

Welcome introduction

It's a real pleasure for me to welcome you to La Grande Motte for this first ever ENDURE International Conference, 'Diversifying Crop Protection'. The fact that the ENDURE partners have agreed to entrust Cirad with its organisation is highly meaningful for me.

Cirad is involved in agronomic research for the sustainable development of tropical and subtropical countries, including the Mediterranean regions. Many of these countries have developed diversified agro-ecosystems and are facing high pest and disease pressure (much higher than in temperate countries) and this is obviously a source of knowledge that has not yet been exploited. Our world is global, and Europe is not isolated in that world. Therefore the responses of countries outside Europe towards their crop protection problems may impact significantly on Europe through importation of produce and possible introductions of new pests. On the other hand, the knowledge they gain from their own crop-pest systems may benefit European agriculture. Through its involvement in the ENDURE network, Cirad wishes primarily to facilitate a two-way dialogue and develop a fair scientific and technological partnership with these countries and, primarily, developing countries.

That is why I am very pleased to see that many colleagues from the 'south' wanted and were able to attend this meeting, and will be presenting some 25 reviewed communications (both oral and posters) out of 125 in total. Many other participants are present just to hear the presentations, look at the posters and meet colleagues in the worldwide crop protection community. I have no doubt they will have fruitful exchanges with their ENDURE colleagues, and will attentively follow the results and conclusions of Tuesday's workshop on 'Fostering the links between ENDURE and countries outside Europe'.

You are all gathered here to contribute to resolving the 21st century challenge of sustainable agriculture: 'How to ensure enduring food production with less impact on the environment and human health'. And, for sure, crop protection is one key element of that. Obviously the answer is not as simple as to ban all pesticides without any palliative or alternative solutions. That is why we have to work together around the concept of 'Ecological Intensification' developed by our colleagues Michel Griffon and Bernard Chevassus-au-Louis. This concept assumes that rather than fight against the ecological mechanisms, we have to use them for a more natural and smooth production. This is linked to an increase of investment in knowledge so as to understand the basic mechanisms of interactions in agro-ecosystems.

However, this ecological and biological knowledge is simply not sufficient to ensure the implementation of alternative crop protection strategies. Many solutions have been proposed over the past decades, but few of them have been actually implemented successfully. And in most cases it has been simply because either the scale of study was limited to the field (and even the plot) and simply ignored the landscape all around, or socio-economics parameters were simply not considered (or both!). To enlarge the scales of studies and to bring together plant protection specialists with economists and sociologists is, for sure, one key point ensuring the relevance of this network.

This integrated approach of ecological intensification is one of the six priorities of our institution and we actively invest in these fields.

In this respect the place of Cirad in the network is not limited to making a link with countries outside Europe but - and I have not even mentioned external communication which is contributing to ENDURE's visibility in the scientific community - Cirad contributes actively through its research units to the building of knowledge. And sharing its experience in extra-European countries and overseas regions of Europe with mainland situations will be highly fruitful for the network.

I would just take one example: banana crops. I have heard that it was not so natural for all ENDURE partners to accept banana as a case study, since for most people bananas are not a European crop. But they are! Not on the mainland, of course, but it is a major crop in Martinique, Guadeloupe, Canaries and Madeira. In addition, it is a highly relevant case study. Not so long ago, banana was identified as one of the crops with the most negative impact on the environment, because of the amount of pesticide which was applied. And, unfortunately, it was true. However, as a result of the intensification of research and the increase in knowledge, the amount of applied pesticides in banana

cropping systems in Martinique and Guadeloupe has been cut by two-thirds (10kg per year and per Ha to 3) over the past decade. Meanwhile, overall production has increased by 16% over the past seven years. This definitely proves that more environmental friendly crop protection strategies may coincide with improved productivity.

I am quite sure that cropping systems on the European mainland may profit from the experience of what has been done in bananas. Conversely our banana team may learn from the experience of their ENDURE colleagues.

Cirad research has made many contributions to ENDURE, and I won't detail them here. But you will hear or see here in La Grande Motte some other Cirad contributions bringing together partners from extra-European countries (rice in Madagascar, Periurban agriculture in Cameroon, Coffee in Salvador etc).

Therefore, I wish you a very constructive conference, and hope you will have a very enjoyable memory of your stay here in La Grande Motte.

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