

Introduction to the Phytotechnics session

Antoine Messéan

CETIOM, Centre de Grignon BP 4 78850-Thiverval Grignon (France)

This session about advances in phytotechnics has been organized by Phil Thomas and myself. Unfortunately, Phil cannot attend this technical meeting and I want to thank him as he did a lot in the preparation of our session. In introduction of the session, I would like to make some introductory remarks about what have been the main areas of research in the field of phytotechnics since 1999 and the last rapeseed congress at Canberra.

During the final session of the Canberra congress, Phil Salisbury presented the main highlights of the congress and pointed out some future directions for research.

With respect to the field of phytotechnics, Phil mentioned four objectives for research :

- Complete all the components for an Integrated Crop management package,
- Design production rules for specialty products,
- Design new production systems, eg direct drilling,
- Get a better understanding of the role of canola in rotations.

Since Canberra, there has been considerable research in these fields in order to design more integrated crop management and new production systems :

- Understanding the role of canola in rotations has become one of the major concerns for canola, especially in Europe with the reform of the Common Agriculture Policy which pays more attention to rural development and environmental issues ;
- More sustainable management of disease resistance, required by new agricultural framework, has been made easier by the development of knowledge. In the case of *leptosphaeria maculans*, we are able to assess the impact of resistance source on the behaviour of field populations and to try to build new sustainable strategies limiting the selection pressure within the fields.
- In the field of GMO's, apart from the increased knowledge on volunteer behaviour and outcrossing, there have been more and more studies about global assessment of GMO's impact in production systems. Collaborative research between countries and long-term studies have been developed. Integrated approaches are used to assess this impact : specific experiments for pollen dispersal or outcrossing studies, modelling to aggregate knowledge and simulate long-term behaviour of volunteers for example and monitoring approaches, both for commercial crops in Canada and large scale experiments in Europe.

The papers presented in this session do not cover all the areas of research but illustrate the global effort made for designing more sustainable production systems with rapeseed.