



# **Countdown Downunder 1999-2001**

## **Improving mastitis control on dairy farms**



DAIRY RESEARCH  
AND DEVELOPMENT  
CORPORATION

# Table of contents

<b>The Short Report</b>	<b>4</b>
<b>Improving mastitis control on dairy farms</b>	<b>8</b>
<b>The key elements of Countdown Downunder</b>	<b>24</b>
1. Farm Guidelines	26
2. Technotes	29
3. Summaries of the key messages	31
4. Countdown Downunder website	33
5. Stakeholder list, awareness activities and bimonthly newsletter	35
6. Adviser Seminars in each region	38
7. Materials for farmer meetings in each region	41
8. Countdown Downunder Adviser Short Course	44
9. Countdown Downunder Farmer Short Course	48
10. Establishment of regional networks of dairy advisers	52
11. Establishment of national udder health statistics	53
12. Focused udder health research activities	55
13. Establishment of agreed methods and quality assurance in microbiology laboratories	58
<b>Countdown Downunder outcomes in the regions</b>	<b>59</b>
Western Australia	60
South Australia	62
Tasmania	64
Western Victoria	66
Northern Victoria	68
Gippsland	70
New South Wales	72
Queensland	74
<b>Some of Countdown's major contributors</b>	<b>76</b>

# Foreword

This report describes Countdown Downunder from its launch in December 1998 through to June 2001. It is presented in five parts. The first is a Short Report that captures the project's essential activities and outcomes. The second section is a reflective description of the philosophies, strengths and lessons learnt from the project. It tells how we chose to go about achieving the overall goal of bringing Australia's cell count down. The third section is a more clinical and detailed account of the 13 project deliverables and their ultimate outputs. Most of the previous reports about the project have been based around these deliverables. The fourth section summarises the activities and achievements in each region and the last section provides a brief introduction to many of the people who have contributed.

Countdown Downunder is the result of efforts by a large number of people. Members of the Australian Mastitis Advisory Council provided the project with strategic direction; numerous technical working groups distilled the science, built communication and evaluation strategies and designed training packages; the Regional Project Managers worked very hard to energise their regions; and a whole team of presenters and trainers sparked the enthusiasm of thousands of farmers and advisers. The Dairy Research and Development Corporation, Geoffrey Gardiner Dairy Foundation (formerly the Victorian Dairy Industry Authority) and state departments in Queensland, New South Wales, Tasmania and South Australia funded Countdown and dairy farmers have taken the project on board with their usual energy and eye for practicality.

Leading Countdown Downunder has been the most challenging and rewarding task of my career in the dairy industry. Highlights to date include expanding the team able to deliver the project elements and designing a course for farmers to help them implement the Countdown recommendations most relevant to their own farming situations.

The last section of this report acknowledges and thanks many of the individuals who have worked extraordinarily hard to put the project together. I would like especially to mention some of those who have been part of the Countdown 'central' team and helped me a great deal – Terry Hehir, Graeme Mein, Rod Dyson, Niall Byrne, Mark Paine, Fiona Smolenaars and particularly Anne Hope whose energy, commitment and attention to detail have been appreciated so much by all of us.

Countdown Downunder is planned to continue to June 2004. During the next three years we will be building on the foundations established during the first phase of the project. This report of the first phase of Countdown offers our reflections to foster continuous improvement for the ongoing project and for other projects in the Australian dairy industry.



*Pauline Brightling*

*Project Leader*

*Countdown Downunder*

A handwritten signature in black ink that reads "Pauline Brightling". The signature is written in a cursive, flowing style.

# Countdown Downunder 1999-2001

## The Short Report

### The industry targets:

- **90% of the milk supply from Australian dairy farms with bulk milk cell counts of less than 250,000 cells/mL**
- **All milk supply with counts of less than 400,000 cells/mL.**



**Mastitis control is complex. Countdown offers a clear path forward.**

Countdown Downunder was created in 1998 to help farmers meet new quality standards, improve farm profitability and protect export markets.

By mid-2001, national cell counts were on the way down and the project had engineered a change in the culture of many of the people who professionally advise farmers on milk quality.

This short report summarises the major achievements of Countdown Downunder to June 2001. More information is available from Countdown Downunder.

### ***Why are cell counts an industry issue?***

Australia's dairy industry is worth more than \$7 billion a year and contributes \$2 billion to Australia's balance of trade.

International expectations for milk quality are increasing with new European standards.

Since 1 January 1998, the European Economic Commission has regarded milk or milk products made from raw cows' milk with cell counts above 400,000 cells/mL as unsuitable for human consumption (Directive 92/46). Other importing customers are increasingly using this standard.

Broadly speaking, the more somatic cells in milk – the lower the quality. High cell counts interfere with dairy product manufacture, and indicate poor quality processes on the farm. Clinical mastitis cases on-farm can also cause substantial production losses.

All Australian milk must be below the 400,000 cells/mL threshold for Australia to maintain its reputation as a supplier of quality milk products. Otherwise dairy farmers will receive lower prices for their milk, and Australia may lose exports. In 1998 the Australian dairy industry set national targets and established Countdown Downunder to help Australia's 12,888 dairy farms achieve these targets.

The best dairy farmers aim to prevent mastitis infections and win premium milk payments. It requires them to follow quality procedures, getting many small things right on every day of every year.

If a mastitis problem does develop, then identifying the underlying cause can be complex and time consuming. It can involve a host of different professionals including vets, milking machine technicians, factory advisers and others. Prior to Countdown, farmers complained that the people advising them often gave confusing and inconsistent advice – they didn't work as a team to solve the farm problem.

## Defining best practice for mastitis control

The *Countdown Downunder Farm Guidelines for Mastitis Control* form the basis of all Countdown's advice and training resources. They are a best practice manual for farmers. The Farm Guidelines describe how to prevent and control mastitis in a step-by-step seasonal guide and are published as a 122-page colour handbook. They were launched with the project in December 1998.

Countdown's development and the technical recommendations were guided by the Australian Mastitis Advisory Council. The Council included representatives from the peak bodies of the dairy industry and helped ensure each industry segment had confidence in Countdown's recommendations.

The scientific and technical accuracy of the Farm Guidelines was underpinned by the *Countdown Downunder Technotes*. Published in 2000, the Technotes were an essential reference for dairy advisers – they provided the evidence to substantiate the recommendations in the Guidelines. These two documents together have changed the way farmers and advisers talk about mastitis. Rather than worrying about technical uncertainties, there is now a sense that mastitis can be controlled by good management instead of waiting for a new 'silver bullet' technological fix.

## Building a new extension frontline in each dairying region

Sustainable change in mastitis control on dairy farms requires practical advice that farmers and their staff can integrate into their daily work, but it would not have been sufficient for the project to simply send this information direct to farmers. The Farm Guideline recommendations were most likely to be adopted when farmers directly interacted with the professionals who advise them, and when these advisers were skilled, provided consistent advice and worked with other disciplines to solve problems.

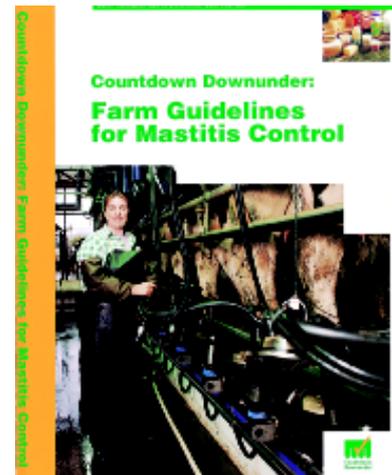
Countdown coordinators were appointed in each dairying region to help build the regional capacity to manage mastitis. They identified local dairy advisers and organised seminars to brief them on Countdown. As the project developed, many of these advisers went on to present seminars to farmers and to participate in 4-day Adviser Short Courses. These 'Countdown-trained' advisers became Countdown's frontline.

Dairy advisers who had not enrolled in Countdown's courses were not ignored. They received bimonthly information from the Countdown team, alerting them to the issues of the month, and encouraging them to use Countdown resources in their day-to-day work.

By June 2001, 5,500 farmers and milk harvesters across Australia had attended local meetings for an average of 1.8 hours.

In 2001, Countdown rolled out the Farmer Short Courses. Building on the Guidelines, the courses give farmers and milk harvesters the tools they need to take mastitis control to the next level, with a practical management plan for their own businesses.

Throughout the program, Countdown's key messages about mastitis control have been broadcasted via the 'sports pages' of *Australian Dairyfarmer* magazine and other media. From mid-2000 this included a set of five themed stories offered to all dairy media. The result has been a stream of hundreds of events and articles encouraging farmers to think again about mastitis control.



### Fact box

- 8,795 copies of the Farm Guidelines sold
- 630 copies of the Farm Guidelines donated to libraries and stakeholders
- 46% of dairy farmers own a copy of the Farm Guidelines
- 500 sets of Technotes sold with 42% of professional dairy advisers owning a copy.

### Fact box

- About 1,200 people regularly advise farmers on mastitis and milk quality
- 768 advisers are aligned with Countdown in June 2001, having participated in seminars, courses or other Countdown activities
- 844 advisers attended seminars in 1999 for an average of 5.2 hours
- 240 advisers attended four-day training courses
- 54 advisers attended workshops to prepare to facilitate the Countdown Downunder Farmer Short Course
- 268 advisers subscribe to Countdown-L
- 1,800 advisers receive bimonthly bulletins about mastitis issues



**The outcomes from Countdown Downunder**

Industry leaders and farmers say Countdown’s advice is now an integral part of dairying in Australia. Independent market research in September 2000 showed that:

- ✓ 76% of dairy advisers had benefited from Countdown.
- ✓ 46% of Australia’s 12,888 dairy farmers used the Countdown Farm Guidelines.

The decision environment that farmers and advisers work in has changed with many farmers now planning their mastitis control and milk quality management and looking for competent local advisers to help them implement their plans. A factory field officer in Gippsland described the nature of this change as:

*“... the best thing about Countdown ... [is] ... there is a whole lot of people out there on the same wavelength ... they’re all working towards the same goal ... previously you wouldn’t necessarily have that confidence.”*

Australia’s cell count is dropping. Herd cell count statistics (which are a surrogate for bulk milk cell counts based on milk recording data) showed a downward trend in cell count from 89% below 400,000 cells/mL in 1997/1998 to 92% by 1999/2000.

High achieving farmers from all states were honoured in the Weekly Times Countdown Downunder Milk Quality Award established in 2001. This national award recognised the 5% of suppliers across Australia who had the lowest average bulk milk cell counts and helped focus attention on milk quality issues.

Countdown continues as a new project commencing 1 July 2001. It as attracted strong industry support and will build on the achievements of the first phase of Countdown Downunder.

**Fact box**

- 5,500 farmers became aware of Countdown recommendations at 205 meetings
- 342 farmers have completed the 6-day Farmer Short Course
- Countdown articles have appeared in *The Australian Dairyfarmer* (circulation 18,700) for 30 months
- Farmers across Australia have seen more than 385 articles in local newsletters and newspapers.



**Project Leader**  
– Pauline Brightling



**Gippsland**  
– Carol Bradshaw



**NSW**  
– Dick Buesnel



**Northern Victoria**  
– Fiona Smolenaars



**Queensland**  
– John Miller



**South Australia**  
– Glen Beath



**Tasmania**  
– Ian Hubble



**Western Australia**  
– Peter Rosher



**Western Victoria**  
– John Penry



**Scientific Officer**  
– Anne Hope

## THE SHORT REPORT

### **Countdown Downunder outcomes were achieved by deliverables specified in the Project Brief**

<b>Original target output</b>	<b>Actual output in June 2001</b>
Publish 5,000 Farm Guidelines	11,000 Farm Guidelines printed and 9,425 distributed 46% of farmers owned a copy by September 2000
Publish 1,000 Technotes @ \$40	2,000 Technotes @ \$86 and 535 distributed 42% of dairy advisers own a copy
Promote key messages in <i>The Australian Dairyfarmer</i> and via articles prepared for use by advisers	15 columns (bimonthly for 30 months) 385 articles in stakeholder publications
Make Farm Guidelines available on the Countdown website	2,139 on-line requests for the Acrobat file
Identify stakeholders, including an estimated 700 advisers Send bimonthly newsletter to advisers	Database of 2,220 stakeholders including 1,200 advisers 2 professionally produced newsletters; average of 4 personal mailings; 5 Adviser bulletins
Have 525 (75% of 700 advisers) attend regional Adviser Seminars	844 advisers attended Adviser Seminars for an average of 5.2 hours
Have 7,500 (25% of 30,000 people on dairy farms) attend local farmer meetings	5,500 milk harvesters attended farmer meetings for an average of 1.8 hours
Design, pilot and run the Adviser Short Course for 150 advisers	240 advisers participated in the Adviser Short Course, completing 78 farm investigations
Design and pilot 18 hours of learning material and train local train local advisers in each region to deliver the Farmer Short Course. The Project Brief included no funds and had no expectation of delivery of the Farmer Short Course before June 2001	The Farmer Short Course is 21 hours of learning materials; 54 advisers trained across Australia; and 17 courses completed around Australia
Establish adviser networks	268 subscribers to the Countdown-L e-mail discussion list
Establish national udder health statistics	Regional and national Herd Milk Cell Counts from ADHIS milk recording data
Identify udder health research priorities	Priorities identified in Technotes and industry planning documents
Establish an agreed methodology and quality assurance in microbiology laboratories	Strategy for reliable and cost-effective mastitis diagnosis developed

*Countdown Downunder was funded by the Dairy Research and Development Corporation and the Victorian Industry Dairy Authority (now the Geoffrey Gardiner Dairy Foundation). State departments in Queensland, New South Wales, South Australia and Tasmania supported the Regional Project Managers. The Subtropical Dairy Program and WestVic Dairy funded specific activities in Queensland and Western Victoria. Peak industry bodies made in-kind contributions through the involvement of their representatives on the Australian Mastitis Advisory Council. The Herald and Weekly Times sponsored the 2001 Milk Quality Awards.*



**[www.countdown.org.au](http://www.countdown.org.au)**

**Countdown Downunder, Level 6, 84 William Street,  
Melbourne, Victoria 3000  
Phone 03 9600-3506, Fax 03 9642-8133**

# Countdown Downunder 1999-2001

## Improving mastitis control on dairy farms

**Bulk milk cell counts have become a core measure of milk quality sold at the farmgate**

**Steady progress has begun toward Australia's cell count goal**

### Progress toward the national cell count goal

Countdown Downunder is the Australian dairy industry's program for control of mastitis and related milk quality. Mastitis is the cause of elevated milk cell counts. Milk quality, as measured by milk cell counts, has become an essential element of the marketability of milk at the farmgate. Countdown was devised to empower farmers to achieve and sustain milk cell counts below premium thresholds and enable Australia to report an advantageous national status.

To increase farm profitability, the industry goal is for more than 90% of all farm supply to be at less than 250,000 cells/mL. During the past three years, the inclusion of cell counts in the buying standards and payment schemes of dairy companies has become universal in Australia. Dairy companies differ in the thresholds they use to define premium milk payments (from 150,000 to 250,000 cells/mL). Premium payments are typically about one cent per litre extra, so a farm of 200 cows producing 5,000 litres per cow earns an extra \$10,000 a year for supplying milk of cell count below the premium threshold.

Dairy company buying standards reflect the productivity and marketability of manufactured dairy products made from milk at different cell count levels.

To maintain access to export markets, the industry goal is for 100% of farm supply to have cell counts of less than 400,000 cells/mL. From 1 January 1998 the European Economic Commission has regarded milk or milk products made from raw cows' milk with cell counts above 400,000 cells/mL as unsuitable for human consumption (Directive 92/46). Other importing customers are increasingly using this standard and in November 2000 the European Commission audited Australia publishing their 'Review of the Australian export dairy program'.

International assessment of cell count status is occurring at both the dairy company and national level. Steady progress has begun towards the national cell count goals, demonstrated below by the change in Herd Milk Cell Counts (Table 1). Herd Milk Cell Counts are the average cell count for the herd on any test day calculated from milk recording data.

**Table 1: Progress toward the dairy industry cell count goal**

	Herd Milk Cell Counts below 250,000 cells/mL	Herd Milk Cell Counts below 400,000 cells/mL
<b>Goal</b>	<b>90%</b>	<b>100%</b>
Jul 99 – Jun 00	67%	92%
Jul 98 – Jun 99	66%	91%
Jul 97 – Jun 98	63%	89%

The power to change milk quality at the farmgate is in the hands of those people who milk cows and manage herds. Countdown's ultimate objective is to improve the mastitis control practices of milk harvesters on Australia's 12,888 dairy farms (Figure 1).

The experiences of a South Gippsland farmer in 1997 typified the situations faced by farmers before the start of the project:

*At the end of February my cell count from the factory was 430 [000]. It was the second time it had been above 400 [000] that month and the third or fourth time it had been above 400 [000] this season.*

*The tanker driver said everyone had gone up in February with the weather. A few people thought things had started to improve, so told me to just hang on before spending heaps.*

*One of the vets was out doing lame cows in the morning and I asked him about the cell count. He said I should get some samples to see what bugs grew and he gave me some jars. He also asked about my liners.*

*At lunchtime I went into town and called at [...] to get a couple of packets of liners in case some did need replacing. I saw [...] and he said I would probably need to upgrade the vacuum pump because it was only just on spec when he extended the shed last winter. He was really busy but said he would come out in the next few weeks to check.*

*That night the herd test reports had come. It showed that there were about five cows with high counts and if we got rid of them the vat would be under 250 [000].*

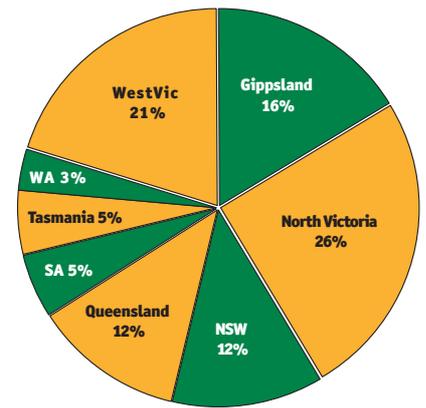
*It wasn't really clear what to do. I thought we had a problem ...*

*– Dairy farmer from Leongatha, Gippsland*

This account showed how hard it was for farmers to manage their situation – from identifying whether they had a problem to integrating information from their. Consequently Countdown's approach to lowering the national cell count was to establish clear, consistent information on mastitis control and to develop skills and processes to encourage milk harvesters to adopt best practice and manage their milk quality.

The goal of lowering the national cell count was achieved through 13 project deliverables. To understand the impact of the deliverables, the project team assessed the following outcomes over three years:

- increasing awareness and adoption of the Farm Guideline recommendations by milk harvesters
- increasing adoption of Countdown approaches by veterinarians, milking machine technicians, field officers and other dairy advisers when delivering advice to clients
- continuous improvement of techniques for the extension of mastitis advice
- development of a regional and national capacity to act on mastitis issues.



**Figure 1: Distribution of the 12,888 dairy farms in Australia**

**Countdown aims to improve mastitis control practices on Australia's 12,888 dairy farms**

Countdown's success in achieving the outcomes is described in this report. This approach is effecting change in cell count status as noted in a comment from John Bywater, Dairy Farmers, in 2001:

*Somatic cell counts at our Toowoomba factory, for example, have reduced steadily since February 1998. Quality improved so much that one-third of our suppliers were eligible for a bonus. This was due to several factors; one was the improved quality of information available to producers as a result of Countdown Downunder ..."*

*– Milk Supply General Manager for the Dairy Farmers Group, New South Wales*

**The Farm Guidelines recommend best practice for mastitis control as agreed to by the Australian dairy industry**

## **Getting the basic messages right: the Farm Guidelines and the Countdown brand**

Countdown Downunder was initiated because there was a need for clear, consistent information on mastitis control and milk quality relevant to Australian farmers. Although a lot of mastitis information existed, it tended to be locked in the domains of the various disciplines dealing with milk quality issues and the interpretation was not straightforward for some technical areas.

Because the success of the project ultimately relied on the awareness and adoption of best practice in mastitis control by farmers and the professionals who advised them, Countdown began with the task of defining best practice in a user-friendly format – the *Countdown Downunder Farm Guidelines for Mastitis Control*.

These guidelines were drafted by a small technical working party and then reviewed by representatives from all target audience groups and agreed to by the Australian Mastitis Advisory Council which is made up of representatives of the peak industry bodies for dairy farmers, dairy processing companies, industry groups and advisory professions (Figure 2).



**Figure 2: Industry representatives steered development of the Farm Guidelines through the Australian Mastitis Advisory Council.**

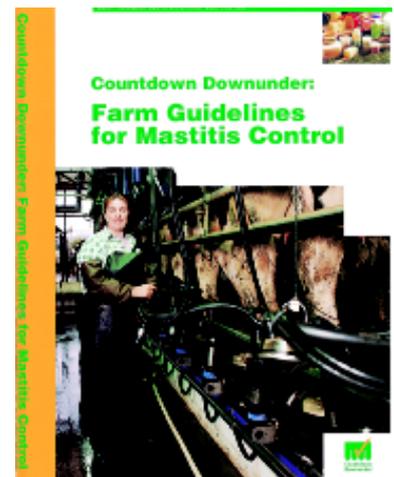
**Back row: Jeff Andrews, Ian Hubble, Graeme Mein, John Furphy, Lee Fitzgerald, John Bone, Chris O'Callaghan, John Craven, Jakob Malmo, Jill McKenzie. Front row: Graeme Rogers, Harry Collins, John Bywater, Terry Hehir, Pauline Brightling, Tom Davison, Robert Poole. Absent: Bill Darmody, Richard Habgood, Angus Hume, Peter Maguire, John Oldaker, Diane Ryan.**

The Farm Guidelines were written during the planning period for Countdown in 1998 and drafts were discussed in many consultative meetings with regional and industry groups. This was a long process extending over nearly 12 months and constituting about six month's full-time work. Having wide industry input to the Farm Guidelines was important for broad-based ownership of project recommendations, especially in its early stages. It also provided the project management team with its first example of just how much time and effort consultation takes when involving a lot of people.

Because mastitis control had been part of dairying for a long time, it was important to provide a strong, comprehensive story with a slightly new spin. Hence the 'stage of lactation' approach was chosen to arrange the recommendations. This was a new presentation format that worked well for seasonal calving herds but still made sense to year-round calving herds – a sensitive issue in attempting a national story.

The Farm Guidelines were the first tangible product from Countdown – they launched the brand (Figure 3). The objective was to link the name Countdown with an identifiable brand image that gave a feeling of substance, quality and practicality. Recommendations in the Farm Guidelines were science-based and proven in the field. Resources were directed to achieving a good layout and presentation for farmer readers. Choice of vocabulary, syntax in active language, inclusion of an index, use of colour, photos and cartoons and physical presentation details were all debated with regard to their impact on accessibility for the users and the image portrayed.

Each element required a good deal of attention to detail. For example, photos and cartoons were wanted to provide an attractive layout without detracting from the authority of the recommendations or the image of the farmers – cartoons add fun but there is a fine line in caricature between humour and ridicule. Cartoons were sourced from an artist working for a dairy service company, but a number of versions of the farmer characters were needed before the final ones were chosen. The first versions were considered to portray the farmers as 'too dumb' and 'straight out of the kitchen' (Figure 4). As another example, the paper and binding for the Farm Guidelines were chosen to provide both a 'reference text' and 'handbook' feel – this book could be used in the farm office or in the dairy.



**Figure 3: The Farm Guidelines launched the Countdown Downunder brand**



**Figure 4: Farm Guideline cartoons project a business-like image – the cartoons on the right were preferred**



**Figure 5: Resources developed by Countdown Downunder have a similar 'look and feel' and are readily identifiable by the brand**

**Countdown Downunder has become recognised as a quality brand**

**Over the past three years, discussions about mastitis control are increasingly about how to apply the existing science and less about debating technical uncertainties**

Once the overall layout style of the Farm Guidelines was established, it was used for all the other print and paper products of Countdown and the website design. The objective was to have a similar 'look and feel' for all products that was readily linked with the brand name (Figure 5).

The Countdown brand has become recognised as a source of high quality technical information, and a vehicle for having quality interactions with others and providing a more holistic approach to mastitis control.

For most of its specific deliverables, the philosophy behind Countdown has been to expend project (industry) funds on design and piloting which are really the expensive bits, and to ask the individuals who Countdown products to pay for the actual delivery costs. This allows the delivery to be expanded if there is more demand for particular elements and adds a sense of value to the products.

The Farm Guidelines manual was retailed at \$20 – a price that just covered the production and distribution costs calculated on the first print run of 5,000 books. This was the first time that the Dairy Research and Development Corporation (DRDC) had sold a publication to farmers. The Australian Mastitis Advisory Council was very clear in recommending this change in policy to DRDC. More than 8,000 copies have been purchased since January 1999.

During the time that the Farm Guidelines were being produced, work also began on the companion technical document – the *Countdown Downunder Technotes*. This provided the scientific background to each recommendation. It was designed to support dairy advisers and enhance their understanding and alignment with the technical recommendations of the project. It also demonstrated to the advisers who answers for mastitis control were based on a substantial body of research and field observations.

The method used to create the Technotes was similar to that used for the Farm Guidelines – members of a small technical working party drafted most of the material and then requested review and refinement by others. The emphasis in this case was not so much on industry agreement, but on presenting good technical information in a concise and accessible way for the broad audience of advisers.

The final production of the Technotes was more elaborate than had been initially planned. The value of this resource to advisers as a reference and as the principal text for the Adviser Short Course was clearer as work on the document proceeded.

Over the past three years, the Farm Guidelines and the Technotes have changed the nature of conversations about mastitis control in Australia. Rather than discussions being dominated by technical uncertainties, there is now a sense that answers do exist. Throughout the industry there is a much greater emphasis on farms getting the many mastitis control tasks right, rather than anticipating a new 'silver bullet' technology.

Another manifestation of the changing expectations is that many advisers are automatically looking for the same standard of supporting information as provided by Countdown when assessing new products and processes. Many advisers have internalised the science behind the Farm Guideline recommendations and are posing more sophisticated and penetrating questions.

## Creating a regional advisory capacity for mastitis control and milk quality

**Local advisers must be able to service farmers' needs if responses to mastitis-related issues are to be effective, economic and sustainable**

Prior to Countdown there was a general ethos that farmers should 'ask an outside expert': through 1-800 phone services or by referral to the three or four individuals in Australia who were considered to be expert in mastitis and milk quality arena. In many cases, these were inefficient remote interactions that had little chance of solving complex problems.

Given the fundamental nature of mastitis control – that it requires day-to-day management, is multifactorial and dynamic – the ability to respond to issues must be located within the regions.

Consequently, Countdown was arranged around eight regions, similar to the regions in the Regional Development Programs established by the DRDC, and Countdown Regional Project Managers were appointed to co-ordinate activities in each region. This gave the project the flexibility to understand regional differences and serve their needs.

One of the first tasks was to identify the advisers and stakeholders who were interested in keeping tabs on mastitis and milk quality issues in each region and how Countdown could contact them. Contact lists were built by the regions and used to connect with advisers many times during the project. A feature of the list was its dynamic nature and the investment needed to maintain its utility as people changed their employment and contact details.

By June 2001, there were 2,220 people on the contact list (Table 2).

About half the people on the list were interested in the topic area and want to keep informed but were not directly involved in providing mastitis or milk quality services to farmers as a significant part of their business. There were about 1,200 dairy advisers in Australia, which was considerably more than the 700 people estimated before the project began.

To start promoting a regional profile, farmers' access to the Farm Guidelines was arranged through their local advisers – including veterinarians, dairy companies and others with retail businesses.

The next step in building a regional capacity to act on mastitis and milk quality issues was to increase awareness and understanding of the Farm Guideline recommendations by specific events for advisers in each region.

**Table 2: Australian mastitis and milk quality advisers in June 2001**

	Number on the list	Countdown's estimate of dairy advisers*	Countdown-aligned advisers*
Milking machine technicians	190	200	127
Veterinarians	622	500	272
Other dairy advisers	1,123	500	317
Other interested parties	1,097	–	52
<b>Total Countdown contacts</b>	<b>2,220</b>	<b>1,200</b>	<b>768</b>

\* For our purposes, a dairy adviser is someone who regularly provides advice to farmers on mastitis and milk quality control, spending at least 10% of their time or deriving 10% of their income from this area. A Countdown-aligned adviser is one who has been to an Adviser Seminar or Adviser Short Course, subscribes to Countdown-L or who has contributed to the project design and development.

**Countdown's has identified 1,200 dairy advisers of whom 64% were actively involved with the project by June 2001**

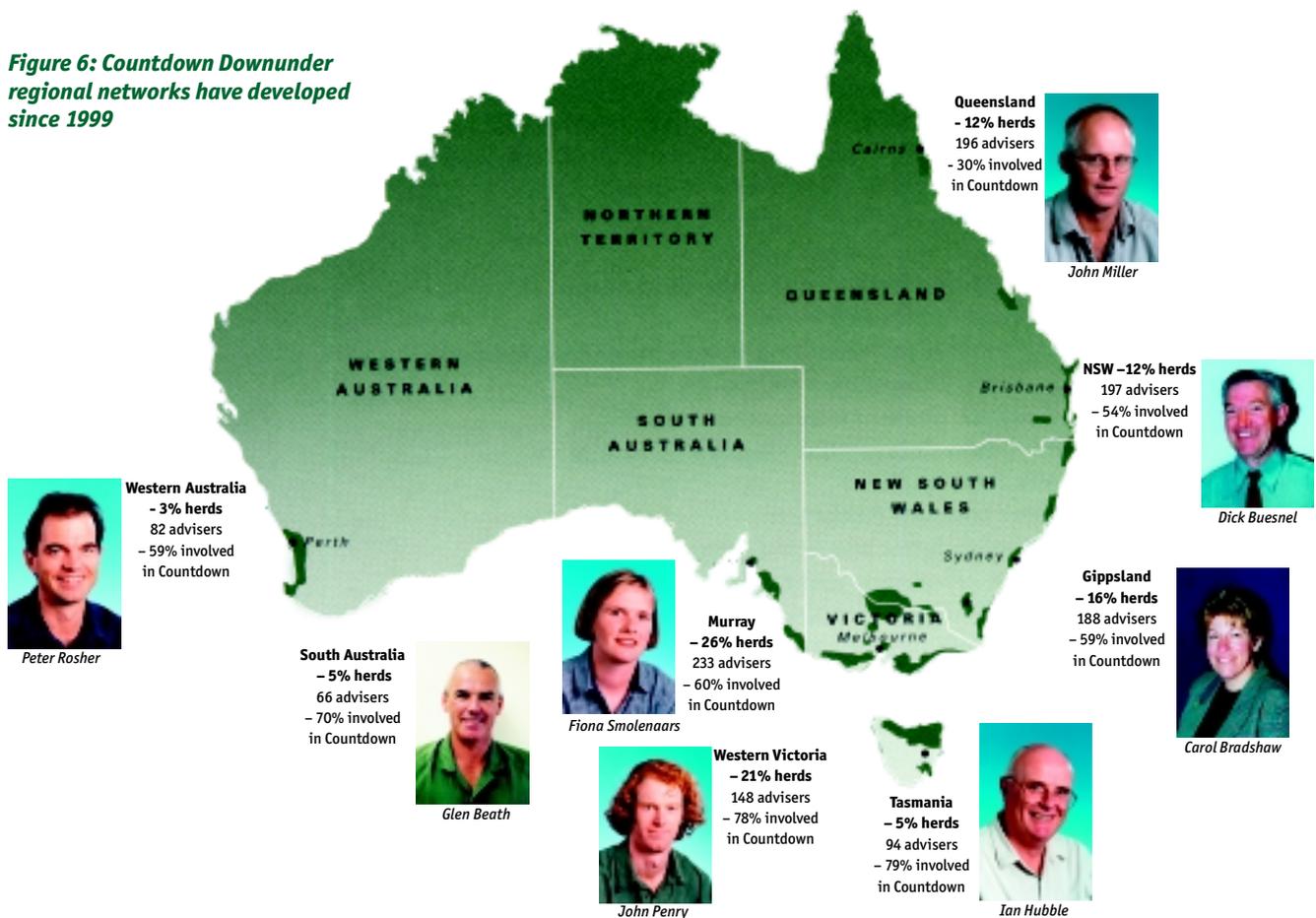
The Countdown Downunder Adviser Seminars raised awareness of Countdown messages and began the process of building regional networks. As an example, every one of the 26 people who attended an Adviser Seminar in Colac in March 1999 met someone they had not previously met, despite the fact that they all provided services associated with milk quality to the local dairy industry. This was repeated at nearly every location where the seminars were run.

Local networks were further strengthened at the Countdown Downunder Adviser Short Course (Figure 6).

Another approach that increased the capacity of regions was choosing the team of trainers and facilitators who delivered the Countdown seminars and courses from across all the regions. This broadened the spectrum of advisers who were recognised as 'experts'. Advisory networks between regions started too because trainers often led activities for advisers in regions other than their own.

The capacity to exchange information and support was extended Australia-wide through the increased personal networks of advisers and vehicles such as the e-mail discussion group Countdown-L.

**Figure 6: Countdown Downunder regional networks have developed since 1999**



## Choosing a new extension frontline

Countdown is based on the premise that moments for adoption occur when farmers recognise they have mastitis or milk quality issues on their farms that need to be acted upon and believe their advisers are capable of giving suitable responses.

Most opportunities to effect adoption of best practice by farmers occur when they directly interact with the professionals who advise them. There are many opportunities for professional input as farmers have regular contact with veterinarians, milking machine equipment suppliers and technicians, dairy company field officers, chemical suppliers, department of agriculture staff, herd improvement staff and others. This accentuates the need for recognised local expertise.

The project has determinedly set out to empower and support local advisers to further develop their skills and know how to access other help if necessary.

An added advantage of having advisers aligned with the project's messages on mastitis control is that they then become active proponents of the Countdown messages in their publications and general presentations as well as in their routine interactions with clients.

Advisers dealing with milk harvesting and quality issues as a routine part of their business had not previously been seen as frontline extension personnel but Countdown believed they would be highly effective if adequately resourced. For this reason, most Countdown activities in the first 12 months focused on advisers to ensure they were adequately prepared to advance Countdown recommendations with their farmer clients.

After the Adviser Seminars and the start of the Adviser Short Courses, the Regional Project Managers encouraged some of their local advisers to deliver Countdown information to their clients using the Countdown Downunder Farm Presentation Kit as a resource. This was not an automatic step. In general advisers were very willing to be part of an event if it was organised by Countdown but they did not immediately connect with the idea of the project providing resources for them to use in their own activities – it just wasn't the way things had happened in the past. However by June 2001, 141 local advisers had spoken to more than 5,500 farmers at 205 farmer meetings and 84 different regional publications had promoted Countdown recommendations. We could not count the number of one-on-one interactions informed by Countdown messages – the impact can only be assessed by the overall outcomes.

**Adoption of Farm Guideline recommendations is likely to occur in one-on-one interactions when farmers are investigating an issue and advisers provide a suitable response**

**Delivery of Countdown Downunder has expanded the group of advisers regarded as technical experts on mastitis control**

## Promoting a multi-disciplinary approach to mastitis issues

The multi-factorial nature of mastitis control means that in many instances, especially in problem solving, answers require input from a number of professionals. It is therefore essential that advisers are competent in their own domains and able to integrate their contributions with those of others.

Countdown events and resources for advisers were designed for all professions to participate together, to emphasise the value of input from each group and to provide an opportunity to break down some previous barriers between them. It was a new approach and has been highly successful.

As an example, the Countdown Downunder Adviser Short Course had a morning's session for advisers to up-skill in their own professional streams and then strongly focused on forming multi-disciplinary teams to explore case studies and perform mastitis investigations on farms.

As part of the courses, more than 78 investigations on local farms with mastitis problems were completed across Australia with veterinarians, machine technicians and field officers interacting to recommend practical and effective solutions for farmers. And the process is continuing through the ongoing business activities of these professionals.

The opportunity for this interaction was a highlight (Figure 7). Conversations with advisers a few months after the course suggested that Countdown had improved their ability to work with others on mastitis issues by stimulating more interaction and improving the quality of the interaction. People were better able to communicate and had a better understanding of what others could contribute:

*"... the best thing about Countdown ... [is] ... there is a whole lot of people out there on the same wavelength ... they're all working towards the same goal ... previously you wouldn't necessarily have that confidence."*

*– Factory field officer, Gippsland*

*"One of the good things about Countdown Downunder was that you built a network and if problems arise and I can't solve them I can ask others for their input. We all have our boundaries of expertise and we need to understand that and be willing to get opinions from someone else."*

*– Respondent to InCalf market research*

**Figure 7: Interacting with other disciplines over case study problems was a highlight of the Adviser Short Course**



## **Working with others helps develop a more robust solution to problems**

Because there are often synergies between individual members, the team approach to problem investigation increases overall performance. Investigations are more comprehensive and recommendations are more robust. Advisers across the dairy industry are adopting best practice in delivery of advice to farmers via an integrated multidisciplinary approach.

This type of decision environment is expanding. Farmers now plan mastitis control and milk quality management through participation in the Countdown Farmer Short Course and by looking for competent local advisers to help them implement their plans. A practical example of a multi-disciplinary and team approach on farm is captured in a comment from Peter Younis of Timboon Veterinary Group in 2001:

*“One of our clients came in for a chat yesterday regarding fine-tuning his milk harvesting procedures. We have been working with him for the past 12 months, including milking visits, staff training and follow ups ... The owner commented to me how much he appreciated the fact that there was consistent interaction between his tech and vet, and how having gathered the advice, he could go home and be confident that all staff members would contribute to the issue in the shed. One of his staff members has completed our first Farmer Short Course and another is attending the current one. In fact the enthusiasm that the first staff member brought home from the Farmer Short Course has rubbed off on to everyone else. To sum up, he said that this was the first time in years that his BMCC was below 200,000 in late lactation. All of this was unprompted.”*

*– Veterinarian from Timboon, Western Victoria*

Understanding the roles of others and having a joint commitment to finding a solution helps avoid situations such as that faced by the South Gippsland dairy farmer in 1997.

### **Adding facilitation skills to technical strengths: the Countdown training team**

Part of the opportunity that this three-year project provided was the ability to progressively build the skills of the whole group of people associated with delivering Countdown. This meant that new challenges emerged for the established team and new people were recruited. The team took on increasingly complex training designs and the trainers were tackling increasingly demanding modes of delivery.

For example, the Adviser Seminars were designed as six hours of material based around a PowerPoint® presentation of 140 slides and script prompts. Eleven presenters each addressed meetings of up to 35 people. These were traditional ‘chalk and talk’ type meetings. One year later many of the same trainers were facilitating the Adviser Short Course where they were team teaching a four-day course that was case-based with interactive sessions for small groups – an educational process that demanded advanced technical and facilitating skills.

By the time the training team for the Farmer Short Course was being established, participants who had completed the Adviser Short Course and were interested in facilitating farmer activities were recruited, so that more than 54 vets, techs and other dairy advisers were involved in the training team by June 2001. This multiplied the project’s capacity to interact with farmers. It also underpinned the move toward a regional capacity, with farmers and advisers looking less to outside experts for meaningful discussions about mastitis control.

The people in the Adviser Seminar, Adviser Short Course and Farmer Short Course training teams were primarily advisers who had little background in training. Countdown quite deliberately chose this path. The project recruited advisers with a technical or farm service experience who had expressed an interest in training and then worked with them to build their facilitation skills.

The challenge to become a competent and confident facilitator – to help other adults learn – initially created a feeling of uncertainty and unease for most trainers. Countdown needed to provide a path that each trainer could follow to work through this discomfort to a new level of skill and ‘comfort zone’. The techniques used to achieve this were to:

- have trainers participate in the design, piloting and fine-tuning of the materials
- have a two-day ‘train the trainer’ workshop for Farmer Short Course trainers that gave them opportunities to practice their facilitation skills
- provide a detailed Trainer’s Guides that gave clear structure, but not scripting, for all sessions
- have all trainers sit in on courses and see the delivery of material before they took lead responsibility for delivery (a ‘pass the baton’ approach)
- encourage trainers to actively reflect on their experience – as individuals, with their training buddies and with the design team.

The result is a tremendous increase in skills of individuals and a new human resource for the dairy industry.

*“I like the Countdown Downunder course approach – it was very interactive. It put us outside our comfort zone, but you learn better when you’re out of your depth.”*

*– Respondent to InCalf market research*

The change in the character of the Countdown activities, from relatively static to interactive, from large group to small, has been embraced by the trainers and has flowed on to their other extension activities. Many of the people who have become skilled in facilitation through Countdown are now leading other activities and using these skills with projects such as InCalf.

One comment with regard to management of this aspect of the project is that it would not have been possible to create the quality of the training packages without a broadly-based design team who participated in each stage of the Countdown rollout. For Countdown this included two people with extensive educational design experience (Pauline Brightling and Mark Paine) a professional facilitator (Fiona Smolenaars) the scientific officer (Anne Hope), core trainers (Graeme Mein, Rod Dyson and others) and a science communication expert (Niall Byrne). Consultation with professional groups such as the Australian Association of Cattle Veterinarians and the Australian Milking Machine Trade Association was also important when putting together the Adviser Short Course.

A second comment is that it would have been impossible to develop and maintain a team of trainers who could dedicate the time needed, totalling over 150 trainer-days for delivery of the Adviser Short Course alone, without remunerating them at a rate commensurate with their earning capacity in their businesses. This had to be a new business opportunity for them as well as an opportunity for personal development.

**Countdown Downunder presentations and training packages have become more sophisticated to capitalise on the broadening skill base of advisers**

## Motivating adoption of best practice on farms: the Farmer Short Course

Many farmers were aware of information on mastitis control but were not routinely implementing best practice as agreed by the dairy industry and published in the *Countdown Downunder Farm Guidelines for Mastitis Control*.

Countdown predicted that there would be two windows of opportunity to motivate adoption of best practice on farm: firstly when farmers had direct one-on-one interactions with their advisers, and secondly when they participated in continuing education experiences designed to help them improve their management planning in mastitis and milk quality.

Transfer of Countdown recommendations to farmers during one-to-one interactions with advisers has been possible since the first year of the project.

In 2000, Countdown designed the Farmer Short Course for farmers to develop practical plans to improve performance on farms. The course was designed to suit an environment where the milk quality specifications that determine farm goals are becoming increasingly stringent and the need to plan around on-farm teams is necessary given the expanding herd sizes increase and increasing number of farm employees.

The course encourages participants to take control by having the confidence to use resources available to them, being clear about how they can contribute given their responsibility on the farm and recognising their technical and management boundaries (Figure 8).

The Farmer Short Course has been successful in motivating changes on farm. Comments made by farmers on the last day of the course included:

*“All of the suggestions were relevant and practical to implement. I felt before that I was treading water with mastitis control and now I feel that I could get on top of it.”*

*– Dairy farmer at Flaxley course, South Australia*

*“I have learnt such a lot about mastitis, plant operation, herd practices and the assistance available from resourcing others.”*

*– Dairy farmer at Tongala course, Northern Victoria*



**Figure 8: Farmers developed practical mastitis management plans for their farms at the pilot of the Farmer Short Course in Tongala, September 2000.**

**Back row: Ross Crawford, Bernadette Phelan, Ron Harbridge, Peter Weardon, Brian Gledhill, Mark Londey, Rob Donaldson, Michael Haliwell, Peter Mulcahy, Julie Tyrell, Rod Dyson.  
Front row: Pauline Brightling, Zoe Daniels, Shelly Poole, Fiona Smolenaars, Glenda Keating**

## Managing a national extension project

Countdown Downunder was a large national project. It ran with a central team of two people (the Project Leader Pauline Brightling and Scientific Officer Anne Hope), a permanent part-time team of 10 (Niall Byrne, Diana Paton and the Regional Project Managers) and approximately 50 other consultants and contractors providing technical expertise or training.

The process of managing Countdown was underpinned by detailed planning. The goals and general approaches of Countdown were initially structured through the Australian Mastitis Advisory Council and then refined in a series of formal project management exercises facilitated by Marcus Froid from Project Net<sup>1</sup>. This led to development of a Project Brief in December 1998 which was the key planning instrument for Countdown activities over the next three years.

The Project Brief made the scope and detail of Countdown transparent to all parties and stakeholders and specified 13 components that the project was contracted to deliver between January 1999 and June 2001 (the project deliverables). The content and rollout for each deliverable were described by timeframes, responsibilities and resource requirements.

Nodes of review and revision were an integral component of project management so that the finer points required to realise each deliverable could be influenced by feedback from previous components. As was expected, many details of the original 30 metre GANTT chart had been altered by June 2001.

Two formal strategies, for communication and evaluation, were essential to the efficient and resourceful delivery of the project. The communication strategy was constructed and supported by a professional science communicator – Niall Byrne, and the evaluation strategy was facilitated by a social sciences expert in agricultural extension – Mark Paine. Both of the strategies were developed at the start of Countdown and they were the invisible threads that held the project together. Project management would have been incredibly difficult without them.

Countdown Downunder was funded by the DRDC, directly and through the Subtropical Dairy Program and WestVic Dairy, and the Victorian Industry Dairy Authority (now the Geoffrey Gardiner Dairy Foundation). In-kind contributions were made by peak industry bodies through involvement of their representatives on the Australian Mastitis Advisory Council (meeting 2-3 times per year) and by state departments in Queensland, New South Wales, South Australia and Tasmania through allocation of staff to the Regional Project Manager roles. There was also income from advisers paying training fees (set at cost-recovery for the course delivery), and sponsorship from the Herald and Weekly Times for the Milk Quality Awards.

It is pleasing to report Countdown ‘came in on budget’ – or to be exact overspent \$668 from an overall budget of \$1.5 million (Table 3).

**Table 3: The \$1.5 million Countdown project came in on budget**

	1998-1999	1999-2000	2000-2001	Project Total*
Income	338,629	561,798	651,999	\$1,552,426
Expenses	353,862	585,719	613,513	\$1,553,094

\* At the end of three years the project had a deficit of \$668

<sup>1</sup> Project Net, PO Box 2101, Hotham Hill, North Melbourne, Victoria 3051, Phone 03 9329-7055, Project management expert Marcus Froid.

Many specific lessons in project management were learned during Countdown 1999 to 2001. Some of those that may be of interest to other project designers are summarised below.

### *Juggling expectations*

The publication of the Farm Guidelines in early 1999 was a great start for the project because it provided strong, industry-agreed technical recommendations for farmers. However in doing so it immediately raised farmers' expectations for elements that the project had been designed to achieve much later in its rollout. Virtually all of the activities for the first 12 months were focused on the advisers through awareness seminars and training programs. Direct delivery to farmers was limited to a small number of activities such as the column in each issue of the *Australian Dairyfarmer*. Delivery to farmers would be later, and mostly by local advisers with Countdown 'behind the scenes'. At this early stage, managing repeated requests to present Countdown meetings to farmers was a problem for the project management team. It was essential to be very clear in communicating the details of the new philosophy of a devolved delivery that involved a range of players who were not part of the conventional view of extension personnel.

A second issue that emerged from this approach to delivery was that success was often the seamless integration of the project's recommendations into an adviser's business, so that when benefits occurred for farmers they were no longer seen as a result of Countdown's effort. The project became invisible in the process. An example of this invisibility is evident in the following scenario from Gippsland: After going to an Adviser Short Course, a milking machine technician encouraged his farmers to check teat ends at cups-off. An early alert to a teatcup liner problem averted a catastrophe on one farm but the farmer did not perceive this to be a Countdown result and subsequently he commented, "Countdown has done nothing for me".

This invisibility isn't really a problem, in fact it's a good outcome, except that it can be difficult to attribute change to Countdown and demonstrate this to stakeholders.

### *Managing the time-quality-cost equation*

For all elements of every project there is a trade-off relationship between time, quality and cost. If quality specifications are changed, the time and cost to achieve them are likely to change. For example with the Technotes it was decided to enhance the content, layout and presentation and this meant it was necessary to arrange a longer timeline and invest more project resources. Having the flexibility to make such changes to component parts of the project was very important and strengthened the project whilst still achieving the outcomes within budget and on time.

An important lesson for project management that emerged from brokering the Farm Guideline recommendations was that agreement through external consultation is a very time consuming process but it pays good dividends when developing key project elements. Techniques that Countdown subsequently used to manage this process included scheduling more time for the cycles of consultation and allocating specific tasks to suit individual group members.

### *Using evaluation to improve the project*

Throughout the past three years an evaluative research cycle has been used for many levels of the project from development of the various elements to their delivery in the field. This has involved reflecting on activities, noting any tensions or discrepancies and thinking about why people value things, and then incorporating significant insights into the ongoing project activities.

One key to success in all the training activities has been incorporation of a vigorous piloting phase where this type of reflective evaluation was essential. For both the Adviser Short Course and Farmer Short Course, designers, trainers and participants suggested significant improvements to the course design at the pilots.

Piloting courses took time and resources but meant that relatively few changes were needed once the course resources were widely available to the training team. We estimate that about 75% of the edits were done during the initial design phase, 20% at piloting and 5% after the delivery of the first five courses.

The broad project ethic of reflection has become increasingly valuable to all those involved. Presenters have shifted from regarding feedback as a way of providing the project with statistics for accountability purposes, to a process that they themselves tap into to plan their approaches for future sessions.

### *Creating consistent styles for the Countdown resources*

An important aspect of developing resources that proved important was the use of consistent styles across the whole project platform. This reinforced the Countdown brand recognition and, more importantly, made it easier for users to move from one set of materials to the next. For example the Technotes were produced in the same style as the Farm Guidelines. This was not originally planned but has made them user-friendly by visually linking them to the recommendations that they support.

Similarly, the suite of training materials from the Trainer's Guide to coaching notes have all used the same layout and format. The consistency has made trainers delivering multiple activities more confident and relaxed about using the resources. Given that the trainers integrate the delivery of Countdown courses into their other business activities, it is worthwhile pursuing any opportunities that make their involvement more comfortable and efficient.

## Conclusion

Countdown Downunder has developed a quality identity across many dairy organisations and professions involved in mastitis control and milk quality. It is independent of commercial interests and has become a recognised standard for technical reference and learning resources.

By June 2001, awareness of best practice mastitis management recommendations was high and key messages were being adopted. Much of the project's success was expressed by an increased advisory capacity in the regions and the excitement that the new resources and extension techniques have created. Significant achievements of the first phase of Countdown have included brokering industry agreement on mastitis recommendations, making the science transparent so that new inquiry builds on existing information, keeping in regular contact with the target audiences to evaluate the design and delivery of resources, and creating a Countdown interface where advisers from different disciplines could work through mastitis issues.

However, there is still a good deal to do to achieve the industry targets and more activity is required to drive changes. Countdown Downunder will continue until June 2004 but with a shift in focus. To achieve sustainable adoption of best practice on farms the project will develop resources for the whole team of operators who influence performance on farm rather than working with farmers and advisers as two separate target audiences. The project will also expand to provide industry-wide responses to high-priority udder health and milk quality issues such as demonstrating and promoting the responsible use of antibiotics in the dairy industry.

The final analysis of the progress and success of Countdown will be the extent of change to the national cell count that the Australian dairy achieves. In the meantime, Australia is well on the way getting the national cell count down.

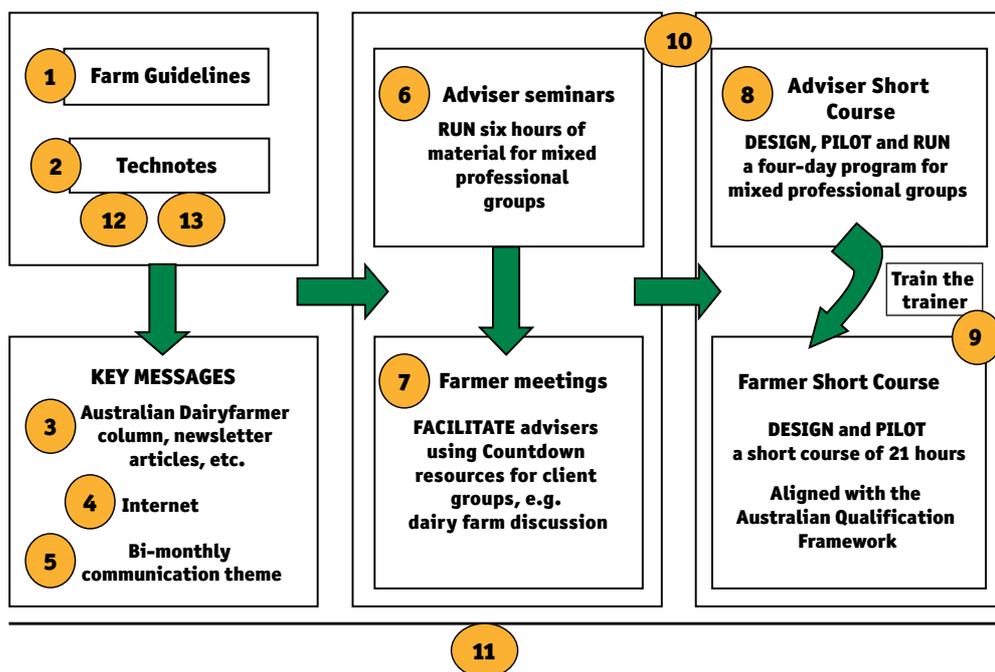
# The key elements of Countdown Downunder

The Countdown Downunder Project Brief submitted in December 1998 specified what the Dairy Research and Development Corporation had funded the project to deliver. Thirteen project deliverables were contracted for the period between January 1999 and June 2001. Figure 9 shows how each deliverable formed the key elements of Countdown.

- ❶ Farm Guidelines
- ❷ Technotes
- ❸ Summaries of the key messages
- ❹ Countdown Downunder website
- ❺ Stakeholder list, awareness activities and bimonthly newsletter
- ❻ Adviser Seminars in each region
- ❼ Materials for farmer meetings in each region
- ❽ Countdown Downunder Adviser Short Course
- ❾ Countdown Downunder Farmer Short Course
- ❿ Establishment of regional networks of dairy advisers
- ⓫ Establishment of national udder health statistics
- ⓬ Focused udder health research activities
- ⓭ Establishment of agreed methods and quality assurance in microbiology laboratories

The outputs described in the Project Brief have been fulfilled although with minor modifications to the original format of some (Table 4). A detailed description of the deliverables and the outputs is given on the following pages.

**Figure 9: Where each deliverable fitted in the key elements of Countdown Downunder**



**Table 4: Fulfilment of the Countdown deliverables specified in the Project Brief**

<b>Original target output</b>	<b>Actual output in June 2001</b>
Publish 5,000 Farm Guidelines	11,000 Farm Guidelines printed and 9,425 distributed 46% of farmers owned a copy by September 2000
Publish 1,000 Technotes @ \$40	2,000 Technotes @ \$86 and 535 distributed 42% of dairy advisers own a copy
Promote key messages in <i>The Australian Dairyfarmer</i> and via articles prepared for use by advisers	15 columns (bimonthly for 30 months) 385 articles in stakeholder publications
Make Farm Guidelines available on the Countdown website	2,139 on-line requests for the Acrobat file
Identify stakeholders, including an estimated 700 advisers Send bimonthly newsletter to advisers	Database of 2,220 stakeholders including 1,200 advisers 2 professionally produced newsletters; average of 4 personal mailings; 5 Adviser bulletins
Have 525 (75% of 700 advisers) attend regional Adviser Seminars	844 advisers attended Adviser Seminars for an average of 5.2 hours
Have 7,500 (25% of 30,000 people on dairy farms) attend local farmer meetings	5,500 milk harvesters attended farmer meetings for an average of 1.8 hours
Design, pilot and run the Adviser Short Course for 150 advisers	240 advisers participated in the Adviser Short Course, completing 78 farm investigations
Design and pilot 18 hours of learning material for the Farmer Short Course Train local advisers in each region to deliver the Farmer Short Course The Project Brief included no funds and had no expectation of delivery of the Farmer Short Course before June 2001	The Farmer Short Course is 21 hours of learning materials 54 advisers trained across Australia 17 courses completed around Australia
Establish adviser networks	268 subscribers to the Countdown-L e-mail discussion list
Establish national udder health statistics	Regional and national Herd Milk Cell Counts from ADHIS milk recording data
Identify udder health research priorities	Priorities identified in Technotes and industry planning documents
Establish an agreed methodology and quality assurance in microbiology laboratories	Strategy for reliable and cost-effective mastitis diagnosis developed

**About half of Australian dairy farmers had purchased a copy of the Farm Guidelines by 2000**

## 1 Farm Guidelines

Countdown Downunder encourages farmers to adopt best practice for mastitis control by providing clear, consistent management recommendations relevant to milk harvesting in Australia. The recommendations were agreed to by industry in 1998, through the Australian Mastitis Advisory Council, and published as the *Countdown Downunder Farm Guidelines for Mastitis Control*.

The Farm Guidelines are the core of Countdown, with most other elements of the project promoting awareness and adoption of these recommendations on farm or assessing their impact at a national level.

The content of the guidelines was written by a technical working party and drafts passed through several meetings with industry bodies. Input from different sectors of the industry, agreement to the technical recommendations and broad-based ownership of the final document has been critical to the success of the Farm Guidelines.

When the content of the Farm Guidelines was finalised, the task of design and layout was put out to tender and contracted to the Training Resources and Development Services unit (TRENDS) of the South West Institute of TAFE<sup>2</sup>. The brief was to provide a design that would be functional and engaging for the target audience with appropriate highlighting of text and graphics.

Sue-Ellen Colson and Helen Bayne contributed a great deal to achieving a very appealing product. The end style was a three column layout with plenty of white page. Colour-coding for each stage of lactation, high quality photos and cartoons all contributed to an accessible ‘look and feel’. A professional index produced by Master Indexing<sup>3</sup> was included. SUBStitution Pty Ltd<sup>4</sup> prepared the document for printing and Watson Design<sup>5</sup> developed the cover.

The final booklet was A4 in size, had spiral binding and a half-Canadian cover so that it was easy to open and use and a title could be seen on the spine. The Farm Guidelines were printed by DPA<sup>6</sup>.

By September 2000, a DRDC survey showed that 46% of dairy farmers across Australia owned a copy of the Farm Guidelines. This was consistent with two earlier surveys in Victoria (3,933 respondents) and Queensland (311 respondents).

Of the 11,000 manuals printed, 8,795 publications have been sold and 630 complimentary copies have been given to funding bodies, contributors and agricultural and rural libraries (Table 5).

<sup>2</sup> TRENDS, South West Institute of TAFE, PO Box 674, Warrnambool, Victoria 3280, Phone 03 5564-8961, Contact Helen Bayne.

<sup>3</sup> Master Indexing, 5 Kingston Street, East Malvern, Victoria 3145, Phone 03 9500-8715, Principal Max McMaster.

<sup>4</sup> SUBStitution Pty Ltd, PO Box 351, North Melbourne, Victoria 3051, Phone 03 9329-3535, Principal Anne Burgi.

<sup>5</sup> Watson Design Pty Ltd, 128 Toorong Road, Glen Iris, Victoria 3146, Phone 03 9576-1604, Principal David Watson.

<sup>6</sup> DPA Document Printing Australia Pty Ltd, 332-342 Lorimer Street, Port Melbourne, Victoria 3207, Phone 03 9684-1233, Contact Vanessa Tindale.

**Table 5: By June 2001, 9,425 Farm Guidelines were distributed in Australia**

Distribution mechanism	Copies
Sales through advisers and organisations (vet clinics, dairy companies, etc)	8,314
Principal resource of the Countdown Downunder Farmer Short Course	481
Complimentary copies to libraries and stakeholders	630
<b>Total</b>	<b>9,425</b>

The sales reflect an overwhelmingly positive response from the industry for both the content and presentation of the book. The first print run of 5,000 copies was extended to two reprints within the first 12 months of the project. This greatly exceeded the expected demand and led to a revised objective of having 10,000 copies owned by farmers, their milking staff and advisers throughout Australia. This would provide the basis of a very broad awareness of the industry's recommendations about mastitis and cell count control.

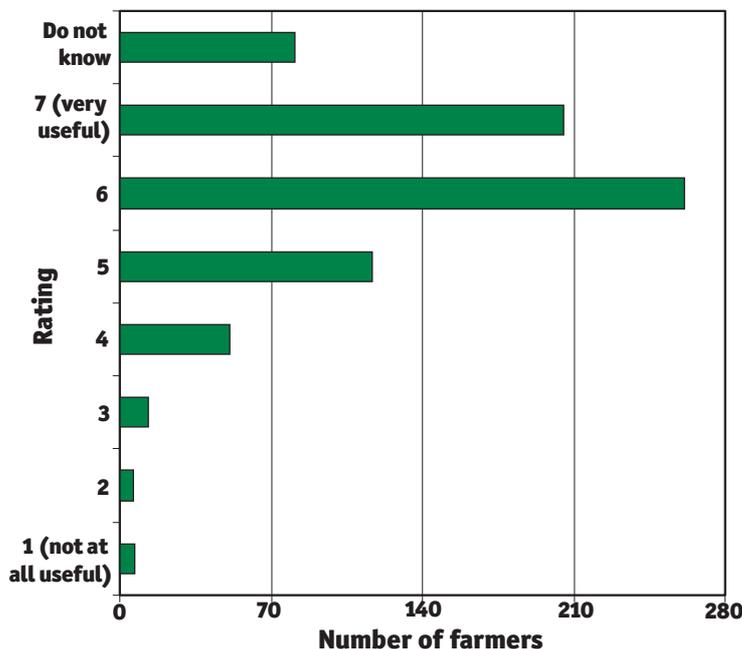
The Farm Guidelines were distributed primarily through veterinary clinics and dairy processing companies. Businesses purchased the guidelines wholesale through a fulfilment and distribution service, Matrae Pty Ltd<sup>7</sup>, and passed them onto their clients at the recommended retail price of \$20. This system underpinned the Countdown philosophy that local advisers were an important source of information about udder health.

People were also able to access the publication at no cost from many rural libraries or the Internet.

Some dairy farm Quality Assurance programs have included the Farm Guidelines as part of their references resources.

The Farm Guidelines have been well received by farmers. This is supported by feedback from 781 'happy sheets' collected at 60 farmer meetings across Australia (feedback sheets were collected at 30% of the farmer meetings). Seventy-nine per cent of farmers found the Farm Guidelines useful, rating them a score of 5 or more (Figure 10).

**8,314 Farm Guidelines were sold to farmers by businesses that had an interest in mastitis control milk quality**



*Figure 10: Farmers regarded the Farm Guidelines as very useful based on 781 feedback sheets*

<sup>7</sup> Matrae Pty Ltd, PO Box 1045, Altona Gate, Victoria 3025, Phone 03 9318-0100, Managers Barry and Judith Fulton.

Despite this uplifting feedback, farmers who developed personal mastitis management plans as part of the Countdown Downunder Farmer Short Course gave some interesting insights to the way the guidelines were used and perceived. Although nearly everyone had a copy prior to the course only about half had read it. Some of the comments made by some groups were:

*“The Farm Guidelines have got the answers, I wish I read it earlier. It will save money. I am motivated to use it. It made me question my procedures and attitudes.”*

*– Dairy farmer at Scottsdale course, Tasmania*

*“When combined with the Farmer Short Course you get more out of the Farm Guidelines, you relate to the book better. It needs people to explain it and the questions in the group brings more out.”*

*– Dairy farmer at Tatura course, Northern Victoria*

*“It brings you back to basics, it is more concrete than it appears on the surface. You can relate the book to your own farm, use it as a reference. It highlights the need for detail.”*

*– Dairy farmer at Bunbury course, Western Australia*

## 2 Technotes

The *Countdown Downunder Technotes for Mastitis Control* gives the scientific rationale for each of the Farm Guideline recommendations and describes the robustness of the recommendation in the Australian dairy industry. It is a principal resource of the Countdown Downunder Adviser Short Course (Figure 11).

The initial plan for the Technotes was a typed set of notes produced essentially 'in-house' that gave a 1-2 page review with references to support each Farm Guideline. The design evolved into a 'working' resource that could be used by advisers to investigate mastitis and milk quality issues. This was achieved by including new tools for mastitis investigations such as charts for objectively assessing teat condition, giving clear guides to help interpret findings, and being explicit about which guidelines would benefit from further research.

Clear and practical guides on the interpretation and relevance of materials often required lengthy consideration and debate of issues by the editorial committee, Pauline Brightling, Graeme Mein, Anne Hope, Jakob Malmo and Diane Ryan. The 30 mastitis and milk quality experts who contributed their technical expertise also deserve special thanks, with major inputs from Jeff Andrews, Rod Dyson, Alison Gunn, Ian Hubble, Bill Morgan, John Ryan and Richard Shephard.

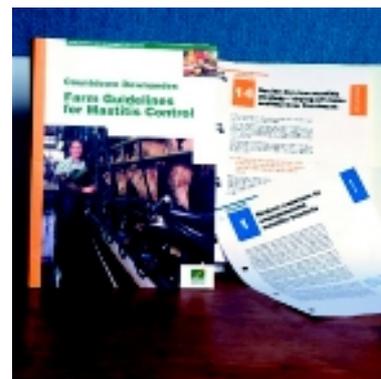
The Technote kit consists of 221 pages of technical information, a copy of the *Farm Guidelines for Mastitis Control*, a professional index and bookmark, a booklet *Farm Presentation Kit Notes for Presenters*, and a compact disk with electronic versions of the Farm Guidelines, Technotes and Farm Presentation Kit.

SUBStitution Pty Ltd designed the contents in a style matching the Farm Guidelines and the compact disk label and bookmark, Watson Design developed the folder cover, Master Indexing produced a scientific index to maximise its utility, and the kit was printed by DPA. A decision was made to double the print run of 1,000 specified in the Project Brief based on stakeholder interest and the high cost of reprinting.

Information in the Technotes can 'grow' as new information and issues emerge. This is catered for in the design by having loose-leaf pages with a publication date in the bottom right hand corner (e.g. 'Jan 2000'). Updates will be posted on the Countdown Downunder website.

Following the launch of the Technotes in April 2000, every adviser on the Countdown contact list was posted a special introductory offer and their availability was also advertised in the Australian Association of Cattle Veterinarians magazine and the Australian Milking Machine Trade Association newsletter.

The retail price of the Technotes since 1 July 2000 (on introduction of the Goods and Services Tax) is \$86.35 including postage and packaging by Matrae for orders made within Australia.



**Figure 11: The Countdown Downunder Technotes gave the scientific rationale behind each Farm Guideline recommendation**

**The Countdown Downunder Technote kit was launched in April 2000**

**42% of Australian advisers who have a business interest in mastitis and milk quality have purchased the Technotes**

Five hundred kits have been sold to date, either by direct order, through the Adviser Short Course or bulk sales to Universities. This represents 42% of the 1,200 dairy advisers on the Countdown contact list or 66% of those advisers who are actively involved with the project. About 35 complimentary copies have been circulated to contributors, the state-based Regional Dairy Programs, other dairy projects and a legal deposit in the State Library of Victoria.

Advisers who became familiar with the Technotes during the Adviser Short Course made unsolicited comments during feedback sessions such as:

*“The Technotes are absolutely outstanding, a world class resource material.”*

*– Dairy adviser at Warragul course, Gippsland*

*“I’m impressed by the Technotes – they’re easy to access, very detailed, and well linked with guidelines.”*

*– Dairy adviser at Elliott course, Tasmania*

*“I will continue to use the Technotes as a resource and to update information.”*

*– Veterinarian at Glenormiston course, Western Victoria*

**The Technotes are the principal reference for the Countdown Adviser Short Course**

Although the professionally produced kit was costly from the project’s point of view in terms of dollars and production time, its high quality and relevance to advisers has justified the effort.

### 3 Summaries of the key messages

Key messages are technical recommendations originating from the Farm Guidelines and practical approaches to farm management and problem solving that are central to the Countdown short courses. Raising awareness of the Countdown key messages was the first step toward farmers and advisers engaging with the project and seeking more in-depth information.

Many different types of media have been used to raise awareness of the Farm Guideline recommendations.

Since the start of the project, the *Australian Dairyfarmer* allocated the last two pages of the magazine to Countdown. The series was launched with a Countdown cover story in January 1999 and since then there have been feature articles in 15 editions (Table 6). This provided a great opportunity to regularly access all milk harvesters in Australia as the magazine has a circulation of 18,700 and it was the only means of passing information directly to both dairy farmers and sharefarmers.

**A regular column in *The Australian Dairyfarmer* was accessible to dairy farmers and sharefarmers across Australia**

**Table 6: Countdown had 15 'sports page' features in the *Australian Dairyfarmer***

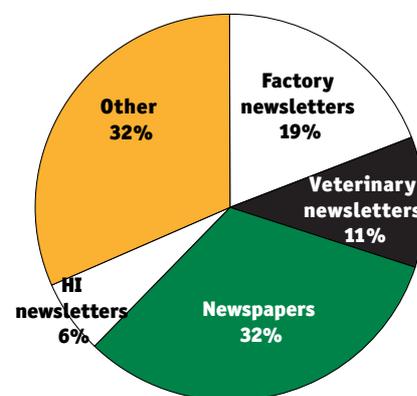
Issue	Title
Jan / Feb 1999	National mastitis program kicks off
Mar / Apr 1999	Give gloves a go
May / Jun 1999	Making up teat disinfectants
Jul / Aug 1999	Attention to detail aids early mastitis detection
Sep / Oct 1999	Team approach for better milking
Nov / Dec 1999	Getting the blues over clinical cases
Jan / Feb 2000	Culling – what role does it have?
Mar / Apr 2000	Clinical mastitis in 10 cows costs \$1500
May / Jun 2000	Detecting clinical mastitis in fresh cows
Jul / Aug 2000	Minimising mastitis in fresh cows
Sep / Oct 2000	Why shorter milking times reduce mastitis
Nov / Dec 2000	Massage at the parlour
Jan / Feb 2001	Plan now to reduce mastitis in 2001
Mar / Apr 2001	Your cows need a good holiday to 'stop, seal and heal'
May / Jun 2001	TLC for tight, tender teats to minimise Strep uberis

**The bimonthly release of grabs resulted in a 10-fold increase in publication of Countdown articles in local newspapers**

The project has collected details of about 385 Countdown-related articles published in newsletters, newspapers and other stakeholder publications since January 1999 (Figure 12).

The rate of Countdown articles in local newspapers increased 10-fold following the introduction of Countdown bimonthly themes in September 2000. This uptake was largely explained by the availability of 'grabs' on the Countdown website.

The Countdown 'grabs' were a series of topical technical messages, usually 250-400 words in length, that were posted on the website when every new theme was launched by a feature article in the *Australian Dairyfarmer*. Before the magazine was posted to farmers, advisers were sent an 'Adviser bulletin' by fax or e-mail informing them of the theme and the availability of relevant grabs for use in client communications. Judging on uptake, the format well-suited local papers, dairy company newsletters and state government publications.



**Figure 12: Local businesses placed 385 Countdown articles in their newsletters**

It was rewarding to note that many practitioners began writing their own newsletter articles based on the Farm Guidelines or Technotes, a clear demonstration of incorporating Countdown messages into their business and tailoring the messages to meet the different regional interests.

The DRDC communication strategy also provided Countdown with valuable support through five DRDC press releases that were widely picked up by newspapers and three features in the Dairy R&D News.

In 2001, national newspaper coverage of ‘good news’ stories between March and May was part of a *Weekly Times* Countdown Downunder sponsorship deal for the inaugural national Milk Quality Awards. For nine weeks, *The Weekly Times* wrote 1-2 page spreads honouring winners of the Lowest 5% Bulk Milk Cell Counts across Australia.

Non-print media used to disseminate information included features on the Queensland Dairyfarmers’ Organisation website (November 1999), 10 ABC radio interviews and three interviews on commercial stations, and an item on the 6 o’clock WIN TV news about winners of the Milk Quality Award in Tasmania (April 2001).

Posters were available for advisers to use at field days, meetings and in their organisations to provide a Countdown ‘presence’ and to enable farmers to initiate contact and ask questions about the project. These were used at field days in Western Australia (Western Australian Farmers’ Federation and the Herd Improvement Service of Western Australia), Tasmania (Dairy Farm Business Management and DairyTas), Gippsland (Farmworld), in Northern Victoria (the Stanhope field days) and South East Queensland (Toowoomba Dairy Conference).

The Subtropical Dairy Program and WestVic Dairy funded additional activities to promote key messages relevant to their regions.

**Countdown developed partnerships with the Subtropical Dairy Program and WestVic Dairy to construct messages relevant to their regions**

John Miller, the Countdown Regional Project Manager for Queensland, applied to the Subtropical Dairy Program for \$10,000 to disseminate mastitis information through full-page case studies in the *Queensland Dairyfarmer*. This was in response to the mood of a stakeholder meeting in July 1999, where representatives from Pauls, Dairyfarmers and Queensland Department of Primary Industry believed that farmers were currently ‘meetinged out’, that Countdown messages should be incorporated wherever possible in existing meetings, and that other methods of providing messages should be explored. Experienced Queensland professionals also said a key obstacle to their dairy farmers adopting best practice was “disbelief that they could achieve on their own farms”. Consequently, six case studies of ordinary farming families who had achieved success by implementing Countdown recommendations were published between December 1999 and June 2000.

In the following year, the Countdown Regional Project Manager for Western Victoria, John Penry, successfully applied for funding to publish a series of case studies to help Western Victorian farmers identify with the Countdown recommendations using the skills and expertise of their local service provider network. Case study material was sourced through local advisers, prepared by a rural journalist, and published in the *WestVic Dairy News*.

## 4 Countdown Downunder website

The Countdown Downunder website was launched at the Australian Dairy Industry Council Annual General Meeting in December 1998. The principal function of the website was to provide farmers, advisers and stakeholders with easy access to the contact details of the Countdown Downunder team and topical, technical information about mastitis.

The website was constructed and managed by Niall Byrne<sup>8</sup>, the communication consultant for the project. It was established and maintained using Microsoft Frontpage<sup>®</sup> and hosted through Niall's address [www.byc.com.au/countdown](http://www.byc.com.au/countdown). In late 1999, [www.countdown.org.au](http://www.countdown.org.au) was registered and the Countdown site was transferred to its new home. The [org.au](http://www.countdown.org.au) domain was chosen because it indicated the program was community-based, non-commercial and Australian.

The content of the website was critical to its success. Dairy farmers and advisers visited Countdown for real information not for gimmicks – they wanted to reach the desired section quickly, pick up the information cleanly and leave.

The Countdown website contained: an electronic version of the Farm Guidelines, extracts from the Technotes, Countdown's aims and objectives, contact details of the Regional Project Managers, *Australian Dairyfarmer* columns, grabs for newsletters, winners of the *Weekly Times* Countdown Downunder Milk Quality Award, information on courses, contact details for dairy advisers who have completed Countdown training courses, purchasing information and a photo library. By June 2001, it was about 30 megabytes in size and consisted of more than 2,000 files.

The Countdown webserver generated a log file each day. This data was analysed using a software program called Marketwave Hotlist to provide information such as the number of visits to the site and the most popular pages<sup>9</sup>. Analysis showed most visitors entered the website by typing the address directly into their browsers or by clicking a link in an e-mail. The number of people finding Countdown by 'accident' or via another site was relatively small.

From the launch of the website to mid-June 2001 the site had 55,000 hits which translates to at least 15,500 visits (an average of 500 visits per month).

The most popular page by far was the home page – about 10% of visitors visited the front page and went no further.

Many visitors looked at the introduction to the Farm Guidelines, information about contact details, the overview of training and resource materials, information for advisers, the bimonthly themes and grabs, the Countdown-L instructions and the photo library.

From September 2000 onwards peaks in visits to the website were closely correlated with the release of Countdown Downunder Adviser bulletins in mid-September and mid-November 2000, and January, March and May 2001 (Figure 13). This suggested advisers were finding website information useful for their businesses.

**Information about Countdown Downunder was available at [www.countdown.org.au](http://www.countdown.org.au)**

**On average 500 people have visited the Countdown website each month**

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<sup>8</sup> Niall Byrne, Science Communicator, BYC Pty Ltd, PO Box 199, Drysdale, Victoria 3222, Phone 03 5253-1391.

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<sup>9</sup> Web statistics are good at showing trends but the absolute figures are unreliable because of the nature of the net and should not be over-interpreted. It is possible to use more precise monitoring methods such as cookies but this introduces privacy issues.

**Figure 13: This graph was generated by software that analyses web usage. It shows the impact of the bimonthly adviser bulletin on visits to the Countdown website.**



The short articles ('grabs') were well received and widely used by advisers in their newsletters and publications. Although information and images could be cut and pasted from the website, Countdown included a Microsoft Word® file with text and photos to avoid problems caused by some browser set-ups (especially Netscape Navigator).

The Countdown Downunder website was one component of the Countdown e-strategy. (Information on another component, Countdown-L, is given in Deliverable 10.) In 2001, BYC Pty Ltd submitted a report to Rob Morton, DRDC's Communications Portfolio Manager, describing some tips, traps and approaches of the Countdown strategy that would be of interest to other projects.

The Countdown website has been very successful in making information readily accessible at a minimal cost.

## 5 Stakeholder list, awareness activities and bimonthly newsletter

Countdown has invested heavily in processes that enable key messages about mastitis and milk quality to be passed to farmers through existing advisory networks and services. By increasing adviser awareness of Countdown recommendations, veterinarians, machine technicians and other dairy advisers are able to deliver clear, consistent information at a time when they have maximum impact – for example when talking one-on-one with farmers during routine business interactions.

The mechanism for increasing adviser awareness of the project and its key messages was to regularly communicate with advisers both at a regional and national level.

The founding step to the adviser communication strategy was collating contact details of all stakeholders and advisers in Australia interested in issues relating to mastitis and milk quality. This turned out to be a sizeable task as original estimates were that there would be about 700 advisers across the regions – whereas the final list was more than twice that size. In early 1999, the Regional Project Managers worked up the list for their regions starting with the DRDC database, local mailing lists and their local knowledge.

Although the database was expensive to establish and expensive to maintain, by June 2001 it included details of almost all professional dairy advisers in Australia and it was kept accurate through frequent use.

The contact details for 2,220 Countdown stakeholders were kept on a Microsoft Outlook database. The database enabled the project to flag the profession of each adviser (where known) and those who were actively involved in different elements of the Countdown project. Countdown estimated that about 1,200 people provide advice to farmers on issues relating to mastitis and milk quality as part of their core business or income (Table 2). By June 2001, 64% of the dairy advisers were actively involved with the project having participated in the Adviser Short Course, the Adviser Seminars, subscribed to Countdown-L or assisted with the design of project deliverables.

Everyone on the database received several communications a year and all returns were checked. The contact details required continual editing and refinement as the population of dairy advisers was very dynamic and the project was working hard to keep the e-mail addresses up-to-date. Edits were done centrally and regional lists were distributed to the Regional Project Managers to support their activities.

Although costly to maintain, the adviser list has benefited other projects within the dairy industry including: the basis of the first InCalf contact list (late 1999), the sampling frame for a Victorian Dairy Industry Authority survey on the use of antibiotics (January 2000), an update of the veterinary list for the Australian Association of Cattle Veterinarians (January 2000), a GippsDairy mail out (May 2000), a DRDC survey of service providers (July 2000), and a list of Victorian consultants for WestVic Dairy (February 2001).

**Countdown had contact details of 2,220 stakeholders, including 1,200 dairy advisers across Australia**

**The contact list has been used by six other dairy organisations and projects**

Advisers and stakeholders have been sent information by post, fax and e-mail.

Two professionally produced, high-quality newsletters were released, one at the start of the project to coincide with the launch of the Farm Guidelines at the Australian Dairy Industry Council Annual General Meeting and another in December 1999.

It was initially planned to produce one broadsheet newsletter every two months. After reflection, the funds were used to send personalised letters to advisers within each region about various regional activities during 2000. For example, advisers received personal invitations to Adviser Seminars and Adviser Short Courses in their region, a pre-publication Technote offer, and the occasional communication as requested by the Regional Project Manager.

All correspondence was personally addressed to improve its chance of reaching the right people. Experience has shown that there was little value in sending information to the business name as information often doesn't circulate within rural businesses.

For the past 12 months significant effort has been spent on obtaining e-mail and fax details for all advisers to promote more frequent, less costly electronic communication than can be achieved by post. The cost of delivery alone of personalised direct mail from our existing database was about \$1 per item in materials, postage, labour and packaging costs; delivery of personalised direct faxes was \$0.50 to \$1.00 per page; while delivery of personalised direct e-mail costed only a few cents.

In September 2000, a bimonthly Adviser bulletin was constructed as part of the communication theme. The first five bulletins were sent to all advisers by e-mail, fax or post. The mail service was phased out so that by July 2001 the Adviser bulletin could be reliably transmitted to advisers electronically, namely e-mail or fax.

This form of communication did have a few 'wrinkles'. Many rural businesses only have one e-mail account for several staff so e-mails were personalised within the body of the message to increase the chances that they would reach their intended audience. As e-mail becomes ubiquitous this problem will decline. Similarly, most rural businesses have one fax machine used by many people so faxes must be personalised to reach the target. Initially, there were some complaints from businesses receiving multiple faxes or e-mails about the same event but the annoyance factor was generally accepted when the reasoning behind personalising information was explained.

A second tier of communication was required to keep stakeholder organisations informed. This was largely achieved through formal and informal contacts between the national project leader and industry groups, RDP e-chat, Australian Dairy Herd Improvement Reports, Animal Health in Australia (produced by the Australian Animal Health Council), reports to organisations on request and through the Australian Mastitis Advisory Council.

In March 2000 a one-page summary of 'Countdown project deliverables since January 1999' was constructed for those closely involved in the project to monitor its progress without having to context or explain the deliverables (Figure 14).

Figure 14: An example of the project deliverable summary prepared in mid-June 2001



## Countdown project deliverables since January 1999

Report prepared 19 June 2001

**Farm Guidelines**

No. printed 11,000 copies  
Percent sold 76 %

**Farmer Short Courses (from September 2000)**

No. courses 17 started  
No. farmers ≈ 335 people  
No. regions 7

**Farmer meetings**

Region	Meetings	Farmers	Duration <sup>a</sup>
WA	9	208	3.2
Tas	7	283	4.2
SA	12	243	1.9
Qld	31	780	1.6
NSW	29	702	2.0
Murray	44	1,087	2.3
Gipps	30	912	1.0
West Vic	36	1,183	1.2
<b>Total</b>	<b>198</b>	<b>5,398</b>	<b>1.8</b>

a Average contact time in hours (weighted total)

**Extension messages**

No. Australian Dairyfarmer articles 40

No. articles observed in press

- factory newsletters 68
- other articles and general press 267

**Website (from January 2000)**

No. visits 15,500

**National udder health statistics**

Herd milk cell counts (cells per mL) between July 1999 and June 2000

Region	< 400,000 <sup>a</sup>	< 250,000 <sup>b</sup>
WA	95 % -	77 % ↑
Tas	96 % ↑	84 % ↑
SA	93 % -	70 % -
Qld	86 % ↑	56 % ↑
NSW	91 % ↑	61 % ↑
Murray	89 % -	61 % ↓
Gipps	94 % -	72 % ↓
West Vic	94 % ↑	76 % ↑
<b>National</b>	<b>92 % ↑</b>	<b>67 % ↑</b>

a The Countdown goal is 100% of milk supply  
b The Countdown goal is 90% of milk supply  
c Arrows indicate change since last year

**Technotes (from March 2000)**

No. printed 2,000 copies  
Percent sold 26 %

**Adviser awareness and training**

**Adviser Short Courses (from February 2000)**

No. courses 9  
No. participants 239 people  
Average contact time 3.7 days  
No. locations 11

**Farmer Short Course training workshops**

No. workshops 2  
No. advisers 47 people  
No. regions covered 8

**Adviser seminars (completed 1999)**

No. Countdown seminars 59 seminars  
No. participants 844 people  
Average contact time 5.2 hours  
No. locations 34

**Regional adviser networks**

**Countdown-L (from November 1999)**

No. subscribers 230 people  
No. messages 220

**Adviser meetings**

No. meetings 41 meetings  
No. advisers 664 people  
Average contact time 1.7 hours  
No. locations 27

**Countdown adviser database**

No. contacts 2,602 people  
No. adviser bulletins 5

**Highlights since May 2001**

- 47 advisers across Australia have completed training in preparation to deliver the Farmer Short Course
- Farmer Short Courses are underway in 7 of the 8 dairying regions
- The bimonthly adviser bulletins have doubled the number of visitors to the website looking for technical material

**59 Adviser Seminars were held in 34 locations across Australia between March and August 1999**

**Advisers networked with other disciplines in their local area at the Adviser Seminars**

**6 Adviser Seminars in each region**

Awareness of the technical recommendations of the project was the first step toward advisers delivering clear, consistent advice to farmers. The vehicle for this was the Countdown Downunder Adviser Seminars and a great deal of effort was invested in developing and running them – in fact this was the major activity for the project in the first half of 1999.

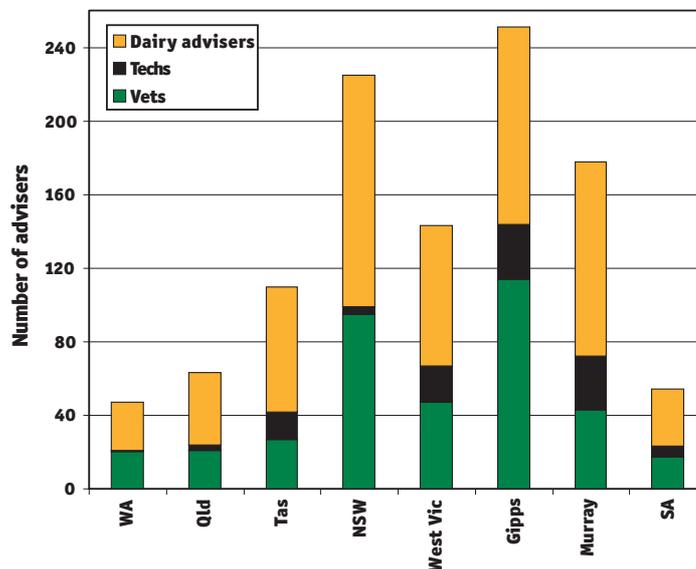
Between March and August 1999, 59 Adviser Seminars were held at 34 locations throughout Australia (Table 7). The total number of participants was 844, far exceeding the original target of 75% of 700 advisers. Although the cost of this deliverable consequently increased, inviting all advisers to attend was considered extremely important. In fact, when it was realised that some people had not been included on the contact lists for Queensland and Gippsland, additional 4-hour seminars was held in each of these regions.

A new approach was taken when designing the format and content of the Adviser Seminars so that a range of disciplines from the local district with mixed levels of expertise were able to discuss technical issues over six hours.

A broad mix of disciplines was achieved including vets, milking machine technicians and suppliers, dairy company staff, herd improvement staff and consultants (Figure 15). As a general rule the groups had a lot of experience with 50% of attendees having spent more than 10 years in the dairy industry. This provided a great networking opportunity for the 10% of advisers who had been in the industry for less than two years.

The opportunity to network and focus on mastitis issues with other disciplines in the local areas was very well received. In answer to an open question on a ‘happy sheet’ distributed at the end of each session, asking participants “How will these changes influence the way you work with farmers”, 18% of respondents said they were keen to increase contact with other advisers in the local area for information or advice, help with solving problems or for referral.

*Figure 15: The seminars were an opportunity for advisers from multiple disciplines to meet and discuss mastitis*



**Table 7: More than 844 advisers attended Countdown Adviser Seminars in 1999**

	WA	Qld	Tas	NSW	Wst Vic	Gipps	Nth Vic	SA	Total
No. advisers	52	98	86	154	107	107	191	49	844
No. seminars	4	5	4	8	9	9	18	2	59
No. locations	1	5	4	8	3	5	6	2	34
Average hours per person	5.3	6.0	6.0	6.0	5.3	4.8	3.8	6.0	5.2

Significant resource (three months work) was put into production of the Adviser Seminar presentations. To develop appropriate content for the seminars, the Countdown central team prepared an instructional design and a set of Microsoft PowerPoint® presentation materials. These were piloted at a New South Wales Dairy Farmers Group in-house training seminar in early March 1999. Feedback from participants was extremely important for development of material. The final Adviser Seminar Presentation Kit contained 140 slides with detailed notes pages covering seven themes in 27 topics for six hours of discussion. A week later, Countdown held a meeting to introduce presenters to the refined materials.

**About 70% of advisers from each region attended one or more seminars**

Three characteristics of presenters of the Adviser Seminars were that they were known as experts in the milk quality field, were interested in the project and had presentation experience. Fortunately, a group of people who had contributed significantly to the content of the Farm Guidelines were willing to consider taking on this role: Bill Darmody, Rod Dyson, John Furphy, Paul Hemming, Jakob Malmo, John Penry, John Ryan, Diane Ryan, Richard Shephard and Peter Younis.

At the meeting everyone agreed to do some presentations, primarily in regions other than their own localities to extend the national network and to provide a 'different face' for events to stimulate attendance. It was agreed that all presenters would 'sit in on' the six hours presented by someone-else before they did their sessions. This formed a training technique which was reasonably quick, responsive and not too expensive. What had or hadn't worked had to be effectively communicated so that presenters and Regional Project Managers could benefit from the experience prior to the rollout in their regions. This was successful although challenging due to the rapid rollout of the Adviser Seminars.

Three models emerged for delivery of the total seminar material:

6 hours \* 1 seminar including a meal break (Queensland, NSW, Tasmania, SA)

3 hours \* 2 seminars held one week apart (Western Victoria, Gippsland, WA)

2 hours \* 3 seminars run one month apart (Murray)

The single meeting model was favoured in regions where participants needed to travel large distances. The prime reason for encouraging multiple meetings was to maximise the chance of 'kick starting' regional networks, which happened very satisfactorily especially in northern Victoria. The return rate of people to the next meeting was high for regions where multiple meetings were held.

The overall cost of delivering the seminars was \$76,183 or \$17.36 per contact hour per participant. This included production of teaching materials, personalised letters of invitation and follow-up to advisers, cost of venues and presenters' travel, accommodation and fees. The remuneration to presenters was paid travel and accommodation and \$400 for each 3-hour session.

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The success of the Adviser Seminars, and therefore Countdown's reputation, rode greatly on the abilities and enthusiasm of the presenters. They earned a sincere vote of thanks from the project for their good-humoured energies, expertise and willingness to fit in with some tight scheduling. The appreciation of participants was also evident with more than 30% of attendees giving the high quality of the presentation as the reason for changing their view about some aspects of mastitis.

Overall feedback from participants was very positive. Many (67% of 'happy sheet' respondents) said they had changed their views on mastitis management during the seminar, usually as a result of increased awareness and better understanding of technical aspects or industry issues, or using the forum to review how they could improve their service. Forty-five per cent of respondents intended applying certain aspects in their client interactions, for example by giving clearer explanations to farmers, providing better advice, focusing on management practices that were likely to make a difference, using a more structured approach during on-farm investigations or using Countdown resources (especially the Farm Guidelines). Advisers commented that they felt more confident because they knew their information was up-to-date and consistent with other advisers, and that the industry was working toward common targets.

Other significant outcomes of the Adviser Seminars was the establishment of an influential group of advocates for the project and activation of a professional and cohesive animal health extension team for the dairy industry. For example, some of the presenters subsequently presented seminars for the InCalf project.

## 7 Materials for farmer meetings in each region

To promote sustainability of delivery and ownership of the recommendations at the local level, Countdown encouraged advisers to present project information to their dairy farmers. It was envisaged that if Countdown produced good quality, easy-to-use materials, advisers throughout the regions would use them at client meetings. The *Countdown Downunder Farm Presentation Kit* was developed from the Adviser Seminar materials to avoid unnecessary duplication of design effort and to use information that was familiar to advisers. The content was modified slightly to maximise its appeal and utility.

In early 2000, the kit was reorganised into its final form consisting of 119 Microsoft PowerPoint® slides divided into three sections:

Part 1: Mastitis overview: industry targets, about Countdown, biology of mastitis

Part 2: Calving and lactation

Part 3: Late lactation and drying-off

Each slide in the kit had a notes page suggesting ways for presenters to lead and enrich discussions. To give them the flexibility to tailor presentations and to personalise the information from their experiences, a notes and a miniature of each slide was provided as a booklet *Farm Presentation Kit Notes for Presenters*.

The Farm Presentation Kit was available electronically on a compact disc, as a set of overheads, or on flip charts designed for use with small groups in any setting. Countdown Regional Project Managers had one or two complete sets of the flip charts and overhead slides to loan to their advisers on request (Figure 16). The flip charts were valued at about \$360 and the sets of overhead at \$380 for each module (Part 1, 2 or 3) respectively.

All people purchasing Technotes obtained an electronic copy of the kit on compact disc in a version that was optimised for viewing and was not suitable for printing.

In general, advisers started to present Countdown information at farmer meetings once they had been to a Countdown Downunder Adviser Seminar or an Adviser Short Course. By June 2001, more than 5,500 farmers had attended meetings where Countdown and its technical messages were discussed (Table 8).



**141 local advisers raised awareness of Countdown recommendations to farmers at meetings**

*Figure 16: A3 flip charts were used to present information to small groups on farms*

Table 8: Farmers heard Countdown messages at 205 meetings since January 1999\*

	WA	Qld	Tas	NSW	Wst Vic	Gipps	Nth Vic	SA	Total
No. farmers	208	780	283	711	1,298	912	1,087	243	5,522
No. meetings	9	31	7	30	42	30	44	12	205
No. locations	8	21	6	24	17	20	21	9	126
Average hours per person	3.2	1.6	4.2	2.0	1.1	1.0	2.2	1.9	1.8

\* These figures are under-reported as details were not collected for all meetings. Farmers attending more than one meeting have been counted twice.

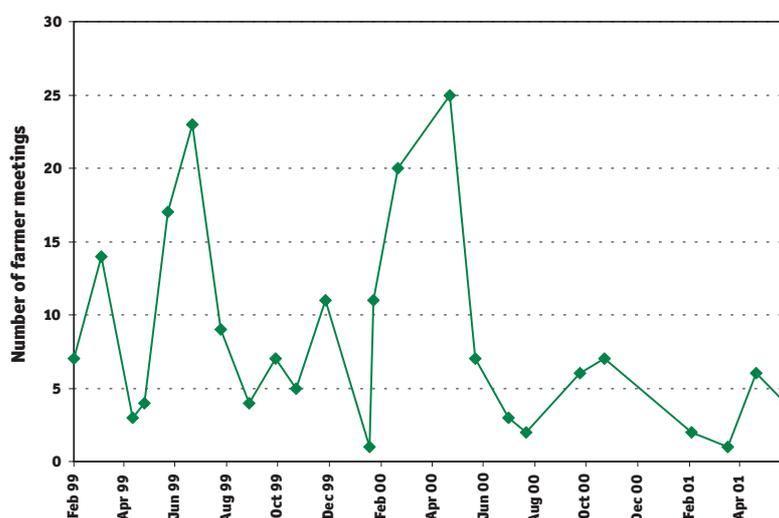
**More than 5,500 farmers and milk harvesters attended meetings of an average duration of 1.8 hours**

To help get things off the ground a series of 11 brainstorming sessions on extension were held for advisers in South Australia, the Murray and in Gippsland between April and November 1999. The 170 advisers at these sessions constructed plans for extending information in their regions.

Clusters of meetings happened when more experienced extension staff in different organisations were quick to recognise the potential uses of the material, or when the Countdown Regional Project Managers encouraged advisers in their districts to hold client meetings (Figure 17).

Meetings took a variety of formats. As examples, Ewin Lewis of the Dairy Farmers Group organised a roadshow of meetings on ‘Animal health at calving’ at 16 locations across New South Wales in July and August 1999. Nineteen meetings were held in Northern Victoria in May 2000 hosted by dairy companies with topics covered by local vets, technicians, and herd improvement staff, and 13 meetings were organised in Gippsland in October and November 1999 using a similar model. Tasmania ran seven seminars in June and July 1999 where the meetings were introduced and facilitated by local advisers and presenters from interstate delivered topics. Discussion groups were popular in Western Victoria, Queensland and Western Australia and were generally hosted by dairy companies and/or veterinary clinics.

**Figure 17: The number of farmer meetings increased when the Regional Project Managers helped organise them**



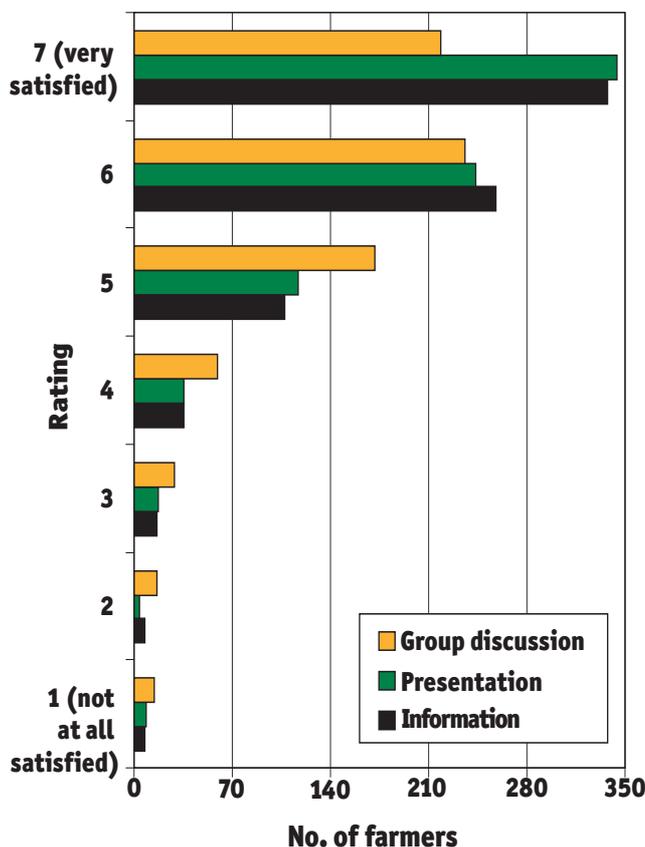
Four dairy companies in Northern Victoria and Gippsland (Kraft, Nestlé, Tatura Milk Industries, and Murray Goulburn) took a novel approach by inviting small groups of farmers with high bulk milk cell counts to special sessions. This enabled discussions of topics of specific interest to the group members.

Individual feedback forms were collected from farmers at 30% of meetings. The general trend showed that people were well-satisfied with the information, quality of the presentations and usefulness of the discussion among the group (Figure 18).

Although a decision in Queensland to concentrate on less demanding forms of extension (such as the series of articles in the *Queensland Dairyfarmer*) seemed a sensible compromise between raising awareness of key messages and minimising farmer burden, this alone was not totally satisfactory as a perception started to develop that Countdown was not active in the region.

In March 2001, an Interactive Presentation Kit about Dry Cow Treatment was made available to advisers. The new kit built on the facilitation skills and confidence that many advisers were cultivating and promoted active discussion at meetings. The interactive kit provided cues for prompting and directing discussion while still using the Farm Guidelines and Farm Presentation Kit as the main resource materials for farmers.

In summary, local farmer meetings with enthusiastic local advisers were an important element throughout the project, raising awareness of the Countdown recommendations and providing opportunities for farmers to discuss them in detail.



**Figure 18: Farmers were well-satisfied with meetings delivered by local advisers (based on 781 feedback sheets)**

## 8 Countdown Downunder Adviser Short Course

### Countdown designed and piloted a four-day Adviser Short Course

The Adviser Short Course was Countdown's commitment to a common adviser interface where different disciplines could interact locally on mastitis and milk quality issues, develop a shared sense of purpose and work in teams when investigating complex problems on farms.

The knowledge and skills to improve performance on farms already existed in the industry however these resources tended to be locked within disciplines and there was limited capacity for professionals to work together to solve complex, multi-factorial problems.

The intended outcome of the Countdown Downunder Adviser Short Course was to enable advisers to provide more effective services to their dairy farmer clients by solving mastitis problems using teamwork between professional groups, using new procedures and technical updates described in the Technotes.

The course was designed to have technical content that appealed to experienced practitioners, be of a duration that was effective without taking them away from their businesses for too long, and be sufficiently valued by participants to enable cost recovery for its delivery. It was developed with input from more than 20 experienced practitioners (veterinarians, milking machine technicians and other dairy advisers) with the guidance of representatives of the peak professional bodies.

Pauline Brightling, Graeme Mein and Rod Dyson prepared the first instructional design drawing heavily on 10 case studies and opinions from two adviser focus groups held in Kyabram (Victoria) and Taree (NSW) in November 1999.

Numerous interactions were required with the reference group to refine the course content. The design was finalised at a reference group meeting in Melbourne on 17 February 2000 and 12 trainers were introduced to the content and processes the following day. By 20 February, the pilot course in Tongala had started.

Feedback from trainers and participants was actively sought during the first course through written comments from participants about the content and delivery of every topic and H-form questions to the groups. Detailed observations and reflections made by an education researcher, Mark Paine, were invaluable. With finetuning the final design emerged.

The Adviser Short Course takes four days and involves 10 veterinarians, 10 milking machine technicians and 10 dairy advisers within a region. Separate sessions were run for each discipline on the first day and joint sessions on the remaining days. Most learning was interactive and was based on paper exercises and video clips produced by Ian Baker<sup>10</sup> (Figure 19), with 'hands on' activities limited to the machine technicians.

Technical information was embedded in case studies of recent mastitis investigations on real farms as requested by advisers at seminars and focus groups held in 1999. Non-technical team building exercises were included to focus on the strengths of teamwork, understanding the expectations of others and developing creative solutions. During a 4-6 week break after the third day, participants were required to investigate a mastitis problem on a client's farm in a multi-disciplinary team and present their findings to the whole group on the fourth day of the course.

The fourth day of the courses was highly valued by all involved. For participants, it was the first time that the quality of the topics relied primarily on their input and outputs. For trainers, it gave an insight into how the processes and techniques learned during the first three days were applied in the workplace.

Countdown made the effort to provide everyone with one or more opportunities to complete the course. A special 'day 4' experience was arranged so that some participants from distant regions could complete the course from their location. The fourth day of the program was adjusted in these cases to suit a small group or to be delivered by videoconference or teleconference.

The cost of the course to each participant was \$740 (\$685 prior to the GST). This was basically the cost of delivery and included payment of trainers, venue, lunches and course materials and a set of the Countdown Downunder Technotes.

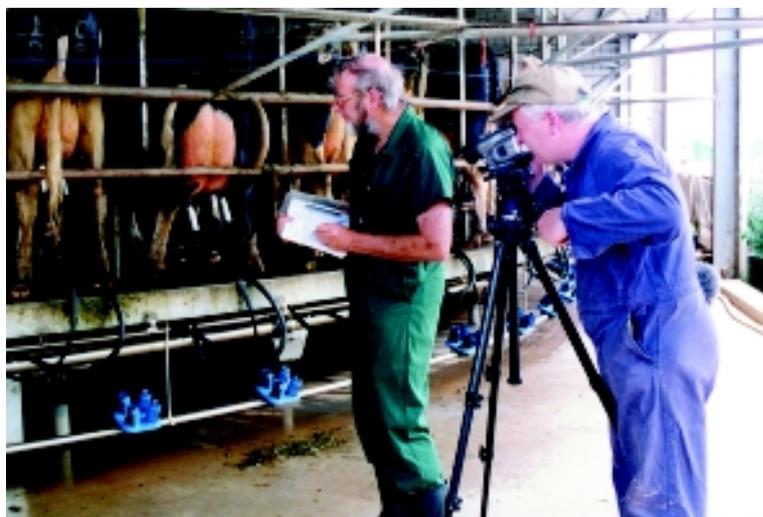
The price was originally set on having at least 25 paying participants. In Queensland, New South Wales and Tasmania two places were made available free of charge for state department staff in acknowledgement of the departments' contribution to the project. Courses with less than 25 participants were run in Queensland, New South Wales and Western Australia to provide those regions with the service.

Before the pilot course was run there was disquiet that some professional groups, especially the milking machine technicians, would find the cost a barrier. Once the first course was completed that concern was rarely raised – the word that it was good value spread very quickly. The need to leave their businesses for four days was still a logistics issue (especially for single-person businesses) but many made a great effort to attend.

Between February 2000 and June 2001, nine courses were delivered in all regions of Australia for 240 advisers. There was a good mix of disciplines and experience within the regions with 97 veterinarians, 69 machine technicians and 74 other dairy advisers involved (Figure 20).

Although there was excellent attendance by factory field staff from nine dairy companies across Australia, Bonlac Foods and Murray Goulburn each only had two staff attend. These dairy companies were busy either rolling-out their quality assurance programs or dealing with big picture politics. Nevertheless, this was a disappointing result for other participants and Countdown and a missed

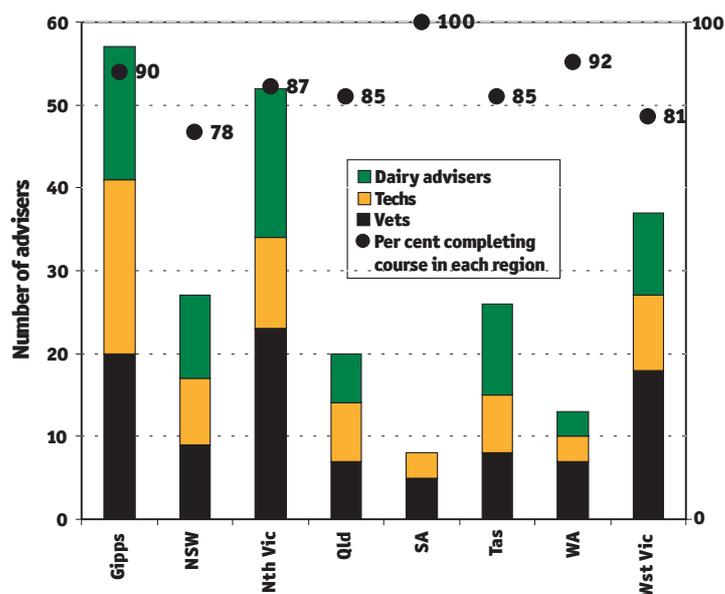
**Since February 2000, nine courses were run by 14 trainers for 240 advisers**



**Figure 19: Video footage was taken to support topics in the Countdown courses**

10 Visible Resources, Unit 5 'Riverview', 24 Hutton Street, Hurlstone Park, NSW 2193, Phone 02 9559-5746, Manager Ian Baker.

**Figure 20: Advisers from each dairying region in Australia participated in an Adviser Short Course**



**Multi-disciplinary advisory teams carried out 78 farm mastitis investigations across Australia as part of the Adviser Short Course**

opportunity for the companies, especially since the Australian Mastitis Advisory Council members from these companies had lobbied so hard during the design phase of Countdown for this type of activity for their staff.

As part of the Adviser Short Course multi-disciplinary teams of advisers have conducted 78 mastitis investigations on farms across Australia.

Advisers attended the course for a variety of reasons, illustrated by comments given at the beginning of the first day such as:

*“To have confidence that I’m delivering up to date, cutting edge service to dairy farmers”*  
 - Veterinarian from South Australia

*“For an improved network of contacts to more thoroughly investigate mastitis problems”*  
 - Veterinarian from Queensland

*“To develop a systematic approach to solving mastitis problems”*  
 - Veterinarian from Gippsland

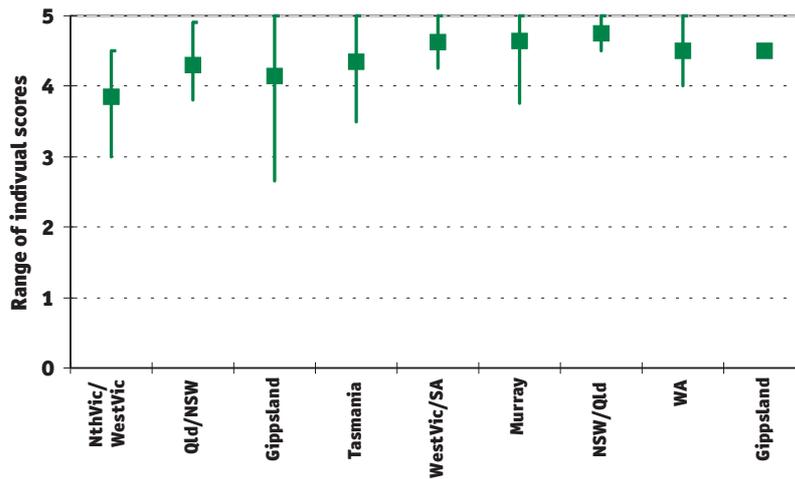
*“To become re-motivated and enthused to excite farmers again about improving milk quality”*  
 - Veterinarian from Queensland

*“To be considered competent as an adviser in our team at [...]”*  
 - Milking machine technician from Gippsland

*“To develop a more holistic approach to mastitis control”*  
 - Dairy adviser from New South Wales

Overall, participants were well satisfied with the course. In response to an H-form question on Day 3 asking “How well have the technical material and processes used in the course satisfied your goals for attending the course” groups gave a median score of 4.5 on a scale of 0 ‘not at all satisfied’ to 5 ‘extremely satisfied’ (Figure 21).

Delivery of the Adviser Short Courses was shared by a team of 14 trainers: Jeff



**Figure 21: Each group at the nine Adviser Short Courses believed their reasons for attending the course had been well-satisfied. The box represents the agreed group score. A value of 0 is 'not at all satisfied' and 5 is 'extremely satisfied'.**

Andrews, Carol Bradshaw, Pauline Brightling, Bill Darmody, Rod Dyson, Paul Hemming, Ian Hubble, Jakob Malmo, Graeme Mein, John Penry, Diane Ryan, John Ryan, Fiona Smolenaars and Peter Younis.

Because of the complexity of the resource material and the mode of delivery, a comprehensive Trainer's Guide was developed for the Adviser Short Course. This provided a detailed outline of the instructional design without 'scripting' for trainers.

Using the same model that was developed for preparing trainers to deliver Adviser Seminars, trainers became familiar with the style and objectives of each topic by sitting in on at least one session before taking a lead role. This provided a consistent standard across courses while capitalising on the unique experience and competence that individual trainers brought to the program. The skills developed by this group and their ability to train in teams subsequently flowed on to other activities and projects within the dairy industry.

Trainers were paid \$1,200 per delivery day plus expenses. No reimbursement was made for preparation or travelling time. This encouraged trainers to be involved in a number of courses so their own investment in preparation was realised.

Advisers who integrate their knowledge and services with other professions in the region are more likely to develop robust and practical solutions to specific mastitis problems for farmers. As Countdown continues, the project will assess whether the quality of interactions between advisers is fostering sound and innovative solutions to mastitis problems for farmers.

When the Adviser Short Course was designed, the professional associations requested that: "assessment and accreditation should be options for short course participants, available if possible, through the National Milk Harvesting Centre and based on case reports from their work. Assessment should be funded by applicants." This will be pursued in the continuing Countdown project post June 2001.

## 9 Countdown Downunder Farmer Short Course

Countdown Downunder aims to improve farm profitability by encouraging farmers to use industry-agreed recommendations for mastitis control and milk quality. The Farmer Short Course was the last component of the project's extension model promoting adoption of best practice for mastitis control. This section describes what happened with the Farmer Short Courses to June 2001 and the structure for courses continuing beyond this date.

Countdown's brief was to design the course, organise funding and administration of the courses, prepare trainers to deliver the course and set-up an independent administrative mechanism so that the courses could be held on demand and were self-sustaining beyond the life of the project.

During 2000, the course was designed by Pauline Brightling, Rod Dyson, Anne Hope, Mark Paine and Fiona Smolenaars. Initial plans to outsource the design to South West Institute of TAFE were abandoned when it became clear that the innovative elements required would be most efficiently constructed by the instructional design team who had previously created the Adviser Short Course.

During the pilot phase, some modules of the Farmer Short Course were reconstructed and refined a number of times with different farmer groups as well as at the formal pilot courses. A detailed Trainer's Guide was written and materials for participants were developed (including a workbook, management

### *What the Countdown Downunder Farmer Short Course looks like*

The Farmer Short Course offers dairy farmers, managers and staff involved in milk harvesting a wealth of information about managing mastitis and a framework for using and integrating service from dairy advisers. It also encourages farmers to build a team approach to issues on their farms and to be comfortable about seeking advice from professionals.

The mechanism that the course uses to achieve this is to create a challenge for participants to 'close the gap' between their current practice and best practice as recommended by the Farm Guidelines. This is a powerful and efficient technique because it allows participants to 'fast track' to the elements they need to discuss in detail to improve the situation on their farms and tick-off on elements that they already do well. It also enables them to structure their plans in terms of their own risk management approach.

The Farmer Short Course contains 21 hours of adult learning in six 3½ hour sessions plus a 30-minute lunch break over six days. It is designed to fit between morning and evening milkings. Courses are limited to 21 participants to encourage interaction and vigorous 'small group' discussion.

Twenty-four topics are covered in the course including teat biology, calving management, teat disinfection, milking routines, milking machines, clinical case management, Dry Cow Treatment and culling (Figure 22). The topics are based on real farm scenarios, current farm activities, discussion in small groups and demonstrations.

Topics within the course are woven together by four themes to support the management planning process and two basic biological principles. The themes are:

- 'Closing the gap' – a technique that encourages milk harvesters to take actions to align with best practice, namely the recommendations in the Farm Guidelines
- Achieving a team approach on farm – to enable implementation of the plan
- The benefits of using a team approach with people off-farm
- Triggers for action – early warning signals that alert people to possible changes in their management systems that require follow-up action.

Many topics start in one session and are completed in following sessions and instructional techniques, such as the 'closing the gap' process, are repeated throughout the course.

planning aids and a wall chart). A training video for the course was produced from new video clips and archive footage. The Farmer Short Course was then piloted in two locations with 15 farmers at Tongala (Northern Victoria) in September and 22 farmers at Flaxley (South Australia) in December.

## Countdown designed and piloted a 21-hour Farmer Short Course

The pilots showed that having participants with a range of experience and responsibilities generated valuable interaction and discussion. For example, people working in the milking shed as sharefarmers, owner-operators or herd managers had different points of view and inputs. Similarly, a mix of ages, gender, herd size, shed design and dairy company that the farms supplied was useful in adding depth to the discussions.

To be a trainer for the Farmer Short Course advisers must have completed the Countdown Downunder Adviser Short Course, participated in a ‘Train the trainer’ workshop and attended at least two sessions of a Farmer Short Course delivered by an experienced training team. The positioning of the Farmer Short Courses in the latter half of the project was very important. Not only were the trainers drawn from people completing the Adviser Short Course, but there was also a network of professionals who could provide consistent advice, support and services to farmers.

A trainer’s major task is to help participants develop practical mastitis management plans for their farms (hopefully the first of many). This is a big ask as 21 individual plans must emerge although issues are mainly discussed in a group setting. However the biggest challenge is to encourage farmers to take control of their

Over the course participants build a ‘Mastitis and milk quality action plan’ for their individual farms using the Farm Guideline recommendations. In the final session each participant is asked to present the plan for their farm to the group. This allows others to contribute comments and increases the chance of individuals taking home plans that are meaningful and practical to implement.

The course costs \$697 to deliver including administration, training, training materials, venue hire and lunch for six days. FarmBi\$ subsidy is available in all States.

*Figure 22: The Farmer Short Course covers 24 topics relating to mastitis control and milk quality*

Session A	Session B	Session C	Session D	Session E	Session F
Getting started (60 mins)	Building teat disinfection into my plan (45 mins)	Building my goals and calving management plan (20 mins)	Building milking routine changes into my plan (20 mins)	Building clinical case management into my plan (30 mins)	Building my milking system checks, drying-off and culling management (45 mins)
Biology - how and why infection occurs (60 mins)	Mastitis herd dynamics and the whole team (75 mins)	Communication and team work (70 mins)	My farm policy for dealing with clinical cases (80 mins)	Is the milking system operating properly (75 mins)	Putting the finishing touches on plans (30 mins) My mastitis plan (30 mins)
<b>Lunch (30 mins)</b>					
Is the teat disinfectant working? (75 mins)	Calving management to minimise mastitis (75 mins)	Milking routines to minimise mastitis (80 mins)	Action of the milking machine (75 mins)	Cell counts (20 mins) Drying-off and the role of dry cow treatment (50 mins) Culling (20 mins)	My mastitis plan continued (75 mins)
Summary and feedback (15 mins)	Summary and feedback (15 mins)	Summary and feedback (20 mins)	Summary, feedback and introducing the wall chart (35 mins)	Summary and feedback (15 mins)	Next steps after this course (30 mins)

**54 advisers have attended workshops to build skills to deliver the Farmer Short Course. By June 2001, there were 37 approved trainers of the Farmer Short Course.**

**By June 2001, 17 Countdown Downunder Farmer Short Courses had been held in most dairying regions across Australia**

situation rather than the trainer acting as a technical expert. Most trainers had a strong technical background and were experienced in providing authoritative solutions for their clients. Few had any background in facilitation. So the ‘Train the trainer’ workshops were designed to develop skills to help farmers organise their resources and reach their own solutions rather than solving the problems for them.

Three workshops have been held since February 2001, two in central Victoria (Daylesford) and one in northern New South Wales (Taree). It was important to have a sizeable training group to draw upon given that each course requires two trainers and is run over six days. By June 2001, there were 37 approved trainers across Australia and 17 trainers-in-training.

Countdown produced and supplied the trainers’ resources including a Trainer’s Guide and compact disk of the training resources for each trainer, plus 15 trainer’s kits. The kits cost about \$500 each and comprised a folder of overheads and course materials, *Video clips for the Farmer Short Course* and miscellaneous stationery items.

Delivery of courses began in all regions after the first trainers’ workshop in February 2001 and 18 courses had been initiated by June 2001 (Table 9).

The Farmer Short Courses have been highly satisfactory for both participants and trainers. At each final session the trainers asked their groups “How confident are you that you will change the way you plan mastitis control activities on your farm as a result of this course?”. The median group response was 4.5 on a scale of 0 ‘not at all confident’ to 5 ‘extremely confident’. Individual scores started at 1.5 and on average 46% of participants gave a score of 5. A couple of feedback comments made by group members that captured the mood were:

*“It showed what we are doing is good but can be better with streamlining the edges or attention to detail.”*

*– Dairy farmer at the Warragul course, Gippsland*

*“I have been trying to improve our mastitis problem for the past few years and I am very motivated and confident that we will make changes. It is up to me, therefore it will happen.”*

*– Dairy farmer at the Flaxley course, South Australia*

*“Everything focused on the needs of our own farm and the application of information for the individual.”*

*– Dairy farmer at Cohuna course, Northern Victoria*

**Table 9: Since September 2000, 362 milk harvesters have participated in Farmer Short Courses**

Region	Locations	When	No. participants
Gippsland	Warragul (2), Wonthaggi	Mar-01, May-01, Jun-01	63
New South Wales	Bega	Jun-01	20
Northern Victoria	Tongala (2), Kyabram, Strathmerton, Numurkah, Rochester, Cohuna	Sep-00, Mar-01, Apr-01 (2), May-01 (2), Jun-01	131
Queensland	Malanda	Mar-01	22
South Australia	Flaxley (2)	Dec-00, May-01	44
Tasmania	Scottsdale	Jun-01	19
Western Australia	Bunbury	June-01 (postponed to Aug-01)	20
Western Victoria	Cobden (2)	Mar-01, May-01	43
<b>TOTAL</b>		<b>18 courses</b>	<b>362 participants</b>

The planning and management skills that farmers developed in the course were transportable to other areas of their businesses, for example activities such as irrigation and nutrition.

South West TAFE<sup>11</sup> administered the Farmer Short Course from April 2001 onwards. Their role included course promotion, responding to course inquiries, handling enrolments, preparing participant materials and sending them to the course venue, managing payments for all venue, equipment, catering and training costs, and registering applications for subsidies in each state.

Recruitment for the courses tended to be by direct contact from local advisers or Countdown Regional Project Managers, either by phone calls or as fliers distributed in dairy company and veterinary clinic newsletters.

Countdown has set up an independent mechanism of delivery the Farmer Short Course by organising approved trainers in all regions of Australia, full-cost recovery for the course delivery and administration through South West TAFE. This mechanism should be self-sustaining so that courses can be held beyond the life of the project. Courses can proceed at a location whenever 20 placements have been confirmed, making it economically viable.

Alignment of the outcomes of the Farmer Short Course with the National Qualification Framework<sup>12</sup> helped secure FarmBi\$<sup>13</sup> funding support for its delivery. South West TAFE made a group application in each state and for eligible farmers the out-of-pocket expense to farmers ranged from \$174 to \$349 (Table 10).

**Table 10: The cost to farmers for the Countdown Downunder Farmer Short Course**

State	Full cost	Available subsidies	Cost of course to eligible farmers
NSW	\$697	FarmBi\$ 75%	\$174
Queensland	\$697	FarmBi\$ 50%	\$349
SA	\$697	FarmBi\$ 50%	\$349
Tasmania	\$697	FarmBi\$ 60%	\$280
Victoria	\$697	FarmBi\$ 75%	\$174
WA	\$697	Dairy Industry Adjustment Package <sup>14</sup> 100%	\$0

**Countdown set up an independent delivery mechanism so that the courses are self-sustaining and can be held on demand**

<sup>11</sup> South West Training Services, South West Institute of TAFE, PO Box 674, Warrnambool, Victoria 3280, Phone 03 5564 8911, Manager Andrew Logan, Toll free number for farmer inquiries 1800 777 530.

<sup>12</sup> In 1999 Countdown identified the National Competency Standards that matched the Farm Guidelines. There was an excellent correlation between the Farm Guidelines and a range of competencies primarily at Certificate II level but also to level IV, indicating that a short course based on the Countdown messages could be located entirely within the National Qualification Framework.

<sup>13</sup> FarmBi\$ is a joint Commonwealth and state initiative that provides financial support to assist farmers to participate in learning activities to improve their management skills. FarmBi\$ is managed independently in each State.

<sup>14</sup> Dairy Industry Adjustment Package is a one-off allocation of \$2,000 per farm made available by the Western Australian State Government.

## 10 Establishment of regional networks of dairy advisers

Countdown Downunder set out to build regional capacity to deal with mastitis and milk quality issues. Effective networks are a key to achieving this as they link advisers across the professions, provide regional support and expertise and ultimately deliver advice and services to benefit farmers.

The strategy for establishing and strengthening the adviser networks was to identify all dairy advisers in each region, invite them to a forum where different disciplines could discuss milk quality issues face-to-face (the Adviser Seminars), further develop the skills and networks within each region (through the Adviser Short Courses) and help people extend their professional networks.

These opportunities have enabled advisers to better communicate with others in their district, as well as giving everyone a better understanding of what others have to contribute. Advisers who have had contact with the project activities recognise the benefits of working with others, using Countdown information as common ground.

An e-mail discussion list 'Countdown-L' was started in October 1999 to help advisers keep in touch with 'hot topics' and extend their networks beyond regional boundaries (this was in response to feedback raised at the Adviser Seminars).

The list was open to any professional giving advice to dairy farmers and encouraged advisers to exchange their thoughts about real cases. In June 2001 there were 268 subscribers including veterinarians, milking machine technicians, herd improvement representatives, factory field staff, government advisors, product representatives, lecturers and consultants. It was moderated to ensure the messages were posted in plain text format, did not contain attachments and had non-commercial content. The moderator also helped those subscribers who were new to using this type of list – of which there were many.

**268 advisers subscribed to 'Countdown-L' with the traffic averaging about 11 postings per month**

Since its inception 238 e-mails have been posted at an average rate of 11 per month. More than 50 advisers introduced themselves to the national Countdown-L network.

Technical issues that stimulated discussion included *Streptococcus uberis* mastitis, many aspects of teat disinfection from use of lanolin as an emollient to pre-milking dipping, and a lot of information about specific bacteria, laboratory milk culture and liners.

As Countdown-L was not budgeted for in the original Project Brief, DRDC contributed towards its cost in 1999-2000 (from the Communications Portfolio) because of their interest in exploring innovative e-communication developments.

Although people seem keen for ongoing interaction they only tend to get together, or hold regular meetings, for specific purposes. In northern Victoria, four of the six groups that met at Adviser Seminars decided to continue to meet regularly for 12 months. Countdown paid Fiona Smolenaars to facilitate the first meeting for each group when plans were established, but they were left to operate as independent, self-directed learning groups.

A challenge for the project was to keep the advisory networks active in the regions and to make sure they were inclusive, providing opportunities and encouragement for advisers to join without feeling that they should have attended previous events.

## 11 Establishment of national udder health statistics

Before the project began, the Australian Mastitis Advisory Council established that the industry goal was for all farm milk supply (every vat sent to the factory) to be less than 400,000 cells/mL and more than 90% of supply to be less than 250,000 cells/mL by July 2001.

At the time this goal was set the starting point was unknown and there was no way of measuring Australia's cell count status. This was because individual dairy processing companies tested and reported their own Bulk Milk Cell Count results and, until recently<sup>15</sup>, this information was not collected at a central point.

To monitor trends in cell count, Countdown chose to base the national statistic on milk recording data. This was a very clean and repeatable dataset derived from the half of the Australian dairy herd (specifically those herds that were enrolled in milk recording). Cell counts of individual cows in every herd were aggregated into a volume-weighted average for the herd and this was termed the Herd Milk Cell Count (HMCC).

A Senior Systems Scientist from the Australian Dairy Herd Improvement Scheme, Phil Bowman, used their database to calculate the Herd Milk Cell Counts. The same inclusion and exclusion criteria were applied as for other Australian Herd Recording statistics – so the statistic directly relates to the production data in the Australian Dairy Herd Improvement Report.

Milk recording data was available for the year prior to the start of the project and this gave the project a baseline. The population of cows that generated the national statistic is shown below (Table 11).

**Table 11: The national cell count statistic is based on herds that milk record**

	1997-1998	1998-1999	1999-2000
No. cows tested	940,051 cows	951,413 cows	941,799 cows
No. herds	7,451 herds	7,174 herds	6,972 herds
Average number of herd tests per farm	7.3	7.4	7.3
Cows in 2nd lactation or greater	76%	77%	77%
Herds joining milk recording with HMCC above 250,000 cells/mL	x	x	170 (58% of new herds)

Eyeball comparisons of Bulk Milk Cell Counts and Herd Milk Cell Counts for regions where both were available (South Australia, Western Australia and Tasmania) showed they had similar values and trends. Nevertheless they are bound to be different because they have fundamentally different uses. Data generated from milk recording is focused on information about individual cows (perhaps even to withhold the milk of high cell count cows from the vat) whereas Bulk Milk Cell Counts are part of the final farmgate product. Farmers often participate in milk recording to manage cell counts so they can lower Bulk milk Cell Counts. Herd Milk Cell Counts do provide a useful surrogate for Bulk Milk Cell Counts and can be particularly helpful in showing trends of change and regional differences.

**Countdown initiated a national cell count statistic in 1999 which is now published annually in the Australian Dairy Herd Improvement Report**

**Over the past three years Australia has made steady progress toward the dairy industry goal of having all milk supply less than 400,000 cells/mL**

<sup>15</sup> In 2001, the Weekly Times Countdown Downunder Milk Quality Award was launched. This is a national award and all companies in Australia submitted Bulk Milk Cell Count data to the Australian Dairy Herd Improvement Scheme for analysis. ADHIS maintains the confidentiality of this dataset.

**Currently 92% of Herd Milk Cell Counts are below 400,000 cells/mL and 67% are below 250,000 cells/mL**

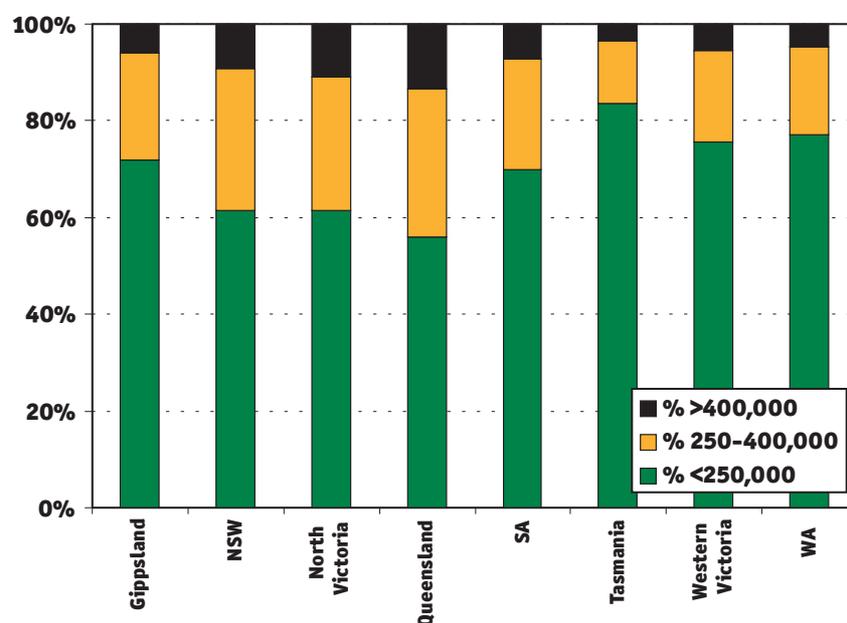
In the year before the project began, 89% of Herd Milk Cell Counts were below 400,000 cells/mL. Although the baseline was lower than anticipated, improvement in Herd Milk Cell Counts was evident over three years with 92% of Herd Milk Cell Counts now below 400,000 cells/mL (Table 1). This trend occurred even though more than one half of the 170 herds that joined milk recording in 1999-2000 were high cell count herds (above 250,000 cells/mL) and had presumably started testing to help manage their milk quality.

Cell count status varies between the eight dairying regions in Australia (Figure 23).

There were also cyclical changes in cell count across the different stages of lactation. Supply in regions that were predominately seasonal calving tended to have higher cell counts in late lactation, for example from January through to May each year. This information can be used to time information to farmers about late lactation cell count management.

Countdown has reported the proportion of cell counts that are below critical thresholds – 250,000 and 400,000 cells/mL. When cell counts are reported to international audiences, they are reported as geometric averages in a format consistent with the International Dairy Federation recommended methods<sup>16</sup> and the European Union Directive 92/46.

**Figure 23: The proportion of Herd Milk Cell Counts below 250,000 cells/mL in each region between July 1999 and June 2000. These are the parts of the bar not shaded black.**



<sup>16</sup> Bulletin of the International Dairy Federation 321/1997 Recommendations for presentation of mastitis-related data, Brussels, Belgium 1997.

## 12 Focused udder health research activities

Countdown was designed to distil and present current knowledge about mastitis control. The project's commitment to technical research was to identify significant knowledge gaps and to advise DRDC, other funding bodies and researchers about research priorities and the types of studies that would fill the gaps.

As the Farm Guidelines and Technotes were being written, Countdown critically appraised the technical information about mastitis control from the international literature and Australian field experience. Areas that would benefit from further research were summarised in the Technotes (Table 12).

From January 1999 to June 2001, Countdown had formal input to the:

- creation of Australian Breeding Values for somatic cell counts by the Australian Dairy Herd Improvement Scheme under the direction of Mike Goddard
- design of the Shorter Milking Time and CowTime projects of the National Milk Harvesting Centre
- development of the Prospectus for the Australian Milk Quality and Harvesting subprogram in 2001 commissioned by the National Dairy Alliance<sup>17</sup>
- review of research proposals for DRDC in 1999, 2000 and 2001.

Countdown was directly involved in the development of a national cell count statistic to monitor the progress of milk quality program with the Australian Dairy Herd Improvement Scheme, and refinement of a scoring system to evaluate teat ends through the International Teat Club<sup>18</sup> (Graeme Mein and Bill Morgan).

Otherwise most of Countdown's research and development resources were directed to the design and evaluation of training techniques in collaboration with Mark Paine (a social sciences expert in agricultural extension) and Lucia Boxelaar (a PhD student). Preliminary results have been published<sup>19</sup> and further analysis is planned for the next phase of the project.

### **Research relevant to the Australian dairy industry was published in the Countdown Downunder Technotes**

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*17 National Dairy Alliance, Making the most of the milk harvest, A prospectus for the Milk Quality and Harvesting sub-program completed and endorsed by participants at an industry workshop at Daylesford, Victoria, February 2001.*

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*18 A series of four papers were presented at the 2001 National Mastitis Council Annual General Meeting in Vancouver, Canada, on 'Evaluation of bovine teat condition in commercial dairy herds'.*

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*19 Hope A. Releasing resonant power. Experiences with the Countdown Downunder Advisers Short Courses APEN Extension Net 2000;8:3-6.*

**Table 12: Priority areas for mastitis research summarised in the Technotes in 1999**

Farm Guideline recommendation	Areas for further research	Countdown's contribution to June 2001
1.1 Calve on clean, dry pasture or on a clean, dry calving pad	Further information on what constitutes a successful calving pad surface, including measurement of pathogen counts, could be useful.	
4.5 Administer the treatment as recommended	It may be beneficial to use systemic antibiotics rather than intramammary preparations in targeted herds.	
5.2 Consider foremilk stripping for all cows in their first month of lactation	It would be worthwhile to evaluate in-line conductivity or other automated means that reduce the labour required to detect clinical mastitis cases.	
5.3 Put teat cups on clean, dry teats – only wash dirty teats	It would be worthwhile to evaluate the effect of teat preparation on environmental streptococcal infections in Australian conditions. Similarly, a comparison of flamed udders, 'one-step-preps' and techniques currently used in the industry could be assessed in a pre-milking hygiene trial	
5.8 Avoid under and over milking	Studies of cost-effective ways to reduce over milking in rotary dairies would be worthwhile.	
6.1 Use daily, weekly and monthly guides to check machine function	Further development of practical milking time tests and guidelines would be helpful. Training for veterinarians and technicians is essential. Development and evaluation of automated warning systems for faults and service requirements are recommended.	✓ Recording sheets and guidelines for milking time tests were developed and refined and taught to 240 participants at the Adviser Short Course.
6.3 Change liners at regular intervals	Farmers and advisers need more objective criteria to determine the optimum time to replace liners.	
7.1 Use a teat disinfectant registered by the National Registration Authority	There is some need to streamline the protocols applied to the assessment process in the current registration procedures	
7.3 Use water of very high quality	There is an urgent need for farmers and their advisers to have ready access to appropriate on-farm and laboratory water quality tests. Practical methods of providing high quality water for many tasks in dairies (making up teat disinfectants, preparing udders and washing equipment) should be evaluated.	✓ Field tests for the quality of water used for teat disinfectant mixes and for available iodine were sourced from overseas and will be evaluated in the next phase of Countdown.
7.4 Ensure the dilution gives at least 0.5% iodine for Iodophor products. Mix other products according to label directions	Commercial companies should supply appropriate efficacy data if they wish to promote the use of lower iodophor concentrations. The National Registration Authority, in collaboration, with industry, should review guidelines on the clarity and consistency of labels.	✓ The National Registration Authority reviewed teat disinfectant label requirements in consultation with Countdown so that they are aligned to Countdown recommendations
7.5 Maintain teat condition – emollients (such as glycerine) may be added to improve teat skin condition	Guidance about the appropriate level of emollient to add, relative to the concentration of active ingredient, should be included on the label.	✓ As for 7.4
7.6 Spray or dip the whole surface of all teats after every milking throughout lactation	More efficient methods of dispensing teat disinfectants (e.g. better spray nozzles and automatic spray units) are required to improve teat skin coverage and minimise labour.	
9.1 Assess teat skin and teat ends every milking	International agreement on teat evaluation methods and, more importantly, on the correct interpretation of results would be helpful.	✓ An international method for assessing teats and scoring the herd teat status was agreed in 2001 with technical support from Countdown

<b>Farm Guideline recommendation</b>	<b>Areas for further research</b>	<b>Countdown's contribution to June 2001</b>
12 Use Individual Cow Cell Counts for management decisions	There would be great benefit in further development and application of herd mastitis summaries based on ICCCs. This would provide farmers who milk record with reliable information (for example on the spread of mastitis) in a timely and simple format. Facilities for advisers to use more detailed analyses during herd investigations (such as simple data download and appropriate software for analysis) would also be beneficial. Additional methods of dealing with high ICCC cows (such as identifying which groups of cows it is cost-effective to treat during lactation) would be useful.	✓ The Dairy Herd Improvement Fund has invested in a project to establish new mastitis summaries based on individual cow cell counts. Countdown will manage this project from 2001 and 2003.
14.4 Plan to use Dry Cow Treatment in all appropriate cows in the herd	This approach should be reassessed after 1-2 years of use especially in <i>Strep uberis</i> herds.	
16.4 Dry off abruptly; do not skip milkings	It is not clear if 'once-a-day' milking affects the risk of mastitis infection. Research to investigate methods of late lactation management to minimise cell counts and new mastitis infections could be of benefit.	
24 Review and planning checklists	Some further benchmarking information would be useful to enable farmers to better judge their performance and progress, and to set targets.	✓ As for 12.
27.1 Clean and renovate areas around troughs, gates, laneways and the entrance to the dairy area	Practical solutions to mud problems need to be demonstrated locally for many areas in Australia.	
Pre-milking teat disinfection	The effects of pre-dipping or pre-spraying teats on environmental streptococcal infections and <i>Staph aureus</i> mastitis under Australian conditions should be explored, with special attention to strategic pre-milking teat disinfection in the first few weeks after calving.	
Teat sealants	Information about the use of teat sealants on commercial farms in Ireland (where the formulation contains antibiotic) and in New Zealand (no antibiotic) would be useful.	✓ Following Countdown's input to the National Registration Authority's registration decision, TeatSeal® is being assessed for use in Australian dairying conditions.

## 13 Establishment of agreed methods and quality assurance in microbiology laboratories culturing milk samples

Because the only way of reliably diagnosing mastitis problems in dairy herds is by culturing milk samples, this deliverable focused on improving mastitis diagnosis in Australia by establishing agreed methodology and quality assurance standards for laboratories. This was initially envisaged as a relatively small task but several issues emerged before it was scheduled to rollout making it clear that the overall reliability and cost-effectiveness of mastitis diagnosis could be improved by expanding the scope of the task.

First, inquiries to Countdown central and discussions of farm assignments from the Adviser Short Course indicated that advisers were often frustrated in their attempts to define mastitis problems in herds and that the difficulties arose at many of the critical control points in the diagnostic chain, from selection of cows for sampling through to interpretation of the laboratory results.

Second, the Commonwealth Government responded to the JETACAR report<sup>20</sup> by formally recognising antibiotic resistance as a problem of increasing global significance, with public health and trade implications. It agreed with JETACAR's recommendation that data on antibiotic resistance (associated with antibiotic use in animals) should be included in product information and the National Registration Authority should receive updates every five years. Consequently, issues associated with antibiotic sensitivity testing in veterinary laboratories needed careful consideration.

And finally, in June 2000, the Australian Veterinary Association released a draft Code of Practice for In-house Diagnostic Pathology and Referrals. The code recognised that the accuracy and interpretation of findings with in-house microbiology work was of paramount importance and that failure to practice adequate quality control and quality assurance could mean that results were inaccurate and unconfirmed. As many of the larger veterinary clinics ran in-house laboratories, Countdown considered it important to expand the deliverable so that processes and mechanisms could help them achieve the code standards.

To incorporate these developments, the deliverable became a planning strategy to improve mastitis control in Australia through more reliable and cost-effective laboratory testing and diagnosis. Elements of the strategy will be implemented as part of the continuing Countdown project.

The new strategy will facilitate agreement and commitment to best practice methods of diagnosing and reporting mastitis pathogens in Australian laboratories; document the sampling strategies and agreed methods of testing milk samples and reporting results; and broker agreement on useful antibiotic sensitivity profiles suitable for use in bovine milk samples.

**Countdown developed a strategy for improving the reliability and cost-effectiveness of mastitis diagnosis in Australia and funding was allocated in the continuing project**

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<sup>20</sup> The Joint Expert Advisory Committee on Antibiotic Resistance was appointed in April 1998 to examine the scientific evidence on the link between the use of antibiotics in food-producing animals, the emergence and selection of antibiotic resistant bacteria and their spread to humans. It reported to Government in September 1999, concluding that there was evidence that antibiotic resistance in animals bacteria could impact on human health. It provided 22 recommendations to respond to this finding, and they can be viewed at [www.health.gov.au/pubhlth/strateg/jetacar](http://www.health.gov.au/pubhlth/strateg/jetacar).

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# Countdown Downunder outcomes in the regions

# Countdown Downunder in Western Australia

January 1999 to June 2001

**Regional Project  
Manager**

**Peter Rosher**

**PO Box 125  
Dunsborough**

**WA 6281**

**Phone 08 9755-3931**

**Fax 08 9755-3800**

**E-mail [rosher@netserv.net.au](mailto:rosher@netserv.net.au)**



Western Australia has about 400 dairy farms and produces 4% of Australia's wholemilk. Countdown Downunder aims to lower bulk milk cell counts and increase farm profitability by promoting awareness and adoption of mastitis control on farms – as written in the *Countdown Downunder Farm Guidelines for Mastitis Control*.

The impact of the first phase of Countdown Downunder on the dairy industry in Western Australia has been measured by the growth in the region's capacity to respond to mastitis and milk quality issues and the exposure of milk harvesters to Countdown recommendations.

### *A regional capacity to act on mastitis issues*

Most dairying in Western Australia is concentrated in the Bunbury region but there are also a number of widely dispersed dairying districts. There is a relatively small population of service providers and few work entirely in the dairy industry.

There are 82 veterinarians, milking machine technicians and other dairy advisers in Western Australia interested in mastitis and milk quality issues. Very few service providers are now dedicated solely to dairying but some have invested in further skills to provide detailed farm advice. Of the advisers who became involved with Countdown:

- 46% attended the six-hour Countdown Downunder Advisers seminars
- 15% subscribe to the e-mail discussion list Countdown-L
- 16% participated in the four-day Countdown Downunder Adviser Short Course.

Given the complex nature of mastitis control, advisers are more likely to develop clear, prioritised and practical solutions to issues if they work together to define the underlying problems and develop joint solutions. Teamwork and problem solving were the aims of a Countdown course for advisers. Advisers paid for delivery of the four-day course at a rate of \$740 per participant (including GST). By June 2001, 12 advisers in Western Australia had completed the course:

Three milking machine technicians: Pat Fennell, Simun Lalich, Greg Manuel  
Seven veterinarians: Belinda Cussons, David Fraser, Peter Harry, Dario Nandapi, David Nichols, Peter Rosher, Phil Tucak

Two other dairy advisers: Ray Dodds, Jeff McDougall

Countdown provided opportunities for Western Australian professionals to hear from others in the eastern states by organising three training visits to the state and actively promoting inter-regional networks.

### *Increasing awareness of Countdown Downunder recommendations*

There is no single, simple action that safeguards against mastitis. Mastitis control requires good day-to-day management on several fronts from teat disinfection and maintenance of the milking machine through to the early detection and treatment of clinical cases.

Farmers can identify changes relevant to their herds if they are aware of industry recommended practices. Countdown provided local advisers with resources to increase awareness of the recommendations (such as the Farm Presentation Kit, posters and brochures).

In Western Australia, dairy farmers have been exposed to Countdown recommendations:

- through the local media –there have been 9 articles in publications in *HISWA Dairy News* and occasional articles in other publications
- at farmer meetings held by their advisers – 9 meetings involving 208 farmers for 3.2 hours on average, held at locations from Busselton to Waterloo.

### *Adopting best practice on farms*

Countdown Downunder designed a course that gives farmers the opportunity to develop mastitis and milk quality plans for their own farms and the confidence to implement the relevant changes. The Countdown Downunder Farmer Short Course contains 21 hours of technical material and is run between morning and evening milking over six days.

Courses began in September 2000 and a course planned for June 2001 at Bunbury was postponed until August.

The courses have been set-up so they can be run on demand – whenever 20 placements have been confirmed for a particular location. A team of two local trainers facilitate each session. Two advisers have been trained to deliver the course in Western Australia.

The Countdown Downunder Farmer Short Course costs \$697 per participant (including GST), \$174 for farmers eligible for FarmBi\$ subsidy or \$0 for farmers under the Western Australian Dairy Industry Adjustment Package. South West Institute of TAFE administers courses throughout Australia and any inquiries are directed to the toll free number 1800 777 530.

### *Progress toward the industry cell count goal in Western Australia*

The goal of the dairy industry is for all milk supply to have bulk milk cell counts below 400,000 cells/mL and 90% of milk supply to be below 250,000 cells/mL.

As bulk milk cell counts have not been collated at a regional or national level, Countdown has used Herd Milk Cell Counts to assess regional cell count status. Herd Milk Cell Counts are the average cell count in herds based on individual cell count data from the 80% of Western Australian herds that milk record.

Thirty Western Australian suppliers were honoured in the inaugural *Weekly Times* Countdown Downunder Milk Quality Award in 2001. Winners of this award were the 5% of suppliers across Australia who had the lowest average Bulk Milk Cell Counts. Six of the winners were in the Top 100.

Countdown Downunder has funded the Regional Project Manager position in Western Australia since January 1999. Countdown activities will continue in Western Australia to June 2004 with the continuing support of the Dairy Research and Development Corporation. The ongoing project will develop resources to improve on-farm performance and provide industry-wide responses to high-priority mastitis and milk quality issues.



**More details are at  
[www.countdown.org.au](http://www.countdown.org.au)**

**or**

**Phone 03 9600-3506**

**Fax 03 9642-8133**



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### **Herd Milk Cell Counts:**

	<b>Below 250,000 cells/mL</b>	<b>Below 400,000 cells/mL</b>
The industry goal	90%	100%
Jul 99 – Jun 00	77%	95%
Jul 98 – Jun 99	76%	95%
Jul 97 – Jun 98	76%	93%

# Countdown Downunder in South Australia

January 1999 to June 2001

## Regional Project

Manager

Glen Beath

Willunga Veterinary  
Clinic

Main Road

Willunga

South Australia 5172

Phone 08 8556-2075

Fax 08 8556-2654

E-mail [wvs@micronet.net.au](mailto:wvs@micronet.net.au)



South Australia has about 650 dairy farms and produces 7% of Australia's wholemilk. Most dairying is in southeastern South Australia – from the border to Murray Bridge and the Fleurieu Peninsula. This encompasses a wide range of dairying environments with dry land and irrigated farms, and both year-round and seasonal calving herds.

The two major dairying companies in South Australia pay premium milk prices below thresholds of 150,000 and 200,000 cells/mL. South Australian farmers aim to reach these thresholds to obtain the highest payment for their supply. Countdown Downunder aims to lower bulk milk cell counts and increase farm profitability by promoting awareness and adoption of mastitis control on farms – as written in the *Countdown Downunder Farm Guidelines for Mastitis Control*.

The impact of the first phase of Countdown Downunder on the dairy industry in South Australia has been measured by the growth in the region's capacity to respond to mastitis and milk quality issues and the exposure of milk harvesters to Countdown recommendations.

## *A regional capacity to act on mastitis issues*

South Australia has a relatively small population of dairy service providers. There are 66 veterinarians, milking machine technicians and other dairy advisers in South Australia interested in mastitis and milk quality issues. Very few service providers are now dedicated solely to dairying but some have invested in further skills to provide detailed farm advice. Of the advisers who became involved with Countdown:

- 65% attended the six-hour Countdown Downunder Advisers seminars
- 18% subscribe to the e-mail discussion list Countdown-L
- 12% participated in the four-day Countdown Downunder Adviser Short Course.

Given the complex nature of mastitis control, advisers are more likely to develop clear, prioritised and practical solutions to issues if they work together to define the underlying problems and develop joint solutions. Teamwork and problem solving were the aims of a Countdown course for advisers. Advisers paid for delivery of the four-day course at a rate of \$740 per participant (including GST). By June 2001, 8 advisers in South Australia had completed the course:

Advisers who had completed the four-day Countdown course by June 2001 were:

Three milking machine technicians: Simon Chard, Mike Gibbs, Jeff Stringer

Five veterinarians: Glen Beath, Simon Edwards, Neil Lawson, Bernie Mason, Greg Stevens

No dairy advisers

Countdown has actively promoted inter-regional networks by linking South Australian professionals with those in other regions, particularly in the Western District of Victoria.

## *Increasing awareness of Countdown Downunder recommendations*

There is no single, simple action that safeguards against mastitis. Mastitis control requires good day-to-day management on several fronts from teat disinfection and maintenance of the milking machine through to the early detection and treatment of clinical cases.

Farmers can identify changes relevant to their herds if they are aware of industry recommended practices. Countdown provided local advisers with resources to increase awareness of the recommendations (such as the Farm Presentation Kit, posters and brochures) and facilitated four meetings to help them develop an extension strategy in October 1999.

In South Australia, dairy farmers have been exposed to Countdown recommendations at 12 farmer meetings held by their local advisers. The meetings involved 243 farmers for 1.9 hours on average and were held at locations from Mount Gambier to Mount Torrens.

### *Adopting best practice on farms*

Countdown Downunder designed a course that gives farmers the opportunity to develop mastitis and milk quality plans for their own farms and the confidence to implement the relevant changes. The Countdown Downunder Farmer Short Course contains 21 hours of technical material and is run between morning and evening milking over six days.

Courses began in September 2000 and by June 2001 two courses involving 44 milk harvesters had been held in South Australia.

The courses have been set-up so they can be run on demand – whenever 20 placements have been confirmed for a particular location. A team of two local trainers facilitate each session. Two advisers have been trained to deliver the course in South Australia.

The Countdown Downunder Farmer Short Course costs \$697 per participant (including GST) or \$349 for farmers eligible for FarmBi\$ subsidy. South West Institute of TAFE administers courses throughout Australia and any inquiries are directed to the toll free number 1800 777 530.

### *Progress toward the industry cell count goal in South Australia*

The goal of the dairy industry is for all milk supply to have bulk milk cell counts below 400,000 cells/mL and 90% of milk supply to be below 250,000 cells/mL.

As bulk milk cell counts have not been collated at a regional or national level, Countdown has used Herd Milk Cell Counts to assess regional cell count status. Herd Milk Cell Counts are the average cell count in herds based on individual cow cell count data from the 84% of South Australian herds that milk record.

Forty-four South Australian suppliers were honoured in the inaugural *Weekly Times* Countdown Downunder Milk Quality Award in 2001. Winners of this award were the 5% of suppliers across Australia who had the lowest average Bulk Milk Cell Counts. Nine of the winners were in the Top 100.

The South Australian Department Primary Industries and Resources funded the Regional Project Manager position in South Australia from January 1999 to December 2000. Glen Beath was appointed to this position after Greg Stevens left the department in December 2000. Countdown Downunder activities will continue in South Australia to June 2004 with the continuing support from the Dairy Research and Development Corporation and the DPIR. The ongoing project will develop resources to improve on-farm performance and provide industry-wide responses to high-priority mastitis and milk quality issues.



**More details are at  
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### **Herd Milk Cell Counts:**

	<b>Below 250,000 cells/mL</b>	<b>Below 400,000 cells/mL</b>
The industry goal	90%	100%
Jul 99 – Jun 00	70%	93%
Jul 98 – Jun 99	70%	93%
Jul 97 – Jun 98	74%	93%

# Countdown Downunder in Tasmania

January 1999 to June 2001

**Regional Project  
Manager**

**Ian Hubble**

**PO Box 236**

**Somerset**

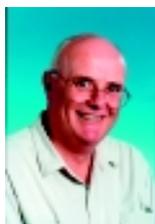
**Tasmania 7322**

**Phone 03 6434-5424**

**Fax 03 6434-5437**

**E-mail**

**Ian.Hubble@dpiwe.tas.gov.au**



Tasmania has about 650 dairy farms and produces 6% of Australia's wholemilk. The major dairy companies in Tasmania have provided clear messages about the need for low cell count milk for many years. Countdown Downunder aims to lower bulk milk cell counts and increase farm profitability by promoting awareness and adoption of mastitis control on farms – as written in the *Countdown Downunder Farm Guidelines for Mastitis Control*. Countdown's messages in Tasmania were particularly oriented around improving cost-efficiency and risk management so that good mastitis control was even more profitable.

The impact of the first phase of Countdown Downunder on the dairy industry in Tasmania has been measured by the growth in the region's capacity to respond to mastitis and milk quality issues and the exposure of milk harvesters to Countdown recommendations.

## *A regional capacity to act on mastitis issues*

Most of Tasmania's dairying is located along the north of the island from Smithton to Scottsdale. There are a number of large corporate farms and an increasing number of farms that employ labour. The industry has a relatively large number of service providers who have a focused, efficient approach to profitable dairying.

The 94 veterinarians, milking machine technicians and other dairy advisers in Tasmania who deal with mastitis and milk quality as a routine part of their business are the people most able to pass on clear, consistent and timely advice to farmers. Many of these advisers have become involved with Countdown:

- 67% attended the six-hour Countdown Downunder Advisers seminars
- 23% subscribe to the e-mail discussion list Countdown-L
- 24% participated in the four-day Countdown Downunder Adviser Short Course.

Given the complex nature of mastitis control, advisers are more likely to develop clear, prioritised and practical solutions to issues if they work together to define the underlying problems and develop joint solutions. Teamwork and problem solving were the aims of a Countdown course for advisers. Advisers paid for delivery of the four-day course at a rate of \$740 per participant (including GST). By June 2001, 23 advisers in Tasmania had completed the course:

Advisers who had completed the four-day Countdown course by June 2001 were:

Seven milking machine technicians: Chris Beveridge, Peter Gaffney, Laurie Hooper, Greg Poke (moved on), Ken Poke, David Ray, David Smith

Eight veterinarians: Roger Blackwell, Ron Harris, Graham Harrison, Peter Holm, Neil Leighton, James McGregor, Susan Renilson (moved on), Peter Wendell-Smith

Eight other dairy advisers: Anna Blair, John Crabtree, Greg Henry, Ian Hubble, Jonathan Porteus, Stan Short, John Stokes, Rick Wilson

## *Increasing awareness of Countdown Downunder recommendations*

There is no single, simple action that safeguards against mastitis. Mastitis control requires good day-to-day management on several fronts from teat disinfection and maintenance of the milking machine through to the early detection and treatment of clinical cases.

Farmers can identify changes relevant to their herds if they are aware of industry recommended practices. Countdown provided local advisers with resources to

increase awareness of the recommendations (such as the Farm Presentation Kit, posters and brochures).

In Tasmania, dairy farmers have been exposed to Countdown recommendations:

- through the local media –there have been 72 articles in publications such as the *The Advocate* and *Tasmanian Country*, and occasional articles in other local newspapers and publications
- at farmer meetings held by their advisers – 7 meetings involving 283 farmers for 4.2 hours on average, held at locations from King Island to Hobart
- interviews on ABC radio and a feature on WIN TV 6 o'clock news.

### *Adopting best practice on farms*

Countdown Downunder designed a course that gives farmers the opportunity to develop mastitis and milk quality plans for their own farms and the confidence to implement the relevant changes. The Countdown Downunder Farmer Short Course contains 21 hours of technical material and is run between morning and evening milking over six days.

Courses began in September 2000 and by June 2001 a course involving 19 milk harvesters had been held at Scottsdale in Tasmania.

The courses have been set-up so they can be run on demand – whenever 20 placements have been confirmed for a particular location. A team of two local trainers facilitate each session. Three advisers have been trained to deliver the course in Tasmania.

The Countdown Downunder Farmer Short Course costs \$697 per participant (including GST) or \$280 for farmers eligible for FarmBi\$ subsidy. South West Institute of TAFE administers courses throughout Australia and any inquiries are directed to the toll free number 1800 777 530.

### *Progress toward the industry cell count goal in Tasmania*

The goal of the dairy industry is for all milk supply to have bulk milk cell counts below 400,000 cells/mL and 90% of milk supply to be below 250,000 cells/mL.

As bulk milk cell counts have not been collated at a regional or national level, Countdown has used Herd Milk Cell Counts to assess regional cell count status. Herd Milk Cell Counts are the average cell count in herds based on individual cow cell count data from the 66% of Tasmanian herds that milk record.

Fifty-two Tasmanian suppliers were honoured in the inaugural *Weekly Times* Countdown Downunder Milk Quality Award in 2001. Winners of this award were the 5% of suppliers across Australia who had the lowest average Bulk Milk Cell Counts. Eleven of the winners were in the Top 100.

The Tasmanian Department of Primary Industries Water and Environment has funded the Regional Project Manager position in Tasmania since January 1999. Countdown Downunder activities will continue in Tasmania to June 2004 with the continuing support from the Dairy Research and Development Corporation and the DPIWE. The ongoing project will develop resources to improve on-farm performance and provide industry-wide responses to high-priority mastitis and milk quality issues.



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### **Herd Milk Cell Counts:**

	<b>Below 250,000 cells/mL</b>	<b>Below 400,000 cells/mL</b>
The industry goal	90%	100%
Jul 99 – Jun 00	84%	96%
Jul 98 – Jun 99	74%	95%
Jul 97 – Jun 98	67%	92%

# Countdown Downunder in Western Victoria

January 1999 to June 2001

## Regional Project Manager

**John Penry**

**PO Box 73  
Camperdown  
Victoria 3260**

**Phone 03 5593-1077**

**Fax 03 5593-2856**

**E-mail**

**[jpenrycampvet@ansoniac.com.au](mailto:jpenrycampvet@ansoniac.com.au)**



Western Victoria has about 2,500 dairy farms and produces 18% of Australia's wholemilk. Countdown Downunder aims to lower bulk milk cell counts and increase farm profitability by promoting awareness and adoption of mastitis control on farms – as written in the *Countdown Downunder Farm Guidelines for Mastitis Control*.

The impact of the first phase of Countdown Downunder on the dairy industry in Western Victoria has been measured by the growth in the region's capacity to respond to mastitis and milk quality issues and the exposure of milk harvesters to Countdown recommendations.

### *A regional capacity to act on mastitis issues*

Dairying in Western Victoria stretches from Colac virtually to the state border. Western Victoria is an active region of dairy expansion and has a large number of service providers dedicated solely to the dairy industry. As herd sizes increase, more farms are seeking labour and mastitis control has become a broader farm-team issue. Pasture availability in dry years can make late lactation a difficult time and creates a challenge for managing milk cell counts.

The 148 veterinarians, milking machine technicians and other dairy advisers in Western Victoria who deal with mastitis and milk quality as a routine part of their business are the people most able to pass on clear, consistent and timely advice to farmers. Many of these advisers have become involved with Countdown:

- 66% attended the six-hour Countdown Downunder Advisers seminars
- 24% subscribe to the e-mail discussion list Countdown-L
- 23% participated in the four-day Countdown Downunder Adviser Short Course.

Given the complex nature of mastitis control, advisers are more likely to develop clear, prioritised and practical solutions to issues if they work together to define the underlying problems and develop joint solutions. Teamwork and problem solving were the aims of a Countdown course for advisers. Advisers paid for delivery of the four-day course at a rate of \$740 per participant (including GST). By June 2001, 32 advisers in Western Victoria had completed the course:

Seven milking machine technicians: Chris Allwood, Doug Evans, Glen Jervies, Chris Nisbet (overseas), John O'Brien, Bevan Walker, Don Walker

Nineteen veterinarians: Charlie Blackwood, David Buckle, David Colson, Greg Darcy, Ron Deppeler, Jim Hancock, Ian Henderson, Rachael Holmes, Matt Makin, Peter Mansell, Caroline McCarthy, Bill Morgan, David Morrison, Steve Pefanis, John Penry, Duncan Runciman, John Ryan, Peter Younis, Michael Wraight

Six other dairy advisers: Robert Bowen, Gordon Forsyth, Trevor Fulton, Greg Hewson, Leon Lourey, Ron Page

### *Increasing awareness of Countdown Downunder recommendations*

There is no single, simple action that safeguards against mastitis. Mastitis control requires good day-to-day management on several fronts from teat disinfection and maintenance of the milking machine through to the early detection and treatment of clinical cases.

Farmers can identify changes relevant to their herds if they are aware of industry recommended practices. Countdown provided local advisers with resources to increase awareness of the recommendations and facilitated two meetings to help them develop an extension strategy in April 1999. The Farm Presentation Kit has been used with small- and medium-sized groups across the region.

In Western Victoria, dairy farmers have been exposed to Countdown recommendations:

- through the local media –there have been 24 articles in publications such as the *WestVic Dairy News*, *Warrnambool Cheese & Butter Factory Company Newsletter*, *Allansford and Wollaston Veterinary Clinic Newsletter* and occasional articles in other publications
- at farmer meetings held by their advisers – 42 meetings involving 1,298 farmers for 1.1 hours on average, held at locations from Colac to Warrnambool
- interviews on ABC regional radio interview and Country RoundUp
- poster displays and related activities at a Timboon Herd Improvement open day, WestVic conference, and ACME and DemoDairy field days.

### *Adopting best practice on farms*

Countdown Downunder designed a course that gives farmers the opportunity to develop mastitis and milk quality plans for their own farms and the confidence to implement the relevant changes. The Countdown Downunder Farmer Short Course contains 21 hours of technical material and is run between morning and evening milking over six days.

Courses began in September 2000 and by June 2001 two courses involving 43 milk harvesters had been held in Western Victoria.

The courses have been set-up so they can be run on demand – whenever 20 placements have been confirmed for a particular location. A team of two local trainers facilitate each session. Eight advisers have been trained to deliver the course in Western Victoria.

The Countdown Downunder Farmer Short Course costs \$697 per participant (including GST) or \$174 for farmers eligible for FarmBi\$ subsidy. South West Institute of TAFE administers courses throughout Australia and any inquiries are directed to the toll free number 1800 777 530.

### *Progress toward the industry cell count goal in Western Victoria*

The goal of the dairy industry is for all milk supply to have bulk milk cell counts below 400,000 cells/mL and 90% of milk supply to be below 250,000 cells/mL.

As bulk milk cell counts have not been collated at a regional or national level, Countdown has used Herd Milk Cell Counts to assess regional cell count status. Herd Milk Cell Counts are the average cell count in herds based on individual cow cell count data from the 38% of West Victorian herds that milk record.

In Western Victoria, 110 suppliers were honoured in the inaugural *Weekly Times* Countdown Downunder Milk Quality Award in 2001. Winners of this award were the 5% of suppliers across Australia who had the lowest average Bulk Milk Cell Counts. Thirty-eight of the winners were in the Top 100.

The Victorian Dairy Industry Authority funded the Regional Project Manager position in Western Victoria since January 1999. Countdown activities will continue in Western Victoria to June 2004 with the support of the Dairy Research and Development Corporation and WestVic Dairy. The ongoing project will develop resources to improve on-farm performance and providing industry-wide responses to high-priority mastitis and milk quality issues.



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### **Herd Milk Cell Counts:**

	<b>Below 250,000 cells/mL</b>	<b>Below 400,000 cells/mL</b>
The industry goal	90%	100%
Jul 99 – Jun 00	76%	94%
Jul 98 – Jun 99	72%	94%
Jul 97 – Jun 98	68%	90%

# Countdown Downunder in Northern Victoria

January 1999 to June 2001

**Regional Project  
Manager**

**Fiona Smolenaars**

**244 Mitchell Road**

**Kialla**

**Victoria 3631**

**Phone 03 5823-2835**

**mobile 0407 517-998**

**Fax 03 5823-2833**

**E-mail [fionas@origin.net.au](mailto:fionas@origin.net.au)**



Northern Victoria has about 3,100 dairy farms and produces 25% of Australia's wholemilk. The region has a very large population of seasonal calving herds on irrigated pasture and some smaller districts with dryland farming in the north east.

Countdown Downunder aims to lower bulk milk cell counts and increase farm profitability by promoting awareness and adoption of mastitis control on farms – as written in the *Countdown Downunder Farm Guidelines for Mastitis Control*. All six dairy companies that purchase milk from the region have milk quality payments based on Bulk Milk Cell Counts; two instituted their payment systems during the course of the Countdown project.

The impact of the first phase of Countdown Downunder on the dairy industry in Northern Victoria has been measured by the growth in the region's capacity to respond to mastitis and milk quality issues and the exposure of milk harvesters to Countdown recommendations.

## *A regional capacity to act on mastitis issues*

The 197 veterinarians, milking machine technicians and other dairy advisers in Northern Victoria who deal with mastitis and milk quality as a routine part of their business are the people most able to pass on clear, consistent and timely advice to farmers. Many of these advisers have become involved with Countdown:

- 54% attended the six-hour Countdown Downunder Advisers seminars
- 23% subscribe to the e-mail discussion list Countdown-L
- 26% participated in the four-day Countdown Downunder Adviser Short Course.

Given the complex nature of mastitis control, advisers are more likely to develop clear, prioritised and practical solutions to issues if they work together to define the underlying problems and develop joint solutions. Teamwork and problem solving were the aims of a Countdown course for advisers. Advisers paid for delivery of the four-day course at a rate of \$740 per participant (including GST). By June 2001, 49 advisers in Northern Victoria had completed the course:

Twelve milking machine technicians: Bernie Alston, Kane Adams, Geoff Bruns, Phillip Cavill, Adrian Hayward, Peter Keane, Ron Matthews, David McGregor, Rob Moyle, Murray Trotman, Shane Walsh, Rob Wood

Twenty-two veterinarians: Fiona Anderson, Serena Beverland, Dianne Brennan, Rob Bonanno, Paul Clavin, George Drummond, Rod Dyson, Keith Fletcher, Ian Gill, Peter Grant, Tim Humphris, Amy Kay, Mick McAuliffe, Mark Burgemeister, Karen Hunt, Bruce McIntyre, Chris Miller, Alistair Murray, Patricia O'Sullivan, Sabine Suess, Sally Roberts, Jo Twigg

Fifteen other dairy advisers: Richard Dickins, Neil Ennis, Peter Forster, John Furphy, Wayne Hollingworth, John Newlan, Durham Prewitt, Lucy Ripper, Phillip Schultz, John Schulz, Fiona Smolenaars, Trevor Sutton, Jim Thompson, Heath Winkler

## *Increasing awareness of Countdown Downunder recommendations*

There is no single, simple action that safeguards against mastitis. Mastitis control requires good day-to-day management on several fronts from teat disinfection and maintenance of the milking machine through to the early detection and treatment of clinical cases.

Farmers can identify changes relevant to their herds if they are aware of industry recommended practices. Countdown provided local advisers with resources to

increase awareness of the recommendations (such as the Farm Presentation Kit, posters and brochures) and facilitated five meetings to help them develop extension strategies in November 1999.

In Northern Victoria, dairy farmers have been exposed to Countdown recommendations:

- through the local media – there have been at least 43 articles in publications such as *Kyabram Veterinary Centre Newsletter*, *Country News*, Murray Goulburn newsletters, *Nestle Dairy Notes* and occasional articles in other publications
- at farmer meetings held by their advisers – 44 meetings involving 1,087 farmers for 2.2 hours on average, held at locations from Swan Hill to Strathmerton and in the north-east
- radio interviews on Country RoundUp.

### Adopting best practice on farms

Countdown Downunder designed a course that gives farmers the opportunity to develop mastitis and milk quality plans for their own farms and the confidence to implement the relevant changes. The Countdown Downunder Farmer Short Course contains 21 hours of technical material and is run between morning and evening milking over six days.

Courses began in September 2000 and by June 2001 seven courses involving 131 milk harvesters had been held in Northern Victoria.

The courses have been set-up so they can be run on demand – whenever 20 placements have been confirmed for a particular location. A team of two local trainers facilitate each session. Nine advisers have been trained to deliver the course in Northern Victoria.

The Countdown Downunder Farmer Short Course costs \$697 per participant (including GST) or \$174 for farmers eligible for FarmBi\$ subsidy. South West Institute of TAFE administers courses throughout Australia and any inquiries are directed to the toll free number 1800 777 530.

### Progress toward the industry cell count goal in Northern Victoria

The goal of the dairy industry is for all milk supply to have bulk milk cell counts below 400,000 cells/mL and 90% of milk supply to be below 250,000 cells/mL.

Countdown has used Herd Milk Cell Counts to assess regional cell count status. Herd Milk Cell Counts are the average cell count in herds based on individual cow cell count data from the 54% of Northern Victorian herds that milk record.

Seventy-five Northern Victorian suppliers were honoured in the inaugural *Weekly Times* Countdown Downunder Milk Quality Award in 2001. Winners of this award were the 5% of suppliers across Australia who had the lowest average Bulk Milk Cell Counts. Eight of the winners were in the Top 100.

The Victorian Dairy Industry Authority funded the Regional Project Manager position in Northern Victoria from January 1999 to June 2001. Countdown activities will continue in Northern Victoria to June 2004 with support from the Dairy Research and Development Corporation and Murray Dairy. The ongoing project will develop resources to improve on-farm performance and provide industry-wide responses to high-priority mastitis and milk quality issues.



More details are at  
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or

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### Herd Milk Cell Counts:

	Below 250,000 cells/mL	Below 400,000 cells/mL
The industry goal	90%	100%
Jul 99 – Jun 00	61%	89%
Jul 98 – Jun 99	62%	89%
Jul 97 – Jun 98	58%	87%

# Countdown Downunder in Gippsland

January 1999 to June 2001

## **Regional Project Manager**

**Carol Bradshaw**

**RMB 2460**

**Hazeldean Road**

**Ellinbank**

**Victoria 3820**

**Phone 03 5624-2257**

**mobile 0427 865 002**

**Fax 03 5624-2200**

**E-mail**

**carol.bradshaw@nre.vic.gov.au**



Gippsland has about 2,000 dairy farms and produces 19% of Australia's wholemilk. Countdown Downunder aims to lower bulk milk cell counts and increase farm profitability by promoting awareness and adoption of mastitis control on farms – as written in the *Countdown Downunder Farm Guidelines for Mastitis Control*.

The impact of the first phase of Countdown Downunder on the dairy industry in Gippsland has been measured by the growth in the region's capacity to respond to mastitis and milk quality issues and the exposure of milk harvesters to Countdown recommendations.

### *A regional capacity to act on mastitis issues*

Gippsland has three main dairying areas: South Gippsland, West Gippsland and the Macalister Irrigation area. Each area has a relatively high concentration of service providers. Gippsland dairy farmers have had access to a broad spectrum of information over many years through local research and demonstration facilities and traditional extension programs. For this reason Countdown was particularly interested in using a new frontline for mastitis control information – the local service providers.

The 188 veterinarians, milking machine technicians and other dairy advisers in Gippsland who deal with mastitis and milk quality as a routine part of their business are the people most able to pass on clear, consistent and timely advice to dairy farmers. Many of these advisers have become involved with Countdown:

- 46% attended the six-hour Countdown Downunder Advisers seminars
- 28% subscribe to the e-mail discussion list Countdown-L
- 29% participated in the four-day Countdown Downunder Adviser Short Course.

Given the complex nature of mastitis control, advisers are more likely to develop clear, prioritised and practical solutions to issues if they work together to define the underlying problems and develop joint solutions. Teamwork and problem solving were the aims of a Countdown course for advisers. Advisers paid for delivery of the four-day course at a rate of \$740 per participant (including GST). By June 2001, 55 advisers in Gippsland had completed the course:

Eighteen milking machine technicians: John Barr, Simon Beasley, Darren Chandler, Mark Cromb, John Van de Burgt, Ray Elliott, Greg Farthing (moved on), Gabby Hakim, Paul Hemming, Michael Lee, Anthony Lucas, Geoff Mathews, Peter McDonald, Wayne Proctor, Werner Schmidt, David Shields, Ken Vinnicombe, Richard Williams

Twenty-two veterinarians: David Beischer, Will Bullock, Joe Brady, Bill Darmody, Gerard Davis, Andrew Dunn, Rob Greenall, Kate Haines, Tim Henderson, Mark Humphris, Rod Irwin, David Lemchens, Jakob Malmo, Liz Mitchell, Robert Mitchell, Steve Mitchell, Jamie McNeil, Mike Pyman, Bruce Robertson, Gee Tawfik, Susie Williames, Barry Zimmermann

Fifteen other dairy advisers: Gerald Aitken, Rose Atherton, Gavin Banko, Leona Barutta, Carol Bradshaw, Peter Brown, Maurice Cunningham, Michael Derrick, Dean Eastwood, Darold Klindworth, Craig McWhinney, Andrea Niblett, Ross Rennick, David Reynolds, David Wanless, Vivian Womersley

### *Increasing awareness of Countdown Downunder recommendations*

There is no single, simple action that safeguards against mastitis. Mastitis control requires good day-to-day management on several fronts from teat disinfection and maintenance of the milking machine through to the early detection and treatment of clinical cases.

Farmers can identify changes relevant to their herds if they are aware of industry recommended practices. Countdown provided local advisers with resources to increase awareness of the recommendations (such as the Farm Presentation Kit, posters and brochures) and facilitated a meeting to help them develop an extension strategy in October 1999.

In Gippsland, dairy farmers have been exposed to Countdown recommendations:

- through the local media – 72 articles in publications such as the *Maffra Sale Veterinary Centre Newsletter*, *The HI Farmer*, *The Herd Improver*, the *Bonlac Foods Eastern Regional Newsletter*, the *Murray Goulburn Gippsland Newsletter* and occasional articles in local newspapers
- at farmer meetings held by their advisers – 30 meetings involving 912 farmers for one hour on average, held at locations from Poowong to Orbost
- through interviews on ABC radio, on Country RoundUp and FM 3BBR.

### Adopting best practice on farms

Countdown Downunder designed a course that gives farmers the opportunity to develop mastitis and milk quality plans for their own farms and the confidence to implement the relevant changes. The Countdown Downunder Farmer Short Course contains 21 hours of technical material and is run between morning and evening milking over six days.

Courses began in September 2000 and by June 2001 three courses involving 63 milk harvesters had been held in Gippsland. The courses have been set-up so they can be run on demand – whenever 20 placements have been confirmed for a particular location. A team of two local trainers facilitate each session. Nine advisers have been trained to deliver the course in Gippsland.

The Countdown Downunder Farmer Short Course costs \$697 per participant (including GST) or \$174 for farmers eligible for FarmBi\$ subsidy. South West Institute of TAFE administers courses throughout Australia and any inquiries are directed to the toll free number 1800 777 530.

### Progress toward the industry cell count goal in Gippsland

The dairy industry's goal is for all milk supply to have bulk milk cell counts below 400,000 cells/mL and 90% of milk supply to be below 250,000 cells/mL.

As bulk milk cell counts have not been collated at a regional or national level, Countdown has used Herd Milk Cell Counts to assess regional cell count status. Herd Milk Cell Counts are the average cell count in herds based on individual cow cell count data from the 65% of Gippsland herds that milk record.

Ninety-four Gippsland suppliers were honoured in the inaugural *Weekly Times* Countdown Downunder Milk Quality Award in 2001. Winners of this award were the 5% of suppliers across Australia who had the lowest average Bulk Milk Cell Counts. Twenty of the winners were in the Top 100.

The Victorian Dairy Industry Authority funded the Regional Project Manager position in Gippsland from January 1999 to June 2001. Carol Bradshaw was appointed to this position after Russell Coote retired in December 1999. Countdown activities will continue in Gippsland to June 2004 with support from the Dairy Research and Development Corporation and GippsDairy. The ongoing project will develop resources to improve on-farm performance and provide industry-wide responses to high-priority mastitis and milk quality issues.



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### Herd Milk Cell Counts:

	Below 250,000 cells/mL	Below 400,000 cells/mL
The industry goal	90%	100%
Jul 99 – Jun 00	72%	94%
Jul 98 – Jun 99	73%	94%
Jul 97 – Jun 98	68%	92%

# Countdown Downunder in New South Wales

January 1999 to June 2001

## Regional Project Manager

**Dick Buesnel**

**PO Box 53**

**Bega**

**NSW 2550**

**Phone 02 6492-1733**

**Fax 02 6492-1402**

**E-mail**

**dick.buesnel@agric.nsw.gov.au**



New South Wales has about 1,500 dairy farms and produces 13% of Australia's wholemilk. Deregulation has created a climate of change in New South Wales with fewer, larger farms being an inevitable consequence. Milk quality and farm profitability have become key issues for those continuing in the industry.

Countdown Downunder aims to lower bulk milk cell counts and increase farm profitability by promoting awareness and adoption of mastitis control on farms – as written in the *Countdown Downunder Farm Guidelines for Mastitis Control*.

The impact of the first phase of Countdown Downunder on the dairy industry in New South Wales has been measured by the growth in the region's capacity to respond to mastitis and milk quality issues and the exposure of milk harvesters to Countdown recommendations.

### *A regional capacity to act on mastitis issues*

Dairying in New South Wales is spread over a vast distance – from Bega on the south coast to Lismore in the north and inland to the Riverina and the central west. There are numerous districts with relatively small numbers of dairy farms.

There are 233 veterinarians, milking machine technicians and other dairy advisers in New South Wales interested in mastitis and milk quality issues. Very few service providers are now dedicated solely to dairying but some have invested in further skills to provide detailed farm advice. Of the advisers who became involved with Countdown:

- 41% attended the six-hour Countdown Downunder Advisers seminars
- 12% subscribe to the e-mail discussion list Countdown-L
- 9% participated in the four-day Countdown Downunder Adviser Short Course.

Given the complex nature of mastitis control, advisers are more likely to develop clear, prioritised and practical solutions to issues if they work together to define the underlying problems and develop joint solutions. Teamwork and problem solving were the aims of a Countdown course for advisers. Advisers paid for delivery of the four-day course at a rate of \$740 per participant (including GST). By June 2001, 21 advisers in New South Wales had completed the course:

Advisers who had completed the four-day Countdown course by June 2001 were:

Six milking machine technicians: Tony Dowman, Geoff Ford, Greg Kermode, Anthony Neal, Peter Neasmith, Roger Went

Eight veterinarians: Bruce Adams, David Chaffey, David Crawford, Natasha Lane, David Peterson, Julie Porter, Arthur Poynting, Diane Ryan

Seven other dairy advisers: Dick Buesnel, Ewin Lewis, Anthea Lisle, Alan Phillips, Jeff Schrale, Neil Stuckey, Helen Whitelaw

### *Increasing awareness of Countdown Downunder recommendations*

There is no single, simple action that safeguards against mastitis. Mastitis control requires good day-to-day management on several fronts from teat disinfection and maintenance of the milking machine through to the early detection and treatment of clinical cases.

Farmers can identify changes relevant to their herds if they are aware of industry recommended practices. Countdown provided local advisers with resources to increase awareness of the recommendations (such as the Farm Presentation Kit, posters and brochures).

In New South Wales, dairy farmers have been exposed to Countdown recommendations:

- through the State-wide media – there have been at least 40 articles in publications such as the *New South Wales Dairy Digest*, *Bega Cheese News and Information* and the *Dairy Farmers News*
- at farmer meetings held by their advisers – 30 meetings involving 711 farmers for two hours on average, held at locations from Bega and Bathurst through to Lismore
- through interviews on ABC regional radio.

### *Adopting best practice on farms*

Countdown Downunder designed a course that gives farmers the opportunity to develop mastitis and milk quality plans for their own farms and the confidence to implement the relevant changes. The Countdown Downunder Farmer Short Course contains 21 hours of technical material and is run between morning and evening milking over six days.

Courses began in September 2000 and by June 2001 a course involving 20 milk harvesters had been held at Bega in New South Wales.

The courses have been set-up so they can be run on demand – whenever 20 placements have been confirmed for a particular location. A team of two local trainers facilitate each session. Nine advisers have been trained to deliver the course in New South Wales.

The Countdown Downunder Farmer Short Course costs \$697 per participant (including GST) or \$174 for farmers eligible for FarmBi\$ subsidy. South West Institute of TAFE administers courses throughout Australia and any inquiries are directed to the toll free number 1800 777 530.

### *Progress toward the industry cell count goal in New South Wales*

The goal of the dairy industry is for all milk supply to have bulk milk cell counts below 400,000 cells/mL and 90% of milk supply to be below 250,000 cells/mL.

As bulk milk cell counts have not been collated at a regional or national level, Countdown has used Herd Milk Cell Counts to assess regional cell count status. Herd Milk Cell Counts are the average cell count in herds based on individual cow cell counts from the 66% of New South Wales herds that milk record.

Twenty-five New South Wales suppliers were honoured in the inaugural *Weekly Times* Countdown Downunder Milk Quality Award in 2001. Winners of this award were the 5% of suppliers across Australia who had the lowest average Bulk Milk Cell Counts. Two of the winners were in the Top 100.

NSW Agriculture have funded the Regional Project Manager position in New South Wales since January 1999. Dick Buesnel was appointed to this position after Sheena Plowman left the department in December 1999. Countdown Downunder activities will continue in New South Wales to June 2004 with the continuing support of the Dairy Research and Development Corporation and NSW Agriculture. The ongoing project will develop resources to improve on-farm performance and provide industry-wide responses to high-priority mastitis and milk quality issues.



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### **Herd Milk Cell Counts:**

	<b>Below 250,000 cells/mL</b>	<b>Below 400,000 cells/mL</b>
The industry goal	90%	100%
Jul 99 – Jun 00	61%	91%
Jul 98 – Jun 99	60%	89%
Jul 97 – Jun 98	62%	90%

# Countdown Downunder in Queensland

January 1999 to June 2001

## Regional Project

### Manager:

**John Miller**

**PO Box 42**

**Murgon**

**Queensland 4605**

**Phone 07 4168-1777**

**Fax 07 4168-2982**

**E-mail [millerjr@dpi.qld.gov.au](mailto:millerjr@dpi.qld.gov.au)**



Queensland has about 1,500 dairy farms and produces 8% of Australia's wholemilk. Deregulation has created a climate of change in Queensland with fewer, larger farms being an inevitable consequence. Milk quality and farm profitability have become key issues for those continuing in the industry. Two major companies compete vigorously for milk supply in the region.

Countdown Downunder aims to lower bulk milk cell counts and increase farm profitability by promoting awareness and adoption of mastitis control on farms – as written in the *Countdown Downunder Farm Guidelines for Mastitis Control*.

The impact of the first phase of Countdown Downunder on the dairy industry in Queensland has been measured by the growth in the region's capacity to respond to mastitis and milk quality issues and the exposure of milk harvesters to Countdown recommendations.

### *A regional capacity to act on mastitis issues*

Dairying in Queensland is concentrated in the south-east of the state and has active districts from the Darling Downs to Malanda in far north Queensland.

There are 196 veterinarians, milking machine technicians and other dairy advisers in Queensland interested in mastitis and milk quality issues. Very few service providers are now dedicated solely to dairying but some have invested in further skills to provide detailed farm advice. Of the advisers who became involved with Countdown:

- 21% attended the six-hour Countdown Downunder Advisers seminars
- 11% subscribe to the e-mail discussion list Countdown-L
- 9% participated in the four-day Countdown Downunder Adviser Short Course.

Given the complex nature of mastitis control, advisers are more likely to develop clear, prioritised and practical solutions to issues if they work together to define the underlying problems and develop joint solutions. Teamwork and problem solving were the aims of a Countdown course for advisers. Advisers paid for delivery of the four-day course at a rate of \$740 per participant (including GST). By June 2001, 18 advisers in Queensland had completed the course:

Advisers who had completed the four-day Countdown course by June 2001 were:

Five milking machine technicians: Wal Newton, Chris Reed, Howard Smith, David Stephens, Bruce Touzel

Nine veterinarians: Marcus Anstey, Ian Bradshaw, Chris Braithwaite, Alison Gunn, Michael Higgins, Cameron Marbach, John Ryan, Craig Smith, Bill Tranter

Four other dairy advisers: Jeff Andrews, Mal Maroske, John Miller, Stephen Wregg

### *Increasing awareness of Countdown Downunder recommendations*

There is no single, simple action that safeguards against mastitis. Mastitis control requires good day-to-day management on several fronts from teat disinfection and maintenance of the milking machine through to the early detection and treatment of clinical cases.

Farmers can identify changes relevant to their herds if they are aware of industry recommended practices. Countdown provided local advisers with resources to increase awareness of the recommendations (such as the Farm Presentation Kit,

posters and brochures) and facilitated a meeting to help them develop an extension strategy in August 1999.

In Queensland, dairy farmers have been exposed to Countdown recommendations:

- through the local media – there have been at least 32 articles in publications such as the *Pauls Milk News*, *Queensland Dairyfarmer* and occasional articles in other publications (including the Queensland Dairy Organisation's website)
- at farmer meetings held by their advisers – 31 meetings involving 780 farmers for 1.6 hours on average, held at locations from Beaudesert to Malanda
- through radio interviews on 4WK and ABC regional radio.

### *Adopting best practice on farms*

Countdown Downunder designed a course that gives farmers the opportunity to develop mastitis and milk quality plans for their own farms and the confidence to implement the relevant changes. The Countdown Downunder Farmer Short Course contains 21 hours of technical material and is run between morning and evening milking over six days.

Courses began in September 2000 and by June 2001 a course involving 22 milk harvesters had been held at Malanda in Queensland.

The courses have been set-up so they can be run on demand – whenever 20 placements have been confirmed for a particular location. A team of two local trainers facilitate each session. Five advisers have been trained to deliver the course in Queensland.

The Countdown Downunder Farmer Short Course costs \$697 per participant (including GST) or \$349 for farmers eligible for FarmBi\$ subsidy. South West Institute of TAFE administers courses throughout Australia and any inquiries are directed to the toll free number 1800 777 530.

### *Progress toward the industry cell count goal in Queensland*

The goal of the dairy industry is for all milk supply to have bulk milk cell counts below 400,000 cells/mL and 90% of milk supply to be below 250,000 cells/mL.

As bulk milk cell counts have not been collated at a regional or national level, Countdown has used Herd Milk Cell Counts to assess regional cell count status. Herd Milk Cell Counts are the average cell count in herds based on individual cow cell count data from the 53% of Queensland herds that milk record.

Thirty-four Queensland suppliers were honoured in the inaugural *Weekly Times* Countdown Downunder Milk Quality Award in 2001. Winners of this award were the 5% of suppliers across Australia who had the lowest average Bulk Milk Cell Counts. Seven of the winners were in the Top 100.

The Queensland Department of Primary Industries has funded the Regional Project Manager position in Queensland since January 1999. Countdown Downunder activities will continue in Queensland to June 2004 with the continuing support of the Dairy Research and Development Corporation and the QDPI. The ongoing project will develop resources to improve on-farm performance and provide industry-wide responses to high-priority mastitis and milk quality issues.



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### **Herd Milk Cell Counts:**

	<b>Below 250,000 cells/mL</b>	<b>Below 400,000 cells/mL</b>
The industry goal	90%	100%
Jul 99 – Jun 00	56%	86%
Jul 98 – Jun 99	51%	83%
Jul 97 – Jun 98	48%	80%

# Some of Countdown's major contributors

Countdown Downunder is the result of efforts by a large number of people. Members of the Australian Mastitis Advisory Council provided the project with strategic direction; numerous technical working groups distilled the science, built communication and evaluation strategies and designed training packages; the Regional Project Managers worked very hard to energise their regions; and a whole team of presenters and trainers sparked the enthusiasm of thousands of farmers and advisers. We would like to thank all those who have become involved with the project and to particularly acknowledge the following people:

**Bruce Adams:** Veterinarian at Bega, New South Wales. Bruce is a trainer of the Farmer Short Course and helped get the courses started in New South Wales. He is a great bush poet and we look forward to a Countdown ballad from him.



*Bruce Adams*

**Jeff Andrews:** Principal extension officer with the Queensland Department of Primary Industries at Mutdapilly, Queensland. As well as being a member of the Australian Mastitis Advisory Council, Jeff was a thoughtful contributor to the Technotes and a trainer for the Countdown Downunder Adviser Short Course.

**Helen Bayne:** Educational designer at Warrnambool, Western Victoria. Helen put real energy into the design of the Farm Guidelines, setting a strong foundation and standard for Countdown products.



*Glen Beath*

**Glen Beath:** Veterinarian at Willunga, South Australia. Glen is a trainer of the Farmer Short Course and helped get the courses started in South Australia. In 2001 he took on the role of Regional Project Manager and is a lateral thinking member of the team.

**John Bone:** Farmer at Chappel Vale, Western Victoria. John has been a member of the Australian Mastitis Advisory Council. Throughout the project he has been actively supportive of Countdown activities and has provided critical feedback from the farmers' point of view.



*John Bone*

**Carol Bradshaw:** Facilitator at Ellinbank, Gippsland. Carol enthusiastically took on the role of Regional Project Manager for Gippsland in early 2000 and has helped organise many Countdown activities in the region since. Carol is also a trainer for the Adviser Short Course and Farmer Short Course.



*Carol Bradshaw*

**Dick Buesnel:** Livestock Officer at with NSW Agriculture at Bega, New South Wales. Dick was appointed Regional Project Manager in New South Wales at the end of 1999 and has quietly ticked off on each Countdown milestone for this region. Dick is also a trainer for the Farmer Short Course.



*Dick Buesnel*

**Mark Burgemeister:** Veterinary consultant at Shepparton, Northern Victoria. As well as being a trainer for the Farmer Short Course, Mark has regularly incorporated Countdown messages in activities that he holds for his clients and provided the project with valuable feedback.



*Mark Burgemeister*

**Anne Burgi:** Science editor in Melbourne, Victoria. Anne had major input into the style, presentation and production of the Farm Guidelines and Technotes.

**Niall Byrne:** Science communicator in Drysdale, Victoria. Niall developed the communication strategy for the project, designed many of the extension resources (such as the website, Adviser Seminar presentations and the Farm Presentation Kit and posters), and has implemented many elements of the strategy (such as setting up Countdown-L and the personalised communications to advisers in the mailings and Adviser Bulletins). Niall has keenly kept in contact with how the project is rolling out in the regions and has acted as a 'sounding board' and 'ideas man' at strategic points in the project.



*Niall Byrne*

**John Bywater:** General Manager of Rural Services for Dairy Farmers in North Sydney, New South Wales. John has been an active and strongly supportive member of the Australian Mastitis Advisory Council who has provided significant insights to the projects on behalf of the dairy companies.



*John Bywater*

**Harry Collins:** General Manager of Pharmacia Animal Health in Rydalmere, New South Wales. Harry has been an active member of the Australian Mastitis Advisory Council volunteering for a number of working groups such as developing marketing strategies for the project. His knowledge and interaction with many different sectors of the industry have helped make the project responsive to real needs and issues.



**Harry Collins**

**Sue-Ellen Colson:** Layout designer at Warrnambool, Western Victoria. Sue-Ellen was the other half of the Farm Guideline design team at the South West Institute of TAFE along with Helen Bayne.



**Russell Coote:** Dairy officer with the Victorian Dairy Industry Authority at Warragul, Gippsland. Russell was the original Regional Project Manager for Gippsland until his retirement at the end of 1999. Russell played a major role in putting together the list of Gippsland stakeholders and launching activities in this region using his well-established network.

**Russell Coote**



**John Craven**

**John Craven:** Consultant from Middle Park, Victoria. John has been a member of the Australian Mastitis Advisory Council and has provided inspiration and guidance during the strategic planning of the first phase of Countdown Downunder and the new project.



**Bill Darmody**

**Bill Darmody:** Veterinary consultant at Moe, Gippsland. Bill has actively delivered many of the Countdown key elements to the regions, including Adviser Seminars, Adviser Short Courses and more recently Farmer Short Courses. He has been a valued team member ever since his involvement as an original member of the Australian Mastitis Advisory Council.



**Tom Davison**

**Tom Davison:** Manager of the DRDC Farm Portfolio in Melbourne, Victoria. In his role as 'purchaser' for DRDC, Tom has provided critical review of the project and advice from the field at all stages.

**Rod Dyson:** Veterinarian at Kyabram, Victoria. Rod has been integral to the design and implementation of all key elements of Countdown as a consultant for the central project team. Rod has presented Adviser Seminars, reviewed the Technotes, spent many days designing and collating materials for the Adviser Short Course and Farmer Short Course, was part of the 'Train the trainers' team' (who were all well out of their comfort zone), and delivered numerous courses in many dairying regions. His boundless energy, commitment to improving services, and realistic perspectives have been greatly appreciated.



**Rod Dyson**

**Marcus Frood:** Project management consultant at North Melbourne, Victoria. Marcus applied his professional management skills to the early stages of Countdown. His planning ability, which manifested as a 30 metre GANTT chart, helped the project team undertake many complex tasks concurrently and bring them to a satisfactory result with minimum pressure.



**John Furphy**

**John Furphy:** Murray Goulburn field officer at Cobram, Northern Victoria. John brought perspectives from both milking machine technicians (as President of the Australian Milking Machine Trade Association) and dairy company field staff to the Australian Mastitis Advisory Council during the planning phase of Countdown. He also helped deliver Adviser Seminars in Northern Victoria.

**Alison Gunn:** Veterinarian at Malanda, Northern Queensland. Alison has contributed to Countdown in many ways: reviewing the Technotes, on the reference group for the Adviser Short Course design, becoming the Australian Veterinary Association representative on the Australian Mastitis Advisory Council, and most recently, training Farmer Short Courses in Queensland. Alison's drive to make things happen has flowed into benefits for the project.



**Alison Gunn**

**Ron Harris:** Veterinarian at Scottsdale, Tasmania. Ron's interest in Countdown has always been in delivering the goods to farmers, was one of the first people to put their names down to train the Farmer Short Course, and has already put together some ideas for a training package for employed dairy workers.



**Ron Harris**

**Terry Hehir:** Farmer at Kyabram, Northern Victoria. Terry has chaired the Australian Mastitis Advisory Council with humour, diplomacy, and a knack for questioning activities to ensure they benefit farmers.



**Terry Hehir**

**Paul Hemming:** Milking machine technical consultant at Leongatha, Gippsland. Paul has brought the perspective of a designer and inventor to many of the milking machine components in Countdown and has been part of the training team.



**Paul Hemming**

**Ian Hubble:** Dairy officer with the Department of Primary Industry, Water and Environment at Elliott, Tasmania. Ian is the Regional Project Manager for Tasmania and a long standing member of the Australian Mastitis Advisory Council. His commitment has ensured Tasmanian farmers and service providers have benefited from Countdown resources. Ian has reviewed different components of Countdown, such as the Technotes, and the project has drawn on his experience with milk quality.



**Ian Hubble**

**Ewin Lewis:** Dairy Farmers farm services adviser at Hexham, New South Wales. Ewin has been a keen user of Countdown resources since the beginning of the project, initiating a roadshow of 16 farmer meetings throughout New South Wales in 1999 and incorporating regular articles in the Dairy Farmers News. Ewin is now preparing to train Farmer Short Courses in New South Wales.



**Ewin Lewis**

**Jakob Malmo:** Veterinarian at Maffra, Gippsland. Jakob has been a great advocate for Countdown in his extended network. The many hats that he wears for the project include being a member of the Australian Mastitis Advisory Council, one of editorial committee for the Farm Guidelines and Technotes, a presenter of the Adviser Seminars, and a trainer of the Adviser Short Course and Farmer Short Course.

**Bernie Mason:** Veterinarian at Murray Bridge, South Australia. Bernie is a trainer for the Farmer Short Course and helped get the courses started in South Australia.



**Bernie Mason**

**Graeme Mein:** Milk harvesting consultant at Werribee, Victoria. Graeme is a mentor to the Countdown team and a dynamo for many of the project's activities. He was on the editorial committee of the Farm Guidelines and Technotes, an integral part of the design team and a lead trainer for the Adviser Short Course, and featured on the video clips made for the Countdown courses. Countdown has benefited enormously from Graeme's scientific acumen, 40 years experience in milk harvesting, and involvement in international committees such as the International Dairy Federation.



**Graeme Mein**

**John Miller:** Dairy adviser with the Queensland Department of Primary Industries at Murgon, Queensland. John Miller is the Regional Project Manager for Queensland and has made Countdown materialise for farmers and advisers despite having a vast region to cover and the challenges thrown up by deregulation of the industry.



**John Miller**

**Rob Morton:** Manager of the DRDC Communication Portfolio in Melbourne, Victoria. Rob has helped develop linkages between projects and provided Countdown with extension and evaluation opportunities. His positive attitude always keeps the team buoyant.



**Rob Morton**

**Chris O'Callaghan:** DeLaval product manager at Tullamarine, Victoria. Chris is a member of the Australian Mastitis Advisory Council and Countdown has regularly benefited from his thoughtful, considered approach to developing policy and strategies in council meetings and working groups.



**Chris O'Callaghan**

**Mark Paine:** Extension consultant in with the University of Melbourne in Parkville, Victoria. Mark's background in the agricultural and social sciences, his ability to think laterally, his experience in training and extension has greatly benefited the project. He started as a consultant for the project while working with AgResearch in New Zealand and has since become an integral part of the evaluation team, training design team and a critical friend.



**Mark Paine**

**Diana Paton:** Countdown administrative support in Melbourne, Victoria. Di is part of the Countdown administrative team. As the voice behind the phone and the calculator behind the accounts, she keeps the office operating.



**Diana Paton**

**John Penry:** Veterinarian at Camperdown, Western Victoria. John is the Regional Project Manager for Western Victoria. He has been involved with the project at many levels and across many regions and states –presenting Adviser Seminars and meetings to farmers, training the Adviser Short Course and Farmer Short Course, facilitating meetings to help advisers develop extension strategies for their farmers, developing a strong and active regional network and supporting the central team with various management tasks.



**John Penry**

**Sheena Plowman:** Livestock officer with NSW Agriculture in the Hunter Valley, New South Wales. Sheena joined the Countdown team as the first Regional Project Manager for New South Wales and began the task of putting together the list of stakeholders in the region and organising seminars for them.



**Sheena Plowman**

**Robert Poole:** Australian Dairy Herd Improvement Scheme executive officer in Melbourne, Victoria. As well as supporting the project as a member of the Australian Mastitis Advisory Council, Robert has actively promoted collaboration between research organisations and development of resources including the facility to run a national Milk Quality Award, support of a national cell count statistic, Australian Breeding Values for somatic cell counts, and new udder health summaries for milk recording herds.



**Robert Poole**

**Graeme (Buck) Rogers:** Bonlac consultant in Longwarry, Victoria. Graeme was a member of the Australian Mastitis Advisory Council until his retirement in 2000 and provided the design phase of Countdown with a repeated critical challenge – “how would the project benefit his farmers?”.



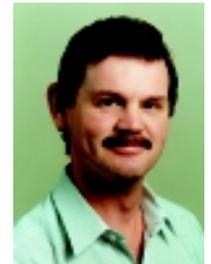
**Peter Rosher**

**Peter Rosher:** Veterinarian at Dunsborough, Victoria. Peter is the Regional Project Manager for Western Australia and a trainer for the Farmer Short Course. He has facilitated farmer discussion groups throughout the south west of the state and keeps a close eye on a small but important region for Countdown.



**Diane Ryan**

**Diane Ryan:** Veterinary officer with NSW Agriculture at Camden, New South Wales. Diane is one of Australia's most experienced advisers in mastitis control and milk quality and she brought her research and field knowledge to the Farm Guidelines and Technotes. She has been a member of the Australian Mastitis Advisory Council since its inception and is a regular presenter of Countdown material.



**John Ryan**

**John Ryan:** Veterinarian at Beaudesert, Queensland. John has been part of the central training team since the rollout of Adviser Seminars in 1999. He was a significant contributor to the Technotes and has travelled interstate to facilitate the Adviser Short Course, farmer meetings and to prepare as a trainer for the Farmer Short Course.

**Richard Shephard:** Veterinary consultant at Maffra, Gippsland. One of Richard's passions is cell count analysis and he has provided Countdown with resources and information for the Technotes and helped the project study development of new advisory services, as well as presenting the Adviser Seminars.



**Richard Shephard**

**Fiona Smolenaars:** Professional facilitator at Kialla, Northern Victoria. Fiona makes things happen and is willing to give anything a go (“it’s a challenge but it’s good for me”). Armed with this approach, she has achieved in all her Countdown roles – from Regional Project Manager in Northern Victoria, presenter of Adviser Seminars, and lead trainer of the Adviser Short Course and Farmer Short Course. Fiona helps the project ‘step outside the square’ and encourages personal and professional development of all those who she comes in contact with.

**Sabine Suess:** Veterinarian at Cobram, Northern Victoria. Following the Adviser Short Course, Sabine enthusiastically incorporated the techniques and processes into mastitis and milk quality investigations and provided feedback to Countdown on her experiences. She has since become a trainer for the Farmer Short Course and is expanding her services to meet the needs of farmers ‘post-course’.

**Bill Tranter:** Veterinarian at Malanda, Queensland. Bill has a wealth of experience in serving the dairy industry and especially encouraged Countdown activities for those in more remote areas. He was the lead trainer for the first Farmer Short Course after the pilots and a strong Countdown proponent in Queensland.



**Fiona Smolenaars**



**Sabine Suess**

**Roger Went:** Milking machine technician with the Bega Co-operative at Bega, New South Wales. Since becoming a trainer of the Farmer Short Course in 2001, Roger has initiated several courses and enthused many farmers.

**Peter Younis:** Veterinarian at Timboon, Western Victoria. Peter is one of the team’s quiet achievers and is part of the lead training team. He has presented Adviser Seminars and trained at several Adviser Short Courses and Farmer Short Courses. The Countdown central team knows that when design of the pitch, content and processes of training materials are about right (if a little raw), the material will come alive in Peter’s hands.

**Barry Zimmermann:** Veterinarian at Inverloch, Gippsland. Barry is an energetic practitioner who joined the Countdown team as a trainer for the Farmer Short Course and helped get the courses started in south Gippsland and Tasmania.



**Roger Went**



**Peter Younis**