Report of the PAN Europe Network Conference 2004

Reducing pesticide use and chemical hazards in Europe

12-13 November, Barcelona, Catalunya, Spain

Contents

Introduction

The sixth conference of the PAN Europe Network took place in Barcelona, Catalunya Spain, on 12-13 November 2004. It was the first time that the participants met in the Mediterranean. Over 80 participants took part from 15 European and Caucasian countries (Armenia; Belgium; Bulgaria; Czech Republic; Denmark; France; Germany; Hungary; Italy; Poland: Slovakia; Slovenia; Spain; UK; and Ukraine). The conference programme is included in Annex A. Main objectives of the 2004 Network conference were to:

• Share experiences of northern European countries in pesticide use reduction (PUR) and alternatives and NGO strategies
• Improve NGO understanding in Spain of EU legislation (opportunities and obstacles for human and environmental health protection)
• Broaden public understanding of the rationale and economic feasibility of PUR in Europe (PURE) and present new findings on the health hazards of pesticides
• Build NGO capacity in Spain and neighbouring countries to play an active role in the advocacy of pesticide reduction (at the national level and EU level)
• Raise awareness at the EU level of problems with pesticides and chemical impacts in Spain (urban exposure as well as agricultural exposure)

Our aims to achieve a good representation of organisations from Central, Eastern and Southern Europe were fulfilled with 11 participants from CEE and Caucasian countries and 53 participants from Catalunya, other parts of Spain and Italy. The conference was opened by the Director of the Department for the Environment of the Catalan Regional Government and closed by an officer from the Catalan Food Safety Agency, part of the Department of Health. Eight government officers participated in the event, including the Catalan Centre for Workplace Health and Safety. This was an important achievement in bringing together civil society public interest groups with public sector officers working in the areas of health and environment.

Mr. Cañas of the Regional Catalan Government pointed out the problem of chemical hazards to people or the environment and the importance to increase awareness about this problem. Both the political process at the European level and national regulations for production processes or occupational health and safety standards can contribute to improving the quality of life. Friends of the Earth (FoE) Barcelona, who co-organised this conference, have been campaigning in Catalonia to reduce the use of hazardous pesticides and substitute these with safe alternatives. They now will take the campaign *'Pesticides out of our Lives'* to the national level. PAN Europe works together with groups that are active at the national level in the field of health, agriculture or the environment. It brings together different stakeholders and looks for ways how these can collaborate to solve specific problems of pesticides, and it would like to see more groups participating from Mediterranean and Central and Eastern Europe, including countries that are not Member States of the EU.

The conference focussed on how to reduce the risks from exposure to chemicals and pesticides. It presented the problem of biocides that are used indoors and in urban areas. Some workers in Catalunya who were daily exposed to disinfectants or insecticides have developed cancer, besides suffering from acute poisoning. This highlighted that certain highly hazardous active ingredients (mainly pyrethroids and organophosphates) must be substituted by safer alternatives, and that controls are necessary whether a product has an approval to be used indoors. Better training on safety for workers is needed, and the situation in the private sphere must be monitored also.

The impacts from endocrine disrupting chemicals on health, especially among women and children, are of great concern and the need for adhering to the precautionary principle was stressed. There is enough evidence that certain chemicals damage health irreversibly and lead to cancer or impaired fertility and development. It is not feasible to wait until absolute proof can be provided of a causal association for each chemical and disease. Alternatives exist that are safer and it has been demonstrated practically that costs can be saved with these. Farmers' associations can be a strong support to farmers aiming to reduce pesticide use and dependency.

Within the REACH process at the European level, a number of chemicals produced in larger quantities are registered and evaluated for authorisation. Key demands of NGOs aim to ensure that this process promotes safer alternatives and reduces the risks to consumers and the environment. Current developments within EU legislation need to be considered when campaigning to raise public awareness or when collaborating with government agencies. Agricultural practices and their impacts on public health need to be discussed together as they are connected. Within Europe, many different groups are active and campaign for eliminating hazardous pesticides and improving health and safety standards of farmers and consumers. NGOs, research institutions, workers unions and farmers' associations aiming to reduce the risks of pesticides in various European countries are more likely to succeed if they continue to exchange their experiences and co-operate at the international level, while focusing simultaneously on their activities at the national, regional and local level.

Regional campaigning and an active participation in the development of EU legislation for chemicals or pesticides are both important and complement each other. For actions at the European level an intensive exchange between NGOs is necessary. In Central and Eastern European countries stockpiles of obsolete pesticides pose a serious threat to public health and the authorities, NGOs and other parties need to make joint efforts to deal with this. In agriculture integrated production should become the minimum standard and this requires training opportunities for farmers, independent advice, appropriate marketing strategies of the large retailers and supportive legislation at the national and European level. Pesticide use reduction programmes need to include quantitative goals and timetables, and the public must be given access to information about the authorisation procedure for chemicals (at the national and European level) and about spraying of chemicals at the local level.

Other events that took place besides the Network conference were PAN Europe's Annual General Meeting, a meeting of PAN Europe's PURE Working Group. The Catalan campaign also hosted a public meeting at which PAN Europe spoke about the PURE campaign and organiseda technical seminar on Best European practice in reducing the use pesticide and other hazardous chemicals for an audience of Catalan professionals in health, environment, and agriculture. PAN Europe invited keynote European speakers to this seminar from the European Commission, the Netherlands, Denmark, UK, and France and made presentations on our policy positions.

PAN Europe gratefully acknowledges the financial support from the Rausing Trust (UK), the Norwegian Ministry of Agriculture, the Catalan Regional Departments of Environment and Health and the major logistical support organised by the Catalan campaign *Pesticides out of our Lives!* in making this conference possible. In particular we would like to thank Friends of the Earth Barcelona, Comisiones Obreras Trade Union, Centre for Analysis of Health Projects and to Vida Sana for providing delicious organic and locally produced food and refreshments.

I. KEYNOTE PRESENTATIONS

PREVENTION OF ILLNESS DUE TO EXPOSURE TO PESTICIDES IN THE URBAN ENVIRONMENT

Biocides in use in the environment: a little known risk with serious effects

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Traditionally, the risk associated with pesticides has been linked to the processes of making, formulating and applying these products in agriculture. However, their ever more frequent use to disinfect buildings involves a work-associated risk for many workers in offices and other workplaces of very varied activities. This risk is aggravated by the fact that exposure tends to go unnoticed because it is not directly linked to the specific activity, or nature of the work being carried out by such workers. Because of this, it is almost never identified or evaluated and, as a result, is not adequately controlled.

In Catalonia, the Centre of Health and Safety Conditions at Work (CSCSTB), with the support of the Barcelona National Centre for Conditions at Work (CNCT of the National Institute of Safety and Hygiene at Work, IHSHT), has collected information on adverse health effects on workers who, without being at risk from pesticides at work as a result of the nature of their work, were nonetheless exposed to pesticides in an uncontrolled fashion due to incorrect applications or incorrect use of different formulations in the workplace. Between April 1994 and October 2003, 38 incidents were registered, mostly in the province of Barcelona, involving a total of 678 workers. The Barcelona-Pesticides Questionnaire was used with these workers, resulting in 378 (55.7%) being declared unaffected, and the rest, 301 (44.3%) being suspected as having been affected to varying degrees: 135 workers (44,9 %) were thought to have been slightly affected, 103 (34,2%) were thought to have been moderately affected, and 63 (20.9) were thought to have been seriously affected. This last group were advised to seek follow-up in the Medical Reference Unit so that their pathologies could be studied in Barcelona (Neurophysiological Service of Health in the City and the University of Bellvitge). 50 of those thought to be seriously affected were confirmed as such, and more than 100 more cases are currently under study. These cases reached the official centre as a result of reports made to Workplace Authorities , from unions, or from legal proceedings claims made by those workers affected, occasionally from requests made by the companies themselves, and in one case by an insurance company dealing with accidents at work. Currently workers with pronounced effects are sent to our centres by the Occupational Health Units, from cases referred by family doctors who have had to take on these clinical investigations. When a case arrives at the Centre, the accident is investigated jointly by the Industrial Hygiene section and the Inspection of Work. Where symptoms have arisen, and the Health section has been informed, the epidemiological services carry out a parallel investigation of these symptoms.

A wide variety of workplaces are involved in this type of accident, including teaching centres, hotels, old peoples' homes, office buildings (both private and official), banks, laboratories and social health services. In some of these locations, activities have come to a standstill, in some cases permanently. The companies which must take action after the event in order to allow centres of work to re-open and be occupied again are not cleaning companies, but those whose job is decontamination. In order to achieve this, it has sometimes been necessary to destroy large quantities of office material, remove office furniture and carpeting, change certain sorts of interior decoration (false ceilings), scrape off painted surfaces, and change absorbent material (curtains, bedclothes, mattresses) before the contaminated area can be re-occupied.

Those affected are not usually diagnosed correctly at first, due to the variety of symptoms which can appear and to ignorance of the possibility that they may have been exposed to pesticides in their workplace. However, the persistence of medical problems over periods of years is a common finding in people with marked symptoms in the weeks after the pesticide treatment; subsequent effects are largely neurological and/or involve changes in behaviour. To date, more than 50 people have been classified as unable to work to varying degrees, with an additional group of 30 workers waiting reclassification according by courts.

Estimation of the risk in Catalonia

According to Dr. Baselga Monte, in 1999, the number of cases recorded has been calculated as possibly corresponding to 30.97% of the cases which actually occurred – that is, 69.03% of cases went undetected. The percentage of cases undetected in other regions of Spain could be as much as 100%.

According to these calculations, the estimated prevalence of annual exposure could affect 4.33% of the working population in Catalonia, and the annual estimated rate of incidence could be 19.61 accidents per 10,000 pesticide applications, involving 19.71 people per 10,000 exposed.

Given the persistence of the results of exposure, some of which have a disabling effect – between 5% and 10% of cases, we conclude that we are facing a risk, and we should act aggressively in order to prevent exposure, using suitable technical methods.

Exposure to pesticides as a source of risk

In the majority of the accidents studied, and in all those that have resulted in permanent health effects, the presence of at least one organophosphate pesticide has always been identified. The two compounds which have been most frequently identified in those accidents which have been investigated, diazinon and chlorpyrifos, belong to this type of pesticide.
Compounds belonging to the pyrethrin and pyrethroid (these are different isomers) families have also been found relatively frequently, but not alone. The different chemical families each act differently upon living organisms; in general, however, insecticides are nerve toxins whose target organ is insects' nervous systems, but which also act on humans. In simple terms, we can say the most dangerous are those from the organochlorine family, followed by the organophosphates, the carbamates, the pyrethroids and the pyrethrins.

A total of 21 different active pesticide ingredients have been identified: these have been recorded as used and/or detected analytically in the accidents studied and, in different combinations, made up part of the pesticide treatments which were applied. Between 2 and 5 different active materials are normally identified in each case. An active ingredient is the chemical substance which acts biologically on the insects which it is designed to kill. (A pesticide also contains other substances to dilute it and/or contribute to making it more efficient.)

Amongst the active ingredients which have been recorded as used and/or detected analytically in the 38 cases studied are:

- Organochlorines: lindane
- Organophosphates: diazinon, chlorpyrifos, methyl-chlorpyrifos, diclorvos, fenitrothion
- Carbamates: bendiocarb, propoxur, isoprocarb
- Pyrethroids: cifluthrin, cypermethrin, cyphenothrin, tetramethrin, permethrin, fenothrin, allethrin, alpha-cypermethrin
- Pyrethrins: pyrethrum extract
- Others (creosote, calcium oxide, piperonyl butoxide, triflumuron)

Additional risk factors

In some cases, the pesticides applied were not authorised for use indoors, or the products which had been registered were different from those which were detected analytically. In other cases, the certificates had been duplicated, that is to say that there were two different invoices corresponding to the same application, each stating that different products had been used. Some applications were carried out by companies which were not authorised to make such applications (that is, they were not registered for this type of activity). Incorrect information on the chemical composition of some preparations has also been detected. Some of the recorded products, included substances which are not permitted, such as creosote.

It was observed that in almost all of the cases, the information supplied to workers of the workplaces was inadequate, and this was aggravated in many cases by incorrect cleaning after the pesticide(s) had been applied. It has also been frequently observed that the areas in which pesticide poisonings have taken place often have certain characteristics, such as airtight buildings and areas, absorbent floors and hangings, or inadequate ventilation after the application, no air exchange of any kind. The absence of 'good practice' when pesticides are applied implies, indirectly, the simultaneous occurrence of one or various risk factors. Amongst

these it is worth noting: making the same application more than once; incorrect dosing; failure to observe safety intervals before re-entry after applications; lack of signposting to indicate treated and affected areas; applications made whilst the occupants were still present and, occasionally, products not authorised for use indoors.

Symptoms of and health impacts on those people studied

Amongst those people who were studied, females clearly predominate – there were 501 (73.8%) women and 178 (26.2%) men, with an average age of 35 years (+/- 15). In general, those affected had a large number of symptoms involving different organs within the body, in particular the nervous system. They experienced alternating periods of greater and lesser symptom intensity, with symptoms becoming chronic and persistent with time, without the person recovering completely. The marked differences in symptoms between one person and another makes diagnosis exceedingly difficult if exposure to neurotoxic insecticides in the workplace cannot be proved. In 56% of the cases where the person was suspected of being more affected, there were more than 15 clear symptoms which persisted for months.
The study and classification of the 201 different primary symptoms which were observed in the cases treated has made it possible to group them into 58 symptoms, from which 12 leading symptoms have been identified (**Table 1**). When these are present, we can suspect pesticide poisoning.

Table 1. Prevalence of the 12 leading symptoms. (301 cases affected, of which 34 were men, and 267 women)

Headaches: 213 cases (70,7% of the sample)
Chronic fatigue: 177 cases (58,8%)
Respiratory difficulties: 146 cases (48,5%)
Sense of smell affected: 140 (46,5.6%)
Sense of taste affected: 106 (35,2%)
Menstrual changes: 86 (32.2%) of 267 women
Nausea/Vomiting: 90 (29.9%)
Loss of muscular strength: 84 (27,9%)
Muscle contraction: 72 (23.9%)
Diarrhoea: 59 (19.6%)
Changes in oral/labial sensitivity: 48 (15.9%)
Changes to the sensitivity of the tongue: 33 (10,9%)

Chronic effects shown to be present after ten years of follow-up

Follow-up of the first groups to be accidentally exposed has provided early evidence of the following combined effects in workers who, prior to the accident, had not requested medical attention owing to these disorders:

- Loss of cognitive capacity
- Idiopathic Environmental Intolerance (Multiple Chemical Sensitivity)
- Chronic Fatigue Syndrome
- Changes in menstrual cycles

Interestingly enough, all these four kinds of disorders (except for menstrual changes in man) were noticed all together in each affected workers. As well as all this, there is a large number of symptoms, especially painful sensations, respiratory, digestive and urinary symptoms, and alterations in sensitivity.

Objective studies have been made via different diagnostic tests of neurological changes, predominantly to the central nervous system: changes to evoke potentials, in electroencephalograms (EEGs), in cerebral SPECT (body section radiography), in cerebral and pituitary gland NMRs and in visual digital campimetry (visual field defects), as well as neuropsycological assessment. The study protocol has been progressively widened as more patients have been studied.

In the most serious cases, these changes have always resulted in a loss of the capacity to work. The most serious difficulties in re-integrating people into their jobs have resulted from the problem of Multiple Chemical Sensitivity, chronic fatigue syndrome, and, in those affected who

had different technical qualifications, the reduction in their intellectual abilities which resulted from the neurophysiological changes they suffered. These were largely in the frontal lobe, but in the most serious cases also affected the temporal and parietal lobes of the brain.

Considerations relating to the use of pesticides inside buildings

The proof in this study of the irreversibility of the effects suffered by those who were affected by pesticides, and the permanence of these effects in the most serious of the cases, forms a solid basis for an alert focussing on the repeated, and frequently unjustified, use of pesticides in indoor work locations and, by logical extension, in any interior used by humans. On this basis, the following guidelines should be emphasized:

1. The utmost effort should be made to avoid certain pesticide treatments due to the possibility of their causing damage to people using the area. Special attention should be paid to treatments in residential centres or centres where the users are especially vulnerable (children, old people, the ill) and to applications in work centres which are open all the time.

2. The use of pesticides indoors should be strictly limited to personnel who have received adequate technical preparation and who have received legally accredited training. Applications should be carried out according to procedure, using authorised and registered formulations. Complete and truthful disclosure of the risks, the precautions to be taken, and the correct protocol with respect to third parties, must be observed.

3. All pesticide treatments indoors should be considered as operations entailing risk, and consequently should be correctly planned and supervised. Work protocols should consider what action needs to be taken before, during and after the pesticide treatments.

4. Given that health problems must occur during the weeks after pesticide treatments, statements of these should remain with the companies in a record book. If possible, these should be numbered to prevent subsequent alterations. Where adverse effects do occur, these should also be recorded. First of all, medical attention should be guaranteed to those affected, but care must be taken to ensure that the accidental exposure of all those who have shown the same type of problems is also recorded in the relevant part of the work accident report (whether with or without casualties).

5. Information must be guaranteed to reach all those who work in the areas treated, especially if they do not do so generally or all the time. Workers who do cleaning merit especial attention, as do guards and caretakers, or companies who are sub-contracted and who could be working at times when regular workers are not present.

6. Routine insect removal treatments in companies are completely contraindicated. There is no technical justification for this. In any case, products with the least toxicity possible should be chosen.

7. Other pest control methods should be put forward, which are not exclusively chemical in nature. If the use of pesticides is necessary, it should be limited to the treatment zone, and applications systems which generate minimal dispersion and liberation of the product in indoor environments should be chosen.

IMPACTS ON HEALTH: CHILDHOOD - Contaminated lives: Constructing a European strategy with NGOs to reduce pesticides and chemical risk

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On 8 June 2004, Spain ratified the Stockholm Convention. Article 1 states the objective of this convention: 'Mindful of the precautionary approach as set forth in Principle 15 of the Rio Declaration on Environment and Development, the objective of this Convention is to protect human health and the environment from persistent organic pollutants.'

The European Commission has presented an Action Plan for environment and health in Europe. This strategy puts particular emphasis on children and is also known as 'SCALE' – Science,

Children, Awareness, Legislation and Evaluation. The Action Plan aims to gain a better understanding of the links between environmental factors and various diseases; key information on exposure will be gathered by monitoring exposure through the environment (including food). It is the objective to improve health by improving environmental conditions, and this requires that the chemical contamination of the environment and food be reduced.

There are more than 100,000 existing synthetic chemicals, most of these without naturally occurring equivalents and with largely unknown effects on the environment and the various species. An example of these is a group known as organochlorines, which are organic compounds that contain one or more atoms of chlorine. They are chemically inert and their high persistence, which was previously seen as advantage, now presents a serious problem. Some of these are forbidden and others like the insecticide endosulfan are priority chemicals.

Within the Earth's boundaries these chemicals are present on all continents and in animals that range from penguins on the Faroe Islands and polar bears on the 70th northern latitude to exotic species in other places... But what is the situation in my own country? Or what about my house? Human tissue and blood contain a number of different pesticides (Table 1 and Table 2 below). In Southern Spain, women have been and are currently exposed to organochlorine pesticides (Botella et al 2004).

Persistent organic pollutants (POPs)
These include several organochlorine pesticides:
• DDT and its metabolites
• Methoxychlor
• Chlordecone ('Kepone')
• Toxaphene
• Heptachlor
• Chlordane
• Dicofol ('Kelthane')
• Mirex
• Dieldrin, Aldrin, Endrin
• gamma-Hexachlorocyclohexan (gamma-HCH, 'Lindane')
• Endosulfan
• Arochlor (mixture of chlorinated biphenyl derivatives or PCBs)

Table 1. *Persistent pesticides (and metabolites) in adipose tissue of children aged 4-11 years old (mg/kg of tissue; M: mean; %: frequency of detectable concentrations; E: Endosulfan)*

	beta-HCH	Lindane	E. ether	E. lactone	E. diol	E. sulphate	E. (I)	E. (II)	Methoxy-chlor
M	0.06	0.026	0.28	0.004	0.01	0.03	0.13	0.38	0.02
Max	3.27	0.440	6.89	0.01	0.52	1.71	3.77	9.42	0.69
%	5.2	8.2	18.2	13.5	11.5	2.7	11.8	9.1	5.8

	Aldrin	Dieldrin	Endrin	DDE	o,p'-DDT	p,p'-DDT	DDD	Mirex	Chlordane
M	0.160	0.350	0.710	1.52	0.75	0.13	0.34	0.04	0.49
Max	7.91	7.98	11.66	4.44	35.94	2.87	11.9	0.64	1.67
%	8.2	20	22.7	47.3	17.3	11.5	11.8	9.6	13.5

Table 2. *Persistent pesticides (metabolites) in adipose tissue of men and women aged 30-65 years old (ng/mg of fat; M: mean; %: frequency of detectable concentrations; E: Endosulfan)*

	HCB	Lindane	E. ether	E. lactone	E. diol	E. sulphate	E. (I)	E. (II)	Metoxy-chlor
M	144.76	3.77	0.58	1.77	3.08	0.60	0.23	2.88	nd
Max	386.43	43.51	4.89	151.43	29.70	26.06	4.54	48.4	nd
%	72.09	27.91	48.83	23.25	36.73	2.32	6.97	9.30	nd

	Aldrin	Dieldrin	Endrin	DDE	o,p'-	p,p'-	DDD	Mirex	Chlordane

					DDT	DDT			
M	25.94	1.53	4.27	309.01	3.79	16.15	nd	nd	621
Max	163.59	65.97	139.03	1373.5	33.78	173.1	nd	nd	693
%	46.52	2.32	4.65	93.10	16.27	16.2	nd	nd	27.90

Concerned individuals often ask us: *'What does it mean if blood contains 5 parts per billion?'*, *'Whose responsibility is it?',* and: *'How do you get rid of these residues?'* It can be argued that it might be better not to generate this kind of data because it may cause worries among non-experts, while the people can do nothing or little to change the situation. Also it may turn out that this research is not being done properly.

The intensive agriculture in the south of the Spanish peninsula leads to pesticide residues in food, which is one of the ways the public is exposed to these chemicals. Pesticide exposure results from professional agricultural activity and, inadvertently, from pesticides used in the garden or products for treating parasites. Exposure can occur during the development of the child: organochlorines or other organohalogens can cross the placenta during pregnancy and enter the milk of lactating mothers. A number of these chemicals can affect the endocrine system of the developing child.

Some products have been used for a considerable period of time, notably DDT that was first synthesised in 1890 and used as an insecticide from the 1930's onwards. It was produced in India and China and used in the control of malaria in twelve countries by the WHO. DDE is a breakdown product or metabolite of DDT. HCB was introduced in 1940 as a fungicide (for seed treatment) as by-product of the chlorine industry. It is used for various industrial purposes (as solvent, in the production of plastics/ PVC, pyrotechnics/weapons and inks/dyes).

'An *endocrine disruptor* is an exogenous substance or mixture that alters function(s) of the endocrine system and consequently causes adverse health effects in an intact organism, or its progeny, or (sub)populations' (EC 1999; EC 1997). In the context of children's and women's health several observations have been associated with a type of chemicals called *xenoestrogens.* These are endocrine disrupters that have oestrogenic effects; they include the following which are used in various products:

- Organochlorine pesticides — agriculture (insecticides); residues in food
- PCBs — in electrical equipment (transformers etc)
- Alkylphenols — adjuvants/surfactants, industrial detergents
- Bisphenols — polymer production: polycarbonates, epoxy resins
- Tributyl tin — anti-fouling paints (algicide, fungicide, molluscicide)
- Pthalates — in plastics (softeners), cosmetics, wood finishers
- Parabens — in hygiene products and perfumes (preservatives)
- Benzyl esters (B. cinnamate) — in sun creams (UV filters)
- Bromodiphenyl ethers — in computer circuit boards (fire retardants)

Observations concerning children's development

• In the USA, many girls enter puberty precociously [i.e. an an earlier age than normal] Of 17,000 girls entering puberty at the age of 8 years, 48% were black and 15% white). Possible factors besides race are obesity, presence of an adult or non-biological parent, and inter-uterine exposure to endocrine disrupting chemicals (Herman-Giddens *et al*, Pediatrics 99, 505-512, 1997).

• Prevalence of cryptorchidism [failure of the testicles to descend into the scrotum] in Eastern Andalucia: between 1980 and 1991 in the area of the Clinical Hospital of Granada there were 270 cases and 514 control cases. Municipalities were classified in four levels (0-3) according to their use of pesticides, based on the per hectare consumption. The mean odds ratio (OR) for cryptorchidism in the children living in areas with highest pesticide use (level 3) was calculated to be OR = 2.32 (1.26-4.29), indicating an increased risk (García-Rodríguez *et al* 1996).

Observations concerning breast cancer in women

Since 1984, more than 20 studies have investigated whether there is a connection between the concentration of organochlorines (DDT, PCBs) in blood and adipose (fat) tissue, and the risk of

breast cancer. These studies have produced conflicting results. Cancer is a multifactorial disease and it has a long incubation period. It is difficult to determine the previous exposure level of a patient and to estimate what kind of chemical compounds should be considered.

Chronic exposure to agricultural pesticides may cause long-term effects in men and women:
• Tumours of the brain and stomach, leukaemia, Non-Hodgkins lymphoma (NHL) in both men and women; prostate and testicular cancer in men
• Breast cancer in women

Although many women work in agriculture, the agricultural activity of women is often not recognised as such. It has been found early on that exposure to organochlorines and breast cancer may be linked (Carson 1962; Hunter and Kelsey 1993).

In the 1920s, menstruation began at about 14 years of age and from about 18 years onwards it was frequently interrupted (presumably by childbirth and breastfeeding) for longer intervals until the age of about 40. This was followed by normal menstrual cycles until the women entered menopause at about 47 years. In the past, it appears that the early cases of breast cancer occurred just before the age of 60. This can be compared with the 1970s when menstruation began at the age of about 10 years and continued until the age of 20; from then on women took oral contraceptives almost continuously until they were about 30 years old. After this there would be a brief time without menstrual cycle (presumably due to childbirth and breastfeeding) followed by another brief period of normal menstrual cycles and use of contraceptives until the age of mid/late 30. This was followed by menstrual cycles until menopause at 50. Cases of breast cancer set in just after 50 years, very soon after the menopause.

The Precautionary Principle and its application

32 scientists stated that: 'Where an activity raises threats of harm to the environment or human health, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically' (Wingspread Statement 1998). It is crucial when applying the precautionary principle to consider the potential damage, scientific uncertainty and preventative action. Conclusions drawn in this context are:

• In the face of uncertainty, it is necessary to adopt preventative actions.
• The proponent of an activity, rather than the public, should bear the burden of proof.
• The process of applying the precautionary principle should be open, informed and democratic.
• A wide range of alternatives should be explored systematically in any risk analysis, including the option of not implementing the action under consideration.
• The precautionary principle should be considered before the risk evaluation process and not subordinated to it. Emphasis should be placed on what we do not know.

At the beginning this involves asking whether one intends to draw attention to the damage of a certain action, or to define objectives for preventing this damage. If the process focuses on damage resulting from an action, the precautionary principle is applied:
• Different alternatives to the intended action are analysed.
• Responsibilities are assigned to the groups and people involved in the process.
• The various stakeholders express their opinions freely.
• When consensus has been reached, specific measures are implemented and their impacts are monitored.

The process may also focus on defining objectives to prevent damage:
• Consensus with regard to the objectives is established among participants; the objectives reflect the precautionary principle to some extent.
• Different alternatives are considered that can be followed in order to achieve the objectives. Next, it is discussed to what extent these alternative actions support the defined objectives.
• It is then discussed how much damage can be avoided.

The role of science is relegated to demonstrating whether the damage is actual or potential (Myers 2002). Nothing 'abnormal' need occur during the process of a risk evaluation, but… who decides? How probable is the damage? And are these legal or moral responsibilities?

How to apply the precautionary principle to endocrine disrupters? The conventional risk approach is to start by looking at the damage. In this case, that would involve demonstrating the relationship between environmental contaminants that occur in mothers, and specific illness of their children which is caused by these contaminants. The alternative, precautionary approach is to start by setting objectives- in this case, elimination of these toxins from maternal milk.

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Externalisation of plant protection treatment costs

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El Maresme district lies 30km north of Barcelona, next to the Mediterranean. Due to its benign climate, it has traditionally been a zone for production of early season vegetables, for fresh consumption in Barcelona and for export (since the 1930s its Mataro potatoes were exported to UK). Although the zone covers only 0.68% of agricultural land in Catalunya, it generates 3% of the region's agricultural production and thus forms an important farming area, and it is not a marginalized are. One third (or 900,000 ha) of the Maresme is cultivated land. Through my long experience as a small-scale grower, I can remember the days when we used to apply just copper sulphate on local vegetable and flower crops, indigenous to the zone. As time passed, with the introduction of new varieties, especially carnations, from abroad and with a major increase in pests and diseases, we started practising chemical control, without any form of supervision or proper training. When asked by physicians of the regional Department of Labour whether the filters in the facial masks were changed regularly, the answer would often be that

one did not know this was necessary. It was normal to mix chemical products with our bare hands and without any form of protection. The only advice we got from the salesmen of agrochemical companies was that if the dose on the label didn't eliminate the pests, we should double the dose!

Imbalance in the environment and ecosystem grew in proportion to the uncontrolled use of a large number of pesticides, many of which very aggressive products. By the late 1980s we had serious problems on tomatoes and beans with American leafminer *Liriomyza trifolii* and then with whitefly *Trialeurodes vaporariorum.* Farmers often used to think the others had not done a good job and would use all types of products at the maximum dose. However, they still suffered attacks and the pests continued. But thanks to the efforts of one particular researcher, who used no chemical treatment, and the courage of the first growers who risked their own plots to carry out experiments, as guinea pigs, we realised that we had to change. These were followed by others later when local farmers with the same type of pests visited another and exchanged experiences. We then began moving towards integrated control and created the first of the Crop Protection Groups (ADV). These ADVs, first set up in the 1980s, are not-for-profit groups of growers who joined in sharing the costs of contracting technical assistance in crop management and control of pests and diseases. At the beginning, the ADVs were created to supplement the services provided by the former agricultural extension district offices, of the Catalan Regional Department of Agriculture and Fisheries, which provided some technical advice. But as this public sector service diminished, the administration passed decree DOGC 11/4/83 defining the objectives of ADVs and their support mechanisms. Amongst the ADV work programmes are collective pest and disease management activities. These groups were decisive for improving the health of farmers and consumers. Nowadays, the ADVs are mainly financed via a quota system paid by grower members annually. In our case of Baix Maresme, we pay around €750 each, and the ADV also receives an annual subsidy from the regional administration.

In our ADV we are currently 35 members, including those who rely exclusively on chemical control and those who practice integrated management. It is important to note that integrated pest control, based essentially on biological control of pests, is different from strategies exclusively using biological control. Integrated pest control does not mean organic cultivation, as some people assume. Only one of our groups cultivates under organic methods, using only biological controls. Those growers who use chemical controls and are ADV members are able to reduce the number of applications as long as they follow the recommendations of the ADV technical advisor and no longer make weekly calendar applications, as was the custom in the past. Farmers who belong to a group can also get chemicals at a better price. More importantly, all of the growers who practise chemical control strategies with technical advice use products with lower toxicity, thus reducing environmental impacts and personal effects from application, providing better protection of the their own health and of consumers' health. Around 80% of our members now carry out integrated pest control (IPC), which really does involve a reduction in pesticide use.

IPC makes use of all possible pest control methods: physical, biological and/or chemical, but its essential feature is that it is based on always using biological methods as first choice. Thus, if it is technically feasible and profitable, we use mainly beneficial insects to control pests, along with other methods which are low impact for health and environment. Tomato cultivation provides a good example. Developed over 15 years, the IPC protocols for whitefly management have proven successful, and in 2004, they were used on 70% of the ADV's tomato plots, both in greenhouses and open fields. This protocol uses the predatory mirid bug *Macrolophus caliginosus* to combat the whitefly species *Trialeurodes vaporariorum and Bemisia tabaci*. For controlling caterpillars which attack foliage, it recommends the bacterial biopesticide *Bacillus thuringiensis* (B.t.). Guidelines for introducing the predatory bug into greenhouses, or conserving its natural occurrence in open fields, have achieved significant reductions in insecticide use, especially the number of applications. In our favour is that the Mediterranean coastal ecosystem possesses important native biodiversity of beneficial insects and in open field cultivation in particular, these natural enemies will establish spontaneously, thus providing control at no economic cost. Here the main challenge is to avoid any insecticidal treatments which could deter beneficial insects from establishing themselves in the crop.

Table 1. below provides data from the 2004 spring season in tomato. IPC was used on 70% of cultivation units (closed and open field). The application figures refer only to insecticide use, not to fungicides or acaricides [products to kill spidermites], or the use of biological methods, such as B.t. or extracts of neem tree seed. Costs for the maintenance of machinery are not included.

The considerable difference in the number of treatments carried out early and late in the season in greenhouses (with a chemical control strategy) is due to climatic differences, with lower pest incidence, especially whitefly, in the late season.

Table 1.

	Control strategy	Percentage of production units using strategy	No. of treatments with a synthetic insecticide per production unit
Spring season greenhouses (Mar- Jun)	Integrated	58% of greenhouses	1 per greenhouse
	Chemical	41% of greenhouses	9.1 per greenhouse
Open fields (Apr-Jul)	Integrated	75% of fields	1 per field
	Chemical	25% of fields	9.1 per field
Late season greenhouses (Aug- Oct)	Integrated	77.7% of greenhouses	1 per greenhouse
	Chemical	22.2% of greenhouses	3 per greenhouse

Table 2 compares the costs of using chemical and ICP strategies. Calculating the costs of insect pest control for a tomato-growing season of four months, we used the current price of insecticides approved for tomato, which range from € 27-600 per litre. According to different products and doses used, the average cost per insecticide treatment works out at €4.6 per 1,000 m^2 of field. A further consideration is the time taken to carry out an application, at 1 hour per 1,000 m^2, and labour cost at €15 per hour. We don't have data for possible costs for chemical strategy growers who are not members of an ADV so we have assumed an extreme but not unrealistic case of 2 insecticide products applied per week. This was very common a few years ago. As the practice was to mix products in one application, we therefore halved the labour time taken for applying each product.

For ICP strategy, there are three options for obtaining beneficial insects. First, by "commercial" we mean that the grower purchases *Macrolophus* predatory bugs to release. These are one of the most expensive beneficial insects on the market, costing €0.15 per bug. "Rearing in experimental centre" refers to those growers who obtain these bugs via the ADV Federation Selmar, which has a mass rearing unit for the insects, and sells these to members at a reasonable price of €0.006 per bug. The last option, and the most frequently used, is for spontaneous establishment of the bugs from the surroundings, at zero cost. Costs for obtaining technical advice from the ADV is based on four months of the annual cost to members. The calculations also assume the number of treatments recorded in table 1. None of the calculations include devaluation or maintenance costs of machinery and equipment, which would certainly increase costs for those under chemical strategies, spraying regularly.

Table 2.

		Cost of beneficial insects	Chemical application costs				Cost of technical advice	Total (€)
			# applications	Cost of products	Labour costs (hrs)	Sub-total		
Chemical control strategy - ADV member		0	9	41.4	135	176.4	250	**426.4**
ICP strategy	Commercial	224	1	4.6	15	19.6	250	**493.6**
	Research centre	90	1	4.6	15	19.6	250	**359.6**
	Spontaneous	0	1	4.6	15	19.6	250	**269.6**
Chemical control strategy - not an ADV member		0	32	147.2	240	387.2	0	**387.2**

Noticeably, the most expensive strategy is for those under ICP, purchasing their beneficial insects at full commercial price. This option is the least common, due to the very high cost of commercial *Macrolophus*- most ADV members either rely on spontaneous colonisation of their fields or greenhouses, or buy predatory bugs from the ADV research centre. Within our ADV, 70% of members carry out these last two ICP options, which are also the most economical.

In terms of external costs, I should also point out that ICP implies reduced health costs for those who directly handle pesticides and who handle treated produce throughout the supply chain. This issue is increasingly being taken into account. It is also advantageous to consumer health when the application of insecticides is significantly reduced. But beyond economic and health considerations, another very strong argument for winning the battle of integrated control is that in many cases the pests and diseases have become resistant to synthetic chemical products. Biological pest control is therefore the only alternative and we see this working on an increasing scale.

II. BUILDING CAPACITY FOR CAMPAIGNING – THE EU AGENDA

Pesticides: European policy evolution and agenda

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Thematic Strategy on the Sustainable Use of Pesticides

The history of the *'Thematic Strategy on the Sustainable Use of Pesticides'* in the EU dates back to the Fifth Environmental Action Plan (EAP). In this the commitment was made '*to achieve a substantial reduction of pesticide use per unit of land under production'*. No action was taken, but in the mid 1990's seven studies were carried out to prepare for a new Directive and in 1998 stakeholders were consulted.

The Sixth EAP (for the period of 2001-2010) stated that it was the aim to '*reduce the impact of pesticides on human health and the environment … as well as a significant overall reduction in risks and of the use of pesticides…'*

PAN Europe presented a *'**Suggested text for a Directive on pesticides use reduction in Europe**'* in 2002. In this suggested text PAN Europe proposed:

• Mandatory Community-wide targets and timetables for national pesticides use reduction plans
• National studies to determine feasibility and consequences of various scenarios for the progressive use reduction, dependency reduction or phasing out
• Definition and progressive mandatory application of ICM on all cultivated land not yet in organic farming and expanded financial support for pest control practices that minimise or eliminate the use of pesticides
• Mandatory training and certification of dealers and professional users, according to European Community standards
• Mandatory technical requirements for and regular inspection of equipment and use practices, and of dealers
• Coordinated monitoring and data collection of the impacts of pesticide use on human health and the environment
• Coordinated systems collecting information on production, import, export, sales, distribution and use of pesticides, including mandatory record keeping of all applications of pesticides, per crop
• Bans on applications of pesticides by airplanes and in vulnerable zones
• Access to information and public participation in dialogue and consultation which contribute to political decisions concerning pesticides (i.e. in the national Steering Committees for elaboration and implementation of national reduction plan) including for authorisations* of plant protection products

Further steps in the development of a '*Thematic Strategy on the Sustainable Use of Pesticides'* (TS) were a Communication of the European Commission on 4 July 2002 (91/414, part of TS), a meeting of stakeholders (on 4 November 2002), the Conclusions of the European Environment Council (9 December 2002), a resolution of the European Parliament on 27 March 2003, and an

Extended Impact Assessment for the TS from September 2003 onward. This impact assessment has focused mainly on economic aspects and raised more questions about costs, but not about benefits. On the current agenda is the Adoption of the TS by the European Commission, forecasted for end 2003 at first, then for end 2004 and now for September 2005. The Directorate-General Health and Consumer Protection (DG SANCO) is not ready with reviewing the Directive 91/414/EEC on the authorisation of plant protection products for the European market. There is a danger that the proposal by the DG Environment may be attacked further by other DGs of the European Commission, by the chemical industry and farmers' lobbies.

Current activities and intentions of the European Commission in pesticide policy are:

Modification of existing legislations and introduction of new legislations
• Regulation on pesticides statistics (carried out by Eurostat services of EU): Adoption by the Commission in March or April 2005
• Review of the authorisation Directive 91/414/EEC (by the DG SANCO)
• Amendments to the Water Framework Directive (by the DG Environment) (see below)

Presentation of a Commission Communication
• Description of the problem, presentation of measures, management of the Water Framework Directive, views about other measures managed by DG Environment and other DGs of the EU (taxes, research, monitoring health within SCALE, Common Agricultural Policy – CAP)

Development of a framework directive for pesticide use reduction in Europe
• National action plans: based on reduction timetables, obligation for reporting and mandatory use of indicators, national steering committee including NGOs, feasibility study for the reduction plan, list of pesticides with reduction objectives, record keeping of all pesticide uses at farm level
• EU level Steering Committee
• Aerial spraying: restricted uses, guidelines and certification of applicators
• Use restrictions in public areas and where water is at risk
• Mandatory training and certification of pesticide users (or targeted financial instrument), mandatory certification of equipment and controls

Pesticides Authorisation Directive 91/414/EEC
The review of the *Pesticides Authorisation Directive 91/414/EEC* by DG SANCO dates back to a report of the European Commission from 25 July 2001 on the progress in the evaluation of active ingredients marketed as plant protection products, in accordance with Art 8(2) of Directive 91/414/EEC. This was followed by Conclusions of the Environment Council (in December 2001), a Resolution of the European Parliament (30 May 2002) and two Stakeholders meetings in Corfu (July 2002) and in Brussels (January 2003). The Adoption of the Directive by the Commission is on the current agenda, and this is forecast for September 2005.

PAN Europe's position regarding the review of Directive 91/414/EEC by DG SANCO is:
• Exclusion criteria for active ingredients need to be based on their intrinsic properties. Pesticides must be banned if they are *suspected to be either:* carcinogenic, mutagenic or reprotoxic (CMR), endocrine disrupting chemicals (EDCs); if they are neurotoxic, skin sensitizer, persistent, bioaccumulative; or if they are on priority lists of other EU legislations or international Conventions ratified by the EU.
• Substitution principle: least toxic products and alternative methods of pest control need to be encouraged.
• Additional tests are required on immunotoxicity, neurotoxicity, endocrine disruption, combination effects (products and inert ingredients), developmental toxicity (effects at a later stage in life from exposure during development of the foetus, infant and children); current testing is not systematic, except for organophosphates and related chemicals.
• Current risk assessment considers each active ingredient individually, giving a very imperfect approximation of real risk. There is a lack of data to evaluate exposure (lack of data on pesticide use, biomonitoring, multiple exposure routes, co-formulants) and formulated products are only subject to very few tests ('inert' ingredients not tested).
• Particular susceptibility of the developing organism (embryo, foetus, infant, children) is not considered (WHO/EEA 2002) and, consequently, the Maximum Residue Limits (MRLs) are not

appropriate to protect their health at short-term and/or long-term. The precautionary principle needs to be applied (one cannot wait for proof of causal links).
• An extensive review of the already existing scientific literature should be required.
• Greater transparency of the authorisation process and a certain degree of stakeholder participation are required.
• The concept of 'Proper use' must be clearly defined and include integrated production methods (IPM, ICM) as a minimum standard.
• It is necessary to improved control on the implementation of the Directive.
• Reservations are made about the zonal registration of products.

Unofficial consultations of DG SANCO with services of the European Commission are on their way, but these are being delayed more and more by disagreements with the other DGs (DG Agriculture and Rural Development; DG Environment; DG Enterprises and Industry). Both the DG Environment and DG Agriculture demand to include the definition of IPM in the 'proper use' concept so as to reinforce cross compliance under the Common Agricultural Practice (CAP). As subsidies are bound to compliance, the compliance under CAP would be required. So far, the positions of DG SANCO are:

• No criteria for excluding pesticides: the approach for prioritisation is to be based on risk assessment.
• A list of active ingredient candidates for substitution will be established: one pesticide would be replaced by another one and this is to be implemented on a voluntary basis (at the national level).
• Combination effects will not be addressed, as 'science is not mature'. For additional tests, discussions on "comitology" (procedures of the committee) for the revision of Annexe II and Annex III to the Directive are to be supervised by the Pesticide Safety Directorate UK (forecast for 2005). However, no additional safety factor (10) is provided to protect children and the unborn child.
• Confidentiality: there is a preference to define what is confidential.
• Controls on the implementation of the Directive will be reinforced.

Regulation on Pesticide Maximum Residue Levels
The *Regulation on Pesticide Maximum Residue Levels* was introduced after a harmonisation process that lasted for several years. In March 2003 it was adopted by the Commission and the European Parliament's first reading of the regulation ('Sturdy report', April 2004) took on board some of PAN Europe's key demands. The Common Position of the European Council from July 2004 refused nearly all the amendments made by the European Parliament. After feedback from ECOSOC (European Economic and Social Committee supporting High Consumer Standards) in July 2003, the European Commission published a Communication on the Common Position. The European Parliament then began the second reading (still ongoing). Referring to contamination of food with pesticide residues the following observations are made:

• Latest data on residues from 2002* confirm a trend of noticeable and disturbing increase in the occurrence of residues, including increasing percentage of samples with multiple residues.
• Most of the pesticides are not monitored at all.
• The number of samples is too low (and differs markedly, depending on the country).
• Problems occur mostly for the developing organism including children (the chronic or acute reference dose may be exceeded, or maximum levels may be inappropriate).
• Values for the maximum residue limit (MRL) are not adapted for children and the unborn child.

Demands of PAN Europe regarding Regulation on pesticide maximum residue levels:

• 'Good Agricultural Practice' (GAP) has to include integrated production (ICM) as a minimal standard to prevent environmentally less desirable methods of farming.
• It is necessary to protect consumers from the effects of combined residues in the total food consumption and intake through other environmental sources.
• Organisms in development (unborn child, children) need to be protected especially: residue level for each pesticide must be below 0,01 mg/kg food (same level as in the baby food Directives).
• Transparency and participation of stakeholders are required.

Current agenda of the 'Regulation on Pesticide MRLs' is the second reading by the European Parliament. After discussions in Parliament and a vote in the Environment Committee (both in November 2004), a vote in plenary in December 2004 (about 2/3 majority of attending Members of Parliament is required), there will be further discussions in the Council and Commission.

Groundwater Directive
The proposed Groundwater Directive (COM (2003) 550 standards for pesticides:

A limit of 0,1 µg/l (micrograms per litre; equivalent to parts per billion, ppb) is now proposed for each pesticide in groundwater. But no limit is provided in the existing groundwater Directive; instead, it adopts a pollution prevention approach.

PAN Europe's position on the proposed Groundwater Directive is:

• There should be no permission for each pesticide to pollute groundwater up to 0,1 µg/l, as there is special concern about new pesticides that are used at low doses.
• According to the precautionary principle no pesticide can be tolerated in groundwater and the current analytical detection limit (0,02 µg/l) has to be the maximum allowed concentration.
• It is necessary to provide a link with the coming 'Thematic Strategy' for pesticide use that aims at a significant reduction in the risk, by reducing use of pesticides and contamination of water.

The current agenda of the proposed Groundwater Directive, after adoption by the Commission (in September 2003), discussion of the draft report by Krista Klass in the European Parliament (November 2004) and the deadline for amendments (December 2004), is a vote (or discussion of amendments) in the Environment Committee in January and February 2005.

Directive on water quality standards and emission controls
Referring to a Directive on water quality standards and emission controls, amending the Directive 200/60/EC (Water Framework Directive) and Directive 96/61/EC concerning Integrated Pollution Prevention and Control (IPPC), a '*Non paper for consultation'* from June 2004 provides for implementation of article 16 of the WFD. It addresses the production, use and destruction of a proposed list of 'priority' and 'priority hazardous' substances including some pesticides. For the few pesticides involved, it is necessary to apply 'best environmental practices' (Annex III to the Directive) to reduce their occurrence in surface waters. Alternatively, the substitution principle can be applied. The agenda of the proposed amendments to the Directives is adoption by the Commission until March 2005.

Further information*:*
Suggested text for a PURE Directive, http://www.pan-europe.info/PURE/pure_campaign.shtm

Directive 91/414/EEC, http://europa.eu.int/comm/food/plant/protection/evaluation/legal_en.htm

Food residue monitoring report of DG SANCO available at*:*
http://www.europa.eu.int/comm/food/fs/inspections/fnaoi/reports/annual_en/monrep_2002_en.pdf)

PAN Europe position paper on draft Regulation on Pesticide MRLs (at http://www.pan-europe.info)

PAN Europe position paper on Health, http://www.pan-europe.info/publications/Health.shtm

Co-formulants, http://www.mst.dk/udgiv/publications/2003/87-7614-057-1/html/default_eng.htm

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Chemicals policy and REACH: opportunities and failures, why we need to go beyond government legislation and NGO initiatives

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The European Environmental Bureau is an umbrella organisation currently including over 140 environmental NGOs in 32 European countries and it represents approximately 20 million individual members. The EEB works in the field of major environmental issues and is based in Brussels.

REACH is a proposal for authorising and restricting chemicals in the EU, a very progressive proposal from the Northern European countries that needs to be supported. The system for Registration, Evaluation and Authorisation of Chemicals is unified and proof of safety needs to be provided by the chemical industry. Out of the 100,000 existing chemicals, REACH will cover up to 10,000 fully and up to 20,000 partly. All chemicals produced or imported above the limit of one tonne per year and per manufacturer/importer would be registered in a central database. The higher the production volume, the more detailed data has to be submitted. For carcinogenic chemicals more data is required, however, they need to be directly registered (if known). 'Existing chemicals' include chemicals brought on the market before 1981; for most of these, the hazard has not been properly evaluated. For chemicals introduced after 1981, other Directives of the European Commission apply, while chemicals produced at volumes between one and ten tonnes per year will be 'partly covered'. Chemicals of very high concern (carcinogenic, mutagenic or toxic to reproduction, persistent and/or bio-accumulative) shall not be authorised and will be substituted (unless this is not possible for particular use types).

Presently, chemicals are authorised under the condition that they are 'adequately controlled'. However, not enough key information is available (e.g. on the extent of biodegradability). Information from manufacturers data sheets (MSDS) is used to prioritise chemicals although up to 30% do not give correct information and this is a dangerous procedure. A chemical should be registered first and data collected, and only then it is possible to decide whether it is dangerous or not. It is also impossible for workers to prove a causal connection between a disease and exposure to a specific chemical, and many occupational diseases are not recognised because data is missing. REACH has been proposed as a new legal system for chemicals in the EU with the aim to increase safety of humans and the environment in the handling of chemicals and also to improve the competitiveness of the chemicals industry in Europe at the same time. NGOs have several key demands for a final version of the new REACH regulation so that the aims concerning consumers, workers and the environment can be achieved:

(1) Authorisation for the use of 'chemicals of very high concern' should NOT be given UNLESS there are no safer alternatives available and unless the use is essential for society.
- The substitution principle must be mandatory in this process.
- There is a loophole in the authorisation procedure: 'adequate control'
- The danger exists that perfectly acceptable, safer alternatives will be withheld from chemical users, and consumers will continue to be exposed to unacceptable risks.

(2) Registration procedures must close the existing gap in safety information.
- In the proposal 20,000 chemicals are excluded from a proper safety assessment
- Three (non-animal) tests are removed from registration requirements for chemicals with an annual production (or import) volume of 1-10 tonnes
- Information is not sufficient to evaluate the hazard of chemicals. Without sufficient information (including biodegradability tests and exposure information), chemicals can neither be classified nor prioritised.

(3) Information based on data from the industry needs independent control of quality.
- With the REACH procedure the industry is responsible for the safety of chemicals.
- All registration dossiers should be quality audited by an independent third party or a certified party without a conflict of interest.
- At least 5% of all of the registration dossiers must be evaluated by the national authorities.

(4) Chemicals in imported articles must meet the same information requirements as are required in the EU.

- The current proposal has weak requirements and it could allow companies from outside the EU to import articles which contain chemicals that are not registered under REACH. It will not properly protect consumers from unsafe chemicals in imported products (e.g. residues in textiles) and competitive pressure on certain sectors of EU manufacturing industry may increase.
- Europe is the world's biggest market and should be leading in setting new global safety standards.

(5) Sufficient information must be made available to the public.

- Third parties should be enabled to make their own judgement about the risks of the chemicals they use. Anyone who uses chemicals should be able to decide to use the safer option when choosing between alternatives.
- Consumers need to know about the health hazards of dangerous chemicals in products.
- The list of non-confidential information in REACH therefore needs to be extended to include names of registrants, volume categories and information about exposure.
- Information must be handed down the manufacturing chain to enable retailers and consumers to know if dangerous chemicals are present in finished articles.
- The procedure for obtaining information from a new European chemical agency needs to be improved and made more effective. New information needs to be included in MSDS.

The chemical industry claims that it should not be disclosed which company produces how much of a certain compound. There are different regulations for pesticides and for biocides and REACH will have an impact on the composition of products only where it is stricter than other regulations. The ongoing proposal includes the agreement to prioritise *before* data is submitted. NGOs demand *'one substance, one registration'* (OSO), i.e. one dossier needs to be submitted per substance (this would require less work than at present). It is necessary to come to an agreement on what data is to be used. When several companies are responsible which one is made responsible in case of faulty data? REACH is not expensive: its costs are within the weekly fluctuation (by 0.006%) of the value of oil production. However, since 2001 when different proposals for REACH were put forward, the version accepted as a proposal in 2003 has been diluted.

Further information:
http://www.eeb.org
http://www.chemicalreaction.org

'Essential' use of methyl bromide as a soil fumigant and its alternatives: the case for the year 2005

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One of the biggest challenges in agriculture is to find alternatives to pesticides, and to MB in particular, given that the latter is thought to destroy the stratospheric ozone layer, resulting in a higher incidence of ultraviolet rays reaching the earth, creating serious problems for health and for the environment (Bello *et al*., 2002). Because of this, those countries which have signed the *Montreal Protocol on Substances that Deplete the Ozone Layer* have agreed to withdraw its use from the countries listed in Article 2 (developed countries) by the year 2005, with the exception of possible 'essential' uses and use in quarantine and pre-embarkation. As a result of the possible economic consequences of withdrawing the use of MB, the Montreal Protocol has created a technical advisory committee to oversee the search for alternatives, the "Methyl Bromide Technical Options Committee" (MBTOC) which is made up of some 35 experts from all over the world, and which supplies information on the current situation of MB from time to time (MBTOC 2002; MBTOC 2004; http://www.teap.org).

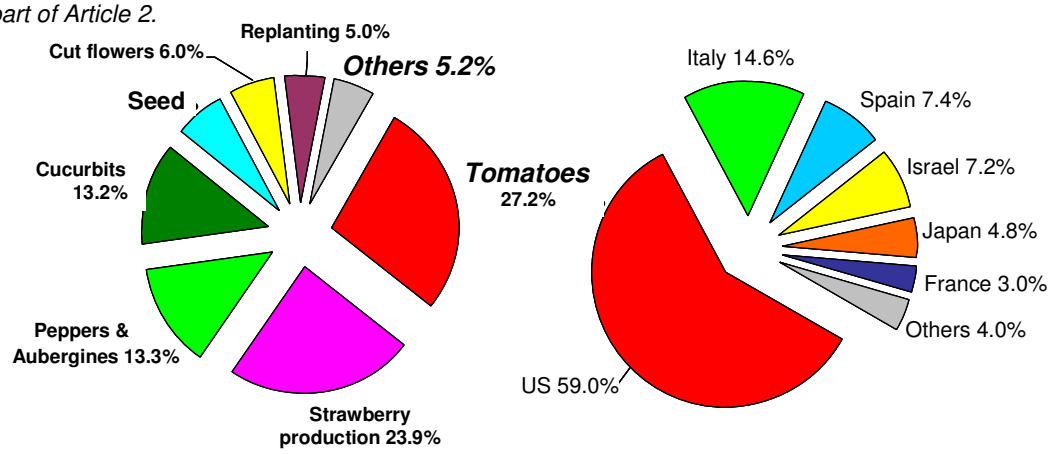
In this paper we analyse the current situation with regard to MB for 'essential' use in the Article 2 countries for the year 2005 (Figure 1), bearing in mind that some of the quantities could vary, since at the time of writing these were still being evaluated.

The quota allocations for the countries of the European Union (EU) for 2005 were 4032t (27.8%) of methyl bromide (MB) for use as a soil fumigant in critical situations during the year 2005, which together with the 59.0% allocated to the USA, the 7.2% allocated to Israel and the 4.8% allocated to Japan implies a total of 98.9% of the total MB use allocated to the Article 2 countries. Of the quantity allocated to the countries of the EU, Italy receives 2133t, Spain 1059t, France 431t, Greece 200t, the UK 74t, Portugal 50t, Belgium 45t and Poland 40t (Table 1). The remaining countries do not use MB as a soil fumigant.

The EU allocation on crops is divided up into 1544t used in strawberry nurseries and the production of strawberries, 1094t used in tomato production, 452t for cut flowers, 394t for peppers, 230t for cucurbits, 227t for aubergines, 25t used in replanting and 33t used for other crops. Belgium, France and Italy request MB for the majority of their crops, whereas Greece only requests it for tomatoes, cucurbits and cut flowers, Spain only for strawberries, peppers and cut flowers, the UK and Poland for strawberry production and strawberry nurseries, and lastly Portugal only requests it for cut flowers. We can see that the EU and Israel consume the most MB for cut flowers (832t; 95.9%), whereas the USA does not use MB for this crop.

Other allocations have been made to groups of crops such as has occurred with France for *Solaneaceae*, with Belgium for aubergines and peppers and with the UK for strawberry and raspberry production. We have therefore estimated quantities taking requests for 2006 into account; these have been shown with a question mark in Table 1.

Figure 1. *Quantities of methyl bromide (MB) recommended by crops for the countries forming part of Article 2.*



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The cucurbit group encompasses melons, cucumbers and watermelons, although only Japan has requested MB for this last crop (129.3t). We have also chosen to separate the use for peppers and that for aubergines, since they have very different agroecological characteristics, aubergines being closer to tomatoes. In the category 'nurseries', which is nurseries other than those for strawberry production, we have included forestry, fruit and ornamental crop nurseries as well as those which are used for flowers and horticulture. The category 'other crops' includes requests which are world-wide exceptions in terms of the use of MB, such as golf courses and sweet potatoes in the USA, ginger in the USA and Japan, potatoes and seed production in Israel, carrots in France, and lettuce, endives, chicory, leeks and onions in Belgium. The MB which is used in replanting (vineyards, fruit and citrus trees) - 706 t in the USA, and the 25 t used on fruit trees in France (primarily apples) - is represented separately.

The current situation with regard to methyl bromide

If we take the MBTOC's first report (1995) as our reference point, those countries whose consumption stands out are the US (40%), Italy (12%), Japan (9%), Spain and Israel (5%), France (3%), and Brazil, Greece and Turkey (2%). The crops which stand out are: tomatoes (35%), strawberries (20%), cucurbits (11%), seedbeds (9%), peppers and tobacco (8%) and flowers (7%). According to the MBTOC's report (2002), the balance between the crops is very similar to that shown in the 1995 MBTOC report, although some new applications have been

added to the later report for replanting in vineyards and for golf courses.MB consumption has dropped from 66,000t in 1991 to 43,360t in the year 2000 as a result of reductions in dose, frequency and application methods, reductions in concentration, the use of VIF plastics and other alternatives. Table 2. shows for soil fumigation use in the EU MB usage a decade ago, 75% reduction targets by 2003 and recommended quotas for 2005.

Reducing consumption in Spain

Spain has been one of the principal consumers of MB, reaching fourth place after the USA, Italy and Japan, although our country currently only requested MB for 'essential' use in the year 2005 for strawberry nurseries (230t) and strawberry production (556t), peppers (200t) and cut flowers (73t) (Table 1)). As a result, Spain is one of the countries used as a reference point for the adoption of alternatives to MB, and agronomic advisors and specialists from all over the world have visited us. In the same way, our experts have coordinated a large number of international projects and have organised several meetings focussing on alternatives to the use of MB, (Bello *et al*., 1997, 1998, 2001; Batchelor and Bolívar, 2002; Lacasa *et al*. 2004). In Spain, we use very low-level dosages and formulations of MB, applying it in strips underneath virtually impermeable plastic films (VIF plastics) up to two or three times a year in some cases. It has been noticed that crops grown without soil can present the same plant disease problems as those grown in soil, and the use of resistant varieties is resulting in virulent populations being selected, whilst solarisation, the use of steam and of chemical alternatives can have an impact on international agreements on health and the environment. We therefore propose the design of integrated production systems which take local resources into account.

All this has resulted from applying a series of farming practices selected by farmers and technical advisors which enable crop management without the necessity for the use of MB, together with the results of a research project: "Alternatives to the conventional use of MB which are environmentally friendly and economically viable" (INIA SC97-130), which has been coordinated by the Spanish Ministry of Education and Science, the Ministry of Environment and Agriculture, and the Ministry of Fisheries and Food.

Table 1. *'Essential' usage of methyl bromide (t) as a soil fumigant in Article 2 countries for 2005* (http://www.teap.org)

Crop / Country	**Strawberry production**	**Tomato**	**Cucurbits**	**Pepper**	**Aubergine**	**Cut flowers**	**Strawberry nurseries**	**Other nurseries**	**Replanting**	**Other crops**	**Total - %**
USA	2,053	2,876	1,188	1,095	77	---	55	268	706	297[1]	**8,615 – 59.0**
Italy	407	871	131	160	194	250	120	---	---	---	**2,133 – 14.6**
Spain	556	---	---	200		73	230	---	---	---	**1,059 – 7.4**
Israel	196	---	104	---		380	35	50	---	281[2]	**1,046 – 7.2**
Japan	---	---	412	149	---	---	---	---	---	142[3]	**703 – 4.8**
France	90	61?[4]	68	32?[4]	32?[4]	60	40	15	25	8[5]	**431 – 3.0**
Greece	---	156	30	---	---	14	---	---	---	---	**200 – 1.4**
Australia	67	---	---	---		36	36	---	---	---	**139 – 0.9**
UK	68	---	---	---	---	---	---	6	---	---	**74 – 0.6**
New Zealand	42	---	---	---	---	---	8	---	---	---	**50 – 0.3**
Portugal	---	---	---	---	---	50	---	---	---	---	**50 – 0.3**
Belgium	---	6	1	2?[6]	1?[6]	5	3	2	---	25[7]	**45 – 0.3**
Poland	---	---	---	---	---	---	40	---	---	---	**40 – 0.3**
Canada	---	---	---	---	---	---	15	---	---	---	**15 – 0.1**
Total %	**3,479 23.9**	**3,970 27.2**	**1,934 13.2**	**1,638 11.2**	**304 2.1**	**868 6.0**	**582 4.0**	**341 2.3**	**731 5.0**	**753 5.2**	**14,600**

[1] USA others: golf courses (207 t), sweet potatoes (81 t) and ginger (9 t)
[2] Israel others: potatoes (239 t) and seed production (42 t)
[3] Japan others: ginger (142 t)
[4] France: aubergines, peppers y tomatoes are known as solanaceas, the figures for these crops have been estimated
[5] France others: carrot (8 t)
[6] Belgium: amounts for peppers and aubergines have been requested together, so the figures listed for these crops have been estimated
[7] Belgium others: lettuce and endives (25 t). Estimated values are shown with question marks, using the requests for 2006 as a point of reference.

'Essential' uses in the European Union:

Table 2. *Usage of methyl bromide as a soil fumigant in the EU (in t) for the year 2005*

Countries[(1)]	Year 1993	Reduction 75% (2003)	'Essential' Use	
			Recommended (2005)	% (1993)
1. Italy	7,000	1,750	2,133	30.5
2. Spain	4,238	1,060	1,059	25.0
3. France	1,500	375	431	28.7
4. Greece	950	238	200	21.1
5. UK	425	106	74	17.4
6. Portugal	209	52	50	23.9
7. Belgium	400	100	45	11.3
8. Poland	?	?	40	?
Total	**14,722**	**3,681**	**4,032**	**27.4**

[(1)] Methyl bromide is not used as a soil fumigant in the remaining countries of the EU.

1,059 t of MB has been allocated to Spain for 'essential' use, which is made up of 556t for strawberry production (in Huelva), 230t for strawberry nurseries (in Castilla and León), 200t for peppers for the Campo de Cartagena (in Alicante and Murcia) and 53t for cut flowers in Cadiz and Seville and 20t for cut flowers in Catalonia (Barcelona, Gerona and Tarragona) (Figure2).

These quantities are being revised by the European Commission, which is the body responsible for authorising the definitive quotas next October. The remaining crops and regions will not be able to justify the use of MB for 'essential' uses from January 1, 2005. It must be born in mind that requests for 'essential' use must be supported by a reduction in dose and frequency of application, use in soil strips and of MB / chloropicrin concentrations (50:50 or 33:67) and the use of VIF plastics, but above all by the existence of a research project to investigate alternatives. It will only be possible to put forward technical or economic arguments, and in any case to take account of only the surface areas to be treated. The project "Optimisation and development of alternatives to MB" (INIA OT03-006-C7) is currently being developed, and this involves the collaboration of the Ministry of Agriculture, Fisheries and Food, the Ministry of the Environment and the Ministry of Education and Science

Article 2 countries have been allocated 14,.600t for 'essential' uses, which represents 22.2% of the 66,000t consumed in 1991 (Table 1), which is less than the 30% of total consumption which was allocated for the year 2003. In the case of the EU (Table 2), only Italy exceeds this quantity with 30.5%. On the other hand, if the agreements within the EU, which established a target reduction to 25% of the 1993 consumption for the year 2003 are considered, then Italy (30.5%) and France (28.7%) exceed this. The average consumption for all these EU countries is 27.4%.

Alternatives to the use of methyl bromide

The MBTOC (2002) defines an *'alternative'* as a treatment or chemical or non-chemical procedure which is a technically viable means of controlling pathogenic organisms, thereby enabling the elimination of MB. It also establishes the difference between *'existing alternatives'*, which are those which are being applied, or which have been applied, in a specific region, and *'potential alternatives'* in the process of being researched or developed (Table 3).

Box 1. shows the different alternatives and main crops in which they are applied in Spain. iological control agents and factors inducing resistance (endophytic micro-organisms, mycorrhizae or rhizobacteria inoculants) are considered as potential alternatives. Among chemical alternatives, 1,3–dichloropropane (1,3-D) and a mixture of 1,3-D and chloropicrine (1,3-D/Pic) are the most effective. Chemicals can be combined with non-chemical alternatives, principally solarisation.

Box 1. ***Alternatives to the use of methyl bromide used in crops in Spain***

I. Non-chemical alternatives
1. Biofumigation: in *cut flowers, vegetables, peppers and vines*
2. Crops grown without soil or substrate: *cut flowers, peppers, tobacco, tomatoes and plant nurseries*
3. Resistant varieties: *cloves, peppers and tomatoes*
5. Grafts: *cucurbits, aubergine, pepper and tomato*
6. Solarisation: *strawberries and vegetables*
7. Steam: *cut flowers*
8. Cultural practices: *all crops*
8.1. Rotations
8.2. Organic amendments and compost
8.3. Planting date and manual labour
8.4. Water and flood management
8.5. Covers crops
8.6. Multicrops
8.7. Rapid growth crops, trap crops and antagonist crops
8.8. Management of fertilisation
9. Crop hygiene
10. Biological control agents (potential alternative)

II. Chemical alternatives: ***in many crops***
1. Cloropicrine (Pic)
2. Dazomet
3. Metam sodium
4. 1,3-dicloropropane (1,3-D)
5. Combinations: 1,3-D + Pic

III. Integrated production via a combination of chemical and non-chemical alternatives: ***in many crops***

In Spain, biofumigation alone or combined with solarisation (biosolarisation) stands out as being an effective alternative, especially in vegetables, pepper, tomato, cut flowers and vines. Biofumigation is defined as "the action of volatile substances liberated during the decomposition of organic amendments or directly from the roots of plants and soil micro-organisms, in order to control pathogenic organisms in vegetables and adventitious plants". Its efficacy is maintained over time when it is part of an integrated production system. Biofumigants, furthermore, act as biological improvers, stimulating soil biological activity and improving the physical and chemical properties of the soil. Biofumigation has been applied to control fungi, nematodes, soil insects and adventitious (unwanted) plants and is able to control bacterial and viral diseases. Biofumigation acts with similar efficacy to conventional pesticides, helping to resolve replanting problems in the case of fruit trees and vineyards. Furthermore, it uses local resources , resulting in farming providing a means to resolve environmental problems instead of creating them (Bello *et al*., 1997, 2003). These resources can be animal or green manures or agro-industrial residues.

In the majority of cases of 'essential' use of MB, only chemical alternatives have been recommended, principally 1,3-D/Pic. It is crucial to bear in mind that this is a toxic product and environmental pollutant. Non-chemical alternatives should not be forgotten , especially those which involve integrated production systems, techniques for growing crops without soil, use of steam, and in particular, the use of resistant varieties and of grafting, which is highly effective in peppers, and biofumigation, which can be used for the majority of crops. Non-chemical alternatives can be designed in organic production systems, considered an indicator of environmental quality in the EU. We should also not forget that an annual 10% reduction in the amount of MB used is considered technically possible via the adoption of alternatives.

'Essential' use and alternatives in Spain

If we take 'essential' usage in Spain as a point of reference (Figure 2), the first thing that stands out among the current problems is the registration of alternatives, such as the case of 1,3-D/Pic for cut flowers, where 73 t of MB is used. This amount has been allocated to Andalucia (Cadiz and Seville) and Catalonia (Barcelona, Gerona and Tarragona), although the product is registered for use on cloves. The limitations with respect to cloves are economic in nature, since the crop lasts two or three years and 1,3-D/Pic is not efficient – although it appears, unfortunately, that MB is not either. As a result 'strategic plans' would need to be developed to enable cultural techniques such as the introduction of crops grown in substrate, steam or biofumigation to be altered to meet the requirements of this crop, as well as determining the efficacy of biological control agents and designing integrated production systems.

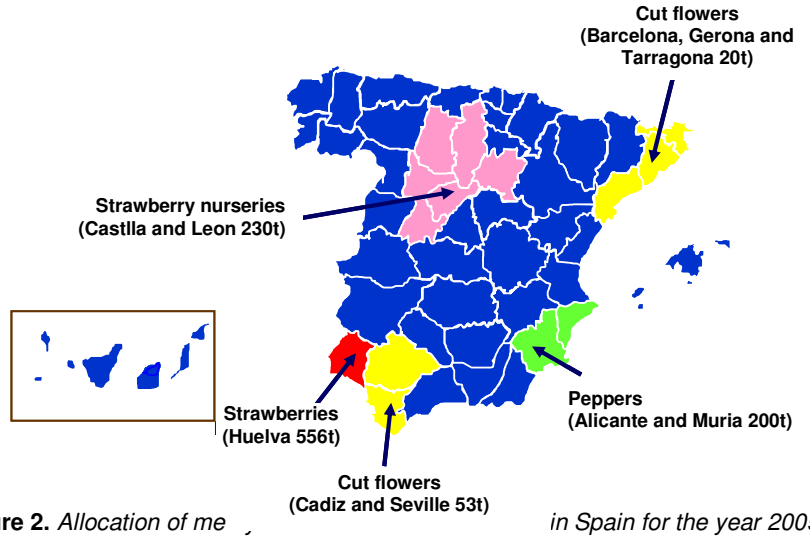

Figure 2. *Allocation of me* *in Spain for the year 2005*

In the case of peppers in the Campo de Cartagena (Alicante and Murcia) with a consumption of 200t of MB, the use of MB can be justified by the long duration of the crop, which means that pathogens can appear from the month of June onwards, resulting in serious problems in August and September, which would make the crop economically unviable. This is also a monocropping system, grown on clay soils, where the use of 1,3-D/Pic is not always effective. Alternatives exist for this crop, such as biofumigation, the use of resistant varieties and grafting. However, it would be necessary to develop a protocol for integrated production first, though the principal limitations would be the commercial development of grafting techniques, together with the availability of resistant variety seeds and plants. At the same time, we need to remember that biofumigation can result in a 20% drop in production during the first years.

'Essential' use in the production of strawberries in Huelva with 556 t (52.5%) has been the most problematic. Even the MBTOC has proposed a 50% (278t) reduction, given that 1,3-D/Pic is considered to be a valid alternative, as is sodium metam and chloropicrine, and a combination of these with solarisation. The main problem is that there is still no guarantee that these products will continue to be registered in the EU due to their toxicity and the fact that they are environmental pollutants. In the meantime, it would be advisable to register MB in the concentration of 33:67, as well as confirming its efficacy, and at the same time to bear in mind that it is applied to half the surface area, so the dose of 400 kg/ha should be reduced, given that it is only possible to count the surface area treated.

The use of MB in strawberry nurseries is being retained for plant health reasons in order to avoid the risk of pathogenic organisms being dispersed, although reductions in dose and frequency (every two years) and above all concentration (33:67) will be necessary. We

should not forget that Castilla and Leon, with 230t requested for 'essential' use in strawberry nurseries, has the highest consumption of MB for this purpose in the world. In some countries, strawberries are being grown in substrates.

Conclusion

If we analyse the situation by crop on a global scale ('meta-analysis'), it is clear that in general, alternatives to the use of MB exist. 'Essential' uses of MB should therefore be reduced to technical or economic problems of technology transfer in specific crops and zones. In Spain, very low doses and formulations of MB are used, as well as applications in strips under VIF plastic at two or three yearly intervals in some cases. It is worth stressing the importance of the design of integrated production systems as an alternative to the use of MB.

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Questions and discussion from keynote presentations

Ms Catherine Wattiez: You have participated in a working group on childrens' health within the SCALE health action plan of the EU. What is your opinion about the new European health strategy?

Mr Nicolás Olea: The proposition was discussed in a group that composed of very different stakeholders (scientists, representatives of the industry or of NGOs). It was a disillusion to see that some of the scientists go to a conference once a year and that only "lobbyists" are active. It appeared that major problems were kept concealed, and with the more professional publications the representatives of the industry were more experienced and knew the jargon better. Regarding biological monitoring (of chemicals in the body), there was no clear rationale for deciding which persons to study and what should be measured. In this field Europe is still far behind the US, although there are a few leading countries like Denmark.

Mr Paul Matthews: The insecticides fipronil and imidacloprid have been suspended in France due to their potential for bioaccumulation and persistence, and any massive use of these is of concern especially to beekeepers. Are these also used in Spain?

Mr Nicolás Olea: Residues of these have been found in surface waters and in food, and if anyone has more information about this we would be pleased if they send it to our group.

Anonymous participant: How can you follow up intoxications of people?
Ms Francisca Lopéz: This is difficult to trace, as there are many (25) different health departments and so many people under study. Studying people also presents an ethical problem: where and when should one measure, e.g. after twelve years of exposure? So that the causes of an illness can be found, one needs to know what one is looking for (which symptoms or what kind of analysis).
Mr Nicolás Olea: Even if one knows what to measure and information is available (e.g. about the exposure), often the health effects of a pesticide are not known and seldom it is possible to prove these scientifically. Therefore, if it is known that a person has been and is being exposed to a pesticide and that this chemical presents a possible risk to health, the precautionary principle should be applied by acting preventively and this means to reduce the exposure to that pesticide.

Mr Bello: How did agrarian organisations get onto this "green" course after 20 years?
Mr Antoni Llimona: The regional farmers union recently had its 30th anniversary. It is leading in the defence of the interests of farmers and consumers and has come to an agreement with the government. Founding members belonging to the critical part of the farmers union have left it after 30 years as a consequence of much criticism.
Mr Hector Gravinas: This group came to us and we invited the farmers union repeatedly, but it did not come. However, we also have to take some of the blame.

Mr Fernando Gutierrez: Did you totally suppress chemical products, and who (which farmers) studied the risk?
Mr Antoni Llimona: Yes, we eliminated chemicals totally and used none.

Mr Paul Matthews: Do you agree that it is necessary to sensitize the consumers and give the public the impression that food prices cannot continue to fall?
Mr Antoni Llimona: The consumers have to realise the importance of this. In Spain, produce is seldom delivered straight to the consumers and more direct delivery, e.g. through cooperatives, is better. The prices are higher if consumers are not delivered directly; also it is more difficult to spread information. E.g., it is difficult to take action when yoghurt is marketed by a large company with a strong presence in the media.

Mr Daniel Lesinsky: How do you monitor the yield and can you give the farmers a gurantee (insurance) that production costs are lower [with non-chemical methods]?
Mr Antoni Llimona: The quota for farmers that are members of the association is 600 Euro per person and year. Private insurance companies do not cover the agricultural sector, and the public insurance does not cover much. Farmers who belong to an association are looking for a brand name for their produce and try to reach the public more directly. This is very difficult as their share of the market is very small. Close to Barcelona we have created a special centre for selling produce to consumers that is open on Sundays.

Anonymous participant: As representative of the Catalan workers' union I hope that the Pesticide Use Reduction in Europe (PURE) strategy is supported by the trade unions. Would it be helpful to talk to representatives of trade unions at the national or European level?
Ms Catherine Wattiez: The proposed Directive can be co-signed and we need to have lobby allies when the PURE proposal is submitted. It is necessary to put pressure on the national and regional governments as this can have an influence on their position at the European level. Writing letters to ministers is good, but it is important that organisations in European countries lobby their ministers (at the national level). The European Council is important and as a whole it has a more conservative approach. Good arguments are health arguments and economic feasibility and advantages, e.g. the profitability of integrated production (ICM). The 'Paris Appeal' expresses the concerns of physicians and scientists over the health hazards of pesticides, and it states that one cannot wait for research and that the precautionary principle has to be implemented. The appeal also takes up the demands of NGOs to ban products [specified by competent international scientific authorities and organizations to be certainly or

probably carcinogenic, mutagenic or toxic for reproduction], and to provide a timetable and toxicological standards based on the unborn child and children.

Mr Daniel Lesinsky: I miss a common limitation for pesticide residues so that Member states can take action (e.g. regarding residues in toys) and a common database with information on pesticides. Research on synergistic effects is lacking. If the proposed REACH programme provides the basis for research, is it possible that the results of research on these topics are collected by a centre of excellence (financed by the industry)? And what is the half-life of methyl bromide?
Mr Antonio Bello: I do not believe that there is a sustainable use of pesticides. One can grow produce in exactly the same way without applying methyl bromide to soils. The only representative of this obsolete model are the US. Many researchers only believe in biotechnology and think that the rest is not science. We do not have much money and we work with ideas. In the EU, methyl bromide is used only in Italy (in Sicily), in France (on Solanaceae) and by some others for growing peppers and tomatoes (it is not used in the Netherlands). One should put a stop to the use of any pesticide that affects health or the environment. Which pathogens are killed by methyl bromide? It does not control bacteria or most other pathogens; it is being used at a high price and only lost. Alternatives are possible and these are common sense.
Ms Mecki Naschke: It is not sure whether synergists are covered by the REACH policy, but hopefully the precautionary principle will also reduce synergistic effects.
Ms Catherine Wattiez: More information is required on combined effects. The Commission"s DG SANCO says that 'science is not mature' and this may be dangerous. Regarding the cumulative effects of organophosphates, the SCALE program only refers to more research but no actions are proposed. Continuous research can be used as strategy for taking no action and it is also a business.

Mr Antoni Llimona: Do you expect to achieve the same as the European Commission is asking for?
Ms Catherine Wattiez: No, as we go much further. IPM promoters are behind us and the driving force towards a reduction programme which will start to work. The government needs to support farmers with information, e.g. at meetings.

III. EXPERIENCES FROM GROUPS ACROSS EUROPE

Movement for the respect and the rights of the future generations M.D.R.G.F. - A French organisation for pesticides use reduction

François Veillerette, and *Nadine Lauverjat*, (MDRGF)France

This network fighting pesticides is composed of environmental NGOs, farmers unions and consumers organisations. It aims at increasing the pressure on the authorities in favour of pesticides use reduction. The network is coordinated by the French NGO MDRGF which initiated it. When the first meeting took place on 30 October 2004, 70 organisations and umbrella organizations were part of this network for promoting pesticides use reduction. This means that more than 250 single organisations are represented by this network and this number is growing steadily.

The aims of MDRGF. France
• *To inform citizens and politicians about the danger of pesticides use:* We will amplify our information campaign on the deadly consequences of industrial agriculture on the environment and human health.
• *To lobby authorities:* We will lobby the French government and the European authorities, for implementation of a pesticide use reduction policy at the national and EU level.
• *To propose and promote alternatives to pesticides use:* We will put forward credible alternatives to pesticides use, putting the emphasis on non-chemicals alternatives.

• *To coordinate actions:* We will initiate and coordinate actions to be continued by the network, and will increase our participation in the various NGO networks we belong to, both nationally and internationally.

The means of our actions
• *Creation of a website*: to present our activities and those of member NGOs; to inform the public on alternatives; to build a database containing scientific articles, legal information, etc
• *Edition of an electronic and printed newsletter*
• *Information of the media:* By means of press conferences, news releases etc
• *Organisation of:* meetings, conferences and a national day of action against pesticides
• *Lobbying of Ministries and politicians:* aimed at influencing national and/or EU legislation

Conclusions
This coordination is a major breakthrough in France: a significant coordinated answer from civil society to the important pesticide problem in this country! And it is a good opportunity for PAN Europe's PURE campaign to have a powerful echo in a country which is the biggest user of pesticides in the EU and still has no national reduction plan.

Website of M.D.R.G.F. France: http://www.mdrgf.org

The German Pesticide Use Reduction programme

Carina Weber, Pesticide Action Network (PAN) Germany

The Fifth and Sixth Environmental Action Plans of the EU and programmes for pesticide use reduction in other European countries provided the background to the current developments in Germany. Vivid discussions about consumer protection arose after the food quality crisis between 2000 and 2002, which were mainly initiated by the BSE disaster. At the beginning of 2001 Renate Künast from the Green Party became Minister for Consumer Protection, Food and Agriculture; as a consequence the system for protecting consumers was reorganised. The Federal Ministry of Consumer Protection, Food and Agriculture (BMVEL) was created; it is subject to the Ministry of Agriculture, the Ministry of Health (consumer protection) and the Ministry of Economics (consumer policy). The contamination of food (poultry meat and eggs) and animal fodder (wheat) by nitrofen, a banned herbicide, triggered another food crisis in Germany in 2002. This was supportive to lobbying for reducing pesticide use. PAN Germany demands a pesticide use reduction programme with the following elements:

• Targets setting a specific aim: 30% reduction of pesticide use
• Timetable for the reduction: 5 years
• Indicators of reduction: treatment frequency as a measure of intensity of chemical control
• Instruments for achieving the reduction aim

In the 2002 elections, Social Democrats and Greens were re-elected. It is part of the federal working programme for 2002-2006 to develop a strategy to reduce the use of plant protection products. The Ministry for Consumer Protection and Agriculture organised two major 'round table conferences' with external moderators on guiding principles for a future plant protection policy. An advisory board to the Ministry submitted suggestions to the Ministry in 2003. The Ministry later announced that it would publish a reduction programme and this was presented by the Minister for Consumer Protection and Agriculture in October 2004.

The objectives of the German pesticide reduction programme are:
• To reduce the intensity of chemical plant protection to the 'necessary level'
• To replace a 'significant part' of the chemical plant protection measures by non-chemical plant protection measures
• To reduce 'potential risks'
• To reduce the percentage of residues in food exceeding the maximum residue limit to less than 1% of food samples

The indicator for measuring the intensity of chemical control will be defined by the treatment frequency; this indicator will be the basis for defining the 'necessary unit' (of a pesticide) per crop. An indicator that measures the risk of pesticides to public health will be developed and it will be based on pesticide residues in food.

Specific instruments of the programme are:
• Management of 'hot spots' (identification and elimination)
• Improved standards for good agricultural practice (by reporting pesticide use, increasing controls, improving knowledge of measures to reduce use of pesticides)
• Introduction of technical innovations and IPM methods
• More research and development on application technology, crop resistance, IPM
• Promotion of organic agriculture and integrated production (IPM)
• Integration of food companies and consumers into the programme

Regarding opinions in the advisory board to the Ministry, there were some clear agreements and disagreements. Key agreements on the reduction programme are that the government must set targets, the treatment frequency is to be used as indicator for intensity of pesticide use and a risk indicator will be established on the basis of food residues (as long as no other risk indicator is available that is transparent and can be easily communicated).

Key disagreements relate to the timetable of reduction and to the procedure for establishing a risk indicator based on pesticide residues in food. PAN Germany demands that all residues should be avoided and not only residues that exceed the maximum residue limit (MRL).

PAN Germany believes that weaknesses of the current programme are the following:
• Main target refers to breaches of the law only (MRL in food exceeded, 'hot spots').
• No timetable is provided for the reduction aims.
• Although reporting of pesticide use will be implemented, data will not be published.
• There is no additional funding for the reduction programme.

Therefore, PAN Germany is convinced that future tasks of NGOs in Germany are to lobby for a more effective governmental pesticide use reduction programme, especially regarding the reduction aims and timetable, and to lobby for a broad and strong participation of the various stakeholders.

Further information:
National programme for pesticide use reduction http://www.pestizidreduktion.de/home.html
PAN Germany website http://www.pan-gernany.org

Polish Ecological Club: Opportunities under CAP agri-environment schemes

Maria Staniszewska, Polish Ecological Club (PKE)

Founded in 1980, the Polish Ecological Club (Polski Klub Ekologiczny - PKE) is an independent, non-governmental, non-for-profit environmental organisation in Cracow. PKE is active in promoting sustainable development and improving the state of the environment in Poland. The Gliwice staff and volunteers have 15 years of experience educating community and organizing citizens to provide safe alternative food products. Both staff and volunteers have various backgrounds in the sciences and engineering. Thanks to PKE's initiative the Coalition Support Organic Agriculture was founded.

History of PKE Gliwice initiatives and programmes in the agriculture area - examples:

Tested and organic food for residents of densely industrialised urban areas
The main goal of this programme is to promote organic farming as an environmentally sound method of providing safe and nutritious food for the public. Major elements of the programme include: 1) organising a quality controlled acquisition and market distribution system for retail sail of chemically tested organic products linking farmers to consumers, 2) distributing the chemically tested produce directly to pre-schools and creating subsidies for their purchase, 3)

educating community target groups about the benefits of organic food and farming and the agricultural pollution problem.

Organic agriculture promotion as an element of preparing Poland for EU accession
The project was carried out in the years 2001-2002 and its goal was promotion of organic agriculture, informing about the possibilities of agricultural development before and after EU accession. During the project, a series of conferences and study tours to organic farms were organised, as well as training about possibilities of developing organic farming (supported by EU funds) for representatives of rural authorities and autonomous governments. Brochures were published about EU rural policy (organic farming and agri-environmental schemes), and a non-governmental Information Centre for Organic Agriculture was opened.

'Sustainable Agriculture and Food for Europe' – SAFE
This campaign was launched on 1 January 2002 and lasted until end of December 2002. The project concerned spreading information about the Common Agriculture Policy (CAP) of the EU and changes that should be made in the next programming periods. Various activities took place during the campaign in different places in Europe: dissemination of leaflets about the impact of CAP on the environment or actions during 'Awareness Week' in October 2002.

Moreover, PKE provides training for farmers, representatives of rural authorities, NGOs and decision-makers in sustainable rural development, sustainable agriculture etc. In 2003, PKE was co-organiser of the conference: 'Accession and Agriculture: making CAP work for people and environment'.

Coalition Support Organic Agriculture.
In response to the signing of the Baltic Agenda 21 and the pending entrance of Poland into European Union, PKE Gliwice initiated the creation of the Polish Coalition to Support Organic Agriculture in 1998. The Coalition's members include 25 representatives from non-governmental organizations (NGOs), research institutions, and organic farming associations. PKE Gliwice acts as an umbrella organization for the Coalition, the president and secretary of which are in Gliwice.
The Coalition supports organic agriculture by raising public awareness of its importance for protecting the environment and biodiversity, developing initiatives to create a greater demand for organic products, and encouraging activities which lead to a growth in the consumption of organic products. Representatives of the coalition participated in different fairs and exhibits throughout Poland and provided the general public with information about the work of the coalition and organic farming.Moreover, Coalition representatives are members of other important bodies responsible for agriculture and rural development.

Website of PKE: http://www.most.org.pl/pke-zg/

NGO Sustainable Development and Ecological Education Center "Dovkilla" in the Ukraine

Dr Valentina Pidlisnyuk, SDEEC; and National Agricultural University of Ukraine

The Center was founded in 1998 and officially approved in February 1999 to execute research related to the problems of sustainable development and environmental protection in Ukraine. It unites scientific workers, lecturers, teachers, students and post-graduate students. Recently the Center has been active in the implementation of sustainable agriculture and pesticides reduction issues.

Fact finding missions and independent inventory of obsolete pesticides problem in three villages in the Western Part of Ukraine, in 2001-2002, were followed by a fact finding mission across Poltava region (Shyshackiy and Kobelyakiy district), Odeska region (Ismailskiy county) and Crimea Autonomous Republic (Sudakskiy district), in June 2003 (supported by TAUW). The very valuable part of the project was carried out in Simferopil (Cremia Autonomous Republic) where an awareness-raising workshop was held for the public, local NGOs, and the regional governmental authority involved in the problems with obsolete pesticide management.

A project focused on presenting the EU Water Framework Directive to the Ukraine (supported by the OSCE office in Ukraine). Within this project a workshop was held in Novo-Dnestrovsk (South-Western part of Ukraine) in July 2002 for regional governmental officials and local NGOs involved in water management, followed by another one in Kiev in November 2002. The workshop agenda included problems of obsolete pesticides in connection with the possible contamination of surface waters along with the importance of public participation in implementing the Water Framework Directive in Ukraine.

The 7th International HCH & Pesticides Forum was organized together with the Intl. HCH & Pesticides Association (IHPA) and was officially supported by the Ukrainian Government and Parliament. The 7th International Forum was recognized as side-event of the Fifth Ministerial Conference "Environment for Europe". The forum brought together 137 participants from 34 countries and 48 Ukrainians from all over the country. This forum has been a great contribution for improving the situation regarding banned and obsolete pesticides in Eastern European countries. The forum's participants and members of the Ukrainian Parliament adopted Kyiv's Declaration on the establishment of a POPs and Obsolete Pesticides Stockpile Program for EECCA DEFINEcountries. The declaration, accompanied by material of the Forum, was presented at the European Parliament's Session in January 2004.

The local NGO "Eco-Svichkareve" in the Poltava region united local citizens and farmers from two villages in the Kobelyatzkiy rayon. This NGO is actively involved in the environmental education of local communities, i.e. regarding harmful effects of pesticide contamination on human health and the state of the environment. In summer 2003, the NGO was involved in the dissemination of illustrative materials regarding safe usage of pesticides to local farmers. "Eco-Svichkareve" has a big potential of impacting on local communities and the public, provided this organisation has access to the internet and technical support. Since December 2004 the NGO received access to the Internet in a joint project with SDEEC.

On-going joint project carried out by SDEEC and "Eco-Svichkarevo"
The project started in October 2004 and is planned for one year. It focuses on eliminating the risk posed by obsolete pesticides in the Kobelyatsky rayon (Poltava region, Ukraine), awareness raising within the local governmental structure and environmental NGOs, use and management of pesticides by the public, as well as organization of two workshops and a sociological survey of local communities and governmental officials. On December 5, the first workshop was held at a local community in the Kobelyatsky region, where data regarding bad pesticides practice was presented and the current local situation with obsolete pesticides stockpiles was discussed. Selected places for cleaning up were decided on at the workshop and appropriate technology was discussed. The project also has the aim to strengthen institutional building of local NGOs in the Poltava region, which may join the PAN Europe Network. It is supported by PAN Germany, the Global Greengrants Fund and PAN Europe.

Promoting production with reduced pesticide use and from local origins

Rina Guadagnini, Legambiente, Italy

Who Legambiente is and what we do
Legambiente was born in 1984 on the crest of the anti-nuclear movement wave, and in the last 20 years it has expanded to deal with quality of life in many sectors today. Our campaign for reducing pesticide use started three years ago, in the midst of the mad cow scandal, and some members had an idea that revolutionised the actions of our association. We began to think about livestock management systems and farming methods respectful of the rhythms of the environment, of animals and plants. We elaborated regulations for the production cycle that drive the production methods towards a more sustainable dimension. The companies that adhere to the campaign and respect the rules have the right to sell their products with our label.

Taking care of the environment, defending people's health, preserving the Italian artistic, architectural and historical heritage.There are many sectors in which Legambiente is active, at a national and at a local level, every day. Our broad campaigns and daily activities involve

110,000 members and more than 2,000 clubs throughout Italy (including 'Classrooms for the environment'): these figures make Legambiente the largest Italian environmental association.

Monitoring of pesticide use and food residues

Regarding pesticides, Legambiente has published a dossier about the national situation every year since the 1990s. To compile this report we ask for official data from the regional agencies for the protection of the environment (ARPA). Italy is sub-divided into 20 regions and each of them has an environmental protection agency. For 15 years we have always asked all the agencies the following questions:

1) The number of sampling and the type and number of samples analysed (with the specification of which fruit and which vegetables)
2) The number and the type of chemicals searched for throughout the year
3) The samples that showed an irregular score, the quantity and kind of pesticides found
4) The samples that gave a result within the legal range (and the exact levels measured)
5) The number of regular samples with the presence of more than one pesticide, the name and the quantity of the active ingredients found
6) The confiscations of products that were found to be above the legal level
7) The provenAnce of the produce, subdivided between Italian (north, central and south) and imported produce (specifyIng, when possible, the country of origin)

For fruit and vegetables specifically, we request data on analysis of the following active ingredients: benomyl, captan, chlorpyrifos, deltamethrin, diazinon, dichlofluanide, dicofol, dimethoate, diphenylamine, dithiocarbamates, alpha-endosulfan, fenitrothion, iprodione, malathion, methidathion, parathion, pirimiphos, procymidon, thiabendazoles, vinclozolin.

We started to compile this report because we wanted to know the Italian situation regarding residual levels of pesticides, and to inform the citizens about what was on their plates. In the beginning the situation was critical and the report was instrumental in drawing attention to illegal situations, not only for high levels but also for missing answers to our questionnaire. In the first years - more or less - only northern Italian regions answered, but with the time all the regional agencies started to give data in a satisfactory and complete way.

The regions became cooperative and thanks to the effort of the agencies we were able to follow the reporting about the diminishing irregular residues over the years. The situation was critical in the beginning, but it improved and has stabilised at ca. 2% of irregular residues at a national level.

Percentages of pesticide residues in food samples vary strongly from one region to another. Among 8020 food samples from across Italy, the average percentage of 'irregular' samples (where maximum residue limits are exceeded) was 2%, of regular samples without residues 64.9%, of 'regular' samples with one pesticide residue 17.9% and that of 'regular' samples with more than one residue was 15.2% (see also residues reported in Table 1 below). Until now our report has only looked at fruit and vegetables, but starting this year we established contacts with institutions that can give us data about the pesticide residues in foods from animal origins. We hope to achieve this new goal in the coming year.

PIEMONTE (Agricoltura tradizionale)

GENERE		CAMPIONI ANALIZZATI	irregolari		REGOLARI SENZA RESIDUI		REGOLARI CON 1 SOLO RESIDUO		REGOLARI CON PIÙ DI 1 RESIDUO	
			n.	%	n.	%	n.	%	n.	%
verdure		**353**	**6**	**1,7**	**294**	**83,3**	**45**	**12,7**	**8**	**2,3**
di cui	insalate	93	1	1,1	83	89,2	8	8,6	1	1,1
	patate	65	0	0	55	84,6	9	13,9	1	1,5
	pomodori	37	1	2,7	23	62,2	8	21,6	5	13,5
	* cereali	0	0	0	0	0	0	0	0	0
	* legumi	21	1	4,8	14	66,7	6	28,6	0	0
	zucchine	45	0	0	40	88,9	4	8,9	1	2,2
	peperoni	26	1	3,9	20	76,9	5	19,2	0	0
	carote	25	1	4	23	92,0	1	4,0	0	0
	* altre verdure	41	1	2,4	36	87,8	4	9,8	0	0
frutta		**512**	**19**	**3,7**	**264**	**51,6**	**116**	**22,7**	**113**	**22,1**
di cui	mele	89	1	1,1	37	41,6	24	27,0	27	30,3
	pere	27	0	0	12	44,4	9	33,3	6	22,2
	pesche	43	1	2,3	21	48,8	8	18,6	13	30,2
	uva	56	7	12,5	13	23,2	10	17,9	26	46,4
	fragole	34	1	2,9	15	44,1	9	26,5	9	26,5
	agrumi	132	6	4,5	38	28,8	56	42,4	32	24,2
	* altra frutta	131	3	2,3	128	97,7	0	0	0	0
varie		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

*** non è possibile distinguere tra uno o più residui.**

Principi attivi ricercati: aldicarb, azinfs-metile, bromopropilato, captano, carbaril, carbendazin, clorfenvifos, clormequat, clorotalonil, clorpirifos, clorpirifos-metile, clorprofam, cyprodinil, ddt, diclofluanide, dicofol,difenilammina, endosulfan 1, endosulfan 2, endosulfan solfato, esaclorobenzene, esaconazolo, fenazaquin, fenbexanide, fenitrotion, fenson, flutoato, fludioxonil, fosalone, fosmet, imazalie, iprodione, malation, mepanipirim, metalaxil, metidation, metiocarb, metiocarb sulfone, metomil, metossicloro, miclobutanil, ortofenil fenolo (e 231), paration, paration metile, penconazolo, pirimetanil, pirimofos metile, procimidone, propargite, quinaxifen, solfiti alcalini, tebuflupirad, tetradifon, tiabendazolo, tolclofos

Table 1.

Regarding vegetables we request that the chemical residue is below the limits of detection. In order to achieve this, farmers are motivated to reduce the use of pesticides and to develop new techniques of protection for their produce that do not damage the environment and the health of consumers. Regarding livestock breeding the attention is focused on nutrition (no antibiotics, no GMOs, no animal protein and no hormones) and on animal welfare.

LAIQ campaign for healthy produce

In addition Legambiente started the *LAIQ campaign* three years ago: 'Legambiente for Quality in Italian Agriculture'. It introduced a label of certification for produce that fulfils the standards of our organisation. There are also specific labels for tomatoes, fruit and olives from regional production. This campaign is based on the following principles:

• The LAIQ system does not have the aim of using the certification of a third party.
• It is based on *self certification* by the members of the production chain, a strategy that leads towards *awareness* and *responsibility* of the members of the production chain.

The company holds itself responsible towards the consumer by adhering to the rules of LAIQ. Consumers have the certainty that Legambiente controls *all* the links of the supply chain. The self-certification is guided by LAIQ, which helps companies to implement the methodology for self-certification. Elements of the LAIQ system are the following:

• Protocols and regulations for production (management systems of the supply chain)
• Self-certification (by the companies)
• Evaluation
• Identity of the product based on a label
• Tracking of the history of a product throughout all steps of the production chain thanks to a code on the packaging

Website of Legambiente: http://www.legambiente.it ; http://www.legambienteagricoltura.it

Taking the Catalan pesticide campaign to the national level

Hector Gravina, Amics de la Terra, Barcelona

The Catalan campaign manifesto is provided in Appendix C. Social organisations and green organisations from all over Spain met with colleagues from Catalunya after the conference to discuss the campaign. The aim is to raise awareness among citizens of Catalunya. Fortunately a member of the regional Parliament has proposed a draft law on integrated pest control. At the same time we want to mobilise the public to avoid watering-down of the draft law. We are supported by trade unions, agricultural groups, consumers' organisations, scientists. So far we have focussed on pesticides and other toxic chemicals in the regional environment, and now we want to push ahead with a law on integrated pest management at the national level too.

Questions and discussion

Mr Daniel Lesinsky: Are pesticides monitored in the Ukraine, and is the data accessible (transparent)?
Ms Valentyna Pidlisnyuk: In each region of the Ukraine there are obsolete pesticides, at about 5000 places. The government has estimated these at 13,000 tonnes and an inventory by a Danish Project at over 22,000 tonnes; a new project in two regions reports higher figures. It depends very much on the attitude of the local authorities, whether these cooperate or not.

Mr Daniel Lesinsky: What are your mechanisms of communicating in a network of very many organisations (NGOs) and how do you show the finances of your activities?
Ms Nadine Lauverjat: We have representatives in our group who help to coordinate the network. Our activities are mainly financed through foundations.

Ms Catherine Wattiez: Is there an obligation for reporting the use of pesticides?
Ms Rina Guadagnini: Measures are being evalued at the moment, but we hope there will be a reporting obligation in the future. At first this was the case only in the northern regions of Italy; recently it has improved (e.g. in Sicily), but so far only for fruit and vegetables. The aim is that it is extended to milk, eggs and honey. Since the food (BSE) crisis another company is involved with the control of pesticides and it informs the consumers about its collaboration with Legambiente. Our approach is based on self-surveillance and labels (e.g. for tomatoes, apples or olives). Alternatives to this are production protocols or the elaboration of regulations for production cycles. We demand that chemical residues should be lower than the detection limit, and that the feeding of animals should be monitored.

Mr Paul Matthews: Regarding self-regulation, I am suspicious as there are very little targets. Do you inform about the possibility of a link between BSE and pesticides?
Ms Rina Guadagnini: We work together with farmers who voluntarily choose to work together with us. There is no external evaluation or certification as this would be too expensive. It is necessary to change the culture and attitudes, and farmers are proud to manage their land so we don't want to impose controls. We were suspicious, not so much concerning pesticides, but focused on foodstuff for animals. We suppressed anything that might be dangerous either to animals or to the consumer.

IV. WORKSHOP DISCUSSION GROUPS AND FEEDBACK TO PLENARY

Strategic discussion on Integrated Production - understanding definitions of IPM and ICM (Workshop: Group A)

Lars Neumeister, Pesticide Action Network (PAN) Germany

1. What is IP, ICM or IPM?

IP – Integrated Production "is a farming system that produces high quality food and other products by using natural resources and regulating mechanisms to replace polluting inputs and to secure sustainable farming. Emphasis is placed on a holistic systems approach involving the entire farm as a basic unit, on the central role of agro-ecosystems, on balanced nutrient cycles. Biological, technical and chemical methods are balanced, carefully taking into account the protection of the environment, profitability and social requirements."

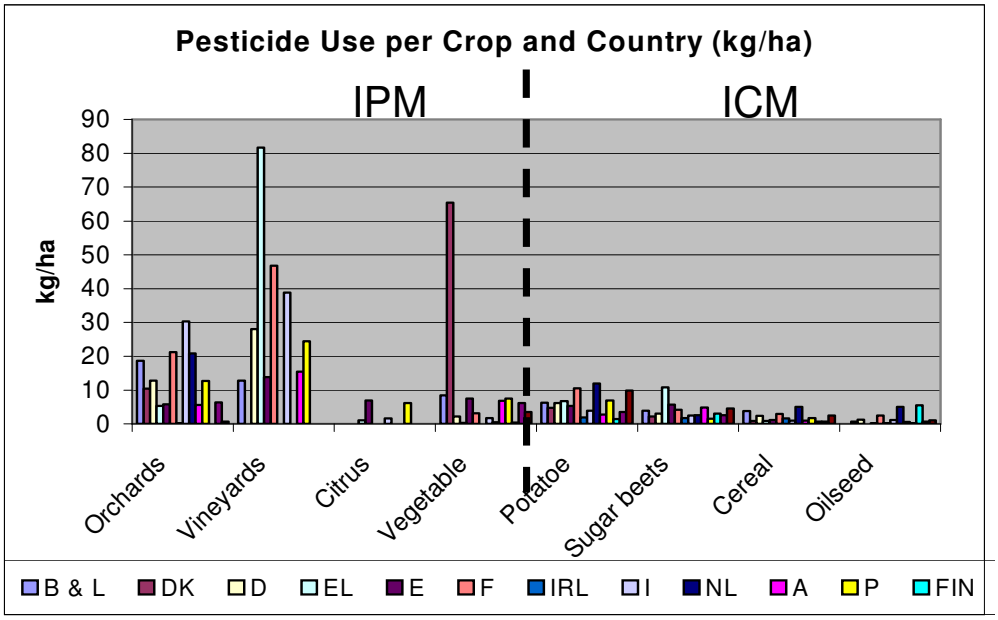
ICM – Integrated Crop Management "is the concept to integrate the management of individual crops in order to benefit from the interactions between them. In many respects, integrating crop production strategies in order to provide benefits such as pest control, maintain soil fertility, etc is an ancient technique."

IPM – Integrated Pest Management "means the careful consideration of all available *pest control techniques* and subsequent integration of appropriate pesticides and other interven-

tions at levels that are economically justified and reduce or minimize risks to human health and the environment. IPM emphasizes the growth of a healthy crop with the least possible disruption to agro-ecosystems and encourages natural pest control mechanisms."

While IPM focuses on pest management only, ICM has a broader focus: the crop system. In Integrated Farming Systems (IFS) the view is extended to an approach that covers the whole farm, including crops and livestock. The scope of the view has a significant impact on the use of pesticides: the amounts used per hectare are generally lower when systems are based on ICM than in IPM-based systems. The annual use in ICM (mainly vegetable, potatoes, sugar beets, cereal and oilseed) was mostly less than 10 kg/ha yr, while it was significantly more than this in IPM (orchards and vineyards) in most cases (Figure 1). Amounts of pesticides used differ in various European countries; generally competition is strong to produce with maximum yield.

Figure 1 check all countries in legend



The enlargement of the European Union will increase agricultural area by over 43% and will have an impact also on the employment level in the EU. The proportion of people who work in agriculture ranges from 40% of total employment in Romania, 25% in Bulgaria and 18% in Poland, to about 5% in the Czech Republic and 7% in Hungary. An important factor in the context of accession is that food, drink and tobacco account for a much higher percentage of household expenditure on average in the Central and Eastern European Countries relative to the EU.

2. Why do we need different policy strategies for IPM and for ICM?

Patterns of pesticide usage can be very different depending on the type of crop, and the following hypothesis for policy strategies in integrated production systems is suggested: *strategies must distinguish between permanent crops, vegetable and arable crops*.

Permanent crops (orchards, vineyards, citrus trees): IPM is partly established

- Many applications – high pesticide use per ha – many food residues
- Pesticide use for 'cosmetic' reasons (unblemished fruit)
- No crop rotation
- Specialized holdings – no animal breeding
- Limited number of crops
- Small total area
- Limited number of farmers

• Limited number of pests and diseases

Vegetable crops: ICM and IPM are partly established
• Many applications – high pesticide use per ha – many food residues
• 'Cosmetic' pesticide use
• Crop rotation
• Specialized holding – no animal breeding
• Larger number of crops
• Small total area
• Limited number of farmers
• Larger number of pests and diseases
• Partly greenhouse production

Arable crops: neither ICM nor IPM are established
• Fewer applications – high total pesticide use – environmental residues
• No 'cosmetic' pesticide use
• Crop rotation
• Often animal breeding (fodder production)
• High number of crops
• Large total area
• Large number of farmers
• Large number of pests and diseases

Some EU Member States define ICM and Integrated fruit production (IF) as does the International Organisation for Biological and Integrated Control of Noxious Animals and Plants (IOBC), e.g. Austria, Belgium and Spain. Other Member States such as Germany, France, Italy and Luxembourg base their definitions of ICM and IF on the definition of the European Initiative for Sustainable Development in Agriculture (EISA) (source: Agra CEAS Consulting 2002). Different strategies for the three types of crop system are presented below.

Strategy for integrated production of permanent crops:
Improvement of farmers' knowledge (education)
Certification by the IOBC scheme
Strengthening of consumers' awareness

Strategy for integrated production of vegetable crops:
Improvement of farmers' knowledge; research into integrated vegetable production
Certification by the IOBC scheme
Farmers' and consumers need to demand initiatives of retailers / supermarkets
Strengthening of consumers' awareness

Strategy for integrated production of arable crops:
Change in policy on subsidies towards more support of crop diversification and sustainable agriculture (e.g. balanced animal and plant production)
Improvement of farmers' knowledge; research into integrated production of arable crops

Crop-specific guidelines clearly prohibit certain patterns of using pesticides as well as some chemical classes e.g. a guideline for integrated production of apples states that chemical soil sterilisation is not permitted and that varieties should be chosen for specific sites which are likely to be economic with minimal use of agrochemicals: 'Golden Delicious' must not be planted on sites prone to russet, nor 'Jonagold' on sites that are unfavourable for colouring and firmness of fruit. Varieties resistant or tolerant to diseases and pests are preferred and young trees for planting should be certified to be virus-free. Generally bare soil management of orchards is not permitted and in established orchards with an excessively vigorous growth the use of herbicides must not be permitted where possible (here weed-free strips should be maintained by mulching, covering the soil surface or by mechanical cultivation). Herbicides permitted in integrated fruit production may only be used to supplement such cultural weed control methods (source: IOBC 2002). However, these guidelines are binding for producers only when they are certified members and are not legally binding

Further information:
European Initiative for Sustainable Development in Agriculture (EISA)
http://www.sustainable-agriculture.org/

Intl. Organisation for Biological and Integrated Control of Noxious Animals and Plants (IOBC)
http://www.iobc.ch/

Organic farming in the Czech Republic (Workshop: Group A)

Renata Osladilova, PRO-BIO Association of Ecological Farmers, CR

The area in the Czech Republic (CR) farmed by organic standards increased from 480 ha in 1990 to 20,239 ha (or 0.5% of agricultural area) in 1997, to 110,756 ha (2.6%) in 1999 and 254,995 ha (6.0%) in 2003. From this area, 91% are permanent grassland, 7.7% arable land, 0.4% orchards or vineyards and 1% other types. The main products in the CR are cereals, peas, herbs/spices, wine and cheese; other agricultural products are fresh fruit, vegetables, milk and meat. There is a national trademark (label) for organic products.

Strengths of organic farming in the CR are the high quality of food production, the fact that the home market is not saturated and certification is compatible with EU standards. Also, Czech farming in general uses a lower average input of chemical fertilisers than the EU (76 kg/hectare in 2000).

Weaknesses of organic farming in the CR are that there is a different structure for supply and for the demand organic produce (supply of organic meat, dairy products and vegetables being low), and support by the state of organic production, distribution and promotion is low.90 % the total area that is farmed organically consists of permanent grassland.

Good opportunities exist for organic farming in the CR as it has relative advantages when compared to other candidate countries for EU accession. There is also a strong growth of the international market for organic food market and this offers positive prospects for employment in agriculture, rural development and nature conservation

Potential threats to Czech organic farming arise from a misunderstanding of the functions and chances of organic farming, and also from migration into the towns followed by a decline of the rural areas.

The PRO-BIO Association offers an advisory service (regarding legislation) and supports farmers in the marketing of organic products. The profile of this association is as follows: it consists of a total of 530 members, from which the majority (405) are organic farmers; the other members are shops (54), manufacturers (28), advisors (26), wholefood shops (14) and schools (9).

It is expected that the development of organic farming in the CR will continue and the goal of the PRO-BIO Association is that it will comprise 10% of the whole agricultural area by the year 2010. Probably the export of organic produce to EU countries will still increase (mainly cereal products).

Website of PRO-BIO Association: http://www.pro-bio.cz

Notes of Workshop group A: Integrated Production in Agriculture

Renata Osladilova explained that Czech farmers believe accession to the EU will bring more paperwork, bureaucracy and that 'it is a mess' - too much change and too quickly. There is rapidly growing demand for organic food in the Czech republic. Pro-Bio's organic label is controlled by a separate independent certification body but they plan for it to become the national organic logo, under government certification. It is true that this is a hot topic among organic farmers, as it could set up a monopoly situation, and farmers are currently not happy with the way they are certified. Farmers in Pro-Bio pay an annual membership fee of 33-600

euros depending on farm size. In France, farming organisations have opted for local level labelling, which are much more progressive than EU standards. In Germany, a common label has started for 6-7 German certification schemes, with a unified logo. This makes it very easy to spot in retail stores. Imported organic produce also has to come through the same national label.

Regarding Integrated Production (IP), Lars Neumeister explained that there are no figures available in the EU on what the proportion of IPM actually is for a specific fruit crop, for example, or how many farmers are cultivating this crop under some definition of IP, as opposed to conventional production. He highlighted the different factors influencing the adoption of IP. In horticulture, consumer awareness about residues and initiatives of supermarkets to minimise residues are a key driving force for change. In arable crops, subsidies within Common Agricultural Policy (CAP) remain the dominating influence. Although a good definition of IPM has been developed by the FAO, it is not used in many countries at a national level. In the UK, PAN's initiative for a 'safer alternatives innovation forum' also found that different strategies were necessary to promote IP in horticulture than in arable systems.

The Rural Development Plan of the EU in 2007-2013 is an opportunity to push for support of organic and IP approaches, but NGOs have only one year to develop and lobby for proposals. Good Agricultural Practice (GAP) under current cross-compliance (subsidy payments depend on complying with a series of environmental requirements) is very weak - the EU leaves it up to national governments to define GAP. Slovakian NGOs are therefore trying to influence the Ministry of Agriculture for a progressive Rural Development Plan.

Spanish participants warned that IPM concepts come from the old mindset of controlling pests with chemicals. Instead we should lobby for integrated farming systems. In Spain there is a huge socio-economic problem that the majority of organic produce is exported to rich consumers in northern Europe, especially Germany, while Spanish consumers cannot afford it. We need to define per cropping system what constitutes 'Good' versus Bad Agricultural Practice, e.g. not rotating wheat is definitely a bad practice and farmers who do not rotate field crops should not be eligible for subsidies at all.

Practical ideas for collaboration

PAN UK's initiative for a 'safer alternatives innovation forum' attempts to bring together farmers, supermarkets, agronomists, government stakeholders and NGOs to discuss practical options for pesticide reduction in specific crops. Their first meeting looked at strategies in apples, potato, lettuce and wheat (report available and see Pesticides News 64, June 2004). PAN Europe plans to hold a similar European workshop in 2005. One suggestion is to use food safety concerns to raise media attention of the need for change in farming methods - the latest EU pesticide residue figures show increasing trends and admit that certain residue levels in fruit pose a real hazard to consumers, especially children. In Slovakia, Agro-eko Forum is promoting a Solaris wine grape variety, which requires low pesticide use (copper fungicides) compared to conventional varieties, to be promoted in Germany. Do the organic farmers have any opportunities to share their experiences with conventional farmers, for example on non-chemical methods to control weeds in maize?

The Czech organisation 'Agro-Forum' trains farmers on how to join agri-environment schemes but their training curriculum lacks comprehensive information on pesticides, and farmers dare not risk stopping the use of pesticides. Agro-Forum would like to develop a strategy for pesticide use reduction. Lars Neumeister noted that he has information available on agri-environment measures and their relation to subsides, and the International Organisation for Biological Control (IOBC) provides useful information on IP methods. In Catalunya, the Barcelona Deputation (second level of government, responsible for practical activities) is interested and the campaign group aims to propose an action plan, building on the experience of the Vegetable Farmers Defence Association with saving costs by reducing pesticide dependency. This campaign will work together closely with supportive colleagues in the Departments of Environment and Health, to put pressure jointly on the Department of Agriculture for positive action to address the high levels of pesticide use.

In Andalucia in southern Spain, the NGO 'Ecologistas en Acción' campaigns against GMOs and the cultivation of GM maize in Spain. They are also working on pesticide issues and have launched a campaign against aerial spraying of insecticides in olive groves. They also promote GAP for nutrient management, against excessive use of fertilisers because of nitrate pollution. They plan to hold a meeting in Spain in spring 2005 to discuss setting up a national anti-pesticide campaign, perhaps a PAN Spain group. It is important to work constructively with farmers.

Antonio Bello's experience with composting as an alternative to methyl bromide is a positive step forward, rather than telling people what not to do. It involves explaining ecological concepts of agriculture and we need to get ecologists and consumers to work together on receiving EU funding for pushing forward sustainable agricultural systems. At the moment only 1% of food consumed in Spain is organic. The concept of "sustainable use of pesticides" is problematic, as it continues the chemical mind-set. Farmers need to know about concrete negative impacts, for example impacts of methyl bromide and the fact that it remains active in the soil for two years. The next meeting of the Montreal Protocol in Prague (22-26 November 2004) is an opportunity to present information. PAN Europe should promote alternatives to methyl bromide and draw public attention to the fact that any non-critical use from January 2005 on is illegal. Joint action on alternatives for controlling nematode worms in potatoes is one suggestion. Kirsten Schaffer in PAN North America is the best person in the PAN network for methyl bromide alternatives.

Much more easy-to-read information on the economic costs of pesticide impacts is needed, e.g the link between prostate cancer and methyl bromide use. By 2007, 50 Regional Development Plans will be produced and PAN could start asking now what these plans are regarding pesticide use reduction.

We should draw attention to the differences of CAP policy for farmers in new and old Member States (MS). Environmental cross-compliance will be voluntary in new MS from 2007-2013. Pesticide use is not expected to rise dramatically in new MS but we need to continue pressure so as to get these governments to focus on opportunities for preventing this from happening, under agri-environment funding. The Polish Ecological Club is training 30 agri-environment advisors and will create an advisory network. Under Rural Development Plans and cross-compliance, all EU Member States are obliged to set up compulsory advisory systems by 2007. PAN should lobby for EU funds to make sure that this advice is independent and not taken over by agrochemical companies.

Pro-Bio and others are involved in raising awareness in schools and colleges on pesticide problems and organic alternatives. They will hold an international conference on non-chemical pest management experience exchange in July 2005, with the Czech 'Bio-Academy'. For non-chemical methods PAN Germany is now adapting its on-line information service for tropical agriculture (OISAT) to farming systems in central and eastern European countries.

In Bulgaria, today there exists an organic regulation for meat and for plants and a national organic label (supervised by the Ministry of Agriculture). The 'Foundation for Agriculture & Ecology' (FAE) participated in the development of organic standards and the label. There are 500-600 registered organic farmers and three associations, including FAE, working on organic training. The main problem is the very high cost of certification - currently organic certified production is mainly limited to herbs, honey and cheese and is low for fruit and vegetables. Albena Simeonova personally has experienced a total loss on the market of 30 t organic cauliflower, as the demand and price was cut by cheap imports from Macedonia. The multinational agrochemical companies are marketing pesticides in an aggressive manner, giving free samples. FAE plans to run farmer training on pesticide record keeping and to use this as an opportunity for education on how to reduce pesticide use.

Several organisations are working to promote fair trade and direct links between farmers and consumers. 'Commercio Alternativo' in Italy now has 50% of its fair trade products certified as organic, is opening a shop which sells organic/fairtrade clothing and has created a round-table network to promote organic cotton consumption. Their experience is that farmers are

very open to 'convert' to organic production. In Barcelona, fresh food is sold mainly through a network of 45 municipal markets, but these no longer have any form of inspection of quality or standards - this is a challenge to promote pesticide reduction. It is important to insist on participatory methods of farmer training and to acknowledge and build on farmers' knowledge. The contradiction between organic philosophy and large-scale monoculture of certain organic crops encouraged by supermarket demands needs to be addressed by promoting support of local food democracy and local production. In southern Spain organic certification companies are dominating organic production and this is leading to a difficult economic situation for the smallest farmers - they are forced to either go back to supplying for the conventional market or to sell through farmers' markets. Farmers' markets are growing in many countries and these could be an opportunity to disseminate information to farmers on health hazards of pesticides (besides the problem for consumers of residues). A simple leaflet would be useful.

There is a Polish network of shops selling local produce directly and some nursery schools are now using supplies from local farmers at lower cost. The Slovak national organic agriculture plan encourages direct links between consumers and producers and supply schemes have been set up for schools, aiming to reduce the 'food miles'. They are looking at Life Cycle Assessments for the environmental impact of food - this is a good way to highlight the external costs of conventional production.

Pep Riera of the 'Vegetable Farmers Defence Association' warned that multinational companies are trying to take over the traditional local denomination system for wine. He argued that Integrated Production needs to become the minimum level for all farmers and that the agricultural policy should encourage farmers to move towards ecological and organic practice. It was concluded that the CAP needs to subsidise quality instead of quantity and that this concept of quality should include not food safety alone but environmental health, biodiversity, sustainability and social justice.

Reducing exposure in our communities (Workshop: Group B)

Dr Roslyn McKendry, Pesticide Action Network UK

At the level of the European Union, pesticides are covered by two different regulations:

• Agricultural pesticides Directive (91/414/EEC): this regulates pesticides which are used on plants outdoors and by professionals (in agriculture, gardens or parks)

• Biocidal products Directive (98/8/EC): this regulates all other pesticides intended for non-agricultural or indoor use (e.g. rat poisons, timber treatments, fly sprays etc)

The European Directive 91/414 increases safety standards for pesticides used outdoors on plants. Pesticide active ingredients for which manufacturers are not intending to submit full safety testing data can no longer be legally sold since July 2003; more active ingredients will also come off the market if they do not pass the review within the authorisation procedure. In homes and gardens this may lead to an increase of obsolete and unwanted pesticides that need to be disposed of. It is necessary that local authorities provide well-advertised facilities for collecting hazardous waste separately. There are opportunities for action: reducing use of pesticides and substituting hazardous products by safer alternatives, e.g. biological control.

Pesticide Action Network (PAN) UK provides different resources that help to reduce the use of pesticides and limit exposure. The resources for householders and gardeners include:

- Pesticide-free gardening tips
- Database of alternative pest control
- Fact sheets on alternatives
- Pesticide disposal database
- 'Greenfly' newsletter
- Poster

Tips for pesticide-free gardening indicate times for sowing or planting, discuss certain types of pests and present news on pesticides and alternatives. Gardening tips are online at PAN UK's website (www.pan-uk.org/gardening.htm) or available by email.

The *alternatives database* is a directory of least-toxic pest control solutions and products that is accessible online at http://www.pan-uk.org/saferpestcontrol.htm.

Six active ingredients in pesticides (81 products) were withdrawn in July 2003 within the UK, three more have since failed review and will be withdrawn shortly. Many old and unwanted pesticides are stored in household and garden sheds. Facilities for the disposal of pesticides in England, Scotland and Wales are listed in the *disposal database* that can be accessed at the website http://www.pesticidedisposal.org.

For schools, resources available at PAN UK are:
• *'The Pesticide Trail'*, school video and resource book • *IPM for schools* guide

The video and resource book *'The Pesticide Trail'* is for secondary schools. It informs about the following topics:
· Food – conventional / organic
· Water – the hidden costs
· Health – the silent invaders
· Cotton – the price of a T-shirt
· Chocolate – more than an indulgence
· Toxic origins – history of pesticides
· Warning from the wild - environment
· Pesticides in the community

A resource for community groups (can be borrowed for free):
• *'Exposed: rethinking pesticides in our homes, gardens and communities'* (video)

The video *'Exposed'* informs about the origin of pesticides, how people are exposed to these in air water or food, impacts on health and the environment, how to phase out pesticides (from homes, gardens or public places) and where one can find safer alternatives.

Further information (EU legislation):
http://europa.eu.int/comm/food/plant/protection/index_en.htm (Authorisation for agriculture)
http://europa.eu.int/comm/environment/biocides/ (Authorisation of biocidal products)

Pesticide Action Plans (Workshop: Group C)

Hans Nielsen, Ecological Council, Denmark.

The first Pesticide Action Plan (1987-97)

The first Pesticide Action Plan in Denmark was decided in 1986, primarily because of a great decrease in birds and hares in the farmland. The plan failed, as the farmer organisations and the pesticide dealers rejected it. The goal of the Danish Pesticide Action Plans is 'to reduce the consumption of pesticides', and thereby:
• to protect people against health hazards and harmful effects that results from pesticides. This applies equally to users of the products and to the population in general, who must be safeguarded against ingestion through foodstuffs and drinking water in particular,
• to protect the environment, i.e., harmless organisms as well as beneficial organisms in flora and fauna on land and in aquatic environments.

The Action Plans emphasised that 'as it is extremely difficult to determine an environmentally acceptable level for the consumption of pesticides, it is necessary for the sake of the environment to reduce pesticide consumption as far as possible'. The goal in the first Action Plan was that the total consumption of pesticides should be reduced by at least 25% by 1 January 1992 and by 50% by 1 January 1997 (Reference period 1981-85). The reduction was to be achieved partly by giving higher priority to advisory effects, and partly by intensifying research efforts aimed at limiting pesticide consumption. The reduction goal should include:
• quantities of active ingredients and products sold on the national market
• intensities of pesticide spraying, expressed as treatment frequencies

Definition of Treatment frequency

The treatment frequency index expresses the average number of times per year agricultural land can be treated with the sold quantity of pesticides, assuming that the pesticides are used in the prescribed normal dosages. The 'Bichel Committee' stated that the treatment frequency index is regarded as the best indicator of the burden on the environment.

There is a pesticide tax at a rate of 25% for herbicides, fungicides and growth regulators, and a tax of 35% for insecticides. The first Pesticide Action Plan only reduced the treatment frequency from 2.67 to 2.45 (or 8%, Figure 1) but the amount of active ingredients sold (in tonnes) was reduced by 47% (Figure 2 below).

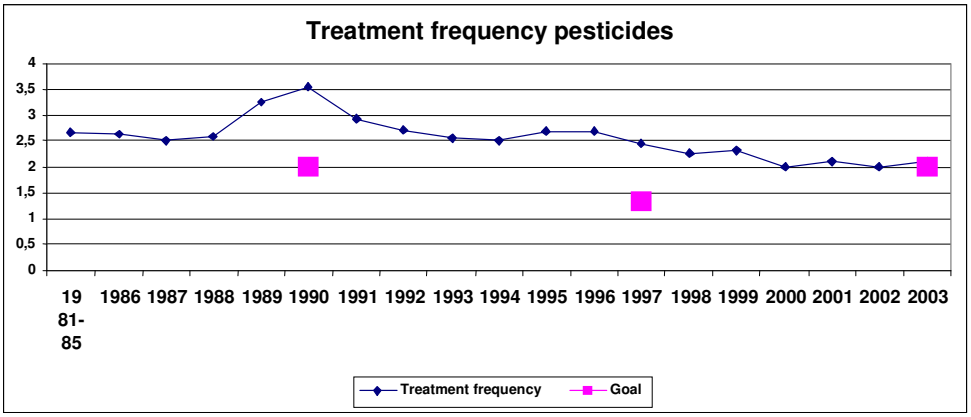


Figure 1. Treatment frequency for pesticides in Denmark 1981-2003

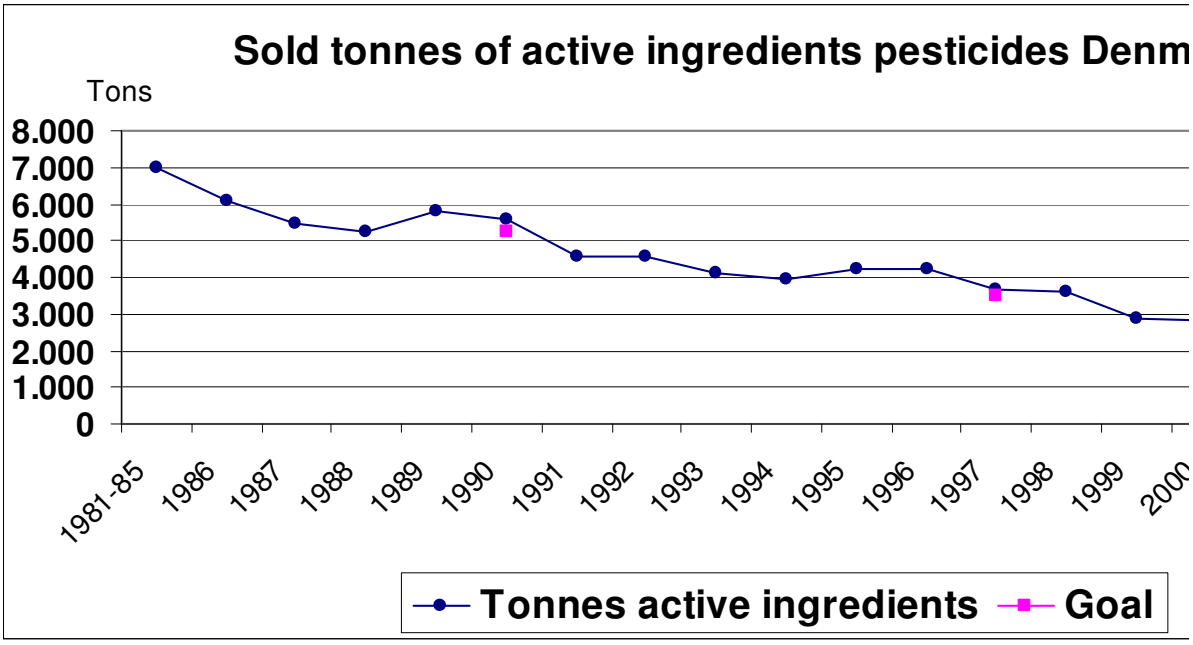


Figure 2. Tonnes of active ingredients in pesticides sold in Denmark

In 1994, pesticides were found in great quantities in groundwater in Denmark and a discussion of a total pesticide ban started. This discussion lead to the appointment of a Committee in 1997 for assessing the overall consequences of phasing out all pesticides (the Bichel-Committee).

The second Pesticide Action Plan (1999-2004)

In 1999 the Bichel-Committee showed, that the use of pesticides could be reduced to 1,4-1,7 (30-40%) without significant losses for the farmers and the society. The goal for the second Pesticide Action Plan was a treatment frequency of 2,0 in 2003, but it was 2.1 in 2003, and 2.0 in 2002 (Table 1).

The goal was also to have 20,000 hectares of no-spraying zones on arable land in rotation along targeted watercourses and lakes (with a surface over 100 m^2) in 2003, but only an area of 8,000 hectares was reached. This plan was supported both by the farmer's organisations and the pesticide dealers, because they were afraid of a more restrictive pesticide policy.

Table 1. Treatment Index in 1994 and Goal for 2002 and 2009 in Denmark

	Herbicides		**Fungicides**		**Insecticides**		**Growth regulators**		**Total**		
	2002	**2009**	**2002**	**2009**	**2002**	**2009**	**2002**	**2009**	**1994**	**2002**	**2009**
Winter wheat	1,20	0,95	0,75	0,65	0,25	0,15	0,10	0,00	3,20	2,30	1,75
Rye	0,80	0,70	0,35	0,10	0,10	0,10	0,40	0,20	1,60	1,65	1,10
Winter barley	1,00	0,70	0,55	0,50	0,00	0,00	0,00	0,00	2,50	1,55	1,20
Triticale	1,00	0,70	0,35	0,30	0,10	0,10	0,20	0,10	-	1,65	1,20
Spring barley	0,70	0,70	0,40	0,35	0,30	0,25	0,00	0,00	1,80	1,40	1,30
Oat	0,60	0,50	0,25	0,15	0,25	0,25	0,00	0,00	-	1,10	0,90
Winter rape	0,80	0,60	0,15	0,15	0,60	0,80	0,00	0,00	2,50	1,55	1,55
Peas	1,80	1,80	0,10	0,10	0,60	0,60	0,00	0,00	3,30	2,50	2,50
Potatoes (flour)	1,00	1,10	8,00	7,50	0,60	1,00	0,00	0,00	-	9,60	9,60
Potatoes (consumption)	2,00	1,60	5,50	5,00	0,35	0,50	0,00	0,00	-	7,85	7,10
Sugar beets	2,40	2,20	0,15	0,20	0,50	0,20	0,00	0,00	4,10	3,05	2,60
Maize	1,10	1,00	0,00	0,00	0,10	0,05	0,00	0,00	1,30	1,20	1,05
Grass in rotation	0,03	0,03	0,00	0,00	0,05	0,05	0,00	0,00	0,08	0,08	0,08
Couch grass control	0,30	0,25	0,00	0,00	0,00	0,00	0,00	0,00	0,20	0,30	0,25
Average treatment frequency*	1,28	1,08	0,50	0,46	0,26	0,22	0,05	0,01	2,51	2,09	1,77

*The treatment index listed for 2002 and 2009 is not 2,0 and 1,7 because a new estimation model is used. But by the old estimation model it is 2,0 and 1,7.

The Danish approval scheme
84 active ingredients are approved for use in agriculture (status in 2004). 30 active ingredients have been prohibited or strictly regulated in the last 10 years. For over 80% of this quantity, use is regulated with the aim to protect groundwater. An early warning system protects groundwater since 1999 by banning pesticides that have been leaching to groundwater at higher concentrations than 0,1 micrograms per litre.

The Pesticide Plan 2004-2009
The goal is a reduction in Treatment Frequency to 1.7 until 2009. The goal is also to have 25,000 hectares of no-spraying buffer zones on arable land in rotation along targeted watercourses and lakes (surface over 100 m^2) in 2009.

Areas should be pointed out where the groundwater is particularly vulnerable to pesticides in order to get a better protection. The pesticide tax should be 'greener' if possible in order to provide better protection of the environment. This plan was also supported by the farmer's organisations and the pesticide dealers. The extension services/advisers to farmers also

support the plan, and they are paid by the government to make reduction plans for 9,000 farmers until 2009.

Website of Ecological Council: http://www.ecocouncil.dk

NGO lobbying for change and Germany's new national pesticides strategy (Workshop: Group C)

Carina Weber, Pesticide Action Network (PAN) Germany

[See presentation, section III: **The German Pesticide Use Reduction programme**]

Environment and Health opportunities at EU level and the Paris Appeal on Diseases due to Chemical Pollution (Workshop: Group D)

Dr Sc Catherine Wattiez, Inter-Environment Wallonnie; PAN Europe

The European Commission has published a communication on a health strategy/plan to ameliorate the situation regarding environment and health in Europe. However, the proposed plan did not mention the precautionary principle and it mainly demanded more research. This was pointed out by the Environment Council, and the European Parliament considered that action was needed. A Working Group within a conference in Budapest on children's health and particularly sensitive groups was supposed to advise the Commission. It did not incorporate the precautionary principle in a new version of the action plan but puts special emphasis on the most vulnerable groups in society, in particular children. It also called for more research, however, although this may be necessary, it is no excuse for not acting. The European Parliament was not content and has commissioned a report on its own initiative with the aim to improve the proposal. This will be voted on in plenary in February 2005.

A round table discussion on environmental health was organised by PAN Europe and other NGOs. The position of a group of scientists and physicians was that enough data had been collected and that actions and reduction of exposure to pesticides and chemicals were necessary. An NGO, the European Environment Bureau, demanded that the health problem of pesticides/chemicals should be linked to legislation such as the REACH process for authorising chemicals. It is most important to change the policy of pesticide use and go for a reduction of pesticide dependency in agriculture. It is also necessary to exclude certain active ingredients on the basis of their intrinsic properties regarding health hazards. Damage to health from pesticide exposure is an important argument that a strategy for reducing dependency on pesticides is needed. Much more pesticides need to be targeted and banned, based on their short- or long-term health hazards (carcinogenicity, endocrine disruption, developmental toxicity, neurotoxicity, skin sensitisation) and on biological/chemical properties (persistence, bioaccumulation). Numerous hazardous active ingredients, classified or recognised as such by international and national official bodies (IARC/WHO, EU, US EPA) are still in use in Europe (15 Member States): 92 suspected carcinogens, 20 suspected reproductive toxins, 48 suspected* endocrine disruptors (High Production Volume chemicals), 25 skin sensitisers and 47 neurotoxins (acetylcholinesterase inhibitors) (Wattiez and Veillerette 2004). Here we are *not* talking about pesticides that have been phased out from the EU market but about products that continue to be sold and used in Europe!

There is no official classification for endocrine disrupting chemicals so far. A list of 'candidates for further research to develop a list' has been compiled for the European Commission in 2000. The prescribed testing of pesticides by the authorities is totally insufficient. There is no systematic review of scientific literature. And evaluations are based on risk assessment, but with a very unrealistic view of the risks: there is no consideration of 'cocktail' or combination effects of mixtures of chemicals, no special consideration of most vulnerable individuals (children) and no testing on formulations. The Paris Appeal demands that the precautionary principle is applied and states that one cannot wait until research (e.g. in epidemiology) provides full proof of the causal link between a specific disease and the exposure to a certain

active ingredient. It also demands that pesticides should be excluded from authorisation on the basis of their health hazards and international legislation.

*'nearly sure' or 'very probable', according to EDC report of consultants to the Commission

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About the Action on Pesticide Exposure (PEX) Project, Pesticide Action Network UK (Workshop: Group D)

Alison Craig, PAN UK, Project Coordinator

The aim of this project is to provide support and advice via a helpline to anyone whose health has been affected by exposure to pesticides, to collect data, and to lobby regulators and policy makers over the issue. PAN UK started it in October 1998.

Since April 2003, funded by the Joseph Rowntree Charitable Trust, the project, while continuing to provide an advice service and collect data, has had the objectives of achieving 1) a new public right to know what pesticides are being used in people's local environments and in food, 2) the right to buffer no-spray zones in residential areas, 3) transparency in regulatory processes and over conflicting interests, and 4) higher awareness in the medical profession of the potential effects on health of pesticides.

Recent activities

A major focus of the project in the past two years has been the 'bystander' issue. Currently, according to UK law (the Health & Safety at Work, etc Act 1974) you have no legal right to know what pesticides have been used in your local environment, even if you are made ill by them. The pesticide user has an obligation to inform the authorities (the Health & Safety Executive) but they then have to obtain his written permission to pass the information to you. This is a particular problem for people who live next to sprayed fields, and users of the countryside.

Working to raise the issue in collaboration with campaigner Georgina Downs, who is directly affected herself, PEX created sufficient pressure through the media for the government to act. The Pesticides Safety Directorate (part of the UK government's Department for the Environment, Food and Rural Affairs) held a public consultation on 1) public access to information on spray records and 2) the possibility of introducing buffer no-spray zones in residential areas. PEX publicised this opportunity as widely as possible and Defra received the highest number of responses to a public consultation since records began.

However, in an announcement on 16th June 2003, rural affairs Minister, the Rt Hon Alun Michael MP, rejected the proposed introduction of compulsory no-spray buffer zones next to residential areas on the basis that 'no new scientific evidence has come to light [that would] provide a safety based justification' for them.

The better news was that he has decided to introduce new regulations requiring farmers and growers to keep records of pesticides used on crops and to make those records available to

the public. However, this will only be via a 'third party', such as GPs or lawyers. The big draw-back of this is the time-lag. When the sprayer is outside your house you need to know what the chemicals are straightaway, not in a week or more's time.

The government also decided to set up a pilot study to explore how residents living next to farms can be notified in advance of pesticide use, to commence in June 2005. The study will look at the practicality and cost of various options for how notification can take place. It is not yet clear if these plans will include signs on-site giving information to residents and users of rights of way, a key demand.

The Minister also announced that he has asked the Royal Commission on Environmental Pollution (RCEP), www.rcep.org.uk to carry out a special study to examine the scientific evidence on which the Department for the Environment, Food and Rural Affairs (DEFRA) has based its decisions on the risks to people from pesticide exposure. The RCEP is an independent body which does not have to operate within the legal framework of pesticides. They have produced some excellent reports (including Chemicals in products – safeguarding human health and the environment, June 2003 http://www.rcep.org.uk/chemicals.htm) and the government is obliged to make a formal response to their recommendations within a year. Copies of PAN UK's submission of evidence to the RCEP on the pesticide study are available on request.

The PEX project also raises issues with government about the surveillance of pesticide-related disease. Currently none of the systems in place take account of chronic exposures and their health effects.

Information we are seeking

What systems of surveillance for pesticide-related disease exist in your country: 1) which are statutory, run by government (which agency)?, or 2) which are provided by the non-governmental or voluntary sector (which organisation)?

Is there mandatory medical reporting of chemical or pesticide-related disease in your country, and if so, what is the agency to which doctors must report?

Does your government require statutory pesticide usage reporting?

If so, to whom does the pesticide-user report?

If no statutory usage reporting is currently required, has your government been asked to make this a requirement?

What reasons were given for not implementing statutory usage reporting?

Are pesticide-users in your country obliged to maintain farm spray records?

1. Do they have to disclose these to the public, or just to the authorities?

2. What mandatory buffer no-spray zones are required of pesticide users by your government?

3. What voluntary 'good practice' regimes on buffer no-spray zones are operational in your country?

PEX project information available at *http://www.pan-uk.org/pex/pexindex.htm*

Feedback from workshop discussion groups and conclusions

Group A: Integrated Production in agriculture

Concrete suggestions for collaboration
• Methyl bromide: disseminate info on usage, hazards and illegal uses; produce a briefing on alternatives and a guide to existing resources.
• External costs of pesticide dependency: produce a brochure on this in easy-to-read language, perhaps including broader Life Cycle Assessment of food production
• Rural Development Plans: lobby the 50 EU regions on their plans for pesticide use reduction; push for independent agronomic advice on pest management under compulsory national advisory systems from 2007 on.
• Agri-environment funding: work towards including options of pesticide use reduction strategies; exchange information and experiences to feed into training projects by NGOs.

Training in IP and non-chemical pest management
• Invite organic and integrated farmers to share their experiences in training events
• Make use of OISAT database (adapted to Central and Eastern Europe situation)
• Participate in events or share reports (e.g. Czech Bio-Academy conference in July 2005; PAN UK's Safer alternatives innovation forum)

• *National campaign for Spain*: explore options for national campaigning (kick-off meeting in Madrid in spring 2005), and for some form of a national Pesticide Action Network. Raise awareness of Andalucian campaign against aerial spraying of olives at the European level. Draw attention to serious contamination problems caused by the use of endosulfan.

• *Encouraging local food systems*: campaign for a fair price for farmers, encourage direct links with consumers and use farmers' markets to raise awareness of pesticide hazards and costs.

• *CAP reform*: Integrated Production as a minimum standard for all EU farmers, subsidies to promote quality, environmental sustainability and social justice

Group B: Urban pesticides and chemicals

This group discussed strengths and weaknesses of the proposed EU chemical legislation REACH, health and safety of workers, gender issues, regulation of non-agricultural (home/garden products, urban pest control and chemicals used in cleaning) and how exposure can be reduced. The main conclusions were:

· Prepare information resources on pesticides for the general public, community groups, schools and parents' associations (PAN UK has published a guidebook for 'Healthy schools')
· Report sales of illegal products to relevant government departments and pressure them to act on this (taking into consideration the withdrawal of pesticides from the European market within review for authorisation)
· Lobby national government to provide facilities for safe disposal of pesticides for non-professional use ("amateur" products)
· Campaign for improving information provided to the general public when pesticides are used in public places: what was applied; when it was applied; periods of exclusion (non-entry to treated areas); what to do in case of poisoning
· Improve training for pest control workers with the aim that they use less hazardous products and application techniques; companies need to take responsibility seriously
· Introduce preventive methods of integrated production or non-chemical pest control

Group C: Promoting pesticide reduction programmes

This workshop looked at lessons from northern Europe with pesticide reduction programmes (in Denmark, Sweden, Norway, the Netherlands) and countries developing national pesticide strategies (UK, Belgium, Germany). It explored how countries in Southern and Eastern Europe can make use of these experiences and which strategies enable NGOs to achieve that governments adopt a plan for major pesticide use reduction. The following conclusions were drawn:

· Make knowledge and data accessible on efficient alternatives to pesticides: *Online Information Service for non-chemical Pest Management in the Tropics (OISAT)* (for the moment focuses on tropical agriculture, http://www.oisat.org); *Proceedings of Beauvais Conference on alternatives to pesticide use*, 2003 (http://www.mdrgf.org); *Legambiente*, Italy (http://www.legambiente.it/); *Centre for Environmental Studies*, Hungary (http://www.ktk-ces.hu); *Women of Europe for a Common Future* (WECF) (http://www.wecf.org); *Instituto Sindical de Trabajo Ambiente y Salud* (in Spanish, http://www.istas.ccoo.es/)
· Share experiences on existing pesticide use reduction programmes in Europe, e.g. in Denmark (*'Bichel report'* at http://www.ecocouncil.dk/english/); *PURE campaign* (http://www.pan-europe.info/PURE/pure_campaign.shtm)
· Require that data is collected on (multiple) pesticide residues in food, water and the environment
· Raise the awareness of the general public about health hazards of pesticides (providing various resources such as publications, websites or press coverage in media)
· Collect additional data on the international trade with pesticides and import/export in Europe; joint call for transparency of the trade with pesticides in Europe (the *Eurostat* service of the EU may give out non-confidential information)
· Provide an overview of ongoing activities and tools for reducing pesticides and evaluate these; work towards common practical actions
· Collect and provide information on national legislation with the aim of supporting legal action on pesticides
· Common action on multiple residues (planned, placed on PAN Germany website): publication of food/water residues in the different countries of Europe (exceeding the maximum residue limit (MRL), percentage of samples where residues are detectable or the MRL is exceeded, data on contamination of ground and surface water)

Group D: Health, consumers and the public 'right to know'

This group looked at concerns of the public, regarding food residues and exposure of people who live close to sprayed areas, non-agricultural use, access to information about pesticides and ways to challenge government decisions in court. Strategies for public campaigning and the promotion of alternatives (local food systems, organic produce and non-chemical methods for consumers) were discussed. Main conclusions were the following:

· Compile a list of pesticides for which there is no medical treatment (acute poisoning followed by irreversible damages, e.g. paraquat), update the information on existing antidotes (in PAN Europe Newsletter/website) and demand a ban (at national level) of pesticides that fall into this category
· Press for official registers of poisoning cases (demand of proposed PURE Directive)
· Inform the public about toxic pesticides used against head-lice in Europe (lindane, malathion, parathion, permethrin), lobby for a ban of hazardous active ingredients and substitution by non-toxic alternatives
· Epidemiological research on relation between breast cancer and pesticide exposure: there is a need to analyse the 'body burden' (in breast milk/tissue) for contamination, especially in areas with high use of hazardous pesticides, e.g. Armenia and other countries in Eastern or Southern Europe
· Demand that supply of organic food in schools and hospitals becomes mandatory (in legislation); extension of a local campaign in Catalunya to the national level and initiation of parallel campaigns in other countries
· Raise awareness by providing information about the health impacts of pesticides (for the public, farmers and representatives of authorities); e.g. campaign in Slovenia on health issues, organic farming / Good Agricultural Practice, exchange of existing documents in PAN Europe network
· Disseminate information about resources for the public on health issues related to pesticides: e.g. food residues in Germany and Europe (at website of PAN Germany), briefing on health hazards as argument for the necessity of a pesticide reduction strategy (in PAN Europe Newsletter)
· Tour of campaign and visual actions of Friends of the Earth Spain (together with Spanish farmer / consumer groups and allied organisations) to raise awareness of chemicals in the

human body and point out connections to current agenda in European chemicals/pesticides policy (REACH, PURE)
· Work together with distributors/supermarkets and farmers for moving towards integrated farming (e.g. by developing guidelines that list restricted (hazardous) pesticides not to be used); exchange of experiences between supermarkets in different countries (e.g. Coop in UK and Spain;)

Concluding remarks for PAN Europe conference

Stephanie Williamson, PAN Europe Coordinator
Several good ideas have been put forward and some of these are concrete and can reach practicability. They will need funding and a good exchange of information. We invite groups to report on recent activities and developments (e.g. in the PAN Europe Newsletter or 'Pesticides News' (contact Roslyn McKendry). Photos of farmers during pesticide application may also be useful for the Pesticides and Alternatives Database of PAN UK (at http://www.pesticidelibrary.org) as we are documenting bad practice. Participants of this conference are listed with contacts in annex B and the email list will be expanded for lobbying activities, e.g. when important issues on pesticides and chemicals are discussed in the European Parliament. It can really make a difference when letters are sent to the national ministers of environment, health etc. We hope to hold the PAN Europe conference 2005 in a new Member State in Central or Eastern Europe.

Pep Riera, Unió de Pagesos de Catalunya (Catalan Small & Medium Farmers Union)
I assume that you were told by Antoni Llimona about the practice before multinational companies started selling pesticides and fertilisers. We are looking for a way out, our farms are too small and we need to diversify their production. This will enable us to survive, or else it is the end here. Farmers cannot proceed alone as there are very few farmers left and they have not got the necessary knowledge to turn around this model of production. Organisations like PAN Europe can be an important help to us. Be assured that we will be behind you in your positions. When the new production methods were introduced we had help from outside. We are lucky to have this help, as we cannot fight alone. We are working in the fields and have to ensure that food and the environment are safe. Thank you for your contributions.

Eduard Mata, (Catalan Regional Government, Department of Health)
I would like to thank you for holding and participating in this conference. Problems of health are priorities for our department and we want to protect people from chemicals and microbial agents they may be exposed to. I believe that these problems have to be approached on a scientific basis. This includes risk analysis and we need independent scientific advice on how environmental impacts affect health. We know about some acute effects of biocides but have a lot knowledge gaps regarding the effect of low dose and long-term exposure of vulnerable groups such as children or old people. Science has to be rigorous. We are concerned about persistent organic pollutants and pesticides, which are key components of environmental pollution. We are concerned for workers and their health and there is agreement that the controls of health need to be improved. Our department is also concerned about biocides and products in the food chain. The regional government has completed a new regulation of pesticide use in public areas and we are looking for integrated methods as alternatives, with the option of relying on pesticides as the last resort. One project will establish an inventory of all substances that are listed by the Stockholm Convention [as persistent organic pollutants], another studies the daily intake of pesticides in diet in Catalunya. It is difficult to control the final outcome of these projects and they do not have spectacular effects. With the Department of Environment we collaborate on pollutants (such as dioxins, PCBs etc), and with the Department of Agriculture we develop guidelines for good practice so that no residues remain in the products. Through controls alone we cannot achieve everything and we need more support by other institutions.

Hector Gravina, Amics de la Tierra (Friends of the Earth), Barcelona
I would like to thank you for participating in the conference and thank the organisers from PAN, Friends of the Earth, and Group of Rural Reflexion, and the translators. It has been a

pleasure to work together with you. And many thanks to the Department of Environment and Habitats of Catalunya for their support. We will be working with organisations from all over Europe and will continue to exchange experiences.

Visit to Parc Agrari del Baix Llobregat

Josep Montasell, Director, and *Andreu Vila*, technical advisor for the Fruita del Baix Llobregat (farmers' association for crop protection) provided information

History and challenges

Baix Llobregat district lies very close to Barcelona city and over the last 60 years has changed from a mainly agricultural zone, specialising in orchard cultivation, to one dominated by industrial and urban infrastructure. The land use changes took place without any form of rational planning, stimulated entirely by market forces. These resulted in the current situation of a highly degraded peri-urban agriculture, suffering abandoned land, industrial pollution, soil fatigue, water pollution and a high dependency on external inputs. Many growers went out of business, many of those remaining only aspire to selling their land to developers, and few have children who want to carry on cultivating the land. Until recently there was no government or political support to remedy this situation.

The Unio de Pagesos (the major farmers' union in Catalunya) for several years had been struggling to improve the situation and to protect agricultural land use, lobbying district and provincial government to obtain support. In 1998, Parc Agrari consortium was created to address the unsustainable nature of agriculture and the negative impacts of urbanisation and industrial development on natural resources and forests, as well as the loss of cultural identity in the district. Parc Agrari aims to recover farming livelihoods and aspirations in the local communities, improving social welfare and demonstrating practically the concepts of sustainability. The consortium partners are the Unio de Pagesos, Baix Llobregat District Council, the Barcelona Deputation and 14 local councils.

Current practices and approaches

The ADV of Baix Llobregat Fruitgrowers was established in 1998 and since 2001 has been experimenting on cultivation methods to improve quality and profitability. Due to the complexity of the local agroecosystem, it is important to understand the many different factors which affect orchard production. The main objective of our research is to reduce the use of external inputs and to try to close the production cycle within individual farms. Some field trials have been initiated in collaboration with research centres, others at the suggestion of ADV members. The ADV and Parc Agrari technical team work as agents for technology transfer and to generate alternatives to conventional intensive production.

Parc Agrari is now starting to apply agroecological approaches, with the aim of rehabilitating degraded land. In 1999, the first attempts at cultivating under Integrated Production (IP) were started. Three Groups for Crop Protection (ADVs) operate within the area and have been working closely with Parc Agrari in the last three years. The common goal is to promote agricultural as the economic motor for the district via sustainable land use. Currently, many growers now cultivate under IP and some have begun to use organic methods and aim for organic conversion.

The research activities have engendered new perspectives among the farming community. By active participation in field trials and taking up new methods in their orchards, growers and the technicians are helping neighbouring districts to start similar programmes and reaching out to those farmers who were most against the new approaches.

Parc Agrari also aims to provide marketing support to farmers, via programmes for high quality, traditional agricultural and livestock products. It has created a fresh produce label to publicise produce from growers in the Parc. Nature conservation measures are in place for growers near the Llobregat delta area and to relocate incompatible agricultural activities to

other areas in the Parc. It has a monitoring programme for environmental quality. Parc Agrari runs educational activities with schools and the public and the local media.

Current research on pesticide reduction and biological control

The fruitfly *Ceratitis capitata* is the most problematic pest in orchards, especially on peaches. Conventional control has been high frequency application of insecticides, but even then results have not always been adequate, especially on late maturing varieties. Frequent applications bring problems of insecticide resistance, residues on fruit, loss of beneficial insects and secondary affects on fruit tree physiology. The ADV is experimenting with mass trapping using food attractants, and dichlorvos insecticide inside the trap. At a density of 19 traps per ha throughout the orchard, adapting protocols used elsewhere which used uneconomic densities of 75-100 per ha, the results have been very good, with very low levels of fruitfly damage, below the levels obtained with conventional regimes. They are now trialling 25-20 traps per ha in late maturing varieties.

Sexual confusion techniques for caterpillar pests, using the female sex attractant (pheromone) in large volumes to confuse the males and prevent them finding and mating with female moths, have been used in other parts of Spain for many years, without the need for insecticide application. The ADV is trialling the technique under local conditions for control of *Cydia molesta*, *Cydia funebrana* and *Anarsia lineatella* caterpillars in the small-scale peach orchards typical of this zone. The aim is to reduce insecticide applications and thereby encourage biological control of other, secondary pests. Very promising results have been obtained on 2 farms but the costs of the pheromones are high in comparison with synthetic insecticides. However, the latter costs do not take into account costs of loss of beneficial fauna or appearance of secondary pests under frequent spray regimes. Sexual confusion is also being studied for apple codling moth *Cydia pomonella*.

Leafhoppers and thrips can be damaging pests on young fruit trees, attacking the growing points. In most of Catalunya these sucking pests are controlled via weekly applications of organophosphates, although only the neem seed extract azadirachtin is approved for control. The ADV is looking for a non-synthetic alternative, with longer-lasting effects and environmentally less harmful. They are trialling use of kaolin clay applications which form a fine layer of mineral particles on the foliage surface, repelling or confusing the insects. Azadirachtin has a repellent and an anti-feedant effect. Results have been best with one commercial kaolin product, with good efficacy but applications need to be repeated at each period of shoot growth. It seems the kaolin does not lower leafhopper populations but causes them to move on to other plant hosts. For thrips, they have used sticky blue traps to time when organophosphate applications may be necessary, but would like to avoid these applications completely, as OP applications at spring time when thrips attack the flowers disrupt natural control of other pests later in the season. Petal fall period is also when many bees are active, which are harmed by insecticide spraying, so they are experimenting with kaolin and azadirachtin applications.

For weed control at the base of trees, the ADV is trialling different types of mulch, including straw and commercial polypropylene netting, and will also look at sowing ground cover plants and mechanical control. Decades of reliance on synthetic fertilisation alone have rendered the soils in the orchards very poor, with serious problems with fungal pathogens, leading to low vigour and sometimes premature death of trees. The ADV is testing soil inoculation with beneficial fungi Trichoderma harzianum to control the disease fungi and also the technique of biofumigation. This involves incorporating fresh organic material in the soil, which reduces the populations of harmful fungi by the gas released as the material decomposes under anaerobic conditions. Rather than incorporating large amounts of fresh material (100 tons per ha), the ADV is experimenting with growing brassica crops and then digging them into the soil. Neither technique is 100% effective but they do not expect immediate success in trying to regenerate soil impoverished over many years. Initial trials have produced promising results in young fruit trees.

Further information:

Website of Parc Agrari del Baix Llobregat (in Spanish) http://www.diba.es/parcagrari

Annex A Conference programme

Time	Session	Speaker/Facilitator
Fri 12 Nov 10.00	Formal opening of conference	*Jordi Cañas*, Director, Environment & Habitat Department Catalan Regional Government
10.10	Introduction to PAN Europe Introduction to the Catalan campaign *'Pesticides out of our Lives!'*	*Stephanie Williamson*, PAN Europe Coordinator *Hector Gravinas*, Friends of the Earth (FoE) Barcelona Coordinator
10.30	**External impacts of pesticides and chemicals** 1. Biocides used in the urban environment: a little known risk, but with serious effects. A decade's experience 1994-2004 2. Health impacts of pesticide and chemical dependency, with a focus on childrens' health 3. Pesticides in Spanish agriculture and options for safer alternatives	1. *Dr Francisca López*, Centre for Workplace Health and Safety, Catalan Department of Labour, Barcelona 2. *Dr Nicolás Olea*, High Council for Scientific Research, University of Granada 3. *Antoni Llimona*, Catalan Union of Farmers (UPC)
12.00	Coffee break	
12.20	**Building capacity for campaigning - the European agenda** 4. Introduction and update on: EU Thematic Strategy for a sustainable use of pesticides; pesticides authorisation directive; Maximum Residue Level harmonisation; Water Frame-work & daughter directives; The Paris Appeal 5. Government legislation and REACH - why we need action from civil society to reduce the use and impact of harmful chemicals 6. Methyl bromide and alternatives in the context of the Montreal Protocol on ozone-depleting substances and European agricultural policy Discussion in plenary	4. *Dr Sc Catherine Wattiez*, PURE Campaign Coordinator, Pesticide Action Network Europe, Brussels 5. *Mecki Naschke*, Chemicals Policy Officer, European Environment Bureau, Brussels 6. *Dr Antonio Bello,* Centre for Environmental Sciences, CSIC Madrid
14.00	Lunch	
15.45	**Experiences from groups across Europe** a. Building a new anti-pesticide coalition b. Opportunities under Germany's new national pesticides strategy c. Opportunities under CAP agri-environment schemes d. Addressing obsolete pesticide problems and poor practice e. Promoting reduced pesticide produce and local origins f. Taking the Catalan pesticide campaign to national	a. *Nadine Lauverjat*, Mouvement pour les Droits et le Respect des Generations Futures MDRGF, France b. *Carina Weber*, Pestizid Aktions-Netzwerk eV (PAN Germany) c. *Maria Staniszewska*, Polish Ecological Club d. *Dr Valentyna Pidlisnyuk*, Sustainable Development & Ecological Education Centre Dovkyllia, Ukraine e. *Rina Guadagnini*, Legambiente, Italy f. *Hector Gravinas*, Friends of the Earth,

	level	Spain
17.30	**Workshop discussion groups** **Group A Integrated Production in Agriculture** Understanding definitions of IPM and ICM and Best Agricultural Practice Promoting organic agriculture post-Accession **Group B Urban Pesticides and Chemicals** Promoting alternatives in home, garden and amenity use Supporting those affected indirectly by urban biocide use **Group C Promoting Pesticide Reduction Programmes** The experiences from the Danish Pesticide Action Plans NGO lobbying for change and Germany's new national pesticides strategy **Group D Health**, **Consumers and the Public 'Right to Know'** Environment & Health opportunities at EU level and the Paris Appeal on Diseases due to Chemical Pollution Supporting the public right to know and campaigning to protect those living near sprayed fields	Setting the scene with examples of successful initiatives and lessons learnt in different countries from the group participants. *Lars Neumeister*, PAN Germany *Renata Osladilova*, Pro-Bio, Czech Republic *Dr Roslyn McKendry*, PAN UK *Dr Paca Lopez*, Department of Labour, Catalan Regional Government *Hans Nielsen*, Danish Ecological Council *Carina Weber*, PAN Germany *Dr Sc Catherine Wattiez*, PAN Europe, Belgium *Alison Craig*, PAN UK
20.00	Dinner	
Sat 13 Nov		
09.00	PAN Europe Annual General Meeting (AGM)	Procedural meeting, open to all observers
10.00	Feedback from PAN Europe AGM and Presentation of Board Members	
10.15	Workshop discussion groups continue	Developing concrete suggestions for action and collaboration in 2005
12.30	Report back from working groups in plenary, general conclusions and next steps for follow up	
14.00	Conference closure	*Pep Riera*, Catalan Farmers Union *Eduard Mata*, Food Safety Agency, Health & Social Security Department of Catalan Regional Government *Hector Gravina*, FoE, 'Pesticides out of our Lives' campaign in Catalunya

Sun 14 Nov		
09.30-15.00	Visit to integrated agriculture project, conserving local farming: Parc Agrari, Baix Llobregat	FoE Barcelona, lunch hosted by the Town Council of Sant Boi

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Appendix C: Catalan campaign manifesto: 'GET PESTICIDES OUT OF OUR LIVES'

Nowadays we are surrounded by more than 100,000 artificial chemical substances, which have been created since the birth of the chemical industry at the end of the nineteenth century. They are present in our food, whether fresh or pre-prepared; in our clothes; in our homes as cleaning agents, detergents or paints; in our gardens; in public places, whether open-air or covered; in dental fillings; in cosmetics, in the multitude of plastic objects which share our lives, including toys, babies bottles and dummies; in the means of transport we use … They are also present in places which are apparently inaccessible: the poles and the equatorial jungles, Mount Everest, the lakes in the Pyrenees and in the depths of the sea.

Of this mountain of substances, only about 7,000 have been analysed, though using methods which determine the effect of each substance separately, in laboratory animals and in the short-term. This antiquated approach, which is being more and more questioned by many experts, has resulted in some resonant failures, amongst which the case of DDT is probably the best known. Presented from the 1940s onwards as the big solution to the problems of combating insect pests, twenty years on the terrible effects of this chemical on health and on the environment became evident. Today the use of DDT is prohibited, but it is still being produced and applied, either, in many countries in agriculture, and/or as a product used to make other substances, which appear less toxic. As the numbers of studies of the impacts on our organisms and on nature increases, the list of substances with possibly toxic effects grows on a daily basis, for example: *the dirty dozen*, substances which are highly toxic, described in the Stockholm Protocol (which has been in force since 17 of May 2004), which the State of Spain finally ratified on the 28 of May of this year. The massive use of these substances in the food chain is particularly insidious. Their presence in our food is not only increasing their slow and continual bioaccumulation in our organisms, but the more than 40,000 farmers who die each year as a result of pesticide poisonings (according to the evidence of many smallholder farmer organisations) is a terrible indication of the failure of an agricultural model based on the massive use of these compounds. This model has not solved the problem of world hunger, but has made it worse by ejecting millions of smallholder farmers from their agricultural activity, unable to survive their growing dependency on the few companies providing *packages of technology* (seeds associated with the use of one or several agrochemicals from the same company). The new transgenic crops are simply a continuation of this process, since they do not reduce the use of agrochemicals, and they increase farmer dependency, creating a farming system without farmers which is an unprecedented challenge to community food sovereignty and food safety, undermining the basis of democracy.

Comment [TB1]: 'creating' ??

No human being can consider themselves free of synthetic chemical substances, as the more than a thousand Catalonian workers, mostly women, who have suffered exposure to toxic substances in their workplace, know only too well. Neither do these chemicals recognise social or national boundaries, as shown by the accumulation of substances found in the bodies of the Environment Commissioner of the European Union, Margot Wälstrom, or the fifty odd members of the European Parliament who recently submitted to a voluntary analysis. But the media continue to bombard us with publicity for all sorts of articles, without specifying that some of their components are very suspect, as is the case for anti-headlice shampoos or the presence of phthalates in babies' toys. However, the slow process of becoming poisoned by living in the middle of this *chemical bomb* has not generated any public concern to correspond with the high degree of risk involved. Neither have the authorities, except for a few isolated initiatives, made plans for systematic action to reduce their use and daily presence. And when they have tried to do so, they have had to confront the powerful commercial interests of the big chemical industries. The threat of having its powers weakened which is currently hanging over the REACH (Registration, Evaluation and Analysis of Chemical Substances) initiative in the European Parliament and the Council of Ministers is further current proof of these murky interests which get in the way of public and environmental health. In view of this situation, the Catalonian organisations who have signed this document have together created the *Campaign to Get Pesticides Out of our Lives*, with the goal of reducing the use and presence of these substances, and replacing them with other substances of no or much less toxicity, which also exist. The Campaign is proposing to carry out a series of activities aimed both at raising citizens' consciousness, and at raising with our authorities the imperative need to articulate legislative measures and for action to adapt these to the latest European standards and/or the positive experience of reducing pesticide use in other countries on our continent, such as in Denmark.

Comment [TB2]: 'get in the way of' ??

In our campaign we propose to denounce the most toxic substances and incorrect government action and to raise awareness of currently existing and very successful alternatives, which tend, however, to be ignored due to the commercial interests mentioned above. In summary, we don't want merely to be *anti-substances*, but to encourage positive attitudes: to promote organic farming, the use of non-toxic detergents and paints, of old *household* remedies which are cheaper and whose efficacy nobody can call into question (such as vinegar to deal with lice, for example, or biological control which uses the natural enemies of insect pests).

Comment [TB3]: '. . . due to the commercial interests mentioned above.' ??

With this Manifesto, we also want to present the Catalonian public authorities – the Catalonian Regional Government, the Autonomous Parliament and the Municipal Governments – with a series of shock measures in line with the Paris Declaration on Illnesses Caused by Chemical Contamination and the Pesticides Action Network (PAN) – Europe's Pesticide Use Reduction in Europe (PURE) initiative, which we believe should be adopted immediately:

1. Develop legislation specific to Catalonia and the State of Spain about "integrated pest management" to conform to European models, including the creation of a Public Reference Centre (Prevention, Diagnosis, Treatment and Follow-Up) which incorporates training for family doctors on these poisonings, and furthermore, ensures comprehensive social insurance cover for all those affected by exposure to toxic chemical substances.

2. Prohibit all products which are either *demonstrably or probably* carcinogenic, mutagenic or reprotoxic (CMRs), as specified by competent international scientific authorities and organisations, and accordingly, apply the Principle of Substitution.

3. Apply the Principle of Precaution to all chemical substances and transgenic crops which are of persistent and bioaccumulative toxicity, which constitute a serious risk to human health and that of other species, and that of the environment, without waiting for definitive proof.

4. Take up a position which will strengthen rather than weaken the REACH initiative on industrial chemical products, which is based on the Principle of Precaution and which is currently facing strong opposition from the European chemical corporations.

Comment [TB4]: 'strong' ??

5. Replace spraying of land in urban areas with preventative and biological control measures to manage pests and fungi (Integrated Pest Control).

6. Establish protocols for action which can be enforced for the companies dealing with Pest Control in public and private areas, aligning them with the latest European regulations and ensuring that these are strictly adhered to.

Comment [TB5]: 'aligning them with' ??

In rural areas and in the farming sector:

7. Prohibit aerial spraying throughout Catalonia, as well as prohibiting the use of persistent organic pollutants (POPs) and establishing a Programme to reduce the use of toxic agrochemicals in Catalonia with concrete objectives and timelines.

8. Pressurise Central Government and the European Commission to make the receipt of funds from the Common Agricultural Policy conditional, as a minimum, on the adoption of Integrated Farming, and to exclude those farmers who sow transgenic crops from access to these funds. This measure should be combined with policies that support and provide advice to smallholder farmers in order to avoid their disappearance from the farming scene.

9. Use of the majority of the funds for Rural Development and the Pillar One National Envelopes from the Common Agricultural Policy, to encourage the production and marketing of Organic Farming, establishing an Integrated Plan for Organic Agriculture, with defined objectives and timelines, with the aim of achieving 20% of Catalonian Farming as being organic by the year 2010.

Access to information on toxic substances:

10. Set up mechanisms for public access to information on what pest control measures the Catalonian authorities are taking, especially those in food, and in the case of sequestration, making it clear which companies are affected in order to increase the traceability and responsibility of the various agents involved. In the same way, promote a labelling system at autonomous regional level, as

well as at the level of the State and of Europe as a whole, which indicates the different chemical products, both active agents and co-formulants, used in all those products which are widely consumed.

SIGNATORY ORGANISATIONS on the date of 22 October 2004:
Amics de la Terra Barcelona, Amigos de la Tierra España, CCOO Catalunya: Salut, Treball i Ambient, ISTAS, Confederación Sindical CC.OO España, Centre d'Anàlisi i Projectes Sanitaris CAPS, Vida Sana, IAC-CATAC, La Bassa Roja, Amics de la Natura (Vallfogona de Balaguer LLeida), Xarxa per la nova cultura de l'aigua, CEPA-Ecologistes de Catalunya, Collectiu Agudells (ecologistes), GRR-Argentina (Grupo de Reflexión Rural- Argentina) Representación de Barcelona-U.E, Ecologistes en Acció Catalunya, Ecologistes de Catalunya (AEEC - Assemblea d'Entitats Ecologistes de Catalunya), Salvem les Valls: "No al túnel de Bracons", Ateneu Popular de Nou Barris, Iniciativa per Catalunya Verds IC-VERDS, Fòrum Cívic per la Sostenibilitat, Associació creativa per a la solidaritat (Lleida), Mas Lluerna centre d'ecocultura, ADQUIRA. Associaciò de Persones Afectades per Productes Quìmics i Radiacions Ambientals, Collecti d'advocats RONDA.

Annex D Synopsis of Annual General Meeting of PAN Europe

At the first formal Annual General Meeting of PAN Europe the Board Members for the coming year (2005) were endorsed and then presented in the network conference plenary. Carina Weber from PAN Germany will continue as Chair of PAN Europe and Susanne Smolka from PAN Germany coordinates projects in Central and Eastern European countries. Stephanie Williamson will replace one of two Board Members from PAN UK who have stepped down recently (David Buffin and Kathy Wormald). Hans Nielsen from the Danish Ecological Council, Catherine Wattiez from Inter-Environment Wallonie, Francois Veillerette from MDRGF France and Hans Muilerman all continue as Board Members. We plan to expand the Board via elections from network member organisations at the 2005 AGM.

Under the process of formalising our network membership, the AGM endorsed that the network now consists of 12 full network member organisations and three associate network member organisations. These are:

Full members:

1. Inter-Environnement Wallonie (IEW)	Belgium
2. Bond Beter Leefmilieu Vlanderen	Belgium
3. Walloon Assoc. IPM Fruitgrowers (GAWI)	Belgium
4. PAN UK	UK
5. Armenian Women for Health & Healthy Environment AWHHE	Armenia
6. The Ecological Council	Denmark
7. PAN Germany	Germany
8. Swedish Society for Nature Conservation (SNF)	Sweden
9. Stichting Natuur Milieu (SNM)	Netherlands
10. Mouvement pour les Droits et le Respect des Generations Futures (MDRGF)	France
11. Coherence	France
12. Centre for Environment and Society (CES)	Hungary

Associate members:

1. Monitoring Network for Health & Environment	Netherlands
2. Foundation for Realization of Ideas	Belarus
3. Voice of Irish Concern for the Environment (VOICE)	Ireland

In the next year we hope to welcome more organisations as new members and any organisation that wants to join the Working Group of PAN Europe is welcome. An annual report will be published for 2004 and the network, which was rather loose until now, is in the process of moving towards a closer and more coherent association.

Annex E Profiles of PAN partner organisations represented at the conference

ARNIKA Association CZECH REPUBLIC

Toxics and Waste Programme is one of 3 programmes of Arnika Association. Another two are: Nature Conservation and Centre for Citizens' Support. Arnika has also 9 local branches located in different parts of the Czech Republic. Arnika's mission is improvement of environment, preventing its toxic pollution, and restoration of the landscape natural value in the Czech lands, as well as in European context. Current projects, which include activities focused on pesticides, are:
a) Toxics Free Future Campaign with two main objectives (proper implementation of the Stockholm Convention, including clear list of new POPs candidates, which Czech Republic will push forward at COP 1 of this convention, and a strict REACH).
b) PVC Free Healthcare
c) Stop Danger from Spolana focused on safety measures of chemical plant, which produced pesticides like DDT and lindane in the past.
d) Assistance Centre for People Affected by Toxic Pollution
e) Waste Is Raw Material
f) Environmentally Sound Paper Management.

Arnika is participating organization of International POPs Elimination Network and hosts its Dioxin, PCBs and Wastes Working Group Secretariat. Arnika is also regional hub for Central and East European region (which includes Balkan states as well) of IPEP (= International POPs Elimination Project). 2005 main activities related to pesticides are:

IPEN will work on eggs sampling from different parts of world. This project/campaign can help to collect data needed for support to proposal for additional POPs on Stockholm Convention list - Arnika will be one of coordinators of this activity. This project will include testing of eggs for lindane and possibly also other pesticides (it depends on funding). Samples will be taken in 20 countries in different regions of world.

Arnika will work on clean up project for Klatovy - Luby obsolete storage of pesticides. Our goal is to find financial support for full clean up project preparation, which can be used for application for EU and international funds to cover clean up of this place. Another part of our work are websites in Czech language about pesticides in general. We have also specific project focused on REACH, which will continue in 2005. We will work on sampling of rainwater for toxic chemicals for example as a part of this project. **http://english.arnika.org**

Center for Environmental Public Advocacy- SLOVAKIA

CEPA NGO is based since 1993 in Slovakia, with two main departments and directions of development: legal justice and sustainable economy. After political changes and transformation process of the "east block" in 1989, CEPA looks at sustainable usage of public funds, corruptions affairs, corporate accountability and in last years we watch also usage of the European funds. CEPA is a member of the "Friends of the Earth" and the "CEE Bankwatch network"

In 2003 we started the program **"Agriculture and accession"**, which was focused on EU integration. During the program we analyzed the impact of EU enlargement on our agriculture and rural areas, we listed risks and opportunities and offered alternative solutions. This program ended with the publication of broad report: *"EU enlargement: risks and opportunities"* elaborated and translated in 7 accession countries and could be downloaded also in English at: *http://www.foeeurope.org/agriculture.*

In 2004 we started a new project: **"Towards food quality and sustainable agriculture"**, focused on good implementation of agricultural policy at national level. One objective is to promote alternative and/or ecological farming methods with good (best) farming practice, to minimize the agro-chemical input. Within the project we initiated an NGO coalition **Agro-eko forum** (set up in March 2004 by 15 NGOs including Friends of the Earth, Bird Life, Greenpeace) to concentrate the knowledge, expertise and political pressure of NGO's representatives. The main and common, long time target of the Agro-eko forum is to promote sustainable agriculture at three levels: information, political and practical. We gained a place in the Monitoring Committee for Rural Development plan, which divides up most money for agriculture, and we will be actively involved in creation of new Rural Development plan for 2007-2013. CEPA coordinates the Agro-eko forum. The project aims to develop in next period and

influence the agriculture and food production policy in Slovakia (but also in EU) towards a more nature and human friendly one.

In summer 2004 we started cooperation with **PAN Germany** & **PAN Europe** to inventory the pesticide situation in Slovakia. We researched status quo and produced the forthcoming report and fact sheet – **"Pesticide use in the Slovak Republic"**. Next steps will focus on pesticide residues monitoring system, which in Slovakia is quite un-flexible, inadequate and spread across several institutes, complicating transparency and timeliness. We also consider as important to promote the knowledge and information about the Good (best) farming practice and we would like to translate some handbooks in this field. As in most middle-east European countries, there are lots of problems connected to pesticides which need to be solved starting with obsolete pesticides, through health impact to the monitoring and information system..

Daniel Lesinsky <lesinsky@changenet.sk> coordinates "Towards food quality and sustainable agriculture" as well as the "Agro-eko forum" NGO platform.

Cohérence FRANCE

Network *Cohérence* was born of a community of interests in 1997 and affiliates today a hundred or so associations from France's *Grand Ouest* i.e. a catchment area comprising the entirety of the region covering *la Bretagne, la Basse Normandie et les Pays de la Loire*. Members represent grass-roots social, cultural and economic life of the region. They are committed to launching a regional economy compatible with the precepts of fair trade i.e. exchanges that are both friendly to people and places and respectful of natural resources.

Consumers, farmers, ecologists, craftsmen, animal welfare specialists, health professionals have worked together to create organisational and production methods based on the principles of *bona fide* sustainable development. The network's driving force is its diversity, its propositional character and its active role as a live relay for its membership. The alternatives proposed by *Cohérence* are profitable economically, healthy ecologically and socially equitable. It supports definite, carefully thought through, projects.

- The ambitious *Plan de Développement Durabl*e put into practice by *Cohérence* has looked at other ways of producing pork in Brittany. It has brought together livestock breeders, consumers, ecologists, animal welfare specialists, health professionals and succeeded in creating an work schedule of quality standards complete with rigorous technical specifications, for example limiting the size of farms, diminishing significantly agrochemical and pharmaceutical input, notably eliminating or reducing applications of artificial fertilizers, synthetic pesticides, herbicides and antibiotics, encouraging instead the use of resistant plant species, mechanical weed control and veterinary homeopathy, banning plant and animal growth regulators, GMOs etc.

- The Network makes a point of ensuring the development of sustainable farm produce for school and college caterers, stepping up the promotion of organically produced food, guaranteeing the prohibition of Genetically Engineered ingredients from canteen menus.

- *Bretagne Capital Solidaire*, of which Cohérence is a trustee, brokers the initiators of projects and local enterprises resolute in the defence of real-life sustainable development.

The two-monthly newsletter comprises twelve pages of analysis and testimony, reports on regional experiments in sustainable development and provides a forum for enlightenment and debate. A *Cohérence* campaign "*Pas de pesticide dans ma commune*" boosts non-chemical alternatives to pesticides in communities with local authorities setting examples to householders.

The network's participation in or organisation of a series of mass rallies in Brittany - Binic (1998), Pontivy (1999), Quintin (2000), Redon (2003) - have given a voice to the hopes and aspirations of civil society and championed the cause of genuine sustainable development. "*Une Bretagne sans OGM du champ à l'assiette" ! Cohérence, Confédération Paysanne,* Greenpeace France, *les Verts* have successfully worked together to persuade Brittany's *Conseil Régional* to set the tone by voting for a GM free peninsula. Following the example of other European regions, including Tuscany, Salzbourgerland, Schleswig-Holstein, Wales and Cornwall, the Breton councillor's motion - designed to protect the food chain, by seeking to implement the Precautionary Principle and vowing to banish

both the cultivation and field trials of GMOs from their territory - was carried by a large majority on 8th October 2004.
www.reseau-coherence.org

PRO-BIO CZECH REPUBLIC

PRO-BIO associates ecological farmers, processors and traders of organic food, its consumers and their clubs, schools and other Czech non-governmental organisations. The Association represents their interests, encourages the development of ecological farming and creates favourable conditions for the co-operation between ecological farmers and consumers. At the moment, PRO-BIO has more than 500 members. At the moment, the PRO-BIO Association has ten regional advisory centres covering the whole area of the Czech Republic.

The main activities of the PRO-BIO Association include the following:

Advisory Services

- Field advice to ecological farmers (plans of conversion into ecological farming, eliminating the shortcomings found in previous inspections, special advice in the area of plant production and animal keeping as well as production processing and marketing)
- Education – seminars, courses, field trips, trainings, professional journal, books and brochures, access to an expert library of ecological farming
- Public advisory services for consumers and the media: legislation relevant to ecological farming including the labelling of products, their accessibility to the consumers, organic gardening, biodiversity and regional development.

Representation of the Interests of the Members

- Drafting subsidy programmes (both within the CR and EU)
- Legislation (laws, decrees, lobbying)
- Expert ministerial and regional committees

Publicity and Promotion

- National promotion
  PRO-BIO promotes the fundamental ideas of ecological farming and its registered label “BIO”, prints publicity materials and brochures, supports the "Bio" monthly, organise press conferences, provides information services for journalists, designs programmes for the radio and TV, and organizes lectures, professional trips, open days on farms and organic-food markets.
- Promotion of the Association’s products and services (the Internet, address book, catalogue, leaflets, promotional articles, common packaging, tastings, information services, support and promotion of the PRO-BIO registered trademark)

Member of IFOAM (International Federation of Organic Agriculture Movements) and of Green Circle (Czech Republic) **www.pro-bio.cz**

PAN GERMANY

PAN Germany was established in 1984 as part of the global Pesticide Action Network and has been continually involved in initiatives to reduce pesticide use and to promote sustainable alternatives on national, European and global levels. The following offers a closer view of our current activities.

For tighter pesticide-trade controls

The campaign 'For Transparent Pesticide Exports' is calling for exportation rules that allow exported pesticides to be traced back to traders and producers, so that they can be held responsible for their products.

For the world-wide ban of Paraquat

Paraquat is sold in over 100 countries and used in the cultivation of bananas, cocoa, coffee and cotton. It is extremely toxic and there is no antidote. As part of the international NGO-coalition for the world-wide ban of Paraquat PAN Germany published two 'Fact Sheets' in English, lighting up connections between Paraquat exposure and Parkinson's Disease and Paraquat and suicide respectively.

Developing the Organic Cotton Market

Cotton is a key issue of pesticide-politics. Successful projects on the organic cultivation of cotton have been carried out. But to achieve real change, a wider market is needed. This year PAN Germany organised an international conference, brings European stakeholders to African fields and coordinates Working Groups in Europe. The network of the manifold players along the textile chain gives a sustainable impact on the growth of Organic Cotton's sales potential.

Spreading Knowledge on Non-chemical Crop Protection

The 'Online Information Service on natural crop protection methods in the Tropics (OISAT) provides practical information to smallholders in English speaking developing countries to improve smallholders' access to the holistic view of natural pest control. **www.OISAT.org** features 20 important crops, 50 pests and their natural control methods. All information on the OISAT-website can be downloaded or printed by agricultural extension workers or advisors, who have direct contact to the farmers after June 2004.

Capacity Building in Central and Eastern European Countries (CEECs)

The conditions of NGOs in CEECs are completely different to those in Western Europe. In order to support NGOs PAN Germany held workshops to analyse their kind, working conditions and needs. Brochures on international conventions and country-reports on the pesticide-front have been placed at CEEC-NGOs disposal. As well as the 'Pesticide Action Handbook' including information on pesticide issues and tools for campaigning and joint activities.

For pesticide use reduction in Germany and the EU

PAN Germany is engaged in pesticide use reduction advocacy, regulatory changes on a national and EU level. At the International Green Week in 2003, PAN Germany presented 'Cornerstones for a strategy towards the minimisation of pesticide use'. PAN Germany is campaigning for the transparent regulation of plant protection measures in Germany including the farmer's duty to register the use and distribution of chemicals. **www.pan-germany.org**

Pesticide Action Network UK

PAN UK provides information, carries out research, policy advocacy, capacity building and fieldwork to eliminate pesticides hazards, reduce dependence on pesticides and increase the sustainable and ecological alternatives to chemical pest control. Our work is divided into three programmes:

Our **UK and European Programme** works to develop and implement measures to reduce the use of pesticides and advocate safer alternatives by influencing agricultural policy, addressing chemical pesticides used in the home and garden, and helping people who have been exposed to pesticides. Our *Agricultural Policy project* works with farmers, trade unions, consumers, environmentalists, supermarkets, the food industry, food importers, policy makers, regulators and researchers to promote more progressive pest management policies. This includes lobbying to widen the remit for pesticide

safety assessment, addressing the pesticide cocktail issue, and lobbying for a pesticide tax. Our *Pesticide Exposure Project* offers support and advice to anyone whose health has been affected by exposure to pesticides. Our *Local Areas Project* focuses on home and garden pesticide use and disposal issues. We have produced an educational video for secondary school students. The video highlights many of our concerns including those of pesticides residues in food and drinking water, impacts on farmers in developing countries, impacts on wildlife and human health. A version for community groups is now available.

Our **Project Support Communications** comprises the research and information work that underpins our activities. Our library on pesticide resources is one of the most comprehensive in Europe independent of government or industry. Our journal, *Pesticide News*, is widely distributed in the UK and internationally, to over 100 countries. Our *List of Lists* documents pesticide active ingredients that are restricted/banned or of concern for health and environment reasons. Our newsletter, *Greenfly*, is widely distributed to a lay audience.

Our **International Programme** strengthens international pesticide regulation in support of sustainable agriculture (*Food Security and Trade)*. We are increasing dialogue between different actors in the food supply chain, from consumers, retailers, importers, export companies and farmers, to raise awareness of the special needs of smallholders and to encourage financial and technical support for shifting export horticulture to IPM and organic methods. Our new project on *Food and Fairness* explores these issues with partners in Africa, Germany and the Netherlands. Our *Cotton project*, together with partners, documents the problems with pesticide use on conventional cotton, and supports the production of organic cotton as an alternative, in the field, and through dialogue with actors in the North, to increase the demand for organic and IPM cotton. Together with our partners we build national capacity through resource centres for pesticides and alternatives. The centres, in Senegal, Benin and Ghana, have developed libraries, data bases on pesticide incidents and detailed research on pesticide poisoning cases.

We are active in promoting solutions to the problems of stockpiles of obsolete pesticides in developing countries (*Pesticide Disposal)*, together with the World Wide Fund for Nature toxic programme we established the African Stockpiles Programme (ASP) to clean up and safely dispose of over 50,000 tonnes of pesticide waste throughout Africa. The ASP is now a remarkable consortium of UN agencies, African organisations and NGOs. We monitor standards and support prevention measures in Ethiopia, the largest cleanup operation ever undertaken. In addition we support the work of the Sambhavna Trust in India, caring for the victims of the Bhopal pesticide disaster.

Our website includes over 500 pages of useful information on pesticide problems and alternatives, links and resources and our project work, at **www.pan-uk.org**

Movement for the Rights of Future Generations FRANCE

Our organization is active at the national level and also at the international level (lobby with MEPs, F. Veillerette a PAN E Board member, links with IPEN). We have published books, articles on pesticides. Recently we have published a report together with Catherine Wattiez of IEW on the danger of registered pesticides in the EU. We are lobbying MEPs on various occasions (as with the residue directive at the moment) We put forward credible alternatives to pesticide use. **www.mdrgf.org**

Ecology, Cultural Understanding, Health (ECHo) SLOVENIA

ECHo is active in pesticide issues on the level of information dissemination, awareness raising and knowledge transfer. ECHo is planning to continue with the same issue on more broader aspect such as health issues and promotion of organic agriculture. We are a young organisation, therefore we just finished a few projects in cooperation with PAN Germany. Firstly, we made national research about the pesticides situation in Slovenia and prepared a report and fact-sheets that were distributed to all relevant institutions, NGOs in Slovenia, libraries and public. Another project was to encourage flow of information between experts and general public about pesticides in order to educate public about pesticides and their negative effects and what can be done to reduce usage of pesticides.We built a discussion board on internet which can be found on **www.ech-o.org**

Legambiente ITALY

Legambiente is a federation of networked groups that acts like a whole at a international, national and local level. It is member of the BEE (Bureau Europeen de l'Environnement), of IUCN (the world conservation union), member of the national committee of UNEP. Legambiente itself is a network of 20 regional committees and more than 1000 local groups. One on the most famous actions of Legambiente is the "Pesticidi nel piatto" national report. It is the only report about pesticide residues on vegetables written by an independent organization. Other important actions are: "Goletta Verde", a wide Mediterranean seawater and coastal monitoring program, that takes place during summer and "Puliamo il Mondo", italian edition of "Clean up the World" that involves 1800 out of 8000 Italian municipalities.

www.legambiente.com, www.legambienteagricoltura.it, www.puliamoilmondo.it

Armenian Women for Health & Healthy Environment ARMENIA

AWHHE is active in the field of POPs particularly in pesticides use reduction. AWHHE is a focal point of IPEN in Armenia. We are working on the local, national as well as international levels. AWHHE is a part of WECF network, HCWH, GAIA, IPEN and PAN E. AWHHE carried out several projects during 5 years of existence. The last one was the advocacy campaign aimed on environmental safety of Ararat region because of dangerous condition of burial place of obsolete pesticides. Outcomes achieved were: (i) a resolution on ensuring pesticide burial safety made by Executive bodies in June 2004, (ii) Increased awareness about banned pesticides among Ararat marz rural community members and Governmental officials, and (iii) the collaborative committee of citizens and elected governance was established and continues to work. **www.awhhe.am**

The Ecological Council, DENMARK

We are active in pesticide policy in Denmark and Europe and we are members of The Danish 92 Group, which is a coalition of 20 Danish NGO's working on environment and development. Recent activities: Ban of pesticides in Denmark f.ex. esfenvalerate and pesticides with metabolites polluting the groundwater. Info on EU and Danish pesticide policy can be found at www.pesticidpolitik.dk. Our website is **www.ecocouncil.dk**

Foundation for Agriculture & Environment (FAE) BULGARIA

Working in the field of organic agriculture, pesticide use reduction, education and training, providing information and campaigning. We are members of Environmental Law Alliance Worldwide and IFOAM and PAN Europe. We prepared the National Agri-Environment Programme for Bulgaria, accepted by the Ministry of Agriculture & Forestry. We are authors of the national sign for organic produce and co-authors of the Organic Farming Regulations (plant and animal production).

Women in Europe for a Common Future (WECF) NETHERLANDS/GERMANY

WECF is an international network which brings together women's initiatives from different parts of Europe and the NIS in joint projects on sustainable development, poverty alleviation, environment, health, social justice and participatory democracy. WECFaims to stimulate participation of women in policymaking on local, national and international levels. In cooperation with local partners, WECF implemented several projects on water, sanitation, agriculture, health and rural development. WECF is an umbrella organization and contributed to the following: Children Health conference and Environment, Budapest 2004; International Forum on Chemicals Safety,Bangkok 2003; WECF Working towards a toxic-free future, Soesterberg 2003; Kyot 2003; Johannesburg 2002. We are members of EEB Agriculture WG.

www.wecf.org

Center for Environmental Studies HUNGARY

Networking, dissemination of information, organization. Member of EEB, EPHA, PAN EUROPE, CEEC Think Tank Networking. CES is initiating a pesticide network and Eco-Toxicological Society in Hungary. **www.ktk-ces.hu**

Alternative Trade Ferrara Terzo Mundo ITALY

Active in over 20 countries worldwide to sustain organic production in food and cotton. Member of Italian Institute for Organic Certification ICEA. We work to transform traditional farming to organic and

collaborate with 3 projects of organic farming funded by Emilio Rodagna region.
www.commercioalternativo.it for info on all our projects.