Herd Improvement Strategy 2020

SUMMARY

Herd Improvement Industry Strategic Steering Group

August 2014
A broad cross-section of the herd improvement industry gathered in June 2013 and recognised that a whole of industry strategy and a blueprint to drive significant change were critically needed. A whole of industry approach to herd improvement investment has been absent in the past decade. Twelve months of activities followed that reinforced the value of herd improvement to the dairy industry and identified a vision and strategic goals that are essential for the future of the Australian dairy industry.

**Process**

This process of developing a strategy for the herd improvement industry was initiated by a meeting held on 20-21 June 2013. This Workshop brought together key individuals and organisations involved in the science and delivery of genetic evaluation for the dairy industry to identify:

- issues of strategic importance;
- the degree of agreement regarding their relative importance; and
- key responses to perceived deficiencies.

This initial workshop resulted in two further pieces of work, the Lacey and Coats 2013 report and the Watson and Watson 2013 survey, which informed the second meeting of the group on 17 October 2013. A third report, Wickham 2014, was completed to cover more detailed requirements of implementing genomic technology within Australia to improve farm profitability.

A second workshop meeting on 16 January 2014 established a Steering Group to oversee the process of compiling a strategy as suggested in Lacey and Coats (2013) and five task forces were established under this Steering Group. The Steering Group has been called the Herd Improvement Industry Strategic Steering Group (HIISSG) and was tasked with delivering a strategy paper to the industry, with specific delivery to the Board of Dairy Australia as the organising entity for the work. In addition to the five Task Forces set up under HIISSG, it was recognised that while the ongoing National Breeding Objective (NBO) Review reported directly to the Board of ADHIS, its outcome is vital to the entire herd improvement industry.

The workshop agreed the following principles which underpinned all subsequent discussions:

1. Genetic improvement is vital to the profitability of the Australian dairy herd.
2. Australian evaluation and research capability is vital to genetic improvement in Australia.
3. Broad based farmer support/understanding of Australian evaluations is vital to the Australian evaluation and research capability.
4. Industry wide extension/marketing and advocacy/leadership is vital for broad based farmer support/adoptions of Australian evaluations.
5. Acceptance/understanding of GxE is vital for industry wide extension and support.

It should be noted that the process helps achieve the DMF objective in animal performance of “Dairy farmers confidently managing animal performance to deliver farm profit, health and welfare outcomes.” Specifically, the vision speaks directly to priorities 1 and 2 (Breeding herds that perform in Australian Conditions and Improve capacity for genetic improvement through genomic and reproductive technologies), and less directly to priorities 3 and 4 (Overcome issues and practices
which impact on cow productivity, health and welfare and Investigate novel approaches to improve farm productivity via animal performance).

This paper describes the findings of the Task Forces and describes a vision of the future as put forward by HIISSG. The HIISSG is seeking input from farmers and herd improvement organisations (and their members) to further develop the vision, strategy and recommendations.

2020 VISION

*Dairy farmers maximise their profit through a vibrant herd improvement industry offering effective and highly valued services.*

This vision for 2020 developed through the HIISSG process will be achieved through:

- Using an Australian genetic evaluation system to rank domestic and foreign sires and females to support farmers in building their herd which are best suited to profitable Australian dairy farms.
- Farmers and service providers understanding the link between decisions on herd improvement and profit, and being able to make decisions through reliable, easily understood and accessible information about genetics, environment and herd management.
- A strong Australian herd improvement industry underpinning the industry strategy which has all links in the domestic supply chain functioning well (including bull and heifer breeding, performance testing regime, research, evaluation and data systems) alongside the evaluation of animals from overseas to provide for the needs of the Australian dairying environment.
- The herd improvement industry having a collaborative and constructive approach to adopting new technology and practical innovations.

CHANGES NECESSARY TO ACHIEVE THE VISION

Achievement of this vision will be challenging and will require significant changes on farm, with service providers and across the entire Australian dairy industry. These changes will be achieved by the herd improvement industry in a variety of ways. We require:

- An industry committed to making changes to close the gap between potential and actual genetic gain which is worth an additional $25 million extra profit per year compounding to dairy farmers.
- Farmer leadership driving changes in the quality of farmer’s herd management decision making through promoting the importance of herd improvement for profitability amongst the farming community and service providers. Cultural change across the herd improvement industry enabling a more collaborative and constructive approach for service providers to deliver better services to farmers.
- Effective extension, marketing, proof of concept and demonstration of the verified link between profit and herd improvement and a clear understanding of this for farmers and the wider industry. This will enable the industry to capture more of the potential genetic gain by demonstrating how to make better decisions for herd improvement. These changes will also improve the utilisation of performance recording reports and other on-farm data to drive profitable decisions.
The widespread use of genomics and 95% of farmers using Australian profitability metrics to drive elite sire selection, enabling a much faster rate of genetic improvement. This requires the retention of research and evaluation capacity which is focused on farm level profit and measuring genetic merit attuned to the Australian environment for domestic as well as imported products. A clearer understanding of the role of the domestic supply chain, overseas breeding programs and the importance of performance recording, underpinned by risk analysis, cost/benefit analysis and long-term planning for the needs of the Australian dairy industry.

The effective recording, use and exchange of data will enable key management decisions to be made easily and more quickly without costly manual intervention. Material for farmers will be re-packaged and/or developed so the information they need is presented where and when they need it to make better decisions at key points in their herds’ life. Farmers will contribute data and use this data and innovative decision-making tools.

**RECOMMENDATIONS TO ACHIEVE CHANGE**

To achieve this change, the strategy puts forward a number of strategic recommendations to ensure the industry can take advantage of the opportunities to improve farmer profit through herd improvement.

1) Increase the ability of herd improvement to deliver farm profit:

   a. The industry must improve the effectiveness of herd improvement value messages and their delivery so that more dairy farmers and service providers recognise the direct link between herd improvement, profit and the capital value of their livestock. These messages need to engage a wider section of the dairy industry including finance, milk companies, veterinarians and on-farm consultants. A Task Force should develop a plan for engaging the wider industry including key messages, marketing and extension, use of genetic evaluation information, underpinned by concrete proof of concept, demonstration herds and a campaign to engage farmers and the broader industry.

   b. Practical presentation of disparate data sources through quality reports to turn herd improvement services into better tools for on farm decision making. An industry-wide approach is justified to revamp key reports (that include herd test, genetics and genomic results) and better use existing data and efficiently access new data (e.g. DNA-based analyses). A working group of industry and design experts and farmer representatives must design reports that are valuable, clear and useable and collaborate to develop tools that take advantage of genomic technologies, such as genomic mating programs, calf selection, etc. as well as better articulating the link between performance data and genetic merit.

   c. Dairy Australia to develop a plan for a step-wise move to a central data repository, where data can move easily across the industry and be used to deliver decision making tools to farmers. Data (collection, collation, interpretation) is a significant obstacle to improving farm profitability through herd improvement as farmers and their advisors do not currently have access to all available data to make the best herd improvement decisions. When considering centralising data, the industry must consider how to encourage on-going data collection by farmers and companies and the need to focus on high value data.
2) Review, and potentially redesign, oversight of pre-competitive activities that support the herd improvement industry:
   a. An industry group 1should continue under the Dairy Moving Forward framework to provide strategic guidance in the herd improvement industry and ensure that farmer representation and advocacy is embedded into driving improved outcomes.
   b. Review the oversight needs of the genetic improvement sector to ensure that there is clear alignment and line of sight from research through to delivery on farm.

3) Establishment of an ongoing research program via collaboration between Dairy Australia, DEPI and ADHIS (and possible other research organisations) to clearly demonstrate herd improvement’s impact on farm profit and to monitor genetic and phenotypic trends. This program would support proof of concept research to demonstrate the value of high genetic merit animals on farm through a combination of on-farm demonstration and desktop analysis.

4) Improved Service Provision at Farm Level:
   a. NHIA, with industry support, holds discussions with herd test centres to explore further efficiency gains, such as labs, logistics, response to new equipment, etc. These discussions should cover technology involved in delivering herd testing with a view to developing more delivery flexibility and evaluating new technologies. Whilst significant rationalisation has occurred recently in herd test, there remains scope for further efforts to deliver more efficient services to farmers. This should include a reinvigoration of herd testing in Australia and encourage investment in its future.
   b. The dairy industry support discussions on improving the efficiency of service delivery for breed societies which is vital to their ability to improve services and maintain access to current technology.
   c. Under the Dairy Moving Forward framework, HIISSG works with organisations and agencies to build investment coalitions to address key issues within this strategy.

5) Reset Genetic Evaluation to Changed Conditions:
   a. ADHIS should communicate regularly and work with key stakeholders to establish market needs in the medium term and then establish clear priorities to ensure market connectivity between genetic evaluation and the broader dairy industry. Resource requirements will need to be established and filled to respond to market needs.
   b. An industry-led working group is established to develop a plan for data collection into the future. Measurement of individual cow performance (phenotypes) is the foundation of genetic improvement. Historically, many phenotypes were collected through progeny test programs run by bull companies. This is expected to change over time and a proactive plan is needed to ensure the industry’s ability to continue to accurately evaluate genetic performance in Australia.
   c. The industry implements, as a matter of urgency, the key recommendations from the Genomic Pipeline Working Group to ensure improved delivery of genomic breeding values (‘unplug the genomic pipeline’).

1 The recommendation is that HIISSG continues in this role.
6) Refocus Industry on the Importance of People in Herd Improvement:
   a. NHIA, in collaboration with other industry bodies, develops a program of industry-endorsed training for herd improvement personnel.
   b. The herd improvement industry embeds the development, training and support of scarce personnel into industry discussions around genetic improvement.
   c. NCDEA, training providers and service providers invest in education and training programs with regards to herd improvement practices of farmers and their staff.

**NEXT STEPS**
As the first ever industry-wide strategy, the strategy will provide guidance and direction for the industry, but given the new ground covered by the strategy HIISSG expects it to be further developed and improved as implementation progresses. This document will need to be a live, changing document which adapts to the needs of farmers and industry rather than a static placeholder.