

Using the Whole Farm Assessment process to improve New Zealand Dairy discussion groups

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Abstract. Since the early 1950's in the NZ Dairy, Industry Discussion Groups have been a tried and tested way of creating on-farm change. During the early 2000's the discussion group network was shrinking (less than 35% of farmers engaged) and there were real concerns for their future. What happened in the next 5 years was: groups rose from 200 to over 300; farm attendance rose from 30% to nearly 60% (over 6,000 farm business); and evaluation showed that over 5,000 farm businesses made on farm change. A Whole Farm Assessment process was implemented using a standardised questionnaire with industry benchmarks to focus on all parts of the business. Discussion groups became more focused on dealing with the limiting factors first. Action plans were developed. Capability was lifted through internal foundation training. This has created farm consultants that have the ability to facilitate discussion groups by incorporating industry benchmarks linked to farmer goals.

Keywords: Whole farm assessment, industry benchmarks

Background

The New Zealand Dairy Industry has had a long history with discussion groups. In 1940 the Consulting Officer service was introduced with 6 CO's (Consulting Officers) being employed and each connected to a Herd Improvement Association. The concept of farm discussion groups was introduced in 1952 by the then director of farm production Sir Arthur Ward. Discussion groups were instigated after Sir Arthur, on a trip to England, became involved in a garden tour group. Here keen gardeners visited each other's gardens then offered objective feedback to the host gardener. The discussion group format established in NZ was open to all farmers. As it was funded by the New Zealand Dairy Board through the herd improvement plan there was no direct cost to the dairy farmer (Murcott 1995).

Changes to the New Zealand dairy industry and landscape

During the 1980's the Herd Improvement Associations were amalgamated to form the Livestock Improvement Corporation (based in Newstead, Hamilton). The CO Service fell under the umbrella of Livestock Improvement Corporation but was still funded through the New Zealand Dairy Board. Numbers of COs had grown by the 1990s to 33 CO's. Due to the profitability of dairy compared with other primary sectors there has been a rapid expansion of the dairy industry. This was predominately through the conversion of farm land into dairy in the South Island and to a lesser degree the central North Island. This is highlighted in Table 1 where total cow numbers doubled and land area increased by nearly 50%. Farm (herds) numbers dropped due to the amalgamation of farms and herd size dramatically increased (New Zealand Dairy Statistics 2013).

Table 1. Summary of New Zealand herd statistics

Season	Herds	Total cows	Total effective hectares	Average herd size	Average effective hectares
1983/84	15,932	2,209,725	1,035,580	139	65
1993/94	14,597	2,736,452	1,122,509	188	77
2003/04	12,751	3,851,302	1,421,147	302	111
2013/14	11,927	4,922,806	1,716,464	413	144

Source: New Zealand Dairy Statistics 2013-14

Formation of industry good organisations

The turn of the century saw the disestablishment of the New Zealand Dairy Board. In 2001, the CO Service merged with Dairy Research Corporation to form Dexcel, a Research, Development and Extension body, solely owned by all New Zealand dairy farmers. This was funded through an industry levy based on a set amount of cents per kg of Milk Solids. Dairy InSight collected the levy, administered and allocated funding to industry good activities. In 2007, farmers voted for the merger of Dexcel and Dairy InSight and for the formation of an industry good organisation – DairyNZ. DairyNZ's role is to support on-farm change, create on-farm opportunities, build capability and mitigate risk to achieve the industry's strategic objectives. This is being accomplished through research, development, engagement and leadership.

A decline in discussion group activities

Since the 1950's there has been a national network of discussion groups throughout all New Zealand dairy areas. They were formed based on local geographical location and/or local rural communities. The format has remained largely unchanged with discussion groups being run on a local farmer's property to draw out issues of common concern and address these from input from the group (McCall 2014). Over a prolonged period (1995 - 2005) there was a decline in the number of discussion groups. An internal audit highlighted there was a reduction of 30% in the number of groups. Of the remaining discussion groups there were 20% that were classed as critical and were in the process of disbanding. This meant the CO reach had dropped to less than 35% of all New Zealand dairy farmers (including all other events).

Delivery Preference Project

In 2005 a new strategy (Delivery Preference) was undertaken to try and reconnect with farmers. It was based on a learning pathway model in which individual farmer's needs were identified and a programme was built (learning package) to address those needs. This was based on the model of a capacity building ladder (Coutts et al. 2005). The vision was that the farmer would build a programme based on their needs by using a range of activities and services (i.e. education courses, specialist discussion group, workshops, consultant, tools and published information). Other supporting functions for the field team that were implemented to support this strategy were the introduction of administration/event support as well as a service desk support for farmers to contact directly.

Structural change for the consulting officer team

A review to improve regional adoption was undertaken in the late 2000's and one of the significant outcomes was to change the regional structure. There are now nine regions (six in the North Island and 3 in the South Island). The regions each have a Regional Leader, a team of CO's and an administration/events support person. The Regional Leader manages the CO team and is also involved in event delivery. The regions can align themselves with local demands and issues through regional plans. It also gave the opportunity for regions to redefine the extension activities and in many cases strengthen the discussion group network.

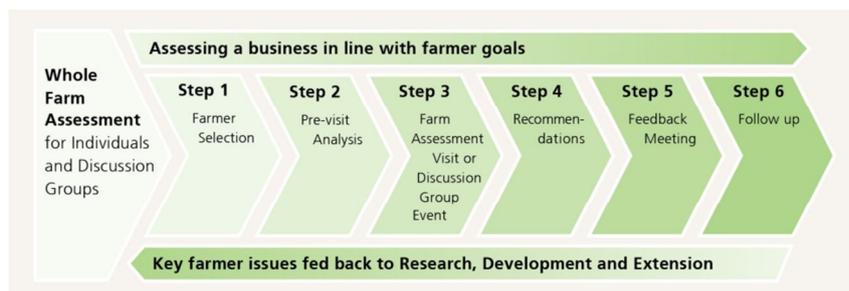
Method

Revitalising engagement and discussion groups through the use of the Whole Farm Assessment process

In the late 2000's the Whole Farm Assessment (WFA) process was introduced to provide a consistent assessment method to assist farmers with their business decisions. The Whole Farm Assessment process was developed internally by a project group that included previous farm consultants and Consulting Officers. The Whole Farm Assessment process is a systemised approach to assessing a farm business in line with farmer goals, identifying key improvement areas. It provides a valuable overview of the whole farm business enabling a farmer to modify their strategy and management to better achieve their business and life goals.

A key part in step 2 (Figure 1) is the use of DairyBase. DairyBase is the New Zealand Dairy Industry's benchmarking service. It is able to standardise dairy farm business information - both physical and financial. It gives farmers a benchmark that is relevant to them based on location, business structure and type of farm system. The farm assessment visit is based on a questionnaire that is designed to focus on all parts of the business (business structure, goals, support, succession, financial management, people management, feed, stock, fertiliser, infrastructure and environment). Previously when assessing a farm business it was apparent that there was a tendency to focus on the areas of the business that both the farmer and the advisor enjoyed and/or felt comfortable to discuss. Often this was the operational "cows and grass" part of the business.

The whole farm assessment process was implemented through CO's identifying individual farmers and then working through the pre-visit analysis, farm assessment visit, and recommendations with a team of three. The team of three would include a farm system expert (could be an experienced CO, Developer or Rural Professional) that was confident with DairyBase. The benefit of using the team of three was that it built capability of all the individuals involved in identifying the core issues for the farming business.

Figure 1. Illustration of WFA process

Standardised processes for running discussion groups

The introduction of the Whole Farm System process meant that there was the opportunity to relook at the how discussion groups were run. The objectives of establishing a systemised approach to running discussion groups were that they were fact based (industry benchmarks) and used a farm system approach.

A major focus was strengthening the pre-visit to the host farmer. At the pre-visit the WFA questionnaire is used. This is to obtain an overview of the farmer and farm business and identify key issues to discuss. Wherever possible, DairyBase is used to benchmark the farm – financial and physical. It is an opportunity to highlight strengths of the farming operation that can be showcased at the discussion group.

The pre-visit information is used in designing the discussion group event. Also the key benchmarks are used consistently with the farmers and rural professionals attending in a standardised farm information and performance sheet. The group focuses on the limiting factor for the farm business. This has meant the range and depth of topics at discussion groups has increased dramatically. There is still the opportunity to highlight seasonal issues and industry initiatives.

The other major change to the discussion group process was the formulation of action plans. An action plan is provided to the host farmer and outlines, with time lines, key actions that are required. This is akin to best practice process (Clark & Timms 2001). It is also the opportunity for the CO to link the farmer to other support, whether this is to another farmer, farm consultant or other rural professional. If there have been issues that have been identified at the pre-visit that the farmer does not want to discuss and/or there is limited time in the group, the action plan gives the CO the ability to formulate an action plan around these areas. Over time the CO will then follow up with the farmer to see if the actions have been undertaken.

Evaluation

To quantify the impact of using the Whole Farm Assessment process a range of evaluation methods have been instigated. This has been based around Bennett's Hierarchy of Change (Bennett 1975), with the help of evaluation expert, Jeff Coutts, from Australia. The evaluation methods included:

- capturing of attendance levels, frequency of groups and topics discussed and actioned upon
- yearly discussion group host farmer and participant farmer telephone surveys
- case studies on individual host farmers and the financial impact of on farm change that resulted.

Results

Since 2010 there has been a dramatic increase in the number of events that DairyNZ delivers. In this time discussion group numbers have increased by both actual number of groups and the number of people who have attended. In the period 2010-2013 the number of individual farms attending groups rose from 34% to 50% (McCall 2014). The challenge historically with discussion groups has been to evaluate them to see if they have made a difference to on farm change. Raw data on numbers of discussion groups and attendance (Table 2) have shown a dramatic increase over the last five years.

With the Whole Farm Assessment process the topics covered have widened (Figure 2). Annually a host and participant survey is carried out by DairyNZ. This is used to evaluate the effectiveness of discussion groups. One of the questions asked is, do farmers who participate in or host a discussion group make an on farm change as a result of being part of a discussion group (Figure 3).

Table 2. Number of events delivered by DairyNZ and discussion group attendance

	2010	2011	2012	2013	2014	2015
Number of events delivered	1,385	1,517	1,562	1,839	2,040	2,037
Attendance at discussion groups only	14,225	16,084	14,672*	18,070	21,955	21,430

*change in recording system

Figure 2. Topics covered at discussion groups 2014-15

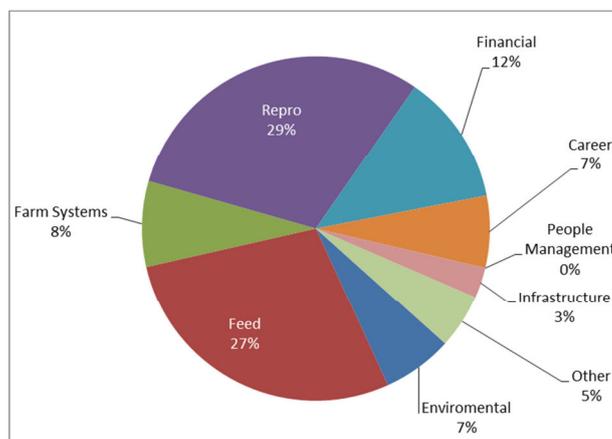
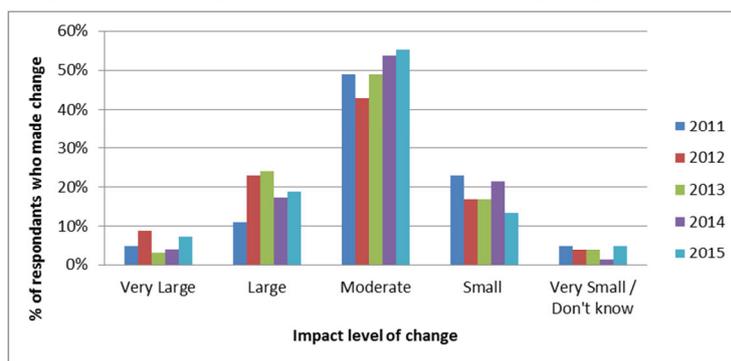


Figure 3. Impact of change made by discussion group hosts/participants



Host farm and participants make on farm change in different areas (Figures 4 and 5). Participants changes are linked to topics discussed at groups (Figures 2 and 5), whereas changes by the hosts are correlated to the action plan. As noted before, not all issues highlighted with the whole farm assessment are discussed during the group.

Figure 4. Areas of on farm change: hosts 2014-15

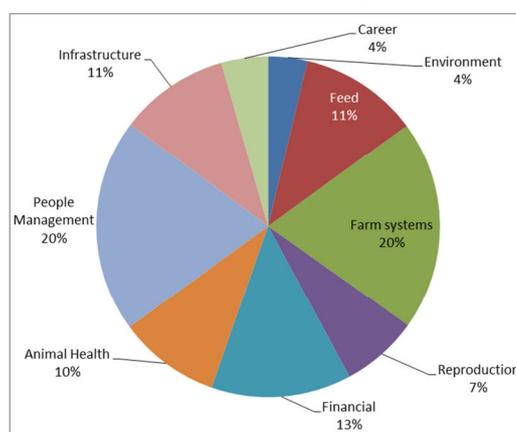
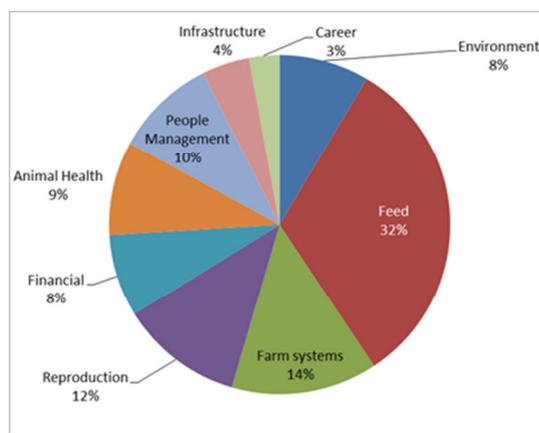
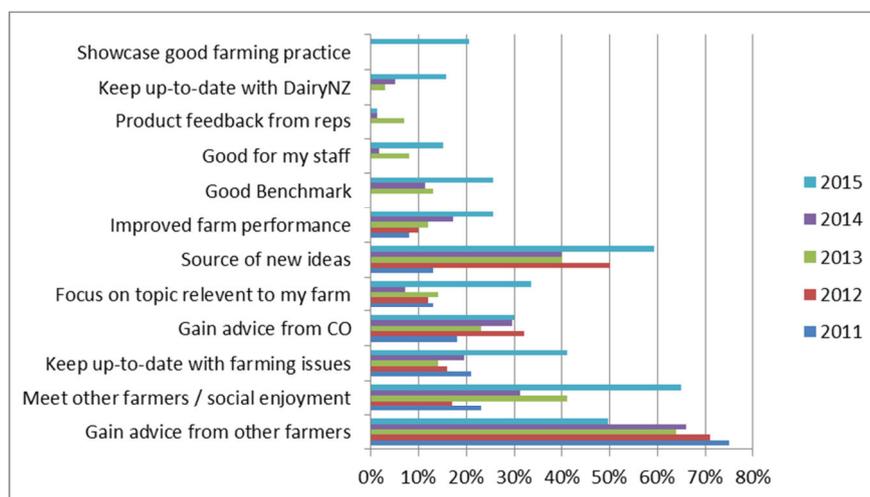


Figure 5. Areas of on farm change: participants 2014-15



The main benefit that farmers gain from attending discussion groups is to gain advice from other farmers (Figure 6). However there has been a trend of farmers looking for improved farm performance.

Figure 6. Benefits of attending discussion groups



To quantify the impact of change each CO has completed a case study over each of the last three years on one of their host farmers (Table 3). Case study reviews have indicated the average economic impact has increased. Part of this increase has been due to many of the action plans have actions over multiple seasons to complete. One individual case study had an impact of over \$250,000 but the actions have taken three seasons to complete. In this example the actions included utilising their farm consultant with financial decisions, using DairyBase, becoming trained to do their own financial accounts and budgets, and areas of focus on their operational efficiency.

Table 3. Impact of Consulting Officer case studies

	2012/13	2013/14	2014/15
Number of case studies	34	37	38
Economic impact	\$1,148,300	\$2,389,945	\$3,378,695
Average impact	\$33,774	\$64,593	\$91,316

Discussion

The last six years have seen the revitalisation of engagement (60% of New Zealand dairy farmers have been to a DairyNZ event) and this has been built upon a mix of specialist events (one off workshops/field day and specialist events) but more significantly the continuation/reintroduction of discussion groups using the Whole Farm Assessment process.

Numbers of people attending discussion groups annually have dramatically increased from just over 14,000 to over 21,000. If numbers were the sole measure of success then this is significant.

It is not only the host farmer that benefits (on farm change) from the hosting the discussion group but also the other farmer participants that attend. They make similar changes as the host farmers. This is a result of participants having the opportunity to attend multiple discussion groups in their area during a year (most discussion groups run 5-7 events during the season) and they are thus able to observe many farm practices and choose the changes that are appropriate to their farming business. This has been helped by the increased range and depth of topics that are now covered (as being identified by the Whole Farm Assessment process during the pre-visit). It is no surprise that when surveyed farmers still value the chance to learn from other farmers.

The use of the Whole Farm Assessment Process has meant CO's have had the chance to identify the key issues for the farmer and have a meaningful impact on their businesses. The action plan process has allowed the opportunity to highlight both operational and strategic actions for the farming business. The individual case studies have highlighted how significant that impact can be (average impact \$93,316 for the last season). This has also increased the confidence of the individual CO, that they are really making change in a group setting. The other benefit of the case studies is that they can be used as part of the annual report to the funders.

The focus on the whole farm system coupled with the increased complexity and pace of change facing dairy farming has meant the internal training programme needed to be strengthened. The aim is for CO's to be not only expert facilitators but subject matter experts as well (i.e. farm consultants who facilitate). A year-long foundation training programme continues to be updated each year to meet the needs of the new CO's in the issues that they will face in the field. It consists of twelve, three day modules run by internal DairyNZ staff who are industry experts in their field. Foundation training covers areas such as production systems, business and financial management, DairyBase, environmental sustainability, animal welfare, people management, extension practice and theory. It culminates with a Whole Farm Assessment module where they put all there yearlong learnings into practice. The quality of the foundation training programme has been recognised by private farm consultancy firms who have requested to have their new farm consultants go through the programme.

There are often two parts to the continuation of a discussion group – the strength of the community and the patronage of the CO. In a strong community often the discussion group is part of the social fabric. Farmers are keen to support their neighbours and leading farmers are keen to share their ideas. Also the community will go in a life cycle as farmer's progress and enter the industry. This can be seen when farmers attend discussion group for a period when they are young and keen before re-attending as they get older.

The challenge is in areas where there is a lack of a sense of community. It will then be up to the COs patronage to drive attendance. This will be built around quality of delivery, technical ability and the relationships they foster with key farmers. The foundation training programme has helped build this patronage of the CO by farmers seeing them as a knowledgeable and credible farm consultant.

Re-establishing and growing the discussion group network, now engaged with 60% of farms nationally, has meant there have been added benefits to DairyNZ and the wider community. For instance, in times of adverse events there has been a local network that can be activated to send information to and/or run appropriate events. Recent examples include the 2010 Canterbury earthquake, 2013 Waikato summer drought, and the 2014 Southland poor spring. Also this network can be used as source of farmers to be involved on wider industry projects such as environmental catchment groups, field day venues and testing of industry tools and products.

Conclusions

Discussion groups are still relevant for a large segment of New Zealand dairy farmers. The use of the Whole Farm Assessment process coupled with increasing the competency of CO's through foundation training has resulted in a dramatic increase in both in the number of groups but also farmers attending. There are many communities who are passionate about "their" discussion group and would be very vocal critics if they were disbanded.

The Whole Farm Assessment process has meant that COs are looking at solving the key issues for the farming business. The provision of action plans and follow up can lead to significant change. Another benefit of discussion groups that should not be underestimated is that is gives

the industry a network of farmers. This can be invaluable in times of adverse events and useful for research/development needs.

Future challenge

Competition for farmers' time is a new challenge. The number of events that are run in the field (not only by DairyNZ but other agribusinesses) has more than doubled. The advantage is that farmers not interested in discussion groups can attend other events that best suit their needs (Hunt & Coutts 2009). The challenge for DairyNZ is to that run enough discussion groups to support regular attendees but don't clash or impact on other events.

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