

Australian Dairy Herd Improvement Scheme

Australian Dairy Herd Improvement Report 2000-2001



ADHIS is supported by:



**Dairy Research and
Development Corporation**

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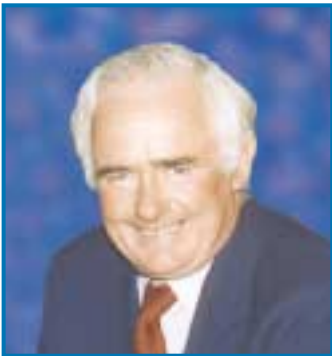
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2000/2001 Australian Dairy Herd Improvement Report – Foreword



This important statistical publication is brought to you by the National Herd Improvement Association of Australia Incorporated (NHIA) in conjunction with the Victorian Dairy Herd Improvement Fund (DHIF) and in co-operation with the Australian Dairy Herd Improvement Scheme (ADHIS) which provided the data used in this report. The report has been jointly financed by DHIF and ADHIS.

The Australian Dairy Herd Improvement Report provides a great deal of information, useful to every farmer and to other industry groups, both local and international. Copies of the report will be made available to herd improvement stakeholders all over Australia as well as providing a most useful industry resource for international visitors, researchers and others. The stakeholders of the DHIF, Victoria's dairy farmers, will have access to the report through their local herd improvement provider or, alternatively, copies may be ordered by contacting the NHIA office.

NHIA is a strong supporter of the Australian Dairy Herd Improvement Report. ADHIS, through its programs and computing facilities makes national statistics available to industry. For the purpose of this report, a co-operative approach has been taken with ADHIS to ensure the continued provision of a broad spread of information.

Australian herd recording participation in 2000/2001 amounted to 7,405 herds and 940,712 cows under test. National average milk production was 5,682 litres per cow, 229 kgs butterfat, 186 kgs protein and average lactation length was 302 days. These production figures indicate a very slight reduction from the previous year, which reflects difficult seasonal conditions. Early indications for season 2001/2002 are that production will increase yet again.

A major challenge for the Australian dairy industry is to increase the percentage of farmers who participate in herd recording, particularly in view of the well demonstrated economic benefits that accrue to farmers. The advent of stricter milk quality requirements by the industry, together with associated milk payment incentives, is conducive to higher levels of participation and NHIA intends to address this issue with a view to encouraging an increase in herd recording.

The herd improvement industry continues to face a number of challenges and opportunities following the deregulation of the market milk industry. The States that were most reliant on the premium revenue from market milk sales have already experienced an initial downward adjustment in numbers of herds. There is considerable speculation as to the likely extent of such restructuring, which has been softened by industry readjustment payments. Nevertheless, it is expected that there will be a continuing reduction in the number of dairy farms, with those that remain becoming larger operations. Concurrently, segments within the herd improvement industry continue to explore the potential for benefits through industry restructuring and rationalisation.

New herd management technology such as electronic animal identification systems, together with the availability of more affordable in-line electronic milk metering, will assist farmers in the management of larger enterprises where the number of cows per labour unit on farms also continues to increase.

A handwritten signature in blue ink, which appears to read 'Jakob Malmo'. The signature is stylized and written in a cursive-like font.

Jakob Malmo
NHIA Chairman



2000/2001 Australian Dairy Herd Improvement Report – Foreword



Maintaining the national herd improvement database and producing Australian Breeding Values involves many factors. In order to meet our aim of implementing world's best practice, the past year included several new ADHIS initiatives.

The task of building the national database starts via the collection of data on dairy farms. ADHIS wants this data to be as accurate as possible and

for this reason has always encouraged attention to cow ID at all levels of industry.

For many years ADHIS has followed the debate of national cattle traceback and has supported the concept. In 2000/2001 the National Livestock Identification Scheme (NLIS) gathered pace, as governments and cattle producers increasingly saw the need for such a scheme.

As a respected national body, ADHIS was pleased to have helped initiate and manage a project entitled "Incorporating NLIS into dairy herd improvement". This promoted the use of electronic NLIS ID for herd management and food safety. It also allowed the modification of databases for NLIS to be more easily managed by dairyfarmers in the future. ADHIS would like to thank the herd improvement centres, the Victorian Government and the Dairy Research and Development Corporation, for their support of better cattle identification. Better quality data means better ABV's.

Using ABV's is all about selecting the next generation of cows to be more profitable than the last. In 2001, ADHIS implemented the Australian Profit Ranking (APR), a selection index that uses ABV's to estimate the most profitable bulls.

The APR was developed with the assistance of a 20-member industry panel. The ADHIS staff developed and released the science required to calculate the index. This was very well received and, following additional testing, was approved for release in February 2001.

The APR recognises the contribution of production and non-production traits to dairyfarm profit. This provides a "common currency" in which farmers and companies can talk, buy and sell semen.

ADHIS released ABV's in February, May and August 2001. The APR was a feature of these releases.

Somatic Cell Count and fertility ABV's are currently being developed by researchers. Upon the completion of these projects ADHIS will review the economic and genetic parameters of these traits with the aim of including them in APR.

Two new Board members were appointed to ADHIS in 2001. We

welcome Mr Peter Owen (Victoria) and Mr Max Roberts (New South Wales). Ms Ellen Goddard left the Board after 12 months, taking up a teaching post in Canada.

As always the ADHIS Board acknowledges the continued support of Australia's herd recording farmers and their centres. We also thank the AB companies for the co-operative manner in which they do business with ADHIS. I would also like to thank the staff at William Street and at the Victorian Institute of Animal Science, for their many hours of quality work in the past year.

ADHIS is majority funded by the Dairy Research and Development Corporation (DRDC) via dairyfarmer levies and we thank DRDC for their ongoing support.



Dr Patrick Rowley
ADHIS Chairman



Dairy Industry Overview 2001



Jim Saunders
Chief Executive NHIA

The year ended 30 June, 2001 has seen the first decline in annual milk production in Australia for many years. Figures provided by the Australian Dairy Corporation indicate that approximately 10.584 billion litres were produced, a decrease of 2.8% on the previous year when 10.847 billion litres was produced. This decrease was, primarily, due to difficult seasonal conditions in a number of regions.

Within Australia, all States showed production declines for the year under review. Queensland milk production declined by 88 million litres or 10.4% which not only reflected the significant decline in milk prices following deregulation but also the commencement of inevitable major structural adjustment following deregulation. In Victoria, the largest dairy state that produces 64% of Australia's milk, there was a modest production decline of 1.4%. This decline is thought to have been due mainly to poor seasonal conditions, as initial production figures for 2001/2002 indicate that the production decline of the year under review will be more than recovered in the forthcoming year.

During the course of the year average farm gate prices paid to Australian dairy farmers contrasted sharply with the previous year. The advent of deregulation on 1 July, 2000 meant that prices paid for milk for liquid consumption generally declined. In some areas the price reduction was severe due to heavy discounting by some processors to supermarkets. On the other hand, prices for milk for

manufacturing purposes increased substantially due to increased demand on the international dairy market for manufactured products. Also, during the course of the year under review Australian dairy farmers were able to access payments from the Dairy Adjustment Authority, which was established to administer a scheme designed to ease farmer hardship in the transition to a deregulated industry.

Whilst the terms of trade of Australia's dairy farmers have been progressively tightening over many years, the bottom line effects have been offset to some extent as farmers have progressively adopted new technology and increased productivity. Herd improvement has played its part in this regard through the continuing use of artificial insemination and herd recording.

Other matters of importance to farmers which will have some effect on the future of dairy farming in Australia include natural resource issues, particularly the availability, usage and cost of water, the price of electricity in a deregulated environment, and issues related to quality and its assurance. There are also a complex myriad of other environmental, seasonal and market place issues that add an ongoing degree of uncertainty to the industry.





Report on ADHIS activities in 2001

By Robert Poole - ADHIS Executive Officer

Major ADHIS events in 2000/2001

- * Mr Peter Owen and Mr Max Roberts appointed to the ADHIS Board of Management
- * Three ABV releases in February, May and August
- * Introduction of the Australian Profit Ranking (APR)
- * ADHIS manage project "Incorporation of NLIS into dairy herd improvement"
- * ADHIS manage the production of the Countdown Downunder BMCC Awards
- * DRDC funding secured until 2004
- * Ongoing Support of national and international research projects
- * Type collection system reviewed and improved

New Appointments to the ADHIS Board of Management

At its August 2001 meeting the Australian Dairy Farmers' Federation appointed Mr Peter Owen and Mr Max Roberts to the ADHIS Board. Peter is the current president of the United Dairyfarmers of Victoria and dairyfarms in Gippsland Victoria. Max is vice-president of the New South Wales (NSW) Dairyfarmers Association. Max dairyfarms in Bega NSW.

Peter and Max join reappointed Board members Pat Rowley, Ivan Jones and Max Fehring.

ABV Release in 2001

2001 marked the second year of the industry's three-release strategy. It seems that the February ABV's continue to be most anticipated as they set the scene for bulls receiving their first publishable ABV.

May and August are used by industry to track bulls that may change throughout the year as they add test-days and daughters. In 2001 we did see a few key bulls rerank in the later ABV's.

ADHIS produced ABV flyers following each run. The August flyer was distributed to all dairyfarmers via the Australian Dairyfarmer Magazine. The ABV Book was produced following the May ABV's.





The Australian Profit Ranking

Following recommendations from an industry working party and the ADHIS Advisory Committee, the ADHIS Board approved the APR for introduction in February 2001.

The APR is an index that uses ABV's to estimate a ranking that identifies those bulls that produce the most profitable daughters. ADHIS continues to produce ABV's for all individual traits and the ASI. This provides dairyfarmers with the option to select on ASI or other combinations of traits.

Australian Profit Ranking (APR) =

$$(3.8 \times \text{Protein ABV}) + (0.9 \times \text{Fat ABV}) - (0.048 \times \text{Milk ABV}) + (3.9 \times \text{Survival Index}) + (1.2 \times \text{Milking Speed ABV}) + (2.0 \times \text{Temperament})$$

Note: Type traits and likability are part of the survival index. For traits other than production, the figure used in APR is the bull's ABV minus the breed average.

Update of the ASI

The ASI was updated to correspond with the introduction of APR. Comparing APR to ASI demonstrates the affect of the non-production traits on profit from genetic change.

The new ASI formula is:

$$\text{New ASI} = (3.8 \times \text{Protein ABV}) + (0.9 \times \text{Fat ABV}) - (0.048 \times \text{Milk ABV})$$

Survival Index

Cow survival is an important part of farm profit. Cows that milk through to maturity maximise their production potential, reduce

replacement costs and provide the farmer with the opportunity to increase genetic gain by heavier culling on production. In APR a Survival Index is used to estimate survival.

$$\text{Survival Index} = (0.25 \times \text{Survival ABV}) + (0.38 \times \text{likability}) + 1.34 \times \text{Overall Type} + 2.30 \times \text{Udder Depth} + 1.66 \times \text{Pin Set}$$

An important footnote is that the Survival Index is published as the official Survival ABV. In other words the revamped survival ABV uses predictors, as well as survival and pedigree data. The new survival ranking is reported in the same units as the current ABV.

Somatic Cell Count and Daughter Fertility

ABV's for these traits are currently being developed. Given their importance in terms of profit from dairying, these traits have been included in this study so that ADHIS can include them when ABV's are available. The exact APR weights will be reviewed when SCC and fertility ABV's are produced.

Possible future APR with SCC and Fertility included:

Australian Profit Ranking =

$$(3.8 \times \text{Protein ABV}) + (0.9 \times \text{Fat ABV}) - (0.048 \times \text{Milk ABV}) + (3.9 \times \text{Survival Index}) + (1.2 \times \text{Milking Speed ABV}) + (2.0 \times \text{Temperament ABV}) - (0.52 \times \text{SCC ABV}) + (4.9 \times \text{Fertility ABV})$$

The APR will be reviewed at least every three years or as deemed necessary by the Board because of a major change in dairy industry economics or genetic knowledge.





Incorporating NLIS into dairy herd improvement

In late 2000 funding was granted to ADHIS and Victoria's herd improvement centres to assist with the implementation of the National Livestock Identification Scheme (NLIS) and test-day automation. The Victorian State government supplied the funding.

ADHIS designed and managed this project on behalf of the Victorian Department of Natural Resources and Environment. As an adjunct to the project, the Dairy Research and Development Corporation provided funding to ADHIS, so the database aspects of NLIS could be incorporated in New South Wales, Queensland and Tasmania.

A key part of the project involved modifying herd improvement databases to store and manage the NLIS tag details.

In addition, Victorian centres were able to offer the service of tagging cows at no cost to the farmer. This included linking tagged cows to their existing herd improvement ID. Funds were also available for centres to buy equipment to automate traditional herd-test day.

The NLIS is an initiative of Safemeat and is supported and managed by Meat & Livestock Australia (MLA). In 1999, the Victorian Government distributed 1 million radio frequency, NLIS endorsed tags with the support of the dairy industry. Many such tags are now in the ears of Victorian dairy cows.

Around this time the European Union put in place requirements on Australian trade. These requirements include lifetime ID and full traceback of all movements, for cattle supplied into that market. It was considered likely that other local and overseas markets, for beef and dairy products, would introduce similar requirements in the future.

As part of the development of NLIS, many saleyards and domestic and export abattoirs throughout Australia, have installed NLIS tag reading equipment and links to the NLIS database.

The NLIS tags provide management benefits. Farmers who install them will have access to test-day automation equipment from their local herd-improvement centre. Such systems have the potential to significantly reduce the time and labor required on test-day. Cow identification has also improved in dairies using auto-ID.

A video demonstrating test-day automation using NLIS tags was made available to all Victorian dairyfarmers as part of the project.

In the medium term, NLIS tags will play a key role in maintaining the integrity of the Australian dairy and beef products. This has become more evident with recent foot and mouth disease and BSE outbreaks in Europe.





Bulk Milk Cell Count (BMCC) Awards

With expertise in the area of database construction and management, ADHIS was asked to manage the national database and calculate the necessary statistics to generate the winners for the Countdown Downunder BMCC Awards.

ADHIS undertook this task and, with the assistance of most Australian factories, created a database with some 11,000 farms represented.

ADHIS holds the data in the strictest of confidence. The task will be completed on an annual basis and will be of major assistance in the promotion of improved mastitis management.

Ongoing Support of national and international research projects

A key role of ADHIS is to provide data and technical assistance to dairy industry research projects. This is the case within Australia and overseas.

In the past year key projects in quantitative genetics focused on international evaluation using production data rather than each country's breeding values (BV's). This area was the focus of several studies involving the Holstein and Guernsey breeds. Studies aimed to reduce the affect of different models on BV's and/or better account for genetic x environment interaction.

Australia, via ADHIS, participated in these major studies. Further work must be carried before the feasibility of new techniques can be determined.

Domestically ADHIS supported several major projects into key areas including; Countdown Downunder (mastitis), InCalf (fertility monitoring), fertility BV's, SCC BV's, gene markers, protein % and calving pattern.

Most of these projects are ongoing with the exception of SCC ABV's where the research is complete and ready for implementation.

Type collection system reviewed and improved

In May 2001 the ADHIS Type Assessment Committee considered a discussion paper outlining changes to herd selection for type assessment. The Holstein-Friesian Association tabled the results of software that they proposed to use to select herds.

The aim of the software was to maximise the efficiency of type collection prior to the February ABV release.

ADHIS and artificial breeding companies supported the proposed improvements and agreed to implement the software from Spring 2001. The results of the software will be monitored carefully to ensure efficiency is maximised.



The ADHIS Board and Committees 2000/2001

ADHIS Pty Ltd Board of Management

Dr Pat Rowley, Mr Max Fehring, Mr Ivan Jones, Mr Max Roberts, Mr Peter Owen, Ms Ellen Goddard, Mr John McQueen (Secretary) and Mr Robert Poole (Executive Officer)

Note: Mr Roberts and Mr Owen joined the Board in August 2001. Ms Goddard left in January 2001.

The Board met on several occasions during 2000/2001 to consider recommendations from the various committees as well as all administrative and policy issues. The Board would like to sincerely thank all committee members who give their time to advise and assist ADHIS.

Advisory Committee

Bernie Harford (Genetics Australia), Peter Williams (RAB), Graeme Gillan (Herd Imp. Support Group), Leon Giglia (NHIA), Ken Phillips (Dairy Express), Colin Ross (CHISWA Group), Paul Quinlan (Ausherd/Tasher), Stewart McRae (Mistro Group), Doug Polson, (HFAA), Scott Joynson (AJBS), James Hill (ARCBA/RDCA) and ADHIS staff and board.

The Advisory Committee met in November 2000 and February 2001. The February meeting was held as a special forum to consider the introduction of the Australian Profit Ranking (APR). The Advisory Committee serves as the Board's main policy advisory body.

Genetics Committee

Prof. Mike Goddard (Chairman, University of Melbourne), Dr Sandy McClintock (Consultant), Dr Mick Carrick (Victorian Institute of Animal Science), Dr Julius Van der Werf (University New England), Dr Frank Nicholas (Sydney University), Dr Mick Tierney (QDPI) and ADHIS staff.

This committee met in October 2000. Key areas for consideration included Interbull issues, cow ABV's, predicting type ABV's, bull fertility, total merit indexes, somatic cell count and fertility breeding values. During the meeting Dr Kent Weigel of the University of Wisconsin made a presentation regarding borderless international genetic evaluation.

Note: During the year Dr Tierney indicated his retirement from the committee. The ADHIS Board would like to express their thanks to Dr Tierney for many years of contribution to ADHIS.

Records Standards Committee

Mr Ivan Jones (ADHIS, Chairman), Mr John Stevenson (Dairy Express), Mr Peter Nish (Tasher), Mr Frank Treasure (HISWA and CHISWA), Dr Mike Larcombe (Maffra and Mistro), Mr David Parkinson (Bovine Inseminations, Ausherd), Mr Colin Ross (CHIS) and ADHIS staff.

This committee met in May 2001. The main focus of the meeting was to review the proposed new Data Interchange Formats (DIFs). These incorporated the new National Herd ID, the National Livestock Identification Scheme and the Australian Profit Ranking. New DIFs were finalised with an implementation date of October 2001.

Type Assessment Committee

Mr Ivan Jones (Chairman), Mr David Rickard (HFAA), Mr Graeme Gillan (ABS), Mr Darryl Brown (Alta Genetics), Mr Jim Conroy (Semex), Mr Peter Thurn (Genetics Australia), Mr Peter Williams (RAB), Mr Michael Boyd (World-Wide Sires), Mr Albert McLroy (AgriGene), Mr Scott Joynson (AJBS), Mr Grant Monro, Mr David Rickard and Mr Ray Blackburn (HFAA) and ADHIS staff.

This committee met in May 2001. The key issue was the consideration of a new strategy involving new software to select herds for type assessment. These arrangements were passed at the meeting with a planned implementation from November 2001 onwards. The group also agreed to a new method of predicting the Overall Mammary score using the linear traits.



Australian Herd Recording Statistics 2000/2001

Table 1 : National and State Totals and Production Averages

State	Herds and Cows Recorded					Production Averages					Lactation Length days
	Number of Herds	Included in Averages	Excluded from Averages	Total Cows	Herd Size	Milk litres	Fat %	Fat kg	Protein %	Protein kg	
Victoria	4,267	585,151	176,068	761,219	178.4	5,527	4.0	223	3.3	182	297
New South Wales	994	109,942	29,495	139,437	140.3	6,251	4.1	254	3.4	212	323
Queensland	830	66,412	32,647	99,059	119.3	5,373	4.0	217	3.3	178	319
South Australia	540	68,293	15,095	83,388	154.4	6,736	3.9	262	3.2	215	315
Tasmania	459	67,355	26,150	93,505	203.7	4,660	4.2	194	3.3	154	278
Western Australia	315	43,559	6,793	50,352	159.8	6,729	4.0	268	3.2	212	308
Australia	7,405	940,712	286,248	1,226,960	165.7	5,682	4.0	229	3.3	186	302
<i>Victorian regions</i>											
Northern	1,840	226,126	76,756	302,882	164.6	5,755	4.0	233	3.3	190	300
Eastern	1,401	205,320	44,573	249,893	178.4	5,263	4.1	215	3.3	172	295
Western	1,026	153,705	54,739	208,444	203.2	5,543	4.0	220	3.3	183	296

Table 1 : National Totals and Production Averages 1997 to 2001

1997/98	7,292	897,799	78,271	976,070	133.9	5,254	4.1	213	3.3	171	298
1998/99	7,175	952,073	83,266	1,035,339	144.3	5,497	4.1	224	3.3	181	302
1999/2000	6,976	947,104	81,129	1,028,233	147.4	5,691	4.0	230	3.3	187	302

National Benchmark

There were an estimated 2.2 million dairy cows in Australia in 2000/2001. Of these 1.226 million were individually herd-recorded.

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	4,267	108	188	405	679	937	799	568	210	76	38
New South Wales	994	11	16	43	69	129	170	191	148	86	49
Queensland	830	30	53	88	128	157	126	73	39	20	7
South Australia	540	3	12	26	29	65	91	118	97	51	29
Tasmania	459	44	41	68	98	81	43	26	9	2	1
Western Australia	315	1	2	8	21	29	64	57	64	27	30
Australia	7,405	197	312	638	1,024	1,398	1,293	1,033	567	262	154
<i>Victorian regions</i>											
Northern	1,840	43	62	141	221	399	409	293	118	45	17
Eastern	1,401	35	78	146	284	318	234	156	43	17	8
Western	1,026	30	48	118	174	220	156	119	49	14	13

All statistics are based on Australian herd recorded dairy cows in the 2000/2001 year. Source: ADHIS Pty Ltd

Australian Herd Recording Statistics 2000/2001

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	4,267	120	265	638	1,030	957	620	258	85	24	11
New South Wales	994	10	19	52	124	181	210	170	97	32	17
Queensland	830	29	58	117	179	171	92	58	12	4	1
South Australia	540	8	14	33	57	105	129	104	51	14	6
Tasmania	459	43	60	111	111	44	33	9	1	0	1
Western Australia	315	1	2	17	42	68	75	63	21	10	4
Australia	7,405	211	418	968	1,543	1,526	1,159	662	267	84	40

Victorian regions

Northern	1,840	46	90	217	386	480	335	139	39	11	5
Eastern	1,401	42	103	271	399	287	146	53	12	5	1
Western	1,026	32	72	150	245	190	139	66	34	8	5

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	156,695	4,917	3.96	195	3.24	159	306
3 Year Old	166,051	5,507	4.03	222	3.30	182	307
Mature Cow	617,966	5,923	4.04	239	3.28	194	300
Total	940,712	5,682	4.02	229	3.28	186	302

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	156,695	200	179	164	145
3 Year Old	166,051	230	204	189	166
Mature Cow	617,966	254	220	206	178
Total	940,712	238	213	195	172

All statistics are based on Australian herd recorded dairy cows in the 2000/2001 year. Source: ADHIS Pty Ltd

Rule change for 2000/2001 statistics

As a result of work carried out by ADHIS, it was decided to change the criteria for cows to be excluded from the statistics. We feel the new rules better reflect the number of cows under test. The EXCLUDED category now also contains any cow that calved and had the opportunity to reach 305 days or be terminated in that year. This captures cow data where a lactation termination date is never entered.

So while the cows included in the stats fell slightly, the total cows, encompassing those excluded from the stats, went up considerably, due to this rule change. The overall number of cows under test is now reported as about 55%.

How do we decide which cows should be included in the statistics?

- Cows are considered for inclusion in the statistics if;
 - they had a lactation that reached 305 days between July 1 and June 30 of the following year or
 - they were terminated between these dates and had not reached 305 days prior to July 1.
- A cow is only counted once where;
 - the same data is supplied for the cow in more than one herd
 - more than one lactation record is supplied that satisfies the criteria.
- There must be at least 30 cows in a herd in order for the cows to be included in the statistics.
- Cows which pass the above tests are included in the total number of recorded cows and hence in the average herd size.
- Cows are not included in the production averages if;
 - the termination date is less than the calving date
 - the lactation exclusion code is set to R indicating it should be rejected
 - the standard milk yield is not provided or yield is not valid
 - the first test date is before the calving date
- Cows are automatically excluded from the production averages for any of the following reasons:
 - lactation length is less than 120 days
 - first test is more than 100 days after calving
 - heifer that calved at less than 18 months of age
 - interval between tests is greater than 150 days

Australian Herd Recording Statistics 2000/2001

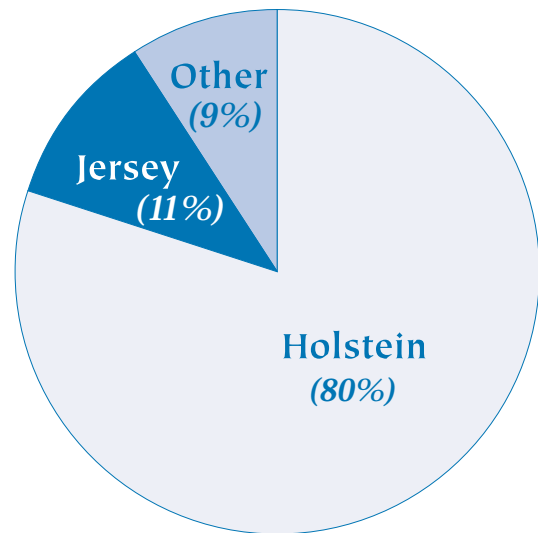
Table 6: Production Averages by Percentage of Artificially Bred Cows in Herds

Percentage of Artificially Bred Cows in Herd	Number of Herds	Production Average		
		Milk litres	Fat kg	Protein kg
< 10	998	4,851	196	159
10-19	317	4,985	202	164
20-29	341	5,205	210	172
30-39	367	5,326	215	175
40-49	451	5,522	221	180
50-59	615	5,672	229	186
60-69	733	5,798	233	190
70-79	887	6,013	242	197
80-89	952	6,005	240	197
> 89	1,744	6,072	244	198
Total	7,405	5,682	229	186

All statistics are based on Australian herd recorded dairy cows in the 2000/2001 year.
Source: ADHIS Pty Ltd

National Benchmark

70% of herd-recorded cows are bred via artificial insemination.



Proportion of cows by breed where breed is known

Table 7 : Production Averages by Breed

Breed	Number of Cows	Production Averages					Lactation Length days
		Milk litres	Fat %	Fat kg	Protein %	Protein kg	
Holstein	654,737	6,048	3.91	237	3.22	195	305
Jersey	91,964	4,335	4.91	213	3.70	161	296
Holstein/Jersey Cross	38,285	5,143	4.37	225	3.44	177	294
Guernsey	4,144	4,626	4.37	202	3.51	163	309
Ayrshire	7,494	4,797	4.08	196	3.32	159	297
Dairy Shorthorn	660	4,268	3.84	164	3.27	139	285
Illawarra	11,547	5,043	4.06	205	3.45	174	301
Unknown Breed	122,179	5,105	4.01	205	3.27	167	294
Simmental	397	5,763	3.94	227	3.26	188	300
Red Poll	42	4,703	3.99	188	3.29	155	282
Meuse-Rhine-Issel	17	5,486	4.28	235	3.46	190	319
Aust Milking Zebu	76	4,587	4.19	192	3.34	153	316
Commercial Dairy	126	5,687	4.05	230	3.38	192	304
Aust Red Breed	5,831	5,106	4.22	216	3.44	176	296
Brown Swiss	3,020	5,025	4.18	210	3.46	174	308
Aust Friesian Sahiwal	193	4,028	4.33	175	3.60	145	281
Total	940,712	5,682	4.02	229	3.28	186	302

Australian Herd Recording Statistics 2000/2001

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	25,182	2.7	6,127	4.06	248	3.31	203	324
February	29,613	3.1	6,150	4.05	249	3.34	205	327
March	49,028	5.2	6,079	4.00	243	3.29	200	325
April	61,941	6.6	6,004	4.01	241	3.29	197	317
May	76,380	8.1	5,924	3.98	236	3.28	194	311
June	88,784	9.4	5,771	3.98	229	3.28	190	305
July	123,101	13.1	5,514	4.04	223	3.29	181	299
August	223,926	23.8	5,519	4.07	224	3.30	182	294
September	150,302	16.0	5,530	4.04	223	3.27	181	290
October	61,124	6.5	5,414	4.01	217	3.22	174	290
November	28,383	3.0	5,656	4.01	227	3.24	183	308
December	22,948	2.4	5,953	4.02	239	3.26	194	316
Australia	940,712	100	5,682	4.02	229	3.28	186	302

National Benchmark

53% of herd recorded cows calve in the months of July/August/September in 2000/2001.

Table 9: 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	0	1	3	5	8	11	16	29	18	6	2	1
New South Wales	8	9	10	9	8	8	9	10	9	7	7	7
Queensland	8	9	10	9	9	9	9	8	7	7	7	7
South Australia	4	6	10	11	10	8	10	14	12	7	5	4
Tasmania	0	1	3	5	4	1	7	40	28	9	1	0
Western Australia	12	10	10	8	7	7	8	7	7	6	7	10
Australia	3	3	5	7	8	9	13	24	16	6	3	2

Victorian regions

Northern	0	1	3	5	3	3	7	38	27	9	3	1
Eastern	0	1	3	4	5	8	22	32	18	5	1	0
Western	0	1	4	8	20	27	19	12	5	2	1	0

All statistics are based on Australian herd recorded dairy cows in the 2000/2001 year. Source: ADHIS Pty Ltd

Australian Herd Recording Statistics 2000/2001

Table 10: Production Averages by Breed, Age Group, Mating Type and Registration

	Number of Cows	Production Averages					Lactation Length days
		Milk litres	Fat %	Fat kg	Protein %	Protein kg	
Holstein							
2 Year Old	118,446	5,149	3.84	198	3.19	164	308
3 Year Old	122,612	5,818	3.90	227	3.25	189	309
Mature Cow	413,679	6,374	3.94	251	3.23	206	303
Total	654,737	6,048	3.91	237	3.22	195	305
Artificially Bred	460,022	6,219	3.90	242	3.22	200	307
Naturally Bred	194,715	5,645	3.95	223	3.24	183	300
Pure Bred	88,134	7,087	3.87	275	3.23	229	328
Grade	566,603	5,887	3.93	231	3.23	190	302
Jersey							
2 Year Old	18,055	3,894	4.77	186	3.60	140	301
3 Year Old	17,899	4,246	4.91	208	3.71	157	298
Mature Cow	56,010	4,505	4.96	223	3.73	168	294
Total	91,964	4,335	4.91	213	3.70	161	296
Artificially Bred	59,698	4,537	4.89	222	3.69	167	299
Naturally Bred	32,266	3,960	4.96	196	3.73	148	292
Pure Bred	20,316	4,670	5.05	236	3.78	176	310
Grade	71,648	4,240	4.88	207	3.69	156	292
Holstein/Jersey Cross							
2 Year Old	7,309	4,437	4.32	192	3.38	150	298
3 Year Old	7,409	4,904	4.39	215	3.47	170	295
Mature Cow	23,567	5,438	4.38	238	3.44	187	292
Total	38,285	5,143	4.37	225	3.44	177	294
Artificially Bred	21,498	5,424	4.35	236	3.43	186	296
Naturally Bred	16,787	4,784	4.40	211	3.45	165	291
Pure Bred	0	0	0	0	0	0	0
Grade	38,285	5,143	4.37	225	3.44	177	294
Guernsey							
2 Year Old	576	3,987	4.24	169	3.38	135	305
3 Year Old	888	4,436	4.33	192	3.48	155	319
Mature Cow	2,680	4,827	4.42	213	3.55	171	307
Total	4,144	4,626	4.37	202	3.51	163	309
Artificially Bred	2,195	4,842	4.34	210	3.50	170	316
Naturally Bred	1,949	4,383	4.41	193	3.52	154	302
Pure Bred	1,397	4,935	4.38	216	3.56	176	328
Grade	2,747	4,469	4.37	195	3.48	156	300
Ayrshire							
2 Year Old	1,058	4,020	4.09	164	3.28	132	299
3 Year Old	1,390	4,425	4.10	181	3.34	148	304
Mature Cow	5,046	5,063	4.08	207	3.33	169	294
Artificially Bred	3,980	5,043	4.10	207	3.32	167	302
Naturally Bred	3,514	4,519	4.07	184	3.34	151	290
Pure Bred	1,969	5,238	4.13	216	3.32	174	311
Grade	5,525	4,640	4.08	189	3.34	155	291

All statistics are based on Australian herd recorded dairy cows in the 2000/2001 year. Source: ADHIS Pty Ltd

Australian Herd Recording Statistics 2000/20001

Table 10: (continued)

	Number of Cows	Production Averages					Lactation Length days
		Milk litres	Fat %	Fat kg	Protein %	Protein kg	
Illawarra							
2 Year Old	1,663	4,460	4.01	179	3.40	151	315
3 Year Old	2,484	4,756	4.04	192	3.45	164	307
Mature Cow	7,400	5,270	4.11	216	3.49	184	296
Total	11,547	5,043	4.06	205	3.45	174	301
Artificially Bred	6,924	5,272	3.99	210	3.38	178	306
Naturally Bred	4,623	4,699	4.14	195	3.53	166	294
Pure Bred	4,360	5,592	4.00	224	3.44	192	309
Grade	7,187	4,710	4.10	193	3.45	163	297
Unknown Breed							
2 Year Old	7,404	4,637	3.99	185	3.24	150	302
3 Year Old	11,187	5,029	4.04	203	3.31	167	308
Mature Cow	103,588	5,146	4.01	206	3.27	168	291
Total	122,179	5,105	4.01	205	3.27	167	294
Artificially Bred	1,207	5,753	3.97	229	3.27	188	306
Naturally Bred	120,972	5,098	4.01	204	3.27	167	293
Pure Bred	0	0	0	0	0	0	0
Grade	122,179	5,105	4.01	205	3.27	167	294
Aust. Red Breed							
2 Year Old	1,348	4,470	4.22	189	3.41	153	303
3 Year Old	1,209	4,963	4.19	208	3.46	172	301
Mature Cow	3,274	5,421	4.24	230	3.45	187	292
Total	5,831	5,106	4.22	216	3.44	176	296
Artificially Bred	4,854	5,216	4.23	221	3.44	179	297
Naturally Bred	977	4,558	4.15	189	3.43	156	290
Pure Bred	539	6,580	4.22	278	3.46	228	309
Grade	5,292	4,956	4.22	209	3.44	170	295
Brown Swiss							
2 Year Old	621	4,371	4.06	178	3.35	147	315
3 Year Old	676	4,886	4.12	202	3.45	169	313
Mature Cow	1,723	5,314	4.25	226	3.51	186	303
Total	3,020	5,025	4.18	210	3.46	174	308
Artificially Bred	2,194	5,124	4.21	216	3.47	178	308
Naturally Bred	826	4,761	4.10	195	3.46	165	306
Pure Bred	495	5,506	4.10	226	3.54	195	326
Grade	2,525	4,930	4.20	207	3.45	170	304
Other Breeds							
2 Year Old	215	4,277	3.87	166	3.24	139	298
3 Year Old	297	4,345	4.09	178	3.41	148	293
Mature Cow	999	5,033	3.97	200	3.31	167	290
Total	1,511	4,790	3.97	190	3.32	159	292
Artificially Bred	780	5,253	3.96	208	3.30	174	301
Naturally Bred	731	4,297	4.01	172	3.36	145	282
Pure Bred	126	4,238	3.66	155	3.13	133	298
Grade	1,385	4,841	4.02	195	3.36	162	291

All statistics are based on Australian herd recorded dairy cows in the 2000/2001 year. Source: ADHIS Pty Ltd

Australian Herd Recording Statistics 2000/2001

Table 11: Production Averages of Stud Cows

Breed	Number of Cows	Production Averages					Lactation Length days
		Milk litres	Fat %	Fat kg	Protein %	Protein kg	
Holstein	88,134	7,087	3.87	275	3.23	229	328
Jersey	20,316	4,670	5.05	236	3.78	176	310
Guernsey	1,397	4,935	4.38	216	3.56	176	328
Ayrshire	1,969	5,238	4.13	216	3.32	174	311
Illawarra	4,360	5,592	4.00	224	3.44	192	309
Aust Red Breed	539	6,580	4.22	278	3.46	228	309
Brown Swiss	495	5,506	4.10	226	3.54	195	326
Total	117,210	6,547	4.10	264	3.34	216	324

Table 12: Production Averages of Artificially Bred Stud Cows

Breed	Number of Cows	Production Averages					Lactation Length days
		Milk litres	Fat %	Fat kg	Protein %	Protein kg	
Holstein	66,001	7,161	3.86	277	3.22	231	329
Jersey	13,765	4,868	4.99	243	3.75	182	310
Guernsey	997	5,072	4.38	222	3.58	182	329
Ayrshire	1,213	5,312	4.11	218	3.29	175	313
Illawarra	2,589	5,825	3.98	232	3.42	199	312
Aust Red Breed	479	6,667	4.24	283	3.47	231	310
Brown Swiss	365	5,677	4.13	234	3.54	201	328
Total	85,409	6,692	4.06	268	3.32	221	325

All statistics are based on Australian herd recorded dairy cows in the 2000/2001 year. Source: ADHIS Pty Ltd

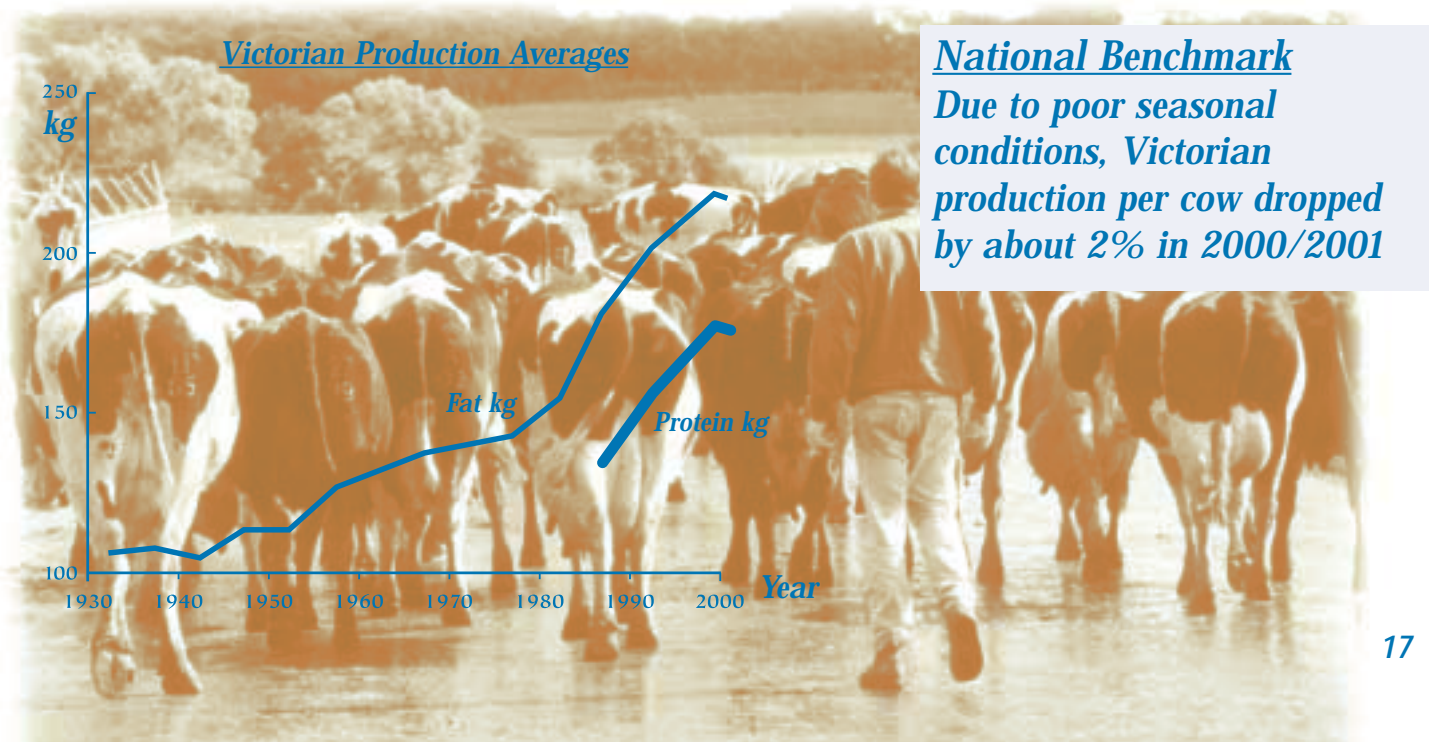


Australian Herd Recording Statistics 2000/2001

Table 13: Victorian Production Averages 1930/1931 - 2000/2001

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

All statistics are based on Australian herd recorded dairy cows in the 2000/2001 year. Source: ADHIS Pty Ltd



Countdown Downunder 2001- trends in herd milk cell counts



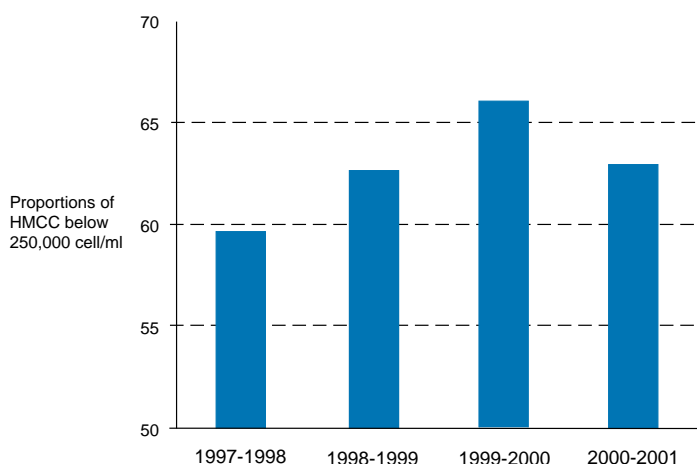
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Bulk milk cell counts have become a core measure of milk quality sold at the farm gate. Production of high quality milk carries significant economic incentives with premium milk payments typically being about one cent per litre extra. For instance a herd of 200 cows producing 5,000 litres per cow, supplying milk with a cell count below the premium threshold earns the farm an extra \$10,000 per annum.

The Australian dairy industry is actively working towards maximising milk quality and farm profitability with a goal of having 90% of the national supply below a bulk milk cell count 250,000 cells per millilitre.

Bulk milk cell counts have not been collated nationally so Countdown Downunder and ADHIS have developed a measure to monitor changes in herd cell counts - termed the Herd Milk Cell Count. This is a volume weighted herd average of individual cow cell counts and includes data from each test day for every milk recording herd. The measure is calculated annually as part of the herd improvement statistics and has been reported for the past three years.

The baseline figure showed that in 1997-1998, before Countdown began, 63% of Herd Milk Cell Counts were below 250,000 cells/mL. This figure gradually improved to 67% over the next four years, but there is still a fair way to go to reach the target of 90%.



Slowing of the rate of progress is an early warning to take action – this graph shows the proportion Herd Milk Cell Counts below 250,000 cells/mL in herds milking more than 300 cows

This year's data shows that, for the first time since the monitoring began, the proportion of Herd Milk Cell Counts below 250,000 cells/mL has not improved in herds milking more than 300 cows (graph). In contrast smaller herds are making consistent progress (table).

Herd size	Proportion of HMCC below 250,000 cells/mL			
	1997-1998	1998-1999	1999-2000	2000-2001
Less than 150 cows	64%	65%	66%	67%
150-299 cows	63%	66%	69%	68%
More than 300 cows	60%	63%	66%	63%

Smaller herds have more Herd Milk Cell Counts below 250,000 cells/mL and are making consistent progress toward the industry goal

Slowing of the rate of progress in larger herds is an early warning to take action. Management of mastitis and milk quality is more complex in large herds and herds that are in the process of expanding – nevertheless many large herds do have all counts below 250,000 cells/mL.

Managers of larger herds can use this warning to focus on preventing mastitis problems. For example, herds employing labour should plan for training and communication for staff so everyone uses good, consistent routines and important information circulates within the farm team. Herds that buy-in cows should ensure that they have purchase protocols that include checking individual cow cell count data of cows.

Countdown Downunder provides farmers with practical methods of achieving high quality milk. Courses are available to help farmers construct mastitis and milk quality plans for their own farms. For more information on the Countdown Downunder Farmer Short Courses, phone 1800 777 530.





Top Herds Summary

ADHIS has listed the August 2001 National Top 2% Herd Average ABVs based on the ADHIS Australian Selection Index (ASI). The formula for the ASI is:

$$\text{ASI} = 3.8 \times \text{Protein ABV} + 0.9 \times \text{Fat ABV} - 0.048 \times \text{Milk ABV}$$

Herds are included in the averages if they have at least 30 current straightbred* cows of the same breed. Current cows are defined as those that commenced a lactation within the 30 months prior to the release of the ABVs on 20 August 2001.

The lists of the top 2% Herd Average ABVs for these breeds are presented in order of Australian Selection Index. The names of the owners of herds detailed in these lists were supplied by the Milk Recording Centres when production records were provided to ADHIS by 18 July 2001.

The Top 2% herd listings can be found on our website < www.adhis.com.au >

The following table gives the National distribution of herd average ABVs based on the ASI.

Breed	No. of Herds	Top 50%	Top 40%	Top 30%	Top 20%	Top 10%	Top 5%	Top 2%
Holstein	5,626	-2	0	2	5	9	13	18
Jersey	837	-4	0	4	9	16	22	30
Illawarra	142	-14	-10	-6	-2	2	6	20
Ayrshire	64	-4	0	3	9	15	19	34
Australian Red Breed	42	36	39	42	51	53	54	56
Guernsey	42	-2	0	3	8	11	15	21

If a Holstein herd has an average ASI of 9 or better, it is among the top 10% of Holstein herds in Australia for ASI. Likewise, Guernsey herds with an average ASI of 3 or better are in the top 30% of Guernsey herds receiving ABVs.

* Cows were included in the herd average for a breed if they had the same breed of Sire and MGS (if known) and the breed of their Sire was the same breed as all four characters in their breed code (if known). For the red breeds (Illawarra, Ayrshire and Australian Red Breed), the rules were relaxed so that cows were included in the averages if any of the red breeds were Sire and MGS, or appeared in their breed code.

Herd Size Distribution for herd-recorded herds 2000/2001

Herd Size	Victoria	%	NSW	%	Qld	%	SA	%	Tas	%	WA	%	Australia	%
< 100	865	20.3	388	39.0	406	48.9	181	34	92	20	85	27	2,017	27
100 - 149	1,191	27.9	279	28.1	220	26.5	159	29	103	22	93	30	2,045	28
150 - 199	881	20.6	144	14.5	114	13.7	86	16	88	19	51	16	1,364	18
200 - 249	551	12.9	86	8.7	47	5.7	49	9	64	14	45	14	842	11
250 - 299	307	7.2	40	4.0	21	2.5	24	4	41	9	20	6	453	6
300 - 349	179	4.2	24	2.4	13	1.6	13	2	23	5	8	3	260	4
350 - 399	105	2.5	15	1.5	3	0.4	5	1	5	1	4	1	137	2
400 - 449	66	1.5	8	0.8	3	0.4	6	1	13	3	1	0	97	1
450 - 500	36	0.8	2	0.2	1	0.1	5	1	6	1	3	1	53	1
> = 500	86	2.0	8	0.8	2	0.2	12	2	24	5	5	2	137	2
Total	4,267		994		830		540		459		315		7,405	
Average Herd Size	178.4		140.3		119.3		154.4		203.7		159.8		165.7	

National Benchmark 45% of herd recorded herds are now above 150 cows. The average number of cows per herd in Tasmania and Western Victoria has passed the 200 mark.



August 2001 Bull Average ABVs™

Ranges, Means, Distributions & Top 1% ABV's August 2001 - All Breeds (Publishable NASIS Bulls born 1985 onwards)
All traits excluding conformation

Breed		ASI	Prot	Prot%	Milk	Fat	Fat%	Milking Speed	Temper-ament	Likability	Survival
Holstein	Number of Bulls	2551	2551	2551	2551	2551	2551	2098	2098	2098	2329
	Mean	2.1	1.1	-0.011	61.3	0.6	-0.028	90.2	90.4	91.1	4.9
	Stand Dev.	28.9	9.6	0.107	421.8	13.8	0.258	3.1	2.2	2.3	3
	Minimum	-131	-35	-0.49	-1429	-56	-0.87	73	76	79	-8
	Maximum	114	39	0.43	1381	54	0.99	97	95	96	13
	Top 1%	69	24	0.24	1067	34	0.57	95	94	95	11
Jersey	Number of Bulls	364	364	364	364	364	364	282	282	282	312
	Mean	8.2	3	0.02	60.3	1.1	-0.04	90.9	90.3	91	8.8
	Stand Dev.	48.7	14.8	0.169	551.2	20.6	0.399	2.8	2.2	2.6	5.5
	Minimum	-165	-44	-0.64	-1725	-81	-1.05	74	83	78	-13
	Maximum	130	38	0.5	1259	65	1.24	96	96	96	19
	Top 1%	100	32	0.45	1087	39	0.96	95	95	96	19
Illawarra	Number of Bulls	110	110	110	110	110	110	104	104	104	92
	Mean	-8.7	-1.3	0.003	-54.1	-6.4	-0.058	87.1	89.7	87.3	-3.2
	Stand Dev.	45.5	12.7	0.097	518.8	22.6	0.193	4.3	2.3	2.8	4.3
	Minimum	-113	-29	-0.28	-1123	-60	-0.58	72	81	79	-16
	Maximum	96	32	0.29	1200	48	0.45	94	95	94	8
	Top 1%	91	25	0.21	1014	45	0.39	94	94	93	8
Ayrshire	Number of Bulls	63	63	63	63	63	63	33	33	33	42
	Mean	6.2	1.4	-0.015	80.6	4.5	0.016	89.5	88.7	87.4	-1.8
	Stand Dev.	31.8	8.5	0.097	368.9	17.3	0.185	2.6	2.9	2.9	2.6
	Minimum	-55	-15	-0.22	-766	-27	-0.32	83	78	80	-6
	Maximum	74	22	0.21	1042	52	0.72	93	92	92	5
	Top 1%	74	22	0.21	1042	52	0.72	93	92	92	5
Guernsey	Number of Bulls	59	59	59	59	59	59				
	Mean	13.6	3.6	-0.001	125.2	6.5	0.019				
	Stand Dev.	38.4	11.4	0.14	481.5	17.8	0.373				
	Minimum	-131	-39	-0.29	-1405	-56	-0.68				
	Maximum	84	22	0.34	1052	40	1.14				
	Top 1%	84	22	0.34	1052	40	1.14				
Australian Red Breed	Number of Bulls	57	57	57	57	57	57	45	45	45	47
	Mean	47.3	11.4	0.093	239.8	20.4	0.146	90	90	89.1	3
	Stand Dev.	31.2	9	0.107	348.6	15.2	0.218	3.5	2.3	2.6	2.3
	Minimum	-28	-7	-0.13	-540	-20	-0.39	80	84	81	-1
	Maximum	111	32	0.3	1074	55	0.71	95	95	95	9
	Top 1%	111	32	0.3	1074	55	0.71	95	95	95	9
Brown Swiss	Number of Bulls	45	45	45	45	45	45				
	Mean	9.6	2.7	0.012	74.1	4	0.01				
	Stand Dev.	18.4	4.7	0.109	166.9	9	0.163				
	Minimum	-28	-7	-0.27	-322	-17	-0.24				
	Maximum	46	15	0.24	521	24	0.44				
	Top 1%	46	15	0.24	521	24	0.44				

Source: ADHIS Pty. Ltd. (This information for type traits at www.adhis.com.au)

Reasons why cows do not get ABVs™

1. COWS REJECTED - FOR ALL BREEDS

Cow information has to satisfy the following criteria:

- A. Cows must have a unique national I.D
- B. Cows must have a valid date of birth relative to sire and dam.
- C. Cows must have a known sire which has also been given an ABV.
- D. Cow breed must be consistent with sire breed.
- E. If a cow is by an A.I sire then semen must have been available for that sire at the time of conception.

Examples of the above:

- A. Two cows were allocated the same national I.D, the second would be rejected.
- B. Cows date of birth is listed as prior to its sire or dam.
- C. Sire is unknown
- D. Cow is listed as Holstein but its sire is listed as a Jersey.
- E. Cow's sire did not have semen available at the time of conception.

2. LACTATIONS REJECTED

Lactations information has to satisfy the following criteria:

- A. Cow must be less than 20 years old at calving.
- B. Cow must be more than 18 months old at calving
- C. A lactation that is too close to another or overlaps another is rejected.

Examples of the above:

- A. Incorrect date of birth makes the cow appear too old on the system

- B. Incorrect date of birth makes the cow appear too young on the system
- C. Incorrect calving dates make the lactations appear too close together

3. TESTS REJECTED

Test day information has to satisfy the following criteria:

- A. The test date must be valid.
- B. Raw milk test must be less than 80 litres.
- C. Raw test milk must be greater than 1 litre.
- D. Raw test fat must be less than 9%.
- E. Raw test protein must be less than 8%.
- F. The test day exclusion code must not be set.
- G. The first test day must be conducted within the first 100 days of lactation.
- H. The interval between consecutive test days must be greater than 2 days and less than 120 days. All tests for a lactation following such an interval are rejected.
- I. If either milk fat or protein is not present, the test is rejected.
- J. Test days must be between 5 and 305 days to be included in the ABV.

4. OTHER CONDITIONS

- A. A bull will receive an ABV if it is recorded on the NASIS file.
- B. Any animal must have at least two known relatives to receive an ABV.
- C. A natural service sire must be on the ADHIS bull file to receive an ABV.



Dairy Herd Improvement Fund

The Dairy Herd Improvement Fund (DHIF) is a unique State based Research and Development (R&D) Fund which is focussed towards facilitating R&D for dairy herd improvement in the State of Victoria.

For many years funds have been raised by a modest levy on the annual dairy farm licences paid by Victorian dairy farmers. The money was then paid to NHIA, the statutory Fund Manager. NHIA has worked closely with industry representative groups and particularly the United Dairyfarmers of Victoria (UDV) to ensure targeted cost effective expenditure from the Fund. With the advent of deregulation, the UDV reviewed its priorities and the traditional source of revenue for the Fund has been discontinued. However, for the first two years of deregulation, the Fund Manager has been able to arrange for approximately 50% of prior revenue to flow to DHIF from the Geoffrey Gardiner Foundation for expenditure on projects consistent with previous Fund activity.

The longer term future of the DHIF is unclear due to the cessation of traditional funding. In the short term, the targeted use of reserves, together with royalty revenues from patents, are likely to permit the Fund to continue.

The DHIF has been responsible for a number of significant R&D projects in recent times including:

- The development of an affordable generic in-line milk meter in conjunction with the Milking Research Centre at Ellinbank in Victoria. This development was highly successful and the commercialising company is Radiometer Pacific Pty Ltd. The new Eli Milk Meter is now commercially available on the Australian market featuring patented conductivity measurement.
- The development and assessment of a mobile scanning system for radio frequency identification ear tags with a view to making herd test day easier and more effective for stakeholders.
- The development of standards and specifications for herd recording under in-line milk metering and constant monitoring conditions. These specifications have been adopted by the Australian herd recording industry and the research paper has been presented to the International Committee on Animal Recording.
- The provision of fat and protein and also somatic cell reference samples, free of charge, to all Victorian herd recording laboratories. This service ensures a consistency in approach with the calibration of electronic analytical machines and also ensures that every laboratory is referencing its machines from milks from the same source.
- The development of an accreditation program for professional AI technicians. This program is offered commercially and attests to a participant's theoretical understanding and knowledge of all aspects of professional AI insemination and incorporates a stringent practical examination. Graduates of the program, through their certification, provide assurance to their employers and comfort to their customers that they have exceeded set minimum standards agreed by industry for professional AI technicians.





- The development of a Code of Practice for the Handling of Semen and Embryos. This program will provide a set of minimum industry standards for this important work and will complement the above program for professional AI technicians.
- Supporting the development of improved OH&S practises in the HI industry through an instructional video. This project was supported by a number of HI centres and the video has been widely distributed.
- Research into the effect of the elapsed time from the loading of the insemination gun to the time of insemination on conception rates achieved by professional inseminators.
- Research towards improved cow fertility and survival in the herd using data from industry sources to develop ABV's for the above traits. Fertility and survival are two major issues for the Australian dairy industry. The project seeks to better utilise industry data to provide producers with useful information that will assist them to select sires that will contribute towards an overall improvement in fertility and survival.
- The provision of seed funding for a major project to seek to describe and produce solutions to overcome the 'Phantom Cow Syndrome'. The syndrome severely limits the achievement of 75% incalf rates at six weeks in seasonal mating herds.

Subsequent to the DHIF investment in this project funds have been gained from the Commonwealth which will permit a full investigation being undertaken into this major herd fertility problem.

This Australian Dairy Herd Improvement Report is a further example of the work of the DHIF. In conjunction with the Australian Dairy Herd Improvement Scheme, this publication provides industry, researchers, educators and international colleagues with a statistical snapshot of performance within the herd improvement industry together with much valuable information on herd improvement in Australia.



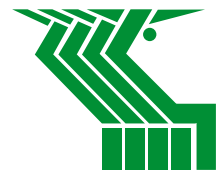
August 2001 Bull ABVs

Top 40 ABV Holstein on APR with semen available

Rank	Bull ID	Bull Name	Defect	Production Traits							
				APR	Rel	ASI	Prot	Prot%	Milk	Fat	Fat%
1	FATAL	FATAL	BL	175	89	144	44	0.37	897	22	-0.23
2	DONOR	ELITE MOUNTAIN DONOR IMP (E.T)		150	82	126	41	0.07	1383	41	-0.26
3	GIBBON	GIBBON		135	83	118	40	0.21	1076	20	-0.37
4	RAMESES	LOHAVON RAMESES	TC	128	82	104	32	0.04	1109	40	-0.11
5	GOLDBULLION	ELITE GOLD BULLION-IMP-ET		126	69	107	31	0.04	1063	45	0.00
6	NLDCASH	EASTLAND CASH	TL	113	92	88	25	0.16	617	25	-0.02
7	ARCADE	RENGAW BELLWOOD ARCADE-ET		110	84	99	30	0.02	1069	40	-0.08
8	MAGLEY	PETICOTE US MSC MAGLEY-ET		110	94	96	27	0.28	442	16	-0.04
9	CAREY	MARION DALE CAREY		109	87	107	35	0.06	1177	34	-0.23
10	SOUBEAU	CLIVEDALE SOUTHWIND BEAU	TL	101	73	95	28	-0.01	1058	44	-0.02
11	GRAVITA	CARENDA GRAVITY		100	79	82	20	0.09	574	37	0.18
12	GOLDJUROR	AULDREEKIE GOLDEN JUROR-ET		98	76	71	24	0.05	791	20	-0.20
13	TRUMAN	PARWAN PARK LEADING TRUMAN IMP ET		96	84	87	20	0.19	367	32	0.24
14	WINSOME	EUREKA WINSOME-IMP-ET		94	83	86	23	0.18	492	25	0.06
15	PAULODIEGO	PAULO-BRO MASCOT DIEGO-ET	TL	92	90	89	26	0.15	672	25	-0.05
16	MATEMAN	LOHAVON MATEMAN		91	79	77	22	-0.09	995	46	0.05
17	TOLEDO	RENGAW MANHATTAN TOLEDO-ET		89	77	75	25	0.00	926	27	-0.18
18	ECKLIN	TOPSPEED COSMOS-IMP-ET		88	78	83	21	0.12	550	33	0.14
19	VOLCANO	ELMAR MISSION	TC	87	84	74	20	0.09	559	28	0.06
20	ALLORA	HILL VALLEY MASCOT ASTRONAUT ET		86	89	70	18	0.08	518	29	0.10
21	HO1181	COMESTAR LEADER		86	98	50	19	0.07	573	6	-0.27
22	GRANSEC	ELMAR GRAND SECRET	TCTL	85	86	69	18	0.10	474	26	0.08
23	HOJAY	CAERNARVON JAY		85	94	48	14	-0.13	765	35	0.03
24	REFRESH	BIG RIVER REFRESH		84	88	77	22	0.22	388	13	-0.05
25	SHOWBIZ	WESTDAMA STAR TARZAN		84	92	73	2	0.27	-460	48	0.97
26	SHOLUDE	KATTALLY LP PRELUDE ET		82	84	67	7	0.21	-155	37	0.63
27	ZIRCON	PEN-COL CELSIUS DEWAN-IMP-ET		82	88	64	18	0.06	552	25	0.02
28	TRINITY	BELMONT MASCOT TRITON		81	77	67	21	0.12	534	14	-0.13
29	CAPELLA	KENRON AUSSIE MANAGER	TC	80	80	64	23	-0.16	1169	36	-0.20
30	9H1401	BIS-MAY S-E-L MOUNTAIN ET	TL	80	98	55	22	-0.01	836	13	-0.33
31	HARL	MILEY-I MASCOT HARLEY		79	80	79	31	0.11	942	7	-0.48
32	FORMOST	CLYDEVALE MASCOT FORMOST-ET	TCTL	79	97	72	20	0.12	497	22	0.01
33	AMBIC	ROCKRIDGE SHOTIME AMBIC	RC	78	81	55	12	0.08	287	26	0.20
34	BRABANT	BRABANT STAR PATRON		78	90	51	20	0.00	746	12	-0.29
35	GRID	JO-WAL PRELUDE MATRIX-ET		77	86	62	17	-0.04	710	35	0.07
36	LAMPOON	ELITE MOUNTAIN KID IMP (E.T.)		77	78	55	17	0.01	607	22	-0.06
37	WINLUKE	STRATHAIRE SOUTHWIND LUKE-ET	RCTL	76	99	64	17	0.12	397	21	0.06
38	61HO017	GLENMAR LINDY PETER ET		76	78	41	16	0.01	567	8	-0.23
39	SOAPBOX	GLOMAR HARDTAC SOAPBOX-ET	TL	75	85	66	9	0.13	69	39	0.52
40	HALIFAX	GLOMAR HALIFAX		75	83	63	21	-0.03	847	26	-0.15

Top 20 ABV Jersey on APR with semen available

Rank	Bull ID	Bull Name	Production Traits								
			APR	Rel	ASI	Prot	Prot%	Milk	Fat	Fat%	Rel
1	ARMADA	KINGS VILLE ARMADA	151	81	133	35	0.08	920	49	-0.01	87
2	JEPERIMETER	ROCK ELLA PERIMETER	144	83	126	31	0.35	441	33	0.18	92
3	JEAPACHE	FLEURIEU APACHE	127	69	122	39	-0.08	1262	38	-0.56	75
4	11J0627	MOLLY BROOK BERRETТА FAIR -ET	127	81	112	35	0.09	902	25	-0.44	89
5	BIESTAR	BIE BISTAR ET IMP	126	76	99	29	-0.02	877	34	-0.25	84
6	GOLDGLO	GOLD GLOW MBSB OF TWIN HAVEN ET	125	73	95	34	-0.05	1068	19	-0.73	80
7	LANDLINE	ECHO GLEN ALDER	123	81	118	35	-0.04	1088	41	-0.33	86
8	ASTOUND	MOLLY BROOK BERRETТА FABULOUS	122	86	96	30	-0.07	978	32	-0.39	92
9	FINALE	AUBURNVUE KARMEL GRAND FINALE	122	78	88	29	-0.19	1113	35	-0.47	89
10	NOORAT	GLENPAR PHANTOM -ET	120	79	119	40	0.03	1138	24	-0.70	86
11	7J329	SOONER CENTURION-ET	116	94	86	23	0.12	519	26	-0.04	98
12	GRABER	GRABER BERRETТА SIMPSON IMP (E.T.)	114	80	99	32	0.04	888	22	-0.49	89
13	SAINTLY	BRUNETТА SAINTLY	113	76	100	25	0.28	349	24	0.10	81
14	MARINA	PHILMAR LESTER MAGNET ET	110	83	83	20	0.14	393	29	0.15	89
15	7J254	MASON BOOMER SOONER BERRETТА	107	97	88	30	0.14	688	8	-0.55	99
16	7J442	ROCK ELLA PARAMOUNT-ET	106	82	87	26	0.02	737	26	-0.26	90
17	SOLUKE	SILHOUETTE SOONER LUKE	106	81	76	22	0.01	637	26	-0.16	87
18	1J382	COMFORT ROYAL ALF (E.T.)	105	98	94	25	0.20	462	23	-0.03	99
19	7J342	ALTHEAS LESTER PITINO OF AL-TOP-ET	105	88	79	23	0.18	430	14	-0.17	95
20	ALTAPANHER	WOLF-RIVER BERRETТА PANTHER	101	80	96	33	-0.14	1163	29	-0.63	88



Conformation

Workability

Rel	No. Dtrs	No. Herds	RIP%	Over Type	Mam Syst	Rel	Milk Spd	Temp	Like	Rel	Survival	Calving Ease	Source
95	178	62	10	1.5	1.5	92	97	95	96	82	4		AGR
90	70	37	21	0.9	0.8	71	94	93	95	69	4	10	RAB
90	91	51	12	1.2	1.0	82	93	94	96	77	2		AGR
87	85	60	8	0.7	0.3	78	95	94	96	79	3		GAC
75	43	18	11	1.2	1.3	65	95	94	95	67	1		RAB
96	250	84	8	0.3	0.3	94	96	94	96	89	3		ABS/BOS
90	129	35	12	0.6	0.8	78	96	94	95	79	-1		RAB
99	1070	310	18	1.1	1.4	92	95	94	95	96	0	4	ABS/BOS
92	159	80	12	0.1	0.0	80	92	92	95	86	-1		GAC
80	54	20	14	0.3	0.1	68	94	91	94	64	0		AGR
85	88	51	14	1.4	1.6	72	93	91	96	78	4		GAC
81	68	35	26	1.8	1.9	71	96	92	95	75	4		RAB
91	110	71	1	1.1	0.9	70	93	90	92	77	2	3	GAC
90	123	68	25	0.7	0.7	82	92	92	93	83	1		GAC
96	353	113	19	0.8	0.6	87	90	94	95	88	-1		ABS/BOS
84	66	34	7	0.6	0.6	75	92	93	94	72	2		GAC
82	63	27	19	0.2	0.2	73	93	93	95	74	2		RAB
86	101	62	21	0.9	0.9	66	90	93	93	81	0		GAC
91	125	75	10	0.6	0.9	62	91	93	93	81	2	4	GAC
95	239	119	19	1.5	1.4	80	94	94	95	82	1	3	GAC
99	2143	510	15	1.6	1.5	99	94	95	96	97	6	5	SEM
92	140	80	11	0.6	0.6	75	94	95	96	78	1	4	GAC
99	1161	317	17	1.8	2.0	95	96	96	96	96	5	3	SEM
94	227	124	10	1.0	1.1	74	91	92	94	87	1		GAC
96	323	93	13	0.8	0.9	87	94	94	94	89	0		AGR
90	111	62	15	1.1	1.0	69	94	91	93	80	2		GAC
93	185	109	19	1.0	1.1	78	92	94	94	89	2		GAC
83	74	43	17	1.1	1.0	68	93	94	94	73	1		GAC
86	99	55	13	0.5	0.4	68	92	94	95	82	2		GAC
99	2502	564	12	1.0	0.8	96	94	93	95	97	4	10	WWS
88	110	54	11	1.1	0.9	70	91	90	94	72	0		HIA
99	4633	1104	14	0.4	0.4	96	92	94	95	99	-1	5	GAC
87	105	63	19	0.9	0.9	73	95	93	95	82	3		GAC
96	298	104	20	1.8	1.8	94	90	94	95	79	5		WWS
93	121	54	9	0.2	0.0	84	94	92	95	71	2	4	RAB
86	78	33	15	0.7	0.9	74	94	93	95	63	3		RAB
99	234483144	15	1.2	1.0	0.9	91	92	94	99	2	7		GAC
83	78	36	11	1.8	1.9	78	96	93	96	75	6		SEM
90	124	69	14	1.2	1.0	78	93	90	94	83	2		GAC
88	117	67	17	1.5	1.8	75	95	92	96	84	1		GAC

Key

Source of Bulls

GAC	GENETICS AUSTRALIA
RAB	RAB AUSTRALIA
ABS	ABS AUSTRALIA/BOS TRADING
WWS	WORLD WIDE SIRES AUSTRALIA
AGR	AGRI-GENE
HIA	HERD IMPROVERS AUSTRALIA
BOS	BOS TRADING
ALTA	ALTA GENETICS
SEM	SEMEX AUSTRALIA

A publishable ABV is defined as a minimum 63% reliability with daughters in at least 15 Australian herds.

Production Base For ABV's

ABVs are expressed relative to each other using a base point. The base is the average ABV of a group of animals, which is set at zero. This provides a reference point for comparisons between bulls.

The ABV production base was updated in February 2000.

The base is the average ABV of cows born in 1995. Cows included must also have an AB (NASIS) sire and be straightbred (e.g., breed-code of FFFF for Holsteins and JJJJ for Jerseys) and have had at least one lactation used in their ABV calculation.

Conformation					Workability						
No. Dtrs	No. Herds	RIP%	Over Type	Mam Syst	Rel	Milk Spd	Temp	Like	Rel	Survival	
105	47	11	1.1	1.1	73	91	95	95	83	2	GAC
90	35	12	1.5	0.5	84	93	93	94	74	3	SEM
43	19	11	0.7	0.6	63	91	93	95	63	0	SEM
68	35	7	2.1	2.1	76	90	91	94	72	4	ALTA
72	35	23	1.9	2.5	66	93	93	96	62	5	ABS/CSC
55	18	3	1.2	1.5	62	96	95	96	68	4	ABS/CSC
93	47	11	1.7	1.2	73	93	91	92	82	0	GAC
117	55	5	2.3	3.2	79	89	95	96	80	5	GAC
160	65	62	2.5	1.7	62	94	94	96	62	6	RAB
82	39	17	1.2	1.0	66	88	91	94	76	1	RAB
682	176	13	1.9	2.0	94	94	95	96	92	4	WWS
83	38	18	1.2	1.3	65	90	92	95	70	3	RAB
65	35	9	0.8	0.7	72	92	93	94	76	2	GAC
91	53	7	1.2	1.7	65	95	93	95	80	4	GAC
1003	206	14	1.9	2.3	97	94	90	95	96	4	WWS
75	27	22	2.2	1.8	87	94	91	94	72	4	AGR
80	45	10	2.3	1.8	70	92	94	95	80	5	GAC
2434	444	12	1.1	1.0	98	91	93	94	98	2	AGR
204	78	13	1.8	1.5	88	90	93	94	73	6	WWS
94	36	14	0.8	1.3	77	93	90	94	77	1	ALTA

ADHIS Pty Ltd accepts no responsibility for any errors or omissions in this publication, whether negligent or otherwise.

