



COOPERATIVE
RESEARCH CENTRE
for
VITICULTURE



Program 4 Manager Libby Boschen giving a presentation to the CRCV Board at its recent meeting in Adelaide.

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Cooperative Research Centre for Viticulture

The University of Adelaide

The National Wine and Grape Industry Centre (Charles Sturt University, NSW Agriculture)

The Australian Wine Research Institute
CSIRO Division of Horticulture

Department of Natural Resources and Environment, Victoria

Minister for Primary Industries, South Australia

The Australian Dried Fruits Association Inc.
Winemakers' Federation of Australia Inc.

Winegrape Growers' Council of Australia Inc.

Grape and Wine Research and Development Corporation

The Dried Fruits Research and Development Council

New CRCV begins its seven-year term

The new Cooperative Research Centre for Viticulture is in full swing and its Board recently met at its base at the Plant Research Centre on the Waite Campus, in Adelaide.

The new Centre got underway following the setting up of a clearly defined, fully planned program of research, education and training, agreed to with industry through the industry-driven Viticulture 2000 Group.

The CRCV's principal objectives are to accelerate quality viticultural management from vine to palate, ensuring the economic and environmental sustainability of Australia's grapegrowing industries through nationally-integrated strategic research, proactive technology diffusion and education which:

- Develops and promotes innovative viticultural practices on key grape qualities
- Develops and promotes environmentally and economically sustainable vineyard management systems

- Develops and promotes the capacity to improve genetically grapevines for quality production and sustainable management
- Expands the professional skill base of the viticultural industry from researchers and technologists to vineyard and winery workers and
- Consolidates a cooperative research and education culture leading to an enduring industry funded facility.

The Centre's activities will be conducted within four main programs. They are:

- Vineyard management to meet grape quality specifications
- Sustainable vineyard systems
- Molecular improvement of grapevines
- Education, training and professional development for a sustainable industry

The 12 joint-venture parties, comprising the peak bodies of the Australian viticultural industries, the key research and education agencies and the two industry research levy bodies the Grape and Wine R&D Corporation and the Dried Fruits R&D Council have,

Newsletter

The Cooperative Research Centre for Viticulture Newsletter is produced bi-monthly. The deadline for reports is the 10th of the month prior to publication. All contributions are welcome, especially reports from conferences, seminars and international trips.

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New CRCV begins its seven-year term cont.

together with the Commonwealth Government, agreed to fund and resource the Centre for the next seven years.

At the recent meeting in Adelaide, the CRCV Board reviewed the constitution of the two functional entities that will allow for the smooth running of the Centre - CRCV Pty Ltd and CRCV Technologies Pty Ltd.

These entities will perform the functions of the Centre employer, the Centre agent (CRCV Pty Ltd) and its commercial agent (CRCV Technologies Pty Ltd).

The new Board will be one of governance. An Executive Management Group comprising the CEO and Program Managers will be responsible for ensuring that program outcomes are delivered on time and within budget.

During the meeting, the Board reviewed progress in the appointment of PhD students, post-doctoral fellows, scientific and technical officers and staff who will participate in the Viticare Australia initiative.

It received a presentation from Program 4 Manager, Ms Libby Boschen, on the Education, Training and Professional Development for a Sustainable Industry program. She was supported by Dr Rob Sward, Leader Project 4.4 (Research to Practice) from Agriculture Victoria.

The Board also received a presentation on the development of a communications strategy for the Centre.

The Centre's Business Manager, Mr Paul O'Reilly, and Executive Secretary, Ms Anne Wilson, were introduced to the Board.

Welcome

It's official! The new CRCV has begun and, as its Chief Executive Officer, I look forward to keeping you informed of our progress over the next few years.

As you will have noticed, the newsletter has been given a new look to mark the changeover to the new Centre.

You will find a questionnaire enclosed which we strongly encourage you to complete for our market research purposes. The questionnaire is about how you would like to receive information from the CRCV and gives you a chance to tell us what you think of the newsletter and how it can be improved. It will only take a few minutes to complete and fax to our office.

Planning for the future

As most of you will know, the Commonwealth has indicated that a third term of funding beyond 2006 will not be available under the CRC Program.

In the interim the peak industry bodies - Winemakers' Federation of Australia and the Winegrape Growers' Council of Australia - have indicated that they will seek to establish an enduring R&D and Education facility under the CRC model. This will involve determining alternative funding arrangements and initiating a major review of national R&D objectives to establish the priorities beyond 2006.

A Glimpse of 2006

We envisage a future where scientific research will have developed and validated a range of digitised scanning technologies for application above our vineyards in satellite and/or aerial applications, on the ground within our vineyards and at grape harvest.

By 2006, our industry will be monitoring, measuring and controlling most aspects of grape production to tightly defined specifications of quality and resource sustainability.

We will remain well positioned to take advantage of the potential benefits of gene technology to improve grape and wine quality once those benefits are clear.

We can also look forward to a seamless link between the generation of knowledge and process of dissemination of that knowledge through the formal education and training system and a structured approach to technology diffusion at the regional level.

Our challenge

The creation and adoption of the R&D and Education infrastructure through which to achieve all this is a further example of the Australian wine industry's capacity for evolution and innovation.

The CRCV looks forward to playing its part in helping the industry achieve this goal. Merry Christmas.

JH

New centre strengthens industry's capabilities

The Australian wine industry's commitment to excellence in wine science and viticultural research was given a boost last month with the opening of the new National Wine and Grape Industry Centre in Wagga Wagga.

The NWGIC, a partnership between NSW Agriculture, Charles Sturt University and the NSW Wine Industry Association, includes a \$1.4 m research laboratory for wine chemistry, plant pathology and microbiology and a \$1.6 m training centre funded by the Australian National Training Authority.

The Director of the NWGIC Professor Geoff Scollary said the Centre was unique as it combined all facets of the information exchange cycle in the one Centre - research and development, extension, education and training.

The NWGIC is a participant agency in the CRC for Viticulture and will provide it with enhanced facilities for research and inter-agency cooperation.

It will play a role in many national research projects including growing grapes to specifications, the impact of climate change on grapes and wine

quality, Shiraz rootstock trials, the impact of rootstocks on fruit and wine quality and managing pests and diseases such as nematodes, phomopsis and botrytis.

Professor Scollary said a strength of the new Centre was its ability to exchange information with users, grapegrowers and winemakers, and having staff working together on site and collaborating on research projects, teaching, industry visits and extension.

He said strong links had been established with surrounding regions - the Riverina, Central Highlands, Mudgee, Hunter and most recently North-East Victoria - with many viticulture research programs carried out in conjunction with commercial growers.

Incorporated within the NWGIC is the Wine and Food Industry Training Centre which aims to help meet the industry's training needs. It contains a conference room for up to 120 people, two training rooms and a tutorial room and a 12-booth sensory laboratory. The laboratory will allow both training programs in sensory analysis as well as research activities on the relationship between wine production and wine style.



The Hon. Mr Tim Fisher, MHR, and the Hon. Mr Richard Amery, NSW Minister for Agriculture, officially opening the National Wine and Grape Industry Centre at Wagga Wagga.

The NWGIC will run an industry awareness seminar about current research and extension activities each year and will continue to offer short courses about vineyard establishment, quality assurance and all aspects of vineyard management.

New Faces at the CRCV

A Business Manager and Personal Assistant to the CEO have been appointed by the CRCV.

Ms Anne Wilson is Personal Assistant and joins the CRCV having had extensive experience working in high-profile organisations in the private and public sectors.

Since arriving in Adelaide 12 years ago, Anne has worked as PA to the Deputy Managing Director at the Australian Submarine Corporation, PA to the Chief of the then Water Resources Division at the CSIRO and human resources coordinator for Western Mining Corporation.

She has taken up tertiary study in HR and is a member of the Australian Human Resources Institute.

Mr Paul O'Reilly is the Centre's Business Manager. Paul has had extensive professional experience in financial and management positions. He has a Diploma of Accounting, Diploma of Training and Development a Graduate Certificate in Management and is a member of the National Institute of Accountants.

Before joining the CRCV, Paul was the Manager, Business Services, Information Technology Division, at the University of Adelaide.



Anne Wilson and Paul O'Reilly

The New CRCV

A highly experienced group of people with a broad range of skills has been appointed to govern the new CRCV. The Board is made up of academics, winemakers, growers, government representatives and managers. Here we introduce you to them:

Mr Peter Barnes

Chairman -Cooperative Research Centre for Viticulture

Peter comes to the Board as chairman having spent 27 years working for Philip Morris International, including five years as President of Philip Morris Asia Inc based in Hong Kong. In the 1970s, Peter was finance and then marketing director at Lindemans and returned to the company between 1986 and 1990 as Managing Director. He was involved in discussions that led to the formation of the Winemakers' Federation of Australia and is a former member of the Australian Wine and Brandy Corporation.

Dr Jim Hardie

Chief Executive Officer
Cooperative Research Centre for Viticulture

Jim was the Director of the original CRCV and has been appointed CEO of the new Centre. He has 25 years' experience in the management of research and development in the viticultural industry, coupled with original research in a variety of viticultural topics, including nine years in the public sector with the Victorian Department of Agriculture and 10 years with one of Australia's leading wine companies. Jim was awarded his doctorate for studies on the development of the grape in relation to its biological function and secondary metabolism. He has published more than 30 papers in scientific and technical journals.

Professor Geoff Scollary

Geoff is the Director, National Wine and Grape Industry Centre and Head, School of Wine and Food Sciences at Charles Sturt University. He has research interests in wine chemistry, toxicology and new methods for wine analysis. He has published 62 refereed publications and is a member of a number of organisations including The Royal Australian Chemical Institute. Geoff is the appointee of the National Wine and Grape Industry Centre.

Mr Philip Laffer

Philip is Chief Winemaker and Director of Viticulture and Oenology for the Orlando Wyndham Group. He was educated in agriculture and oenology at Roseworthy Agricultural College (University of Adelaide, Roseworthy Campus), Philip has been employed in the wine industry since 1963.

He began with Lindemans Wines Pty Ltd then joined Orlando Wines in 1990 as Operations Director, became Company Winemaker in 1992 and took up his current role in 1995. He is a Past President of the South Australian Wine and Brandy Industry Association and a past judge at Australian national wine shows. Philip is an appointee of the Winemakers' Federation of Australia.

Mr Dennis Mutton

Dennis is the Chief Executive, Department of Primary Industries and Resources South Australia. He has spent more than half his working life in regional South Australia and Victoria and understands the issues and challenges facing industries and communities. He is a graduate of the Australian National University where he graduated with first class honours in forestry and has completed post-graduate studies in management. Dennis plays a leading role as a Commissioner in the Murray Darling Basin Initiative and has a national profile in the coordinated development of land information and Geographic Information Systems systems. Dennis is the appointee of the University of Adelaide and Department of Primary Industries and Resources South Australia.

Dr Bruce Kefford

As Executive Director Primary Industries, Department of Natural Resources and Environment, Victoria, Bruce is responsible for the Department's service delivery to the food and agriculture sectors. He holds a Bachelor of Science (Hons.) from La Trobe University and has a PhD in Microbiology from the University of New South Wales. He also has a Graduate Management Qualification from the Australian Graduate School of Management. Bruce has experience in research, development and technology transfer and science management in agriculture, particularly the dairy industry. Bruce is the appointee of the Department of Natural Resources and Environment, Victoria.

Mr David Hall

David is the Executive Director, Grape and Wine Research and Development Corporation. He has had 18 years experience in research, policy development and general management positions in primary industries, particularly fisheries. Prior to joining the GWRDC, he was employed for two years as the Director of Fisheries in the Northern Territory, a position he also held in South Australia from 1993 – 1997. He holds a Bachelor of Science (Hons.) David is the appointee of the Grape and Wine Research and Development Corporation and the Dried Fruits Research and Development Council.

Mr John Dal Broi

John is a winegrape grower from the Riverina, New South Wales. His technical education was in rural technology and farm mechanics. In 1960 he bought his own property, Bil Bul in the NSW, Riverina, and over a ten year period completely replanted it to wine grapes, growing premium varieties and some unusual varieties. He has always had a keen interest in applying viticultural research and technology.

John has contributed on a personal and professional level to the industry, serving the industry for 20 years in many honorary capacities as Deputy Chair, then Chairman of the Riverina's Wine Grape Marketing Board. He is a Past president of the Wine Grape Growers' Council of Australia and is a member of the Wine Grape Industry Advisory Committee. John is an appointee of the Wine Grape Growers' Council of Australia.

Mr Doug McWilliam

Doug is the Production Director of McWilliam's Wines Pty Ltd and has had 27 years production and research and development experience in the Australian wine industry. He is Chairman of Council of The Australian Wine Research Institute and a member of the Winemakers' Federation of Australia's Technical Committee. Doug's tertiary qualifications include a Bachelor of Science and Master of Science (Food Science). Doug is an appointee of the Winemakers' Federation of Australia.

Mr Tony Martin

Tony has been a viticulturist at Merbein in north west Victoria for the past 20 years. His property is planted to 70 acres of vines producing both dried fruit and wine grapes. He has been a Board member of the Australian Dried Fruits Association Inc. (ADFA) since 1989 and held the position of Deputy Chairman of the Board in 1998. He is involved in many local water issues and is Chairman of the ADFA Water & Environment Committee. Tony has recently taken up the position of Chairman of the ADFA's Drying for Profit Program which aims to establish dried grape enterprises which professionally manage advanced mechanised production systems for dried grape production. Tony is an appointee of the Wine Grape Growers' Council of Australia.

Dr John Radcliffe

John holds the position of Special Adviser to the Chief Executive of CSIRO and prior to July this year, he held the position of Deputy Chief Executive. He joined CSIRO in 1993 as Director of the Institute of Plant Production and Processing.

John is an agricultural scientist who received his tertiary education at the Waite Agricultural Research Institute (now the Waite Campus) of the University of Adelaide. He obtained a PhD from Oregon State University in 1964. Prior to joining CSIRO he was Director-General of Agriculture in South Australia and Foundation Chief Executive Officer of the South Australian Research and Development Institute (SARDI). John is the appointee of the CSIRO.

GWRDC Report

By David Hall, Executive Director

The new Cooperative Research Centre for Viticulture represents a great opportunity for both the grape and wine industry and research providers to the industry alike.

For the industry, it will mean the opportunity to consolidate the benefits of the investments made in the original CRC by developing even smarter new technologies and management techniques. It will also give the industry a chance to achieve self-determination in terms of the future structure of research and development delivery and its funding given that the government's current position is that consolidated funds will dry up in seven years' time.

For research providers, it will represent an opportunity to form even closer links with industry and collaborate with other research agencies. The result in theory should be research and development that is even more focused on industry needs and opportunities, and research program and projects that represent both excellent science and value for money.

In looking back over the last seven years it may be easy to dismiss the achievements. Hugh Armstrong demonstrated graphically at an ASVO seminar on winegrape quality held recently in Mildura, that the achievements attributable to the CRCV are indeed substantial when measured over a period of seven years or so. Winegrape and wine quality, a major emphasis of the new CRCV, were not the principal research issues only a decade or so ago and a browse through industry journals published during that period tell an interesting story of the results of innovation in the industry, especially to a new chum to the industry like myself.

CRCV poised to deliver benefits

By Ross Skinner, Executive Officer

The CRC for Viticulture has provided a significant investment in wine and grape research during a period when Australia's viticultural industry has been expanding rapidly and faces considerable marketing challenges in the future.

These marketing challenges will be successfully met in the wine grape, table grape and dried grape industries by continual improvement in product quality, product integrity, production efficiency and our perceived image as guardians of the environment.

From the viewpoint of the dried fruits industry, CRCV 1 sought outputs in these areas and CRCV 2 is poised to deliver significant benefits in all these areas. The exercise undertaken in preparing the priorities to be addressed has delivered a well-balanced program from which our industry will benefit. The effort so the Program Managers in particular in developing the appropriate research endeavours are commendable.

The funding of the Program 'Molecular Improvement of Grapevines' has ensured sufficient resources are available to advance this important research that will provide exciting developments in the field of new varieties within a timeframe that will maximise benefits to Australian grapegrowers.

I am confident that the new CRCV will demonstrate a level of quality and value for money associated with the development, management and delivery of viticultural research and development (including training) that will at least match that which we are aiming for in our grapes and wine if we are to strengthen our position as a power broker in the world wine market.

The funding provided by the CRCV in this area has enabled the DFRDC to alter the balance of its research funding towards our traditional breeding and imported variety evaluation trials undertaken by the Riverlink research agencies in Sunraysia.

The development of genetic modification techniques and new varieties is one example of the dried grape industry benefiting from the size and security of funding provided by the new CRC for Viticulture. Other outputs in the areas of objective measurement of quality, vineyard sustainability and the training of viticultural researchers will supplement the ongoing work of the DFRDC.

The dried fruits industry commends the endeavours of those involved in securing the bid and particularly that of Philip Laffer in leading the proposals development and presentation, and the Program Managers that have worked towards developing research programs that will deliver outcomes to meet the identified needs of our industry and those of the wine and other grape industries.

Ivan Shaw and myself look forward to participating on the Industry Reference Group, confident that the new CRCV will build on the efforts of the past seven years.

International links strengthened

International cooperation is continuing in the last months of the original CRCV's project 2.2 'Interaction of grapevine roots with phylloxera: mechanisms of resistance' being carried out in the laboratory of Dr Robyn van Heeswijck at the University of Adelaide's Department of Horticulture, Viticulture and Oenology.

One of the laboratories senior researchers, Dr Harry Teicher, from the Royal Agricultural and Veterinary University in Copenhagen, Denmark, has been joined for three months by laboratory technician Ms Karin Hansen, from the Danish company Novo Nordisk A/s.

Dr Teicher's research is primarily being funded by the Danish Research Council with support by the CRCV and an Australian Research Council Small Grant.

The long-term aim is to find out whether grapevines attacked by the root pest phylloxera respond by activating or inactivating plant defense genes.

Dr Teicher said the potential application of the research was exciting and its international profile meant the project should attract strong interest from agricultural industries.

Considerable progress has been made since the project was reported on in the Spring edition of the CRCV newsletter.

Dr Teicher, who began exploring the molecular response of the phylloxera root interaction in June this year, has isolated mRNA, the first product of gene expression from root tissue, and prepared cDNA from grapevine roots, which involves recreating the active gene coding templates.

A further outcome is the preparation of a cDNA library of genes actively expressed in the grapevine roots being analysed.

This library will enable the group to make a comparison of genes and identify differentially expressed genes.

Ms Hansen has been involved in helping to characterise the library, a labour-



Ms Karin Hansen and Dr Harry Teicher examining bacterial cultures

intensive and time-consuming task which involves determining the size of the library, that is how many primary DNA clones the library contains, and the length, or intactness, of those clones.

Dr Teicher said the size and quality of the DNA library is an essential part of the project because if the library is not of an appropriate size then screening for differentially-expressed genes cannot proceed and if there are too many small fragments of DNA then work can also be halted.

He said Ms Hansen has made an important contribution to the project by determining that the size of the library is big enough to conduct the DNA screening process.

Ms Hansen is also assisting Dr Teicher with establishing techniques and cultures for the differential screening of the library.

Having Ms Hansen on the team has meant the project has advanced more rapidly than originally expected.

By the time Dr Teicher completes his 12 month contract next June, and returns to Denmark, he aims to have completed the primary screening process. He hopes financial support will be available then to allow for a

successor to continue the work.

Ms Hansen and Dr Teicher said the project had provided a great opportunity to work in Australia and would stand them in good stead for other scientific work when they returned to Denmark.

Dr Teicher said a high-level of collaboration existed between Copenhagen and Adelaide because of the world-class reputations of the research teams.

There are currently three Australians, Dr Kylie Nunan, Dr David Tattersall and Patrick Jones, working at the Royal Agricultural and Veterinary University in Copenhagen, under the guidance of Professor Birger L. Møller, a world-leader in plant biotechnology.

Dr Nunan is a former-CRCV PhD student, and Dr Tattersall recently completed his PhD on wine haze proteins under the supervision of Professor Peter Høj and Dr Robyn van Heeswijck at the University of Adelaide.

Further international links may be forged with researchers from the United States, who have expressed an interest in being part of the new CRCV's phylloxera research project.

Viticare gets underway in 2000

Viticare, a network of regionally-based viticulture groups, will be a key feature of the new CRCV and the concept will be developed in the coming months.

Hugh Armstrong, Industry Communications and Extension Coordinator, said Viticare would be a vehicle for interaction in the grape production side of the industry.

It will encompass demonstration work, evaluation of new technology and assessments of grape quality and irrigation management techniques.

"If growers want to test anything related to CRCV research projects, they can such as grape quality in Program 1, sustainability and soil and water in Program 2 and it will also have links to Program 4, education, training and professional development," said Mr Armstrong.

There are three main ways Viticare will operate:

- It will provide groups with access to researchers to help them with their activities
- Facilitate interaction between growers through the creation of a network
- Give companies, such as resellers and service providers, the opportunity to participate by subscribing to Viticare and supporting groups by providing goods, services, time or money to their projects.

Mr Armstrong said one of the main features of Viticare is that it will give growers the "first look at new research" and the opportunity to adapt it to local conditions.

A Viticare Coordinator will be appointed who will support the Viticare network along with two Industry Development Leaders who will have an Integrated Pest Management and water use efficiency focus.

The second component of Viticare is an environmental management project to help regions and regional industry people define indicators of vineyard sustainability.

"This project will identify critical measurements that can be used to demonstrate best environmental practice," said Mr Armstrong.

This monitoring and measurement project will encompass three main areas: soil health, water use efficiency and crop protection. The CRCV's Industry Development Leaders will support the Environmental Management officer.

The third component of Viticare is on-farm trials - designing and testing methods of field evaluation.

"This will involve coming up with practical techniques that growers can use to determine whether a new technique is better than the old," said Mr Armstrong.

This will be done by growers and scientists working together in the field to test trial designs.

"We expect significant interest from corporate viticulturists who may wish to assess new techniques in the vineyard," Mr Armstrong said.

"The data gathered as a result of these trials may accelerate research outcomes and help determine the direction of research."

Mr Armstrong said Viticare will have direct links to Research to Practice through the Industry Development Leaders who will be closely involved in the Viticare initiative and facilitating Research to Practice workshops.

Any enquiries about Viticare should be directed to the CRCV on (08) 8303 9405.



Hugh Armstrong, Industry Communications and Extension Coordinator

Hugh Armstrong, who has been the CRCV – GWRDC's Industry Communications and Extension Coordinator for the past four years, will leave in January to take up a position as Viticulturist – Water Resources with Southcorp Wines, based in Nuriootpa.

Mr Armstrong said during his time with the CRCV the grape section of the industry had demonstrated its ability to adopt emerging technologies and it was important that the industry continued to look for and evaluate new ways of improving the production process.