FINREP94

COTTON RESEARCH AND DEVELOPMENT CORPORATION

Final Reports

Corporation's Codes: US25C/US26C/US27C

Project title : **Travel Grants to Attend the Eighth International Congress on Pesticide Chemistry (IUPAC), Washington DC**

Recipients: I.R. Kennedy
Stephen W.L. Kimber
Sebastian Southan

Organisation: University of Sydney

Principal Researcher &
Project Supervisor: Ivan R. Kennedy BSc(Agric) PhD DSc(Agric)

Postal Address: Department of Agricultural Chemistry and Soil Science, University of Sydney, N.S.W. 2006

Telephone : 02-351-3546 Facsimile : 02-351-5108
Email: kennedy@spiro.biz.usyd.edu.au

A final report prepared for the Cotton Research and Development Corporation

SUMMARISED REPORT

Supplementary funding was provided by the CRDC allowing three personnel ($1750 each, $5,250 total) from the pesticide chemistry group to attend the 8th International Congress on Pesticide Chemistry, held in Washington DC from July 4-9, 1994. Additional funding was provided by personal contributions (ca. 25%) and a University travel grant for postgraduate students. I.R. Kennedy also travelled to the Pasteur Institute in Paris, France in connection with a collaborative research program on nitrogen metabolism, with travel costs partly covered by an Australian Research Council grant. Alice Lee, a CRDC Research Scholar working on the development of immunoassays for pesticides, also attended, funded separately.

The following positive outcomes of this travel grant were obtained:

- three research papers derived from the PhD programs of each student were presented (see below). These papers (presented in the poster sessions) were well received and numerous contacts with other foreign scientists resulted

- several workshops held throughout the congress were relevant to our research program. In one, the effect of ultraviolet radiation on breakdown of volatilised pesticides was discussed. Although evidence on endosulfan was not presented, an informal contact with Dr. Dorn of the Hoechst company indicated that studies showed the half-life of free endosulfan in the atmosphere would be 2-3 days only in latitudes such as those used to grow cotton in Australia

- another workshop on bioremediation of water and soil from pesticides indicated the usefulness of blue-green algae (cyanobacteria) in pesticide breakdown. The use of these organisms for this purpose has now been incorporated into the research program (SU113) of the CRC for Sustainable Cotton Production

As well as attending the Congress, visits were made to several research and regulatory centres in the USA and Canada. The US EPA was visited by I.R. Kennedy and a number of useful contacts made and publications obtained. All of the party also visited the Department of Environmental Biology at the University of Guelph, Ontario Province, Canada. Programs on environmental protection appear to be several years more developed in Canada than they are in Australia. Guidelines and Best Management Practices were introduced several years ago for all agricultural industries. These programs all involve a heavy degree of grower participation and a minimum of legal regulations. The development of Farm Environmental Plans is also now well advanced.

Subsequently, Professor Ron Harris, Chairperson of the Department of Environmental Biology has been invited by I.R. Kennedy to Australia to participate in research programs on environmental protection being conducted on behalf of the cotton industry here as part of the CRC for Sustainable Cotton Production. In addition, he was commissioned to conduct a review of the research projects in the LWRRDC/CRDC/MDBC Joint Program on "Minimising the impact of pesticides on the riverine environment using the cotton industry as a model".

Conclusion:

The CRDC travel funding (US26C/US27C) has significantly advanced the professional skills of the two postgraduate students and extended their range of contacts with other scientists in the area of crop protection chemicals. It has significantly raised the profile of the research on environmental protection being funded by the Australian cotton industry through the three papers presented. Finally, it has already led to international links being set up between the CRC for Sustainable Cotton Production and the University of Guelph.

The recipients of this travel assistance would like to express their appreciation.

Ivan R. Kennedy PhD DSc(Agric)
Professor in Agricultural & Environmental Chemistry
CRC for Sustainable Cotton Production
The University of Sydney

January 12, 1996

Table 1 Total Funding

Recipient	Funds expended ($), 1994/95
S.W.L. Kimber	1750
S. Southan	1750
I.R. Kennedy	1750
Total	5250

Publications at Congress

Kimber, S.W.L., Coleman, S., Caldwell, R.A. and Kennedy, I.R. (1994) The environmental fate of endosulfan sprayed on cotton. *Abstracts 8th International Congress for Pesticide Chemistry,* Washington DC, USA July 4-9. p. 234.

Lee, N., Skerritt, J., McAdam, D., Beasley, H. and Kennedy, I. (1994) Detection of endosulfan and toxic metabolites in water and soil by enzyme immunoassay. *Abstracts 8th International Congress for Pesticide Chemistry,* Washington DC, USA July 4-9, p. 60.

Southan, S. and Kennedy, I.R. (1994) Studies on the degradation of endosulfan in soils and sediments of the cotton-growing regions of northern New South Wales. *Abstracts 8th International Congress for Pesticide Chemistry,* Washington, July 4-9, p. 248.