

FELLOWSHIP SUMMARY REPORT

- Professor Stephen Powles
- Host Institution: INRA, Dijon, France
- Evolved herbicide resistance in plants.
- Host supervisor: Dr Xavier Reboud

Fellowship Period: June 1st to September 10th 2009

- I consent to this report being posted on the Co-operative Research Programme's website, or alternatively, a short paragraph about my fellowship to be used.

1. & 2 Relevance & Objectives of the Fellowship.

- I believe this fellowship was very relevant as I addressed a significant existing problem in world cropping. This is the evolution of herbicide resistance in weed plants subjected to herbicide control in world cropping. Currently, herbicide resistance is mainly a problem of economically developed nations but is now looming in developing nations. My host institution, Unite du Biologie et Gestion des Adventices, INRA, Dijon, France has very significant expertise in this area. My 3.5 month sejour in this programme enabled me to cement collaborations, build new collaborative work and to intensively write a major review. All of this I believe to be very relevant to the OECD CRC sustainable agriculture programme.

3. & 4. Major achievements & Follow up

1. During the sejour in Dijon I wrote a major review with the title “Evolution in Action: Herbicide Resistance in Plants”. This will be published in the 2010 edition of the prestigious Annual Review of Plant Biology. The Annual Review of Plant Biology is the highest impact plant science journal. It has an impact factor of 22 and is universally regarded as the number one journal in global plant science.
 2. I held in-depth discussions with INRA researchers, particularly Dr’s Henri Darmency, Xavier Reboud, Jacques Gasquez and Christophe Delye. This was important in a gene flow study we are conducting in 2009 in Australia with GM Roundup Ready canola. As a result of this sejour in Dijon it was organised for INRA researchers to visit our laboratory. INRA researcher Dr Henri Darmency is currently visiting my laboratory during the time that field gene flow experiments are in progress (late October/early November 2009). INRA researcher Dr Nathalie Colbach will visit our laboratory in late November 2009.
 3. Experiments were conducted with INRA researcher Dr Christophe Delye and colleagues on gene flow in *Lolium rigidum* between conventional and organic farms. This will lead to a publication in an international journal.
- Therefore the fellowship has cemented collaboration between our laboratory and the host institution and has led to new collaboration. This research will not result in protected intellectual property.

5. Satisfaction

- The fellowship met and exceeded my already high expectations.
- The fellowship will not directly impact my career.
- I did not encounter any problems at all.

6. Advertising the Co-operative Research Programme

- I learnt of the Co-operative Research Programme from the Academy.
- To increase the profile of the programme identify ways to utilise web based networks to advertise the scheme.
- I have no other issues to record other than to offer my thanks for the fellowship and re-iterate that I believe I used this time wisely and productively.

Professor Stephen Powles,
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University of Western Australia.