

gardiner foundation
annual review 2003/2004



Chris Nixon (*Chairman*)



Carol Bate (*CEO*)



Dr Graham Mitchell AO



Professor Paul Moughan



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chairman's review

I have pleasure presenting this Annual Review of Operations for 2003-04 for the Geoffrey Gardiner Dairy Foundation Ltd.

The year has not been an easy one for the Victorian dairy industry, punctuated as it was by adverse weather conditions, international price shifts and volatile exchange rates. The Foundation recognises that these and other changes will inevitably occur and need to be recognised as the real-world operating environment in which the work of the Foundation takes place.

With that thought in mind, the official launch in February of the Foundation's Community Development Program by the Minister for Agriculture, the Hon. Bob Cameron MP, stood out as a positive development.

Our Community Development Program has been fashioned by the findings of a study commissioned in 2003 that identified key issues confronting dairying communities where the Foundation could expect to make a difference. The major areas of concern were the impact of demographic changes in dairying areas, the difficulty of attracting and retaining skilled labour for the dairy industry, and the need for more leadership skills for people working for and on behalf of the communities.

As at June 2004, the Foundation had distributed approximately \$0.92 million for community development initiatives through its Small Projects Program. It intends to allocate in excess of \$2 million over the coming three years through a combination of Small Grants and Small Projects, as well as Major Projects each eligible for total funding of up to \$250,000 over their 3-5 year lifetime.

During the year, new allocations to the Small Projects Program brought the Foundation's total investment in Small Projects to over \$2.9 million, including Community Development Small Projects. The Small Projects are an integral part of the Foundation's investment strategy because of the very short time lag in the delivery of useful benefits. Our Members have clearly indicated their high regard for these projects and the important role they serve in filling critical gaps that other funding sources are unable to address.

The four completed rounds of funding for Small Projects to date have allocated 33% of total funds to research and development, 27% to skills, education and training, 19% to technology transfer and 21% to community development.

Two new Major Research and Development Projects were also approved for funding in 2003-04. They brought the total value of current projects to more than \$23 million over five years, of which the Foundation's contribution is \$5.5 million. It is the Board's expectation that it will continue to fund new Major Projects at the rate of about two per year.

The benefits of Major Research and Development Projects will obviously flow over a much longer time frame than those from Small Projects, but should be greater by some quantum measure and sustainable over longer periods. The Foundation remains firm in the belief that research is most likely to succeed when the best available scientific minds from several disciplines work together on large, well funded projects. Its selection criteria will continue to reflect this belief. Feedback from scientists has indicated that the consortia established to undertake projects are expected to continue beyond the life of the projects concerned. This is most encouraging and will provide additional long-term benefit to the industry.

As part of its on going consultation processes, the Foundation undertook a survey in early 2004 of the perceptions and expectations of its key industry stakeholders. Respondents were of the opinion that the Foundation could profitably concentrate on fewer areas for investment in projects, and that the dairy industry itself could become more closely involved in the Foundation's planning processes.

Chris Nixon
CHAIRMAN



In a different survey, scientists indicated that the Foundation enjoys a favourable reputation based on its willingness to fund projects outside the mainstream of scientific effort and conventional wisdom. It is seen by some as the body most likely to fund genuinely innovative work for the industry.

The results of both surveys were canvassed with industry leaders at a workshop in early June and the feedback and recommendations from the industry reference group are currently under consideration by the Board. The Board is deeply appreciative of the valuable, candid and constructive advice and assistance given by industry representatives at the workshop.

During the year, the Foundation undertook the first economic evaluation of its Major Research and Development Program. Seven funded projects were subjected to a detailed benefit cost analysis, revealing an estimated average benefit to the dairy industry of \$5.50 for every dollar invested. This evaluation occurred early in the life of the projects and, while encouraging, will need to be an on going feature of the Foundation's work.

The Board has initiated a review of the performance of the fund manager responsible for the investment of the Foundation's capital reserve. The outcome from the review will be considered during 2004-05. Meanwhile, the net movement in the capital reserve in 2003-04 was an increase from \$58.7 million to \$64.5 million at 30 June 2004.

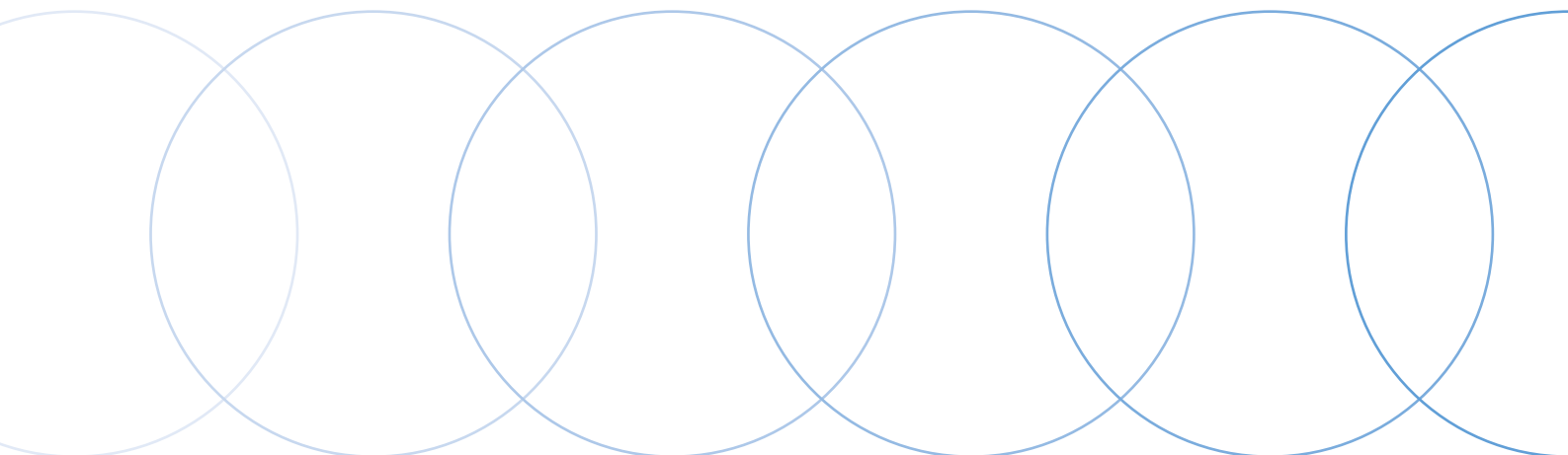

This movement in the reserve balance is after allowance for all redemptions for project funding and administration costs. The Board is satisfied that economic conditions are slowly improving and should enable maintenance of the reserve in real terms to be achieved.

I wish to extend my appreciation to all Members of the Foundation for their positive reaction to our activities over the past year. I am grateful also to dairying communities and the research community for their continuing positive response to the Foundation's work.

Finally, I would like to acknowledge the support and innovation of my Board colleagues and the Chief Executive Officer, Carol Bate, and her staff for their important contributions during 2003-04.



Chris Nixon
CHAIRMAN



CEO's report

I am pleased to report on the management and operations of the Geoffrey Gardiner Dairy Foundation Ltd. for the financial year 2003-04.

Community Development

The past year saw the finalisation of the Foundation's planning to implement the final stage of its Community Development Program. Since its establishment in 2001, the Foundation has worked towards fulfilling a commitment to invest \$3 million to provide tangible assistance to dairying communities.

As at June 2004, nearly \$1 million of that amount had been committed through Small Projects and Grants. Administrative processes and guidelines are now in place to enable the remaining \$2 million of community development funding to flow from the start of 2004-05.

The structure of the new Community Development Program has drawn heavily on the findings from a scoping study undertaken for the Foundation in 2003. That study identified industry leadership, labour supply and demographic change as the highest priorities for community development in Victorian dairying communities.

The Board has decided that community development funding will be offered through three channels:

- *Small Grants of up to \$5,000.* These grants will once again be administered by the Foundation for Rural and Regional Renewal.
- *Small Projects of up to \$25,000.* These are an extension of the previous Small Projects Program. The most recent funding allocations were made in June 2004 for 13 new projects.
- *Community Development Major Projects of up to \$250,000 in total over a three to five year period.* Guidelines have been developed and first round preliminary applications will close in September 2004.

An important consideration for the Foundation is the development of criteria against which to evaluate the outcome of Community Development Projects. To assist in this matter, the Foundation is preparing a reporting format for Community Development Projects that will be user friendly for project leaders and provide useful information to dairying communities.

The Foundation is grateful for the efforts of the Community Development Small Projects Selection Panel chaired by Foundation Director, Ian MacAulay, assisted by independent community representative Mr Peter Craighead, Ms Diana Rice from the Office of Victorian Communities, and Director, Max Fehring.

Major Research & Development

The Foundation funded two new Major Research and Development Projects following consideration of applications and project selection in 2003-04. Details of the new projects are provided on page 20 of this Review.

The efficiency of the application and selection processes confirmed our belief that we have a robust administration that is fair, transparent and well communicated. Moreover, milestones within existing project contracts were exceedingly well observed with an estimated 99% of milestones met in full and on time.

The Foundation wishes to acknowledge the Major Projects Selection Panel chaired by Dr Mike Rickard, and comprising Professor Paul Nestel AO, Professor Tim Reeves and Professor Diana Hill.



Carol Bate
CHIEF EXECUTIVE OFFICER

Small Projects

The financial year also saw the announcement of the recipients of the fourth round of Small Projects funding. A further thirteen projects were approved for funding as part of this widely appreciated program.

The Foundation has been agreeably surprised by the high standard of written reports received at the conclusion of small projects. The reporting format provided to project leaders appears to have been very helpful.

The Board is grateful for the work of the Small Project Evaluation and Selection Committee chaired by Mr Max Fehring, and comprising Professor Margaret Britz, Mr Paul Ford and Dr Ross Nicol.

Communication

Ensuring the widespread publication of results from funded projects is a key responsibility for the Foundation. We are pleased by the extent of coverage received from trade journals, scientific magazines and journals and local media outlets. In addition, we have continued our practice of including small project case studies in each of our Annual Reviews.

The Foundation has continued to give a high priority to regular communication on both strategic and operational matters with its Members and stakeholders. Board Members and senior staff met on numerous occasions with farmer groups, manufacturers, key industry organisations, government and scientific bodies to further our working partnerships.

We also reported fully to Members at the Annual General Meeting and through Annual Reviews, the Foundation's web site, and press releases.

Administration

The Foundation has an ongoing process of risk management and has addressed all significant areas of risk as a routine business procedure.

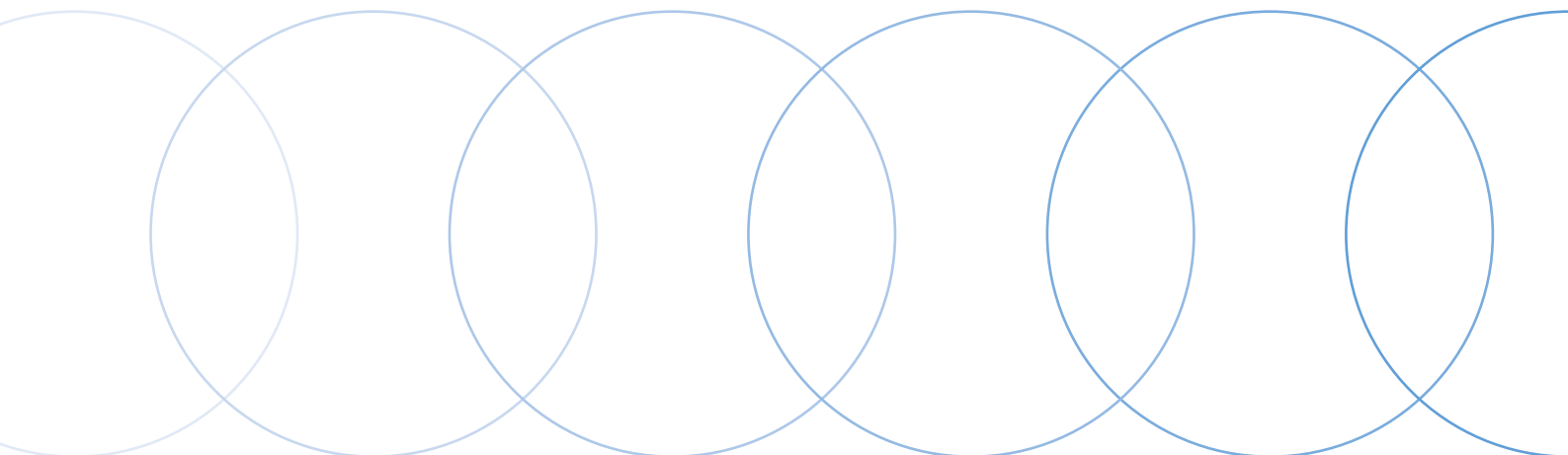
The Foundation's statutory audit of its financial statements has been performed by Ernst & Young for the financial year to 30 June 2004.

Staff turnover for the year was minimal with the Project Officer, Ms Jill Burston, replaced by Mr Alberto Pintos.

It has been a pleasure to work with the Foundation's Chairman and Board of Directors during the year and I thank them for their support and guidance. I also wish to thank all the Foundation's staff, and especially the Project Administrator, Ms Cynthia Mrigate.



Carol Bate
Chief Executive Officer





The Department of Primary Industries team conducting GF-funded Major Project *'Profitably extending lactation in pasture-based dairying systems'*: (l. to r.) Dr Martin Auldist, Prof K.L. (Jock) Macmillan (The University of Melbourne), The Hon Bill McGrath (former Minister for Agriculture representing project partner Keenans), Mr David Cole, The Hon Bob Cameron MP (Minister for Agriculture), Dr Chris Grainger (Project Leader) and Mr Greg O'Brien.

strategic overview

our goal

The Foundation's goal is to be a premier funding body, delivering measurable and sustainable benefits to all segments of the Victorian Dairy Industry and its people.

Strategies to realise the goal will revolve around research and development to improve industry productivity as well as a strong emphasis on addressing critical issues facing dairying communities themselves. The highest priority community issues include the development of local leadership, the impact of demographic change, and labour supply in the dairy industry.

Indicators of success will include:

- a. Demonstrable and major benefits to individual sectors of the industry and the industry as a whole, as a consequence of projects funded by the Foundation;
- b. Recognition by the industry and Government that real benefits have been achieved and that the Foundation has established its own clear and unique role.

business principles

- The Foundation, through its membership, will be an integral part of the dairy industry.
- All funding decisions will be taken pro-actively in the best interests of the industry using formal rules and procedures and a principle of care.
- The Foundation is an enabling organisation and does not directly provide services.
- Foundation staffing and administration costs will be the minimum practicable.
- Management of the Foundation's Capital will be outsourced to reputable fund managers.
- Investment and funding decisions will, as far as practicable, maintain the Foundation's Capital base in real terms.
- The Foundation relates to Victoria, but parochialism will be avoided in the industry's best interests.
- Foundation Members will be included in the business planning processes of the Foundation.



operational strategies

The Foundation operates in an environment of competing needs and opportunities. On the one hand, the dairy industry is dependent on advances in technology to grow its productivity and competitiveness. At the same time, the needs of individuals and of whole communities must be addressed in order to promote the health of the industry's social infrastructure.

The Foundation's strategy is to simultaneously invest in several streams of activity. Its Major Research and Development Program is predominantly longer term, resource intensive and offering substantial benefits that will continue to accrue into the future.

Small Projects funding addresses the full range of opportunities for the industry and its communities and is intended to deliver benefits in the short to mid-term. The Community Development Program will specifically target people issues around demographic change, labour supply and leadership from now until 2007.

Since its formation, the Foundation has funded:

- 88 Small Projects to the value of \$16.6 million, with the Foundation's contribution being \$2.8 million. Of this total, \$0.43 million was directed toward projects with a community development focus.
- 13 Community Development Small Projects (now offered as a separate funding stream), plus funding for drought response work and small grants, to the value of \$0.44 million.
- 7 Major Research and Development Projects to the value of \$23 million, with the Foundation's contribution being over \$5.5 million.
- The National Herd Improvement Association for 2 years at \$300,000 per annum, as specified in the legislation.



'Loddon Murray Community Leadership Program'
– GF Director
Max Fehring hosting a farm study visit for GF Scholars Stephen Ford (l.) and Andrea Milikins (far right) with an LMCLP colleague Jeannie Wagner.



Rushworth P-12 College, recipient of a Community Development Small Grant for a dairy education program.

The Foundation's research and development portfolio to June 2004 has centred on genomics and functional foods, food safety and processing, and the efficient and sustainable utilisation of industry and on-farm resources.

evaluation

Given that significant funding has now been granted, more time is being devoted to evaluation. This is broader than for specific projects and is taking a whole-of-portfolio view. In future, it may also be possible to undertake evaluation across specific target areas (e.g. training, farm productivity, manufacturing, processing etc.).

The Board also expects to be in a strong position to make a full assessment of the Foundation's internal procedures, processes and operational efficiency and to be able to set performance benchmarks.

communication & feedback

The Board is strongly committed to communication with all sectors of the dairy industry and to its stakeholders generally, and actively solicits feedback and constructive criticism. The Board is currently considering recommendations from an industry reference group regarding its investment direction for the coming 3-5 years.

Geoff Byrne, President of the Milk Processors Association of Victoria, a GF Member organisation, addressing an industry gathering for the launch of the Gardiner Foundation "Working in Dairying Communities Community Development funding initiative".



case studies

The following pages present a selection of the Gardiner Foundation's portfolio of Small Projects that were in progress, or finalised, during 2003-04.

dairy – employment for the future

WestVic Dairy Inc. Project Leader: **Mr Tim Nelson** Gardiner Foundation contribution \$100,000

Various studies have identified the under-supply of skilled labour as a critical limiting factor to the future of the Victorian dairy industry. In 2003, The 'Dairy – Employment for the Future' project was established as an initiative of the United Dairyfarmers of Victoria (UDV), sponsored by WestVic Dairy Inc. with additional funding from the Gardiner Foundation.

The project contracted the Australian Centre for Industrial Relations Research and Training (acirrt) from the Business School at The University of Sydney, to develop an issues paper and make some strategic recommendations in their final report. Their study involved a survey, focus groups and interviews with farmers and community leaders as well as a review of relevant reports and publications.

The report identified the need for the dairy industry to manage its employment issues proactively and collaboratively in order to be able to promote itself to potential employees as having a sound future, providing attractive jobs and opportunities for career advancement. The industry should implement an employment strategy to recruit the labour it needs and be prepared to fund and support all facets of the strategy.

The Gardiner Foundation has agreed to financially support the development of a business plan to allow for the implementation of the acirrt recommendations.

electronic herd testing & robotic sorting system

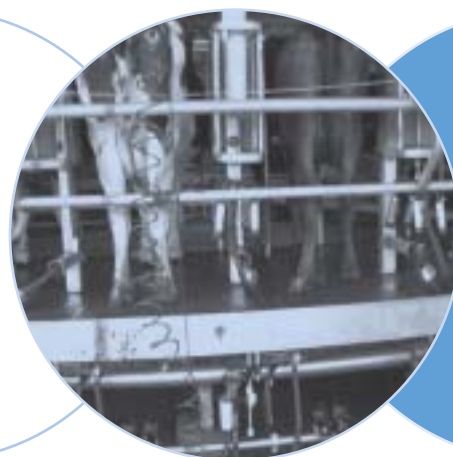
Northern Herd Development Cooperative Limited (NHD) Project Leader: **Mr Phil Wren** Gardiner Foundation contribution \$25,000

This project, supported by the Foundation, sought to automate and simplify the task of milk sampling on Victorian dairy farms. The results have the potential to lift the participation rate in herd testing schemes from approximately 50% of dairy cows to 75% in the short to medium term.

NHD has successfully tested a system that uses scanners, a sorting robot, hand held computer and bar code scanner, brought together with Australian developed integration software. The system uses the national livestock radio frequency identification tags to automatically identify cows as they come in for milking. It then matches their identity number to samples of milk taken for analysis as part of routine herd testing. The implementation of an electronic automated herd testing system significantly decreases labour costs for testing, eliminates the need for visual identification of cows and manual sorting of samples, and generally simplifies the whole herd testing process. This novel application of Australian software and international computer hardware to solve a practical problem won a recent industry award in the United States for innovation in technology application.



A Dairy – Employment for the Future workshop.



Northern Herd Development's 'Electronic herd testing and robotic sorting system' in operation at a Cohuna dairy property.

bursaries for the advanced diploma of agriculture (dairy)

The University of Melbourne Project Leader: Ms Sylvia Vagg Gardiner Foundation contribution \$12,500

A program developed by industry representatives working with the McMillan Campus of The University of Melbourne's Faculty of Land and Food Resources, will help to satisfy the growing demand for professional dairy farm managers across the State by training young people to fulfill these roles.

The training program is delivered from the McMillan Campus at Warragul and includes provision for each student to have supervised experience on leading commercial dairy businesses to expose them to a wide range of farm businesses and commercial best practice.

The Gardiner Foundation is delighted to be able to offer bursaries valued at \$2,500 each for applicants with existing links to the industry as well as new entrants to the dairy industry.

An Industry Steering Committee used a range of criteria to determine the most deserving recipients of the Gardiner Foundation bursaries. Five were awarded and the recipients entered the course in March 2004. Four of the recipients were from Gippsland while the fifth was educated in Western Victoria.

permanent subsurface drip irrigation

Lauren Thompson Consulting Project Leader: Ms Lauren Thompson Gardiner Foundation contribution \$25,000

Permanent subsurface drip irrigation (SDI) has been available for some time but has only recently been proven to be highly water-efficient and reliable for applying irrigation water to a range of crops. It has the additional environmental benefit of reducing nutrient flows to streams and rivers as almost all of the applied water stays within the root zone of the crop.

In 2003, two northern Victorian farmers with SDI systems installed on their properties teamed up with Lauren Thompson, a consultant from Moama, and were awarded \$25,000 by the Gardiner Foundation to demonstrate the value of SDI to Victorian dairy farmers and other fodder crop producers.

R&J Sellwood, owners of one of the properties at Undera in the Goulburn Valley, recently won a 'savewater award' from savewater.com.au, Australia's leading information source on water conservation. The award was presented by The Hon. Bob Cameron MP, Minister for Agriculture.

The Sellwood farm has been transformed from a traditional flood irrigation farm into a permanent subsurface drip irrigation farm with water savings of between 50 to 80 per cent for lucerne and other fodder crops.

So far, the system has been successfully demonstrated to nearly 100 farmers and irrigation supply firms and interest is rapidly growing.

'Permanent Subsurface Drip Irrigation' field day at Undera - Louis Chirnside (left) and Ray Sellwood.



'Bursaries for the Advanced Diploma of Agriculture (Dairy)', (l. to r.) Sylvia Vagg (McMillan Head of Campus) with GF Scholars, Travis Telford, Brenton Llewellyn, Michael Telling, Peter Collins, David Llewellyn and Alberto Pintos (Gardiner Foundation).

“smart freight” strategy - a pilot study

Engineers Australia, Victoria Division *Project Leader: Ms Jane Stephens* *Gardiner Foundation contribution \$25,000*

Increases in the volume of traffic and the size of dairy vehicles are a matter of considerable concern to local councils who are charged with the maintenance of the local road system. The Foundation supported a study by Engineers Australia to investigate road use by competing transport organisations in the dairy industry and to develop fair and justified solutions.

The study found that one of the keys to reducing the numbers of dairy tankers on rural roads is to increase storage capacity on farms from one day's milk production to two days. This would reduce the number of truck journeys and ultimately the wear and tear on roads. Refrigerated storage of milk on farm for two days is within acceptable health and quality standards but few farmers have the necessary storage capacity available.

The study also examined the emergence of new truck types, notably mass limited B-Doubles, that allow for larger loads to be carried more cost effectively and the weight to be distributed more evenly in transit. However, many dairy companies cannot use these trucks because of poor road infrastructure and inadequate farm accesses.

Engineers Australia recommended that milk companies and local government examine options for financial assistance to farmers to upgrade refrigerated on-farm storage capacity.

extending the shelf life of milk

Food Science Australia *Project Leader: Dr Heather Craven* *Gardiner Foundation contribution \$25,000*

The demand for fresh milk in Asian countries presents exciting export opportunities for Australia provided that spoilage during transport can be overcome. Long-life milk processed at very high temperatures provides a means of preserving milk, but normally pasteurised milk is preferred as it is perceived as fresher, more nutritious and having a better flavour.

This has prompted research into alternative non-thermal processes for the destruction of microorganisms such as ultrasonics, high pressure and pulsed electric fields. Pulsed electric field technology has the most potential for the successful extension of shelf life for milk as it is highly applicable to liquids and does not alter the nutritional or flavour characteristics of milk.

Research carried out at Food Science Australia is giving very encouraging results indicating shelf life extension of at least eight days using procedures developed to date. It is expected that further gains in shelf life may be possible through on-going refinement of the processes in combination with specific storage conditions before and after treatment.

The researchers believe that additional work will be needed to refine the technology and that regulatory and food safety issues will need to be addressed.



“Smart Freight”
Strategy
– a pilot study
commissioned
by Engineers
Australia,
Victoria Division.



enhanced production of milk through over-expression of the gene elf5

Monash Institute of Reproduction and Development *Project Leader: Dr Melanie Pritchard*

Gardiner Foundation contribution \$69,000

Scientists at the Monash Institute of Reproduction and Development have discovered a gene in mice that is directly and critically linked to the development of mammary gland tissue and hence to the subsequent production of milk by lactating animals.

While mice are different to cows in many respects, it is confidently believed that the expression of this gene is likely to be similar in both species and could contribute to enhanced milk production if the expression of the gene was amplified.

The scientists intend to study the gene in mice to learn about the pathways by which the gene expresses itself and the ways in which it interacts with other genes involved in milk production. Mice provide a convenient animal model for this type of work and offer great advantages in terms of time needed and costs involved. Promising results will be extended to testing in cows as soon as practicable.

The Gardiner Foundation is confidently supporting this team of Monash scientists on the basis of their record of successfully modifying genetic expression in animals.

education in agriculture - a multi media program for primary school children

Monash University, Department of Psychology *Project Leader: Dr Margaret Hay & Prof Grahame Coleman*

Gardiner Foundation contribution \$35,443

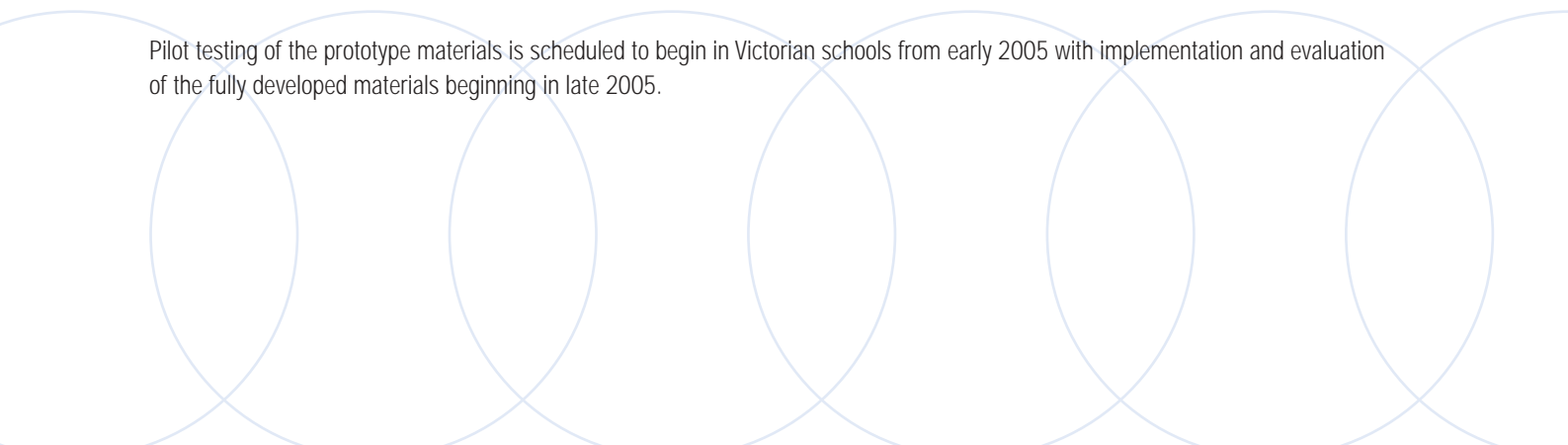
Relatively little is known about children's understanding and attitude towards livestock farming. Limited survey information however, has revealed the startling facts that only about half understand that food comes from farms, about half know that yogurt comes from cows and only 12% have ever visited a farm.

Increasing urbanisation is held primarily responsible for so few children having first hand experience of food production. The Monash research team believes that educating pre-adolescents about the origin of their food, health, and the environmental and welfare aspects of dairy farming, will help to maintain a balanced and informed debate in the community.

The project team has embarked on a program to develop multi-media educational tools for use in primary schools to bring about a better and more balanced appreciation of the role of farming in food production. The Gardiner Foundation is pleased to be financially supporting the dairy module of the work.

Educational materials will be packaged in multi media format to provide for flexibility in usage, a key to uptake of the material by schools. It will also support the use of module learning methods as well as allowing expansion to include new materials from time to time.

Pilot testing of the prototype materials is scheduled to begin in Victorian schools from early 2005 with implementation and evaluation of the fully developed materials beginning in late 2005.



sponsorship of guest speaker at animal breeding conference

Association for the Advancement of Animal Breeding and Genetics *Project Leader: Dr Sandy McClintock*

Gardiner Foundation contribution \$5,000

The Association for the Advancement of Animal Breeding and Genetics (AAABG) was provided with sponsorship funding from the Gardiner Foundation in 2003. The funds allowed Dr David Wells from New Zealand AgResearch to visit Australia to speak at the Association's 15th Conference in Melbourne in July 2003.

Dr Wells is an excellent communicator who presented a review of the current state of knowledge about animal cloning. The Conference was held in association with the International Congress on Genetics and in total over 280 elite international speakers were in attendance.

Gardiner Foundation Director, Dr Graham Mitchell AO introduced Dr Wells to delegates at the Conference. Attendees at the Conference included farmers, scientists and students with an interest in the future direction of animal breeding in Australia and internationally.

coordinated support for young dairy farmers in gippsland

GippsDairy Inc. *Project Leader: Dr Danielle Auldrist* *Gardiner Foundation contribution \$80,000*

The Young Dairy Farmer Development Program (YDDP) is coordinated by GippsDairy and aims to provide a support mechanism for younger farmers to help them stay in the industry. The needs of young dairy farmers (18 to 30 years) are being addressed in this project.

The YDDP emphasises farmer to farmer support and assists them to source the information they need. These people are newcomers to the industry and usually have family responsibilities and little time for traditional networking.

The YDDP program addresses training and leadership using a variety of mechanisms including seminars and study tours. Participants are full of praise for the program and recognise its importance to their development as proficient farmers in the industry.

In July 2004, the Foundation agreed to fund an extension of the YDDP program with increased emphasis on improving financial and business skills, understanding the impact of external factors on the business as well as the overall structure of the dairy industry and a range of personal development courses. As with the earlier project, the YDDP will continue to facilitate the formation of networks of members to increase their personal knowledge and confidence.

Carol Bate with GF Scholar Dr Michael Pyman, The University of Melbourne, who is undertaking a study into the *productivity, health and reproductive performance of (Holstein Friesians x Jersey) crossbred cows in Victoria.*



'Young Dairy Farmer Development Program'; Karen Baum (Project Officer) with participants, Ken McAinch and Matthew Smith at Denison in the Macalister Irrigation District (East Gippsland).

support officer for DemoDAIRY

DemoDAIRY Cooperative *Project Leader: Mr Richard Downs* *Gardiner Foundation contribution \$61,573*

DemoDAIRY is a farmer cooperative in South West Victoria, centred on a commercial dairy farm and used for research, development and extension activities for the dairy industry in the region. There is no government research institution for dairying in the south west region so DemoDAIRY plays a key role.

However, financial self-sufficiency has proven difficult for a farm that also supports dedicated research trials and farmer education.

The Gardiner Foundation has been pleased to support the Cooperative through provision of funding for the employment of a part-time Business Development Officer to undertake the non-farming activities and to coordinate support from other industry organisations. These activities include the conduct of demonstration and extension activities and effective communication with stakeholders.

The sponsored officer is having a positive effect on the current operation of the FarmDEMO project. Visitor numbers are increasing with over 1000 visitors arriving in 2003/2004 compared with 483 in 2002/2003. Positive responses have been achieved from commercial sponsors and short courses have been held regularly. The exposure of DemoDAIRY has increased with regular articles in the WestVic Dairy Newsletter distributed monthly and the recent inclusion of the DemoDATA in the Weekly Times. Most importantly, local dairy farmers remain committed to the purpose of DemoDAIRY and regard it as a vital link in their own on-farm improvements.

united dairy farmers of victoria - annual conference

United Dairyfarmers of Victoria *Project Leader: Ms Peta Slack-Smith* *Gardiner Foundation contribution \$5,000*

The Gardiner Foundation was pleased to sponsor the Annual Conference of the United Dairyfarmers of Victoria (UDV) held in Bendigo in May 2004.

The Conference featured sessions relating to the farm business environment, future of the industry, and a range of issues facing dairyfarmers including water and genetically modified organisms (GMOs).

Gardiner Foundation Director, Ian MacAulay and Chief Executive, Carol Bate attended the Conference and addressed the delegates to outline the Foundation's new Community Development program.

Approximately 300 delegates attended the Conference.

'UDV Annual Conference', Delwyn Seebeck (UDV Councillor) (L.) and Carol Bate (Gardiner Foundation).



'DemoDAIRY' – Chairman Richard Downs with Business Development Officer Jo Hawker. Photo courtesy of Dairy Australia



fortification of milk with minerals for bone health in older men

Deakin University Project Leader: *Dr Robin Daly, Dr Shona Bass & Dr Caryl Nowson* Gardiner Foundation contribution \$24,025

This project is investigating the effects of dairy foods fortified with calcium and vitamin D on bone density in older men with below average bone density. Fortified milk offers an inexpensive strategy for increasing dietary calcium intakes that can maintain or increase bone density during aging.

For the dairy industry, the sale of fortified milk offers an additional market outlet for a truly functional food.

In a community study, 168 eligible men aged 50 or more with below average bone density and a sedentary lifestyle were recruited for the study. Initial measurements were made of bone density and body composition, and blood and urine samples collected for standard biochemical parameters. Information about diet and physical activity was obtained through questionnaires.

Volunteers were given either the fortified milk or a fruit juice placebo. It was anticipated that all testing would be completed by the end of July 2004 with a final report due in November this year.

the measurement of feed conversion efficiency in dairy cattle

Department of Primary Industries, Hamilton Project Leader: *Mr Bruce Knee* Gardiner Foundation contribution \$37,150

This project was undertaken in south western Victoria to see if there are differences between individual Friesian heifers in their ability to convert feed into weight gain. Heifers that are more efficient feed converters in their first two years of life can be run at higher stocking rates, thereby saving feed for lactating cows. The more efficient animals may also gain more weight, which is critical for subsequent lactation and fertility.

In the study, 80 Friesian commercial heifers were fed a pelleted ration containing adequate protein and energy levels over a 70-day test period. It was found that most animals gained weight and deposited fat at about the same rate as each other. However there were statistically significant differences in feed consumption and feed conversion efficiency.

These results indicated that there is potential to include feed consumption and conversion efficiency in genetic selection programs for dairy cattle.



DPI project 'The measurement of feed conversion efficiency in dairy cattle'.



Silage storage at DPI Ellinbank.

"a career on a plate" - recruitment for the dairy & food industry

National Youth Science Forum Project Leader: *Ms Belinda Lamb* Gardiner Foundation contribution \$15,000

This innovative program offers summer vacation work-placement opportunities to students immediately following the end of their Year 12 studies. In January 2004, students were hosted in the Goulburn-Murray region for a one-month placement with local food processing and dairy companies to broaden their knowledge of science and engineering roles available in the regional food industry.

Prior to the work placement, students attended the 2003 National Youth Science Forum held in Canberra, where they met with scientists and engineers from throughout Australia to gain and share information about career paths. "A career on a plate's" main objective is to enhance youth involvement in regional industry, and to promote the advantages of living and working in rural and regional areas.

The Gardiner Foundation was pleased to have the opportunity to sponsor four positions in the program. Successful students, known as Gardiner Foundation scholars, were linked with hosting companies including SPC/Ardmona, Tatura Milk Industries and Snow Brand.

At a formal farewell function held at the conclusion of their work placement, the four Gardiner Foundation scholars gave brief presentations about their experiences. The overwhelming sentiment was that the placements had been both rewarding and exciting.

'A career on a plate',
farewell for program
graduates (l to r)
Alberto Pintos
(Gardiner
Foundation)
with GF
Scholars,
Jenny Byron,
Cassie Horn,
Kathryn Ngo,
Belinda Lamb
(National Youth
Science Forum)
and Brendan
Edwards.



Graeme Gledhill,
Chairman,
Central Murray Area
Consultative
Committee (l) with
Dr Mike Ginnivan,
Managing Director
of Dairy Australia.



major research & development projects

The Major Research and Development Program represents the bulk of the Foundation's total investment. By its nature, research is long term and the outcomes from individual projects are never fully predictable. Taken collectively as a portfolio however, the Major Research Projects offer an excellent opportunity for the dairy industry to capture substantial benefits whether through productivity gains on farm, added quality, novel or functional foods, or access to new markets.

Funding commenced in 2003/04 and to date, contracts have been entered into for seven projects with a total value of approximately \$23 million over five years of which the Foundation's contribution is over \$5.5 million. It has been estimated that the expected return on this total investment will be \$5.50 generated value for every dollar invested by the Foundation. Projects have been selected at various points in the dairy food supply chain with the majority of economic benefits likely to accrue pre-farm gate for four of the projects and post-farm gate for the balance.

It is the Board's expectation that it will continue to fund new Major R&D Projects at the rate of about two per year.

The following is a listing of the Major Research and Development Projects currently being funded by the Foundation.

bovDART - a novel low-cost genetic profiling system for advanced breeding platforms in victorian dairy cattle

'technologies that will be critical for future genetic-improvement for the dairy industry.'

Prof. Herman Raadsma

Description

Use of molecular marker technologies to reduce the cost and time taken in the selection and breeding of premium dairy bulls.

Potential impact for the dairy industry

The expected benefit to Victorian dairy farmers from a successful outcome is estimated to be \$7.8 million.

Lead organisation

The University of Sydney - Centre for Advanced Technologies in Animal Genetics and Reproduction (Reprogen)

Partners

Genetics Australia, Diversity Arrays Technology Pty Ltd, CRC for Innovative Dairy Products and Australian Dairyfarmers Federation

Major R&D Selection
Panel members
Prof Paul Nestel AO (L)
and Dr Mike Rickard
(Chairman).



Prof. Herman Raadsma

mining australian biodiversity to improve profitability of the victorian dairy industry

'the promise of identifying new products for the Victorian dairy industry is now being realised.' Dr Kevin Nicholas

Description

Examination of aspects of reproduction unique to Australian mammals to find mechanisms that allow expression in dairy cattle of desirable milk yield and lactation persistence characteristics, and synthesis of milk compounds having useful biomedical applications.

Potential impact for the dairy industry

The expected benefit to Victorian dairy farmers from a successful outcome is estimated to be \$31 million.

Lead organisation

The University of Melbourne, Department of Zoology

Partners

The University of Melbourne, School of Dental Science, CRC for Innovative Dairy Products and Massey University, NZ, Institute of Food, Nutrition and Human Health

closing the loop: a holistic approach to the management of dairy processor waste streams

'enabling waste management issues to be tackled holistically at a regional level.' Dr David Halliwell

Description

Survey of existing waste management practices to characterise the chemical, physical and biological nature of dairy processing waste streams and investigate creative, holistic strategies for their reuse.

Potential impact for the dairy industry

The expected benefit to Victorian dairy farmers from a successful outcome is estimated to be \$13.5 million.

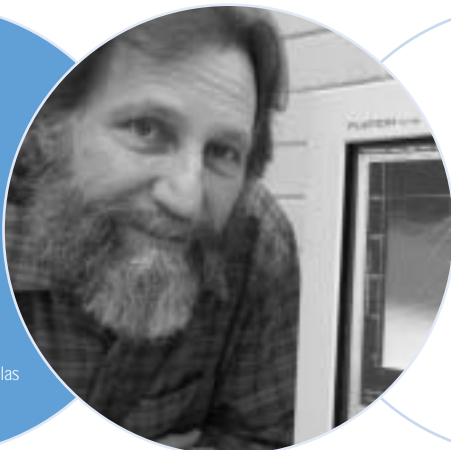
Lead organisation

Department of Primary Industries, Victoria

Partners

Food Science Australia, Deakin University, Victoria University of Technology and RMIT University

Dr Kevin Nicholas



Dr David Halliwell



development & implementation of candidate gene based markers in outcrossing forage species

'the technology will accelerate and simplify the breeding of improved pasture grasses and clovers' Dr John Forster

Description

Development of 'next-generation' molecular marker technologies based on gene-specific variation for implementation in perennial ryegrass and white clover breeding, with anticipated high impact for the Australian temperate grazing industries.

Potential impact for the dairy industry

The expected benefit to Victorian dairy farmers from a successful outcome is estimated to be \$30 million.

Lead organisation

Department of Primary Industries, Victoria – Plant Biotechnology Centre

Partner

Department of Primary Industries, Hamilton

food biosecurity for victorian dairy products

'building a new capability to detect, monitor and manage microbiological risks in dairy products.' Prof. Margaret Britz

Description

Use of leading edge technologies in genomics and proteomics to detect, monitor and control significant pathogens, including viruses, in dairy products.

Potential impact for the dairy industry

The expected benefit to Victorian dairy farmers from a successful outcome is estimated to be \$1.2 million.

Lead organisation

The University of Melbourne, Institute of Land and Food Resources

Partners

Food Science Australia, The Murdoch Childrens Research Institute, Australian Starter Culture Research Centre Limited, Australian Animal Health Laboratory and Dairy Food Safety Victoria



Dr John Forster



Prof. Margaret Britz

value-added bioactive dairy products - discovery technology & beyond

'helping to establish a world-leading capability in dairy nutraceutical development.' Dr Leanna Read

Description

Using rapid screening techniques to search for molecules in milk with useful bioactive characteristics for humans – functional foods.

Potential impact for the dairy industry

The expected benefit from this project will flow largely to the dairy manufacturing sector.

Lead organisation

TGR BioSciences Pty Ltd., Adelaide

Partners

Murray Goulburn Co-operative Ltd and Food Science Australia

profitably extending lactation in pasture-based dairying systems

'farm systems incorporating extended lactation will lead to increased profitability of dairying.' Dr Chris Grainger

Description

New approaches to the nutrition of cows during extended lactation to counter the economic impact of irregular calving by high producing Holstein-Friesian cows.

Potential impact for the dairy industry

The expected benefit to Victorian dairy farmers from a successful outcome is estimated to be \$79 million.

Lead organisation

Department of Primary Industries, Victoria

Partner

The University of Melbourne

Dr Leanna Read



Dr Chris Grainger



small projects funding round 4, 2003-04

The following projects were selected for Gardiner Foundation funding for Small Projects for 2003-04.

Project No	Organisation	Project Title
GF4/002	Sustain Ability International Pty Ltd	Ollie's Island - Interactive Paddock to Plate CD ROM and Website Edu-tainment Program
GF4/003	WestVic Dairy Inc	Preparation of Adopt a Calf for the Victorian primary schools curriculum
GF4/005	Dairy Industry Association of Australia Inc (DIAA)	"Going green to stay in the black" - DIAA Dairy Science World Series 2004, combined with DIAA National Conference "Milking water for all its worth"
GF4/006	Definitive Events Pty Ltd	BioFestival 04 - "AgBio & You"
GF4/007	Department of Primary Industries National Milk Harvesting Centre	Consolidating CowTime to milk the benefits
GF4/009	Department of Primary Industries & The University of Melbourne Animal Welfare Science Centre	Effect of breed (Jersey vs Freisian and Hereford vs Freisian) on behavioural development in young calves
GF4/012	Dairy Australia Limited	Uruguayan Fellowship
GF4/015	Industry Steering Committee for Advanced Diploma of Dairying	Creation of Establishment Bursaries to support students entering the first year of the industry developed program Advanced Diploma of Agriculture (Dairy)
GF4/018	Deakin University School of Exercise and Nutrition Sciences	Evaluation of novel dairy components in the treatment of chronic muscle-wasting conditions using a primary human muscle cell culture system
GF4/026	Corangamite Shire Council	Dairy Processing Electricity Supply Improvement Project
GF4/032	Australian Dairy Herd Improvement Scheme	Cows n Genes Training Workshop
GF4/036	The University of Melbourne	Use of the Australian Milk Biscuit to combat malnutrition and HIV/AIDS: Pilot trial and commercialisation
GF4/037	Department of Primary Industries	Producing selenium enriched milk on farm to meet market or product specifications and identifying human health benefits

Paul Weller, President,
Victorian Farmers Federation (l.)
with GF Director Max Fehring.



Paul Ford (General
Manager Innovation,
National Food
Industry Strategy)
(l. to r.),
Dr Jenny
Robertson
(Director, Dairy
Food Safety
Victoria) and
Peter Owen
(President, UDV).



community development

Community development is the term given to the combined efforts of local people and government authorities to improve the economic, social and cultural conditions of communities. Success means that communities are more able to generate wealth, improve their competitive position and develop and use community resources. They are also more adaptable to change.

Economic development and community development are inter-dependent. To have a vibrant community, people need to have jobs, services and economic sustenance.

The Gardiner Foundation's investment will focus in three areas where it believes that a community development approach will have a significant impact for local communities.

The first focus area concerns the supply of a reliable labour pool in rural areas. This problem restricts business development and prevents workplace flexibility for the dairy farm owner-operator. A labour shortage also impacts more widely in the community where other key shortages (e.g. teachers, aged care workers etc.) threaten the functioning of the entire community.

New strategies will be needed to attract young people to the dairy industry and engage them in a committed way in order to sustain both the industry and its communities. Building a perception of the industry as an attractive career choice may require further development of labour management skills in the farming community.

The second area for focus is the impact that demographic and social changes are having in rural communities. These are being reflected as changes in family structure, societal roles and the overall composition of rural communities. New models of community are urgently needed to accommodate heterogeneity and bring people together in new and different working relationships comprising a mixture of paid and voluntary input.

Finally, there is the question of leadership in communities. Too much is left to the willing few, and current leaders are at risk of burnout. One consequence of this is a growing reluctance to take on community leadership roles. Opportunities to develop leadership from the ground up and to distribute it across a greater range of people are critical.

The Foundation's investment will be through major projects, small projects and grants.

In June 2004, the Foundation approved Small Project funding to 13 new Community Development projects. These are listed on the following page.

"I do not see economic and community development as mutually exclusive concepts. In fact, neither can truly flourish without the other. Strong communities are essential to sustain an efficient and profitable dairy industry."

Minister for Agriculture, The Hon Bob Cameron MP, February 2004

Ian MacAulay
(GF Director)
and
Sylvia Admans
(CEO,
Foundation
for Rural
and Regional
Renewal).



The Hon Bob Cameron MP

community development small projects

Project No	Organisation	Project Title
CDSP1/004	Loddon Murray Community Leadership Program	Developing responsive, robust and resilient dairy communities through training emerging leaders in the dairy industry
CDSP1/006	Kyabram Secondary College	"Old Mates" - An intergenerational project to help build self worth, connectedness, and literacy in adolescents in drought affected dairying communities
CDSP1/008	Gippsland Agribusiness Forum	Growing Gippsland's dairy industry - a regional Dairy Industry Development Plan to the year 2015 - Stage 2
CDSP1/009	Youth Opportunity Program Ltd T/a Typo Station	Building community links for disadvantaged youth in dairy communities
CDSP1/012	Port Campbell Rural Fire Brigade	Purchase of a (4wd) twin cab landrover as a fully operational fire fighting unit
CDSP1/014	United Dairyfarmers of Victoria	Ensuring industry succession through leadership development of young Victorian Dairyfarmers
CDSP1/015	United Dairyfarmers of Victoria, Nambrok - Denison Branch	Develop water leaders in the Macalister Irrigation District, through the development and delivery of workshops for local dairyfarmers and community members (6 courses for 20 individuals)
CDSP1/017	South West Community Capacity Building Consortium	Sustaining the volunteer sector in South West Victoria
CDSP1/020	Sustainable Dairy Alliance Inc	"Answers and Alternatives". To facilitate an in depth search for a better way of approaching sustainable dairy production
CDSP1/022	WestVic Dairy Inc	South West Dairy Industry Employment Awards
CDSP1/023	North East AgCare	A social research analysis of the impact and consequent sustainable recovery from drought for dairying communities
CDSP1/027	Gipps Dairy Inc	Coordinated support for young dairy farmers in Gippsland with a focus on financial and industry information, and professional development
CDSP1/028	WestVic Dairy Inc	Dairy – Employment for the Future - Business Plan/Implementation Strategy



United Dairyfarmers of Victoria,
Executive Manager Peta Slack-Smith (l)
and Dairy Products Manager
Jenny Frederiksen.



Peter Carkeek,
speaker at the
launch of the
GF Community
Development
Working
in Dairying
Communities
initiative.

forward look

people issues & capacity building

Major Community Development Projects will be funded for the first time in 2004-05 and are expected to target the established priority areas of under-supply of labour for dairy farm operation, social and demographic changes, and community leadership skills. Through these projects, the Foundation's intention is to assist dairying communities to build their own capacity, sustain themselves profitably, and develop the local leadership to enable them to take advantage of whatever opportunities arise.

Community Development Projects will bring about change by addressing key pressure points. Applicants will be expected to establish partnerships with community organisations and/or government agencies and to facilitate networks to share resources and information across regions. Genuine synergies between groups within communities need to be exploited and entire communities assisted to learn from each other. The Foundation will also support the next phase of the United Dairyfarmers of Victoria project '*Dairy - Employment for the Future.*'

evaluation

As funded Major Research Projects move into their second year, the Foundation will give closer attention to the evaluation of outcomes. Apart from annual reports on progress, terms of reference will be established for major mid-term reviews of each project. Criteria will also be established for the evaluation of Community Development Major Projects with due recognition of the importance of the total community benefit from participation in the project as well as specified objectives.

triple bottom line objectives

Many of the projects within the Foundation's portfolio are likely to yield environmental and social benefits as well as economic outcomes. The Foundation recognises the potential importance of all benefits to the dairy industry and is adopting specific measures to ensure that they are recognised at the time when projects are selected for funding and when completed and evaluated. A framework like Bennett's Hierarchy will enable criteria such as the involvement by people, their reactions, activities undertaken, knowledge acquired and changes in practice to be used as legitimate outcome measures.

communication

During the coming year, the Board will consider the recommendations from the recent survey of stakeholders and from the meeting with an industry reference group in June. It is expected that the industry reference group will be reconvened periodically. Every opportunity will be taken for closer consultation with stakeholders while not inhibiting the Foundation's obligation to undertake long term planning and investment.

The Foundation is also working closely with project teams to find the best way of disseminating information from projects to industry and to the community broadly. One initiative in the coming year will be a workshop and farm walk at the Department of Primary Industries' Institute at Ellinbank where the results from Small Projects will be showcased and an interim report released from a Gardiner Foundation project studying extended lactation in dairy cows.

future gardiner foundation funding

Decisions about the future of the Foundation's funding portfolio are continually being reviewed through Board deliberations and consultative processes with stakeholders. For the immediate future, the Foundation expects to continue to focus on assistance to dairying communities through Community Development funding for small and major projects.

The Foundation expects also to continue to offer Small Projects funding at about the present rate. These projects are well regarded throughout the industry and deliver benefits quickly and in line with local management priorities.

Finally, the Foundation expects that it will continue to make funding available for a limited number of Major Research and Development Projects. It is likely that these projects will help to build dairy industry capacity to adopt new innovations and technology and bring new and novel dairy foods to market.

about the gardiner foundation

The Gardiner Foundation provides funding to projects that improve the international competitiveness of the Victorian dairy industry and the well being of dairying communities. Projects should provide a benefit to at least one major sector of the dairy industry and have clear objectives and measurable outcomes.

small projects

The Geoffrey Gardiner Dairy Foundation provides funding for individual projects up to the value of \$25,000, although in special circumstances funding above this level to a maximum of \$100,000 may be considered. The projects may include research and development as well as elements relating to extension, technology transfer, education, training and skills development. Projects attracting funding from multiple sources are preferred and applicants are therefore encouraged to seek additional funds from other sources. Funds are made available to groups or organisations that lodge applications deemed worthy of support. Funds are not made available to individuals.

major research & development projects

Applications are open to groups or organisations involved directly with an innovative, integrated research and development program. Successful projects will be eligible for funding from the Foundation of \$200,000 or more per annum over three to five years.

The Foundation expects that it will fund up to 50 percent of the total costs of the project. Therefore, projects will need to incorporate at least one other additional funding source from commercial organisations, industrial groups or other public or private funding agencies.

community development projects

The Gardiner Foundation is committed to allocate \$3 million for activities that support dairying communities. The term community can refer to a self-defining geographic region or community of shared interest, which reflects real life relationships. Local residents need to be involved in defining what social, environmental or economic projects would best suit the community's interests. Community Development funding is targeted toward projects which address the issues of Labour, Leadership and Changing Demographics in dairying communities.

contacts

The Gardiner Foundation has an up to date web site that offers full information about the Foundation itself, as well as forms and guidelines for applications for funding.

Visit our site at:

www.gardinerfoundation.com.au

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GARDINER FOUNDATION