

PROJECT COMPLETION SUMMARY SHEET (PCSS)**DATE Sheet Completed: 15 March 2005**

Project Title:	Coconut lethal yellowing disease: development of new diagnostic tools and laboratory support to promote their application	
DFID Project Reference No:	R8309	
Programme:	Crop Protection Programme	
Programme Manager (Institution):	Dr Frances Kimmins (NR International)	
Sub-Contractor (project leader's institution)	Rothamsted Research	
Production System:	Land/Water Interface	
Programme Purpose:	Benefits for poor people generated by application of new knowledge on crop protection to coconut based systems at the Land/Water Interface.	
Commodity Base:	Coconut	
Beneficiaries:	Coconut smallholder farmers	
Target Institutions:	OPRI, Coconut Program, Takoradi Ghana	
Geographic Focus:	Africa	
Total Cost:	£23,696	
	Planned	Actual
Start Date:	1 September 2003	1 September 2003
Finish Date:	31 March 2005	31 March 2005

1. Project Purpose:

The major objective of this project was to develop new diagnostic tests for Cape Saint Paul Wilt disease of coconuts based on serological methods using monoclonal antibodies raised at Rothamsted Research. The project also provided scientific support to the coconut rehabilitation programme in Ghana by refining, validating and supporting scientific staff at the Takoradi Laboratory. The diagnostic methods would be designed to enable early detection of the CSPW phytoplasma without destructive sampling of palms. This would facilitate the reliable screening of new varieties for resistance to the disease and enable other control measures such as timely phytosanitary measures to be evaluated.

2. Outputs:

The following outputs were achieved:

- Standard operating procedures for non-destructive sampling of palms for serological and PCR tests developed, validated and documented in a form suitable for adoption by users in developing countries.
- Standard operating procedures transferred to CRP laboratory at Takoradi and skills updated.
- Laboratory experimental reporting procedures established.
- A diagnostic laboratory to fully support the needs of the Coconut rehabilitation project. These outputs planned in the PMF were not achieved in full
- Validation of monoclonal antibody ELISA tests by parallel PCR assays.
- Evaluation of the needs and opportunities for linkage with the forthcoming CFC project and terms of reference
- Under a suitable agreement with (PD, develop, produce and evaluate a trial batch of diagnostic kits, and draft agreements for subsequent licensing, production and commercial sales.

3. Contribution of Outputs to Project Goal:

The project failed to achieve all its planned goals. This was due to two factors.

1. Our failure to revive the monoclonal cell lines following storage in liquid nitrogen. This meant that the validation of the ELISA and PCR results could not be done and the agreement to proceed to the development of a field assay with a lateral flow device did not go ahead.
2. Lack of information from the CFC lethal yellowing project to enable the scoping visit by SJEG.

However in spite of this the project did achieve the outputs 1, 2 and 4 which established standard operating procedures at the molecular biology laboratory in Takoradi. For the sampling, processing and reporting of results.

4. Publications:

No publications have been produced

5. Internal Reports:

PPR January 2005
PPR September 2004
BTOR July 2004
BTOR February 2004
Activities for Takoradi lab February 2004

6. Other Dissemination of Results:

JONES, P. (2004) Development of a lateral flow test for coconut lethal yellowing. Presentation at CimBios Link2Palm symposium, April 2004.

JONES, P. (2004) Sero-Diagnostics for lethal yellowing. Presentation at APS-CD Conference, La Habana Cuba May 2004.

7. Listing and reference to key datasets generated:

JONES, P. and JONES, P. (2004) Standard Operating Procedures (SOPs), Takoradi laboratory: Protocol 1 Trunk sampling; Protocol 2 CTAB extractions; Protocol 3 Qiaprep and PCR; GLP Takoradi lab.

JONES, P. and HALSEY, K. (2004) Data from Mab ELISA screen of CSPW affected palms. Rothamsted Research.

JONES P. and HALSEY K. (2004) Raw data of Mab ELISA screen of Florida CLY palms. Rothamsted Research.

JONES, P. and HALSEY, K (2004) Data from Mab Elisa screen of palms affected by Lethal Decline (Tanzania). Rothamsted Research

8. Follow-up indicated/planned:

No follow up anticipated.

9. Name of author of this report:

P. Jones