

Colloquium GRIFA about the Sustainable Use of pesticide: impacts, opportunity and problems

Matera, 7th Septembre 2010

OPERA's REFLECTIONS ON THE OUTCOME OF THE CONFERENCE

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During the Summer School GRIFA 2010 it was organized a seminar on the issue of the Sustainable Use Directive with two presentations made by Dott. Tiziano Galassi (responsible of the Plant Protection Service of Emilia-Romagna Region) and by Prof. Ettore Capri (Director of OPERA Research Centre) and with an electronic questionnaire where the participants of the meeting have been actively involved.

The Sustainable Use of pesticide directive (SUD): The Italian experience

Tiziano Galassi, did an exhaustive introduction about the Sustainable Use

Pesticide Directive. The text, in force in European Union by December 2009, has to be transposed in Member States within 14 December 2011. This means that each country, through the set up of National Action Plan (NAP) or adapting their national legislation, has to update indicators, inspection standards and training procedures,...

As explained by Tiziano Galassi, The National Action Plan points at protecting the environment, the farmers and all pesticides users, the consumer and people leaving near growing areas. To achieve these targets, education and training are fundamental to make people aware of plant protection products (PPP) consequences.

The SUD Directive aims to reduce the risk and impact of the use of PPP on human health and environment promoting integrated pest management practices (IPM) and alternative non chemical solutions. Particular attention is focused on application procedures and equipments: each MS has to provide training to all professional users, distributors and advisors and certify their proper knowledge about application, dilution, storage and waste treatment.

To ensure the protection of the environment and society, air-plane sprays are forbidden with extreme exceptions and in recreational areas, parks, public gardens and along roads and railways the application of PPP should be considered and some measures have to be taken.

In the opinion of Tiziano Galassi, inside the law it is possible to identify two levels of practices adoption, a compulsory one which has to be adopted by all farmers to implement basic IPM criteria, sets up all the measures enabling farmers to apply the solutions. Moreover, a voluntary level allows each country to draft national or regional guidelines for integrated production and their promotion through education programs and spurs. Furthermore, he also

underlined that there is one level more, that wants to promote organic agriculture but its reference is the Reg. 834/2007/CE.

In the Italian NAP, the Directive transposition reflects into two levels, a basic one and an advanced one comprehending not only national guidelines but also regional ones. Important is to remember that the Directive aims not to reduce the quantity of PPP applied but to reduce the risk deriving from the applications to improve the quality of the system.

Italy already has experience in the field of IPM in terms of measurable and spread of results. In 1996 was set up a National Scientific and technical Committee (M.D. no. 6750 of 05/09/1996) in charge of guarantee the respect of IPM principles and integrated weed control defined in agree between EU Commission, Italian Ministry of Agriculture and Italian Regions (No. C(96) 3864 of 30/12/96). Since agriculture is a regional competence, in Italy there are 20 different organisations for planning and implementing IPM. At the moment the Italian NAP is only a draft and hard work is needed on the compulsory level to obtain the final one. Future challenges will be increasing the relations with research structure to improve forecast

models and information systems adoption at farm level, in order to be able to spray and apply PPP only when it is really necessary and in the most efficient way and time.

Extracting value from the SUD

The presentation of professor Ettore Capri started with a quick introduction about OPERA, the research centre of the Università Cattolica del Sacro Cuore.

OPERA is an academy authority, an independent, no-for-profit- scientific think tank, committed to the successful integration of agri-environmental measures within European legislation, to help to achieve the desired objectives of the European Union Pesticides Package (Regulation EC No. 1107/2009, Directive 2009/128/EC, Directive 2009/127/EC and the statistics Regulation 1185/2009/EC).

It was recently established to answer to a particular need: using the science to discuss, to provide policy recommendations and to achieve pragmatic solutions. Using the science in the meaning of either using the potential of existing scientific research and knowledge either making new projects, in order to support stakeholders in their

political and technical decisions concerning agriculture.

As an independent think tank, OPERA is funded mostly by University while is also sustained by other stakeholders (Farmers associations, Industries, European Commission).

The presentation continued discussing one of the basic issues that still need to be solved also in relation of the SUD: defining sustainability.

There are more than 500 definitions in literature such as the famous Bruntland definition¹ in 1987 and the Resolution CST 1-2004².

However, there is not an agreement about the exact meaning of sustainability. What is commonly agreed is that it has to be treated using an holistic approach. That means that sustainability has to be seen as the sum of the interactions between three pillars (economy, social and environmental) that need to gain the same importance and priority.

Nowadays, there is not equality between them especially regarding the environmental and social aspects that practically are not considered as they should deserve. Thus, it is necessary to concentrate to the ethics to solve this problem and to achieve a sort of equilibrium between the three pillars.

Relating to the use of pesticides, the European Union tried to introduce the concept of sustainability using the so called European Union Pesticides Package or SUD package.

Referring from the SUD package, the main objectives are:

- a) professional education and information,
- b) reduction of risks and preservation of natural resources,
- c) integration of all available tools,
- d) measuring the performance.

To achieve them a critical part is represented by the need of making appropriate Nation Action Plans and necessary adjustments of the Member States national legislation.

To ensure a pragmatic and realistic approach they need to consider:

- a) the very strict authorisation system and promote a balanced IPM/ICM,
- b) the complex and incoherent legislative framework,
- c) the social, environmental and economical impact,
- d) economic crisis and food security issues.

Some ideas and solutions to reduce the risk deriving from the applications of

PPP and to improve the quality of the system are already available and here there are briefly described some examples:

➤ **Field Margins**

An efficient way to protect the aquatic environment, the drinking water supplies, the local biodiversity, the uncovered field from soil erosion and the village from spray-drift. They ensure a multifunctional use of the land providing controlled access to the countryside and enhancing the visual appearance of the landscape.

➤ **Biofilters**

Mixtures of natural substrates and microorganisms permit the clearness of chemical and farming wastes removing or at least reducing their toxicity.

➤ **Wetlands**

Important for the design and features in the landscape, the hydro-management and bioremediation (an example was implemented by the project Life Environment ArtWet)

➤ **Application technologies** (calibration of equipments, precision farming,...)

It consist to adopt more precise functioning, proper handling and regular inspection of application equipment in order to achieve operator safety, natural habitats preservation, water protection and risks reduction by drift for the bystanders.

➤ **Integrated Pest Management**

Is a part of a long term dynamic cropping system and a component of good farming defined as the integrated use of all available tools to control pests. The integrated management has to involve landscape, farm, crop and pest management. To implement them in the SUD are necessary either incentives than information and education.

➤ **Indicators**

SUD requires an harmonised set of indicators to evaluate the impact, the risk, the results and success of mitigation strategies. This has to involve social, and environmental aspects.

Thus, as prof. Ettore Capri underlined, the only way to solve problems and achieve a sustainable use of pesticides is to point on the innovation and technological improvements.

Moreover, he continued saying, that is not going to be enough: we need also to integrate the existing and new technologies with best-in-class farm management practices, organic and conventional, in order to develop a network of excellence and collaboration including all actors (farmers, industry, politicians, Academia, Authorities, NGOs, etc.) and also join up planned approach to rural development (e.g. agriculture, tourism, recreation, infrastructure, urbanisation, etc.).

Conclusions

The congress in Matera was a very useful occasion to discuss some of the main topics relating to SUD. Of course this was not an exhaustive event and what we can extract from this experience is the clear need showed by participants to discuss, share experiences and opinions and also the need to go into more deep about some particular topics. This is important especially to the fact that the SUD is likely to have a lot of indirect effects on the society, economy and environment that we need to discuss, forecast, evaluate and monitor.

This experience is just a part of a process that OPERA started this year trying to stimulate debates creating and participating to various events around Europe. That is going to continue and to improve in order to increasingly help policy makers through policy recommendations and pragmatic solutions always based on scientific research results.

Annex 1: Questionnaire for the participants

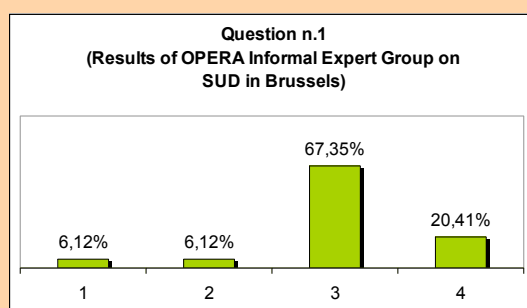
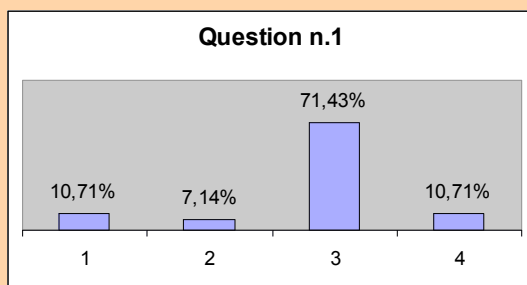
During the seminar the participants were requested to answer an electronic questionnaire on issues related to the implementation of the SUD directive. There were proposed 9 multiple-choice question covering three different subjects: impact, opportunity and problems.

Impacts

Regarding the impacts, it is interesting to note that the same questions have been already proposed during the OPERA Informal Expert Group on SUD on the 14th of June 2010 in Brussels. While in Brussels the participants were representatives from State Ministries, Universities, associations, NGOs and Companies; in Matera the participants were from the Academia (either university professors either postgraduate students).

1) Who is going to receive the major benefits of SUD?

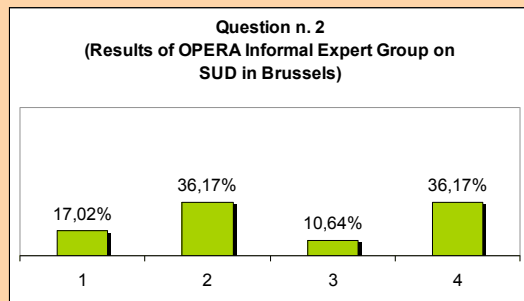
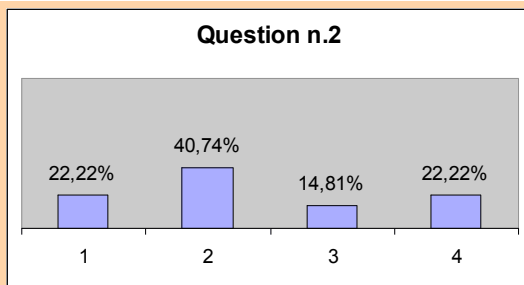
- a) Consumers, because they obtain safer food
- b) Farmers, due to the adoption of safer work practices
- c) Society, because of reduced environmental impact
- d) Importers, since increasing domestic prices, will improve very much their competitiveness on the internal market



In both events the answer c got the most part of the votes. However, in Brussels the last answer (d) got the 20,41% of the preferences that means the double than in Matera. This could be explained by the more sensitivity about the economical trade aspects of the participants in Brussels than the participants in Matera as a part of the pesticide scientific community. Anyway, in both events the most part of the participants, by voting the third answer, showed to believe that the SUD directive will achieve the main objectives previewed.

2) Do you think that the SUD could decrease the agricultural productivity in your country?

- a) Yes, because the production will be more work intensive
- b) Yes, because the costs of the inputs will increase
- c) No, because additional costs will be covered by an increase in production
- d) No, because our national law already includes some parts of the SUD

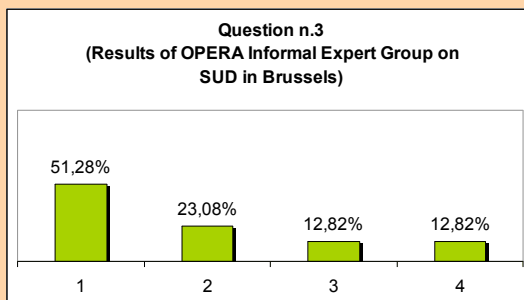
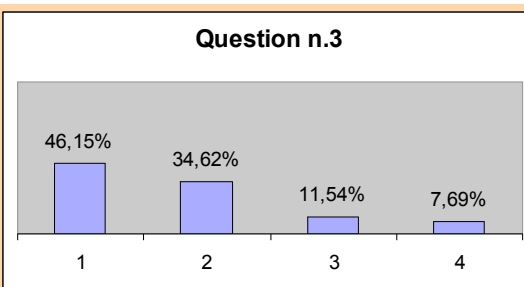


While in Brussels the answer b) and c) got the same amount of preference, in Matera this happened for the answer b) and d).

This result shows that while in Brussels there was a sort of equilibrium between the pessimistic and optimistic about the effects of the SUD in the agricultural productivity, here in Matera the most part of the participants has a strong concern that the SUD will decrease the agricultural productivity in the EU member states.

3) Parts of SUD are already present in some national legislation. However, it might represent a big financial burden for those countries that still have to adjust their business. Who do you think could be the most affected?

- a) Farmers
- b) Pesticide Industry
- c) Public administration
- d) Public administration but it will be a limited burden

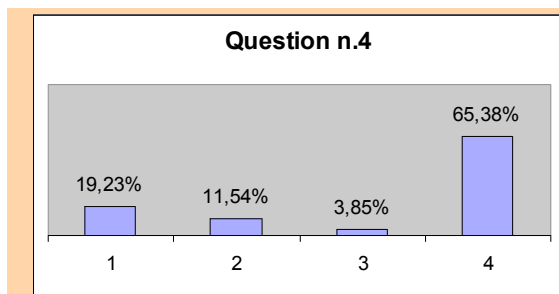


In both events, participants showed a concern for the negative effect of the SUD on the farmers. The difference is represented by the fact that in Matera the answer b) got more preferences taking votes from the public administration.

Opportunity

4) In what form do you think IPM should be promoted?

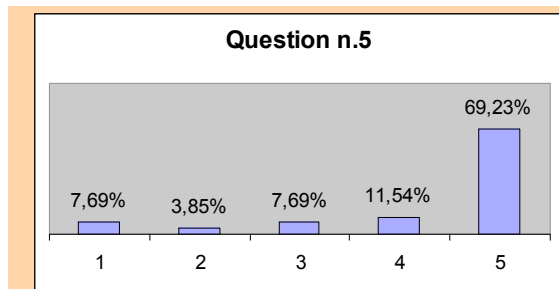
- a) Use only of products with the lowest risk to human health and the environment
- b) Switch to organic farming
- c) Use non chemical methods
- d) Integrated use of all available tools to control pests as a component of good farming



The most part of the participants voted for the last answer. It means the fact that IPM should be promoted not only as a new methodology where products and applications have to be coordinate in the appropriate way.

5) What would you think are the most important benefits that field margins provide to help achieve risk reduction?

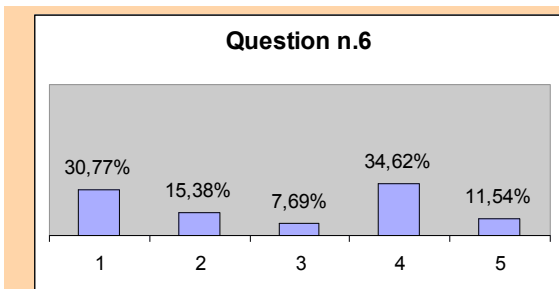
- a) Protect aquatic environment and drinking water supply
- b) Protect and provide habitat for biodiversity
- c) Prevent soil erosion
- d) Prevent spray drift
- e) All of the above



The most part of the participants chose the last answer showing the fact that field margins is a multi-scope solution and for this reason they represent an efficient option to reduce pesticide risk

6) Do you think that through the right application technology risk would be reduced significantly?

- a) Yes, since it provides a more precise treatment
- b) Yes, because it reduces drift and waste
- c) No, because it may have only a small impact
- d) Yes, because risk is generated by improper use and wrong practices
- e) No, because machinery already comply with strict regulations

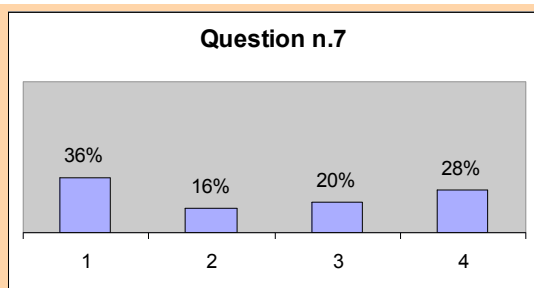


The answers at this question were more equilibrated. However, the negative answers c) and e) got the lowest number of preferences. Thus, the most part of participants believes that application technology can play a key role in order to reduce the risk from PPP.

Problems

7) What is in your opinion the most important step that should be taken regarding the transposition process of the SUD provisions into the National legislation?

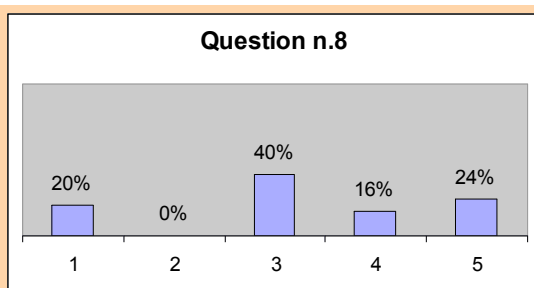
- Reviewing all phytosanitary national legislation in relation to the SUD provisions
- Drafting a new legislation by the MS authorities disregarding existing provisions
- Conducting an evaluation of the situation in practice and the existing voluntary initiatives
- Setting as compulsory into the national legislation, measures of the SUD provisions, at a minimum and encouraging voluntary initiatives



The most part of the participants voted for the first answer. However, every answer got relevant amount of preference showing the fact that is difficult to give priorities in the transposition process of the SUD.

8) Which kind of research can be useful to a sustainable use of resources?

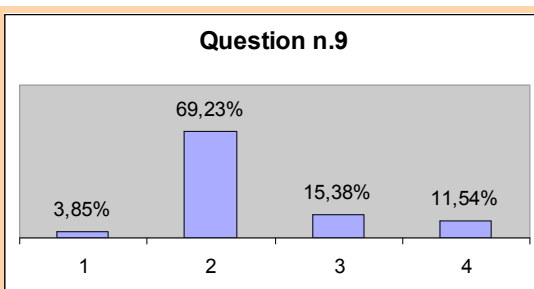
- Adopting Bio-Technology
- Developing new chemicals
- Doing green chemistry
- Acting with new formulations
- Applied biology (eg. implementing ecological infrastructure at farm level)



The third option got the most part of the preference. Although was not easy to choose between the different option, the second answer got zero preference: Participants (part of the scientific community) believe that chemicals available are enough to be useful in the sustainable use of resources.

9) How research can contribute to the achievement of the Sustainable Development?

- Providing quantitative models
- Giving scientific basis in order to support some proposals
- Obtaining financial aids
- Taking part in the public debate



Most part of participants chose the second answer confirming the fact that policies in general always need to be based and supported by science.