

Final Report to Cotton Research and Development Corporation



Project CSP77C

ACRI Computer Network Support

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**CSIRO
PLANT
INDUSTRY**



Report Cover Sheet for Annual & Final Reports

The following Reporting Requirements MUST BE MET

All Projects

You must submit an **ANNUAL PROGRESS REPORT** by the first Friday in February 1999, detailing the progress of your research. NOTE: IF you are seeking continuation of funding for 2000–2001 for the project, this report will form the basis for CRDC's consideration of ongoing funding. Please complete the budgetary requirements if this is a continuing project.

Terminating Projects

A **FINAL REPORT** must be submitted within three months of completion of the project. This applies in **ALL** cases including research projects, travel, conference attendances, postgraduate, postdoctoral and funded capital items.

Tick Report Purpose

Annual Progress Report (Due 1st Fri Feb. to determine continuation of funding)

Final Report (Due 30 September or 3 months after completion of project) ✓

Actual start date:
1/7/96

Anticipated completion date:
30/6/99

OFFICE USE ONLY:
Date of receipt:

Project title (as per original application)
ACRI Computer Network Support

CRDC Project Code
CSP77C

CRDC Responsible Director (if known)

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Final Report ACRI Computer Network Support CSP77C

What was the background of the project?

CRDC has for many years supported the development and maintenance of computer systems at The Australian Cotton Research Institute, Narrabri. These computer systems have benefited all research programs through their use in data processing, storage, statistical analysis, modeling and the development of end-user packages. In addition the network services located at ACRI provide printing services and communication which includes e-mail.

The development of the Internet in recent years has provided a means of communication and also dissemination of information. A dedicated World Wide Web server is now located at ACRI. This has enabled information and systems developed at ACRI to be made available immediately to the Cotton Industry (e.g. updates to CottonLOGIC). Data published on this server includes daily weather data downloaded from weather stations in the cotton growing regions.

With the increase in computing power and staff at ACRI, the need for sustained technical support directly to the user has expanded. Support for these services is imperative to the proper functioning of the research station.

What were the project objectives and to what extent were these achieved?

Project Aims:

1. To provide full time support for computer hardware and network services at ACRI, Narrabri.
2. Facilitate the connection of industry users to on-line services developed by the Cotton CRC.
3. To provide support and assistance to researchers and other users of the ACRI computer network.
4. To facilitate the introduction of new technology to improve communication and information management among the cotton research community and Industry users.

Despite many changes in staff associated with this project the computer and network support services at ACRI were maintained for the duration of the project. In addition many substantial improvements to computer and network services were implemented. Reliability and accessibility of the computer network, e-mail and Internet services are now exceptional. Many of these improvements has allowed the use of these services at ACRI to directly benefit the cotton industry through improved communication and industry access to Cotton CRC website. A brief summary of significant achievements are outlined below:

July 96 – June 97

- Memory of DEC Alpha server upgraded from 64 – 128
- IBM file server upgraded with extra processor and 4.5 GB hard drive
- New backup tape unit implemented for weekly backups.
- WWW server setup on DEC Alpha server

- Rowan Gronlund appointed Dec. 1996
- CSIRO breeding shed re-cabled with Cat 5 cabling
- Two 2KVA Uninterrupted Power Supplies purchased and installed in computer room
- Alpha Server replaced with Dual Processing Intel Server (Sicala)
- Exchange 5.0 installed on Sicala – E-mail Services
- Data entry program written for ginning shed

July 97 – June 98

- Main Building, Technology Resource Centre, Old Insectory recabled with Cat 5 cabling
- Hubs, switches and routers for new cabling purchased and installed.
- Decommissioned old network
- Laid optic fibre to most remote buildings from main ACRI building
- Dialup Networking enabled.
- Rowan Gronlund resigns February 1998.

July 98 – June 99

- Anthony Pfeiffer appointed May 1998.
- ACRI computer room modified into offices and server room.
- Reorganized computer room to conform to OH&S standards
- Cat 5 points labeled and faulty/illegal flyleads replaced.
- CD Stacker installed.
- Port on network switch reconfigured to increase bandwidth from 100 to 200mips.
- Maps, costing and scope of works prepared for voice and data re-cabling of Myall Vale to Krone 20/20 standards.
- Hardware & Software list for Year 2000 have been produced and sent to CSIRO Canberra.
- Year 2000 Hardware & Software check 90% complete
- New & old insectories now connected to Network
- Dept. of Ag. users reconfigured to use their own WWW and ISDN line
- ISDN link speed increased by 35%.
- Reconfigured old Toolman server to be dedicated WWW Server.
- Installed new data server – Toolman
- Implemented daily backup of data.
- Implemented weekly backup of email.
- Installed/Configured new mother board in HVI
- Automated virus scan on all servers.
- Automated defragging of data server – Toolman
- Upgraded Exchange 5.0 to Exchange 5.5 – Email services
- Implemented Raid5 and mirroring on all three servers to reduced the network down time to almost zero.
- New UPS purchased for computer room
- Additional data drives installed in Toolman server
- Install and automated virus scan on incoming/outgoing emails.
- New I.T. policy manual for Myall Vale awaiting approval

What Methodology was used, and a justification for the use of this methodology?

Not Applicable

Detailed results including statistical analysis of results?

Not Applicable

A discussion of the results, including an analysis of research outcomes compared with the objectives?

Not Applicable

An assessment of the likely impact of the results and conclusions of the Research project for the Cotton industry, and where possible a statement of the costs and potential benefits to the Australian Cotton Industry and future research needs?

CRDC has for many years supported the development and maintenance of computer systems at Australian Cotton Research Institute, Narrabri. These computer systems have benefited all research programs through their use in data processing, storage, statistical analysis, modeling and the development of end-user packages. At times the Industry has directly benefited through connection to SIRATAC, and other programs made available on-line.

Prior to the commencement of this project, CRDC funded capital programs to replace the aging VAX equipment with modern servers that are accessed via a sophisticated Local Area Network (LAN). This program has also seen the replacement of dumb terminals with powerful PC workstations on the users' desks, giving them greater processing power and access to secure file storage. The servers are now used more for file and print services and communication services including E-mail.

The development of the Internet in recent years has provided a means of communication and also dissemination of information. In the first year of this project, a World Wide Web server was set up at ACRI. This has enabled information and systems developed at ACRI to be made available immediately to the Cotton Industry. Data published on this server includes daily weather data downloaded from weather stations in the cotton growing regions.

The publication of these data is at present a manual process. Software developed by a CRC project will automate this process in the near future. However, full time support of the server and network hardware itself is required to operate the system. With the increase in computing power and network software on ACRI desks not to mention the increase in personnel at ACRI, the need for technical support directly to the user has increased.

A description of the project technology (eg commercially significant developments, patents applied for or granted, licences, etc)

Not Applicable

A technical summary of any other information developed as a part of the Research Project including discoveries in methodology, equipment design, etc.

Not Applicable

Recommendations on the activities or the steps that may be taken to further develop, disseminate, or exploit the project technology

A new project similarly titled 'ACRI computer network support CSP108C' has been funded by the CRDC to maintain the computer and network services at ACRI.

A list of publications arising from the research project

Not Applicable

PLAIN ENGLISH SUMMARY

Project Title: ACRI Computer Network Support

Principal Researchers: Dr M.P. Bange and Mr. R. Gronlund/Mr. A. Pfeiffer

Project Aims:

1. To provide full time support for computer hardware and network services at ACRI, Narrabri.
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4. To facilitate the introduction of new technology to improve communication and information management among the cotton research community and Industry users.

CRDC has for many years supported the development and maintenance of computer systems at Australian Cotton Research Institute, Narrabri. These computer systems have benefited all research programs through their use in data processing, storage, statistical analysis, modeling and the development of end-user packages. In addition the network services located at ACRI provide printing services and communication which includes e-mail.

The development of the Internet in recent years has provided a means of communication and also dissemination of information. A dedicated World Wide Web server is now located at ACRI. This has enabled information and systems developed at ACRI to be made available immediately to the Cotton Industry (e.g. updates to CottonLOGIC). Data published on this server includes daily weather data downloaded from weather stations in the cotton growing regions.

With the increase in computing power and staff at ACRI, the need for sustained technical support directly to the user has expanded. Support for these services is imperative to the proper functioning of the research station. A new project similarly titled 'ACRI computer network support CSP108C' has been funded by the CRDC to maintain the computer and network services at ACRI into the future.