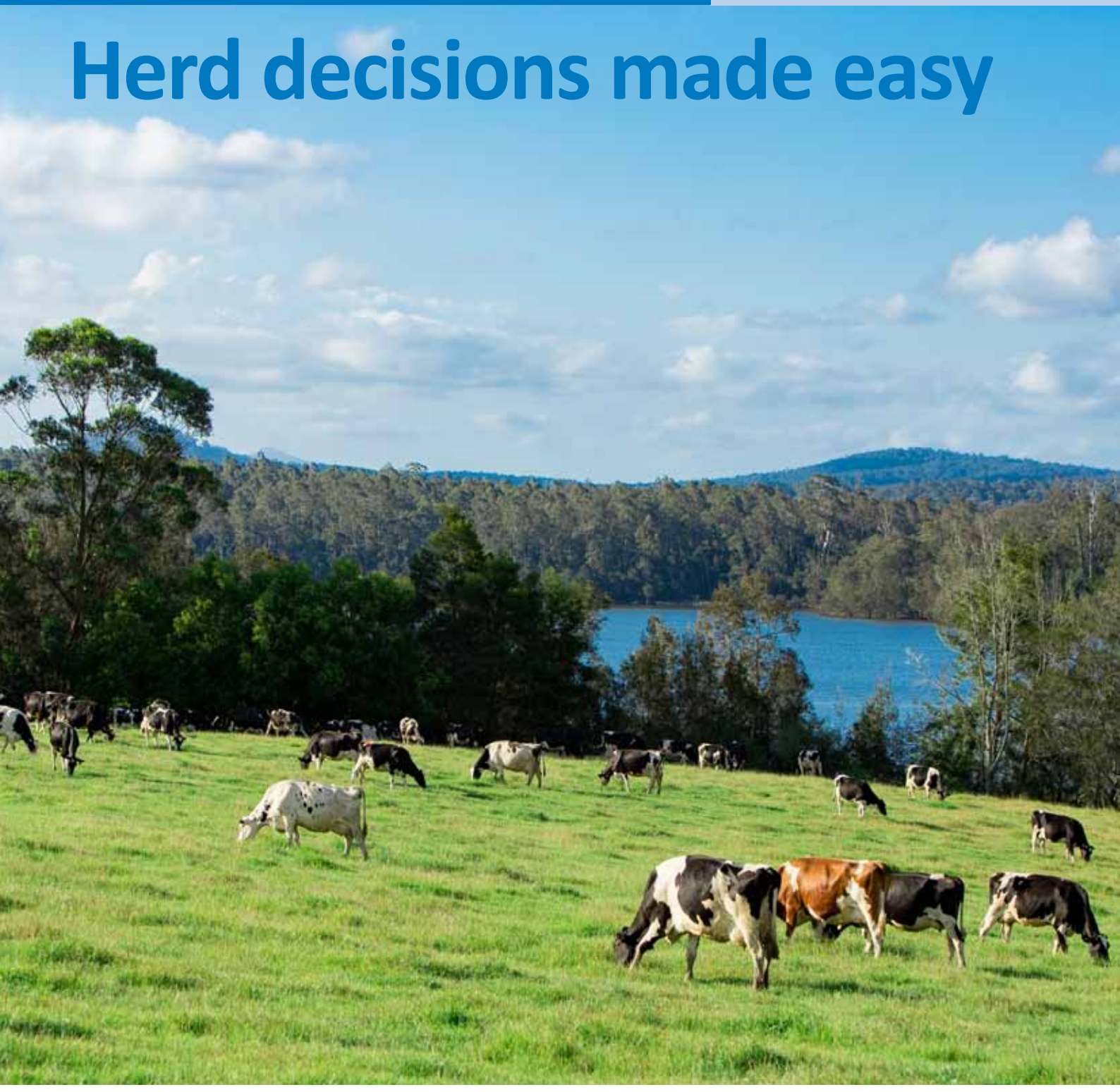
Summary Report

IMPROVING HERDS

Herd decisions made easy



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Executive Summary

ImProving Herds brought together world-class experts, with the aim of turning complex science into simple, data-driven decisions that deliver profits to farmers.

The project investigated:

- the value of genetics to dairy businesses
- the value of genotyping young heifers
- the value of herd testing
- the contribution of genetics to reduce dairy's environmental footprint.

At the core of the ImProving Herds project were 27 inspiring Genetic Focus Farms, where the emphasis was on demonstrating the impact on profit of using higher BPI bulls and genotyping heifers.

Genetics

The project has shown that compared to their herd contemporaries, high BPI cows have higher margins over feed and herd costs. On average, the top 25% of cows (based on BPI) have a $300/cow/year greater margin over feed and herd costs than the bottom 25% within a herd. Using more than 10 years of financial and herd data on 7,700 lactations from 2,600 cows, the top 25% of cows produced 88kg more milk solids per cow per year and lasted, on average, eight months longer in the milking herd. The additional feed demands of high BPI cows were easily recouped through additional milk income.

On average, the top 25% of cows (based on BPI) have a $300/cow/year greater margin over feed and herd costs than the bottom 25% within a herd.

Genotyping

Genotyping of heifer calves is increasing in popularity in many countries as a tool to:

- help choose replacements based on ABV(g)s
- improve mating decisions by using high value (sexed) semen for elite animals
- reduce errors in parentage assignment.

The ImProving herds project evaluated the relationship between pre-calving ABV(g)s and first lactation production records in the Genetic Focus Farms. The results showed that there was a strong relationship between ABV(g)s and production records; in fact, the relationship is very similar to published national mean reliabilities for equivalent traits.

After accounting for the cost of genotyping, the ImProving Herds project calculated that picking the top 50% of replacements based on genomic BPI is typically worth about $40/head more than using parent average.

Herd testing

In addition to the Genetic Focus Farms, seven more went under the microscope for herd-testing and shared their experiences with the ImProving Herds team. Six of these seven decided to continue herd-testing after the project was complete. All used the herd-test information in decision making, with four saying that herd-test data was especially valuable in helping them respond to high pressure events. After a short period, the seventh farm, which had discontinued herd-testing at the end of the project, started again because they found they missed the data and couldn't make the management decisions they wanted to.

Assessing environmental impact

Assessing the impact of genetic improvement of dairy cattle on the environment was one of ImProving Herds' activities. High BPI cows are more efficient producers and live longer, which leads to lower greenhouse gas emissions per unit of product. Even though per cow greenhouse gas emissions are increasing (as milk volumes and feed intake increase), the rate of increase is slower for BPI animals than its predecessor Australian Profit Ranking (APR), which is partly attributable to having the Feed Saved ABV included in the BPI.

Contents

Foreword

Craig Lister

Chair – ImProving Herds Strategic Steering Committee

The daughters of High Balanced Performance Index (BPI) bulls perform better under Australian conditions, across dairying regions and feeding systems.

During its three-year life, ImProving Herds provided a wealth of material and tools that will continue to shape the Australian dairy herd well into the future.

This report provides a summary of the key results. It aligns with the project's philosophy – 'herd decisions made easy' – which cuts through the complex and rigorous science that underpins the research and extension material.

ImProving Herds has provided concrete evidence of how genetics and genomics can be used to make quick, clever decisions to increase herd performance and profitability.

ImProving Herds was an innovative and collaborative herd improvement research, development, extension and education project. A team of Australian and international dairy industry organisations and experts united to explain existing value and develop new services. Through its 'Animal Performance Challenge Round', The Gardiner Dairy Foundation and Dairy Australia funded the project that was led by Agriculture Victoria. The project has been strongly supported by industry, with co-funding contributions from DataGene, National Herd Improvement Association and Holstein Australia. Collaborators include National Herd Development, Hico, Dairy Express, Tas Herd, FarmWest, The University of Melbourne, Herd Health, Scotland's Rural Collage (SRUC) and INRA (France).

ImProving Herds culminated in one of Australia's largest on-farm dairy events, 'The National Muster', at the Jelbart Dairy in Gippsland in May 2018. It was attended by about 300 farmers and advisers, and 86% of survey respondents said their thinking about genetics had been changed by attending the Muster.

At the heart of ImProving Herds were 34 Focus Farms. Twenty-seven of those provided their data, had heifers genotyped and took part in detailed economic data collection processes. The other seven Focus Farmers began herd testing for the first time and shared their experiences. Individual case studies highlight how these farms are benefiting from herd improvement. Many have grown with the project to become advocates of the research, facilitating future farmer-to-farmer learning.

ImProving Herds has shown that investing in herd improvement pays:

- The daughters of High Balanced Performance Index (BPI) bulls perform better under Australian conditions, across dairying regions and feeding systems.
- Cows that are in the top 25% for the BPI in a herd outperform cows in the bottom 25% for production, fertility, longevity and contributed on average an extra $300 to farm margins.
- The benefits of using genomic breeding values to guide heifer selection decisions were demonstrated on the Focus Farms, where the performance of genotyped heifers aligned with their genomic breeding values.
- Clear value propositions have been developed for using herd test results on farm.

A strong vision and collaborative approach has seen the ImProving Herds results already achieve impressive dissemination statistics through more than 40 media articles and 100 presentations. With a suite of resources being developed that capture project findings, the legacy of ImProving Herds will become key tools for future extension activities at DataGene.

The enthusiasm with which the project has been received, a suite of legacy resources and DataGene's commitment to continue extending results to industry, means dairy farmers will reap the benefits of genetic improvement well into the future.

Case study approach

The ImProving Herds project sought to use real world farm performance and financial data to collate concrete evidence of the value of herd improvement to Australian dairy farm businesses. At the heart of the project were 34 'focus farms': commercial dairy farms who shared their detailed farm and financial records with the project team. We are immensely grateful to the farmers who not only shared their herd and financial records but also their experiences and insights which informed the project findings.

The DataGene website has detailed case studies for many of the focus farmers, including two video case studies.

Genetics focus farms

In late 2015, the project recruited 27 Genetic Focus Farms representing the diversity in Australian dairying systems including region, feeding system, calving pattern, herd size, breed and interest level in genetics.

Each farm was contacted several times in person and by phone by a member of the project team, to discuss ideas, answer questions and make arrangements for data collection.

Some farms had detailed herd and financial records, dating back a decade or more. Others had herd or financial information (or both) for a shorter time. All but two had both herd and financial data for at least two years. Two additional 'Friends of Improving Herds' farms were recruited because of their unique longitudinal herd data.

We undertook two levels of analysis. For all 27 herds, we compared cow performance for high and low genetic merit groups within each herd. For the five herds with very detailed records over extended periods, we were able to compare the difference in margin over feed and herd costs for high and low genetic merit groups within each herd.

Herd test focus farms

Seven Focus Farm herds across Australia that were not currently herd testing commenced or re-commenced herd testing with support from the ImProving Herds project and their local herd test centre.

During the 2015-16 season we examined how each farm used their herd test information in decision making and what value this information represented to the farm. The Focus Farms took part in a series of in-depth, semi-structured interviews as well as the collection of detailed financial and physical information.

Contribution of genetics to the farm business

ImProving Herds demonstrated that high genetic merit (BPI) cows contribute more to the farm business:

1. High BPI cows contributed more margin over feed and herd costs across systems and regions.
2. High BPI cows lasted as long or longer in the herd.
3. On average, the top 25% of the herd (based on BPI) have a $300/cow/year greater margin over feed and herd costs than the bottom 25% of the herd. The additional feed demands of high BPI cows were easily recouped through additional milk income.

1. Margin over feed and herd costs (5 herds)

Our analysis showed that on average, high BPI cows generate more margin over feed and herd costs than their lower BPI herd-mates. For this analysis, we used the records from five herds with 10 years of detailed records from more than 2,600 cows. More than 7,700 lactations were used in this analysis.

A farm is a complex system, which makes the allocation of income and expenses difficult at an individual cow level, particularly for hard-to-measure characteristics like daily individual feed intakes. Wherever possible, these difficulties were acknowledged in the analysis. For example:

- The performance of cows was compared within herd, which means that cows were compared to their herd mates who were exposed to similar management, environment and diet.
- We selected margin over feed and herd costs as an indicator of contribution to profit. This is the income generated from milk and livestock sales after deducting feed and herd costs. It differs from gross margin in that shed costs are ignored. It differs from earnings before interest and tax (EBIT) in that overheads and non-cash overheads such as depreciation are ignored.

We combined cow records including herd test results, calving information and, where available, mating and health records. For each of the 2,600 cows, we calculated lifetime milk production, milk solids, productive life, feed requirements, number of calves, number of AI straws used and number of cases of clinical mastitis.

As cows differ in the amount of time they spend in the milking herd, each cow's lifetime performance was converted to average annual performance to allow for fair comparison between cows.

Daily feed intake information is not available for individual cows in commercial herds, so a calculation was used to estimate the amount of feed eaten based on a cow's milk production and approximate maintenance requirements.

Financial data from each farm was used to calculate income from milk as well as calves born to each cow and cow cull (salvage) values. The same data was also used to calculate feed costs, rearing costs, mastitis treatments and mating costs.

To compare high and low genetic merit cows, the top and bottom 25% of cows were identified based on each cow's ranking for the Balanced Performance Index (BPI). Differences in Australian Breeding Values (ABVs), physical performance and financial performance were compared between these two groups of cows.

On average, the top 25% of cows in a herd (based on BPI) produced a margin over feed and herd costs of $300/cow/year more than the bottom 25% of cows. This finding held across feeding systems and dairying regions. The top 25% of cows had higher milk income and not unexpectedly, higher feed costs. The additional feed costs were easily recouped through additional milk income.

2. Cow performance (27 herds)

This analysis drew on two years of records for more than 13,000 cows in 27 herds with detailed herd performance and financial information. The key indicators of performance were milk production (volume and solids) and longevity (productive life).

The key finding was that, on average, the high BPI cows in the 27 Genetics Focus Farms produced more milk solids and had an 8-month longer productive life than their low BPI herd-mates. Longer-lasting cows means less demand for replacement heifers, which can reduce heifer rearing costs. Cows in both groups had similar numbers of artificial inseminations and mastitis treatments.

3. Sensitivity analysis

The results of our analysis showed that the financial contribution of genetics to the farm business holds, even under challenging market conditions. For example, the high BPI cows in the ImProving Herds study would still recoup their extra feed costs through additional milk income if:

- milk price dropped by 50% and feed prices stayed the same
- feed price doubled and milk prices stayed the same
- even if milk priced halved and feed price doubled at the same time

Financial performance of high BPI cows compared to their low BPI herd-mates.
Income (per year) - High BPI cows have....
More income from milk production
Similar value of calves born
Less income when culled
Cost (per year) - High BPI cows have....
Greater feed costs
Similar reproduction costs
Lower rearing costs
Similar clinical mastitis treatment costs

Average difference between high and low BPI cows for milk production in 27 Genetic Focus Farms.

Compared to their lower BPI herd mates, high BPI cows produced...			
Milk (L)	649 more L/cow/year	Fat (%)	0.29% higher fat content
Fat (kg)	50 more kg/cow/year	Protein (%)	0.19% higher protein content
Protein (kg)	38 more kg/cow/year		

The value of genotyping

Genotyping is the process of analysing a DNA sample from an individual animal to predict potential performance. Available in Australia since 2011, genomic information is routinely used to calculate genomic Australian Breeding Values – ABV(g)s for dairy sires and females. It is particularly useful for traits such as fertility and longevity, which previously took years before enough performance data was available to calculate a reliable breeding value. The analysis is primarily done from a hair or tissue sample, allowing animals to be tested from a very young age.

Genotypes can be used in many ways, but the three key uses are:

1. Help choose replacements based on genomic ABVs.
2. Improve mating decisions by using high value (e.g. sexed) semen for females with elite genotypes.
3. Reduce errors in parentage records.

The average reliability of genomic breeding values for young animals is the equivalent of 30-35 milking daughters for a bull (production traits) or to seven lactations for a female. The reliability of genomic breeding values for production traits is about 70%, which is more than double the reliability of breeding values based on pedigree alone.

The ImProving Herds project wanted to help farmers to make better decisions when using genomic selection by:

- collecting evidence that genomics works by comparing genomic ABVs (available at birth) with actual performance in the first lactation
- providing a decision-making tool to estimate the costs and benefits of genotyping heifer calves, for individual farm circumstances.

The project genotyped an entire cohort of heifer calves in each of the 27 Genetic Focus Farms. When these heifers completed their first lactation, we compared their actual performance with their genomic ABVs.

There was a strong relationship between genomic ABVs and lactation records, with genomics explaining about 70% of the variation seen in first lactation milk, fat and protein yields.

After accounting for the cost of genotyping, the typical benefit of picking the top 50% of replacements based on genomic BPI was about $40/head more than using parent average. ImProving Herds has developed an online tool that allows farmers to enter simple information about their herd, to estimate the net benefit of genomic testing ($/replacement heifers selected). Go to the DataGene website, www.datavat.com.au

Reducing dairy's environmental footprint

In Australia, dairy cattle account for about 12% of the nation's agricultural greenhouse-gas (GHG) emissions. The ImProving Herds project included a module on assessing the impact of breeding decisions on national emissions.

Selecting on BPI is expected to reduce the dairy industry's greenhouse gas emissions through:

- Contributing to higher yields. Fewer cows will be needed to produce the same amount of milk resulting in a reduction in emissions per unit of milk produced.
- Selecting for improved feed efficiency. Our research has shown that cows that are more efficient have lower total greenhouse gas emissions.
- Selecting on fertility and survival breeding values (as part of BPI). Improved fertility and survival means fewer replacements are needed, which also has a positive impact on emissions per litre of milk produced.

The Feed Saved Australian Breeding Value (ABV), released in 2015, is expected to have a positive impact on emissions. Feed Saved is part of the BPI and our calculations show that it will contribute favourably to projected emissions per cow. Expected gains in the BPI will still lead to an increase in emissions per cow, but the rate of increase is expected to be lower over the next 10 years compared to the previous decade.

The value of herd testing

"It certainly showed up some of the higher-producing animals weren't the ones I thought they'd be."

"... we would have normally dried off according to calving date, but we dried off two or three lots of cows based on who was producing less than 12 litres after each herd test"

"Knowing individual results at particular times in the cow's lactation is really useful for managing diets to increase the overall production per lactation of cows."

The ImProving Herds herd test module aimed to demonstrate the value of herd testing to Australian dairy farmers.

Currently, about half of Australia's dairy farms routinely herd test.

The information from herd testing is useful at two levels:

1. Helping farmers to make management decisions about the herd and specific cows.

2. At an industry level, the data is submitted to DataGene for inclusion in the genetic evaluation system that produces Australian Breeding Values and indices. The data is also used by industry researchers and to publish industry level statistics.

Key findings

All seven case study farms continued or resumed herd testing after the project finished.

At the end of the project, six of the seven case study farmers valued the benefits of herd testing enough to invest the time and money to continue the service. The farmer who stopped herd testing did so as they were changing their herd to supply A2 milk. After several months of no herd test information, they went back to herd testing as they missed the level of data they had been getting.

Herd testing provided information to make routine decisions with confidence.

All herd test farmers used the herd test information to make more confident and informed routine decisions on farm. Some examples include:

- Drying off decisions – drying off poorer producers saved feed costs, and staggering drying off and milking good producers for longer could increase milk income.
- Culling decisions – milk production data combined with mastitis history and pregnancy test results were used to make more strategic culling decisions, ultimately resulting in a more profitable herd.
- Identification and management of clinical and sub-clinical mastitis.
- Managing seasonal changes in the diet by quickly adjusting supplementation to maintain more uniform milk components.
- Herd testing information gives access to cow ABVs so high genetic merit animals can be easily identified for joining to high value straws/sexed semen, ensuring sufficient replacements are bred from the best cows and increasing the rate of genetic progress.
- Using cow ABVs and herd testing data, breeding programs can be designed and monitored – allowing corrective mating, more rapid genetic progress and a more profitable herd.

Farmers changed their management decisions as a result of herd testing

Several herds changed their management practices as a result of having access to herd test data. Some examples include:

- Making informed decisions in high pressure events.
- Investing in tailored software for cow records and being motivated to keep records up to date.
- Drying off cows in stages rather than the whole herd at once – cow dry off decision based on production level and calving date of the individual cow as well as feed availability.
- Identifying high-producing cows for preferential feeding.
- Accessing industry decision-support tools such as the Genetic Progress, Mastitis Focus and InCalf reports require herd test data and other cow records.
- Pregnancy testing using a milk sample collected during herd test rather than rectal palpation or ultrasound examination – eliminating waiting time in the yards after milking.

Farmers used herd test information to respond quickly to high pressure events.

Four Herd Test Focus Farms used herd test information to respond quickly and confidently to high pressure events with significant financial implications for their businesses.

For example, the three Focus Farms who were affected by the 2016 milk price drop were able to quickly identify the cows that were paying their way to continue milking. One Focus Farmer quickly identified 23 poor-performing cows to cull and dried off several low-producing cows early. This resulted in feed cost savings and a quick cash injection.

"Then we had a drought and milk price drop, so we had to make decisions about culling cows mid-season. Without herd testing data, we would have just been guessing which cows to cull. I went straight to the herd test results and identified about 23 cows to cull ... I also dried off a few [low production] cows early."

Project outcomes

Genetic Futures Report

Since 2013, Australian dairy farmers who participate in herd recording have had access to Genetic Progress Reports that monitor within-herd genetic trends for Balanced Performance Index (BPI) and six economically important traits. This decision-making tool has helped farmers visualise genetic change within their herd and refine their genetic selection practices.

The ImProving Herds project developed the Genetics Futures Report, which includes additional metrics of genetic merit, an estimate of return on investment for genotyping and predicted genetic trends based on bull selection scenarios.

Metrics motivate behaviour change. This report will be a valuable decision-making tool to support practice change in genetic selection, herd recording and heifer genotyping.

The Genetic Futures Report is aimed at farmers who currently have little interest in genetics. The aim is to illustrate the opportunity to generate extra income by breeding better genetic merit cows. This is shown by predicting the impact on the herd's genetic merit from using high, medium and low BPI bull teams. Teams are chosen by their ranking within the *Good Bulls Guide* and grouped by a range of BPI.

The project team build in interactive reporting tool which they took to 12 farmers and industry advisers for feedback. The tool was refined, based on the feedback and will be available on www.datavat.com.au

Key features of the report

- Accessible 24 hours/day: online and interactive.
- Switch between Balanced Performance Index, Health Weighted Index and Type Weighted Index.
- Monitor genetic trends over time for 40 different traits.
- Display the difference in performance of top 25% of herd compared to bottom 25% of herd.
- Predict further genetic merit of a herd for BPI, HWI, TWI and up to 40 traits.
- Highlight inbreeding information.
- Secure login.
- Available for any farm that herd records.

Genomic Value tool

The project team also created an online tool for farmers to make decisions on the benefits of genotyping young heifers given their individual herd circumstances. The Genomic Value tool provides an estimate of the return on investment of genotyping heifers based on individual herd replacement rates. The logic around this decision is to apply selection pressure on the female pathway to enhance the rate of genetic gain.

You can find the tool at: http://www.datavat.com.au/reports/heifer-selector.

The science underpinning the Genotyping Heifers Tool is described in detail at: https://www.journalofdairyscience.org/article/S0022-0302(18)30375-8/fulltext

The National Muster

Thursday 10 May 2018, Jelbart Dairy, Leongatha South, Gippsland, Victoria

The ImProving Herds National Muster provided a powerful opportunity to convey the project's key agreed messages.

The National Muster was a large-scale field day, conducted on a well-respected dairy farm (one of the project's Genetic Focus Farms) that enabled the science of ImProving Herds to be told through the eyes of farmers to a national audience of about 300 farmers and service providers.

What happened at the Muster?

- About 300 people registered to attend.
- 95% of 72 respondents to a post-event survey rated the day as 4 or 5-stars in terms of overall satisfaction.
- 65% rated the day as 5-star.
- 86% of respondents said that the Muster program had 'changed their thinking' in terms of utilising genetic information on farm.
- Farmers who were participating in the project were able to accurately convey the project's key messages from the conference stage, which addressed a hurdle in the communication challenge. If the participating farms themselves couldn't explain the benefits of using genetic tools, then the project team had no hope of doing so!

What was significant about the day?

- The ImProving Herds team chose to deliver the day on a farm rather than at a conference centre. This decision was validated when 49% of survey respondents said the only reason they attended was because the event was on a farm. This is an important learning as it contributed to the capacity to create a large event.
- The content of the day was deliberately not all about genetics. The choice of host farm provided the canvas for discussion on such matters as succession planning and calf rearing. This was a key strategy and important to recognise that genetics as a topic is not for everyone, but if you can wrap it into topics that are, then there is greater opportunity to convey the message we want to convey.
- People are now asking for genetics to be one of their topics of discussion on conference programs and discussion groups. Specifically, Australian Dairy Conference has now decided to put genetics on its 2019 program; and several of Dairy Australia's Regional Development Programs have sought to put genetics up as a discussion group topic.

Conclusion

ImProving Herds had ambitious targets to increase the uptake and usage of herd improvement tools through objective results that clearly show the value of genetics and herd improvement to farm businesses.

The initiative was an across-industry collaborative effort, one of the first times in the dairy industry that research and extension activities were undertaken concurrently.

A highlight of the project was demonstrating the value of genetics to dairy businesses, with the top 25% of cows (ranked on BPI within herd) found to contribute $300/cow/year more to margin over feed and herd costs than their low BPI herd mates.

The use of genomic ABVs to guide heifer selection decisions was validated on Genetics Focus Farms that represented a diverse range of Australian farm conditions, by comparing the performance of heifers in their first lactation to their genomic breeding values as calves.

All seven Herd Test Focus Farms saw sufficient value in herd testing to make the business decision to continue after the project finished. Selection using the BPI has been shown to result in less greenhouse gas per litre of milk produced and be more efficient than the previous (APR) index.

Project results have already been widely disseminated to industry through media, presentations, and the National Muster. The Muster was a highlight, attracting about 300 participants, and was very successful in changing attendees thinking about genetics.

The project's impact is already being seen in industry. During the project's lifetime genomic testing of females was increased from <1,000 females a year to more than 11,000 commercially tested in 2017. Additionally, the proportion of semen sold from young genomic bulls has increased an average of 9% per year to represent 43% of all dairy semen sold at the end of 2017.

The release of the Genetic Futures Report and Genomic Value tool and planned use of legacy material in ongoing DataGene extension activities means ImProving Herds will continue to impact on the dairy industry's usage of herd improvement tools and farm profitability for years to come.

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The ImProving Herds Genetic Focus Farmers

Top Row: Brendan Martin (Bamawm, VIC), Nathan Shannon (Katunga, VIC), Jared & Courtney Ireland (Lockington, VIC), Patrick Glass (Gundowring, VIC), Sarah Chant (Warrion, VIC), Sam Simpson & Mark Billing (Larpent, VIC), Linda Whiting (Simpson, VIC)

2nd Row: Lyn Parish (Winchelsea South VIC), Sam McCluggage (Allansford, VIC), Anthony Eccles (Purnim, VIC), Paul & Adam Lenehan (Crossley, VIC), Trevor Saunders & Anthea Day (Shady creek, VIC), Tim Missen (Denison, VIC) Toby Leppin (Bena, VIC)

3rd Row: Tim Jelbart (Leongatha South, VIC), Terry & Janine Clark (Nerrena, VIC), Paul & Lisa Mumford (Won Wron, VIC), Michael Axford and family (Korumburra, VIC), David Owen (Finley, NSW), Fleur, Elizabeth & Sam Tonge (Dobbies Bight, NSW), Sharon & Darren Parrish (Bodalla, NSW)

Last Row: Rodney Teese (Versdale, QLD), Graeme & Michele Hamilton (Mt Gambier, SA), Gary and Ros Zweck (Blyth, SA), Ruth & Ian McGregor (Busselton, WA), Garry & Bev Carpenter (South Riana, TAS)

Not pictured: Marian Macdonald (Jack River, VIC), Lisa Broad (Lockington, VIC)

The ImProving Herds Herd Test Focus Farmers

From left: Josh Balcombe (Warrion, VIC); Geoffrey and Ruth Chalk (Radford, QLD); Peter Harris (Dardanup, WA), Guy and Leanne Gallatly (Maffra, VIC); Brad and Megan O'Shannessy (Cooma, VIC); Mark Fraser (Aberdeen, NSW).Cheryl McCartie and Theo van Brecht (Ringarooma, TAS);

Acknowledgements

Thank you to the many organisations and people who contributed to the ImProving Herds Project over three years.

Our funders

The Gardiner Dairy Foundation, Dairy Australia

Collaborating organisations

Agriculture Victoria, Dairy Australia, DataGene, Holstein Australia, NHIA

Our 34 Focus Farmers

(See who they are page 16)

Industry organisations that provided direct support

GippsDairy

Dairy Express

FarmWest

HICO

National Herd Development

Tas Herd

Zoetis

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Sophie Hester, Farmer

Mary Harney, The Gardiner Dairy Foundation

Ben Hayes, University of Queensland

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Jennie Pryce Lead Scientist Agriculture Victoria

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2019

IMPROVING HERDS

$300 more per cow per year

ImProving Herds found that, on average, the top 25% of cows in a herd (based on BPI) produce a margin over feed and herd costs of $300 more than the bottom 25%.

The findings hold across dairying regions and feeding systems.

Analysis drew on 10 years of financial and herd data from real Australian dairy farms and included 7,700 lactations from 2,600 cows.

The message is clear: The daughters of high BPI bulls perform better under Australian conditions.

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