2006 PAN EUROPE ANNUAL NETWORK CONFERENCE

Alternatives to chemical crop protection for the reduction of risks and pesticides dependency

REPORT

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SANA, Bologna, Italy

INTRODUCTION

Every year, Pesticide Action Network (PAN) Europe organises an annual conference targeted to the network members and supporters. In 2006, the eighth conference took place in Bologna, Italy, on 7-8 September. It was organised in cooperation with SANA, the largest organic fair in Europe, and our Italian network member Legambiente and supporter AIAB- Italian Organic Farming Association. It was the first time the participants meet in Italy. Over 80 participants from 18 European and Caucasian countries took part in the conference (Armenia, Belarus, Belgium, Bulgaria, Czech Republic, Denmark, France, Georgia, Germany, Hungary, Italy, Macedonia, Netherlands, Slovakia, Sweden, Switzerland, United Kingdom, Ukraine). The list of conference participants and the conference programme are included in the Annex.

The main objectives of the 2006 Network conference were to:
• Present and discuss the state of Integrated Pest Management (IPM) and organic agriculture as alternatives to chemical crop protection;
• Present and discuss successful examples of IPM and prospects for the development via EU and national legislation, non-governmental standards and NGO campaigning;
• Present and discuss the registration process for less hazardous alternatives such as biological pesticides;
• Improve NGO understanding of EU pesticides and agriculture legislation and opportunities for lobby at the EU and national level;
• Build the profile of PAN Europe in Italy and improve the link with Italian member Legambiente and partner AIAB.

Our aims to achieve a good representation of organisations from Central, Eastern and Southern Europe were fulfilled with 13 participants from CEE and Caucasian countries and 46 participants from Italy. The conference was opened by Daniela Guerra, Member of the Emilia-Romagna Regional Council (Green Party), who highlighted policies for the promotion of Integrated Pest Management and organic agriculture being carried out in the Region for over 20 years. In Emilia-Romagna, schools are exclusively supplied with organic food and certified IPM has one of the largest areas in Europe in proportion of the total agriculture land.

The second day of the conference was dedicated to a NGO workshop where participants discussed campaigns to promote IPM and indicators to measure progress of IPM and pesticide use reduction at several levels: at the governmental level, through non-governmental standards and through NGO campaigning.

SANA, the International Exhibition of Natural Products, Nutrition, Health and Environment is the main event for organic farming and natural products in Europe. The fair comprehends 85,000 sq. m. exhibiting space, 1,500 exhibitors, 101 meetings and 11 special events, 70,000 visitors including 50,000 operators. AIAB- Italian Organic Farming Association, who co-organised this conference, is the largest association of its kind and has been certifying and promoting organic agriculture in Italy for many years. It has also the largest stand area in SANA. Legambiente, the other co-organiser of this conference developed a self-certification scheme for fruits, vegetables and products of animal origin based on Integrated Production.

PAN Europe gratefully acknowledges the financial support from the Rausing Trust (UK), the Directorate General Environment from the European Commission, the Global Green Grants Fund and the cooperation of SANA, Legambiente, AIAB and Cooperative Apofruit in making this conference possible.

This report features only the summaries of the presentations and discussions. The full Power Point Presentations are available in the PAN Europe website.
http://www.pan-europe.info/conferences/index.htm

Daniela Guerra
Member of the Emilia-Romagna Regional Council (Green Party)

I am not used to talk about pesticides because in Emilia-Romagna we either produce using organic methods or Integrated Crop Management. In our region, agricultural practices can only be organic or Integrated. Besides organic and Integrated, we also have a wide range of products labelled as Regional or DOP (Denomination of Protected Origin).

Public opinion is concentrating around health themes, which in turn increases demand for organic and Integrated Pest Management products. So I would say that in the region of Emilia-Romagna pesticides are not an acute problem. The most pressing problems today are soil fertility, drought and desertification. To combat these problems, we are now working a new regional law to encourage farmers to use organic matter from domestic waste to fertilise their fields. Concerns about pesticides in food lead the region to approve a law concerning food in schools. According to this law, only organic food can be served to children in all of the region's schools. For the bulk of food supply in hospitals and restaurants, we encourage the use of organic, Integrated or regional. You can download this advanced law in the Emilia-Romagna Government website. Passing this bill was not easy, we had lots of opposition, but in the end the greatest impulse came from the need to protect children's health and the lack of suitable tools to do so. Until this moment, the special vulnerability of children and the combination effect of multiple residues in food are not addressed in legislation.

I would like to conclude with a thought very much up to date in Emilia-Romagna. The battle for a strong reduction of pesticide use in food was one but there is still high pesticide use in non-food products, where the public opinion is not as pressing. Production of energy crops is now the most pressing issue in agriculture and is high in the debate, especially after the closure of the sugar beet plantations and plants in this region and other European regions. The foreseen change in the agriculture landscape and the shift towards the production of methanol and ethanol make me fear the increase in pesticide use. I believe these issues are better addressed by European networks such as PAN and therefore I consider your work of utmost importance.

Thank you.

Andrea Ferrante
President AIAB- Italian Organic Farming Association

I would like to start by stating that a world where food is entirely coming from organic production is possible. And this is because agriculture is not only a method of production but has an important role in shaping the landscape and the associated rural communities. We urgently need to question the role of agriculture in the vitality of rural communities. This is not only a reflection for Europe but for the world.

PAN Asia Pacific, for example, is working actively on food sovereignty issues and I believe this is the real issue in agriculture. How do we have to produce true sustainable food? To respond to this question we have to understand how the whole food chain works, from the field to the fork. Alternatives to pesticides have to be seen in this wider framework. We have to build the alternatives ourselves and be part of the solution, considering that agriculture is part of the quality of life not only for rural communities but also for those living in the urban areas. A rural area has the same importance as a hospital and individuals and policy makers should see the rural areas in this framework. This is the way to build alternatives: to change mind-frames and start to see agriculture in its right proportion.

I believe in Emilia-Romagna we are going in the right direction because schools are already helping to build new models for consumption by serving organic food associated with the territory. Kids start to taste products such as olive oil, which has a strong link with the Mediterranean and they can see the difference from anonymous oils bought in the supermarket.

The next issue we have to tackle is GMOs. Despite the need to continue working for more incentives to organic farming and the increase in the area under organic production, I agree with Daniela Guerra about concerns over energy crops and the change they will bring to our landscape and rural communities.

Thank you.

Francesco Ferrante
Deputy Director, Legambiente

I am very pleased PAN Europe decided to hold its annual conference in Italy. First of all, because our collaboration with PAN Europe started recently but is already proving positive for both parts. This year we

have launched our yearly report “Pesticides in the plate”, analysing the latest Italian data on pesticide residues in food and have invited the PAN Europe co-ordinator to the press conference. We demanded a pesticide use reduction plan for Italy and the presence of PAN Europe is helping us to bring forward this demand.

The second reason is that Legambiente is proud that SANA is the most important fair of its kind in Italy and one of the most important in the world. We do need to discuss and disseminate alternatives and organic farming but at the same time we need political lobbying. In this sense it is important that we all work together to change the Common Agricultural Policy (CAP). For some years the CAP has acknowledged the importance of rural development, including organic agriculture and Integrated Pest Management, but this importance is only written on paper, it’s not in practice. Yesterday, in Brussels, the amount of funds in the second pillar of CAP for next year for Italy was made public. The second pillar of CAP is the most interesting for us because it includes incentives for organic farming, Integrated Production and regional products. For 2007, Italy will receive 100 million Euro, an increase of almost 50% compared to last year, when Italy received 65 million Euro. Journalists and policy makers joyfully gave this news but this represents a very small part of the total money transferred to agriculture: one part in a thousand. We need a strong lobby at the EU and national level to turn around this situation. And for this work we need European network organisations such as PAN Europe.

I sincerely believe that agriculture is one of the most important issues to work in nowadays and where most energy needs to be invested. I hope we can work together to build a better agriculture and a better future.

Thank you.

Carina Weber, Executive Director PAN Germany, Chair PAN Europe

I am pleased to welcome you to the PAN Europe Annual Network Conference 2006 here in Bologna and I hope you all arrived safely to look forward to an interesting, stimulating and inspiring conference. PAN Europe is really grateful that this conference is hosted by SANA, and we would like to explicitly express our thanks. PAN Europe is also happy to have AIAB, the Italian Organic Farming Association, represented by the President Andrea Ferrante and also Legambiente, represented by the Deputy Director Francesco Ferrante with us, as we clearly meet joint challenges. Not personally represented but equally important for the success of this conference are the funders Directorate General Environment of the European Commission Sigrid Rausing Trust and Global Green Grants Fund who kindly gave financial support.

By choosing the title “Alternatives to chemical crop protection for the reduction of risks and pesticides dependency” for this conference, PAN Europe expresses a matter of key concern for a large part of the European public.

It is safe to say that the way pesticide problems have been dealt with in Europe at the policy level during the 20th century was not successful, as there is still a long and worrying list of unwanted effects resulting from pesticide use. Keywords are, for example carcinogenic, mutagenic, reproductive or hormone disrupting properties of pesticides. Consumers and the environment are exposed to such pesticides via food and water. And also from the economic point of view worries have been raised. PAN has been monitoring the marketing and use of pesticides and the effects of pesticides on health and environment for many years. Up to now we have not found any indication that there is really a change for the better.

Looking at the political agenda to solve the problems causes mixed feelings. On the one hand PAN Europe is happy to see that there is now – at long last – an EU Thematic Strategy on the sustainable use of pesticides on the way. On the other hand we see that the draft of this Thematic Strategy is still missing clear targets, timeframes and indicators for pesticide use reduction. From the PAN point of view an important reason for the failure of pesticide policies in Europe so far is that alternatives to chemical crop protection are not addressed or promoted properly by the various policies.

Therefore this conference serves to meet five aims:
1. To have a look at the state of IPM, ICM and organic farming
2. To scrutinize whether alternative pest management strategies and methods are adequately addressed at the EU level
3. To give the floor to experiences in successfully implementing alternatives
4. To take note of initiatives involving farmers, retailers and consumers
5. And last, but not least, to provide a platform supporting fresh and energetic initiatives to reduce pesticides dependency in Europe.

Over fifty participants from twenty countries are taking part in this conference. Therefore let’s seize this opportunity to learn from each other, to further develop strategies for action, and to build alliances for suc-

cess.

A global perspective on the state of Integrated Crop and Pest Management and pesticide use reduction

Harry Van der Wulp, Global IPM Facility, FAO-Food and Agriculture Organisation of the United Nations

(Summary not available)

The state of Integrated Crop and Pest Management in Europe: institutional framework and prospects for development

Bernd Freier, Head of the Institute for Integrated Plant Protection of the Federal Biological Research Centre for Agriculture and Forestry (BBA), Germany

First activities on IPM began in Europe in the Fifties. In 1959 the first international IPM working group was founded in Europe – the IOBC (International Organisation Biological Control) Working Group for IPP in Orchards. The IOBC established several IPM working groups for different crops and promoted IPM in Western and Eastern Europe in the Seventies and Eighties. In spite of all the enthusiasm for IPM in the beginning, a general problem soon became visible: different descriptions and definitions of IPM. In Europe, the most cited definition of IPM is the one in Directive 91/414:

The rational application of a combination of biological, biotechnological, chemical, cultural or plant-breeding measures whereby the use of plant protection products is limited to the strict minimum necessary to maintain the pest population at levels below those causing economically unacceptable damage or loss.

A similar definition can be found in the German Plant Protection Act. All the numerous definitions and interpretations of IPM contain universally valid general principles: IPM is a system approach, wants sustainable plant production at the best level, preserves the ecological state in agro-ecosystems and exploits natural control, gives precedence to preventive and non-chemical control measures, limits pesticide use to the necessary minimum, is a knowledge-intensive system dependent on excellent decision-making, and is open to new ideas, scientific findings and technological advances.

The first experiences with the implementation of IPM recommendations showed: IPM is difficult to put into practice because it is relatively complicated, entails some risks and does not ensure additional profits. The difficulties putting IPM concepts into practice were also a reason why the lower and practicable-for-all-standard of “good plant protection practice” was established in Europe in the Eighties.

Directive 91/414/EEC is still the most important plant protection document in the EC. We found 9 references to IPM, including the definition. Three references addressed “principles of integrated control”. However, principles of IPM still have not been published in EC. Therefore, the EC does not have an institutional framework for IPM up to now. Also, the member states do not have any truly binding national IPM standards. Some countries, such as DK, D, NL and UK, only have publications or general guidelines for Good Plant Protection Practice. Nevertheless, IPM is accepted as model in all European countries. We are hoping that the new EC legal framework will oblige pesticide users to do more in the spirit of IPM. The planned general and crop-specific standards published by the EC will be very important for unifying minimum requirements and labelling and facilitate communication between producers, retailers and consumers. On the other hand, a clear distinction between standards of Good Plant Protection Practice and higher IPM standards will improve the identification of management criteria signalling eligibility for allocation of EU subsidies. The following minimum requirements on IPM should be implemented at EU level:

- Preparation of an operative IPM concept at the farm level,
- Usage of specific non-chemical control methods,
- Concept defining minimal quantity and quality of ecological structures, such as field margins, at the farm level,
- Spray equipment with drift reduced nozzles,
- Compliance with regionally determined upper limits of treatment frequency index in main crops,
- Field-specific pest monitoring and documentation of infestation data and pesticide use and

SESSION II: Are alternatives adequately addressed at the EU level?

Roberto Musacchio
Member of the European Parliament, Confederal Group of the European United Left/Nordic Green Left

I am a member of the Environment Committee of the European Parliament where pesticides issues and policies are dealt with. I will present you some of the work we are currently carrying out in the Environment Committee that is relevant to this conference and finally I will present you two new pesticides legislation proposals recently adopted by the European Commission and transmitted to the European Parliament.

The first question I would like to address here is which agriculture we propose for our continent. In this respect, we have an old concept of agriculture that sees it as pure farming practices put together, and we have a new concept of agriculture. I very much agree with the organisations defending food sovereignty and within this new concept of agriculture seen in the society as a whole the European Parliament has currently several policies on the agenda. First, we are completing the second reading of the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Secondly, we have agreed a proposal of Directive for Ecolabelling, an initiative from my political group and where I have been personally involved. This initiative is very important because it establishes that GMOs cannot be present in a product labelled as organic. If we consider that the range of organic products is extending beyond food products to restaurants, canteens, textiles, etc., we can easily see the potential of this Directive. The proposal was approved by majority in the Environment Committee and the final agreement now rests in the vote of the Agriculture Committee and the European Parliament Plenary. Thirdly, we are currently preparing for the next round of meetings of the Stockholm Convention of Persistent Organic Pollutants (POPs), after the success of the first meeting in Uruguay.

Regarding pesticides, a new Directive and Regulation have been adopted by the European Commission and will be discussed by the European Parliament in the next months. The starting point in these documents is that pesticides problems are serious and previous legislation has not improved the situation (Directive 91/414/EEC on the placing of pesticides in the market and Residues Regulation from 2005). The results of previous legislation are not sufficient to achieve the objectives of the 6th Environmental Action Programme, in particular to obtain real control and reduction of pesticide use. In short, I will highlight the most important points:

- Reducing pesticide use and substituting the most hazardous pesticides;
- National Action Plans to reduce pesticides risks and dependency;
- Zones with zero or reduced pesticides use;
- Integrated Pest Management compulsory from 2014 onwards.

The Directive establishes a common framework for action but a considerable number of initiatives are left up to Member States. As in REACH, the Commission proposes a system of control, harmonisation and substitution. A product will only be authorised if there are no less hazardous alternatives.

The Commission proposals are the fruit of consultation with experts, private companies, Member States and associations. The list of consulted bodies is available on the European Commission website. I believe the consultation must continue. The stakeholders' role is no doubt important although the duty of control must rest in the public bodies.

I would like to leave a last question for this roundtable. Are these policy proposals focused on the new concept of agriculture or are they falling behind?

Thank you.

Questions & answers

Question to Roberto Musacchio: I have two questions. The first regards the timing for discussion of these two legislation proposals in the European Parliament. The second regards the issue of financing. How will Member States stretch their finances to build National Action Plans? I believe the new Directive for pesticides does not make any reference to a pesticide tax that could raise funds to reduce pesticide use, risks and dependency.
Answer (Roberto Musacchio): The policies are not yet on the agenda. Considering the European Parliament is now in the final reading of REACH and preparing the next COP meeting, I believe the discussion will only start in the end of year, beginning of 2007. Financing is of course important for the success of any policy and provisions should be included in the National Action Plans. Funding should come from Common Agriculture Policy funds.

Question to Roberto Musacchio: My question has to

do with harmonisation. Currently the registration of pesticides is made by different agencies in the Member States. In some countries it is the Agriculture Ministry, in others the Environment Ministry and in others Health Ministry. Is it possible to have one single policy and do we need one single European agency as in for REACH?
Answer (Roberto Musacchio): I believe harmonisation is a real step forward to build a positive Europe. REACH is a good example of good European construction because it establishes a common framework to control chemicals and for each one substance there is one authorisation. This is the opposite of the Bolkenstein Directive that wants to see less European rules and legislation and leaves more initiatives to Member States.

Question to Roberto Musacchio: Should biological control methods be considered differently in the pesticides Regulation for the purpose of authorisation?
Answer (Roberto Musacchio): Yes, I believe so. But we need some sort of certification of best practices and we don't have that at the moment. The Ecolabelling Directive is a good example of action because it sets what is admissible or not with the label organic.

Question to Roberto Musacchio: What do you think to the return to local production? Do you think it is possible and a good solution?
Answer (Roberto Musacchio): From the point of view of principles I think it is a good idea. The second pillar of the Common Agriculture Policy supports rural development and has some support for Regional products in terms of production and marketing but the practice is very different. Society/environment/markets is a difficult balance. If we try to run on three legs we run the risk of falling down because one leg will hit the other two.

Statement on the EC regulation concerning the placing of plant protection products on the market and the EC directive establishing a framework for Community action to achieve a sustainable use of pesticides

Bernd Freier, Head of the Institute for Integrated Plant Protection of the Federal Biological Research Centre for Agriculture and Forestry (BBA), Germany

(The positions expressed in this statement are not necessarily the official positions of the BBA)

The New Regulation
We welcome the revised Directive 91/414, which now has a more binding effect because an EC regulation is on a higher level than a directive.

We also welcome the separation of the EC regulation regulating the authorisation of pesticides from the newly created directive regulating the usage of pesticides.

Establishing a new European registration authority for pesticides is useful and will help to unify the process of pesticide registration. We hope that it will not result in a duplication of administrative work at the EC and Member State level.

The definition of authorisation zones will simplify the mutual acceptance of registered pesticides in each Member State, but no one knows how this procedure will affect the behaviour of Member States and the volume of administrative work.

Up till now, it was possible to obtain a preliminary pesticide registration for 3 years. That will change. The pesticide industry fears disadvantages, especially the loss of competitive advantages, as a result of the three-year reduction of patent protection. The new regulation calls for a comparative risk assessment that will ensure the same conditions in all Member States.

The implementation of a substitution principle will reduce the number of highly toxic pesticides and will certainly bring about more innovation in plant protection research.

Unfortunately, the new definition of Integrated Pest Management (IPM) and the definition of Good Plant Protection Practice (GPP) do not improve the understanding of IPM and GPP because the two definitions are not clearly distinguishable from each other. We doubt that the present GPP standard will be understood as a basic strategy that is lower in rank than IPM.

In my opinion, we do not need a definition for GPP because the term actually is not used in the new EC documents.

The New Directive
Up till now, there was no official EC document on pesticide use. Therefore, we support the development of this framework agreement for sustainable usage of pesticides, which aims to significantly reduce the overall use and risks of pesticides. Unfortunately, it does not specify a special indicator for pesticide use reduction, such as a treatment frequency index.

Article 4. The adaptation of national action plans promotes a unification of plant protection strategies in the sense of IPM.

Article 5. The specified training requirements are insufficient. “Users … have access to appropriate training”. Why only access? What does “sufficient knowledge” mean?

We agree with the requirements specified in Articles 6 to 12.

Article 13 has a central position in the Directive draft because IPM was not only mentioned as our long-term aim, but also as the intended standard for plant protection practice in the whole of Europe. We support the formulation of general standards for IPM at the EC level and their mandatory implementation starting in 2014. Unfortunately, crop-specific standards, also developed at EC level, shall be adapted voluntarily. If farmers are able to adapt general standards, we think it will be quite the same or not difficult for them to practice crop-specific standards. However, it is not clear how high these standards will be. That is contingent upon the agreement of the Member States and the degree to which the IPM requirements will be linked with financial incentives. A risk that we foresee is that the IPM requirements may be formulated on too low a level. Therefore, we feel that some key requirements must be implemented. That will be an enormous task for the planned expert working group.

Article 14 is very important because it specifies the use of risk indicators. Opinions about the degree of harmonisation in Europe vary.

ECOspray Ltd and Regulatory Approvals For Botanical Extract as Pesticides and Biocides

Murree Groom, Director of Research Ecospray, United Kingdom

This summary has been prepared to assist delegates in formulating questions on regulatory matters related to plant extracts and IPM technology.

1.0 Preliminaries

ECOspray Ltd is a UK based company formed in 1997 specialising in manufacture and research and development of garlic extracts for use in agriculture.

In 2005, ECOspray Ltd gained an approval under UK COPR for a garlic-based product to be used as a biocide against poultry red mite. This was followed in 2006, with Danish approvals for two other garlic-based products as insecticides for use against cabbage root fly in brassicas.

ECOspray Ltd has also completed the notification procedure for these and other garlic-based products under EU directive 91/414 and has submitted the dossier to also support these products as biocides under EU directive 98/8.

The review of the dossier to support ECOspray Ltd garlic based products under directive 91/414(stage 4 products) is now complete with DAR about to be circulated. ECOspray Ltd has been given to understand that recommendations for annexe1 listing have been made in the DAR. On the basis of the progress made with notifications, The Republic of Ireland has also recently issued labels for ECOspray Ltd garlic-based products for use as insecticides and nematicides.

With the body of data quickly developing around ECOspray Ltd garlic products, the company is now seeking to gain full ‘on label’ approval for a new nematicide that will hopefully compete with materials such as Temik (product with aldicarb as active substance) and Vydate (product with oxamyl as active substance).

2.0 The regulatory review process.

The UK approvals have been conducted under the full conditions of the COPR regulatory framework, with data requirements being identical to those required for a new ‘synthetic’ active. The ongoing approvals process at national level in the EU is still for the most part using the existing data requirement frame works, although regulators appear now to be interpreting data requirements with a degree of latitude reflecting the increasing political will for less onerous review on intrinsically safer materials.

The experience of ECOspray Ltd as a ‘test case’ for regulating plant extracts as pesticides and biocides in the EU is now therefore very considerable and possibly unique, with the company able to relate the review process and data requirements to the actual effort and expense required to navigate through to successful outcome.

3.0 ECOspray Ltd and IPM

The company have designed numerous insect traps that are used to determine insect populations around crop plants. Introduction of these devices to the EU market has given ECOspray Ltd a very broad base of experience in IPM matters relating pest pressure to pesticidal interventions.

This experience is gaining considerable momentum in the organic sector, with numerous producers becoming increasingly confident in the value and implementation of sound IPM practices to increase efficiency and profitability.

I would add a critical note to the terminology used in this conference. “Chemical crop protection” is a dangerous terminology because it includes plant extracts. Garlic extract, for example, is a chemical

but has a very low risk and toxicity for human and the environment. If farmers can identify farmers with best practices for certain pests, there could be an important role for NGOs to implement a forum for exchange of expertise.

Hans Muilerman, Natuur en Milieu, PAN Europe Board, Netherlands

(Summary not available).

Questions & answers

Question to all panellists: Should there be a European label for IPM produce and if so, what will it mean and will it confuse consumers even more? What lessons can be learnt from the organic example?
Answer (Bernd Freier): I prefer a label for IPM at the European level such as the one that already exists for organic. But I think we already have too many labels involving the quality of products and pesticide use in Europe: regional products, quality products, etc. In Germany the process of creation and implementation of a organic label was very long and complex and I am not sure if it was fully successful.

Answer (Hans Muilerman): It is not a good idea. It is very complicated technically and I don't think consumers would respond to it. I believe supermarkets should be much more involved in this and demanding IPM products. What we need is not a label but a good definition of good agriculture practices and a set of non-chemical methods that should have preference to synthetical pesticides and focus on a healthy crop.

Answer (Murree Groom): I would not rule out an IPM label but I think it is too early for Europe. In a few years maybe it will be possible and useful but for now I agree with Hans that we need to define minimum standards for plant protection.

Answer (Harry Van de Wulp): I would like to make a contribution to that question as well. I recently got a very powerful lesson from the self assessment of the Thai Government on best practices where we had a very enlightening discussion. The FAO IPM Facility and the Thai Government produced 24 good practices guidelines for all main crops with all biological control methods and IPM practices available for that crop. If you try to put all that detail into general IPM guidelines like Eurepgap is trying to do, the principles are lost. We will lose knowledge.

Question to all panellists: I have two general questions. The first is on the substitution principle. One of the main arguments from the agro-chemical companies against substitution is that it will not work on pesticides because of resistance. The second question is on zonal registration. Nobody seems to like it very much except for the agro-chemical manufacturers. Why?

Answer (Hans Muilerman): I think substitution will only work after we define substances of concern and that is a task for the European Commission. The problem is that right now we don't know the criteria for the definition of substances of concern, maybe in the end it will be a political decision taken by Comitology. PAN Europe supports that all pesticides should be on the list of candidates for substitution.

Answer (Bernd Freier): I agree with Hans Muilerman and have nothing to add.

Answer (Murree Groom): I would just like to remind that you are less likely to develop resistance with the use of botanicals when compared with synthetical pesticides, especially the nerve disruptors.

Knowledge transfer and development of organic farming

Helga Willer, FIBL- Research Institute of Organic Agriculture, Switzerland

In Europe and worldwide the organic agricultural land continues to expand. Growth of land and of numbers of farms is accompanied by better policy support, a growing market and increasing research activities. The transfer of knowledge plays an important role for the future development of this sector.

According to the recent global statistics more than 31 million hectares are currently managed organically world-wide (Willer/Yussefi, 2006). The countries with the greatest organic areas are Australia (12.1 million hectares), China (3.5 million hectares), Argentina (2.8 million hectares) and Italy with more than one million hectares. In Europe according to provisional data currently more than 6.2 million hectares are managed organically by around 151,000 farms in the 25 countries of the European Union (EU). This constitutes 3.7 % of the agricultural area. The whole of Europe has more than 6.8 million hectares and almost 180,000 farms (31.12.2005). The substantial increase of organic land in the European Union compared to the previous year (+ 8% from 2004 to 2005) is mainly due to a major growth of organic land in the new members states of the European Union. Major growth has, however, also taken place in Portugal, Spain and Italy. The difference between individual countries regarding the importance of organic farming is still substantial. More than 12% of agricultural land is organic in Austria, 10% in Switzerland, 6.5 % in Estonia. Some countries have yet to reach 1%.

Knowledge is an important prerequisite for economical success and quality assurance in organic farming, and thus plays a pivotal role in its further development. Usually, however, practitioners have little or no contact with research institutions, which are producing new knowledge related to key problems of organic farming. On the other hand these research institutions very often do not consider the transfer of knowledge to agriculture practice as their task and the direct exchange with practice is often missing. Many producer organisations and others are offering advice, but for these organisations it is a major effort to keep themselves informed about current research work.

Switzerland is a country with an exceptionally high area of land under organic management. It is also the country with the highest per capita consumption. Factors for the success of Swiss organic farming are a positive agri-policy environment, a major involvement of the Swiss supermarket chains Coop and Migros, a united organic sector and the activities of the Research Institute of Organic Agriculture which unites organic farming research with a range of knowledge transfer activities like advice, training and technical material for farmers. Farmers are well informed through courses, technical leaflets and a monthly magazine. The FiBL technical leaflets for instance are developed in close cooperation between the FiBL researchers and advisors, and are such a successful tool that recently a cooperation on these leaflets between Germany, Austria and Switzerland was launched.

In other countries, the situation is, however, not so good. Knowledge transfer into agricultural practice is not sufficiently guaranteed and in most countries there is a major potential for improvement. Accordingly the European Action Plan for Organic Food and Farming is calling for action in this field. It is a major challenge now for the Member States to implement good knowledge transfer activities and to make use of successful examples like that of Switzerland. Also other countries in the world have identified this need and particularly in cooperation with the International Federation of Organic Agriculture Movements (IFOAM), didactical material has been published recently. Adaptation of this information to specific situations and extension of the range of the material offered remains, however, a major task for the organic sector.

Example from farmers' association/cooperative from Emilia Romagna on Integrated Crop and Pest Management or other alternatives to chemical crop protection

Gianni Ceredi, Apofruit, Italy

Apofruit Italia is an agricultural cooperative which, after 40 years, now has more than 3,600 agricultural producers as associates. Founded in Romagna where the central office is still located, the cooperative has expanded to the national level involving important new businesses in Emilia, Lazio and Basilicata bringing the total fruit farming land area covered to 9.500 hectares. The size of this important production business and the diversity of the areas in which it operates have never been an obstacle, however to the continuous search for methods, means, instruments and techniques to reduce the use of

agrochemicals.

The first important step towards decreasing the use of synthetic chemicals was the dissemination and application of the concept of integrated production for which there are different interpretations today. For more than 20 years Apofruit has been able to give its products a particular hallmark in this context by means of a motivated and constantly updated and informed technical service. Starting with active participation in public and private research schemes and trials, together with knowledge of this field, the technical service of Apofruit has always tried to make it possible to implement the methods that are alternative or complementary to conventional protection.

Just a few examples of our method of working include the large scale (1,300 hectares) mating disruption for some insects of key importance to peaches and apples, the adoption of systems for monitoring and predicting (models) the behaviour of insects and pathogenic moulds set up by the regional plant health service, the application of appropriate crop growing techniques (green manure, ground cover, crop rotation, etc…), the planning of introducing insects useful for the control of mites on strawberries. The use of synthetic agrochemicals products is constantly monitored by a systematic sampling programme applied to agricultural products coming from the producing farms. Apofruit has a specialised laboratory for the detection of agricultural chemical residues (Greenlab) which operates in close contact with the technical field personnel and keeps them informed by electronic means of the results of analyses within 48-72 hours after sampling.

Moreover, the addition of a new active ingredient in the national crop protection scene, although accepted by the integrated production lines, makes it necessary for our organisation always to determine the actual residues on fruit and vegetables. It is not unusual to have to change the doses used (to the minimum) or the pre-harvest interval in order to bring the residues of some substances down to more acceptable levels.

There have even been cases where agrochemicals have been completely excluded even if allowed by the regional guidelines for integrated production. This commitment has led to extremely good results regarding the presence of synthetic molecules in the samples analysed. Over the last 6 years, taking peaches for example which are the most widely grown fruit, the over 4000 multi-residue analyses performed on samples taken at harvest gave negative results for all types of residue in 77% of the cases. In 21% of cases the result was positive but with residue values lower than 30% compared to the limit established by law and only 0.2% of the samples gave results above the legal limit. At the moment 70% of our land area devoted to fruit growing is managed using integrated production, with acknowledgement not only by national and regional bodies but also European (IOBC).

At the end of the nineties when Apofruit developed its production strategy for organic fruit and vegetables, a process of conversion started that involved the cooperative and the individual producers at various levels. From the industrial viewpoint all the sectors, commercial, administrative, logistic, and technical, underwent considerable reorganisation but it was the single producers that underwent the greatest changes.

Many elements of a technical and organisational nature which are basic to integrated production represented in our case a firm starting point for conversion of the single producers to organic production. It was nevertheless necessary to consider a completely new approach to the solution of plant health problems. The epidemiology of pathogenic agents and the behaviour of insects in organic farming must be known more specifically and in great detail and measures be taken promptly and normally as prevention rather than cure. The natural agrochemicals available generally have a blander effect, they are less persistent and can be subject to limited use; in short they have less potential for dealing with emergency situations which should not be reached. Also, it should not be forgotten that a producer undergoing conversion to organic methods normally encounters the first obstacles in the fact that the production and crop growing system (size of plots, species and varieties grown, soil management, layout and exposure of rows, etc…) were not conceived and designed for this purpose.

On the other hand the qualitative standards that regulate the organic products markets do not imply greater tolerance toward defects in terms of organoleptic and aesthetic qualities so the economic sustainability of an organic producer must start with the possibility of dealing adequately with problems in the field.

For this purpose we have been examining the effectiveness and practicability of alternative agronomic techniques for some years (green manure with biocides, diversified ground cover, soil solarization, use of compost, etc…) and chemical methods for protection (Bacillus thuringiensis, copper salts, granulovirus etc…) which have given excellent results both for the control of mites and for limiting pathogenic agents. At the moment the organic producers associated with

Apofruit number more than 500 and cover a land area for fruit growing of more than 1,700 hectares.

Overall the experience gained in recent years and profuse and continual exchange of information with various organisations operating on the sector enhance the capacity for practising advanced integrated production and likewise the possibility of sustainable organic production from the technical standpoint. An overall system strategy, however, needs the availability of resources for research and experimentation, adequate legislation, correct consumer information at all levels and a responsible and efficient distribution network that avoids the temptation of speculation.

Questions & answers

Comment from participant: There is a high increase in organic production in Africa but this is very much export-driven and it's not building local markets for organic, and much is organic 'by default' and not 'by design'.

Question to Helga Willer: Regarding information and knowledge, is the focus on information dissemination, including by government and industry? FiBL looked at what farmers found most valuable and it was the personal contact. Do you think there is something special needed for knowledge transfer methods for organic that is different from conventional farming?
Answer (Harry Van der Wulp): In FAO we use the Farmer Field School methodology not to transfer knowledge but to build it. But organics is different because organic farmers have already decided to move in a new direction, whereas IPM training needs persuasion and conviction elements, via experiential learning and confidence that they won't suffer economic losses.

Question to Gianni Ceredi: Can you tell us what you have achieved in pesticide use and residue reduction in the last 5-10 years?
Answer (Gianni Ceredi): Much Italian production is facing serious economic viability problems and farmers' associations need to have more weight to resolve these.
We've definitely had a reduction but we've also had an increase in pest and disease problems so it is hard to give a concrete figure. It's also impossible to give reduction figures as active ingredients on the market are constantly changing and low dose products are now much more common. Pesticide resistance is also leading to rapid change in use patterns. Farmers prefer to use new chemicals than change to new strategies and tend to use alternatives only as a last resort. Apofruit is one of the few big co-operatives trying to change this mindset.
We face 3 main constraints to more IPM adoption: cost; disorganised and fragmented growers; and lack of knowledge.

Question to Helga Willer: Regarding organic statistics, what percentage of vineyards are organic and what is the trend?
Answer (Helga Willer): It's hard to say because vineyards were only included for the first time in the 2006 survey but data was not available for all countries. There are still no specific standards for organic vine production beyond basic EU regulations for organics. However, a new EU-funded project for organic wine promotion is starting and we'll have results in 2 years' time. It is called ORWINE and AIAB is one of the partners in the project.

Legambiente protocols for reduction of pesticide residues in selected food products

Davide Sabbadin, Legambiente, Italy

Legambiente promotes the Food Sovereignty that means right of access to the food in order to a safe an adequate food supply. We believe that quality is the "keyword" for getting farmers and producers involved in environment protection. Being harmless to the environment is the first step that a food producer can take towards sustainability.

We strongly believe that Italian and European agriculture should focus on Quality and not on Quantity as a key strategy for tackling the global market, and that we should aim to upper level market position. Our concept of Quality is a wide one by this word we neither mean “high hygiene standards” nor “tasty”. We believe that Quality is far more than this, and has to do with harmless and nourishing food, obtained through sustainable production processes. We feel that Quality is the way out of crisis and also the way agriculture can make a better world.

WHAT IS LAIQ

LAIQ is a national campaign of Legambiente focused on the ground of sustainable agriculture and particularly on the field of vegetables and dairy products. Starting from food scandals raging all over Europe in the latest years Legambiente has faced the challenge of sharply changing the industrial sector of meat and vegetable production through a detailed system that focuses on costumers' attention and trust on Legambiente’s logo.

Products labelled with LAIQ logo have appeared nationwide in shops and supermarkets, meeting the demands of consumer and thus obtaining a fairly good commercial success. These goods are produced in compliance with Legambiente’s technical prescriptions and farm and factories involved in the processing are controlled and checked by Legambiente’s inspectors. This action follows up the whole production chain for all of the fields involved: be they eggs or meat, milk or apples, the campaign has provided a detailed document of “do and don’ts” (“disciplinare”) for each and every step of the production chain: grain and feed production or import, feeding and rearing of the animals, agricultural practices and chemical inputs allowed. The campaign is based on the concept of self-declaration: the logo of Legambiente is not a certification of warranty, but it states that the producer engages him/herself in following the strict production rules of our organization.

Apart from this, all farms and factories are being monitored and controlled strictly by a team of experts that works on behalf of Legambiente. The results of the controls are available, in the form of three months report, at the campaign website.

As for vegetables our goal is the absolute absence of pesticides, fertilizers and preservatives residues on the final product. In some case (i.e. apples, tomatoes, peaches) we already reached this result, in others (olive oil) a two-year change process is ongoing.

RESULTS

The results of our campaign are remarkable. After 5 years of action we are now partners of several industrial producers, among which we can enumerate some of the biggest Italian fruit and vegetables’ production company.

A wide range of products, from fruit to oil and pasta is available with Legambiente's logo on the market, and most of all, these products have a remarkable success. This is to testify that things can be done in a different way and going natural does not mean losing money.

From farmers to consumers: Italian/regional experience

Alessandro Triantafyllidis, AIAB, IFOAM EU Group, Italy

(Summary not available)

A regional example of promotion of organic farming

Matteo Sandon, Associazione Biorekk, Italy

The experience of the Association Bio Rekk was built up to reveal and promote the basics and the principles of Fair Trade, in particular regarding the environment, the working condition, consciousness about the product origin and impacts and the re-evaluation of the local products.

Bio Rekk accomplishes its goals by means of the following activities:

- Bringing these topics inside schools and other Associations with educational and training objectives;
- Organising and promoting small purchasing groups of fair trade and organics products, giving them logistical and organizational support;

- Organising, for the members of Bio Rekk, weekly purchasing of fresh vegetable and fruit (respecting their seasonality), bread, eggs, tomato sauce, and monthly purchasing of fresh (cheese, meat, etc.) and long-life products (pasta, vegetable oil, wine, flour, washing powder, etc.) all strictly certified organic;
- Organising for the families of the members tours around the farms sourcing products for Bio Rekk to built up direct relationships with the farmers and to know more about their work;
- Organising classes on nutrition and natural cuisine.

Bio Rekk was born two years ago and has now reached the number of 500 families that monthly do their shopping with the Association, all organised in small groups, to make the delivery easier.

By autumn 2006 Bio Rekk and the local Cooperative of Biological Farms (Coop. El Tamiso) are planning to supply the families with production of the farms around Padova, so the products will arrive on their table straight from the fields. The boxes will contain mainly local products; and in this way Bio Rekk intends to support the local agriculture and to be an active subject on the model of the society in which we live.

Questions & answers

Question to Davide Sabbadin: You have a big programme on zero residues but can you go further on real zero use?
Answer (Davide Sabbadin): We obviously prefer organic but we've chosen to work with big enterprises that are not even considering organics. Our LAIQ no-residue requirement already means use has to be reduced and we aim to build this reduction of use step-by-step over several years to build up more Plus points.

Question to Davide Sabbadin: What do you consider better, organic strawberry production with 10 applications of rotenone, or IPM production with just 2 applications of a low toxicity synthetic pesticide?
Question to Davide Sabbadin: What kind of advisory service do you offer LAIQ farmers and who pays for the residue analysis you do?
Answer (Davide Sabbadin): Agronomic advice is outsourced to a specialist company. All the producers pay a fee to be part of the LAIQ scheme and this pays for the monitoring and analysis.

Question to Davide Sabbadin: Regarding the self-assessment by growers, how does it work and how are results made transparent? How do LAIQ prices compare with organic?
Answer (Davide Sabbadin): Legambiente does do controls and these are available every 3 months on our website. The price depends on the product, some are similar to conventional and also the price will depend on the marketing policy of the retail chain. Institutional links and support [from the government sector] are weak except for apple production in N. Italy which has support from the regional government.
There has been decreasing confidence of small farmers in organic systems in recent years because of the high costs and difficulties of meeting organic regulations, but also as organics get mainstreamed in supermarkets and prices to producers fall. This was one of the main motives for AIAB to develop a short supply chain programme.

Question to Alessandro Triantafyllidis: What about support for short chain projects via EU rural development funds from 2007-2013?
Answer (Alessandro Triantafyllidis): There is now some support for market initiatives under rural development funds, also the LEADER programme. We collaborate with the regional government to sell organic and local denomination produce directly with support.

Question to Alessandro Triantafyllidis: Why do farmers only sell 40-60% of their production via the direct marketing programme?
Answer (Alessandro Triantafyllidis): Some farms sell a higher proportion but now we have 1,000 consumers this is too high a volume of demand for our original group of farmers and they need support to grow. Also, some have their own farm shops and anyway, they like to have a diversity of marketing options.

Question to Alessandro Triantafyllidis: How does the delivery system work?
Answer (Alessandro Triantafyllidis): In 2004, we had just one person delivering, now we have one taking orders by email and organising the delivery to several central delivery points and a collection point to prepare the individual boxes. Some customers choose to collect direct from us, at discount price, or pay a higher charge for home delivery, and we also deliver via meeting points. The main advantage of the box scheme is that it is considerably cheaper than buying organics at retail shops or supermarkets.
Answer (Matteo Sandon): As for Biorekk, we reached 500 customers in just 2 years without making any advertising efforts. It's very important to get the supply to grow in tandem with demand and this means improving the organisational logistics.

Question to Matteo Sandon: Are your customers mainly middle-class or do you also sell to lower-income households?
Answer (Matteo Sandon): Mainly middle-class, but also some lower income families who are interested in organics. Mainly our customers are couples in their 30-40s with young children.

Question to Matteo Sandon: Do you plan to expand Biorekk via a business model or franchising network?
Answer (Matteo Sandon): For us, it makes sense to keep local and specific and not try to develop blueprints for other places. We've recently contacted Eostre organic co-operative in UK and found out that they have developed a very similar operation style to us.

Question to Matteo Sandon: How does it work with schools' liaison?
Answer (Matteo Sandon): This aspect is very important and we aim firstly to be a cultural movement and get people to think about where their food comes from. Schools don't usually look at this topic so teachers have found it very interesting and stimulating for the pupils, they study it via play topics with young children. For example, we got children to understand fair trade issues and labour exploitation by getting them to sew a football so they can appreciate what child labour really means.

WRAP UP AND CLOSURE

Sofia Parente
Coordinator, PAN Europe

This conference has the title "Alternatives to chemical crop protection for the reduction of risks and pesticide dependency". Our purpose, and I think we have succeeded, was to address several types of alternatives. We looked at Integrated Pest Management and organic farming as strategies to reduce risks and pesticide dependency but we have also looked at alternative substances, And my feeling by the end of this conference is the completion of a circle, we started by listening to inspiring opening presentations that called for a change in the way we look at food production in Europe and in the world. We need to look at the vitality of rural economies when looking for sustainable agriculture. And although I believe organic is the only way forward, this represents a niche in the current agriculture market in Europe. Despite being in SANA, among over 600 exhibitors, this is a still a niche.

And despite hearing from Francesco Ferrante that Italy was allocated 100million Euros for measures under the 2nd pillar of the Common Agriculture Policy (CAP), this represents one thousandth of the total funds under CAP. And we finished the conference with an example of a regional association promoting organic farming that felt the need to provide education in schools and communities. Indeed, we need to change the concept of agriculture towards a concept that includes respect for the environment and the local communities.

We started by giving an overview on the global and European state of implementation of Integrated Pest Management. While PAN Europe advocates for more support and expansion of organic farming in Europe, we recognise that this is currently feasible only for a limited number of farms in the European farming universe. That is why we would like to see Integrated Crop and Pest Management as a minimum for all farms in Europe. But here, an important question arises: what standards of Integrated Pest Management do we need to achieve reduction of pesticide use and dependency?

Right now, there is no framework for Integrated Crop and Pest Management in Europe and different guidelines are applied in different regions. There are also different designations, many times applied subjectively: Integrated Production, Integrated Farming, Integrated Crop Management, Integrated Pest Management…

For our understanding, let us use the designation Integrated Pest Management seen in the broader view of Integrated Crop Management that also involves, for example, the management of soil fertility, and ecological structures such as buffer margins.

Globally, we have seen in the presentation by Harry Van der Wulp how FAO is promoting Integrated Crop and Pest Management with good results among small scale farmers as a way to reduce pesticide use and pesticide dependency. In Europe, despite being around for many years and being supported as an agri-environmental measure under the Common Agriculture Policy, the total land under certified Integrated Pest Management is negligible. This is partly the result of the confusion and many different definitions and standards for Integrated Pest Management and missing political and institutional frameworks.

This might change with the new Directive for the

Sustainable Use of Pesticides. Although lacking targets, timetables and indicators for success, this piece of legislation, adopted in July by the European Commission, sets Integrated Crop and Pest Management as a minimum for all farmers by 2014. General standards and crop-specific standards will have to be developed by then and we would like to see NGOs involved in this process and in the draft and implementation of National Action Plans for pesticides. But this process will only work with clear and strong minimum standards. We are pleased to have heard from Mr. Bernd Freier good suggestions for minimum standards such as:

- Compliance with regionally determined upper limits of treatment frequency index in main crops;
- Usage of specific non-chemical control methods;
- A minimum quantity and quality of ecological structures, such as buffer margins, to be applied at the farm level.

Very important in this process is the creation of a successful extension programme dedicated to pesticide use reduction to give adequate support to farmers. Strong lessons can be taken from the successful example of Switzerland in organic farming here presented by Helga Willer from FIBL- Research Institute of Organic Agriculture. Factors for this success are a positive agri policy, a major involvement of the Swiss supermarket chains Coop and Migros and the activities of FIBL which unites organic farming research with a range of knowledge transfer activities like advice, training and technical material for farmers. Farmers are well informed through courses, technical leaflets and a monthly magazine.

We have also looked at alternative substances and I think we can safely conclude that the crop protection market is not geared towards low risk substances such as biopesticides up to now. The requirements for the registration of biopesticides are similar to those for the registration of chemical substances despite their inherently lower risk. Changes have to be introduced in the legislation to help this market for low risk substances grow.

So is the current framework legislation for the promotion of alternatives and pesticide use reduction adequate? Clearly not, but we have an excellent opportunity to improve the current framework in Europe with a new Directive for the Sustainable Use of Pesticides and the revision of the current Directive for the placing of pesticides on the market. These developments will be particularly important for European countries that are not yet part of the European Union and where support to organic and Integrated Pest Management is even lower.

In this conference, we have also seen different responses to the current legislation failure in terms of promotion of alternatives and pesticide use reduction. We have seen examples from the point of view of producers. We have seen in the presentation of Gianni Ceredi how Apofruit, an agricultural cooperative with more than 40 years and 3,600 associates has expanded from the region Romagna to national level bringing the total fruit farming land area to nearly 10,000 hectares without losing the initial drive for continuous research for methods and techniques to reduce the use of agrochemicals. For more than 20 years Apofruit has been able to give its products a particular hallmark in the context of Integrated Production via a constantly updated and informed technical service. We have heard how they used public and private funded research schemes and trials combined with extension.

And we had examples of coordination between farmers, retailers and consumers. We have heard from Davide Sabbadin how Legambiente created its own self-certification scheme for a number of fruits and vegetables and animal products. The targets of the campaign are not restricted to the marketing of the products but also to increase producers' knowledge and awareness of environmental issues, create public awareness of risks in food and stress the link between food-nature-health.

Matteo Sandon, showed how Bio Rekk, a regional Association born to promote local and ethical consumption grew in two years to supply 500 families with organic and Fair Trade box schemes. Bio Rekk is working with a local organic farmers' cooperative shortening the distance between producers and consumers and delivering fresh food to its clients. But Bio Rekk is also working with schools and the community organising classes and events to promote ethical food and is meeting growing consumer demand and interest.

This is an example on the regional scale but on a larger scale we can find, for example in Belgium, the Walloon Association of Fruit Producers responsible for 10% of the national production of apples and pears and sole supplier of supermarket chain Delhaize, one of the largest in Belgium. They have been applying IOBC- International Organisation for Biological Control guidelines for Integrated Production for almost 20 years and it has proven to be a winning choice, not only economically, but also socially and environmentally.

PAN Europe is currently preparing a new publication where these and more examples feature different

strategies to pesticide use reduction undertaken by farmers, retailers and Governments in different European Countries. Tomorrow we will continue to discuss private and governmental standards of Integrated Crop and Pest Management in our NGO workshop and the role of NGOs like PAN in this process. For today, I hope you have enjoyed the conference and that you can take valuable lessons home.

Last but not least I would like to thank the speakers, SANA for hosting us here in Bologna and our organisation partners Legambiente and Italian Organic Farming Association.

NOTES FROM THE NGO WORKSHOP

Promotion of pesticide use reduction strategies in particular Integrated Pest Management

Introduction

Integrated Crop and Pest Management is a method of crop growing, in which fertilizers and synthetic pesticides may be used, but in which the environmental burden of these inputs is minimized by giving priority to preventive measures of crop growing and the use of non-chemical practices and methods. Pest management cannot be seen isolated and therefore, Integrated Crop and Pest Management should ideally be used as a complete integrated system, i.e. a combination of nutrient strategy, pest management, soil and biodiversity conservation objectives and crop quality. This means that implementation of this integrated system can only be accomplished on the basis of a complete set of requirements. Picking and choosing some techniques does not result in an integrated system, only the full set can do so. For instance, it is well known that a bad nutrient strategy can result in more spraying with pesticides and in low product quality. So, there is an interdependency between nutrient, pest, and quality management, and a simultaneous action on all key elements of Integrated Crop and Pest Management can result in a maximization of both environmental quality and product quality.

Area under Integrated Crop and Pest Management

In the EU 15 only 3% of the agricultural land is under certified Integrated Crop and Pest Management. Considering the large agricultural acreage in the new Member States and the total absence of integrated systems in these countries, the percentage of land under Integrated Crop and Pest Management in the EU 25 is negligible. The reasons for this small percentage is simple: certified systems have been implemented mostly in fruit production followed by vegetable production, which only accounts for a very small percentage of the agricultural land, but is only marginally implemented in arable crops.
Looking at the regional representation of Integrated Crop and Pest Management compared to conventional production, the picture changes. In the Italian region of South Tyrol for example, a large area of apples and pears production in Europe, 90% of the orchard farmers comply with regional Integrated Crop and Pest Management requirements.

Legal Situation

Legally binding Integrated Crop and Pest Management requirements exist in very few countries: in Belgium for a limited number of crops, in Spain since 2002 and in the Regions South Tyrol and Emilia-Romagna in Italy. In most European countries it is allowed to use the term Integrated Crop Management (ICM), Integrated Production (IP) or Integrated Farming and Integrated Pest Management (IPM) subjectively. The absence of legally binding definitions at national and European level has led to a large number of labels with a wide range of regional and private standards and requirements.

Environmental protection and pesticide use reduction

Whether Integrated Crop and Pest Management systems have positive impacts on the environment and lead to a reduction of pesticide dependency greatly depends on the general and crop specific standards. Though studies have shown that ecological improvements do not automatically emerge when Integrated Crop and Pest Management is applied, one study in biodiversity in a German Integrated Production orchard systems stated: “IP low stem systems are neither environmentally friendly nor protect beneficial

insects." Low habitat diversity and sterile grass alleys between the low stem rows are unattractive for wild plants and animals. On the other hand, the requirement of the Spanish Integrated Crop and Pest Management legislation to create at least 5% ecological compensation area per farm might be one way to enhance biodiversity.

Requirements

A European legal framework setting minimum standards is needed to ensure transparency for consumers and to ensure that goals of the society are met. However, crop specific, legally binding guidelines must be developed at the national level. Extension services, growers associations, consumers association and environmental NGOs must participate equally on the development of Integrated Crop and Pest Management guidelines since these guidelines must serve three overall goals: ecological improvement (less emissions, increased biodiversity), food safety (especially reduction of pesticide residues) and reduction of farmers/bystander exposure to pesticides and profitability.

GROUP A: EU AND GOVERNMENT POLICIES
Chair: Gergely Simon, Clean Air Action Group, Hungary

- Do we need a legislative framework for Integrated Crop and Pest Management similar to the one already in place for organic production? What would be acceptable minimum standards for Integrated Crop and Pest Management?
- What is needed to extend Integrated Crop and Pest Management to arable crops?
- What do we need in terms of legislation to make biopesticides an alternative to hazardous chemical pesticides?

The group started to discuss the first question, whether we need a legislative framework for Integrated Crop and Pest Management similar to the one already in place for organic production. There is a risk of working to a lowest common denominator, which could relieve the workload in some Member States, whilst substantially increasing it in others. This may be quite counter productive when set against the long-term objectives.

All agreed that there should be very clear objectives before going to the EU with a proposal. This would almost certainly require development of a sub set of definitions referenced against the directive. The issue of the practicalities of implementation of IPM was raised at this point and cross-referenced to the 'operational skill base' at the local level. The concern was that operational directives would have to intercalate with the practicalities of implementation.

Two questions were tabled: Do aspects of IPM exist at an acceptable level in all EU Member States? Do we need a practical review of IPM at each member state to fully inform the debate?

Aspects of the presentation from Armenia were discussed to illustrate this point. Local farms in Armenia use a tincture from a local and abundant plant to prepare a solution with apparently potent fungicidal and insecticidal properties. This tincture is then applied to plants (mostly fruit trees) as an effective crop protection agent. It could be argued that this is a very advanced form of IPM, which contrasts with the much higher input, but equally effective IPM now being practiced in countries such as Italy, the UK and Germany. The discussion agreed that the EU may already be able to advise on this matter and this should be investigated.

As for the question whether the implementation of a EU wide directive will present too much of a challenge in some Member States, the group agreed that it cannot be answered until clear definitions on IPM at the EU level had been secured. These definitions have to be linked to extension services capability to support and implement the practical methodology. All agreed that scientists, NGO's and stakeholders must jointly inform the debate. The consensus was more towards definitions on IPM at the EU level and less towards minimum standards. But this should not diminish the value and importance of the sustainability principles at the EU level.

Proposal for action: Prepare amendments for an alternative strategy. It was noted that directives are now coming into place for active promotion of IPM across all EU member states by 2014. Practical and operational skill base deficiencies should also be identified to enable IPM to be mandated and implemented within the 2014 time-frame either across the EU or at Member State level in the first instance. To incentivise the process, groups should refer to the known examples (Netherlands, Denmark).

Develop a network for implementation, knowledge transfer, research and training. There was a broad consensus that this would be a vital component in the success due to the need to relate a wide range of local practical crafts and knowledge to a remote bureaucracy.

Financing for the directive: All synthetic products will attract differential tax/levies possibly related to toxicity or environmental impact. All agreed that this aspect of 'negative selection' would have to be very carefully

discussed, but amendment to the directive on this matter should be made. Member States need to come together to work on a differential tax model. Structure the proposal to allow for 'attrition' during EU review. Embed and protect core proposals within the document. Define a minimum level on tax at EU level, about 10%. Relate tax take to end points in system: packaging, recovery, cost of time, etc. No tax should be implemented on biopesticides. Using already existing EU framework on tax differentiation. For the directive, there must be a clear definition of a biopesticide for tax exemption.

GROUP B: NON-GOVERNMENTAL STANDARDS
Chair: Lars Neumeister, PAN Germany Board

- What are the pros and cons of NGO engagement with individual and multi-stakeholder sustainability initiatives?
- How far can or should NGOs go in publicising and supporting private standards for pesticide use reduction?
- Do supermarkets serve as a force for good or for evil in terms of pesticide use reduction and Integrated Crop and Pest Management?

We agreed the original question 'Are supermarkets a force for good or for evil?' was rather facile, as they are a fact of life and we cannot avoid them. So how do we engage with them, and manipulate them? There are different forms of engagement: via media scandals; informal non-public critiques; advice on IPM strategies and pesticide policy.

The group also felt that supermarkets can exert positive and negative influence at the same time. They have definitely raised food safety and other quality performance but their standards and quality requirements, without paying a price premium, can also exclude certain farmers from their supply chain, or cause some farmers to "cut corners" to comply.

How can we judge their performance and rank which are best or worst? This needs real indicators on how good their IPM support and implementation is. The group acknowledged the media success of Greenpeace Germany campaign but questioned how far you can go towards holistic IPM by just focussing on MRL exceedances. PAN Germany felt there was little achieved by only making sure that residues don't exceed these- this is nothing more than obeying the law- and liaised with Greenpeace to aim for something more holistic. We also need to look at multiple residues and pesticide exposure in agricultural production.

Could we use some key elements in the FAO Code of Conduct, now that the food sector has an obligation to follow it, in the revised version of 2005. Few food companies are aware of this, so awareness-raising can be a first step. PAN Germany is launching new web pages on how to make practical use of the Code. Should we propose to private companies that they sign up publicly to endorse and implement the Code? While the Code is voluntary, the global agrochemical federation CropLife International have made it mandatory for their members and this could be an option for umbrella food chain groups too. There are also specific elements which could be useful, e.g. 'to facilitate access to information on residues in food' which we could urge supermarkets to provide as part of transparency demands.

Which supermarket chains should we engage with- the most progressive and most likely to be sympathetic with our views, or the biggest and most powerful? In UK, many NGOs are building anti-Tesco and anti-Walmart coalitions to fight against their poor record on worker conditions, environmental and social impacts, so it would be very difficult for PAN UK to work with Tesco on a pesticide policy. In Germany, the big discount chains Aldi and Lidl only reacted to the residue campaign work after NGOs published data showing that their table grapes contained residue levels unsafe for children. We need to avoid unintended consequences of campaigns that might end up giving more power or market share to cheap discounters, because of their huge size.

Now that EUREGAP protocols are becoming so prominent, should we focus our energy on influencing EUREPGAP, as the umbrella group to which dozens of European supermarket chains need to respond? It can also be good to try to influence them via individual retail members, as EUREPGAP itself is not known by consumers and is not visible on the supermarket shelf.

It is welcomed that EUREPGAP is considering to incorporate more holistic IPM elements in its protocols but we should beware that agrochemical companies may try to highjack this effort, by offering to 'help' farmers and suppliers comply with the new requirements. We should alert supermarkets to this danger of agrochemical company crop advisors 'diluting' the IPM objectives.

We noted that in Italy and elsewhere there are several local or regional IPM standards and no interest in harmonising these into a national standard, as regions want to claim their produce is best.

Possible indicators for success in shifting pesticide use in the retail sector:

a. Reduction in MRL exceedances and in multi-

ple residues (this is a useful entry point for countries where the issue is new, but will focus mainly on fresh fruit and vegetables as there is most data on residues here);
b. Concrete support by supermarket chain for their farmers/suppliers to change pesticide and pest management practice;
c. Food chain companies lobby European Commission for similar policy change elements as we have in our PURE campaign, e.g. if they also want to see treatment frequency index as an indicator;
d. Individual supermarkets or food companies commit to sourcing all their produce under a clearly defined IPM standard which goes beyond legal standards (note that some countries/regions have official standards but these may not be very ambitious);
e. Positive change in field indicators related to pesticide impacts, e.g. increase in biodiversity, decreased water contamination. These may be easier to define and measure than 'IPM implementation';
f. Communication tools developed for consumers so that they can choose a different kind of produce that is clearly different from conventional;
g. Transparency in pesticide use and residues in individual supermarkets' supply chains.

GROUP C: NGO CAMPAIGNING
Chair: Susanne Smolka, PAN Germany

- How to be more effective in stimulating consumer demand and access to organic and pesticide free products?
- What are the funding opportunities for this type of campaigning?
- How to communicate effectively to the public and consumers the importance of pesticide free food?
- How should we address the issue of sustainable farming livelihoods in Europe and beyond?

The steps to be taken: collect proposals and plan national and European campaigns. In addition, we need a holistic "smart" decision. We have to decide how to communicate with consumers. They should get a message connected to the product. Another priority is to decide if we try to involve marketing experts into the campaign.

One of the effective tools to communicate to consumers can be creation of webpages with data on the pesticides amounts in the products and toxicological effects.

We can take two different approaches into account: a general or a targeted approach. And we can choose two different strategies: we can aim at consumers or we can aim at supermarkets. Apart from that we have to take a decision's should we have interlink between consumer and human health and consumer and environment? Or should we just focus on the aspects of interrelation between consumption and human health issues?

German example: talking about biodiversity and environment to consumers. Negative side: only a small number of consumers is concerned about the environment issues, larger amount is concerned about health issues.

Apart from the issues listed above it is crucial to raise awareness among farmers and consumers. We can push the supermarkets by consumers needs. That is why consumer awareness raising is the most important issue.

We can not talk about a common European campaign because of the existing difference between Western and Eastern European countries. There is no market for the organic products in the Eastern European countries and pesticide use issues are very different.

We should set a common systematic approach to ensure awareness raising and data share. One of the campaign tools: to choose one particular product to focus on to increase the consumption of organic products.

We should also press governments to publish the samples data immediately (toxicological data). We have to demand data transparency and improvement of monitoring systems.

There are two different objectives: to improve monitoring of pesticide residues and to improve farming practices. The group agreed that official good agriculture practices guidelines are not safe, that is why we have to go beyond and define and enforce very strong standards for IPM.

We need a clear general IPM and crop specific IPM definitions. To achieve this, the groups laid out the following proposals for action:
a. Create EU IPM network;
b. To promote the advantages of IPM;
c. To lobby EUREPGAP for the strongest IPM;
d. To improve the chapter on IPM in the Directive for sustainable use of pesticides and to make it compulsory;
e. To divide (separate) supermarkets to change the marketing policy: to create the competition among supermarket chains. To go for a union with supermarkets;
f. To work at the local level (Ukraine – farmers and local markets);
g. To create organic farming markets.

FIELD VISIT TO APOFRUIT ITALIA COOPERATIVE AND IPM FARM

Notes from presentation by Gianni Ceredi at Apofruit Italia cooperative headquarters, Cesena

Apofruit is a large cooperative producing mainly fruits and some vegetables. It comprehends 3,600 agricultural producers as associates. The total fruit farming land area is 9.500 hectares. In Apofruit, approximately 65% of their range is under Integrated Production (IP), and an average of 15% under organic. The remaining conventional percentage is mainly from smallholders and Ceredi suspects that many of them will go out of business in the next 2-5 years.

One of the most important issues for Apofruit concerning organic production is the traceability of the product. Almaverde, the organic label to which they supply their organic fruits, has an on-pack bar code system which allows consumers to trace via the web back to the farmer who grew it.

Prices Apofruit pays for organic and IPM produce are 20-40% higher than conventional. Generally, organic produce in Italy fetches premiums between 10-50%. Apofruit's growers complain that they see much larger price differences on the retail shelf but this is because supermarkets add higher margins. This can also be true for some small niche market retailers who cater for rich consumers and are not interested to offer more sustainable fruit at a reasonable price. This is why Legambiente, AIAB and Biorekk are all trying to shorten the supply chain in their projects. Apofruit has some difficulty in getting more use and recognition of its Canova label organic range as many retailers want to put their own-brand label on top of it. The proportion of Apofruits's range that is organic varies - apple production is difficult organically, so they offer mainly peach, strawberry and plum.

Their non-organic production may include produce from up to 15 different growers in one batch or lot, so it cannot be traced back to the field plot. EurepGAP, however, demands traceability to the field. This is the first year that Apofruit is involved with EurepGAP certification and approximately 200 growers are now certified and these are 100% traceable. It's been hard for many Apofruit members to afford to comply with EurepGAP and they are tired of continually needing to change their production practice!

Four different co-ops integrated into Apofruit since 2002 so this has meant a lot of change and need to bring growers into line with IPM concepts. 90% of active substances used now didn't exist 10 years ago, mainly low dose products, so technical protocols are changing frequently. Recent hot summers have caused an increase in insect pest pressure and increased reliance on insecticides. All Apofruit growers have to complete pesticide application records and send these each year also to the agricultural department of Emilia-Romagna regional government, as part of the regional IP programme. Ceredi is sure Apofruit growers apply less pesticide than conventional ones but it is hard to give good comparisons. Their growers don't use pyrethroids but make use of mating disruption, for example. Conventional fruit growers are not obliged to follow any technical advice, so there is a lot of irrational use.

At consumer level, all Apofruit IP fruit bears an IP label. There is no third party independent certification, the only guarantee of the IPM difference is from the retailer, but Apofruit, of course, does its own internal controls and they have to convince their big customers like Tesco, Edeka supermarkets that Apofruit fruit meets their individual specifications. Apofruit does its own residue testing via a full laboratory facility they part own. They do 3,000-4,000 samples per year and will reject any produce with high levels, as it has probably not been grown to IP standards. They sample fruit pre-harvest, 1 day before picking, so the residue levels they recover will have declined further by the time the produce is on the retail shelf. Their strictest customer is Italian Co-op, for whom they must not exceed 33% of Italian MRL standards so Apofruit applies this requirement to all its produce, whoever they sell it to. 70% of Apofruit produce is residue-free and this suggests that their growers' practice is substantially different from conventional,

Inside Apofruit Cooperative distribution warehouse.

where residue levels are high.

Apofruit produces detailed crop protocols and crop management guides, stricter than the Emilia-Romagna regional IP standards. Apofruit IP is recognised officially by IOBC (International Organisation for Biological Control). Their main strategy to comply with 33% MRL levels is via using lower doses, extending the pre-harvest interval, and IP cultural or biological practices. Apofruit does its own research trials to validate and improve the protocols. Use of 'natural' products usually gives no residue problems, although they had some rotenone residue issues in the past. However, Apofruit don't know the real rationale for the Co-op's insistence on 33% MRL thresholds. Under Italian law, it is illegal to claim that any produce is residue-free, as it's only analysed for detectable residues, i.e. there could be residues that are below the current analytical limit of detection. This law makes it hard for Apofruit to tell a good marketing story for its produce, which is generally 'residue-free'.

The economics of implementing IP is hard to assess. For the company, the costs of sampling, monitoring residues, conducting training, traceability, etc. are not that high. They can do residue sampling at much lower costs than the usual 120 euro per sample that commercial laboratories charge. But at farm level IP growers do incur higher production costs and are obliged to use lower dose products, which are more expensive. Apofruit therefore gives a small but significant extra help to growers producing IP fruit to compensate, usually 0.02-0.03 euros per kg for their IP growers.

Their main advisory channel is via SMS messaging and answer phone, as only 300 of 800 growers have internet facility and growers don't really have time to go on-line for day-to-day advice.

Field visit to IPM farm owned by Mr Christian Piraccini, Cesena municipality

Christian has a small family farm of 7 ha, owned by his family for 6 generations. He grows mainly vines, peaches, apricots, Sharon fruit (khaki), apples and pears. He is now uprooting and replanting much of his fruit trees over 40 years old. Seven ha is around the average Italian farm size, including arable ones, although average size of organic farms is 12 ha. He studied agronomy at college and was attracted to IPM concept as more environment-friendly, cost savings for agrochemicals and he did diploma-level research on mating confusion techniques. Christian is perhaps not a typical grower as he is college-trained, young, computer literate, with web access. He is now EurepGAP certified and the changes he has made compared to his previous Apofruit IP pesticide practice are: modifying his chemical store, to have an impermeable floor and proper storage as per FAO guidelines; better storage and stock control registers; much more attention to field hygiene, e.g. washing hands continually during harvesting; and better health & safety precautions, always keeping a first aid kit to hand whenever in the field. All the labour on-farm is his own and his family, he doesn't employ any workers. He records his pesticide applications electronically in the evening after spraying. Both he and Ceredi see EurepGAP as being more demanding than IP, because of the extra requirements on pesticide handling, compared to Apofruit's IP requirements.

Apofruit pays EurepGAP compliant growers an additional 300 euro towards these extra efforts. So far, EurepGAP compliance is mainly by the more professional growers. Apofruit plans to expand their EurepGAP certified volumes by getting more members compliant, using the group certification mode, rather than individual farmers. Apofruit is able to access some Italian Common Agriculture Policy (CAP) subsidy funds to pay this EurepGAP support premium. Christian agrees that EurepGAP production is more expensive, and gives him 'more headaches' but he wants more Apofruit members to join in and hopes there will be concrete benefits in the future.

Crop management

Unfortunately during his orchard renovation programme, Christian can no longer use mating disruption techniques economically, as he doesn't have any contiguous apple plots until the new trees are full grown. He prunes in winter, with staggered fruit production, starting with cherries in late spring, followed by apricots, peaches, grapes, apples, Sharon fruit, grapefruit and nuts (the last two mainly for home con-

sumption). All his trees are rain-fed. His chemical treatment schedule for apple starts in autumn, with a preventative fungicide application after leaf-fall, then another preventative one at flowering in spring.

During summer, treatment is only as needed, according to population data from monitoring pheromone traps. He does only mechanical weeding. Application frequency on apples varies with each year's weather patterns. This year he will have done a total of 10 applications. However, on peaches, he usually only makes one preventative application if weather permits, and one autumn fungicide application for early-fruiting varieties, or two for late-fruiting apricots which suffer more problems. In comparison, conventional fruit growers usually work on a calendar application regime, which can mean spraying every 15 days in the productive season! He's found that IPM strategies via careful monitoring really help reduce application frequency.

He gets a 5% price premium by selling to Apofruit rather than into the conventional market. He could never be certified organic as his apple and vine plots are close to a main road and under organic regulations he would have to have a 300m buffer zone, i.e. those trees would be classified as conventional. On such a small farm as this it would not be economical to pay for organic certification for the rest of the plot. Many of his fruit trees are dwarf stock, which are easier to manage, including spraying. His cherries are traditional large size rootstock, and luckily don't require chemical spraying, as they would be too large for his small tractor-driven spray rig to cover in the canopy.

He has 440m2 of apricots variety Cremonini, planted in 1981; 1,600m2 variety Orange rubis planted in 2004; and 1,096 m2 Sweet Cot planted in 2000.

Table – Summary of Christian's applications on apricot

Problem	Product	Active ingredient	Volume
Moniliosis disease Coryneum blight disease (shot hole)	Poltiglia Manica 20PB	Copper (20%) 6.0 kg	6.0 kg 24/02/06
Moniliosis disease	Folicur SE	Tebucanazole (4.35%)	1.6 litres 23/03/06
Moniliosis disease	Folicur SE	Tebucanazole (4.35%)	1.6 litres 04/04/06
Moniliosis disease, Cydia fruit moth, Coryneum blight disease	Nomolt Microthiol	Teflubenzuron (13.57%), Sulphur (81%)	0.32 litres, 1.2 kg 02/05/06
Moniliosis disease Anarsia peach twig borer Coryneum blight disease	Microthiol Trebon Star	Sulphur (81%), Ethofenprox (15%)	1.2 kg, 0.4 litres 29/05/06

Crop management data available via http://www.tdc.agriok.it

LIST OF PARTICIPANTS

Mario **Adua**
ISTAT Instituto Nazionale di Statistica
Via Rava 150
00142 Roma
Italy
adua@istat.it

Tomica **Ancevski**
MADE- Macedonian Association of Doctors for the Environment
Avnoj 82
1300 Kumanovo
Macedonia
mademkd@mt.net.mk

Khatuna **Akhalaia**
PTG-PR (Prior Trend of Georgia- Poverty Reduction)
Georgia
khatunaakhalaia1@yahoo.com

Gestioni **Aziendali**
Reg. Basilicata dip. Agricoltura
Viale della Regione Basilicata n.12
85100 Potenza
Italy

Daniela **Barraco**
Regionale Siciliana
Assessorato Agricoltura e Foreste
Osservatorio per le Malattie delle Piante
C.da Fanello, c/o Ortomedicato
97019 Vittoria
Italy
agril.controlloompct@regione.sicilia.it
dbaraco@omp-acireale.org

Maria **Benelli**
ICEA
Via Amerigo Vespucci, 3
58021 Gavorrano (Grosseto)
Italy
maria.benelli@libero.it

Valdimiro **Benvenuti**
Provincia di Roma
Via Villa Pampalli,100
00152 Roma (RM)
Italy
v.benvenuti@provincia.roma.it

Arjan **Berkhuysen**
Natuur en Milieu
Donkerstraat 17
3511 KB Utrecht
Netherlands
a.berkhuysen@natuurenmilieu.nl

Sonia **Cappelli**
Via Cogollo
4808 Ragusa (RA)
Italy
soniacaps@racine.ra.it

Daria **Casali**
Legambiente
Via Duse 11
40127 Bologna (BO)
Italy
dariacasali@libero.it

Gianni **Ceredi**
Apofruit
Viale della Cooperazione, 400
47020 Pievesestina di Cesena
Italy
Gianni.ceredi@apofruit.it

Grazia **Cioci**
Pesticide Action Network Europe
c/o EEB
Boulevard de Waterloo, 34
1000 Brussels
Belgium
grazia-paneurope@pan-uk.org

Sara **Contavalli**
Legambiente
Via Zena 125
40065 Pianoro (BO)
Italy
sara.contavalli@virigilio.it

Nicola **Corona**
Legambiente
per l'Agricoltura Italiana di Qualita
Via Salaria 403
00199 Roma
Italy
coronanicola@gmail.com

Giuseppe **D'Agrosa**
Regionale BASILICATA
Dipartimento Agricola. Sviluppo Rurale
Economia Montana,
Ufficio Qualita e Servizi
Viale della Regione Basilicata n.12
85100 Potenza
Italy
gidagros@regione.basilcata.it

Lorenzo **D'Avino**
CRA Consiglio per la ricerca e la Sperimentazione in Agricoltura
Via di Corticella, 133
40128 Bologna
Italy
l.davino@isci.it

Carol **Daniels**
PAN UK Volunteer
Trinity Financial

10 Curzon Road
Muswell Hill
London
United Kingdom
Carol.amnestycro@btopenworld.com

Paolo **Dimieri**
Dimieri Srl
Giovanon XXIII, 19
41015 Nonantola, Modema
Italy

Anna **Dinatale**
Regionale Siciliana
Assessorato Agricoltura e Foreste
Osservatorio per le Malattie delle Piante
C.da Fanello, c/o Ortomedicato
97019 Vittoria
Italy
adinatale@omp-acireale.org

Paola **Fagioli**
Legambiente Turismo
P.zza XX Settembre, 7
40121 Bologna (BO)
Italy
paola@legambienteturizmo.it

Angela **Fanfani**
V. F. Corrosdoni, 76
Ri
Italy
angfanf@tin.it

Anare **Farine**
3700 Tongeren
Belgium
anare.farine@telenet.be

Andrea **Ferrante**
AIAB- Italian Association for Organic Farming
Via Piave 14
00187 Roma
Italy

Francesco **Ferrante**
Legambiente
Via Monte Sabotino 28
35141 Padova
Italy
direzione@legambiente.com

Odone **Fior**
Progetto Natura
Via G.Marradi 41
59100 Prato
Italy
fior.o@progettonatura.com

Francesco **Fiorente**
Entomology consultant
Via Venturini, 55
47100 Forlì
Italy
f.fiorente@tin.it

Bernd **Freier**
Institute for Integrated Plant Protection
BBA
Stahnsdorfer Damm 81
14532 Kleinmachnow
Germany
b.freier@bba.de

Maria **Formisano**
Assiciazione Arca
Piazza Nazionale 96 A5
80100 Napoli (NA)
Italy
bioarca@tiscali.it

Ciro **Gardi**
Agricoltura
Journalist
P.zza Belluno, 4
40139 Bologna
Italy
ciro.gardi@unipr.it

Lew **Gerbilsky**
Green Doctors- ISDE Ukraine
Sevastopolska 23/6
49005 Dnipropetrovsk
Ukraine
greendoctors@ukr.net

Murree **Groom**
Ecospray
The Grange Farm, Cockley Cley Road
Hilborough, Thetford IP26 5BT
United Kingdom
jgromm@btinternet.com

Rina **Guadagnini**
Legambiente
LAIQ Office
Via Monte Sabotino 28
35141 Padova
Italy
r.guadagnini@legambienteagricoltura.it

Luigi **Guarrera**
AIAB- Italian Association for Organic Farming
Via Piave 14
00187 Roma
Italy
l.guarrera@aiab.it

Daniela **Guerra**
Member of Emilia-Romagna Regional Council (Green Party)
Italy
dguerra@regione.emilia-romagna.it

Manuela **Guglielmi**
Legambiente

Via Giovanni Fattoni, 25
40133 Bologna (BO)
Italy
manuela.guglielmi@libero.it

Andrea **Iodice**
CBC (EUROPE) Ltd.
Ufficio di Milano
Via E. Majorana, 2
20054 Nova Milanese (MI)
Italy
aiodice@cbc-europe.it

Maryna **Karavai**
Foundation for Realisation of Ideas
P.O. Box 21
220141 Minsk
Belarus
m.karavai@gmail.com

Manfred **Krautter**
Greenpeace
Große Elbstr. 39
22767 Hamburg
Germany
manfred.krautter@greenpeace.de

Ferenc **Laczó**
Center for Enviornmental Studies
Angyal utca 15/B
H-1094 Budapest
Hungary
laczo@ktk-ces.hu

Alessandra **Lazzari**
Organic Farm Ca'de Alemanni
Owner and General Manager
26030 Malagnino-Cremona
Italy
cadealemanni@libero.it

Daniel **Lesinsky**
CEPTA - Centre for Sustainable Alternatives
Nográdyho 39
960 01 Svolen
Slovakia
lesinsky@changenet.sk

Valentina **Lukova**
National Movement Friends of the Earth
Post box 39
Sofia 1113
Bulgaria
val_lukova@abv.bg

Rodolfo **Magne**
Swedish Society for Nature Conservation
Box 4625
SE-11691 Stockholm
Sweden
rodolfo.magne@snf.se

Stefano **Maini**
Universita di Bologna
Facolta do Agraria
Dipartimento Scienze e Tecnologie Agroambientali
Viale Fanin, 42
Bologna
Italy
stefano.maini@unibo.it

Stefano **Mantoan**
Via Rodigina SUD 11/a
37045 Legnago (UR)
stefano11a@libero.it

Elena **Manvelyan**
AWHHE- Armenian Women for Health & Healthy Environment
Baghramyan 24D, 609
375019 Yerevan
Armenia
elena@awhhe.am

Guiseppe **Manzaroli**
Bioplanet Soc. Coop. A.r.l.
Strategie di Controllo Biologico
Via Masiera prima, 1195
47020 Martorano di Cesena (FC)
Italy
sala@bioplanet.it

Giuseppe **Mele**
ALSIA Agenzia Lucana di Sviluppo ed Innovazione in Agricoltura
Via Monte Grappa, 1
75025 Policoro (MT)
Italy
giuseppe.mele@alsia.it

Hans **Muilerman**
Natuur en Milieu
Donkerstraat 17
3511 KB Utrecht
Netherlans
h.muilerman@snm.nl

Roberto **Musacchio**
Member of the European Parliament
Belgium
rmusacchio@europarl.europa.eu

Ivan **Nardone**
PRC
Resp. Naz.le Agricoltura
Italy
agricoltura.prc@rifondazione.it

Svetla **Nicolova**
Agrolink
50, Yanko Sakazov blvd
1504 Sofia
Bulgaria
Agrolink@bgnet.bg

Hans **Nielsen**

The Danish Ecological Council
Blegdamsvej 4B
2200 Kobenhavn N
Denmark
Hans@ecocouncil.dk

Lars **Neumeister**
PAN Germany (Advisory Board)
Berliner Str. 13, 17291 Fürstenwerder
Germany
lars.neumeister@gmx.net

Willem Tjebbe **Oostenbrink**
Milieukontakt International
Post box 18185
1001 ZB Amsterdam
The Netherlands
w.oostenbrink@milieukontakt.nl

Annalisa **Pallotti**
ISTAT Instituto Nazionale di Statistica
Via Rava 150
00142 Roma
Italy
pallotti@istat.it

Guglielmo **Pampiglione**
Entomology consultant
Via Montemaggiore, Valbega, 52
47016 PREDAPPIO (FC)
Italy
Pampiglione@bleuline.it

Sofia **Parente**
PAN Europe
56-64 Leonard Street
EC2A 4JX London
United Kingdom
Sofia-paneurope@pan-uk.org

Lucio **Passi**
LEGAMBIENTE
per l'Agricoltura Italiana di Qualita
via Monte Sabotino, 28
35141 Padova
Italy
l.passi@mangimipuliti.it

Giuseppe **Pennino**
Regionale Siciliana
Assessorato Agricoltura e Foreste
Via S. Giuseppe la Rena 32/a
95121 Catania (CT)
soat21@regione.sicilia.it

Gian Gaetano **Pinnavaia**
Alma Mater Studiorum
Universita di Bologna
Sede di Cesena
Villa Americi, Via Ravennate, 1020
47023 Cesena
Italy
ggpinn@kaiser.alma.unibo.it

Daniela **Rosche**
WECF- Women in Europe for a Common Future
Postbus 13-47
3507 LA Utrecht
The Netherlands
Daniela.Rosche@wecf.org

Sergio **Rossi**
SANA
Italy

Tiziana **Rotunno**
Universita di Parma
Via Ancona, 3
43100 Parma (PR)
Italy
tiziana.rotunno@unipr.it

Davide **Sabbadin**
Legambiente
LAIQ Office
Via Monte Sabotino 28
35141 Padova
Italy
d.sabbadin@legambienteagricoltura.it

Andrea **Sala**
BIOPLANET Soc. Coop. A.r.l.
Strategie di Controllo Biologico
Via Masiera prima, 1195
47020 Martorano di Cesena (FC)
Italy
sala@bioplanet.it

Matteo **Sandon**
Associazione Biorekk
Via SS Fabiano e Sebastiano,132
35143 Padova
Italy
biorekk@frege.homeip.net

Francesco **Savino**
CBC (EUROPE) Ltd.
Ufficio di Milano
Via E. Majorana, 2
20054 Nova Milanese (MI)
Italy
fsavino@cbc-europe.it

Alberto **Schiaparelli**
Corso Monte Cucco, 33
10139 Tirono
Italy
alberto.schiaparelli@alice.it

Maria Teresa **Schiavi**
ICEA Lazlo
Via R. Fucini, 21
00137 Roma
Italy
teresaschiavi@tin.it

Daniela **Sciarra**
Legambiente
Via Monte Sabotino 28
35141 Padova
Italy
d.sciarra@mail.legambiente.com

Miriam **Sconamiglio**
Il Poggio degli Scoiattoli
Via Montepacciano, 15
06100 Perugia (PG)
Italy
graziatobi@vergilio.it

Eraldo **Secchi**
Terremerse – territori e mercati in rete
Via Ca del Vento 21
48012 Bagnacavallo (RA)
Italy
esecchi@terremerse.it

Gergely **Simon**
Clean Air Action Group
Karoly krt. 3/A, Post. Box: 1676
1465 Budapest
Hungary
simong@levego.hu

Susanne **Smolka**
PAN Germany
Hamburger Str. 291
28205 Bremen
susanne.smolka@pan-germany.org

Maria **Staniszewska**
Polish Ecological Club
ul. Kaszubska 2
44-100 Gliwice
Poland
biuro@pkegliwice.pl

Tatyana **Stefanovska**
Sustainable Development and Ecological Education Centre
Stelmakha 7/2 of.3
Kyiv 03040
Ukraine
steftat@hotmail.com

Miroslav **Suta**
Society for Sustainable Living
Thámova 21
30100 Plseò
Czech Republic
miroslav.suta@centrum.cz

Alessandro **Triantafyllidis**
AIAB, IFOAM EU Group
Via Piave 14
00187 Roma
Italy

Harry **Van der Wulp**
Plant Production and Protection Division
Food and Agriculture Organization of the United Nations
Viale delle Terme di Caracalla
00100 Rome
Italy
Harry.vanderWulp@fao.org

François **Veillerette**
MDRGF- Mouvement por les Droits et le Respect des Générations Futures
7 Rue Principale
60380 Saint Deniscourt
France
mdrgf@wanadoo.fr

Milos **Veverka**
AIAB, IFOAM EU Group
CEPTA- Centre Sustainable Alternatives
Nogradyho 39
96001 ZVOLEN
Slovakia
milos.veverka@inter-net.sk

Carina **Weber**
PAN Germany
Nernstweg 32
22765 Hamburg
Germany
carina.weber@pan-germany.org

Helga **Willer**
FIBL- Research Institute of Organic Agriculture
Ackerstrasse, Postfach
CH-5070 Frick
Switzerland
Helga.willer@fibl.org

Stephanie **Williamson**
PAN UK
56-64 Leonard Street
EC2A 4JX London
United Kingdom
stephaniewilliamson@pan-uk.org

PAN Europe
Pesticides Action Network Europe

Development House, 54-64 Leonard Street
EC2A 4JX London, UK
Tel: +44 (0) 207 065 0920
Fax: +44 (0) 207 065 0907
Email: sofia-paneurope@pan-uk.org
Web: http://www.pan-europe.info