management (IPM) should become the priority for conventional farmers, to encourage a 'prevention first' approach of which defines prohibited, mandatory and voluntary practices for each crop. These preventive measures go hand-in-hand with soil conservation measures and the reduction of chemical fertiliser use of. These ensure that the system becomes less vulnerable to pests, diseases, and extreme weather.

Given that EU farmers are not paid to comply with EU law, they should not be compensated for avoiding banned practices as from 2014. From that date, and if possible earlier, all farmers should be required to draft a strategic management plan (and IP contract) if they wish to receive CAP funding, containing clear preventive plans for which agricultural practices they aim to follow to increase resilience and prevent pest infestation.

To launch sustainable agriculture in the EU as a mainstream activity, the post-2013 CAP must be based on crop-specific EU guidelines, identifying basic agronomic techniques which land managers must apply to receive a flat-rate payment ('1st pillar support' in CAP terms), including elements to

prevent pests from appearing, a crop rotation system, cultivar choice, sustainable soil management to maintain and improve soil fertility, and the re-establishment of ecological compensation areas.

Trailblazers, if they wish, should be encouraged morally, technically and financially to be even more ambitious. This kind of initiative includes further preventive measures, using non-chemical alternatives in pest management, and using pesticides only as a last resort, though the rural development programme.

The CAP will retain its current form, but the underlying philosophy will evolve away from a system which focused on giving farmers income support, into one where farmers are paid to provide public goods. A CAP which encourages sustainable agricultural practice which are better protecting soil, water, biodiversity and our farmers. The latter will have clearer objectives greater stability, and a more resilient production system.

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La politique agricole commune à horizon 2013. Une occasion de promouvoir la production intégrée

SUSTAINABLE PRACTICES			
Culture	Pratiques interdites	Pratiques obligatoires	Pratiques volontaires
Citrus	Utilisation d'insecticides synthétiques	Utilisation de variétés résistantes aux maladies	Utilisation de la lutte biologique pour lutter contre les insectes ravageateurs
Pommes	Utilisation d'équipement de pulvérisation vers le haut	Utilisation de phéromones pour lutter contre les papillons de nuit	
Pommes de terre	Utilisation de variétés vulnérables aux maladies	Rotation des cultures minimum 1 an dans le même champ	
Fraises	Utilisation de variétés vulnérables aux maladies	Utilisation de systèmes d'aide à la décision pour la botrytis	Utilisation de la lutte biologique contre le tétranyque

Certaines pratiques agricoles actuelles contribuent à la persistance de problèmes environnementaux tels que le changement climatique, la contamination de l'eau et la perte en biodiversité. Il est temps pour le modèle agricole européen de fournir des solutions plutôt que de générer des problèmes. La Politique Agricole Commune (PAC) à l'horizon 2013 devrait assurer une transition vers des pratiques agricoles durables afin de maintenir nos sols, l'eau, les plantes, les animaux et les Hommes en bonne santé. La meilleure façon d'y parvenir est d'encourager des agro-écosystèmes plus naturels. Les systèmes de production intégrés, en commençant par la lutte intégrée (LPI) devraient être la priorité pour les agriculteurs conventionnels, afin d'encourager une politique «de prévention» qui définit les pratiques interdites, obligatoires et volontaires pour chaque culture. Ces mesures préventives sont complémentaires des mesures de conservation des sols et de réduction de l'utilisation d'engrais chimiques. Grâce à cela, le système devient moins vulnérable aux parasites, aux maladies et aux conditions météorologiques extrêmes. Étant donné que les agriculteurs de l'UE ne sont pas payés pour conformer à la législation européenne, ils ne devraient pas non plus être indemnisés pour éviter les pratiques interdites à partir de 2014. À partir de 2014, tous les agriculteurs devraient être obligés de rédiger un plan de gestion stratégique (et un contrat) s'ils souhaitent recevoir des fonds de la PAC, contenant des plans clairs de prévention pour lesquels les agriculteurs visent à suivre pour augmenter la résilience et prévenir l'infestation de ravageurs. Pour lancer l'agriculture durable dans l'UE, la PAC à l'horizon 2013 doit être fondée sur des conseils «culture-appropriés» de l'UE, en identifiant les techniques agronomiques de base. Les gestionnaires des terres reçoivent une rétribution forfaitaire (1^{er} pilier) de la PAC, des éléments pour empêcher les parasites de se développer, un système de rotation des cultures, le choix des cultures, la gestion durable des sols pour maintenir et améliorer la fertilité des sols, et le rétablissement des surfaces de compensation écologique. Les leaders, s'ils le souhaitent, devraient être encouragés moralement, techniquement et financièrement pour être encore plus ambitieux. Cette initiative inclut des mesures préventives supplémentaires, utilisant des alternatives non chimiques dans la lutte antiparasitaire, et n'utilisant des pesticides chimiques qu'en dernier recours. La PAC conserve sa forme actuelle, mais la philosophie sous-jacente évoluera d'un système axé sur l'aide aux agriculteurs à un système axé sur le paiement des services écosystémiques fournis par les agriculteurs durables, protégés au moins les sols, l'eau, la biodiversité et notre santé. Ceci est la meilleure solution pour la société et pour nos agriculteurs. Ces derniers auront des objectifs plus clairs, une plus grande stabilité et un système de production plus résilient.

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CAP AND NCAs

How the common agricultural policy can support integrated production

Agri-environmental measures form part of the Common Agricultural Policy's (CAP) rural development programme and are designed to encourage farmers to protect and enhance their farms' environment. It pays farmers in return for a service : delivering agri-environmental commitments which involve more than just good farming practice.

Generally, the agri-environmental scheme follows at least one of two objectives : reducing the environmental risks associated with modern farming, and preserving nature and cultivated landscapes.

To help reduce environmental risks, several member states stipulate the reduction of fertilizer and pesticide use as part of the 'integrated farming' approach, which must be combined with crop rotation. It is open to question to what extent this is seriously applied at present.

To restore Europe's biodiversity and create opportunities for crop production using biodiversity-based ecosystem services like biological pest control, there must be a pan-European shift to farming with minimal pesticides use over large areas.

The EU has recently taken action by means of Directive 2009/128/EC on the sustainable use of pesticides which obliges EU farmers to apply integrated pest management as from 2014. The first step must be for member states to begin adjusting their rural development programmes to offer the necessary technical support in the form of advisory systems, training, and access to biological control agents. Some EU countries

shave already begun. For example, the Flemish Agency for Agriculture and Fisheries, has recently launched a new agri-environment measure: 'confusion technique in apple and pear growing'(pheromone technology) against the codling moth in the pipfruit sector.

To be eligible for these grants, fruit farmers must use the confusion technique for five years over an area of at least 1 hectare. The growers receive an annual payment of 250 per hectare received if they apply this technique.

The next step must be to oblige member states to develop incentives to farmers to help them practice integrated pest management as from 2014.

CAP AND NCAs
LES ALTERNATIVES NON-CHIMIQUES ET LA PAC

Les alternatives non chimiques et la politique agricole commune

How the common agricultural policy can support integrated production

Agri-environmental measures form part of the Common Agricultural Policy's (CAP) rural development programme and are designed to encourage farmers to protect and enhance their farms' environment. It pays farmers in return for a service : delivering agri-environmental commitments which involve more than just good farming practice.

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Les mesures agro-environnementales font partie du programme de développement rural de la Politique Agricole Commune (PAC) et sont conçues pour encourager les agriculteurs à protéger et à améliorer l'environnement de leurs exploitations agricoles. La PAC rétribue les agriculteurs en contrepartie d'un service : avoir des engagements agro-environnementaux qui impliquent plus que de simples bonnes pratiques agricoles.

En général, les objectifs du programme agro-environnemental sont les suivants : réduire les risques environnementaux associés à l'agriculture moderne et la mise de place d'actions de préservation de la nature et des paysages cultivés.

Pour aider à réduire les risques environnementaux, plusieurs Etats membres prévoient la réduction des engrais et des pesticides dans le cadre de la "production intégrée". Cela doit être combiné avec la rotation des cultures. Dans quelle mesure cette méthode est appliquée aujourd'hui ?

Pour restaurer la biodiversité en Europe et créer des opportunités pour l'agriculture en utilisant des services basés sur la biodiversité des écosystèmes comme le contrôle biologique des ravageurs, il faut que les agriculteurs s'engagent à utiliser moins de pesticides sur de grandes superficies.

L'UE, au travers de la directive 2009/128/EU sur l'utilisation durable des pesticides oblige les agriculteurs de l'UE à appliquer la gestion intégrée des ravageurs à partir de 2014. Dans un premier temps, les Etats membres doivent ajuster leurs programmes de développement rural pour offrir le soutien technique nécessaire en terme de conseil, de formation, et d'accès à des agents de contrôle biologiques. Certains Etats membres ont déjà commencé. Par exemple, l'Agence flamande pour l'agriculture et la pêche, a récemment lancé une nouvelle politique agricole pour évaluer l'environnement: «technique de confusion pour le pommier et le poirier contre le carpocapse».

Pour obtenir ces subventions, les arboriculteurs doivent utiliser cette technique de confusion sexuelle dans les cinq ans sur une superficie d'au moins 1 hectare. Les producteurs reçoivent une indemnité annuelle de 250 € par hectare concerné, si ils pratiquent cette technique.

L'étape suivante doit consister à obliger les Etats membres à inciter les agriculteurs à mettre en pratique la gestion intégrée des ravageurs à partir de 2014.

MIPROF

INTEGRATED PRODUCTION
Making change possible



MAIZE AND MONOCULTURE

Monoculture means growing the same crop in the same field year after year. It is widely used in industrial agriculture, because it allows large harvests and needs minimal labour. But it has its drawbacks. Since all plants in a monoculture are genetically similar, diseases spread faster. So monoculture requires more pesticide-intensive cultivation. And over time, beneficial organisms disappear. Monoculture intensifies biodiversity loss. But solutions are waiting to be put into practice.

Water erosion

Maize leaves the soil without cover for long periods. Water run-off and soil can erosion occur.

Leaching nutrition

Maize needs a lot of nutrition. High fertiliser use increases the risk of nutrients being leached into water sources.

Change of humus content

Repeatedly cultivating maize produces heavy humus loss. But humus is key to sustainable agriculture and livelihood for millions of soil organisms.

Solution:

- > Integrating maize into crop rotation with other crops to prevent soil erosion and leaching, to conserve healthy soil structure
- > Grow catch crops to prevent leaching
- > Integrate legumes (which fix nitrogen) in crop rotation to reduce fertiliser input. Helps environment and climate

Increased pest pressure and sensitivity to disease

Diseases and pest pressure spread faster in monoculture than in other agricultural systems. Crop-specific pests and diseases have time to adopt and grow strong and can easily spread year-on-year. One such hard-to-control pests is the western corn rootworm. There is one generation a year. It overwinters at egg stage in the soil and the larvae feed on corn roots in early summer, severely damaging the crop. This invasive pest is a major concern in Europe.

Pesticides against pests

Intensive maize growing ignores any preventive measures. Seeds are treated with pesticides and pests are fought with pesticides.

Damage to bees and other wildlife

Pesticide-treated maize seed causes massive bee death throughout Europe. In 2008 some 11,500 bee colonies were poisoned and the bees died after maize was treated with the bee-toxic pesticide Clothianidin was sown.

Solution:

- > Stop using bee-toxic pesticides
- > Crop rotation to prevent western corn rootworm and other pests and diseases
- Crop rotation: the key to healthy soil, pure water, lively bees and good harvests

A good example

For integrated pest management to succeed, we must reduce pesticide dependency, conserve soil, protect plant health and conservation and enrich biological diversity. IPM must set clear minimum requirements:

- > Limit percentage of surface area per crop
- > Minimum of four crops grown in rotation
- > Minimum agricultural surface ($\geq 7\%$) must be devoted to areas of ecological compensation
- > Achieve balanced manure. Nitrogen and phosphorus input must not exceed 10% of needs
- > Don't apply bee-toxic pesticides
- > Ban cultivation of GM crops

MAIZE AND MONOCULTURE / MAÏS ET MONOCULTURE

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Phénomène à l'érosion
La monoculture de maïs laisse le sol sans couverture végétale sur le sol. L'eau en s'écoulant alors favorise l'érosion du sol.

Lessivage des nutriments
La culture de maïs est gourmande en nutriments. De fortes doses d'engrais sont nécessaires augmentant le risque de voir les nutriments se retrouver dans les ressources en eau.

Modification de l'humus de sol
Le fait de récolter chaque année une culture de maïs sur un même sol entraîne une perte d'humus. Le sol se vide dans le fait que l'humus est nécessaire pour entretenir une agriculture durable et est vital pour des millions de micro-organismes du sol.

Solutions

- > Intégrer le maïs dans une rotation avec d'autres cultures pour prévenir l'érosion et le lessivage du sol et pour conserver une bonne structure du sol
- > cultiver les « cultures de couverture » cultures qui se place entre deux cultures principales, au cours de l'hiver pour éviter le lessivage
- > intégrer des légumineuses (qui fixent l'azote) dans la rotation des cultures pour réduire l'apport d'engrais. Cela est favorable à l'environnement et au climat

La pression des maladies et des ravageurs augmente plus rapidement dans les systèmes de monoculture que dans les autres systèmes agricoles. Les ravageurs et maladies liés à la culture ont le temps de s'adapter et peuvent progresser facilement d'une année à l'autre. L'un des ravageurs particulièrement problématique est la chenille du maïs. Elle hiverne au stade de l'œuf dans le sol et les larves se nourrissent des racines au début du été, endommageant de manière importante les cultures. Ce ravageur est devenu un problème majeur en Europe.

Les pesticides contre les ravageurs
La culture intensive de maïs ignore toutes mesures préventives. Les semences sont traitées avec des pesticides et les ravageurs sont combattus avec des pesticides.

Conséquences négatives sur les abeilles et la faune sauvage
Les engrais de maïs sont riches en nitrates. Les semences sont traitées avec des pesticides et les ravageurs sont combattus avec des pesticides.

Les solutions

- > limiter d'appliquer des engrais de démarrage toujours pour les abeilles
- > éviter en plus des rotations, il s'agit de le plan pour avoir un sol sain, des abeilles préservées et de bonnes récoltes.

Un bon exemple
Pour une bonne réussite de la production intégrée, il faut réduire la dépendance aux pesticides, préserver le sol, protéger la santé des plantes, conserver et enrichir la diversité biologique. L'IPM doit fixer des exigences minimales, à savoir :

- > Limiter le pourcentage de surface dédiée par culture
- > Avoir un minimum de 4 cultures par rotation
- > Consommer au minimum de 7% de la surface dédiée à des espaces écologiques
- > Éviter des apports en engrais azotés. L'azote et le phosphore ne doivent pas dépasser 10% des besoins
- > Ne pas utiliser de pesticides toujours pour les abeilles
- > Bannir la culture d'OGM

INTEGRATED PRODUCTION
Making change possible

MAKING EUROPE'S POTATOES MORE SUSTAINABLE

How integrated production can help

Integrated production is a holistic concept which offers a means of making farming sustainable. This would deliver improvements in the quality of the soil, water, air, climate, human health and biodiversity.

The idea is to take a step-by-step approach to convert farmers to more natural practices, gradually encouraging less use of synthetic inputs (pesticides and fertilisers), developing their skills and agronomic capacity, the whole process supported by an independent advisory service. The latter is especially important in the more advanced reaches of integrated production (IP).

Intensive potato production in Belgium, France and the Netherlands in large fields is currently experiencing difficulty. Over-narrow crop rotations encourage soil pests, vulnerable potato varieties are prey to late blight, and overuse of fertilisers and pesticides can create problems for people and biodiversity.

Using a range of IP practices reduces the problems with potato growing, while delivering benefits like cleaner water and air and a lower risk from chemicals. Although the ultimate goal of IP is a holistic system, the concept is designed to be applied step-by-step. Even the initial steps may vary. The 'preventive' ones merit the greatest attention because they really change crop-growing and should always form part of IP practice.

Here's one example of how an IP strategy for potatoes might be applied:

1. Create wide crop rotation and aim to grow potatoes only once every four years
2. Use only late blight-resistant potato varieties
3. To further prevent late blight use plant-strengtheners like basalt or sulphur
4. Another way to discourage late blight is to plant crops further apart
5. To treat late blight use a decision-supporting system to minimise treatment
6. Only treat Rhizoctonia on the basis of analysis (damage threshold)
7. Apply fertilisers prudently in the season and only along potato rows
8. Be tolerant of weeds and only use only mechanical weeding
9. Dedicate 5% of fields to biodiversity by not planting crops or applying chemicals
10. Only use chemicals as a last resort and only those which do not harm beneficial organisms

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MAKING EUROPE'S POTATOES MORE SUSTAINABLE
FAIRE DE LA CULTURE DE POMME DE TERRE UNE CULTURE DURABLE

Comment la production intégrée peut-elle contribuer ?

La production intégrée est un concept global permettant de rendre l'agriculture durable. Cette méthode améliore, grâce à ses pratiques, la qualité des sols, de l'eau, de l'air, du climat et préserve la santé humaine et la biodiversité.

L'idée est de procéder étape par étape pour convertir les agriculteurs à des pratiques plus durables, en les encourageant à minimiser l'usage d'intrants de synthèse (pesticides et engrais). Cela se fait en développant leurs compétences et leurs capacités agronomiques et en proposant un service de conseil indépendant. Ce dernier point est particulièrement important dans les étapes les plus avancées de la production intégrée (IP).

La production intensive de pommes de terre en Belgique, en France et aux Pays-Bas connaît actuellement des difficultés. Les rotations courtes de cultures favorisent les parasites du sol et les variétés actuelles de pomme de terre sont sensibles au mildiou. De plus, l'utilisation excessive d'engrais et de pesticides peut générer des risques pour les populations et la biodiversité.

La mise en place de systèmes de production intégrée permet de réduire les problèmes liés à la culture de la pomme de terre, tout en offrant une meilleure qualité de l'eau, de l'air et une diminution du risque de l'usage des pesticides. Utiliser la gamme des pratiques de la production intégrée réduit les problèmes liés à la culture de la pomme de terre, tout en offrant des avantages tels qu'une eau et un air moins pollués et un risque moindre des produits chimiques. Bien que la production intégrée s'inscrit dans une réflexion globale, le concept est conçu pour être appliqué étape par étape. La prévention doit être au cœur des préoccupations de cette méthode de culture.

Voici un exemple d'application de système de production intégrée pour la culture de pommes de terre :

1. Mettre en place un système de rotation des cultures et avoir pour objectif de ne cultiver les pommes de terre sur une même parcelle qu'une fois tous les 4 ans
2. Recourir uniquement à des variétés résistantes au mildiou. Pour prévenir les attaques de mildiou, recourir à des éléments renforçant les défenses des pommes de terre comme le basalte ou le soufre
3. Une autre façon de prévenir la survenue du mildiou est de planter les plants plus éloignés les uns des autres
4. Pour réduire au minimum les surfaces traitées pour cause de mildiou, il faut avoir recours à un système d'aide à la prise de décision
5. Traiter la maladie fongique des parties aériennes (Rhizoctonia) sur la base de l'analyse (seuil de dommages)
6. Appliquer les engrais prudemment en saison et seulement le long des rangées de pommes de terre
7. Être tolérant envers les mauvaises herbes et n'utiliser que le désherbage mécanique
8. Consacrer 5% des champs à la biodiversité en ne plantant pas de cultures et en appliquant aucune substance chimique. Utiliser uniquement des produits chimiques en dernier recours et seulement ceux qui ne nuisent pas aux organismes bénéfiques
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EUROPEAN COMMISSION
 Alternatives to Pesticides Week held at the European Economic and Social Committee from 20-22 March 2010

INTEGRATED PRODUCTION
 Making change possible

Partenaire Carbon Neutre
 MRGCF

ARABLE CROPS

Arable crops: The first rung on the IP ladder

Targets in the pest lifecycle	Technical solutions available – rotation scale
Limit the presence of pests in crops	Diversify species in rotation to disrupt parasites: taking account of recurrence time and possible precedents
Limit the presence of disease in crops	Diversify species in rotation to disrupt parasites: taking account of recurrence the time of return and possible precedents
Limit weed specialisation and reduce seed bank	Diversify species in rotation for weed despecialisation
Reduce pest stock in plot	Establish 1 year in 3 fallow period to allow for tillage
Introduce nitrogen	Introduce at least one legume into rotation
Maintaining soil organic matter rate	Plant grain crop at least 1 year in 3 cultures grain and plough in straw
Trapping soil nitrogen in winter	Follow legumes with nitrogen-hungry winter crops, or intermediate crop
Maintain soil chemical fertility	Alternate phosphorus and potassium-hungry crops with less demanding crops

Arable farmers who wish to practise integrated crop management should not be allowed to use genetically-modified crops as they do not provide a sustainable solution to pests, disease or weeds. Herbicide-resistant crops, in particular, are likely to increase herbicide use in the long run.

Arable farmers should be obliged to deploy various tools which can be used in the context of rotation, in the knowledge that other tools operate on a wider annual strategic level. Arable farmers who apply four of the measures will help strengthen natural pest control in their fields, reduce their reliance on chemical measures and should thus be entitled to receive a flat-rate Common Agricultural Policy payment as from 2014 (currently called '1st pillar' support).

Building a crop system begins on this scale, but must of course be supported by offering supplementary tools under the aegis of the rural development programme (current called '2nd pillar' support) allowing farmers to adopt a wider range of IPM techniques, so they can benefit from a holistic IP approach.



ARABLE CROPS CULTURES ARABLES

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Cultures arables: des exemples de pratiques interdites et obligatoires

Les exploitants de terres arables qui souhaitent pratiquer une gestion intégrée des cultures ne devraient pas être autorisés à utiliser les cultures génétiquement modifiées car elles ne fournissent pas une solution durable aux parasites, maladies ou mauvaises herbes dans le long terme. Les cultures résistantes aux herbicides sont susceptibles d'augmenter l'utilisation d'herbicides dans le long terme.

Les exploitants de terres arables devraient être obligés de recourir à des outils variés utilisés dans le cadre de la rotation, tout en sachant que d'autres outils fonctionnent sur un niveau annuel stratégique plus large.

Les exploitants de terres arables qui appliquent quatre mesures mentionnées ci-dessus contribueront à renforcer le couple:

le naturel des ravageurs dans leur exploitation et à réduire la dépendance aux pesticides chimiques. Ainsi, ils bénéficieront d'une subvention forfaitaire de la politique agricole commune à partir de 2014 (connue à ce jour sous le nom de 1er pilier).

La mise en place d'un système de culture commence à cette échelle, mais il doit bien entendu être pris en charge en offrant des outils complémentaires au travers du programme de développement rural (appelé '2e pilier') permettant aux agriculteurs d'adopter un plus large éventail de techniques de lutte intégrée, afin qu'ils puissent bénéficier d'une approche globale de production intégrée.

Cibles dans le cycle des bioagresseurs	Solutions techniques disponibles-échelle Rotation
Limiter la présence de bioagresseurs en général dans les cultures	Diversifier familles et espèces dans la succession pour obtenir une rupture parasitaire en prenant compte des délais de retour et des précédents possibles
Limiter la présence de maladies dans les cultures	Diversifier familles et espèces dans la succession pour obtenir une rupture parasitaire en prenant compte des délais de retour et des précédents possibles
Limiter la spécialisation de la flore adventice et réduire le stock semencier	Diversifier familles et espèces dans la succession pour déspecialiser la flore adventice
Réduire le stock de ravageurs dans la parcelle	Mettre en place 1 année sur 3 une interculture longue pour permettre le travail du sol
Apporter de l'azote au système	Introduire au moins une légumineuse dans la succession
Maintenir le taux de MO du sol	Implanter au moins une année sur 3 une culture à grainets restituant les pailles
Piéger l'azote du sol en période hivernale	Faire suivre les légumineuses par des cultures d'hiver exigeantes en N, ou à défaut par une culture intermédiaire
Maintenir la fertilité chimique du sol	Alterner les cultures exigeantes en PK avec des cultures peu exigeantes.

Arable crops exhibition. This exhibition is held in the framework of the Alternatives to Pesticides Week at the European Economic and Social Committee from 20-24 March 2013

INTEGRATED PRODUCTION
Making change possible

INTEGRATED APPLE PRODUCTION

Integrated production guidelines of the International Organisation of Biological Control (IOBC)

Step 1 - Prevention

- > Use disease-resistant cultivars. Plant material must be virus-free
- > Establish alleyways and strips maintained by mulching, covering the soil surface or mechanical cultivation, including allocated a maximum percentage of bare soil surface
- > Conserve the orchard by managing at least 5% of the entire farm area (excluding forests) as ecological compensation areas, with zero pesticide or fertiliser input, to enhance biodiversity (eg bird nesting boxes and perches, refuges for predators, host plants for beneficials, resistant cultivar as pollinators)
- > Establish habitats to build or maintain populations of insect pests' natural enemies (beneficials). Sow annual-flowering plants in fallow areas and borders, include shrubs to provide food and shelter when planting windbreaks
- > Don't practise chemical soil sterilisation
- > Don't apply herbicides, especially not residual products, in regular or high doses
- > Don't use non-naturally occurring plant-growth regulators, organochloride insecticides and toxic, water-polluting or very persistent herbicides anti-oxidants to control scale insects, etc
- > Don't use synthetic, non-naturally-occurring anti-oxidants to control scale insects, etc

Step 2 - Monitoring

- > Key insect pest incidence and populations must be regularly monitored, using traps where available, and the data used to inform pest-management decisions. Growers must use qualified advice on pest-forecasting and decision-making
- > Thresholds must be exceeded before any synthetic insecticide treatment can be made and fungicide treatments justified by forecasting model, visual monitoring or prevention strategies

- > Control, registration, and annual reporting to authorities on pests, disease and weeds, and pesticides used

Step 3 - Biological control

- > Prepare measures to block or disrupt reproduction of key insect pests and diseases (eg pheromone mating-disruption for codling moth)
- > Introduce natural enemies if not present in the orchard (eg by bringing summer prunings from orchards with high levels of predatory mites and bugs)
- > Use non-chemical methods where feasible (eg biopesticides based on bacteria, viruses and nematodes for codling moth and other caterpillar pests, plant resistance-inducers against mildew and rot, management of leaf litter to remove apple scab inoculum (eg by spraying urea to accelerate leaf decay)
- > Use organic fertilisers, including high-quality compost, to be promoted, and apply nitrogen, phosphorus and potassium only if indicated in soil or plant analysis
- > When biocontrol methods are not sufficient is permitted only the use of pesticides less dangerous towards human health, environment and beneficial organisms.

INTEGRATED APPLE PRODUCTION PRODUCTION INTÉGRÉE DE POMMES

The following is a case study of complete integrated production of apple fruit. The operator: H&L & Son Ltd, of Maiden in the English county of Kent, appears to be in line with the integrated production guidelines of the International Organisation of Biological Control (IOBC), apart from using disease resistant cultivars as the business grows varieties which are more profitable.

Step 1 - Prevention

- > Use disease-resistant cultivars. Plant material must be virus-free
- > Establish alleyways and strips maintained by mulching covering soil surface or mechanical cultivation, including allocated a maximum percentage of bare soil surface
- > Conserve the orchard by managing at least 5% of the entire farm area (including forests) as ecological compensation areas with zero pesticide or fertiliser input, to enhance biodiversity (eg bird nesting boxes and perches, refuges for predators, host plants for beneficials, resistant cultivar as pollinators)
- > Establish habitats to build or maintain populations of insect pests' natural enemies (beneficials). Sow annual-flowering plants in fallow areas and borders, include shrubs to provide food and shelter when planting windbreaks
 - > Don't practise chemical soil sterilisation
 - > Don't apply herbicides, especially not residual products, in regular or high doses
 - > Don't use non-naturally occurring plant-growth regulators, organochloride insecticides and toxic, water-polluting or very persistent herbicides anti-oxidants to control scale insects, etc
 - > Don't use synthetic, non-naturally-occurring anti-oxidants to control scale insects, etc

Step 2 - Monitoring

- > Key insect pest incidence and populations must be regularly monitored, using traps where available, and the data used to inform pest-management decisions. Growers must use qualified advice on pest-forecasting and decision-making
- > Thresholds must be exceeded before any synthetic insecticide treatment can be made and fungicide treatments justified by forecasting model, visual monitoring or prevention strategies

Step 3 - Biological control

- > Prepare measures to block or disrupt reproduction of key insect pests and diseases (eg pheromone mating-disruption for codling moth)
- > Introduce natural enemies if not present in the orchard (eg by bringing summer prunings from orchards with high levels of predatory mites and bugs)
- > Use non-chemical methods where feasible (eg biopesticides based on bacteria, viruses and nematodes for codling moth and other caterpillar pests, plant resistance-inducers against mildew and rot, management of leaf litter to remove apple scab inoculum (eg by spraying urea to accelerate leaf decay)
- > Use organic fertilisers, including high-quality compost, to be promoted, and apply nitrogen, phosphorus and potassium only if indicated in soil or plant analysis
- > When biocontrol methods are not sufficient is permitted only the use of pesticides less dangerous towards human health, environment and beneficial organisms.

Étape 1 - Prévention

- > Utiliser des cultivars résistants aux maladies. Il doit être exempt de virus.
- > Réserver au moins 5% du total du péage ou du sol, de manière à conserver au moins 5% de la superficie agricole incluant les forêts en jachère ou en verger naturel, pour entretenir la biodiversité. Par exemple, l'installation de perches et de nichoirs pour les oiseaux, de refuges pour les prédateurs, de plantes hôtes pour les auxiliaires, de plantes résistantes comme pollinisateurs.
- > Mettre en place des zones d'habitat pour les populations d'ennemis naturels des insectes nuisibles (les insectes auxiliaires). Semer des plantes annuelles dans les zones en jachère (jachères ou bordures), et des arbustes pour offrir une fonction de brise-vent, pour fournir nourriture et abri aux auxiliaires.
- > Ne pas pratiquer la stérilisation chimique du sol.
- > Ne pas utiliser d'herbicides, surtout pas de restes de virus herbicides, à des doses régulières ou élevées.
- > Ne pas utiliser de régulateurs de croissance non-naturels, ni d'insecticides organochlorés, ou d'herbicides persistants ou persistants (sauf ceux qui sont autorisés), etc.
- > Ne pas utiliser d'antioxydants anti-oxydants ou de synthétiques.

Étape 2 - Suivi

- > L'opérateur doit surveiller et sa population doit être régulièrement surveillée, si possible par des pièges. Utiliser les données d'observation pour prendre les décisions de gestion. Les producteurs doivent utiliser des conseils qualifiés pour prendre des décisions de récolte préventive.
- > Les seuils de tolérance doivent être dépassés avant tout traitement insecticide de synthèse. Si des traitements fongicides justifient par modèle de prévision, le surveillance visuelle ou les stratégies de prévention.
- > Effectuer des rapports annuels aux services de protection des cultures, relatifs aux insectes (animaux ou végétaux), les maladies et l'étape des pesticides.

Étape 3 Biologique - contrôle

- > Préparer les mesures visant à empêcher ou perturber la reproduction des principales ravageurs et l'apparition ou la propagation des maladies (par exemple phéromone empêchant la reproduction des papillons de nuit de la gomme), introduire des insectes auxiliaires s'ils ne sont pas présents dans le verger (par exemple en apportant des bois d'élagage d'été venant de vergers ayant des niveaux élevés d'ennemis naturels et de parasites).
- > Utiliser des méthodes non-chimiques lorsque c'est possible. Par exemple, les biopesticides à base de bactéries ou de virus, des nématodes parasites pour les pyralides et autres chenilles, les herbicides de sélectivité contre le mildiou et la pourriture, la gestion de la lièvre de feuilles pour éliminer l'inoculum de la tavelle du pommier (par exemple par pulvérisation d'urée pour accélérer la décomposition des feuilles).
- > Utiliser des engrais organiques, y compris un compost de bonne qualité, à privilégier et appliquer l'azote, le phosphore et le potassium uniquement si cela est justifié par une analyse du sol ou des plantes.
- > Lorsque les méthodes de lutte biologique ne sont pas suffisantes, seuls sont autorisés les pesticides les moins dangereux pour la santé humaine, l'environnement et les organismes utiles.

ON THE TOP RUNG OF THE IP LADDER: APPLES

The following is a case study of complete integrated production of pome fruit. The operator, HE Hall & Son Ltd, of Marden in the English county of Kent, appears to be in line with the integrated production guidelines of the International Organisation of Biological Control (IOBC), apart from using disease-resistant cultivars as the business grows varieties which are more profitable.

On the top rung of the IP ladder

This small 124-hectare family farming business was established in 1896. Thirty hectares of apples, pears and plums are conventionally farmed, and the remainder farmed organically.

In the mid 1980s, Halls switched production to a fully integrated crop production (ICP) system. The field margins, hedgerows and waterways were enhanced, restored and managed to create the optimum habitat for predatory insects and chemical inputs were all evaluated for their environmental impact, price and efficacy.

Out went residual herbicides and cheap non-specific pesticides, to be replaced with products which left predatory insects (eg anthocorids and typhlodromus mites) to help fight difficult pests like the pear sucker and fruit tree spider mite.

The change in herbicide policy produced a flush of opportunistic annual weed species and a late summer bonanza for insect and seed-eating birds resulting in a significant increase in diversity and number. Initially, Halls struggled with the lighter touch of the ICP system, but the chemistry has become more sophisticated and insect predators more numerous. ICP is now the industry norm, and since 1997, producers have been audited annually under The Assured Produce Scheme. Halls' restoration work has produced a network of wildlife corridors throughout the farm and a haven for beneficial insects around production areas. All expected bird species are visiting, resident or breeding in significant numbers.

The farm is an active member of Operation Bumblebee, and plantings of nectar rich plants have taken place across the farm to help revive the fortunes of this iconic species.

Key points

- > Eliminated use of all organophosphate pesticides
- > No use of general insecticides
- > No use of residual herbicides over last 15 years
- > Use of pheromone traps to disrupt mating of codling moth
- > Reduction in pesticide use has helped improve soil structure
- > Clover planting in orchard rows helps increase habitat for beneficial insects and reduce nitrogen inputs

ON THE TOP RUNG OF THE IP LADDER: APPLES

AU SOMMET DE L'ÉCHELLE DE LA PRODUCTION INTÉGRÉE: LES POMMES

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An sommet de l'échelle de la production intégrée

HE Hall & Son Ltd, Marden, dans le Kent, Royaume-Uni: www.hallhall.co.uk

Cette exploitation agricole familiale de 124-hectare a été créée en 1896. Trente hectares de pommes, de poires et les pruniers sont cultivés de manière conventionnelle et le reste des cultures sont conduits en agriculture biologique.

Dans le milieu des années 1980, Halls transforme toute sa production sur le modèle de la production intégrée des cultures (PIC). Les bordures de champs, les haies et les cours d'eau ont été renforcés, restaurés et permettent de créer un habitat optimal pour les insectes prédateurs, de plus les intrants chimiques ont tous été évalués au regard de leur impact sur l'environnement, de leur prix et de leur efficacité.

Il se débarrasse des herbicides persistants et des pesticides non spécifiques, qui seraient remplacés par des produits épargnant les insectes prédateurs (par exemple les acariens anthocorids et Typhlodromus) pour aider à combattre les insectes nuisibles difficiles comme le psylle du poirier et le tétranychus des arbres.

Les changements dans la gestion des herbicides produit une augmentation des variétés d'espèces de mauvaises herbes annuelles et en fin d'été une abaisse pour les insectes et les oiseaux entraînant une augmentation significative de leur diversité et de leur nombre. Initialement, Halls a travaillé en appliquant de manière légère le système de la PIC, mais la chimie est devenue plus sophistiquée et les insectes prédateurs plus nombreux. La PIC est maintenant la norme dans l'industrie et depuis 1997, les producteurs sont contrôlés chaque année en vertu de l'Assured Produce Scheme. Les travaux de restauration de Halls a entraîné la mise en place d'un réseau de corridors pour la faune tout au long de son exploitation et un refuge pour les insectes bénéfiques autour des zones de production. Toutes les espèces d'oiseaux attendus sont ou de passage, ou demeurent sur l'exploitation ou nichent en grand nombre. L'exploitation est un membre actif de l'opération Bourdon (Operation Bumblebee), et les semis de plantes riches en nectar ont eu lieu sur l'exploitation afin d'aider à relancer des espèces emblématiques.

Points clés

- > Élimination de tous les pesticides organophosphorés
- > Pas d'utilisation d'insecticides
- > Pas d'utilisation d'herbicides persistants sur les 15 dernières années
- > Utilisation de pièges à phéromones pour perturber l'accouplement du carpocapse de la pomme
- > Réduction de l'utilisation des pesticides, ce qui a contribué à améliorer la structure du sol
- > Plantation de trèfle dans les rangs du verger, ce qui permet d'accroître l'habitat pour les insectes utiles et de réduire les apports d'azote (Awaiting French text)

INTEGRATED PRODUCTION
Making change possible

DON'T LET PESTICIDES MAKE YOU SICK!

Studies increasingly point to links between the cancer epidemic and other illnesses, and exposure to certain chemicals, including pesticides. Exposure takes place at work and at home, through pesticide spraying in agriculture, parks, schools, or on house plants, and via pesticide residues in food and drink. Children are especially vulnerable and unborn children can be affected in the womb.

The Health and Environment Alliance (HEAL) launched the Sick of Pesticides Campaign with other organisations to highlight the adverse health effects of pesticides and to provide educational and advocacy tools for local health groups, schools and farmers. We are calling for pesticide-free zones and the immediate phasing out of the most harmful pesticides.

One recent activity is the creation of Europe's first network for people with health problems related to pesticides exposure with Mouvement pour le droit et le respect des générations futures (MDRGF) in France. Testimonies of those in the network can be found at www.victimes-pesticides.org. The network aims to share expertise and calls for a better protection.

In 2010, HEAL is expanding its activities from France and the UK to Belgium, the Netherlands and Hungary. Activities include contributing to the development of national pesticide action plans. Find out more at: www.pesticides-cancer.eu.

The Health and Environment Alliance (HEAL) raises awareness of how environmental protection improves people's health, and works to promote health through strengthening European policies. HEAL is a diverse network of over 60 citizens', patients', health professionals', women's and environmental groups. www.env-health.org and www.pesticides-cancer.eu.

Mouvement pour le Droit et le Respect des Générations Futures (MDRGF) aims to apply the 'principle of responsibility' in the agriculture context through citizenship action. For the past 15 years, it has been actively promoting agricultural practices which are free of pesticides and GMOs in order to protect the environment and prevent any form of pollution now and for future generations. Each year, MDRGF coordinates the "Week without pesticides" event, which is being held from 20-30 March 2010. www.mdrgf.org





DON'T LET PESTICIDES — MAKE YOU SICK!

NE LAISSEZ PAS LES PESTICIDES VOUS RENDRE MALADE !



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De plus en plus d'études montrent un lien entre l'exposition des hommes à certaines substances chimiques telles que les pesticides et la survenue de certains cancers et bien d'autres maladies. Cette exposition peut avoir lieu au travail mais également chez l'habitant. Cela se produit lors de pulvérisations de pesticides en milieu agricole, en milieu urbain dans les parcs, dans les écoles mais aussi lors des usages domestiques lors du jardinage ou encore via l'alimentation et le bétail qui font trouver des résidus de pesticides. Les plus vulnérables d'entre nous sont les enfants et les femmes qui peuvent être affectées in utero.

Health and Environment Alliance (HEAL) et le Mouvement pour le Droit et le Respect des Générations Futures (MDRGF) ont lancé la campagne « Malades des Pesticides » avec plusieurs associations afin de mettre en évidence les effets nocifs des pesticides sur la santé et fournir des outils de sensibilisation et de communication pour des ONG, des écoles et des agriculteurs. Nous demandons d'instaurer des politiques de zero pesticides immédiatement dans les zones utilisant les pesticides les plus nuisibles.

HEAL et le MDRGF ont créé récemment le premier réseau Européen des victimes de pesticides. Ce réseau a pour ambition de partager les expériences et les témoignages des victimes et appeler à une meilleure protection des victimes, tant les agriculteurs, et des citoyens en général. L'ensemble des informations concernant ce réseau sont présentées sur le site www.victimes-pesticides.org.

En 2010, HEAL étend ses activités en France, au Royaume-Uni, en Belgique, aux Pays-Bas et en Hongrie en aidant au développement de plans d'action nationaux contre les pesticides. Pour plus d'informations, rendez-vous sur notre site Internet: www.pesticides-cancer.eu.

Health and Environment Alliance (HEAL) a pour objectif d'améliorer la prise de conscience du lien entre protection de l'environnement et amélioration de la santé de l'homme. Pour cela, HEAL œuvre chaque jour pour la promotion de la santé auprès des instances européennes. HEAL est un réseau divers de plus de 60 citoyens, patients, professionnels de santé, groupes de femmes et associations environnementales. www.env-health.org.

Le Mouvement pour le Droit et le Respect des Générations Futures (MDRGF) est une association sans but lucratif créée en 1996 par François Velleux, ancien ministre de l'Agriculture, de la Pêche et de l'Élevage Français, et Georges Tassin, ingénieur agronome. En informant sur les questions liées aux pesticides, chimiques, en particulier les pesticides, le MDRGF démontre les conséquences négatives de l'agriculture industrielle et fait la promotion de viables solutions alternatives telles que l'agriculture biologique ou la production raisonnée.



The exhibition is held at the Museum of the Movement for Pesticides-Free Food, held at the European Economic and Social Committee Room 20-30 March 2010



INTEGRATED PRODUCTION
Making change possible

BEE-FRIENDLY COMPETITION

Promoting best practice and raising awareness among farmers

The adoption of the EU directive on the sustainable use of pesticides means that EU farmers will be obliged to apply integrated pest management as from 2014.

PAN Europe wishes to mobilise farmers to begin using sustainable farming practices which can protect our health, the environment and biodiversity, and help combat climate change, starting by robustly practising integrated pest management.

We believe that one of the keys to success is encouraging trail-blazers. To support this goal, we are launching a competition to find the 'European IP Farmer of the Year'.

As 2010 is the United Nations' International Year of Biodiversity, we are focusing on the need for bee-friendly IP, in response to the recent phenomenon of large-scale bee deaths. Naturally, this matters economically to bee-keepers, but it also carries the risk of other serious consequences as many crops are pollinated by bees. We do not yet fully understand the causes of the syndrome, but they may include environmental change-related stresses, malnutrition and pesticide use.

Who can compete?

European farmers are invited to answer a short questionnaire. If you are a farmer and are interested in taking part in this competition, please send an e-mail to henriette@pan-europe.info



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Choosing the winner

Our national members will select the best practitioners based on the survey's results. From the national winners' shortlist, a selection committee comprising PAN Europe-appointed independent experts, will choose the bee-friendly EU IP farmer of the year.

Announcing the winner

The 2011 Bee Friendly IP Farmer will be announced during the March 2011 Alternatives to Pesticides Week.



BEE-FRIENDLY COMPETITION

Promouvoir les meilleures pratiques et la sensibilisation des agriculteurs

L'adoption de la directive européenne sur l'utilisation durable des pesticides signifie que les agriculteurs de l'UE seront tenus d'appliquer la gestion intégrée des ravageurs à partir de 2014.

PAN Europe et le MDRGF souhaitent mobiliser les agriculteurs afin qu'ils modifient leurs pratiques en ayant recours à des méthodes agricoles durables à commencer par l'application de méthodes de lutte intégrée protégeant ainsi notre santé, l'environnement et la biodiversité et contribuant à lutter contre les changements climatiques.

Nous sommes convaincus que l'une des clés du succès réside dans l'encouragement d'agriculteurs « pionniers ». Pour atteindre cet objectif, nous lançons un concours afin de récompenser l'agriculteur européen de l'année utilisant des méthodes de production intégrée.

2010 est l'année internationale de la biodiversité des Nations Unies, l'accent est donc mis sur la nécessité d'une politique de production intégrée favorisant les abeilles, et ce en réponse au phénomène récent de la mortalité à grande échelle de ces insectes. Naturellement, cette question est importante économiquement pour les apiculteurs, mais elle comporte aussi d'autres conséquences graves car de nombreuses cultures sont pollinisées par les abeilles. Les causes du dépérissement des abeilles sont encore mal connues, mais il est probable que cette mortalité soit le fait de multiples facteurs dont les changements environnementaux liés au stress, la malnutrition ou encore l'utilisation des pesticides.

Promoting best practice and raising awareness among farmers

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Qui peut concourir?

Les agriculteurs européens sont invités à répondre à un questionnaire court.

Si vous êtes un agriculteur et que vous souhaitez participer à ce concours, veuillez envoyer un e-mail à henriette@pan-europe.info, ou nous écrire à : Henriette Christensen, PAN Europe, Boulevard de Waterloo 34, B-1000 Bruxelles, Belgique tél : +32 (0)2 289 1308.

Le choix du gagnant

Nos membres nationaux sélectionneront les meilleurs praticiens en fonction des résultats de l'enquête. Utilisant la liste des lauréats nationaux, un comité de sélection composé d'experts indépendants nommés par PAN Europe choisissent l'agriculteur européen à récompenser et dont les pratiques culturales utilisent en mieux les méthodes issues de la 'production intégrée' et favorise donc les abeilles et autres pollinisateurs.

L'annonce du gagnant

Le gagnant du concours sera annoncé lors de la 6ème édition de la semaine pour les alternatives aux pesticides en 2011.

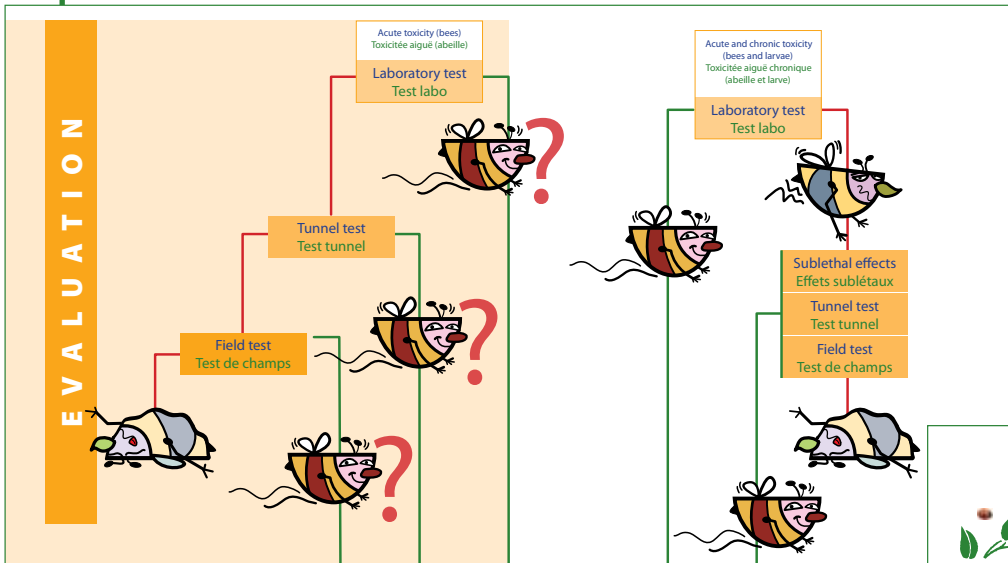
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INTEGRATED PRODUCTION
Making change possible

PESTICIDES & BEES

To guarantee the harmlessness of a pesticide for bees and environment there are several phases to bear in mind : evaluating the product's toxicity, product approval if no toxic effects are identified and correct use in the fields.



EVALUATION

COMMERCIALISATION

To preserve of our bees and environmental and public health we must carefully manage pesticides during the various phases.

Pour préserver nos abeilles, la santé publique et de l' environnement, nous devons gérer soigneusement les pesticides aux différentes phases.

UTILISATION

Preventive use of pesticides.
Utilisation préventive des pesticides.

Seed treatment, i.e. systemic effects and no specificity.
Traitement des semences, c'est à dire effets systémiques et non-spécificité.

Impossible detection of the products or its metabolites.
Détection impossible des produits et de ses métabolites.

Application of pesticides without considering pesticide's effectiveness and longevity.
Application des pesticides sans prise en considération de leur efficacité ni de leur persistance.

Long life of the pesticides allowing chronic exposure.
Persistance des pesticides permettant l'exposition chronique.

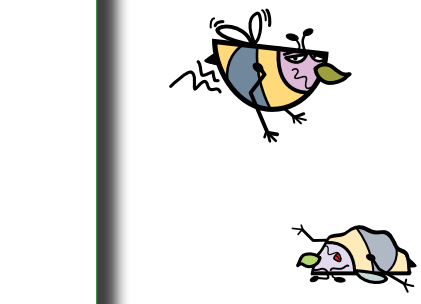
Therapeutic use of pesticides.
Utilisation curative des pesticides.

Targeted treatment and specific action.
Traitement ciblé et action spécifique.

Easy detection of the product or its metabolites in the environment (then it will be possible to identify where it has been used and in what quantity). Would help evaluate product's risk.
Détection facile du produit ou de ses métabolites dans l'environnement (possibilité d'identifier où de l'utiliser et en quelles quantités). Ceci aiderait à évaluer le risque des produits.

Application of adequate doses depending on pesticide's effectiveness and longevity (quantity of the toxic that is put in the environment).
Application des doses adaptées à l'efficacité et à la persistance du pesticide (quantité du toxique qui est mis dans l'environnement).

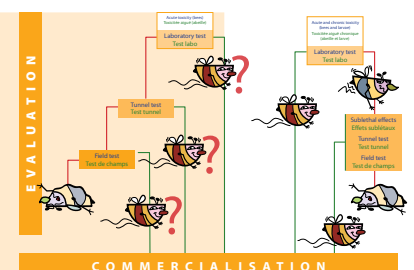
Quick inactivation of the pesticide once in the environment.
Inactivation rapide du pesticide une fois dans l'environnement.



PESTICIDES & BEES PESTICIDES & ABEILLES

To guarantee the harmlessness of a pesticide for bees and environment there are several phases to bear in mind : evaluating the product's toxicity, product approval if no toxic effects are identified and correct use in the fields.

Afin de garantir l'innocuité d'un pesticide pour les abeilles et l'environnement, il y a plusieurs phases à considérer : évaluation de la toxicité du produit, approbation s'il n'y a aucun effet toxique prouvé et utilisation correcte sur le terrain.



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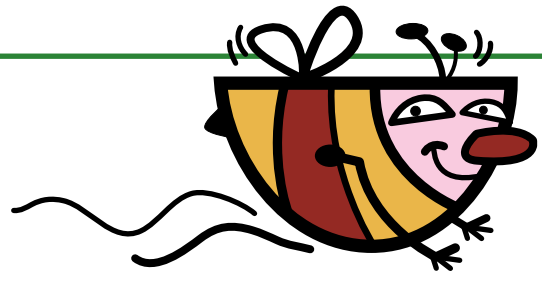
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Targeted treatment and specific action.
Traitement ciblé et action spécifique.

Easy detection of the product or its metabolites in the environment (then it will be possible to identify where it has been used and in what quantity). Would help evaluate product's risk.
Détection facile du produit ou de ses métabolites dans l'environnement (possibilité d'identifier où de l'utiliser et en quelles quantités). Ceci aiderait à évaluer le risque des produits.

Application of adequate doses depending on pesticide's effectiveness and longevity (quantity of the toxic that is put in the environment).
Application des doses adaptées à l'efficacité et à la persistance du pesticide (quantité du toxique qui est mis dans l'environnement).

Quick inactivation of the pesticide once in the environment.
Inactivation rapide du pesticide une fois dans l'environnement.



BEE IN THE ENVIRONMENT

The large foraging area covered by bees not only provides a wide variety of nutrients, but also allows an extended exposure to whatever substance existing in the environment. In this foraging area, a bee colony collect 10.000.000 samples per day (10.000 foragers - 10 flights - 100 uptakes per flight)

Air

Pollutants suspended in the air in molecule form or as dust, can get attached to the surface of the bee's body and either affect it directly or be carried back to the hive.

Pollen and nectar

Bees need a lot of water i.a. for rearing the brood, which is collected from exudates from young plants, morning dew or superficial water (lakes, ponds, etc). Unfortunately, residues of chemicals can be found in all these sources of water whenever seed and soil treatments with chemicals are carried out.

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BEE IN THE ENVIRONMENT
L'ABEILLE DANS SON ENVIRONNEMENT

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La vaste aire de butinage de l'abeille lui assure une importante diversité de nutriments, mais l'expose également à toutes substances présentes dans l'environnement. Une colonie d'abeilles collecte ainsi 10 000 000 d'échantillons par jour (10 000 butineuses par colonie - 10 vols - 100 prélèvements par vol).

Air
Pollutants suspended in the air in molecule form or as dust, can get attached to the surface of the bee's body and either affect it directly or be carried back to the hive.

Air
Les polluants en suspension dans l'air à l'état moléculaire ou sous forme de poussières, peuvent se coller au corps de l'abeille et l'affecter directement, ou être ramené par elle à la ruche.

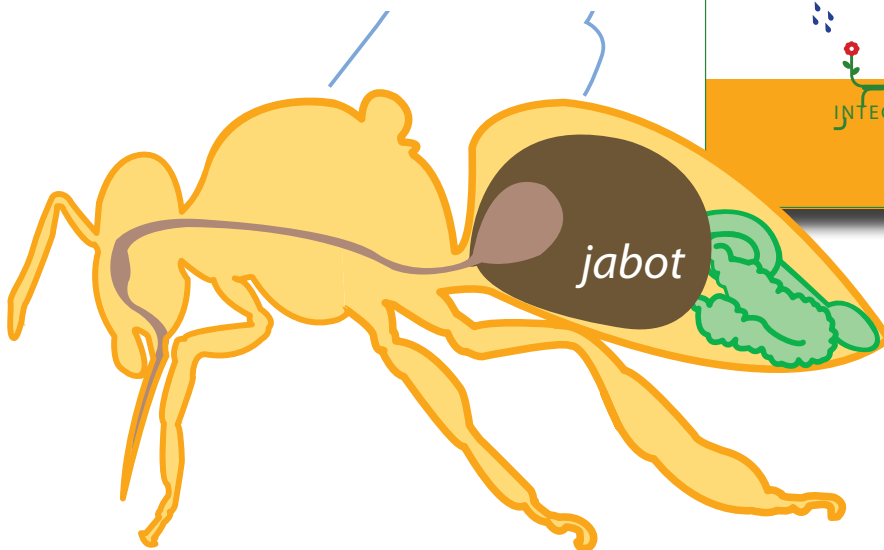
Pollen and nectar
Bees need a lot of water i.a. for rearing the brood, which is collected from exudates from young plants, morning dew or superficial water (lakes, ponds, etc). Unfortunately, residues of chemicals can be found in all these sources of water whenever seed and soil treatments with chemicals are carried out.

Pollen et nectar
Les abeilles ont besoin d'importantes quantités d'eau, entre autres pour l'élevage du couvain; elles collectent à cette fin l'eau d'irrigation des jeunes plants, la rosée matinale ou des eaux de surface (lacs, etc.). Malheureusement, on trouve des résidus de substances chimiques dans toutes ces sources de ce que des produits phytosanitaires sont utilisés en traitement de semences ou de sol.

Eau de sources
Les réserves de miel et de pollen des colonies proviennent du pollen, du nectar ou du matériel collectés par les abeilles butineuses et transportés à la ruche dans leur jabot ou sur la pelote. Tout polluant affectant ces produits va finir par contaminer les réserves de la ruche. Cela a été mis en évidence lors des analyses des traitements de semences ou de sol, ou encore avec les OGM.

Water sources
Colony reserves of honey or pollen are produced from the nectar pollen and honey dew collected by forager bees and transported to the hive in their jabots or on their legs. Any pollutant affecting these products will end in a contamination of the hive reserves, as it has been shown with the production of treated seeds and soil treatments or OGMs.

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GMO AND BEES...?

The genetically modified plants occupy approximately 100 000 hectares in open fields in Europe, despite strong resistance from the population. The current GM crops are predominantly two types : crops resistant to herbicides and crops carry a toxin character insecticide called Bt (*Bacillus thuringiensis*).

No direct effects of GMOs is currently described in the bee, although horizontal transfer of modified genes is possible (that means, when a bee is fed a food with genetically modified, the modified gene is found in microorganisms from its digestive flora).

Anyway the indirect effects on bees are real.

Pollen GMOs!

GMOs can pollute the products of the hive. Contamination of bee products. Note that beekeepers have no way of knowing whether the bees were busy, or not, a GM crop, the location of these cultures were not disclosed.

GM crop = honey bees prohibited area?

Bees forage in a radius of 3 Km, which means a distance of pollination up to 6 km. Therefore we cannot talk about the « safe areas » established by states between GM and conventional crops. Areas with GM crops are de facto or become short-term zones « bees not allowed ». Is this what we want?

Soybeans GM or bees?

In Argentina soybean production, GM's more than 90%, covers 19 million hectares, where herbicides are used heavily, destroying the flora. Beekeeping is declining gradually as the advance of soy, because the bees are still a source forage.





GMO AND BEES...?

OGM ET LES ABEILLES...?



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Les plantes modifiées génétiquement occupent environ 100 000 hectares en plein champ en Europe, malgré les fortes réticences de la population.

Les cultures GM actuelles appartiennent principalement à deux types : les cultures résistantes à un herbicide et les cultures porteuses d'une toxine à caractère insecticide appelée BT (*Bacillus thuringiensis*).

Aucun effet direct des OGM n'est actuellement décrit chez l'abeille, quoique le transfert horizontal de gènes modifiés soit possible (un clone, lorsqu'une abeille est nourrie avec un aliment génétiquement modifié, le gène modifié se retrouve dans les microorganismes de sa flore digestive).

Toutefois les effets indirects sur les abeilles sont réels.

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Pollen OGM!

Les OGM peuvent contaminer les produits de la ruche. On notera que les apiculteurs n'ont aucun moyen de savoir si les abeilles ont foragées, ou non, une culture OGM. La localisation de ces cultures n'étant pas divulguée.



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Soyja OGM on abeilles?

En Argentine la culture de soja, GM à plus de 90%, couvre 19 millions d'hectares, où les herbicides sont utilisés massivement, détruisant la flore. L'apiculture est en déclin à mesure de l'avance du soja, parce que les abeilles trouvent encore une source à l'écueil.



Culture mellifère GM = zone abeilles interdite?

Le rayon de forage de l'abeille est de 3 km, elle assure donc la pollinisation sur une distance de 6 km, ce qui met à mal les zones de sécurité mises en place par les Etats entre cultures GM et conventionnelles. Les zones à cultures GM sont de facto, ou devenues à court terme, des zones à abeilles non admises. Est-ce cela que nous voulons?




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WHERE ARE THE BEES ?

The mysterious ailment called colony collapse disorder (CCD) has wiped out large numbers of the bees that pollinate a third of our crops the world over. Losses in USA were up to 40% in 2007. In the EU the losses vary from 5% to 30% in 2007-08. This phenomenon has also been called bee-declining syndrome, since it is characterised by a sudden vanishing of bees from well-replenished hives and a lack of worker bees to take care of the queen and the brood.

Pesticides

Depending on dosis, pesticides can alone cause mortalities; in combination with other factors even lower doses are mortal. Some of them disturb the immune system of the colonies.

Nutritional deficit

The nutritional impoverishment may come hand in hand with the lack of biodiversity of pollen and nectar or the lack of cultivation of plants interesting for honey production (like rape seed, sunflower, trifolium...).

Pathology

Like all the animals, bees are confronted to numerous pathologies. Most of them can only take place in that weaken bees immune system conditions.



**WHERE ARE THE BEES ?
OU SONT LES ABEILLES ?**

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Le mystérieux phénomène appelé Colony Collapse Disorder (CCD) a fait disparaître un grand nombre d'abeilles qui participent à la pollinisation d'entières des cultures dans le monde. Les pertes aux Etats-Unis ont atteint 40% en 2007. Dans l'UE, elles vont de 5 à 30% en 2007-08. Ce phénomène a également été appelé le syndrome de disparition des abeilles, car il se caractérise par une brusque disparition des abeilles des ruches bien peuplées et par un manque d'ouvrières pour soigner la reine et le couvain.

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Immune system of the colonies?
Système immunologique des colonies?

Pathology
Comme tous les animaux, les abeilles sont confrontées à plusieurs maladies dont la plupart ne se développent que dans certaines conditions d'affaiblissement.

Nutritional deficit
L'impoverissement nutritionnel peut provenir du manque de biodiversité de pollen et de nectar ou du manque de cultures intéressantes pour la production (comme le colza, le tournesol, trèfle...).

Pathology
Comme tous les animaux, les abeilles sont confrontées à plusieurs maladies dont la plupart ne se développent que dans certaines conditions d'affaiblissement.

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BEES & LANDSCAPE

Bees need a varied landscape in order to develop their colonies. Hedges, bushes, shrubbery, flower meadows contribute not only to give value to the landscape, but also determine their well-being.

Bees need a diverse environment, where crops are interspersed with hedges and rows of wood or grove, where there are wetlands and grassland can still flourish.

Apart from honeybees, these landscape elements also benefit wild bees. Unfortunately, the biodiversity of our landscape is deteriorating in wide regions. Therefore some species are declining, as well as beneficial insects, predators of crop pests, valuable auxiliary of the farmer. Diversification of agricultural land also contributes to the landscape quality, which is enjoyed by animals or even hikers, but also and primarily to the farmers themselves who develop their life and activity there

Many agro-environmental measures exist that allow farmers to maintain or restore these landscape elements while maintaining the profitability of their operations.



GIREA

NATAGORA



BEES & LANDSCAPE

ABEILLES & PAYSAGE

Bees need a varied landscape in order to develop their colonies. Hedges, bushes, shrubbery, flower meadows contribute not only to give value to the landscape, but also determine their well-being.

Pour pouvoir développer leurs colonies, les abeilles ont besoin d'un paysage varié. Haies, buissons, bosquets, prairies fleuries contribuent à leur bien-être autant qu'à la valeur du paysage.

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Diversification of agricultural land also contributes to the landscape quality, which is enjoyed by animals or even hikers, but also and primarily to the farmers themselves who develop their life and activity there.

Les abeilles ont donc besoin d'un environnement diversifié, où les cultures sont entrecoupées de haies et d'allégements, de bois ou de bosquets, où les zones humides ont droit de cité, où les prairies peuvent encore fleurir.

Ces éléments paysagers s'entrecroisent pour faciliter l'activité des abeilles sauvages, dont certaines espèces sont en perte de vitesse, y compris dans leur propre pays. De même que les insectes utiles, prédateurs des parasites des cultures, auxiliaires précieuses de l'agriculteur.

La diversification des espaces agricoles contribue aussi à leur qualité paysagère, pour le plus grand bonheur des promeneurs qui viennent s'y recueillir, mais aussi et d'abord pour celui des agriculteurs eux-mêmes qui y vivent au quotidien.



Many agro-environmental measures exist that allow farmers to maintain or restore these landscape elements while maintaining the profitability of their operations.



Why do we need a landscape like this one?

Que faut-il apporter un tel paysage à nos abeilles ?










INTEGRATED PRODUCTION
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BEES AND PULSES

Each year Europe imports some 30 million tonnes soybean meal. This huge reliance limits Europe's food autonomy and deprives its farmers of an « added-value » crop and an important contributor to crop rotation.

Devised to protect essential crop production in the infant European Union, the Common Agricultural Policy (CAP) has inadvertently made Europe dependent on imported protein crop products. This reliance has over the years been written into the international trade agreements, where our continent has committed to restricting natural and social consequences disastrous. In main exporters of soybean like Brazil and Argentina the production of soybean is, accompanied by the destruction of rainforest

The forests and the pampas... and the farmers

The growth of soybean cultivation has destroyed tens of millions of hectares of rainforest and the pampas of South America. Cultivating protein crops in the EU would allow the conservation of such important environments for biodiversity.

This also resulted in the removal of hundreds of thousands of smaller agricultural farmers in South-America. By cultivating proteins in European, our farmers will regain control of their feed ingredients and recover a value that is currently lost, at the same time that smaller farmers in Latin America might recover land to cultivate food crops.

Pulses : bees have everything to gain

These crops are in most of the cases very interesting for honey production, both in quality and quantity. From one hectare of alfalfa up to 350 Kg of honey can be produced.

Less pesticide

Monoculture soybean is normally associated with an intense use of pesticide (200 million liters per year in Argentina). The recovery of food crops in producing countries and the introduction of pulses in crop rotation on the European side would help reducing the pesticide use in North and South.

The return of rotation

By importing tens of millions of tons of protein the nitrogen cycle is unbalanced resulting in pollution of groundwater by nitrates. Growing more pulses, which are excellent heads for rotation, enrich the soil with nitrogen, facilitating the soil work and breaking the cycle of pests, reducing input requirements.





BEES AND PULSES

SOJA, LE RECUL DES ABEILLES

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Le continent européen importe chaque année plus de 30 millions de tonnes de tourteaux de soja.

Construite pour préserver les productions essentielles de l'Union naissante, la Politique Agricole Commune (PAC) a eu pour effet involontaire d'entraîner l'Europe à importer ses principales productions protéiques. Cette situation a été inscrite au fil du temps dans les accords internationaux sur le commerce, qui se sont traduits par l'engagement de notre continent à limiter de façon très importante la surface emblavée d'oléoprotéagineux. Cette dépendance croissante limite le souveraineté alimentaire de l'Europe, prive ses cultivateurs d'une plus-value et d'un élément important de la rotation culturale, et a des effets désastreux sur l'environnement. Dans les pays exportateurs de soja (Argentine et Brésil principalement), elle s'accompagne de l'aménagement des milieux naturels et de conséquences sociales désastreuses.

The forests and the pampas... and the farmers

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Pour la forêt et la pampa... et les agriculteurs

La progression du soja déstabilise par dizaines de millions d'hectares la forêt amazonienne et la pampa d'Argentine, déplaçant nos propres protéagineux permettant la conservation de milieux importants pour la biodiversité.

Une autre conséquence a été l'élimination de centaines de milliers de paysans en Amérique latine. En cultivant ses propres protéines, l'Europe leur rendra son terrain pour leurs cultures vivrières, leur permettant ainsi de retrouver le contrôle de leur alimentation, et de récupérer une plus-value et un élément important de leur rotation culturale.

Pulses : bees have everything to gain

These crops are in most of the cases very interesting for honey production, both in quality and quantity. From one hectare of alfalfa up to 350 Kg of honey can be produced.

Légumineuses : les abeilles ont tout à gagner

Ces cultures qui sont pour la plupart, d'excellentes mellifères en quantité et en qualité, offrent à un hectare de luzerne plus de 350 kg de miel.



Less pesticide

Monoculture soybean is normally associated with an intense use of pesticide (200 million liters per year in Argentina). The recovery of food crops in producing countries and the introduction of pulses in crop rotation on the European side would help reducing the pesticide use in North and South.

Moins de pesticides...

La monoculture de soja va de pair avec l'utilisation intensive de pesticides (200 millions de litres chaque année en Argentine). Le retour des cultures vivrières dans les pays producteurs, et l'introduction des légumineuses dans la rotation côté européen, permettent de diminuer l'usage des pesticides au Nord comme au Sud. Tout bénéfice pour l'abeille!



The return of rotation

By importing tens of millions of tons of protein the nitrogen cycle is unbalanced resulting in pollution of groundwater by nitrates. Growing more pulses, which are excellent heads for rotation, enrich the soil with nitrogen, facilitating the soil work and breaking the cycle of pests, reducing input requirements.

Le retour des rotations

En important des dizaines de millions de tonnes de protéines, nous déséquilibrons le cycle de l'azote et polluons nos nappes d'eau par les nitrates. Cultiver plus de légumineuses, qui sont d'excellentes têtes de rotation, enrichissent le sol en azote, facilitent le travail du sol et brisent le cycle des ravageurs, réduisant les besoins en intrants.





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HELPFUL GARDEN INSECTS

Many insects

(such as ladybirds, lacewings and hoverflies) are fierce predators of pests like aphids, mites, slugs, and mealy bugs.

They are attracted by flowers, native trees and shrubs, good provision of shelter, a diverse range of plant species, and the absence of chemical treatment.

Mammals and amphibians also form part of the arsenal which gardeners can count on to protect the garden from many pests.

Birds feed on caterpillars, diurnal and nocturnal raptors attack voles, and hedgehogs and shrews are always on the lookout for slugs.

HELPFUL GARDEN INSECTS LA FAUNE UTILE AU JARDIN

De nombreux insectes

(coccinelles, chrysopes, syrphes...) sont de féroces prédateurs ou parasites de ravageurs tels que les pucerons, les acariens, les limaces, les cochenilles... Leur présence est facilitée par la présence de fleurs, d'arbres et d'arbustes indigènes, des abris, par une diversification des espèces végétales et par l'absence de traitements chimiques. Mammifères et amphibiens font également partie de l'arsenal sur lequel le jardinier peut compter pour protéger son jardin des multiples ravageurs. Les oiseaux pour se nourrir de chenilles, les rapaces diurnes et nocturnes pour lutter contre les campagnols, le hérisson et la musaraigne toujours à la recherche de limaces.

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HOW TO GARDEN WITHOUT USING PESTICIDES? COMMENT JARDINER SANS PESTICIDES ?

L'usbi ADALIA a pour objectif de réduire l'utilisation des pesticides en informant les particuliers sur :

- > les problèmes posés par les pesticides sur l'environnement et la santé publique
- > les solutions sans pesticides qui existent pour entretenir efficacement leur jardin

Les gestes simples pour limiter l'usage des pesticides sont ...

- > La prévention
- > La lutte biologique
- > Le piégeage
- > Le désherbage alternatif
- > L'aménagement du jardin



ADALIA is an association which aims to reduce pesticide use by telling people about:

- > The problems pesticides pose to the environment and public health
- > Existing pesticide-free solutions which allow efficient garden upkeep

Here are some simple ways to limit pesticide use:

- > Prevention
- > Biological measures
- > Trapping pests
- > Alternative ways of weeding
- > Better garden management
- > Using natural products
- > Mechanical methods



Adalia is an association which aims to reduce pesticide use by telling people about: This exhibition is held in the framework of the Alternatives to Pesticides Week held at the European Economic and Social Committee from 20-22 March 2019.

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Here are some simple ways to limit pesticide use:

Prevention, biological measures, trapping pests alternative ways of weeding, better garden management, using natural products, mechanical methods