Australian Dairy Herd Improvement Report 2012

Australian Dairy Herd Improvement Scheme

NATIONAL HERD IMPROVEMENT ASSOCIATION OF AUSTRALIA INC. NHIA

ADHIS is an Australian Dairy Farmers Ltd initiative that receives the majority of its funding from Dairy Australia through the Dairy Services Levy.

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NHIA Chairman's report

By Graeme Gillan
NHIA Chairman

The National Herd Improvement Association is proud to co-operate with ADHIS in the production of this publication, which provides the Australian dairy industry with an important record of the level of productivity of the national dairy herd. The members of NHIA are an integral part of the collection of herd test data on farms all over Australia, providing the foundation for all the information in this report.

The statistics provide an opportunity to measure and benchmark the progress of the national herd and this is important for a number of reasons.

Firstly, it gives those people who make strategic decisions about the direction of the dairy industry the facts upon which to base their decisions. Being able to measure productivity and benchmark performance is integral to setting the priorities for future investment, not just on individual dairy farms, but within an overall industry context as well.

Secondly, it gives individual dairy farmers the information on which they can base the management decisions for their operation. Herd testing regularly is a vital ingredient to the success of almost half the dairy farms in this country.

Thirdly, this report reinforces the importance of the role played by the herd improvement sector in measuring and improving the productivity of the Australian dairy industry through the genetic gain that is derived from accurate and efficient performance recording of individual cow production.

But we all need to do more.

Australia occupies an important place in the world dairy industry, as evidenced by trade in milk products. As far as exports of live dairy animals are concerned, Australia remains one of the world's leading suppliers. In terms of the global trade in dairy genetics (semen and embryos), however, Australia is lagging behind and well below where we should rightfully be, given the size and scale of our industry and the quality of our cattle.

So why is it that, as a nation, we are punching well below our weight in the global market for dairy genetics?

There may be a number of explanations but inevitably it all comes back to data – or more correctly, the lack of it.

It is vital that the Australian dairy industry places a priority on improving the quantity and quality of data that goes into our sire evaluation system. Without a commitment to an improved system for collecting and adding value to dairy farm data, we will always struggle to assume our rightful place in the global dairy genetics market.

This commitment to data improvement needs to be across the board – from Dairy Australia in its position as the industry leaders, to farmers and, especially, herd improvement service providers. We all need to work together to ensure that our sire evaluation system is world class from start to finish. There are too many gaps currently in data collection and submission – especially in the area of mating, pregnancy diagnosis and clinical disease incidence recording. Every sector in the herd improvement industry needs to play its role in ensuring that we increase the flow of basic data that will, in turn, provide farmers with more meaningful information to make important management decisions. It will also allow the scientists to continue to develop our sire evaluation system into the world's best practice genetic information system that it can – and should – be.

Only then will Australia be able to assume its rightful place as a force in the global dairy genetics market.

ADHIS Chairman's report

Having been ADHIS chairman for just over 12 months I am time and time again overwhelmed by the commitment and collaboration shown by ADHIS' stakeholders in providing support, reliable data and the latest technology to Australian dairy farmers. I thank Dairy Australia, Department of Primary Industries Victoria, the Dairy Futures CRC, herd test centres, bull companies and breed societies for their ongoing collaboration and support. I also thank the staff of ADHIS for their dedication to delivering ADHIS initiatives over the past year.

As you will see in this report, we continue to operate in a rapidly evolving, technically demanding environment. The past 12 months have been exciting times for genetic improvement, with advancements in genomic technology. In April 2012 the reliability of Holstein ABVs was significantly increased with the incorporation of the Dairy Futures CRC's 10,000 Holstein cow project. ADHIS was pleased to release the first Jersey genomic breeding values in August. This was made possible via the Dairy Futures CRC Jernomics project, which included significant collaboration with Jersey breeders.

In response to upgrades identified in 2011, ADHIS, with assistance from Dairy Australia, has been developing plans for a major upgrade of our computer system. This will provide a greater level of automation, flexibility, quality control, and improved maintenance and support to the evolving requirements of genomic testing. This upgraded system will allow ADHIS to provide a higher level of service to its stakeholders.

In 2012, ADHIS hosted a number of technical industry meetings specifically for AB company and breed society managers to report on recent developments and discuss future initiatives. These meetings provide an open forum for discussion and have strengthened the connection between the ADHIS and those that rely on our work.

ADHIS has plans to introduce a new improved fertility ABV evaluation, international ABV(i)s for workability traits and fertility and further developments of genomic technology. These projects will have a significant impact on farmers' abilities to make more informed breeding decisions and benefit from the genetic improvement of their herd.

To ensure the thorough integration of relevant information into the Australian dairy industry, ADHIS has reinforced its focus on extension. In April we welcomed Ms Sarah Saxton, a young and passionate university graduate, to the extension team to work alongside Mrs Michelle Axford and Mr Peter Williams. Expanding the extension team has allowed ADHIS to reach more farmers and service providers than ever before with presentations at more than 70 industry events. Some of the extension highlights for 2012 include the continued uptake and integration of the *Good Bulls Guide* by the herd improvement sector and the farmers it services, the engagement of more than 3,000 farmers and advisers through workshops, field days and forums, and the development of a new herd-specific Genetic Progress Report designed to track the success of genetic decisions made on farm.

In November, ADHIS appointed Dr Matthew Shaffer and Mr Daryl Hoey to the board. Matthew and Daryl bring a broad range of experience across the Australian and International dairy sectors that promises to enrich the extensive knowledge base of the board.

I would like to personally acknowledge the contribution from out-going directors Mr Stewart McRae and Mr Peter Aldridge and long-term board member Mr Ivan Jones. Ivan has served on the board since 1988 and has played a significant role in the development of ADHIS, seeing in the introduction of the Australian Selection Index (ASI) in 1997 and the Australian Profit Ranking (APR) in 2001. Ivan committed to extend his time on the board over the past 12 months to assist in the ADHIS future governance and strategic direction. ADHIS has benefited significantly from his contribution.

It has now been 30 years since ADHIS first produced Australian Breeding Values (ABVs). As you will see in this report, our herds have come a long way since that time. As ABVs have evolved to best meet the need of Australian dairy farmers, it is important that we step back and recognise our achievements. To do this ADHIS, will be celebrating its 30 years with a dinner in early 2013 to coincide with the biennial Herd 13 conference. ADHIS would like to welcome all stakeholders to this celebration.

By Adrian Drury
ADHIS Chairman

NHIA activities

By Carol Millar
NHIA General Manager

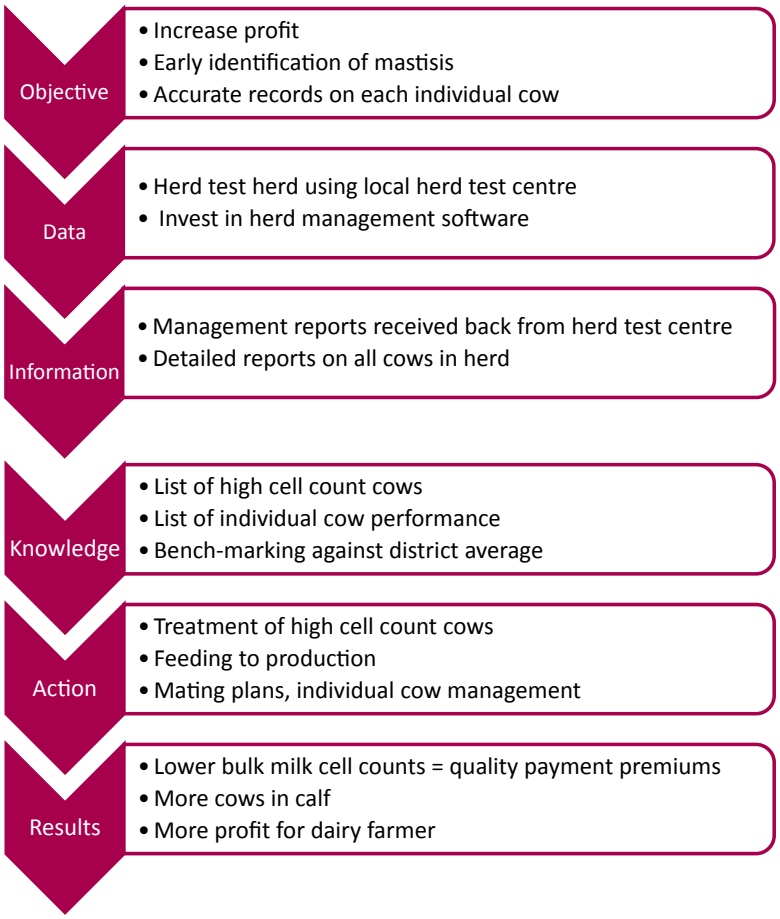
"When performance is measured, performance improves. When performance is measured and reported back, the rate of improvement accelerates."
– T.S. Monson

Herd test centres play a vital role in collecting the measurements of performance of dairy farms throughout Australia helping dairy farmers to make vital management decisions for their operations based on accurate information.

The object of this activity is not to collect statistics for their own sake. The object is to turn data into information that then can be turned into knowledge. The aim is to collect data in order to move towards a result that will have a profitable benefit to the farmer.

Herd test guidelines

It has been some time since Australian herd test guidelines and standards have been reviewed and NHIA is flagging the intention, along with our partner ADHIS, that this project will be getting some attention during the forthcoming year. It will require significant levels of input and co-operation from all sectors of the herd test industry but it is important that we continue to develop a system of recording the performance of dairy cows that matches best practice.



Reproductive benchmarks

One of the ongoing challenges for herd test centres is to be able to provide information back to farmers in ways that are effective and easy to action. One of the areas in herd management that requires improvement is in reproduction. It is becoming increasingly important that industry works with both farmers and scientists to find reproductive benchmarks that are best practice, current and meaningful. Benchmarks like a 6-week in-calf rate that have previously been relevant in largely seasonal herds may no longer be so in dairy operations that have moved to either split-calving or batch-calving.

It will be important to work with farmers to develop reproductive benchmarks that they consider relevant and timely to assist with getting cows back into calf. It is in finding these appropriate benchmarks that farmers will be able to make better management decisions when it comes to breeding time.

One of the priorities for NHIA at the current time is to improve Artificial Insemination (AI) training resources so that skill levels throughout the dairy industry are raised and that as many inseminators as possible, whether they are DIY or professional, are aware of the best practice recommendations. This work is based upon the experience of providing AI training courses to industry in the past five years.

Sharing information and knowledge

After the successful Herd '09 and Herd '11 conferences, NHIA is pleased to announce that Herd '13 will be held on 5 and 6 March 2013 in Bendigo, Victoria. The aim of these events is to stimulate the sharing of ideas, knowledge and information about a variety of subjects relevant to the dairy industry.

An exciting program of speakers has been developed and will be of great interest to everyone with an interest in herd improvement whether from the angle of reproduction and genetics or from performance recording and herd test.

Registration forms can be accessed on-line at www.nhia.org.au

ADHIS activity report

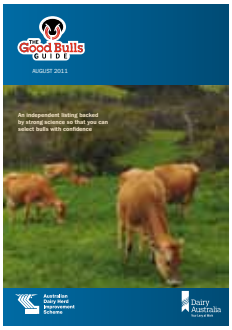
By Daniel Abernethy, ADHIS General Manager

ADHIS partners with a broad range of government, industry and commercial partners. These partnerships provide a strong foundation for achievements across the research, development, implementation and extension activity areas that are outlined in this report.

2012 welcomed the first release of Australian genomic breeding values for the Jersey breed. This milestone achievement follows close on the heels of the release of Holstein Genomic breeding values in 2011. Jersey genomics is the result of a collaborative research effort alongside the Dairy Futures CRC, Department of Primary Industries Victoria (DPI–V), Jersey Australia and its members and importantly dairy industry funding through Dairy Australia.

2012 has also seen a significant increase in the reliability of Holstein ABV(g)s (genomic based breeding values). A drive to expand the genomic reference population included the genotyping of 10,000 Holstein cows and hundreds of additional proven Holstein bulls. The result was an increase in the reliability of ABV(g)s of up to 8% for some traits. The completed project increases the size of the reference population of genotyped Holsteins by a factor of five and is another example of collaborative work alongside the Dairy Futures CRC, DPI–V, Dairy Australia and Holstein Australia.

With technologies such as genomics now becoming firmly embedded in the Australian dairy industry we are fast seeing a colossal shift in the way genetic evaluation is conducted in the world dairy environment. In March 2013 ADHIS, in conjunction with our industry partners NHIA and Holstein Australia, will take the opportunity to celebrate 30 years of Australian Breeding Values at the bi-annual, Herd '13 conference. Also on the agenda will be an exploration of how we can harness these new technologies and new ways of thinking for the continued genetic improvement of the Australian dairy herd. We invite you to participate in this event, which attracts keen interest from the herd improvement, extension, education and dairy advisory sectors as well as farmers interested in genetic improvement.



This report provides an overview of this year's key initiatives followed by a full list of developments in Table 2.

Good Bulls Guide

ADHIS continues to produce the *Good Bulls Guide* in April and August to coincide with the public release of ABVs. The Good Bulls Guide is an independent ranking of top bulls across Australian Profit Ranking (APR), Production, Longevity, Type, and Mastitis resistance. Importantly, following the inclusion of Holstein young genomic sires in 2011, the Good Bulls Guide now includes a ranking of top young Jersey genomic sires. The Good Bulls Guide continues to receive strong industry endorsement in AI sire catalogues, industry publications and the wider media.

Jernomics

In August 2012, ADHIS released Australia's first ever Jersey genomic breeding values. This is the result of a major collaborative research effort between ADHIS, the Dairy Futures CRC, Jersey Australia and other industry partners. The outcomes from this project are a significant milestone in Australia's animal genomic journey and would not have been possible without the hard work of Jersey Australia and its members. The reliabilities of ABV(g)s for young bulls with no daughter information is about 59% for production traits and about 45% for type traits as shown in Table 1. This is generally double the reliability seen with parental average alone, and is equivalent to calculating an ABV with the records of 20-25 daughters in milk.

Expanding the reference population

In April 2012 ADHIS and the Dairy Futures CRC, in conjunction with industry partners, released results from the 10,000 Holstein cows project. The

completion of this milestone project has delivered greater genetic diversity to the reference set for Holstein Genomics, significantly improving the reliability of Genomic breeding values for cows and bulls. On average, the reliability of an ABV(g) is now equivalent to a bull with about 30 milking daughters or a cow with about seven lactations. Over 80 dairy farms with outstanding herd recording data were involved in the project. Participants received packs containing all cow ABV(g) and parentage results. Farmers can now select the next generation of high genetic merit bulls with more confidence than ever before.

Genetic Progress Report

Genetics is permanent and compounding, meaning every joining decision has a long-term impact on the profitability of a herd. To help farmers visualise the effectiveness of their breeding decisions, ADHIS has developed a Genetic Progress Report. The Report analyses animals over a ten-year period and tracks genetic gain for profit, production, type, longevity, fertility and mastitis resistance. After a series of pilot releases and extensive consultation with advisors, bull companies, farmers and herd test centres ADHIS is poised to release the Genetics Progress Report in early 2013. The Genetics Progress Report adds value to the data already collected through herd recording and, like the Good Bulls Guide, is independent and backed by strong science.

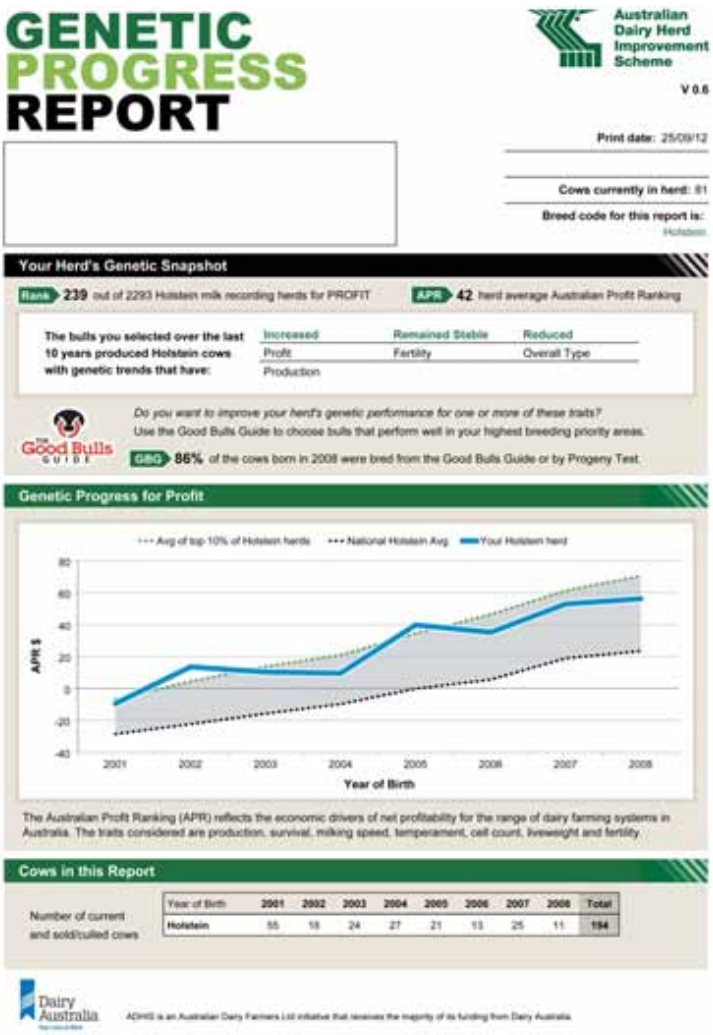


Figure 1: In 2013, herd recording farmers will see their herd's changing genetics using the New Genetic Progress Report.

Table 1: Average Reliability of ABVs and ABV(g)s for animals with and without genomic testing.

	Bull - Reliability				Cow - Reliability		
Trait	Young bull (parent average ABV)	Genotyped young bull ABV(g)	First crop bull publishable ABV	First crop bull with genomics (publishable ABV with genomics)	Young heifer (parent average ABV)	Genotyped young heifer ABV(g)	7th lactation cow ABV(g)
Holstein							
Protein kg	24	62	86	86	25	62	64
Overall Type	21	48	75	75	35	41	53
Survival (longevity)	18	42	60	65	22	44	47
Fertility	16	39	60	65	19	40	46
Jersey							
Protein kg	27	59	85	85	30	62	69
Overall Type	21	45	74	76	39	50	50
Survival (longevity)	19	40	55	61	29	44	45
Fertility	19	33	61	64	23	39	42

Reliabilities are averages only. Individual animal reliabilities will vary.
Source: ADHIS, August 2012

Table 1: A range of ADHIS activities in 2012.

Development	Activity	Impact
Feeding the Genes	Feeding the Genes is a research project funded by ADHIS in collaboration with Feed2Milk to understand the impact of high and low genetic merit cows across five different feeding systems.	Farmers and advisers will be able to make more informed decisions about the value of higher genetic merit cows in their own feeding system.
GippsDairy Focus Farms	Four farms are supported to build a better understanding of the role of genetics within their herd, fine tune their breeding objective and use tools like the Good Bulls Guide, Genetic Progress Report and genotyping to improve the genetics of their herd.	Focus Farms and their associated steering groups, advisory teams, field day participants and readers of Focus Farm reports have an opportunity to see the latest genetic tools applied in a real-farm context.
DPI Breeding for Performance project	Facilitated genetics discussions amongst farmer groups. Completed review of Selectabull training workshops and planned for the next phase of work.	The base of genetics extension providers is broadened to include DPI–V.
Daughter Fertility ABV research	Working with the Dairy Futures CRC and DPI–V to deliver a multi-trait prediction model for the Daughter Fertility ABV.	Expected to deliver an increase in the reliability of Daughter Fertility ABVs of up to 5%, meaning more bulls with publishable Daughter Fertility ABVs.
Parentage verification	Programming completed to facilitate genomic parentage verification.	Parentage verification adds further value to the Australian genotyping service while improving the pedigree integrity of recorded animals.
NCDEA breeding unit	Support NCDEA in the development and delivery of 'Develop and Implement a Breeding Strategy' unit from the Diploma of Agriculture program.	Farmers are supported with regional delivery of a formal training program in applied dairy cattle breeding.
WestVic InCharge dairy health and fertility discussion groups	ADHIS participated in a pilot discussion group hosted by WestVic dairy to address health and fertility traits in the Western District.	Farmers and advisers will be able to better identify genetics that will contribute to improved herd health and fertility.
Selectabull updated to include the Jersey Selection Index	The Jersey Australia JSI index is applied in Selectabull.	Farmers wanting to use the JSI as their selection index will have access to the latest bull lists in Selectabull.
Genotyping service	In conjunction with Holstein Australia and Jersey Australia, a routine genotyping service for both cows and bulls is available to farmers and bull companies.	Farmers and bull companies can genomically test bull and heifer calves with an ABV(g) reliability similar to a bull with 20-30 milking daughters.
Building the reference population	ADHIS has worked closely with the CRC and other industry partners to see the completion of the 10,000 Holstein Cow Genomes project, Jernomics project and the genotyping of important reference sires.	Increase in the reliability of genomic breeding values which means farmers can select young bulls and imported bulls with no Australian daughters with more confidence.
Good Bulls Guide	Published in April and August 2012. Mailed direct to farmers.	Farmers can select Australian and overseas bulls based on ABVs and ABV(i)s.
Top cows and Top herds	Top cow and top herd lists are now publicly available free of charge and have been extended to include at least the top 5% from each breed.	As an industry we will now be able to better acknowledge the superior herds and cows throughout Australia.
Herd 13	Conference program and logistics developed in preparation for the Herd '13 conference, 4-5 March, Bendigo.	Conference participants will experience a fascinating program that celebrates 30 years of success while planning for the future.
Test day model for Production	Research is ongoing to implement a test day model for production traits.	ABVs for production traits will have a higher reliability.
GES2	Redevelopment of the ADHIS database has started in 2012.	ADHIS services will be more flexible and able to respond to new developments.
MACE Workability	Workability traits (milking speed and temperament) were sent to Interbull for a test run in September and passed.	ABV(i) will be available for milking speed and temperament.

In April 2012 ADHIS announced the appointment of Sarah Saxton as extension officer to support farmers and their advisers to maximise the opportunities to improve dairy herds using Australian Breeding Values (ABVs). Sarah comes well equipped for the role with a first class Honours degree from the University of Melbourne. She specialised in dairy genomics and has a strong passion for helping dairy farmers make the best breeding decisions. Sarah has made Melbourne her home after growing up near Khancoban, NSW.

In her new position Sarah joins Michelle Axford and Peter Williams to support the implementation of ADHIS's extension and education activities.

Fertility ABV – a multi-trait prediction model

Selecting bulls with higher fertility ABVs is one of the measures farmers can take to improve the fertility of their herd. Results from the Dairy Australia InCalf research project have confirmed the effectiveness of Daughter Fertility ABVs to predict reproductive performance and therefore improve fertility through selection (InCalf Fertility Data Project 2011). While recent advancements such as genomics and the inclusion of daughter fertility in the APR have improved our ability to select for fertility it is recognised that to make real gains farmers need greater choice when it comes to selecting bulls based on the daughter fertility ABV.

In response to this need ADHIS has been working with scientists at DPI-V and the Dairy Futures CRC to deliver a new model for calculating daughter fertility which has higher levels of reliability and therefore a greater potential for selection. This research has led to the development of a new multi-trait model, which utilises a combination of traits positively correlated with fertility (e.g. lactation length). Initial results suggest a predicted 5% improvement in the reliability of Daughter fertility ABVs may be possible under the new model. This will mean more bulls with publishable Daughter fertility ABVs in the Good Bulls Guide. The final stages of research are under way and testing will continue in 2013.

ADHIS Board and Committees

ADHIS Board of Management

The Board met six times during the year to govern the activities of ADHIS so that dairy farmers maximise their opportunity to benefit from genetic improvement.

Members: Adrian Drury (Chairman), Peter Aldridge, John Harlock, Stewart McRae, Stuart Tweddle, Lyndon Cleggett, Ivan Jones, Jock Macmillan, Daniel Abernethy (General Manager and Secretary).

ADHIS staff

Daniel Abernethy, ADHIS General Manager
Sally Bernardo, Executive Assistant

Genetic Evaluation
National Data and Database Service

Gert Nieuwhof, Geneticist and Team Leader

Kon Konstantinov, Statistician

Paul Koh, Data and Services Manager

Judith Schweitzer, Information Scientist

Erica Jewell, Data and Services Manager

Education and Extension

Michelle Axford, Project Leader

Peter Williams, Extension Officer

Sarah Saxton, Extension Officer

Industry consultation

Stakeholder meetings

Effective industry consultation underpins the ADHIS Strategic Plan. ADHIS achieves industry consultation across its activity areas through its committees, specific meetings with individuals and organisations, and periodic stakeholder meetings. In 2012 ADHIS hosted a number of technical industry meetings specifically for AB company and breed society managers to report on recent research and discuss future initiatives. These meetings provide ADHIS with a forum to discuss genetics in detail and for open discussion. In addition to this, ADHIS hosted a wider stakeholder forum title 'Discovering ABVs'. This forum was aimed at informing a wider group of stakeholders of current ADHIS initiatives and research as well as opening the floor to discussion on the fundamentals of calculating ABVs.

Genetics Committee

The Genetics Committee brings together scientists from a number of organisations to review genetic developments within ADHIS. Further support to this committee is gratefully received from Dr Gerhard Moser, Dr Jennie Pryce, Dr Phil Bowman and Assoc. Prof. Ben Hayes. The genetics committee met twice during 2012 with a major focus being the implementation of genomics.

Members

Prof. Mike Goddard (Chairman, University of Melbourne), Assoc. Prof. Julius Van der Werf (University of New England), Dr Bruce Tier (University of New England), Dr Rob Woolaston, Dr Mekonnen Haile-Mariam (University of Melbourne), Dr Kevin Beard (ADHIS Consultant), Dr Gert Nieuwhof (ADHIS), Dr Kon Konstantinov (ADHIS), Mr Daniel Abernethy (ADHIS).

Genomics communications group

The Genomics Communication Group meets regularly to develop and implement activities to support the implementation of genomics within the Australian dairy industry.

Members

Mrs Michelle Axford (ADHIS, Chairperson), Ms Belinda Griffiths (DF CRC), Dr David Nation (DF CRC), Dr Mick Blake (Dairy Australia), Mr Rob Adin (Dairy Australia), Dr Ben Hayes (DPI-V), Dr Jennie Pryce (DPI-V), Mr Peter Thurn (Genetics Australia), Dr Matthew Shaffer (Holstein Australia), Mr Scott Joynson (Jersey Australia), Ms Carol Millar (NHIA), Mr Daniel Abernethy (ADHIS).

Type assessment committee

On an annual basis, meetings are held with Holstein Australia and Jersey Australia, two breed societies that provide linear type data to ADHIS. Linear Type Evaluations for the coming year are reviewed, with improvements made to the organisational aspects of data collection that should improve the amount of data collected.

Record Standards committee

The Records Standards Committee provides representatives from data processing centres a forum to discuss data issues relating to herd improvement records and genetic evaluation. A key activity for the Records and Standards committee in 2012 was the update of Data Interchange Formats (DIF files).

Members

Mr Ivan Jones (ADHIS, Chairman), Mr John Stevenson (Dairy Express), Mr Peter Nish (Tasherd), Mr Frank Treasure (HISWA and CHISWA), Dr Mike Larcombe (Mistro Group), Mr David Parkinson (AUSherd), Dr Gert Nieuwhof (ADHIS), Mr Paul Koh (ADHIS), Mr Daniel Abernethy (ADHIS)

Creating a roadmap for better reproductive performance

Dairy Australia
InCalf
Your Levy at Work

The Australian dairy industry is now better co-ordinated to improve dairy cow reproduction performance than ever before.

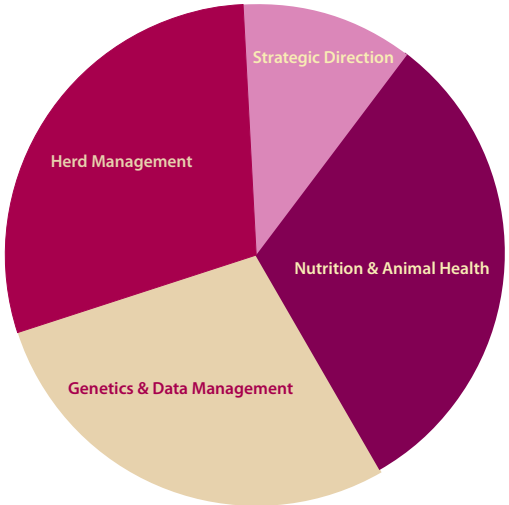
A recent exercise has identified the key resource, skill and knowledge gaps that are limiting the ability of Australian farmers to improve reproductive performance in their herds (see Figure 1).

In 2012 the Dairy Reproduction Steering Group (DRSG) was formed to engage industry experts from Australia to boost the reproductive performance and management of Australian dairy cows. This followed two reviews that assessed reproductive performance and priority areas in the Australian dairy industry (Dairy Australia: The foundation for an industry plan for herd fertility; Gardiner Foundation: Improvement of the reproductive performance of Victorian dairy herds).

Created by Dairy Moving Forward, the DRSG comprises key stakeholders from the dairy farming, research and extension communities around Australia.

The DRSG is responsible for identifying the key research, development, extension and training priorities which are important for achieving good reproductive performance.

Figure 1: Key areas of activity of the Dairy Reproduction Steering Group.



The steering group sets national priorities and targets for initiatives aimed at improving reproductive performance in dairy herds. Reporting to the Dairy Moving Forward Steering Committee and the Australian Dairy Industry Council, the DRSG also provides national oversight, helps coordinate activities and reviews progress.

The group has already made progress in partnering with DairyNZ to compare industry approaches to improve reproductive performance and identify areas of common interest such as genetics, transition cow management and synchrony.

The DRSG was formed to address industry concerns about declining reproductive performance revealed in the 2011 InCalf Fertility Data Project. Based on a detailed analysis of 74 Australian herds with good reproductive data from 2000-2009, the project indicated that the typical 6-week in-calf rate in Australia had declined to around 50% by 2009. Of particular concern was the typical first service conception rate of cows in the study, which had dropped to 38% by 2009.

To achieve the dairy industry's long-term target "to increase the 6-week in-calf rate by 10% from 2012 to 2022", there is an urgent need to develop a higher level of understanding of factors which influence reproduction in Australian dairy herds.

Significant investment and application is required in the areas of genetics, data management, nutrition, reproductive physiology and herd management. DRSG is helping to ensure that research, development and extension activities are nationally coordinated and focus on those areas with the most potential to influence reproductive performance in Australia.

For further information contact Dairy Australia's Program Manager, Animal Health and Fertility, Kathryn Davis. Email: KDavis@dairyaustralia.com.au or phone 03 9694 3723.

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A better understanding of low cell count herds

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New analysis from Dairy Australia's Countdown 2020 program in 2012 revealed that farmers need to decrease their average annual bulk milk cell counts (BMCC) to well below 200,000 cells/mL to reduce their risk of payment penalties.

Since 2000, Dairy Australia's Countdown project has been collecting monthly bulk milk cell counts (BMCC) from every dairy herd in Australia. This BMCC data is then collated and analysed in collaboration with ADHIS. The Australian Milk Quality Award celebrates those herds which achieve an annual BMCC in the lowest 5% across Australia. Herds receiving these awards are recognisable via the diamond-shaped plaques often adorning front gateways or milk-room doors.

In 2012 the Countdown 2020 team decided to perform further analysis on the more than 5.3 million BMCC records collected for the awards calculations since their inception. The purpose of this analysis was, in part, to further understand any trends that could be identified with BMCC across the country, regions and farms clustered by cell count. The data also enabled a closer inspection at the characteristics of both high and low cell count herds.

In previous analysis, Countdown had reported BMCC by proportion of vats collected each year, but in this analysis it was shifted to analysis through the annual average bulk milk cell count for a herd (arithmetic average). The shift to an annual average was because it was deemed easier to interpret relative to standard farm milk quality records.

A question that Countdown wanted to answer was: what did the annual average BMCC of a herd look like when that herd supplied milk below 250,000 cells/ml, on average, for each month of supply?

The level 250,000 cells/mL was chosen because this is often the BMCC threshold where processor quality payments for cell count change. To explore this, herds were clustered in groups of 25,000 for their annual average BMCC and then examined to see how many months they supplied milk below or above 250,000 cells/mL BMCC. The results are contained in Figure 1.

This analysis reveals that herds that seemingly have a "good" annual average BMCC such as 200,000-225,000 cells/mL, can still supply milk for up to four months of the year at a greater than 250,000 cells/mL monthly average. Around 25 per cent of

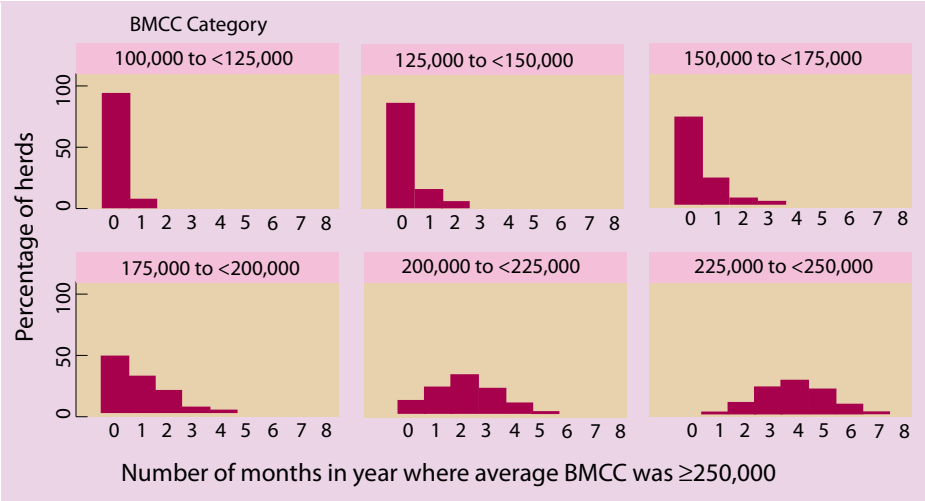


Figure 1: Numbers of months within years with average BMCCs of >250,000 cells/mL by annual average BMCC category; only supplier-years ('herds') with annual average BMCCs <250,000 cells/mL were included.

The average BMCC of Australian dairy herd was 232,500 cells/ml for the 2010/11 financial year. This was calculated using the arithmetic average of all herds' annual average BMCC.

these herds show two months of supply at greater than 250,000 cells/mL. Importantly it shows that employing best practice mastitis control to drive the annual average BMCC well below 200,000 cells/mL has benefits for reducing the risk that any monthly average BMCC will be greater than 250,000 cells/mL. The use of individual cow cell counts has a clear role here through the measurement and monitoring of new infection rate (via Countdown Mastitis Focus) and strategic culling of cows with chronic sub-clinical infections that will be refractory to a cure after dry cow treatment.

Whilst separate to the Countdown BMCC analysis, collation of the 2011/12 ADHIS statistics also gives insights into mastitis control relative to herd size. The imputed herd level cell count is reported for each herd testing period and is a weighted average of the individual cow cell counts for that test day. These imputed cell counts have been clustered according to herd size and cell count range. As herd size increased from 150-299, to 300-449 and beyond 450 cows the proportion of test days recording an imputed cell count above 250,000 cells/mL did not significantly alter and, in fact, slightly decreased. This is evidence against the commonl claim that larger herds have inherent trouble managing cell count. The guiding principles of mastitis control through maintenance of teat health and decreasing the numbers of bacteria around the teat are the same regardless of herd size, and, while people and cow systems may become more complex as herd size increases, sound, sustainable mastitis control in large herds is imminently achievable.

For further information contact Dairy Australia's Program Manager, Animal Health and Fertility, Kathryn Davis. Email: Kdavis@dairyaustralia.com.au or phone 03 9694 3723.

Dairy Futures CRC Report

Dr David Nation, CEO, Dairy Futures CRC

The Dairy Futures CRC (CRC) is a collaboration between dairy farmers, pasture and cattle breeding companies, government and researchers, which aims to deliver $320m in value for dairy farmers. The CRC attracts large-scale support from state and federal governments and from dairy levy funds from Dairy Australia. During 2011/12, participants contributed $24 million in cash and in-kind contributions.

The CRC's vision is to deliver transformational innovations to the dairy industry. Important foundation studies have now been completed, and some key milestones reached – particularly in the animal improvement program, which aims to double the rate of genetic gain in Australian dairy herds.

Recent highlights

As a result of CRC research delivered to the ADHIS, the Australian dairy industry now has solid, commercially relevant genomic technology in routine use in calculating ABVs.

Over the last few years, the CRC has coordinated massive efforts to expand Australia's national DNA reference set involving the ADHIS, Genetics Australia, Holstein Australia, Jersey Australia and dairy farmers from across the country. Major milestones have been achieved involving both the Holstein and Jersey herds. The results of a two-year project to map the genomes of 10,000 Holstein cows were incorporated in the April 2012 ABV evaluation for Holsteins, increasing the reliability of breeding values for young bulls by 8% for production traits and between 4% and 7% for other traits. In August 2012, the ABV evaluation for Jerseys incorporated genomic information for the first time, giving Jerseys similar reliabilities to those of Holsteins. Table 1 shows how genomics has improved reliabilities for the Jersey breed.

The impact of genomic technology

Genomic technology is expanding the range of choices available to farmers. Farmers can now use ABVs to:

- **Select existing bulls using more complete bull proofs.** ABVs with genomic information allow farmers to more effectively select bulls with Australian proofs for some economically-important traits.
- **Select younger sires.** Genomic breeding values (or ABV(g)s) allow farmers to reliably assess the genetic merit of young Australian bulls before they have even sired progeny.
- **Reliably predict how overseas bulls will perform in Australia.** Genomic information added to the ABV(i) of a sire that has foreign daughters and an overseas proof makes the ABV(i) almost as reliable as an ABV for a first-crop bull proven in Australia.

Table 1: Improvements in reliability of Jersey ABVs as data is added during the life of the animal.

Trait	Reliability			
	Young bull (parent average ABV)	Genotyped young bull ABV(g)	First crop bull publishable ABV	First crop bull with genomics (publishable ABV with genomics)
Protein kg	27	59	85	85
Overall Type	21	45	74	76
Survival (longevity)	19	40	55	61
Fertility	19	33	61	64

Reliabilities are averages only. Individual animal reliabilities will vary.
Source: ADHIS, August 2012

Herd Recording Statistics

The practice of herd recording delivers reliable information for on-farm decision making. Every year, this data is compiled and published to facilitate a broader analysis of herd and production trends. Tables 1-13 describe production trends by age, breed, mating type and region. As some data in this report dates back to the 1930s, you will find a rich resource describing Australia's changing herd.

Over the past decade, the production of herd recorded cows has lifted 18% to 505 kg milksolids per cow. Herd recorded cows comprise about half of Australia's milking herd but are estimated to produce almost 30% more than their non-herd recorded counterparts. In 2011-2012, more than 25,000 additional cows were recorded compared to the previous year.

Statistics for previous years and further information about the data included in the following tables is available at www.adhis.com.au

Table 1 : National and State Totals and Production Averages.

State	Number of Herds	Herds and Cows Recorded				Production Averages					
		Included in Averages	Excluded from Averages	Total Cows	Herd Size	Milk litres	Fat %	Fat kg	Protein %	Protein kg	Lactation Length days
Victoria	2,050	316,948	136,517	453,465	221.2	6,731	4.0	270	3.4	226	319
New South Wales	462	76,503	23,297	99,800	216	7,508	3.9	291	3.3	247	342
Queensland	268	24,378	14,817	39,195	146.2	6,207	3.9	242	3.3	203	330
South Australia	208	41,897	6,791	48,688	234.1	7,677	3.8	291	3.3	250	336
Tasmania	191	38,953	19,945	58,898	308.4	6,372	4.0	256	3.4	220	295
Western Australia	122	27,229	3,807	31,036	254.4	7,914	3.8	297	3.2	249	340
Australia	3,301	525,908	205,174	731,082	221.5	6,930	4.0	274	3.3	231	324
Victorian regions											
Northern	756	106,680	46,843	153,523	203.1	7,024	4.0	280	3.3	234	329
Eastern	731	114,926	48,534	163,460	223.6	6,511	4.0	262	3.4	220	314
Western	563	95,342	41,140	136,482	242.4	6,669	4.1	270	3.4	225	314

Table 2: Number of herds in fat production categories by region.

State	Total herds	Average fat production (kg per cow)									
		< 125	125-149	150-174	175-199	200-224	225-249	250-274	275-299	300-324	> 324
Victoria	2,050	38	39	76	102	160	263	368	347	223	128
New South Wales	462	5	4	11	19	22	62	78	92	61	48
Queensland	268	5	5	12	20	46	19	21	15	5	12
South Australia	208	0	0	1	11	12	28	37	36	33	43
Tasmania	191	4	1	10	18	21	33	25	13	22	17
Western Australia	122	0	0	1	3	5	8	15	22	32	30
Australia	3,301	52	49	111	173	266	413	544	525	376	278
Victorian regions											
Northern	756	11	7	16	20	46	87	124	143	100	52
Eastern	731	9	13	33	51	65	104	143	129	68	30
Western	563	18	19	27	31	49	72	101	75	55	46

Table 3: Number of herds in protein production categories by region.

State	Total herds	Average protein production (kg per cow)									
		< 100	100-124	125-149	150-174	175-199	200-224	225-249	250-274	275-299	> 299
Victoria	2,050	36	50	106	178	268	353	380	213	122	38
New South Wales	462	5	7	11	24	57	72	84	79	41	22
Queensland	268	4	4	14	32	40	31	16	10	4	5
South Australia	208	0	0	3	18	25	34	40	37	25	19
Tasmania	191	3	2	15	23	31	30	18	12	12	18
Western Australia	122	0	0	1	6	9	18	20	32	21	9
Australia	3,301	48	63	150	281	430	538	558	383	225	111
Victorian regions											
Northern	756	8	11	23	51	83	122	147	93	52	16
Eastern	731	9	19	44	75	103	142	139	76	31	7
Western	563	19	20	39	52	82	89	94	44	39	15

Table 4: Production averages by age group.

Age group	Number of cows	Production averages					Lactation length days
		Milk litres	Fat %	Fat kg	Protein %	Protein kg	
2 Year Old	89,786	6,144	3.90	240	3.33	205	327
3 Year Old	90,641	6,733	3.94	265	3.37	227	325
Mature Cow	345,481	7,186	3.98	286	3.33	239	322
Total	525,908	6,930	3.96	274	3.34	231	324

Table 5: Production averages by age group and mating type.

Age group	Number of cows	Average fat (kg)		Average protein (kg)	
		Artificially bred stock	Naturally bred stock	Artificially bred stock	Naturally bred stock
2 Year Old	89,786	245	225	210	191
3 Year Old	90,641	274	248	235	211
Mature Cow	345,481	299	268	251	223
Total	525,908	284	259	240	217

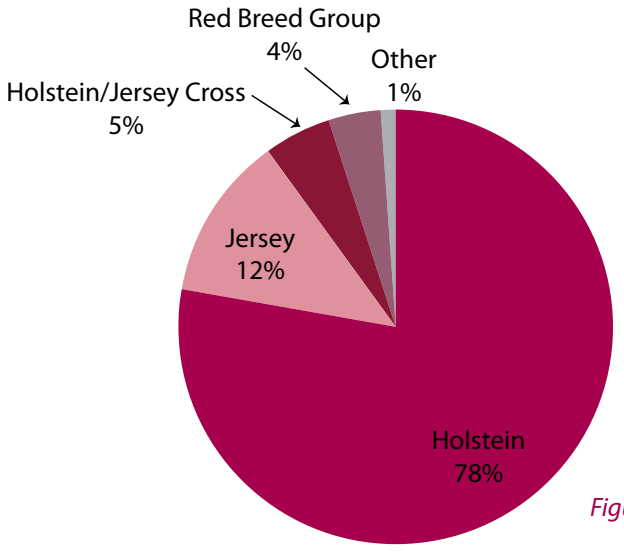


Figure 1: Distribution of breeds.

Table 6 : Production averages by percentage of artificially bred cows in herds.

Percentage of artificially bred cows in herd	Number of herds	Production averages		
		Milk litres	Fat kg	Protein kg
< 10	534	6,036	242	202
10-19	174	6,384	255	215
20-29	164	6,690	264	221
30-39	183	6,910	270	229
40-49	230	6,742	267	225
50-59	274	6,856	273	228
60-69	336	7,035	276	233
70-79	419	7,149	283	238
80-89	411	7,226	285	241
> 89	576	7,353	291	246
Total	3,301	6,930	274	231

Table 7: Production averages by breed.

Breed	Number of cows	Production averages					
		Milk litres	Fat %	Fat kg	Protein %	Protein kg	Lactation length days
Holstein	352,741	7,417	3.83	284	3.27	243	328
Jersey	55,660	5,273	4.77	252	3.71	195	314
Holstein/Jersey Cross	22,355	6,228	4.33	270	3.51	219	312
Guernsey	1,266	5,488	4.35	239	3.42	188	329
Ayrshire	2,823	5,653	4.12	233	3.41	193	311
Dairy Shorthorn	306	5,505	3.85	212	3.28	180	312
Illawarra	5,345	6,332	3.97	252	3.31	210	318
Unknown Breed	70,645	6,292	3.97	250	3.35	211	314
Simmental	66	5,906	4.02	237	3.30	195	309
Red Poll	54	3,183	4.70	150	3.86	123	321
Meuse-Rhine-Issel	70	5,442	4.19	228	3.69	201	316
Aust Milking Zebu	7	6,462	4.10	265	3.35	217	307
Commercial Dairy	0	0	0.00	0	0.00	0	0
Aust Red Breed	11,043	6,254	4.09	256	3.46	216	313
Sahiwal	0	0	0.00	0	0.00	0	0
Brown Swiss	3,501	6,316	4.06	256	3.46	218	330
Aust Friesian Sahiwal	26	7,508	4.00	300	3.26	245	366
Total	525,908	6,930	3.96	274	3.34	231	324

Table 8: Production averages by month of calving.

Month of calving	Number of cows	% of total	Production averages					Lactation length days
			Milk litres	Fat %	Fat kg	Protein %	Protein kg	
January	15,655	3.0	7,093	3.90	277	3.29	233	346
February	27,117	5.2	7,219	3.89	281	3.33	241	344
March	53,016	10.1	7,286	3.92	285	3.35	244	341
April	55,351	10.5	7,233	3.93	284	3.35	243	335
May	49,487	9.4	7,073	3.94	279	3.34	236	326
June	42,063	8.0	6,864	3.97	272	3.34	230	316
July	57,549	10.9	6,614	4.00	265	3.37	223	311
August	90,021	17.1	6,786	3.99	271	3.37	229	305
September	72,198	13.7	6,774	3.99	270	3.31	224	318
October	34,891	6.6	6,756	3.96	268	3.26	221	326
November	16,252	3.1	6,776	3.96	268	3.25	220	338
December	12,308	2.3	6,982	3.91	273	3.26	227	345
Australia	525,908	100	6,930	3.96	274	3.34	231	324

Farmers often express a sense of satisfaction that comes from seeing healthy, productive older cows in their herd while frustration builds when younger cows need to be culled for various reasons.

To further understand trends in age at first calving and longevity in the Australian herd, ADHIS analysed the age of herd recorded cows and the results are presented in Figures 2-4. The average age of Holstein cows is 58 months, a figure that is stable in the previously analysed years of 04/05, 09/10 and 10/11. About 30% of Holstein, Jersey and Holstein/Jersey crosses are aged at least six years of age.

Figure 2: Age at first calving of Holstein and Jersey cows.

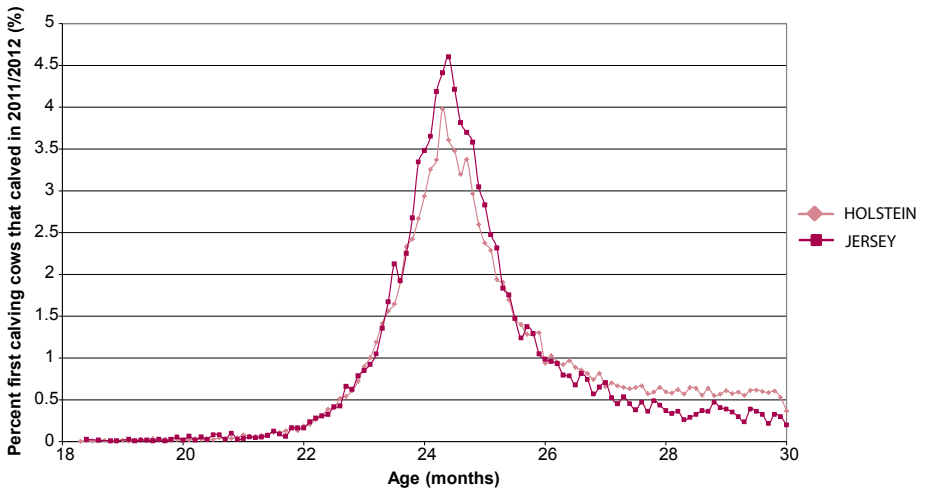


Figure 3: Average age of cows at their most recent calving.

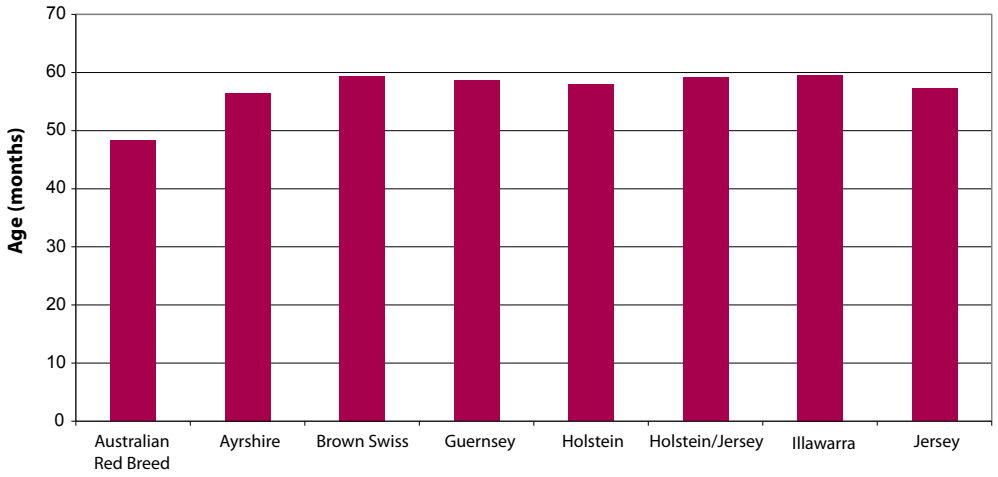


Figure 4: Age distribution of herd recorded cows by breed (at most recent calving).

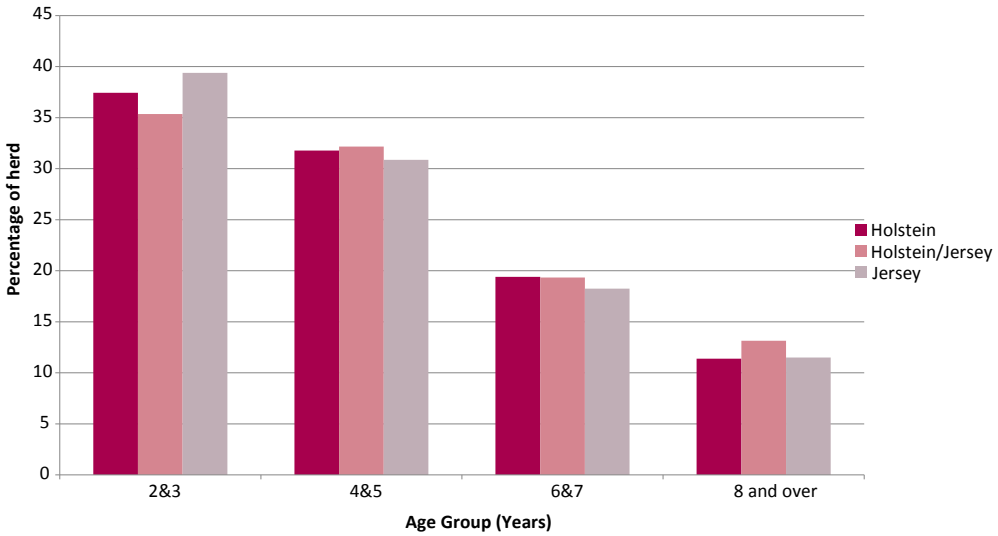


Table 9: Production averages by breed, age group, mating type and registration.

Breed	Type	Number of cows	Production averages					
			Milk litres	Fat %	Fat kg	Protein %	Protein kg	Lactation length days
Holstein	2-year old	62,551	6,560	3.76	247	3.27	215	331
	3-year old	62,672	7,209	3.79	273	3.30	238	330
	Mature cow	227,518	7,710	3.86	298	3.27	252	327
	Total	352,741	7,417	3.83	284	3.27	243	328
	Artifically bred	246,102	7,592	3.82	290	3.27	248	330
	Naturally bred	106,639	7,013	3.87	272	3.28	230	324
	Pure bred	60,301	8,228	3.73	307	3.22	265	346
	Grade	292,440	7,250	3.86	280	3.29	238	325
Jersey	2-year old	11,178	4,744	4.71	223	3.65	173	319
	3-year old	10,708	5,121	4.79	245	3.73	191	314
	Mature cow	33,774	5,497	4.78	263	3.71	204	312
	Total	55,660	5,273	4.77	252	3.71	195	314
	Artifically bred	36,890	5,386	4.83	260	3.73	201	314
	Naturally bred	18,770	5,051	4.65	235	3.65	185	313
	Pure bred	13,423	5,658	4.87	276	3.75	212	326
	Grade	42,237	5,151	4.74	244	3.69	190	310
Holstein/Jersey Cross	2-year old	4,401	5,533	4.27	237	3.49	193	315
	3-year old	4,132	6,002	4.37	262	3.55	213	312
	Mature cow	13,822	6,516	4.34	283	3.51	229	310
	Total	22,355	6,228	4.33	270	3.51	219	312
	Artifically bred	10,478	6,368	4.40	280	3.55	226	312
	Naturally bred	11,877	6,104	4.28	261	3.48	213	312
	Pure bred	0	0	0	0	0	0	0
	Grade	22,355	6,228	4.33	270	3.51	219	312
Guernsey	2-year-old	240	4,916	4.37	215	3.41	168	339
	3-year-old	241	5,278	4.35	229	3.39	179	327
	Mature cow	785	5,726	4.36	250	3.44	197	326
	Total	1,266	5,488	4.35	239	3.42	188	329
	Artifically bred	624	5,820	4.33	252	3.38	196	335
	Naturally bred	642	5,165	4.36	225	3.46	179	322
	Pure bred	208	5,890	4.23	249	3.31	195	345
	Grade	1,058	5,408	4.38	237	3.45	186	325
Ayrshire	2-year-old	396	5,154	4.19	216	3.44	177	326
	3-year-old	653	5,175	4.21	218	3.46	179	303
	Mature cow	1,774	5,940	4.07	242	3.39	201	311
	Total	2,823	5,653	4.12	233	3.41	193	311
	Artifically bred	1,520	5,866	4.15	243	3.45	203	313
	Naturally bred	1,303	5,404	4.08	220	3.35	181	309
	Pure bred	749	6,080	4.07	247	3.34	203	325
	Grade	2,074	5,499	4.13	227	3.43	189	306

Table 9: Production averages by breed, age group, mating type and registration (continued).

Breed	Type	Number of cows	Production averages					
			Milk litres	Fat %	Fat kg	Protein %	Protein kg	Lactation length days
Illawarra	2-year-old	861	5,532	4.09	226	3.33	184	326
	3-year-old	1,089	5,941	3.98	236	3.34	199	330
	Mature cow	3,395	6,660	3.95	263	3.29	219	312
	Total	5,345	6,332	3.97	252	3.31	210	318
	Artifically bred	2,825	6,610	3.99	264	3.30	218	319
	Naturally bred	2,520	6,019	3.95	238	3.32	200	316
	Pure bred	1,682	6,701	3.90	262	3.28	220	318
	Grade	3,663	6,162	4.01	247	3.33	205	317
Unknown Breed	2-year-old	6,712	5,499	3.90	214	3.35	184	313
	3-year-old	7,683	6,097	3.99	243	3.42	208	311
	Mature cow	56,250	6,414	3.98	255	3.34	214	315
	Total	70,645	6,292	3.97	250	3.35	211	314
	Artifically bred	2,084	6,948	3.83	266	3.33	232	323
	Naturally bred	68,561	6,272	3.98	249	3.35	210	314
	Pure bred	0	0	0	0	0	0	0
	Grade	70,645	6,292	3.97	250	3.35	211	314
Aust. Red Breed	2-year-old	2,822	5,554	4.10	227	3.42	190	317
	3-year-old	2,594	6,098	4.13	252	3.47	212	313
	Mature cow	5,627	6,676	4.08	272	3.47	231	311
	Total	11,043	6,254	4.09	256	3.46	216	313
	Artifically bred	10,097	6,292	4.10	258	3.46	218	313
	Naturally bred	946	5,849	4.06	237	3.42	200	313
	Pure bred	1,031	7,311	3.88	283	3.42	250	327
	Grade	10,012	6,145	4.12	253	3.46	212	312
Brown Swiss	2-year-old	541	5,379	4.12	221	3.46	186	338
	3-year-old	737	5,881	4.04	237	3.49	205	329
	Mature cow	2,223	6,689	4.06	271	3.45	231	329
	Total	3,501	6,316	4.06	256	3.46	218	330
	Artifically bred	2,339	6,339	4.12	261	3.47	220	331
	Naturally bred	1,162	6,271	3.91	245	3.43	215	329
	Pure bred	1,066	6,702	3.99	267	3.45	231	350
	Grade	2,435	6,148	4.09	251	3.45	212	321
Other Breeds	2-year-old	84	5,283	3.99	211	3.30	174	325
	3-year-old	132	5,295	4.04	214	3.44	182	330
	Mature cow	313	5,511	3.98	219	3.36	185	307
	Total	529	5,421	4.02	216	3.40	183	316
	Artifically bred	245	6,306	3.87	244	3.36	212	316
	Naturally bred	284	4,657	4.13	192	3.38	157	315
	Pure bred	46	4,792	3.88	186	3.33	160	303
	Grade	483	5,481	4.01	220	3.37	185	317

Table 10: Distribution of calvings by month and region.

State	Percentage of cows that calved each month											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Victoria	1	3	10	12	10	9	12	19	14	6	2	1
New South Wales	7	9	11	9	8	8	10	10	9	7	6	6
Queensland	8	10	11	10	9	9	9	9	7	6	6	6
South Australia	5	8	11	10	10	7	6	11	14	10	5	4
Tasmania	1	3	5	5	4	4	13	31	23	8	2	1
Western Australia	8	10	13	9	8	6	5	10	12	8	5	5
Australia	3	5	10	11	9	8	11	17	14	7	3	2
Victorian regions												
Northern	1	2	12	14	7	3	7	22	18	8	3	1
Eastern	1	3	9	10	7	7	17	25	15	5	1	1
Western	1	5	9	12	18	17	12	10	9	5	1	1

Table 11: Production averages of stud cows.

Breed	Number of cows	Production averages					
		Milk litres	Fat %	Fat kg	Protein %	Protein kg	Lactation length days
Holstein	60,301	8,228	3.73	307	3.22	265	346
Jersey	13,423	5,658	4.87	276	3.75	212	326
Guernsey	208	5,890	4.23	249	3.31	195	345
Ayrshire	749	6,080	4.07	247	3.34	203	325
Illawarra	1,682	6,701	3.90	262	3.28	220	318
Aust Red Breed	1,031	7,311	3.88	283	3.42	250	327
Brown Swiss	1,066	6,702	3.99	267	3.45	231	350
Total	78,460	7,696	3.94	299	3.32	254	341

Table 12: Production averages of artificially bred stud cows.

Breed	Number of cows	Production averages					
		Milk litres	Fat %	Fat kg	Protein %	Protein kg	Lactation length days
Holstein	48,843	8,312	3.73	310	3.22	268	346
Jersey	10,631	5,755	4.87	280	3.75	216	326
Guernsey	114	6,154	4.18	257	3.26	201	349
Ayrshire	400	6,265	4.01	251	3.32	208	327
Illawarra	918	7,016	3.90	273	3.25	228	322
Aust Red Breed	971	7,327	3.88	284	3.42	251	327
Brown Swiss	773	6,765	4.02	272	3.46	234	353
Total	62,650	7,808	3.93	303	3.32	257	342

Table 13: Victorian production averages 1930/1931 – 2011/2012.

Year	Total herds	Total cows	Herd size	Production averages				
				Milk litres	Fat %	Fat kg	Protein %	Protein kg
1930/1935	2,984	91,328	31	2,295	4.7	107		
1935/1940	2,324	80,883	35	2,210	4.9	108		
1940/1945	1,082	39,368	36	2,154	4.9	105		
1945/1950	2,329	90,015	39	2,301	5.0	114		
1950/1955	3,192	141,387	44	2,284	5.0	114		
1955/1960	3,461	187,306	54	2,485	5.1	126		
1960/1965	4,003	248,791	62	2,643	5.0	132		
1965/1970	5,041	368,300	73	2,793	4.9	137		
1970/1975	4,314	382,925	89	2,942	4.7	139		
1975/1980	2,456	256,744	105	3,159	4.5	143		
1980/1985	3,913	423,120	108	3,471	4.5	155		
1985/1990	4,399	527,240	120	4,047	4.4	180	3.3	134
1990/1991	4,402	568,885	129	4,245	4.4	186	3.4	142
1991/1992	4,061	517,760	128	4,477	4.4	196	3.4	150
1992/1993	4,293	552,445	129	4,708	4.4	205	3.4	158
1993/1994	4,606	604,160	131	4,962	4.3	212	3.3	166
1994/1995	4,591	574,674	125	4,976	4.2	210	3.3	164
1995/1996	4,685	606,198	129	5,142	4.2	215	3.3	169
1996/1997	4,928	619,470	126	4,984	4.2	208	3.3	163
1997/1998	4,328	624,428	144	5,084	4.1	208	3.3	167
1998/1999	4,156	641,106	154	5,350	4.1	220	3.3	177
1999/2000	3,904	622,281	159	5,570	4.1	227	3.3	184
2000/2001	4,267	761,219	178	5,527	4.0	223	3.3	182
2001/2002	4,198	757,029	180	5,969	4.0	240	3.3	198
2002/2003	3,831	738,329	193	5,705	4.0	230	3.3	187
2003/2004	3,414	624,002	183	5,841	4.0	236	3.3	194
2004/2005	3,079	586,566	191	6,083	4.0	245	3.3	202
2005/2006	2,933	572,906	195	6,205	4.0	248	3.3	206
2006/2007	2,775	554,136	200	6,245	4.0	250	3.4	209
2007/2008	2,431	484,030	199	6,423	4.0	259	3.3	215
2008/2009	2,313	478,612	207	6,458	4.1	266	3.4	218
2009/2010	2,127	437,811	206	6,443	4.1	265	3.4	217
2010/2011	2,036	428,660	211	6,588	4.1	268	3.4	222
2011/2012	2,050	453,465	221	6,731	4.0	270	3.4	226

Australian Breeding Values

Over the past decade, about one third of productivity improvements achieved by Australian farmers are credited to better genetics. Since 1983, farmers have had access to independent information to make breeding choices in the form of Australian Breeding Values (ABVs). ABVs are the best estimate of the genetic merit of animals and reflect the performance of animals in Australian production systems. ABVs are an effective tool to improve the genetic merit of herds.

Farmers continue to make effective choices in improving their herds' genetic merit for production as demonstrated in Figures 1-3. Each graph illustrates the genetic improvement for Australian Profit Ranking (APR – profit from production and non-production traits) and Australian Selection Index (ASI – profit from production only) for a breed.

Bull selection is the primary source of genetic gain within dairy herds. Following the genetic trend graphs in this section of the report is a list of the 2012 leading proven Australian bulls. In recognition of genomics as a mainstream technology on Australian farms, the list of young genomic sires is included for the first time in the 2011-2012 Australian Dairy Herd Improvement Report.

Finally, Australia's top herds ranked by Australian Profit Ranking complete this year's report. Many years of careful breeding are required to feature in this list. Congratulations to this year's top herds.

Figure 1: Holstein Cows average APR & ASI by year of birth.

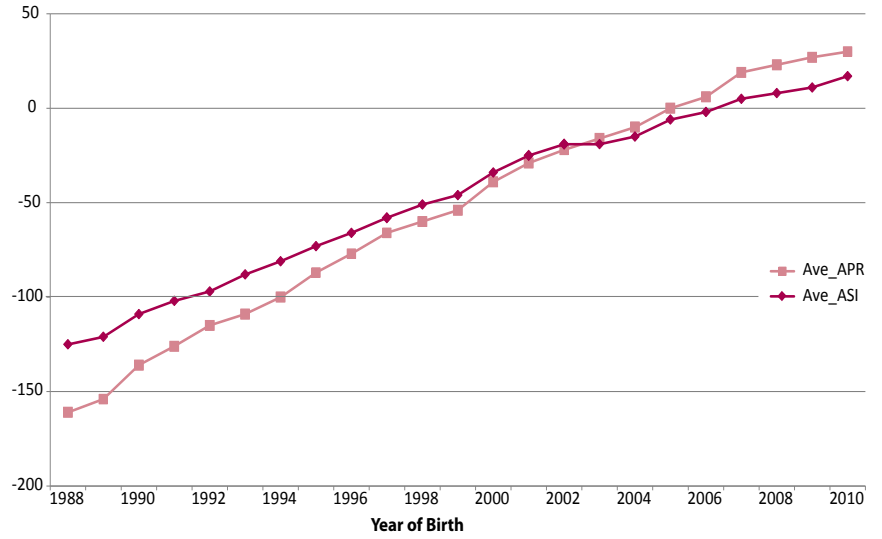


Figure 2: Jersey Cows average APR & ASI by year of birth.

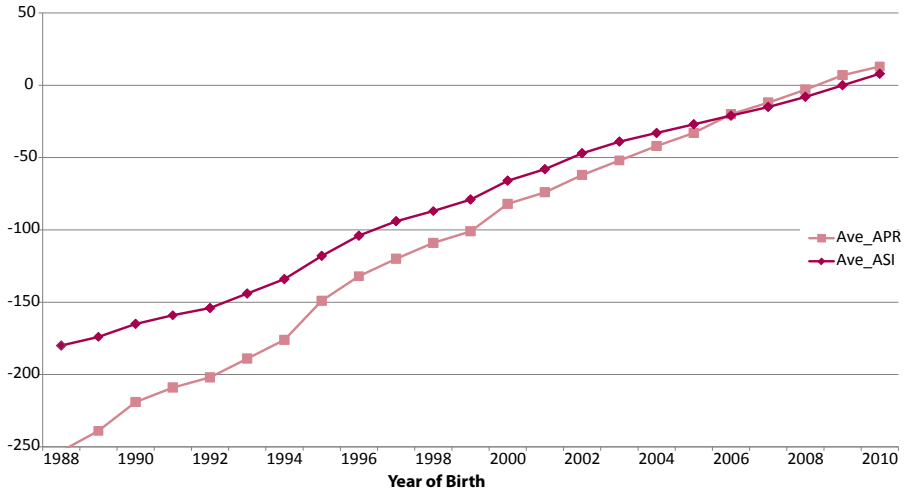
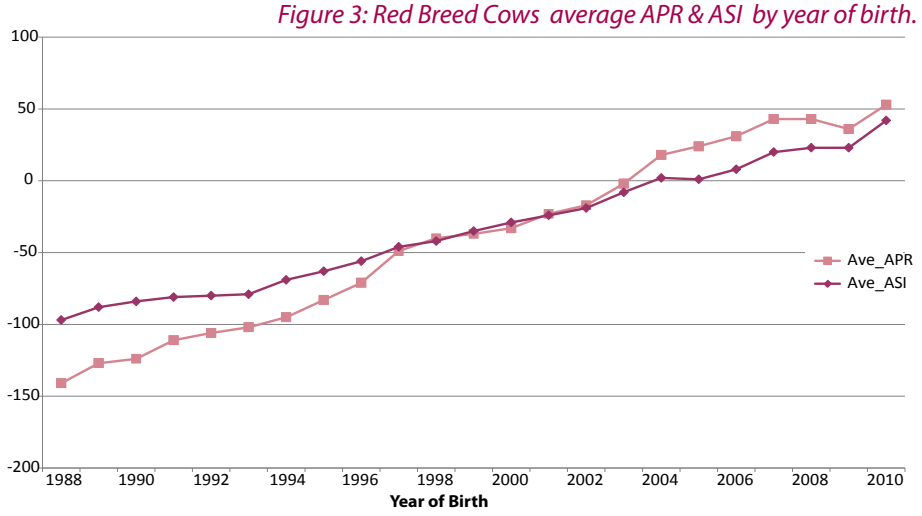


Figure 3: Red Breed Cows average APR & ASI by year of birth.



THE Good Bulls GUIDE

Holstein Profit (Aug 2012)

PROFIT RANK	BULL ID	BULL NAME	GENETIC CODES	GENOMICS INCLUDED	AUSTRALIAN PROVEN OR INTERNATIONAL	PROFIT		PRODUCTION		AUSTRALIAN DAUGHTERS	AUSTRALIAN HERDS	LONGEVITY		TYPE			CELL COUNT		SOURCE
						PROFIT $	RELIABILITY	PRODUCTION	RELIABILITY			SURVIVAL	RELIABILITY	OVERALL TYPE	MAMMARY SYSTEM	RELIABILITY	CELL COUNT	RELIABILITY	
1	**ROUMARE**	ROUMARE		g	A	**368**	92	285	97	360	80	108	84	106	107	95	133	94	CRV
2	**29H012470**	INDIJKS BABYLON		g	A	**308**	79	192	86	72	34	104	66	101	100	75	174	76	ABS
3	**DEANCOX**	MANNA FARM DEANCOX		g	A	**292**	78	217	85	83	38	106	65	108	104	77	113	70	GAC
4	**BUDDHA**	BUSHLEA PERFECTOR BOLD-ET		g	A	**283**	80	194	87	97	44	106	66	110	106	79	154	74	GAC
5	**USEAGE**	KAARMONA CALEB			A	**280**	83	200	90	101	45	107	67	101	106	78	134	82	GAC
6	**WESTGATE**	GALLRAE JOCKO 3438		g	A	**270**	80	182	86	88	43	110	65	110	108	77	118	73	GAC
7	**DELSANTO**	MANNA FARM DEL SANTO		g	A	**268**	80	236	88	88	44	102	61	110	109	64	132	80	GAC
8	**7H8081**	ENSENADA TABOO PLANET ET	TRTVTL		A	**261**	88	170	95	221	62	106	77	106	113	92	129	92	GAC
9	**NZGMILLER**	GLENMEAD MILLER		g	A	**257**	85	165	93	144	28	103	70	95	97	78	148	85	LIC
10	**SHOLTZ**	ST. CLAIR SHOLTZ-TWIN			A	**253**	68	165	74	40	23	105	61	106	104	72	144	60	ABS
11	**REFUND**	KINGS VILLE REFUND		g	A	**236**	78	198	84	81	35	105	65	99	102	78	100	71	GAC
12	**QUINTY**	KAARMONA CARBASAR		g	A	**236**	81	174	87	91	36	103	67	106	106	81	127	77	GAC
13	**SHOTTLE**	PICSTON SHOTTLE		g	A	**235**	97	73	99	961	266	111	92	110	108	98	179	97	ABS
14	**PROSHOT**	CLYDEVALE PROSHOT			A	**234**	70	150	77	42	29	104	61	101	106	71	150	62	ABS
15	**FARMDEALER**	MANNA FARM DEALER	CV	g	A	**232**	82	161	89	111	44	110	66	111	115	76	93	82	ALT
16	**GOLDPIPER**	CLYDEVALE SHOTTLE PERSIS		g	A	**228**	76	143	83	67	37	105	61	102	105	72	107	72	AGR
17	**EUROSTAR**	ECLIPSE EUROSTAR		g	A	**223**	79	112	87	104	56	106	62	106	109	72	178	74	GAC
18	**THROTTLE**	ELMAR THROTTLE		g	A	**223**	81	72	87	92	42	108	68	106	111	82	169	76	ABS
19	**JEEBIN**	COUNTRY ROAD LADINO JADIN		g	A	**220**	82	137	88	87	45	109	68	109	109	78	137	80	GAC
20	**COPIER**	CURRAJUGLE COPIER-ET			A	**218**	78	112	85	82	37	111	66	106	105	73	144	72	GAC
21	**GGJARDIN**	JARDIN		g	A	**216**	94	190	98	753	103	104	86	97	104	95	100	95	ABS
22	**GOLDSMITH**	TOPSPEED H POTTER	TVTL	g	A	**214**	98	220	99	2743	371	103	95	95	92	96	68	98	GAC
23	**NLDCANVAS**	DELTA CANVAS	RC		A	**213**	92	218	96	225	42	103	87	95	99	92	77	97	CRV
24	**SMIRK**	CARENDA SMIRK	TV	g	A	**210**	69	164	75	48	25	103	57	108	104	66	128	62	ALT
25	**JACKAROO**	KIRK ANDREWS TALENTED JACKSON	RC	g	A	**208**	84	148	93	241	78	106	67	110	114	76	105	82	ABS

Holstein Genomic (Aug 2012)

PROFIT RANK	BULL ID	BULL NAME	GENETIC CODES	GENOMICS INCLUDED	AUSTRALIAN PROVEN OR INTERNATIONAL	PROFIT		PRODUCTION		AUSTRALIAN DAUGHTERS	AUSTRALIAN HERDS	LONGEVITY		TYPE			CELL COUNT		SOURCE
						PROFIT $	RELIABILITY	PRODUCTION	RELIABILITY			SURVIVAL	RELIABILITY	OVERALL TYPE	MAMMARY SYSTEM	RELIABILITY	CELL COUNT	RELIABILITY	
1	**CANBEE**	COUNTRY ROAD ROUMARE CANBEE		g	**A**	341	58	284	64	0	0	108	45	106	105	48	121	57	ALT
2	**JETFINN**	JET STAR INFORMER FINN-ET		g	**A**	322	60	268	64	0	0	106	52	107	107	55	109	55	GAC
3	**KMA**	JET STAR YSHOUT KMA-ET		g	**A**	304	58	291	64	0	0	103	45	106	108	49	102	55	GAC
4	**CARMARE**	KAARMONA CARMARE		g	**A**	304	57	222	64	0	0	108	43	102	102	48	129	55	GAC
5	**CRACKAJACK**	ECLIPSE ROUMARE CRACKAJACK		g	**A**	296	59	225	64	0	0	106	48	103	104	52	138	55	GAC
6	**CHRISTMAS**	EMU BANKS CHRISTMAS-ET		g	**A**	294	60	248	64	0	0	105	50	104	101	54	112	56	GAC
7	**JANEK**	RENGAW JARDIN JANEK		g	**A**	292	57	228	64	0	0	105	43	102	106	47	115	54	ABS
8	**CARLANA**	KAARMONA CARLANA		g	**A**	290	57	192	64	0	0	105	42	101	102	46	148	55	GAC
9	**MIDNIGHTSPEC**	HILL VALLEY MIDNIGHT SPECIAL		g	**A**	289	58	242	64	0	0	106	45	103	104	50	113	55	ABS
10	**SMARTIE**	JET STAR GOLDWYN SMARTIE		g	**A**	286	58	179	64	0	0	109	47	108	110	51	149	55	GAC
11	**QTRBACK**	ECLIPSE ORANA QTRBACK-ET	TLTV	g	**A**	285	56	238	64	0	0	104	39	104	105	43	139	52	ABS
12	**CINCH**	HILL VALLEY CINCH-ET		g	**A**	284	58	230	64	0	0	107	45	102	104	49	114	55	GAC
13	**LINEUP**	GORBRO PARADE		g	**A**	282	58	256	64	0	0	104	46	103	104	50	96	55	GAC
14	**CRVGLAMORGAN**	GLAMORGAN FREDDIE TIFFANY		g	**A**	282	50	219	59	0	0	103	35	101	103	37	136	46	CRV
15	**ALIAS**	KIRK ANDREWS ALIAS		g	**A**	281	58	238	65	0	0	103	44	100	100	46	98	58	GAC

*Denotes an ABV that incorporates Australian data, all other traits for this bull are ABV(i)s using data from foreign daughters.

The bull must meet minimum requirements for reliability, is active and more than 1 standard deviation above average for Profit $.

For the full list go to **www.adhis.com.au**

Jersey Profit (Aug 2012)

					PROFIT		PRODUCTION				LONGEVITY		TYPE			CELL COUNT		
RANK	BULL ID	BULL NAME	GENOMICS INCLUDED	AUSTRALIAN PROVEN OR INTERNATIONAL	PROFIT $	RELIABILITY	PRODUCTION $	RELIABILITY	AUSTRALIAN DAUGHTERS	AUSTRALIAN HERDS	SURVIVAL	RELIABILITY	OVERALL TYPE	MAMMARY SYSTEM	RELIABILITY	CELL COUNT	RELIABILITY	SOURCE
1	**SANDBLAST**	NOWELL SANDBLAST	g	A	**357**	80	284	86	79	21	103	67	111	114	77	113	80	AGR
2	**VANAHLEM**	PANNOO ABE VANAHLEM	g	A	**255**	73	205	79	46	24	107	61	125	119	73	103	72	ALT
3	**ELTON**	CAIRNBRAE JACES ELTON	g	A	**246**	87	189	94	228	77	106	73	108	108	80	109	86	ABS
4	**GAINFUL**	KAARMONA GALEAO	g	A	**228**	80	173	86	82	44	104	66	116	113	75	139	80	GAC
5	**LARFALOT**	LIGHTWOOD LUCRATIVE	g	A	**223**	87	165	93	195	82	106	73	113	107	79	114	86	GAC
6	**BAKARI**	MELDAN BAKARI	g	A	**218**	73	205	79	53	29	101	57	100	103	67	127	70	GAC
7	**TAILBOARD**	NOWELL TARSAN	g	A	**209**	96	170	99	1,140	225	103	89	108	105	88	131	97	GAC
8	**AMBMANHATTEN**	OKURA MANHATTEN-ET SJ3	g	A	**204**	98	209	99	1,640	231	102	94	101	96	95	98	98	CRV
9	**HARLAND**	WHITE STAR HARLAND	g	A	**189**	79	203	86	112	41	100	63	94	92	73	81	75	GAC
10	**SPIRITUAL**	RIVERSIDE SPIRIT		A	**164**	92	84	98	1,019	203	106	76	109	106	89	107	93	AGR
11	**BARTPOWER**	DARAWAY FLOWERPOWER SATIRA	g	A	**164**	93	78	97	530	152	105	81	115	116	88	131	92	GAC
12	**NZGBANGA**	LOXLEA ACL OSWALD	g	A	**158**	87	143	93	133	32	100	73	92	96	80	99	93	LIC
13	**VISIONARY**	DENSON DALE MJ VISIONARY	g	A	**156**	81	126	87	68	25	101	66	111	107	78	124	83	ABS
14	**JURACE**	KAARMONA JURACE	g	A	**154**	80	115	87	86	30	105	66	108	107	72	123	82	WWS
15	**SARATOGA**	BERCAR SARATOGA	g	A	**150**	94	78	97	462	148	106	87	105	103	85	125	94	GAC
16	**BOSREFUTE**	WALLACEDALE VIOLETS REFUTE	g	A	**146**	80	145	88	104	38	104	61	110	109	71	99	79	CRV
17	**PASSIVE**	BERCAR PASSIVE	g	A	**146**	97	103	99	1,107	223	106	92	106	103	92	98	97	GAC
18	**JEJEEP**	KAARMONA JEEP	g	A	**144**	86	105	92	138	49	105	73	106	104	83	101	84	SEM
19	**PROMVIEW**	PROM VIEW ASTOUND POWER	g	A	**143**	82	170	88	87	32	100	69	110	114	80	96	81	ALT
20	**NEKEY**	DENSON DALE N E KEYSTONE	g	A	**142**	79	120	87	57	23	101	62	106	104	73	100	87	ABS
21	**BADGER**	BEULAH TARANAK BADGER	g	A	**141**	98	74	99	2,929	429	107	96	111	104	96	131	98	GAC
22	**MAXIMUM**	SUNSET CANYON MAXIMUM	g	A	**139**	89	76	95	228	48	105	79	109	102	86	117	86	AGR
23	**BETAHEAD**	KINGS VILLE OUTDO	g	A	**125**	82	122	88	83	39	102	68	110	101	74	112	81	GAC
24	**MEDIATOR**	SILHOUETTE MEDIATOR	g	A	**119**	95	90	98	755	166	103	88	110	103	87	128	97	GAC
25	**NZGPERO**	ARDACHIE CHAD PERO	g	A	**115**	83	91	90	78	19	100	70	89	90	79	106	86	LIC

Jersey Genomic (Aug 2012)

					PROFIT		PRODUCTION				LONGEVITY		TYPE			CELL COUNT		
RANK	BULL ID	BULL NAME	GENOMICS INCLUDED	AUSTRALIAN PROVEN OR INTERNATIONAL	PROFIT $	RELIABILITY	PRODUCTION $	RELIABILITY	AUSTRALIAN DAUGHTERS	AUSTRALIAN HERDS	SURVIVAL	RELIABILITY	OVERALL TYPE	MAMMARY SYSTEM	RELIABILITY	CELL COUNT	RELIABILITY	SOURCE
1	**VAVOOM**	ROCKLEIGH PARK VALERIAN VAVOOM	g	A	**335**	54	292	61	2	2	105	40	107	103	45	89	50	ABS
2	**BOSGREGSTAR**	WHITE STAR GREG	g	A	**299**	50	251	56	0	0	106	37	112	107	40	104	46	CRV
3	**0200JE08165**	BROADLIN HATMAN	g	A	**292**	52	230	59	0	0	106	38	113	112	45	113	48	SEM
4	**STRZELECKI**	ARALUEN PARK STRZELECKI	g	A	**248**	49	205	57	0	0	105	35	109	105	41	98	45	GAC
5	**SOVANN**	KAARMONA SOVANN-ET	g	A	**248**	49	192	57	0	0	105	35	108	109	39	91	50	GAC
6	**RACEWAY**	ABERDEEN VALERIAN SANDOWN-ET	g	A	**247**	60	205	66	0	0	106	48	113	110	52	90	57	GAC
7	**CRVLINE**	PANNOO VLINE	g	A	**238**	57	192	64	0	0	105	44	110	106	49	99	54	CRV
8	**FRONTIER**	BEULAH FRONTIER	g	A	**232**	57	182	64	0	0	105	44	112	102	47	102	54	GAC
9	**TENGEN**	MOROKA TENGEN	g	A	**230**	48	188	55	0	0	104	36	107	106	39	87	45	GAC
10	**SPANNER**	BROADLIN SPANNER	g	A	**229**	51	178	59	0	0	105	37	105	106	43	107	48	GAC
11	**PELHAM**	BEULAH PELHAM	g	A	**229**	55	155	63	0	0	105	40	115	109	45	110	51	GAC
12	**ROUNDHILL**	ABERDEEN VALERIAN ROUNDHILL-ET	g	A	**227**	57	178	64	0	0	105	45	105	104	48	87	54	GAC
13	**VIPOR**	NOWELL VIPER	g	A	**226**	60	164	66	0	0	105	49	108	108	53	92	57	CRV
14	**SADLER**	WHITE STAR SADLER	g	A	**225**	56	207	62	0	0	102	42	109	106	48	96	52	GAC
15	**SMACKDOWN**	ABERDEEN VALERIAN SMACKDOWN	g	A	**220**	58	173	64	0	0	105	46	106	107	50	90	55	ALT

The bull must meet minimum requirements for reliability, is active and more than 1 standard deviation above average for Profit $.
For the full list go to **www.adhis.com.au**

2012 Australian Breeding Values – Good Bulls Guide

Red Breeds Profit (Aug 2012)

RANK	BULL ID	BULL NAME	AUSTRALIAN PROVEN OR INTERNATIONAL	PROFIT		PRODUCTION		AUSTRALIAN DAUGHTERS	AUSTRALIAN HERDS	LONGEVITY		TYPE			CELL COUNT		SOURCE
				PROFIT $	RELIABILITY	PRODUCTION	RELIABILITY			SURVIVAL	RELIABILITY	OVERALL TYPE	MAMMARY SYSTEM	RELIABILITY	CELL COUNT	RELIABILITY	
1	**PETERSLUND**	PETERSLUND 1213	A	**220**	95	106	98	725	102	108	90	96	94	84	138	97	VIK
2	**ARBBONJOVI**	BOSGOWAN BON JOVI	A	**208**	81	143	89	107	55	104	63	111	104	71	110	82	GAC
3	**ARBLIPPMAN**	BOSGOWAN LIPPMAN	A	**194**	77	132	88	109	38	104	49	107	108	51	123	78	GAC
4	**ARBBOBDOWN**	LODEN BOB	A	**178**	84	151	92	162	78	104	66	109	104	71	95	84	GAC
5	**BOTANS3829**	BOTANS 3829	A	**176**	94	109	98	660	90	105	86				136	96	VIK
6	**ARBPOTSIE**	GRAZIN POTSIE	A	**175**	79	147	88	105	49	100	57	98	93	65	122	79	GAC
7	**ARBLEX**	BEAULANDS LORRY	A	**172**	77	112	87	101	50	106	52	116	107	54	78	78	GAC
8	**GGDRAGOMIR**	DRAGOMIR	A	**165**	80	115	90	113	31	104	61				120	84	ABS
9	**OBROLIN1804**	O BROLIN 1804	A	**158**	88	83	95	252	44	107	74	103	104	75	120	92	VIK
10	**ARBMAWSON**	BOSGOWAN MAWSON	A	**155**	76	90	85	70	44	105	58	110	109	64	136	76	GAC
11	**ARBEROS**	ARAJARRA EROS	A	**150**	78	84	88	98	43	103	53	98	98	57	140	78	GAC
12	**ARBHARFORD**	BOSGOWAN BERNARD	A	**145**	73	73	82	60	33	106	53	108	100	61	117	71	GAC
13	**ARBIRELAND**	BEAULANDS EMPEROR 2ND	A	**144**	70	109	80	68	40	103	47	105	103	48	127	66	GAC
14	**ARBLAWRENCE**	BOSGOWAN LAWRENCE	A	**144**	97	47	99	1,480	271	106	91	107	101	87	137	98	GAC
15	**ARBLINDBERG**	LOUVIC LOOT	A	**141**	76	82	85	81	42	103	55	105	101	62	124	75	GAC
16	**BJURIST1011**	B JURIST ET 1011	A	**140**	96	59	99	805	127	108	91	109	106	84	118	97	VIK
17	**NZLCHALLENGE**	KILFENNAN CHALLENGE	A	**139**	93	94	98	724	67	105	81				99	96	LIC

Guernsey Profit (Aug 2012)

RANK	BULL ID	BULL NAME	AUSTRALIAN PROVEN OR INTERNATIONAL	PROFIT		PRODUCTION		AUSTRALIAN DAUGHTERS	AUSTRALIAN HERDS	LONGEVITY		CELL COUNT		SOURCE
				PROFIT $	RELIABILITY	PRODUCTION	RELIABILITY			SURVIVAL	RELIABILITY	CELL COUNT	RELIABILITY	
1	**AUSFAYSBOO**	KOOKABURRA FAYS BOO	A	**133**	72	71	86	77	28	108	51	107	78	WAS
2	**GUJULIUS**	ACCELERATED GOLDEN GENETICS JULIUS ET	A	**108**	76	126	88	97	35	99	57	96	79	SEM
3	**MERVYN**	MARGLYN ACTION MERVYN	A	**86**	57	32	68	26	6	103	44	117	54	AGR

Brown Swiss Profit (Aug 2012)

RANK	BULL ID	BULL NAME	AUSTRALIAN PROVEN OR INTERNATIONAL	PROFIT		PRODUCTION		AUSTRALIAN DAUGHTERS	AUSTRALIAN HERDS	LONGEVITY		CELL COUNT		SOURCE
				PROFIT $	RELIABILITY	PRODUCTION $	RELIABILITY			SURVIVAL	RELIABILITY	CELL COUNT	RELIABILITY	
1	**GGEVENT**	EVENT	A	**165**	72	84	86	73	25	107	49	126	76	ABS
2	**SWISSEDGE**	ELM PARK JUPITERS EDGE	A	**91**	85	38	96	300	82	101	72	150	91	GAC
3	**GGVID**	VIDEO	A	**88**	66	34	83	63	11	104	30	105	74	ABS
4	**7B766**	BLESSING BANKER AGENDA	A	**56**	63	56	78	46	18	101	38	88	67	GAC
5	**TURMOIL**	OLD MILL B TURMOIL	A	**54**	80	33	93	197	62	99	59	104	87	ALT

The bull must meet minimum requirements for reliability, is active and more than 1 standard deviation above average for Profit $.
For the full list go to **www.adhis.com.au**

Top Holstein herds based on herd average APR, August 2012 ABVs														
APR rank	Owner name	Address	Post code	National Herd ID	Cows on file	Current cows	No. of (g) cows	APR	ASI	Prot. ABV	Prot % ABV	Milk ABV	Fat ABV	Fat % ABV
1	McRae SA & NM	Nambrok	3847	2B0043B	532	135	54	134	109	17	0.06	538	21	-0.03
2	Anderson WR & BL	Kongwak	3951	540597R	1,207	260	74	118	93	15	0.05	464	17	-0.04
3	Dickson BJ & JL	Terang	3264	850441U	2,568	679	132	110	87	15	0.05	468	13	-0.09
4	Henry TW & TC	Tinamba	3859	240108T	2,253	571	287	109	88	14	0.06	405	15	-0.03
5	Hogg A & J	Biggara	3707	C00155U	791	155	22	108	93	13	0.11	267	16	0.07
6	Perrett RJ & HE	Kongwak	3951	540624E	616	247	2	107	88	18	-0.02	711	14	-0.24
7	Kitchen JM & Sons	Boyanup	6237	W00248F	1,816	468	30	100	79	12	0.06	328	16	0.03
8	Hoey DM & L	Katunga	3640	4I0025F	64	54	15	99	80	11	0.08	272	15	0.05
9	Willcocks P & I	Yankalilla	5203	S00047P	856	185	31	98	62	11	-0.02	461	14	-0.08
10	Uebergang IS & JA	Gorae West	3305	840391T	279	63	0	97	75	13	0.04	400	11	-0.09
10	Parrish TJ & LR	Barrengarry	2577	N00544Q	1,178	174	0	97	71	10	0.06	253	15	0.07
10	Sprunt RG	Kaarimba	3635	C01125S	413	168	13	97	64	12	-0.01	447	14	-0.08
13	Walder RG & CA	Heathmere	3305	840404W	797	162	0	96	68	10	0.06	241	13	0.04
14	Cook RJ & JP	Wangaratta	3678	C00276F	1,814	522	1	94	76	12	0.04	367	14	-0.03
15	Wagner G	Winnaleah	7265	T63SWAA	3,183	230	0	91	74	12	0.02	401	17	-0.01
16	Johnston RSN & LJ	Bundalaguah	3851	240024G	1,953	690	0	90	73	13	0	465	15	-0.07
16	Macqueen AD & GL	Yanakie	3960	540139F	1,219	233	124	90	70	11	0.07	268	10	-0.01
18	Croft / Lambalk	Timboon	3268	650274B	1,195	422	0	86	66	10	0.07	253	10	-0.01
19	Coster B & M	Ripplebrook	3818	981306Q	1,746	818	272	82	65	10	0.06	235	12	0.02
20	Flemming GM & PE	Tocumwal	2714	4A1373N	1,220	272	114	81	66	11	0.03	326	12	-0.02
21	Kerrins Family Trust	Katunga	3640	C00455G	656	64	0	80	68	10	0.03	298	16	0.05
21	Green RJ LM & AE	Tamworth	2340	N00416Q	641	98	0	80	64	12	0.03	378	9	-0.11
21	Moscript ME CJ & JM	Leongatha Sth	3953	540300E	803	194	0	80	51	11	-0.03	485	8	-0.18
21	Derix GM & ME	Maffra	3860	270031H	713	120	58	80	42	5	0.06	52	9	0.1
25	Lia TO & PM	Nilma North	3821	540184S	627	191	0	79	70	12	-0.01	455	18	-0.03
25	Coates JD	Allestree	3305	840377M	1,024	232	0	79	62	10	0.02	346	12	-0.04
27	Heywood BO & LD	Yarragon	3823	240851B	989	225	0	78	59	8	0.07	171	9	0.03
27	Walker AH & AR	Yinnar Sth	3869	981403K	467	80	0	78	58	8	0.03	236	14	0.06
27	Glasgow DC & EJ	Bena	3946	540564F	563	136	0	78	58	11	0	416	9	-0.13
30	White KL & DM & RL	Leongatha Sth	3953	540605F	1,205	376	160	77	61	9	0.03	282	12	0
30	Fielding R & D	South Riana	7316	T34GFJM	1,484	365	0	77	53	7	0.06	161	10	0.05
32	Woodbine Holdings Pty	Lancaster	3620	B20571E	2,332	704	0	76	63	11	0.03	375	9	-0.1
32	Gale DP & JF	Timboon	3268	650188L	2,695	531	0	76	49	8	0.05	187	7	-0.02
34	Little JR & SL / Martin D	Korumburra	3950	540600N	951	123	0	75	57	8	0.06	177	11	0.05
34	Pekin JF, A & JG	Terang	3264	850550V	1,082	296	0	75	55	9	0.04	249	10	0
34	Kennedy R & M	Cobains	3850	240025J	1,414	224	0	75	55	10	0	355	11	-0.06
34	Mills SL & JM	Lockington	3563	C00996F	625	157	17	75	50	10	-0.01	383	8	-0.12
38	Batty CG, CJ & MC	Smithton	7330	T14CBBM	1,102	251	0	73	51	6	0.05	146	12	0.08
38	Thorp RD	Forest	7330	B07311Q	41	41	0	73	47	6	0.07	71	9	0.09
38	Meade JF & MB	Cudgee	3265	841874T	787	159	42	73	41	7	-0.01	294	10	-0.03
41	Oanway JE Farms	Longwarry	3816	5C0049C	1,527	799	412	72	55	7	0.06	153	11	0.07
42	Hutton TF & Sons	Capel	6271	W00088D	1,907	530	0	71	54	6	0.11	1	9	0.13

2012 Australian Breeding Values – Top Herd Summary

APR rank	Owner name	Address	Post code	National Herd ID	Cows on file	Current cows	No. of (g) cows	APR	ASI	Prot. ABV	Prot % ABV	Milk ABV	Fat ABV	Fat % ABV
Top Jersey herds based on herd average APR, August 2012 ABVs														
1	Hoey DM & L	Katunga	3640	240699A	982	243	133	105	89	9	0.19	17	17	0.3
2	Glennen & Co C	Terang	3264	850588C	2,482	478	45	103	81	6	0.24	-152	18	0.49
3	Worboys R & A	Kotta	3565	C00993T	1,052	241	0	79	58	5	0.17	-93	12	0.32
4	McManus BT & CA	Bamawn	3561	C00935T	670	121	0	67	48	4	0.15	-76	8	0.22
5	Wyss Trading P/L	Boorcan	3265	850604I	1,092	130	0	65	50	3	0.13	-89	15	0.38
6	Sealey NJ & V	Henty	3312	840537O	767	244	0	55	48	3	0.19	-161	9	0.33
6	Moscript ME CJ & JM	Leongatha Sth	3953	540300E	933	97	18	55	37	1	0.14	-162	10	0.36
8	Bacon RLG & SL	Tennyson	3572	C00859H	1,621	273	82	54	31	4	0.05	55	5	0.05
9	Gledhill BJ & JR	Nanneella	3561	C00893Q	54	32	0	51	40	5	0.07	65	6	0.04
10	Bacon C & N	Lockington	3563	C01682H	508	190	0	50	35	4	0.08	5	5	0.09
11	Dupliex DM & WH	Cobram	3644	C00430M	326	48	0	48	37	2	0.12	-106	9	0.27
12	Codling & Baker	Larpent	3249	740064P	627	173	0	45	41	0	0.24	-323	9	0.49
12	Broad L & L	Lockington	3563	240684H	1,115	274	50	45	38	6	0.02	147	5	-0.05
14	Stewart M & D	Barinsdale	3875	240198F	1,029	183	0	44	36	2	0.14	-135	9	0.3
15	VanDenBosch JH & CA	Lockington	3563	C00927B	350	44	0	43	35	1	0.2	-251	6	0.38
15	Brady P & R	Heyfield	3858	240339I	1,761	275	113	43	31	1	0.14	-167	7	0.29
17	Balnageith Jersey Stud	Warragul	3820	260037W	994	261	0	42	23	3	0.06	6	2	0.03
18	Jarvis A & L	Kergunyah	3691	C00234S	343	51	0	41	29	2	0.11	-109	6	0.23
19	Gardiner MJ	Foster Nth	3960	540114L	481	87	0	40	32	1	0.16	-190	5	0.29
19	Smethurst, B & D	Timboon	3268	650400L	591	175	75	40	29	4	0.05	69	2	-0.03
Top Red Breeds herds based on herd average APR, August 2012 ABVs														
Ayrshire														
1	NGW Farms Pty Ltd	Cobram	3643	C00402P	105	39	0	-110	-76	-11	-0.05	-308	-16	-0.04
1	McCartney RW & LL	Tatura	3616	470622G	547	71	0	-110	-91	-14	-0.09	-338	-15	-0.01
3	Howlett VW & JS	Drumborg	3304	840369R	403	44	0	-133	-118	-17	-0.08	-460	-26	-0.09
4	Carson JH & GL	Irrewillipe	3249	740170H	167	82	0	-138	-87	-10	-0.11	-154	-21	-0.21
Illawarra														
1	Carson JH & GL	Irrewillipe	3249	740170H	53	38	0	-18	-8	3	-0.09	284	-3	-0.22
2	Salisbury Anthony J	Rathdowney	4287	C00042H	391	35	0	-47	-34	-5	-0.01	-164	-9	-0.03
3	Williams GP & RC	Meningie	5264	4A1868T	1,107	344	0	-57	-35	-5	-0.02	-132	-9	-0.05
4	Farrer Ag High School	Tamworth	2340	N00418W	290	39	0	-58	-46	-6	-0.06	-86	-9	-0.08
Aussie Red														
1	Raleigh, Jan	Timboon	3268	650244V	605	181	0	82	42	5	0.05	94	8	0.06
2	Graham RW & BC	Numbaa	2540	N00555U	1,183	552	0	81	43	5	0.05	92	9	0.08
3	Taylor TA	Brucknell	3268	851139M	198	66	0	72	37	5	0.04	114	6	0.01
4	Waltham GV & JL	Glengarry	3854	240345U	519	187	0	71	37	5	0.07	36	6	0.06
Top Brown Swiss herds based on herd average APR, August 2012 ABVs														
Brown Swiss														
1	Fiechtner KJ & JC	Clifton	4361	EGCT00L	236	58	0	-7	-10	-1	-0.04	8	-2	-0.05
2	Restdown Pastoral	Rochester	3561	C00871I	1,529	531	0	-10	-4	-1	0.01	-26	-1	0
3	Brown E & Fisicaro S	Strathmerton	3641	4K0080C	73	63	0	-14	-8	-1	0.01	-38	-3	-0.02
3	Balfour PE & SM	Girgarre	3624	B21285J	421	189	0	-14	-9	-1	0.01	-53	-3	-0.01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