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Expected Public and Private Benefits of Embedding Farm Business Performance Systems in the Australian and New Zealand Dairy Industries^[1]

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Summary

Key words: strategic planning, industry development, benchmarking.

An industry strategic planning process provided the context and drive for PIRSA to seek a dairy farm business performance system to clarify the case for investment, leading to adoption of the Red Sky Agricultural system. A scan in Australia and New Zealand for systems other than the national industry surveys by ABARE and ABS revealed five with an orientation to public posting of regional business performance information: ‘Red Sky’ (South Australia, Western Australia, Tasmania, Victoria and New Zealand),^[3] Tasmanian DPIW^[4], Victorian DPI Dairy Industry Monitor Farm Project (Victoria)^[5], DairyBase (NZ)^[6] and MAF Farm Monitor Project (NZ)^[7].

Adoption of the systems is driven by demand from a range of industry stakeholders (dairy business managers, industry organizations and governments) for analysis, benchmarking, monitoring, reporting and interpretation of business and industry performance data not satisfied by national farm performance surveys and statistics. Some points of difference between the systems are identified, including content, reporting timeliness and context. Increasing investment by government and industry stakeholders in complementary farm business performance systems and data sets is viewed as an important development, undertaken in expectation of substantial expected benefit, private and public.

The proposition in some Australian agricultural economics and agribusiness literature that farm business benchmarking, without exception or qualification, has no utility appears to be at odds with international business and industry practice. In the absence of a more concerted effort to differentiate and recognize quality farm business performance information systems and processes, including benchmarking, government agencies and industry organizations are open to criticism that they are supporting suspect industry metrics.

Further research to evaluate agri-food sector economic information systems and their benefits is recommended to achieve a position where quality performance analysis systems could be recognized as sound platforms for information critical to industry development and strategic planning and appreciation of internationally competitiveness. Popularity is no sound indicator of quality, but the continuing convergence of public and private clients to some of the business performance systems scanned in this paper adds to the case for evaluation research that looks for wheat and chaff and starts sorting.

Such research would either confirm the prevailing unfavourable and undifferentiated perspective on farm business performance benchmarking in Australia or it may produce an alternative perspective that permits some quality and some utility, consistent with expectations and observations by contributors to this paper. Observation is usually instructive: in most populations not all 'four legged's' are good and not all 'two legged's' are bad!

Four legs good, two legs bad.
Animal Farm, George Orwell

1. Introduction

Business performance data and industry competitiveness information is a critical ingredient to the industry development strategic planning process adopted by Primary Industries and Resources South Australia (PIRSA) several years ago. Yet across the many agri-food and related industries there is often a substantial gap between the information required to appreciate the international competitiveness of local industries and the available information (Ronan and Taylor, 2003; Ronan and Taylor, 2004). This paper is part of the search by PIRSA for systems to aid that appreciation.

1.1 International Competitiveness Template

In 2005, the Industry Strategy and Structure team in PIRSA further developed a case for research in Australia to develop an agri-food industry competitiveness template, including whole-of-chain data (Ronan, Taylor and Sinnadurai, 2005).^[8] The paper included a sample of the type of information considered relevant as a resource for government agencies and industry organisations in their consideration of a wide range of issues about the international competitiveness of agri-food and

related businesses and industries. While that research has not been directly supported to date, it has prompted a search for alternative routes to whole-of-supply chain information which may meet satisfy the needs of both private and public sector clients in the imperative of international competitiveness. An example exists in the United Kingdom.

1.2 Food Supply Chain Analyses in the United Kingdom

During the past decade whole of food chain research work at Cardiff University in the United Kingdom has analysed business and quality aspects of about ten food chains in the wake of livestock disease outbreaks in the 1990s. That research has received considerable government support because of the perceived public benefit of food chain integrity. Practically, the projects with various industries have facilitated enterprise restructuring and lifted industry competitiveness (Hines, 2006).

1.3 PIRSA Dairy Industry Strategic Plan

The production of a South Australian dairy industry strategic plan several years ago did not include business performance data as a point of reference for investment attraction (PIRSA, 2002; PIRSA 2005). PIRSA Livestock addressed that gap with the commencement of a three-year project in 2006, to implement a dairy farm business performance system and obtain information relevant to the interest of the potential investor⁹¹. Successful implementation of the system, as a sub-set of the dairy industry strategic planning process, is premised on the public benefit of investment in the context of industry development. To be successful the information system requires a critical mass of data in a range of regions and countries where investment may arise. To achieve public benefit of the kind referred to an ongoing basis the system would need to be valued by participants; that is, of private benefit.

1.4 Public Sector Data Systems in Australia

A mutual benefit system of this kind presents as a simple proposition. Observation suggests that in years past most farm/agri-food business performance data may have been mainly sourced from government agencies such as ABARE and ABS by government, with most data from consultancies for business clients. There is much greater cross-over these days.

The public system, exemplified by the Australian Bureau of Agricultural and Resource Economics (ABARE) farm surveys, is a sample survey system funded these days by government and industries that are willing and able to allocate levy funds to the purpose. Some limitations to the principal public data systems, ABARE and ABS, have been acknowledged by staff in both agencies in recent years, including incomplete coverage of industries, timeliness of data, frequency of collection, sample size, basis of data collection and the scope and orientation of the data sets.

1.5 Private Sector Data Systems

The limitations of the public data systems is likely to account for increased interest in complementary private sector data sources; the second broad source of farm business metrics. Data from this diverse sector has always been a mixed bag: not subject to any standards; not necessarily observing accepted economic text or accounting definitions; not necessarily oriented to or capable of achieving sample size or dispersion to adequately represent the population with statistical

validity. This is especially the case in any comparison of base performance analysis data; that is, benchmarking.

1.6 Quality Farm Business Performance and Benchmarking Systems Need Differentiation

The systematic gathering of business performance data and analysis and its subsequent comparison has been flourishing commercially in most industries globally for some decades, including agriculture (Worsley and Gardner, 2000). However, the practice has been an area of some perennial professional criticism within agricultural economics for many years. Some methodological problems with particular benchmarking systems have been highlighted. The correct diagnosis of some faulty examples has extended to the bulking of all contemporary benchmarking with comparative analysis from an earlier era as an unreliable aid to farm business management (Malcolm and Ferris, 1999; Ferris and Malcolm, 1999; Malcolm, 2001; Malcolm 2004a; Malcolm 2004b; Malcolm et al. 2005; Malcolm, 2006).

Ronan and Cleary (2000) differentiated 'best practice' business analysis and benchmarking, endeavouring to reconcile the commercial reality that benchmarking systems vary in quality with the interests of clients, public and private, for quality data. Ronan, Cook and Edwards (1994) endeavoured to provide some methodological direction with respect to assessment of business position and diagnosis of adjustment needs during the widespread rural crisis of the early 1990s in Australia. Pertinent key indicators have proven to be very helpful as useful reference points in the diagnosis of business difficulties and opportunities (Ronan, Cook and Edwards, 1994). As with any tools, appropriate use, preferably with the aid of skilled professionals is critical. A sound appreciation of business position and a realistic perspective of business and industry circumstance are fundamental to farm and industry adjustment.

Reconciliation of the performance analysis and benchmarking systems situation in Australian agriculture would appear to require acceptance that there is a spectrum of business system quality, with some systems of greater methodological soundness than others. It is difficult to see why quality benchmarking should not be broadly supported as a legitimate use of data from quality systems. Any other conclusion would appear to be at odds with international business practice, where appropriate comparisons are necessary and valued by private and public clients.

Misleading indicators and inappropriate comparisons of data have no place in production economics or industry-government strategic planning. Separating the sub-standard and supporting quality systems and ancillary metrics, including best practice benchmarking, would appear a more sensible strategy for promoting desirable change than continuing to tarnish all benchmarking with the one brush. That may require additional research, preferably about the real benefits of best practice.

1.7 Industry and Government Adoption of Farm Business Performance Systems

Business performance systems are developed for the private benefit of participating clients, with some consultancy businesses publishing and retailing their reports. A new development in this arena is appearing, involving a convergence of clients, government and business, with a common interest in farm performance information, albeit for different reasons. Ronan, Sterenberg and Blacketer (2006) described a web-based system in the wine industry designed principally to benefit grapegrowers and winemakers. The system has received considerable government support in its development in view of its potential to improve industry competitiveness and development. If it is

able to attract and maintain private sector commitment at the necessary levels it also has potential to be of direct value to public sector clients through generation of industry statistics, opening possibilities to complement or substitute for some existing industry organisation and government data.

Government interest in new sources of industry data follows the limitations of public data bases identified previously: demand for quality data at low cost; the capacity of the world-wide-web platform to aid the accumulation of a critical mass of data in industries, regions and countries; the engagement of government with industry in industry development, and the imperative of international competitiveness for industries and communities in the global economy. The entry of government as client of private data systems adds grist to the need to recognise quality platforms, data management and interpretation.

The purpose of this paper is to present a preliminary view of the expected public and private benefits that attach to privately driven, web-based data and information systems bases and their potential to meet the interests of public and private clients. In this case the industry of interest is the dairy industry where there appear to be developments which may point the way for other industries to achieve mutual benefit with associated economies.

2. Expected Private and Public Benefits of Several Farm Business Performance Systems in the Australian and New Zealand Dairy Industries

2.1 South Australia

Overview

PIRSA adoption and implementation of the Red Sky Agricultural web-based dairy farm business performance analysis system is a three-year program, with 2004/05 data collected, analysed and reported in July, 2006. The program is part of the general engagement by the South Australian Government with the dairy industry; in turn, part of the South Australian Strategic Planning process. A Dairy Industry Development Board, appointed by the Minister for Agriculture, Food and Fisheries, comprising government and industry representatives oversees the Dairy Industry Strategic Plan and its implementation.

Indicative of the government-industry engagement process is its general objective of “giving a hand to grow the South Australian dairy industry.”

Following is a summary of expected private and public benefits (see attachment 1).

Expected private benefits

- Businesses learn about their profitability:
 - About 40 South Australian dairy farmers are learning how profitable their businesses are, thanks to their involvement in an economic analysis project developed through the implementation of the State Dairy Plan project.
- Businesses gain perspective of their performance relative to best practice businesses in other regions, interstate and overseas.

- Provides base data for investors to aid their assessment:
 - Participating dairy farmers are being provided with a range of reports on their business performance, ways to improve farm profitability, information on key drivers of farm performance and how to interpret reports, and a comparison of their business with top-performing farms from interstate and overseas.

Expected public benefits

- Investment attraction consistent with dairy industry strategic plan:
 - It is anticipated the project will also help identify opportunities available in SA and attract further investment.
- Program planning and implementation of the state dairy plan:
 - (The data) will help to forge a clearer picture of business performance of SA dairy farms, with participating producers supplying farm financial data which is then collaborated into a state-wide information source to show how SA performs from a business perspective compared with the Tasmanian, Victorian and New Zealand dairy industries.

2.2 Western Australia

Background

Challenge Dairy Cooperative commissioned Red Sky Agricultural to undertake farm business analysis with 20 of its suppliers as part of its supplier support process. The WA Department of Agriculture and Food has subsequently provided additional financial support to expand the Red Sky analysis to an additional 20 non-Challenge Dairy suppliers to ensure that the 40 farms involved provide a meaningful industry database.

Expected private benefits

- Individual farm businesses better understand what drives their profitability and identifies opportunities for improvement;
- Individual farm businesses gain perspective of their performance relative to best practice businesses in other regions and interstate;
- Challenge Dairy Cooperative strengthens its supply base to avail of new marketing opportunities, and
- Challenge Dairy Cooperative better understand the opportunities and constraints of their supply base to be more confident to develop new markets.

Expected public benefits

- Providing WA Department of Agriculture (government) with accurate benchmark figures for Western Australian dairy industry that can be used to attract investment;
- Provide a powerful “message” for industry of what individual private operators can achieve;
- To develop relevant and effective extension strategies to develop more profitable and sustainable dairy industry, and
- As a “hook” to engage farmers with the Greener Pastures project with the objective of increasing the efficiency of nitrogen use and reducing its environmental impact in intensive grazing systems.

2.3 Victoria

2.3.1 Dairy Industry Farm Monitor Project, Victorian Department of Primary Industries

Background

The Victorian Department of Primary Industries launched a project in January 2007 to monitor a sample of dairy farms.

A detailed and objective set of data on the dairy industry is currently not available. The current providers, ABARE and ABS, provide a macro overview at the state and national level but do not provide a micro economic analysis of farming enterprises and their synergies.

The project builds on the success of the South West Monitor Farm Project, focussed on sheep and beef farms, to expand the project state-wide with wool and dairy farm monitor projects:

The 35-year-old South West Victorian Farm Monitor Project is highly regarded by farmers and agribusiness professionals. Great potential exists for the expansion of this project, which has a well-established, robust and recognised methodology. This potential was recognised by DPI and BESTWOOL/LAMB with the funding of a pilot Victorian Wool Industry Farm Monitor Project.

A Victorian Dairy Farm Monitor Project will provide current economic, social and environmental data. This will enable DPI and the dairy industry to:

- Monitor the changes in the profitability and productivity of dairy farm businesses over time;
- Understand the issues and industry concerns of farming families, and
- Assist in measuring the on-farm impacts of research and extension projects.

The Victorian DPI has modelled the expansion of the Farm Monitor Project on the New Zealand dairy program:

The method of expansion of the Farm Monitor Project to the dairy industry is to adopt a process similar to the model used by the Ministry of Agriculture and Forestry in New Zealand where data is collected from producers, analysed and reported through collaboration between government and industry. This will enable the timely release of the report for the Farm Monitor Project for the dairy industry, immediately following the end of the financial year.

Expected private benefits

- Providing timely, accurate and detailed profitability and productivity data at the farm level is expected to enable producers to make production decisions for the year ahead with full knowledge of the current situation.

Expected public benefits

DPI expect the project to provide a range of benefits to industry and government including:

- Timely receipt of detailed profitability and productivity data at the farm level for policy and planning purposes, including capacity to measure the potential on-farm impact of research, extension and government policy by using the data for economic modelling;
- Long-term monitoring of trends in farm profitability and productivity;
- Insight into current issues and concerns of farming families;
- Timely provision of a number of environmental and social measures and capacity to assess the connection between financial performance and social and environmental data, and
- Tool for comparative evaluation of the effect of extension projects.

For additional detail about the Victorian DPI project see attachment 4.

2.3.2 Red Sky Agricultural

Background

Red Sky Agricultural has been collecting financial and physical farm performance data for four years and publishes their benchmarks for public use. The most comprehensive benchmarks are for dairying, although there is also data on sheep and beef properties with the facility to extend the benchmarking to all agricultural industries.

Although the basis for data collection is via commercial use by consultants and accountants for their farmer clients, there is also some direct entry of data by farmers. The collection of data is promoted by some dairy companies and other commercial organisations.

The software is used in some publicly funded research projects and can be used for predictive budgeting and modelling.

Expected private benefits

- Providing timely, accurate and detailed profitability and productivity data at the farm level to enable producers to make production decisions for the year ahead with full knowledge of the current situation;
- Allowing farmers to build up an accurate picture of how their farm business has performed from season to season;
- Showing the levels of financial and physical performance that similar farms are achieving, and awareness of industry best practice benchmarks;
- Helping to identify the strengths and weaknesses of their farm business, and where they may be able to improve their performance; and
- Allowing farmers to construct budgets and to compare actual outcomes with planned outcomes; and
- Providing rural professionals (consultants, accountants, bankers and others) the platform to work collaboratively with farmers on their business plans.

Expected public benefits

- Timely receipt of detailed profitability and productivity data at the farm level for policy and planning purposes, including capacity to measure the potential on-farm impact of research, extension and government policy by using the data for economic modelling;
- Long-term monitoring of trends in farm profitability and productivity; and

- Tool for comparative evaluation of the effect of extension projects.

2.4 Tasmania

Background

Tasmania has a twenty-five year history of state government supported dairy farm benchmarking. Currently between 8-10 percent of dairy farmers provide annual data and receive benchmarking reports for their businesses. Many more farmers attend the annual field day and farm walk on the property with the top financial return.

The Tasmanian dairy benchmarking program is not web based. Farmers are required to complete input sheets, data is entered into the computer program by department staff and farmers receive hard copy reports. The desire by farmers, industry and government to compare Tasmanian production parameters with those from other regions led to an alliance with Red Sky Agricultural. Differences in terminology and methodology between the Tasmanian benchmarking program and programs in other regions made comparisons difficult. By adapting the data collected from Tasmanian farms and putting the data through the Red Sky program valid comparisons with other regions and countries are now possible.

The Tasmanian benchmarking program is funded by sponsorships from businesses that supply services and products to dairy farmers and by the state government that provides the staff resources to collect and analyse the data and provide the farm reports. Farmers do not pay to participate in the program. The DairyTas regional Board is responsible for attracting the sponsorships and managing the overall program through an industry oversight committee.

In sum:

- The awards field days show successful systems (i.e. 'best practice').
- The program works well in Tasmania.
- The system needs regional champions to drive into the national database/Red Sky program.

The groups intended to benefit from the program are;

- Participating farmers
- Non-participating farmers (both existing and intending farmers)
- Dairy industry groups (DairyTas, TFGA)
- Businesses selling services and products to dairy farmers
- Government and government organisations (including DPI, University, TAFE)

All the above groups, except dairy farmers, provide funds to run the program. The benefits received by each group are as follows:

Farmers

Participating farmers can track their own performance over time and their performance compared to the top and average farms. Non-participating farmers can also access the average and top figures for the industry and changes over time. Farmers have also used the information when negotiating milk

prices. Both existing and intending farmers make frequent use of the information for business planning.

Dairy industry groups

The changes over time in key performance parameters have been used by industry to identify and plan R,D & E projects. Benchmarking is also being used to evaluate D & E projects. Industry groups and government are keen to use the information from benchmarking to promote dairy farming and attract investment and people to regional areas.

Business

Businesses are keen to sponsor dairy benchmarking both as a form of advertising and so they can learn more about their customers. Banks, for example, are keen to obtain the information about average and top farm performance as a resource for staff dealing with credit applications.

Government

The changing industry profile is of interest to government. Dairy business benchmarking reports, comparing Tasmania with other regions, are used for program planning by government departments, industry organisations and educational institutions. The quality of the information from dairy benchmarking has been a factor in the recent decision by the Tasmanian Government to provide funds to improve benchmarking services for all primary industries.

In sum:

Expected private benefits:

- Farmers get individual business reports to help assess business position;
- Farmer negotiation of milk contracts;
- Service industry knowledge, and
- Awareness of industry best practice benchmarks - the awards field day attracts significant interest especially around the farm visit and the sharing of messages from the winners.

Expected public benefits:

- Benchmarking has a good history in Tasmania and there is a useful database and time series to look at trends.
- The data provides valuable information to assist with policy and industry support.

See attachment 3 for source information.

2.5 New Zealand

2.5.1 DairyBase

Background

DairyBase is the New Zealand national dairy farm business database, funded by Dairy Insight (Dairy Insight is funded by levies deducted from all milk produced in New Zealand, with these funds allocated to R,D&E activities). DairyBase is a web-based package for recording and reporting standardised dairy farm business physical and financial information. At 28 November 2006 approximately 500 farmers had committed to the program with around 90 of these having had their data processed. No benchmarks had been produced at that time.

DairyBase was developed to replace the Economic Survey that used ProfitWatch data to produce an annual report on the financial and physical performance of the New Zealand dairy industry. ProfitWatch was largely an Excel based manual data collection process covering 500-600 New Zealand dairy businesses.

Expected private benefits

- DairyBase aims to help dairy farmers achieve their business goals by:
- Allowing them to build up an accurate picture of how their farm business has performed from season to season;
- Allowing them to compare actual outcomes with planned outcomes;
- Bringing objectivity to the analysis of their farm performance;
- Helping to identify the strengths and weaknesses of their farm business, and
- Showing the levels of profit similar farms are achieving and allowing them to see where they may be able to improve their farm business.

Expected public benefits

- Timely receipt of detailed profitability and productivity data at the farm level for policy and planning purposes, including capacity to measure the potential on-farm impact of research, extension and government policy by using the data for economic modelling;
- Long-term monitoring of trends in farm profitability and productivity; and
- Tool for comparative evaluation of the effect of extension projects.

2.5.2 Ministry of Agriculture and Fisheries Farm Monitor Project, New Zealand

Background

Data is collected from producers, then analysed and reported. Data is collected before the end of the financial year on the basis of year-to-date data plus budgeted/predicted final months performance. This enables the release of the annual report prior to the start of the following financial year.

Expected private benefits:

- Providing timely, accurate and detailed profitability and productivity data at the farm level is expected to enable producers to make production decisions for the year ahead with full knowledge of the current situation.

Expected public benefits:

- Timely receipt of detailed profitability and productivity data at the farm level for policy and planning purposes, including capacity to measure the potential on-farm impact of research, extension and government policy by using the data for economic modelling;
- Long-term monitoring of trends in farm profitability and productivity;
- Insight into current issues and concerns of farming families;
- Timely provision of a number of environmental and social measures and capacity to assess the connection between financial performance and social and environmental data, and
- Tool for comparative evaluation of the effect of extension projects.

2.5.3 Red Sky Agricultural in New Zealand

Background

Red Sky Agricultural has been collecting financial and physical farm performance data in New Zealand for four years and publishes their benchmarks for public use. The most comprehensive benchmarks are for dairying, although there is also data on sheep and beef properties with the facility to extend the benchmarking to all agricultural industries.

Although the basis for data collection is via commercial use by consultants and accountants for their farmer clients, there is also some direct entry of data by farmers. The collection of data is promoted by Fonterra and other commercial organisations.

The software can be used for predictive budgeting and modelling.

Expected private benefits

- Providing timely, accurate and detailed profitability and productivity data at the farm level to enable producers to make production decisions for the year ahead with full knowledge of the current situation;
- Allowing farmers to build up an accurate picture of how their farm business has performed from season to season;
- Showing the levels of financial and physical performance that similar farms are achieving, and awareness of industry best practice benchmarks;
- Helping to identify the strengths and weaknesses of their farm business, and where they may be able to improve their performance;
- Allowing farmers to construct budgets and to compare actual outcomes with planned outcomes; and
- Providing rural professionals (consultants, accountants, bankers and others) the platform to work collaboratively with farmers on their business plans.

Expected public benefits

- Timely receipt of detailed profitability and productivity data at the farm level for policy and planning purposes, including capacity to measure the potential on-farm impact of research, extension and government policy by using the data for economic modelling;
- Long-term monitoring of trends in farm profitability and productivity; and
- Tool for comparative evaluation of the effect of extension projects.

3. Conclusions

1. The scan undertaken in this project reveals an increasing interest and investment by government and industry in information from standardised, dairy business performance systems which will complement data from national survey systems, ABARE and ABS. Red Sky has been adopted in the past year or two by government-industry in South Australia, Western Australia and Tasmania, while Victorian DPI have commenced a Dairy Industry Monitor Farms Project this year. New Zealand's Dairy Insights commenced DairyBase in 2006. Red Sky posts information on the web for Australian and New Zealand dairy regions, as well as selected Australian and New Zealand sheep and beef regions and South African dairy regions, enabling international benchmarking.
2. Submissions from project coordinators and system managers revealed alliances of public and private interests in quality, timely dairy farm business performance data with a range of expected private and public benefits. Industry deregulation in Australia in 2000 appears to have established a context where industry-regional data is of added value. Reflecting the changed industry environment, expected private benefits most reported by the project coordinators were:
 - To improve awareness of business position;
 - To increase awareness of top 10% business practice (i.e. best practice), and
 - To obtain reference data to aid contract negotiations.

This supports the idea that the four systems are valued for analysis of own business data in a standard system and enhanced perspective about performance relative to similar businesses and top performers in the industry.

3. Some of the expected public benefits of information from the systems included:
 - Obtaining more detailed and timely data than available from national systems;
 - Obtaining data for industry modelling;
 - Obtaining data to 'reality check' industry strategic planning targets;
 - Obtaining data to aid policy impact assessment;
 - Obtaining data in a standard system to facilitate investment attraction, and
 - Obtaining data for extension program planning.
4. The review supports the principle that private benefit for the dairy farmer, as perceived by the dairy farmer, is critical to the success of these systems; that is, their viability and sustainability. Private benefits are fundamental to achieving and sustaining public benefits. A benefit of mutual interest for public and private stakeholders is improved perspective of farm business performance, possible only from standardised systems generating timely analyses. In the continuous improvement cycle for businesses, awareness of regional, national and international competitiveness is paramount and not optional as it may have been prior to deregulation.

5. Project coordinators did not submit any concerns about the integrity of the three systems surveyed, nor did they submit any concerns about the ability of farmer participants to use data appropriately. A more detailed evaluation of the systems involving a survey of users, public and private, is recommended to reconcile the substantial gap between the nature of expected benefits indicated in this review and contemporary professional literature about the lack of utility of benchmarking in Australian agribusiness.

4. References

Cook, V., Edwards, K. and Ronan, G. 1994. *A positive approach to farm adjustment*. Primary Industries South Australia.

Ferris, A. and Malcolm, B. 1999. Sense and nonsense in dairy farm management economic analysis. Australasian Agribusiness Perspectives Paper 31 Agribusiness Association of Australia Inc.

<http://www.agrifood.info/perspectives/1999/Ferris.html>

Hines, Peter (Professor). 2006. Lean Enterprise Research Centre, Cardiff Business School, Cardiff University, Wales, United Kingdom, personal communication.

www.cardiff.ac.uk/carbs/lerc

Malcolm, B. 2001. *Farm Management Economic Analysis: A Few Disciplines, a Few Perspectives, a Few Figurings, a Few Futures*. Agribusiness Perspectives - Paper 42 Agribusiness Association of Australia Inc.

<http://www.agrifood.info/perspectives/2001/>

Malcolm, Bill (A/Professor) (2006), Food Science and Agribusiness, Land and Food Resources, University of Melbourne, Victoria, Australia, personal communication.

Malcolm, B. 2004a. *Where's the Economics? The Core Discipline of Farm Management Has Gone Missing!* Australian Journal of Agricultural & Resource Economics, 48:3, pp. 395-417.

Malcolm, L.R. 2004b. Farm management analysis: a core discipline, simple sums, sophisticated thinking. Australian Farm Business Management, 1:1, pp. 45-56.

Malcolm, B. and Ferris, A. (1999), Benchmarking benchmarking. Paper to Farm Management Society- South Australia workshop, Waite Campus, Adelaide, South Australia.

Malcolm, B., Makeham, J.P. and Wright, V. 2005. *The Farming Game: Agricultural Management and Marketing*. 2nd edition: Cambridge University Press.

PIRSA 2002. *South Australian dairy industry: Strategic plan for 2010*. Primary Industries and Resources South Australia.

<http://www.pir.sa.gov.au/dhtml/ss/section.php?sectID=1706&tempID=77>

Ronan, G., Blacketer, S. and Sterenberg, L. 2006. Evaluating the potential of VineAccess to improve supply chain efficiency in Australian viticulture and perennial horticulture.

http://www.agrifood.info/perspectives/2006/Ronan_Blacketer_Sterenberg.html

Ronan, G. and Cleary, G. 2000. *Best practice benchmarking in Australian agriculture: Issues and challenges*. Australian Agribusiness Perspectives, 39, August.

<http://www.agrifood.info/perspectives/2000/Ronan.html>

Ronan, G.S. and Coelho, B. 2005. Benchmarking service options for winegrape growers in South Australia: A feasibility report to the SA Wine Industry Association (unpublished).

Ronan, G. and Taylor, P. 2003. *Benchmarking in agriculture: Measuring competitiveness indicators*. Invited paper to the Asian Productivity Index Symposium, Asian Productivity Organisation, Bangkok, Thailand, 15-17 December.

<http://www.pir.sa.gov.au/dhtml/ss/section.php?sectID=2169&tempID=11>

Ronan, G. and Taylor, P. 2004. *Strategic planning and benchmarking: Keys to sustainable economic development in food and fibre industries*. AARES 2004, Contributed paper to the 48th Annual Conference of the Australian Agricultural and Resource Economics Society, Melbourne, Victoria.

<http://www.pir.sa.gov.au/dhtml/ss/section.php?sectID=2169&tempID=11>

Ronan G., Taylor P. and Sinnadurai E. 2005. *Towards a template for benchmarking the international competitiveness of Australia's agri-food industries*. AARES 2005, contributed paper to the 49th Annual Conference of the Australian Agricultural and Resource Economics Society, Coffs Harbor, New South Wales.

<http://www.pir.sa.gov.au/dhtml/ss/section.php?sectID=2169&tempID=11>

Worsley, A. and Gardner M. 2000. *Review of benchmarking programs in Australia's rural industries*. Short Report no. 74, Rural Industries Research and Development Corporation, Canberra, ACT.

www.rirdc.gov.au/pub/shortreps/sr74.pdf

Attachment 1: South Australia

1. Economic Analysis of South Australian Dairy Farms

The Project

Developing a business case for investing in dairying in South Australia via the expansion of existing dairy farms and conversion from alternative land uses to dairying.

Purpose of Project

Over the past four years the Dairy Industry Development Board has developed a strategic plan for the growth and development of dairying in South Australia. Against this backdrop the industry has suffered from both a severe drought and a period of lower milk prices, and continued to face the challenge of an ever-changing landscape. This has highlighted the need for the industry to have an accurate picture of the level of business performance being attained on South Australian dairy farms. If we are to assist all sections of the South Australian dairy industry to develop and grow their businesses, as well as attract more investment into our state, then we need to know how our farmers perform from both a financial and physical perspective.

How will it be done?

Raw data will be collected to populate a database of information. We would like to process 40 sets of farm data, equating to 10% of our industry, with the farms representing a cross-section of South Australian dairy farms. The data will be processed then it will be used to produce benchmarks for both average performance and top 15%-25%. It will then be this benchmark data that is used in the project to assess the present position of the South Australian dairy industry, the competitiveness of South Australia compared to other states and New Zealand, and the prospects for growth in South Australia. All of this will be combined to review how resources can be best applied to assist with industry development and promotion.

What are the benefits to farmers?

The most significant outcome for farmers will be a confidential analysis of their business at no cost other than a small amount of time. They will receive a comprehensive analysis of their business confirming the true level of profit in their business, the quantifiable level of risk, and an assessment of the key profit drivers. The software to be used, Red Sky Farm Performance Analysis ('Red Sky'), will also provide detail on the amount of pasture harvested, full feed costs, levels of labour efficiency and irrigation efficiency. Each farm can then compare their own performance with South Australian, Victorian or Tasmanian dairy farms, as well as New Zealand dairy farms. We will also be running some seminars once the data has been processed to discuss the outcomes of the project, to look at the key factors that distinguish the top farmers from their peers, and to discuss the key profit drivers in pasture-based dairying. These seminars will also have no cost and will provide farmers an opportunity to understand the Red Sky reports on their businesses in more detail.

What are the benefits to the industry?

The industry gain the benefit of a firm set of farm financial data that allows them to analyse both the average and the top 15% performance of South Australian dairy farms and the performance of South Australia compared to other dairy regions. This comparative analysis will then be used to determine the strengths of the various regions and determine what opportunities are available for growth.

2. Giving a hand to grow South Australia's dairy industry

About 40 South Australian dairy farmers are learning how profitable their businesses are, thanks to their involvement in an economic analysis project developed through the implementation of the State Dairy Plan project. The economic analysis project, facilitated by PIRSA Livestock Industries Group, will collect three years of on-farm financial data with Red Sky Agricultural performing the analysis. It will help to forge a clearer picture of business performance of SA dairy farms, with participating producers supplying farm financial data which is then collaborated into a state-wide information source to show how South Australia performs from a business perspective compared with the Tasmanian, Victorian and New Zealand dairy industries. It is anticipated the project will also help identify opportunities available in South Australia and attract further investment. Participating dairy farmers are also being provided with a range of reports on their business performance, ways to improve farm profitability, information on key drivers of farm performance and how to interpret reports, and a comparison of their business with top-performing farms from interstate and overseas.

Extract from PIRSA Livestock Industries Group e-News Issue 6, Spring 2006 (28/9/06)

Source:

**Sally Schultz, State Dairy Plan Implementation Manager, Primary Industries and Resources
South Australia, Naracoorte, South Australia**

Phone: 08 8762 9142

Email sally.schultz@state.sa.gov.au

Date: 15 January 2006

Attachment 2: Western Australia

The Western Australian Department of Agriculture and Food has supported the (Red Sky) system for the following reasons:

1. Providing Department of Agriculture (government) with accurate benchmark figures for WA dairy industry that can be used to attract investment;
2. Provide a powerful “message” for industry of what individual private operators can achieve;
3. To develop relevant and effective extension strategies to develop more profitable and sustainable dairy industry, and
4. Act as a “hook” to engage farmers with our Greener Pastures project with the objective of increasing the efficiency of nitrogen use and reducing its environmental impact in intensive grazing systems

Source:

John Lucey, Dairy extension leader, Department of Agriculture and Food WA, Manjimup WA 6258

Phone: 08 9777 0124

Email: jlucey@agric.wa.gov.au

Date: 9 January 2007

Attachment 3: Tasmania

1. DairyTas

Benchmarking has a good history (in Tasmania) and we have a useful database and time series to look at trends:

1. Farmers get individual business reports to help assess where they are at;
2. The data provides valuable information to assist with policy and industry support;
3. The awards field day attracts significant interest, especially around the farm visit and the sharing of messages from the winners;
4. The whole program works well at our state level but not sure how a broader scale system would go, and
5. Needs regional champions to drive into the national database/Red Sky program

Source:

Mark Smith, DairyTas Executive Officer, Dairying for Tomorrow Regional Coordinator, Burnie Tasmania

Phone: 03 6432 2233

Email: dairytas@eburnie.com.au

Date: 2 October 2006

2. Department of Primary Industries and Water, Tasmania

One of the reasons governments have provided support to a private sector provider is to achieve a standard approach with uniform methodology and terminology so valid comparisons between regions and countries are possible. Previous attempts by industry (through Dairy Australia funded programs) to standardise benchmarking systems were not highly successful and differences continued. The increased flow of people, capital and technology between dairy regions and competition between those regions for resources was a factor, in Tasmania at least, for encouraging Red Sky to provide dairy benchmarking information that could be compared with other regions.

Tasmania has a 25 year history of state government supported dairy farm benchmarking. Currently between 8-10% of dairy farmers provide annual data and receive benchmarking reports for their businesses. Many more farmers attend the annual field day and farm walk on the property with the top financial return.

The Tasmanian dairy benchmarking program is not web based. Farmers are required to complete input sheets, data is entered into the computer program by department staff and farmers receive hard copy reports. The desire by farmers, industry and government to compare Tasmanian production parameters with those from other regions led to an alliance with Red Sky Agricultural. Differences in terminology and methodology between the Tasmanian benchmarking program and programs in other regions made comparisons difficult. By adapting the data collected from Tasmanian farms and putting the data through the Red Sky program valid comparisons with other regions and countries are now possible.

The Tasmanian benchmarking program is funded by sponsorships from businesses that supply services and products to dairy farmers and by the state government that provides the staff resources to collect and analyse the data and provide the farm reports. Farmers do not pay to participate in the program. The DairyTas regional Board is responsible for attracting the sponsorships and managing the overall program through an industry oversight committee.

The groups to receive benefits from the program are:

- Participating farmers
- Non-participating farmers (both existing and intending farmers)
- Dairy industry groups (DairyTas, TFGA)
- Businesses selling services and products to dairy farmers
- Government and government organisations (including DPIW, University, TAFE)

As all the above groups except dairy farmers provide funds to run the program the demarcation between private and public benefits are not clear-cut. A more useful approach is to identify the benefits received by each group.

Farmers

Participating farmers can track their own performance over time and their performance compared to the top and average farms. Non-participating farmers can also access the average and top figures for the industry and changes over time. Farmers have also used the information when negotiating milk prices. Both existing and intending farmers make frequent use of the information for business planning.

Dairy industry groups

The changes over time in key performance parameters have been used by industry to identify and plan R, D & E (research, development and extension) projects. Benchmarking is also being used to evaluate D & E projects. Industry groups and government are keen to use the information from benchmarking to promote dairy farming and attract investment and people to regional areas.

Business

Businesses are keen to sponsor dairy benchmarking both as a form of advertising and so they can learn more about their customers. Banks, for example, are keen to obtain the information about average and top farm performance so their staff are more knowledgeable when dealing with credit applications.

Government

The industry profile, changes over time and comparisons with other regions provided by benchmarking are used by government departments, industry and educational institutions for program planning. The quality of the information from dairy benchmarking has been a factor in the recent decision by the Tasmanian Government to provide funds to improve benchmarking services for all primary industries.

Source:

Mark Fergusson, Dairy Adviser, Department of Primary Industries and Water , Devonport Tasmania

Email: mark.fergusson@dpiw.tas.gov.au

Phone: 03 6421 7676

Date: 15 January 2007

3. Tas Dairying On A High by Mark Fergusson, DPIW

Milk prices

Milk prices have increased each year for the last three years. As a result, dairy farm prices have increased along with the price of dairy cattle. The average Tasmanian milk price for the 2004-05 season was \$4.15 per kilogram of milk solids. This was just below the record price of \$4.36 paid in 2001-02. Fonterra's recently announced milk price step-up will bring 2005-06 price close to the previous record price (see milk price graph on opposite page). Fonterra's milk price increase is likely to flow through to suppliers of other milk companies as companies raise prices to maintain supply.

Costs

Higher milk prices have increased profitability and returns for Tasmanian dairy farmers. Benchmarking results show the average return on equity for Tasmanian dairy farmers was 7% for 2004-05 compared to 6% the previous year. The latest survey of Australian dairy farmers by ABARE (see cost of production graph opposite) shows Tasmania has maintained its position as the lowest cost milk producing state in Australia; providing the local industry with a strong competitive advantage.

Asset values

The advantages Tasmania offers for dairyfarmers are evident through the migration of dairy farmers from other states and countries. It is reported that more than twenty farms in Circular Head have been sold to New Zealand dairy farmers over the last twelve months. Strong demand for dairy farms from existing farmers, dairy business migrants and forestry companies over recent years has caused land values to rise. Several grazing properties are also in the process of being converted to dairy farms. The Red Sky report on market values shows it costs less to establish a dairy farm in Tasmania than in Gippsland or New Zealand. The average asset value for Tasmanian dairy farms is close to \$12,000 per hectare, compared to \$16,000 and \$38,000 per hectare in Gippsland and New Zealand respectively. The high cost in New Zealand is due, in part, to the requirement to purchase dairy company shares (av. \$930,000 per farm or \$6400 per hectare).

Overall return

By benchmarking business performance each year and updating farm values, dairy farmers are able to monitor equity growth for their businesses. The average increase in net worth due to increases in land and livestock values for twenty dairy businesses who have participated annually in the DBOY program for the last three years is shown in the Table below, along with the average return on equity. The total return from dairy farming comprises both equity growth and the return on equity. The high total returns of between 17-37% each year over the last three years are unlikely to have been matched by any other industry.

Table: Average Annual Returns for Tasmanian Dairy Farms

	2002-03	2003-04	2004-05
Equity growth, % p.a.	14	25	30
Return on equity, p.a	3	6	7
Total return, % p.a.	17	31	37

Source: 2006 Dairy Business of the Year Booklet

<http://www.intodairy.com.au/economics/benchmarking/>

Attachment 4: Victoria

1. Dairy Industry Farm Monitor Project, Department of Primary Industries, Victoria

Background

A detailed and objective set of data on the dairy industry is currently not available. The current providers, ABARE and ABS, provide a macro overview at the state and national level but do not provide a micro economic analysis of farming enterprises and their synergies.

The 35-year-old South West Victorian Farm Monitor Project is highly regarded by farmers and agribusiness professionals. Great potential exists for the expansion of this project, which has a well-established, robust and recognised methodology. This potential was recognised by DPI and BESTWOOL/LAMB with the funding of a pilot Victorian Wool Industry Farm Monitor Project. This pilot was completed and delivered by the 15th of July 2005, as planned. The timely release of the results have been enthusiastically embraced by wool producers and well supported by DPI, investors and BESTWOOL/LAMB. The report is available from the DPI website at:

www.dpi.vic.gov.au/woolfarmmonitor

The pilot Wool Industry Farm Monitor Project is believed to be the first report on farm performance for the 2004/05 financial year. The release of results on the 15th of July (immediately following the end of the financial year) enables the project to offer flexibility for further analysis. For example, as part of the pilot an additional study was requested by the BESTWOOL/LAMB Program to compare BESTWOOL/LAMB with non-BESTWOOL/LAMB farms for the 2004/05 year. Also, providing accurate data so early enables producers to make production decisions for the year ahead with full knowledge of the current situation.

A Victorian Dairy Farm Monitor Project will provide current economic, social and environmental data. This will enable DPI and the dairy industry to:

- Monitor the changes in the profitability and productivity of dairy farm businesses over time;
- Understand the issues and industry concerns of farming families, and
- Assist in measuring the on-farm impacts of research and extension projects.

The principal outputs of the project will be:

- The production of whole farm economic, productivity and sustainability indicators for the dairy industry delivered through the publication of a Dairy Industry Farm Monitor Report by the 15th July each year;
- A comprehensive individual report for participant farms delivered by the 30 August each year, and
- A feature article/case study delivered by the 30th of October each year.

The method of expansion of the Farm Monitor Project to the dairy industry is to adopt a process similar to the model used by the Ministry of Agriculture and Forestry in New Zealand where data is collected from producers, analysed and reported through collaboration between government and industry. This will enable the timely release of the report for the Farm Monitor Project for the dairy industry, immediately following the end of the financial year.

Expected Benefits

The Dairy Industry Farm Monitor Project will provide benefits to industry and government including:

- timely provision of detailed profitability and productivity measures at the farm level;
- timely provision of a number of environmental and social measures;
- monitoring of trends in farm profitability and productivity over time;
- insight into current issues and concerns of farming families;
- the capacity to measure the potential on-farm impact of research, extension and government policy by using the data for economic modelling;
- a tool for comparative evaluation of the effect of extension projects;
- flexibility for further analysis, and
- a means to assess the connection between financial performance and social and environmental data.

Source:

Joe Gaffy, Senior Farm Business Analyst, Victorian Department of Primary Industries, Box Hill, Victoria

Phone: 03 9296 4748

Email: Joe.Gaffy@dpi.vic.gov.au

Date: 15 January 2007

2. Comparing Dairy Farms For Profitability, Media Release 24 January 2007, Department of Primary Industries, Victoria

Victorian dairy farmers will soon be able to compare how well their farms are performing physically and financially from survey data being collected through the Department of Primary Industries' (DPI) Dairy Industry Farm Monitor project.

DPI Senior Farm Business Analyst, Joe Gaffy says that benchmarking is a valuable tool that enables comparative analysis of farm productivity and profitability from individual, regional and statewide perspectives.

“Identifying the relative performance of a dairy farm can help stimulate farm managers’ thinking about their production system and the profitability of various strategies for improvements or changes,” said Mr Gaffy.

“The idea behind this project is based on the successful south west Victorian *Farm Monitor* project that has collected and analysed similar data for over 35 years.”

Through comparative analysis the south-west Farm Monitor project is able to:

- Monitor trends in farm productivity and profitability;
- Provide benchmarks for grazing farms in south west Victoria;
- Provide data to evaluate differences between top performers and other farms; and
- Provide feedback to participants.

In south-west Victoria, the project is highly regarded by farmers and agribusiness professionals as a reliable source of information about farm business performance.

DPI identified the benefit of producing such a data set for Victoria’s animal industries and together with Australian Wool Innovation undertook the Wool Industry Farm Monitor Project, which produced its first report at the end of the 2004/2005 season.

This project model is now being extended to the Victorian dairy industry and is being co-funded by DPI and Dairy Australia.

“For the next three years, the project will engage contractors to collect specific data from 25 dairy farm businesses across Victoria’s main dairying regions,” said Mr Gaffy.

“Farmers that take part in the survey will receive a detailed individual analysis of their farms’ physical and financial performance over the next three years.”

“They will also be able to compare their business performance with other farms in their region and across the State.”

The primary advantages of the Dairy Industry Farm Monitor Project will be in the timeliness of the reporting of results and the data quality.

Data will be collected in May and June, and the results will be released in a report by mid July of each year.

For more information, please contact Joe Gaffy, DPI Box Hill on 9296 4748.

Source:

Sue Keirnan, , DPI Ellinbank, Victoria

Phone: 03 5624 2247

Email: sue.keirnan@dpi.vic.gov.au

Date: 24 January 2007

Attachment 5: New Zealand

1. DairyBase

DairyBase Ltd was formed in early 2006 to govern and represent the dairy industry's interests and involvement in the collection and management of dairy farm business data.

The DairyBase Board consists of representatives from the following groups:

- Dairy Insight
- Dexcel
- Dairy farmers
- New Zealand Institute of Chartered Accountants (NZICA)
- NZ Institute of Primary Industry Management (NZIPIM)

Starting in 2003, the development of DairyBase has been a collaborative effort from the New Zealand Dairy industry. As well as the organisations mentioned above, input was provided from representatives from Massey University and Fonterra. A large part of this development has been to standardise physical and financial reporting and calculations – terms like Return on Assets (ROA) and Economic Farm Surplus (EFS).

The DairyBase database is funded by New Zealand dairy farmers through Dairy InSight and available for use by farm business owners and their accredited Rural Professionals. The DairyBase software and intellectual property is owned by Dairy Insight and managed under contract by Dexcel Ltd.

For further information about DairyBase see the website:

<http://www.dairybase.co.nz/>

Source:

Nicola Shadbolt, Senior Lecturer, Massey University, New Zealand

Email: N.M.Shadbolt@massey.ac.nz

^[1] This paper was presented to the AARES 51st Annual Conference, 14-16 February 2007, Rydges Lakeland Resort, Queenstown, New Zealand

^[2] The paper would not have been possible without the cooperation and contributions of the following people:

David Beca, Director, Red Sky Agricultural Pty Ltd, Warrnambool, Victoria

Mark Fergusson, Department of Primary Industries and Water, Hobart, Tasmania

Joe Gaffy, Senior Farm Business Analyst, Department of Primary Industries, Box Hill, Victoria

John Lucey, Dairy Extension Leader, Department of Agriculture and Food, Manjimup, Western Australia

Sally Schultz, Manager, Dairy Plan Implementation, Primary Industries and Resources South Australia, Naracoorte, South Australia

Nicola Shadbolt, Senior Lecturer, Massey University, New Zealand

Mark Smith, Executive Officer, DairyTas, Burnie, Tasmania

^[3] Red Sky Agricultural Pty Ltd

^[4] Tasmanian Department of Primary Industries and Water

^[5] Department of Primary Industries Victoria

^[6] Dairy InSight Pty Ltd, New Zealand

^[7] Ministry of Agriculture and Fisheries, New Zealand

^[8] The paper was workshopped with a group of government and industry representatives in Canberra.

^[9] The first report in the project was received by PIRSA Livestock in July, 2006: *Analysis of business performance on South Australian dairy farms*, David Beca, Red Sky Agricultural Pty Ltd.