

ANDREA CHINI “JAMES RENNIE BEQUEST” REPORT

Conference Title:	6 th conference of the European Foundation for Plant Pathology
Travel Dates:	8 th – 13 th of July 2002
Location:	Czech University of Agriculture, Prague – Czech Republic
Group Member:	only me, Andrea Chini
Aims:	to be aware of the most recent scientific results on plant disease and plant-pathogen interactions; possibly to organise future collaborations with European group that excel in these research.

OUTCOME

The 6th conference of the European Foundation for Plant Pathology had a number of pungent aims, focusing on important developments in all aspect of disease resistance in plant pathology. Surely, particular attention was paid to improve the scientific understanding of plant disease and host-pathogen interactions, which are two of the main components of my PhD research project. Hence, the travel grant awarded to me had permitted to perceive the latest data on these topics. The conference was held in the Czech University of Agriculture based in Prague. Therefore, the organisers paid particular attention to bring together scientists and plant pathologists from Western Europe and the former East Europe.

In order to achieve in organizing an outstanding scientific programme in all aspects of disease resistance in plant pathology, the conference was arranged into four major themes: Plant Disease, Host-Pathogen Interaction, Resistance and Disease Management. World-class speakers were invited to present the latest results of their research projects in one-hour lectures. Furthermore, a large number of short presentations were selected from attendees: this unrestricted and friendly choice created thought-provoking atmosphere where scientists from various countries, divers background and with different experiences (from group leaders to young PhD students) were able to present their work.

Unquestionably, this opportunity stimulated an exciting and open discussion, where scientist from various fields tried to forge a realistic reflection of the reality. Indeed, particular attention was always paid to contribute toward effective and sustainable disease management in practice.

The conference officially started Sunday the 8th of July with registration of attendees and welcome cocktail party animated by the presence of a live group playing traditional Czech music. The real conference begun the day after and took place for four intense days. The opening lecture was presented by Prof. Kudela (Research Institute of Crop Production, Prague, Czech Republic), who reported a comprehensive summary of plant pathology (and plant pathologists) in the Czech republics.

In addition, Dr Pink (Horticulture Research International, Warwick, UK) discussed the plant resistance and strategies for breeding resistant varieties: he explained the reasons why the production of resistant varieties did not lead to a permanent means of controlling plants disease and how to improve our knowledge in this field. Furthermore, Prof. Martelli (Istituto di Virologia Vegetale, CNR Bari, Italy) gave a lecture on critical appraisal of non conventional resistance to plant viruses. Besides the presentation of the latest results of transgenic resistance to plant viruses and the success of virus-resistance cropping, he argued that in Europe there is still a widespread sentiment against agriculture biotechnologies and the use of genetically modified plants in particular. Yet, experimental evidence is accumulating that feared risks associated with genetic transformation are minimal, if not negligible, in many cases.

The programme was at that time divided in twelve different sections, but none of them were in parallel, hence all the attendees had the opportunity to frequent all the presentations and discussions. Undubiously there were a large number of interesting and provoking presentations, however I would like to report a short summary of few, outstanding lectures.

Prof. Elstner (Lehrstuhl für Phytopathologie, Technische Universität München, Germany) synthesised a model describing the sophisticated set of chemicals utilised by plants as defence signals. He succeeded to elucidate the complex corporations of reactive oxygen species (H₂O₂), hormones (ethylene), calcium fluxes, small effector molecules (salicylic acid, nitrogen oxide) and protein phosphorylation that yield defence responses such as phytoalexin- and PR-protein synthesis and sealing of wounds by callose and lignin.

An excellent presentation was offered by Prof. Michelmore (Department of Vegetable Crops, University of California, USA) on the genomic approaches to natural and artificial evolution of plant disease resistance genes. Besides the introduction of an *in vitro* DNA shuffling to determine the functional consequences of genomic rearrangements, Prof. Michelmore also presented the “birth-and-death” model, which describes the evolution of defence genes, using data on the relative frequencies of genetic events in cluster of resistance genes in *Arabidopsis*, tomato and lettuce.

Finally, the last presentation I would like to mention was offered by Dr Holub (Horticulture Research International, Wellesbourne, UK) on genetics of disease resistance in *Arabidopsis* to crop pathogens. Dr Holub presented a very practical research focused on the identification of R-genes in *Arabidopsis* that are responsible for conferring resistance to brassica pathogens, and could therefore be used to proffer defence to the same pathogens in a crop such as vegetable brassicas.

Furthermore, a large number of presentation contributions were focused on an effective and sustainable disease management in practice. In addition, attendees had the opportunity to observe and discuss more than one hundred posters. The research projects presented in the poster session summarised a very wide range of fields in plant pathology. It was very edifying, stimulating and enlightening to learn and discuss the results of such research with scientists coming from all over the world (even though most of the attendees came from Europe).

In conclusion I would like to remark the open discussion that concluded the conference. Although a minority of the attendees was present, a vivid and interactive debate on genetically modified organisms took place. The conclusion I would like to report here, which is just part of that discussion, is that perception and

feeling on GMO, both for basic research and commercial application, from scientific community and general public are very divergent. This had been caused by a number of events and communication mistakes that drove the public opinion to perceive scientific reports with mistrust and suspect.

Apart from the improvement of the scientific understanding of plant disease and host-pathogen interactions, in the next few years the regain of the public opinion trust and confidence in scientific research will be a major challenge the we can not afford to loose.