Evaluating the Usefulness of a Comparative Farm Programme: The Opotiki Case Study.

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ABSTRACT

Bay Milk Products comparative farm programme was designed with the goal of achieving an increase in milk production from its suppliers. The company had identified the need to increase milk production to improve the efficiency of the dairy plant's utilisation. This goal has changed in the last year and now focuses on profitable milk production (as the plant has reached maximum capacity). Some evidence (Deane, 1992; Johnson 1993) suggests that comparative farm programmes do not bring about an increase in production on farms surrounding the comparative farm. This study investigated the issues of attendance at comparative farm field days from the farmer's perspective.

A simple mail survey was used to establish farmer attendance at the Opotiki comparative farm field days. Four farmer case studies (two attenders and two non-attenders) were then used to enable the researcher to gain a farmer's perspective of the issues surrounding the comparative farm programme. Theses issues were then addressed in a mail survey so that all farmers in the Opotiki area could rate, score, agree/disagree with the issues the case studies had identified.

The study has shown that nearly all suppliers, no matter whether they attended the comparative farm field days regularly or not were aware of the programme. 24% (n=117) of respondents were in attendance at each field day. 17% (n=82) of the respondents to the second mail survey considered themselves regular attenders of the comparative farm field days and found the field days to be worthwhile. All of the regular attenders used some of the information generated from monitoring on the comparative farm back on their own farms. Evidence from the case studies suggested that the non-attenders to the field days were also using information generated from monitoring on the comparative farm. The non-regular attenders came in contact with this information through reading the monthly company magazine Update, which contained detailed information from the comparative farm and which 94% of all respondents indicated they read regularly.

The comparative farm programme was considered to be a useful source of information for farmers. This usefulness of the comparative farm programme presumably reflects benefits that the farmers believe they are receiving. However using only production orientated parameters to evaluate a comparative farm programme overlooks other benefits of the programme. The study has identified the need for a more indepth investigation into defining criteria which can be used to evaluate comparative farm programmes. In particular there is a need for more research in the area of what information farmers are using to make changes on their farms, and how this information is used.

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CHAPTER ONE
BACKGROUND TO STUDY

1.1 Introduction

Bay Milk Products Ltd. in the Bay of Plenty have been running a comparative farm programme since 1989. The programme was originally set up with the goal of encouraging farmers to increase their milk production by highlighting achievable production levels, demonstrating well documented management practices and bringing new technology into the Bay of Plenty. The programme functioned through having a farm consultant work closely with a farmer to make changes on a farm with the aim of overcoming production limiting constraints. A mass extension program, involving newsletters and field days run on the farm was aimed at encouraging other farmers to view and discuss the changes that occurred in the management of the farm. Important parameters like pasture growth rates, milk production and climatic factors were recorded at regular intervals and published monthly in the Bay Milk Products newsletter UPDATE, in order for all farmers to follow the farms monthly progress.

After three years, data from the comparative farm programme was analysed to determine the flow on effect of the programme. Neighbouring farms were not increasing production anywhere near the same rate as the comparative farms (Johnson, 1993). The average percent change in production per hectare over the first three years of the programme was +9.1 % on the comparative farms, while the neighbouring farms had only increased by +0.5% (Johnson, 1993). Observations made by the Bay Milk Products farm resource officer in 1993, showed there had also been a decline in attendance at the comparative farm field days.

There is no information on why farmers do and do not attend the field days. The whole programme lacks documentation for others to consider, when establishing similar

programmes to assist with farm management in other areas of New Zealand. This lack of information provides the motivation for this study. This study will hopefully shed some light into why farmers will attend comparative farm programmes when the evidence says they will not benefit through increased production.

1.2 The New Zealand Dairy Industry

The New Zealand dairy industry consists of 14,597 herds producing 735 million kilograms of milksolids per year. The average farm consists of 77 effective hectares and 187.5 cows, with a stocking rate of 2.5 cows per hectare. The average cow lactates for 223 days and produces 159.6 kgs milkfat and 119 kgs protein, for a combined total of 278.6 kgs milksolids/cow or 708 kgs/milksolids/hectare.

95% of farms are seasonal-supply, with mating occurring between October and December and calving occurring from July to September. Drying-off occurs during the autumn period. This system allows cow intakes to be matched to pasture growth rates throughout the year. Pasture is the primary component of the cow's diet in New Zealand (90 % of all feed eaten (Holmes, 1992)), and milk production is closely linked to pasture production. Variations in calving and drying-off dates between different provinces is primarily due to differences in pasture growth rates.

The industry is based on co-operative principles, where the industry is wholly owned by the dairy farmers who supply milk. Milk produced on farms is processed in a dairy factory by a co-operatively owned dairy company, controlled by a board consisting mainly of dairy farmers. There are 15 cooperative dairy companies operating in New Zealand. The New Zealand Dairy Board, owned by the 15 co-operative dairy companies, co-ordinates the manufacture, packaging, transport, storage, distribution and marketing of all dairy exports. The New Zealand Dairy Board through the Livestock Improvement Corporation provides farmers with services such as herd testing, AB, sire proving, research and

development, farm consultancy and extension services.

On the whole, the New Zealand Dairy industry is one which is based on grazed pastures, and run by a co-operative, closely integrated organisation, ultimately owned by all dairy farmers.

1.3 The Bay of Plenty Dairy Industry

Within the dairy industry 15 co-operative dairy companies operate in various regions throughout New Zealand. Bay Milk Products services the Bay of Plenty region and has a total of 875 suppliers. In the 1992/93 season these suppliers produced 536 million litres of whole milk containing 25.8 million kilograms of milkfat and 19.0 million kilograms of protein.

The Bay of Plenty dairy industry is divided up by Bay Milk Products into nineteen production areas based on regional variations in soil and topography, each containing between 20 and 90 suppliers. Livestock Improvement provide statistics for the Bay of Plenty region, which is divided up into four districts, for the 1993/94 season (refer Table 1.1). This study focuses on the Eastern Bay of Plenty (includes the production areas from Whakatane to Opotiki, through to East Cape) which contains approximately 210 suppliers.

Table 1.1 Farm Profile for Opotiki and Whakatane districts compared with the Bay of Plenty for 1993/94. (Livestock Improvement, 1994)

	Bay of Plenty	Whakatane	Opotiki
Total Herds	879	415	116
Herd size (cows)	196	201	188
Effective area (ha)	78	80	74.3
Stocking rate (cows/ha)	2.6	2.6	2.6
Total farm Production (kgs milksolids)	56,718	60,678	53,594
Production per hectare (kgs milksolids)	741.4	776.8	718.4
Production per cow (kgs milksolids)	284.5	297.7	277.6

1.4 Extension Services in the Dairy Industry

There are a number of extension services within the dairy industry providing trained extension personnel to assist farmers in achieving their goals. The primary provider of extension services to New Zealand dairy farmers is the industry owned Livestock Improvement service. The free consulting officer is available to all dairy farmers. The service's goal is to essentially help dairy farmers achieve their own aims while maintaining the lowest possible cost of production (Bodeker, 1992). The consultants initiate and lead discussion groups, field days, and seminars. Farmers gain benefits from these through the exchange of farmer, research and consulting officer ideas. The Livestock Improvement consultants spend approximately two thirds of their time involved with group activities. They also offer individual advice and information on all aspects of dairy farm and herd management, concentrating their advice on a whole farm approach.

Livestock Improvement also provide user-pays services, through Livestock Improvement's Farmwise service. Agriculture New Zealand, and numerous other private firms also run user pays extension services. These services usually specialise in a personal one-to-one service, though some do run discussion groups for interested farmers. Individual dairy companies often employ farm production officers to perform some extension activities as well as public relations and information gathering duties on behalf of their companies.

On the whole, the New Zealand dairy industry appears to be well serviced by extension officers, with farmers having easy access to an industry financed service and to personal user pays services run by both the dairy industry and private firms.

1.5 Extension Methods in the New Zealand Dairy Industry

Exton (1992) proposed that there are two models that can be useful in describing the process of extension in the New Zealand dairy industry. These are:

(a) the technology/innovation model - informing farmers of new and improved technologies and practices.

(b) the human development model - developing the people resource- the farmers.

Exton (1992) says that Livestock Improvement consultants predominantly use the extension/teaching methodology. The Livestock Improvement consultants are therefore describing and illustrating principles and not just providing answers, to disseminate information to dairy farmers.

The evaluation of effectiveness of the above methods and the extension service provided, is viewed as important to the New Zealand dairy industry (Bodeker, 1992). Bodeker

(1992) states, having information on the value of an extension service to farmers is important when evaluating an extension programme. Bodeker (1992) claims that evidence of the benefits of extension services may be the single biggest area of improvement needed to ensure the future continuation of extension services in New Zealand.

A survey of 500 randomly selected New Zealand Dairy farmers showed, those who came in contact with Livestock Improvement consultants have a 7% higher income than those who do not have contact (Bodeker, 1992). Bodeker (1992) believes this indicates the consultancy service of Livestock Improvement is showing a measurable benefit to those farmers who use it. Johnson (1993) states that care must be taken to not judge a programme solely by production gains. There will be benefits to farmers other then increasing production and profit.

1.6 Bay Milk Products Comparative Farm Programme

Bay Milk Products established a comparative farm programme in the 1989/1990 dairy season. The programme was established with the objective of:

> "stimulating interest in increased milk production by highlighting achievable production levels, demonstrating well implemented management practices and bringing new technology into the Bay of Plenty." (Nelson, 1989)

The company wanted to increase milk production, so as to fully utilize the dairy plant's capacity. 80% of Bay Milk Products dairy plant had been badly damaged in an earthquake during 1987. The company had rebuilt the plant with an increase in capacity of 5% over the best season the previous plant had experienced. The following two seasons after the plant upgrade the plant had an excess capacity of 10 - 15% that was not utilized. At that stage (1989) the company set up a five year plan which involved increasing the plants capacity by a further 10%. As part of this five year plan the comparative farm programme

was instigated to encourage suppliers to increase production to fully utilize the increased plant capacity.

The five year plan budgeted on farmers increasing production by 2.5% per year. During the 1993/94 season, pasture production in the Bay of Plenty was exceptional and resulted in an increase in production to the plant of 12%. Thus in year four of the five year plan the factory's full capacity was met. The objective of the comparative farm programme was then changed from 'increasing milk production' to 'increasing profitable milk production'.

At the start, the comparative farm programme was established to address a number of issues. These issues are outlined below:

-Signals to farmers that increased production was not wanted.

-The advent of 'user pays' in the area of government services increased the cost of agricultural consultancy to farmers.

-A wide variation in production levels achieved on farms supplying Bay Milk Products.

-Advisors having no base to gather data which would assist in defining or identifying factors currently limiting production on farms in the Bay of Plenty.

-The unavailability of a method to provide farmers with comparative financial data on farm management practices.

-A return of high prices which engendered a degree of confidence and enthusiasm in the industry at a time when many resources and services had become less available. (Nelson, 1989)

1.7 The Comparative Farm Concept

Comparative farms are an attempt to use farm monitoring data in a more effective manner. By running a mass extension programme in-conjunction with farm monitoring, the information obtained is accessible to more farmers. Johnson (1993) states that collection and documentation of physical data from dairy farms has been an integral part of the New Zealand dairy industry for a number of years. The monitoring of key parameters in a farming system has been commonly practised by both research stations and interested farmers, and is used to develop farm management skills and improve productivity.

Deane (1992) states, the concept of a monitoring programme (comparative farm programme) involves a typical farm which is analysed to identify production constraints. He stated that.....

> During the first year of a monitoring farm project, existing management practices are examined. The effect of these practices on the level of farm production is evaluated, and comparisons made with alternative management strategies. Corrective strategies are then recommended for the following years of the project. A mass extension programme involving surrounding farmers is carried out and usually involves regular field days to enable the surrounding farmers to participate in the monitoring programme. It is anticipated that once constraints are identified and overcome, the surrounding farmers, motivated by the monitoring farms improvements, and armed with local information, would then take the principles home and apply them to their own farming situation.

Deane (1992) states, farm monitoring is not a major breakthrough, it is just another way of demonstrating the basic principles of dairy farm management.

1.8 History of Comparative Farm Programmes

The comparative farm programme concept is not new to New Zealand agriculture. Ferrier (1991) claims that the 'old' Farm Improvement Clubs of 25 to 30 years ago applied the same approach in the 1960's. The Planned Animal Health and Production Programme (PAHAPS) utilized similar principles during the 1970's.

Deane (1992) states, the origin of comparative farms (in their current form) comes from comments made from the Prime Minister of New Zealand, Jim Bolger to a New Zealand Institute of Agricultural Science meeting. The Prime Minister suggested that research funding was no longer required since farmers were reluctant to adopt new agricultural technology. This spurred a group of dairy industry representatives to investigate the reasons for this. They decided to defined the production constraints on an average farm in the Waikato. After the initial visit to this farm they had only a brief insight into the farming operation. However, monthly visits gave the group a much clearer picture of the overall management situation and constraints were subsequently identified.

Increased production as a result of the above monitoring exercise was not dramatic, but instead identified an alternative approach to technology transfer. Essentially the group of dairy industry representatives were identifying what changes were required in a district to overcome production limiting constraints, through the monitoring of a typical farm. From this original concept, the group of dairy industry representatives went on to establish monitoring farms in Canterbury, Westland and Northland.

However the origin of the concept of using a commercial farm as a demonstration to farmers, of the impact of new technology on the whole farm system dates back to 1965. Candler and Sargent (1965) suggested the use of what they termed 'Regional Small Management Farms' for transferring new technology to farmers. Candler and Sargent (1965) state, the further a farm is from a management research farm, the less useful work carried out there is to the farmer. The reasons Candler and Sargent gave for this

statement was, the further away you travelled from a management research farm the greater were the differences in soil type and climate and the greater the inconvenience of having to travel to visit the farm. Candler and Sargent (1965) suggested there was a need for a net of small management farms scattered throughout the dairying areas of New Zealand. They actually suggested that one farm per 1000 producers would be reasonable. This indicates the need for comparative farms was identified long before the Prime Minister made his comments to the New Zealand Institute of Agricultural Science.

There are now many different names used to describe programmes similar to the comparative farm programme, such as, focus farm, focal farm, monitor farm and demonstration farm. Within the New Zealand Dairy industry, the Northland Dairy Company's focal farm programme and the Tui Milk Products focus farm programme are similar to Bay Milk Products comparative farm programme.

The Bay Milk Products programme was established during the 1989/90 season and is still continuing, while the Northland programme initiated in the 1986/87 season, ended in 1992. The Tui programme began in the 1991/92 season and finished at the end of the 1993/94 season.

1.9 Comparative Farm Programmes

This section provides a general description of the Bay Milk Products comparative farm programme and how it is run. It also compares the Bay Milk Products programme to that of two other programmes, one run by Northland Dairy Company and the other by Tui Milk in the lower North Island.

1.8.1 The Bay Milk Products Comparative Farm Programme

The objectives and aims of the Bay Milk Products comparative farm programme have been discussed earlier. This section provides details on how the comparative farm programme has operated.

1.9.1.1 Choosing the Farms

The programme commenced with four farms. These original farms were located in four different production areas identified by Bay Milk Products, each containing approximately 200 farms. The comparative farms were selected after discussions involving the directors of Bay Milk Products, consultants working in the Bay of Plenty, and MAF staff. This process of consultation was to ensure the farms chosen were representative of the farms in each area.

Recently the process of selecting new comparative farms has changed. Advertisements are now placed in the company magazine, Update, when a new comparative farm is needed. The company then discusses with each of the interested farmer's preferred consultant the merits of each farm and it's suitability for involvement in the programme. There are no formal guidelines, only a requirement the farm be representative of the area in which it is located.

The original four farms selected were all above average in production and the farmers were skilled operators. Nelson (1989) states that this was because the programme was not specifically aimed at low producing farms, but farmers at all levels of production. New farms are chosen every three years, but each comparative farmer has the option to withdraw from the programme at any stage.

1.9.1.2 The Operation of the Programme.

When a new comparative farm is introduced to the programme, the comparative farmer[1] is allowed to select the consultant who will work on the farm. Initially only MAF consultants were used and farmers had no choice. Today there are consultant from Agriculture New Zealand, LIC and Private firms working in the comparative farm programme.

The consultant, in the first few months of the comparative farm establishment, will assess the current farm production levels and formulate a management plan for the following 3 years. This management plan consists of measurable performance targets, and strategies to achieve these targets (Macintosh, 1991). Information is collected each month and compared with these performance targets. At the end of each season the management plan is reviewed and the rate and/or direction of the strategy altered as a result of improved knowledge gained from the monitoring and collection of information over the season (Macintosh, 1991). The farmer is closely involved in all decision making as his/her co-operation and approval is essential in the implementation of any change to the current management plan. The consultant therefore must have the farmer's trust and approval, in order to offer sound advice in regard to farm management practices.

1.9.1.3 Data Gathering

To assist the consultant in advising the comparative farmer, the milk company instigated a data gathering programme to run in conjunction with the comparative farm programme. The farmers are given the responsibility to collect some data, while the majority is collected by the consultant and outside contractors.

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[1] The farmer whose farm is used as the comparative farm will be called the "comparative farmer"

The farmers are required to gather rainfall and temperature data on a daily basis. Pasture growth and composition data collection is contracted out to Pasture Assessment New Zealand Ltd. The milk company keeps a record of the daily production and milk composition. Herd recording is usually increased from the standard four times a season, though this is dependent on the farmer.

The consultants play a vital role in the data gathering process. They are required on each monthly farm visit to assess the current farm situation, recording; cow numbers, condition and intakes, average pasture cover, supplements on hand, animal health and the progression of any developments.

1.9.1.4 Information Transfer

The information gathered is transferred to the target farmers in a number of ways. The comparative farmers submit their information directly to the milk company. The pasture growth and composition data is written up as a report and sent to the milk company. The consultant writes a detailed report regarding their monitoring findings which is also presented to the milk company. All of this information is processed by the Farm Production Officer at Bay Milk Products and formulated into a monthly report contained in the company magazine Update, which is then sent out to all suppliers. Field days on the comparative farm also provide a medium for the transfer of all the information collected to suppliers.

1.9.1.5 The Consultant's Report

The consultant's report presents results of each monthly farm visit (Appendix C). The report is sent to both the comparative farmer and Bay Milk Products and consists of two

main sections. The first is the current farm situation and the second is the list of recommendations which the consultant has made to the comparative farmer.

The farm situation section usually contains sub headings relating to the current issues on the farm. Below is an example listing the headings from an April 1994 consultant report;

-Pasture Cover
-Supplements
-Stock Numbers, Conditions and Intakes
-Animal Health
-New Grass
-Production Summary

The recommendations section generally contains a written summary of the advice the consultant gave to the farmer on the monthly visit. This advice ranges from suggested changes in production management through to financial management.

1.9.1.6 Update

The magazine plays a vital role in the process of extending the comparative farm information and advice to suppliers. The magazine is concise, to the point, is rarely more than four pages in length and simple to read (Appendix D) The monthly magazine contains several important sections pertaining to the comparative farm program. The magazine is divided up into five main sections, and these are as follows;

- Monthly pasture information
- Monthly climate information
- Monthly comparative farm reports (for all four farms)

- Management notes
- Upcoming events

The monthly pasture information section contains pasture data that was recorded from the previous month. It is summarised into a table listing each farm. The data given includes time of pasture sampling and the pasture growth rate growth from cage cut samples on different paddocks within each farm. These different paddocks usually have different pasture growth rates which reflects the differences in soil type, fertility and topography on each farm. A comparison of the current months pasture growth with previous years is also given. Other data presented includes percent dry matter of the pasture, and the percentage composition in the pasture of both ryegrass and clover.

The monthly climate information section contains data obtained by the farmer, from the previous month. The data presented is average soil temperature, total monthly rainfall and the total rainfall received since June of the previous year. This is displayed with each of the farm's data from the previous month beside last years data, allowing comparisons to be formulated.

Each comparative farm has a monthly report of about 150-200 words in the magazine. It gives a brief introduction to the current farm situation in regard to present production levels being achieved and number of cows still milking. It also outlines progress the comparative farmer is making towards achieving the targets set at the start of the season. Other information discussed is, cow condition score and health, average pasture cover and the general state of pasture quality. The monthly comparative farm report concludes with an outline of the projected management plan for the following month and how the targets will be achieved.

The management notes form a brief editorial on topical issues for the current season which farmers should be aware of. They are not included in every magazine, and tend to be in magazines produced around important times of the year for dairy farmers, such as calving, mating, and drying-off.

The upcoming events section is fairly self explanatory. It details upcoming events in the comparative farm programme, and other dairying farming and company events.

1.9.1.7 Field Days

Field days are held on the comparative farm 3-4 times a year. These usually address timely management topics using comparative farm data. Presentations of the current management practices including financial analyses are given, as well as a brief description of current farm situation. Field days often include presentations by guest speakers.

Field day duration is 3 to 4 hours. Usually there is ample time during the course of the day to discuss issues raised during the presentations. The field day also involves an inspection of the herd and pastures to determine how well the comparative farmer is working towards reaching the proposed targets in the farm management plan.

1.9.1.8 Conclusion

Overall the Bay Milk Products comparative farm programme was implemented with clear and well defined goals for all people involved in the programme. The programme however does not address how farmers are to use the programme to increase their milk production. Nor does it allow for any feed back from the farmers. In conclusion it can be stated the programme although well instigated failed to consider how the benefits would flow on to farmers.

1.9.2 The Northland Focal Farm Programme

The Northland focal farm programme was developed in May 1989 and involved a total of 30 focal farms. This programme was developed after the completion of a three year programme from 1986 to 1988 involving two farms. These initial two farms were involved in the programme instigated by the dairy industry when it was challenged by the Prime Minister to show more effective use of research data (refer section 1.7). Johnson (1993) stated that farmer awareness of the original programme was high, but the effect of the focus farm exercise on production and profit of the surrounding farms was not known. Even without this information the Northland Dairy Company took the step of expanding the farm monitoring programme, based on the productions gains seen on one of the two initial farms.

The programmes primary objective was to assist suppliers in identifying and consequently overcoming production-limiting factors on their own farms in order to improve productivity and profitability (Ferrier, 1991). Other objectives of the programme included:

- to provide objective information for discussion groups
- to involve all groups servicing the dairy industry in a co-operative approach
- to help identify issues requiring further research
- to develop a cost-efficient farm management information service for dairy farmers, and
- to provide the opportunity to test radical changes in farm management procedures on commercial Northland farms rather than on research stations. (Ferrier, 1991)

Northland Dairy Company assumed that production gains achieved on the focal farms would motivate other suppliers to adopt similar management practices and hence increase their own production. The farms were selected in a similar manner to other programmes

ie. covered a wide range of soil types, contours and climatic patterns.

The Northland programme lacked a central controller and as a result, Johnson (1993) believes the programme lacked direction, and the extension programme lacked organisation. Field days were only held at the beginning and end of the programme and the information provided to suppliers was limited (Johnson, 1993). Little information was published, and annual reports were sent only to the farmers and consultants directly involved with focal farms. It appears as if the Northland Dairy company focal farm programme did not achieve its objectives.

In conclusion the Northland focal farm programme, used more farms then the Bay Milk Programme, had an inadequate extension programmed and lacked co-ordination for it too be successful.

1.9.3 The Tui Focus Farm Programme

The objectives of the Tui programme are more detailed than that of the Bay Milk Programme. Tui ran four focus farms, the same number as Bay Milk Products. Tui planned to run their programme for three years, with no new farms at the end of this time period. Tui's major objective was to educate and motivate suppliers to increase production. The main aims of the programme were:

- To have 350 farmers attend field days more than once a year
- To have 50% of attending farmers adopt new management techniques that result in 75 kg MF/ha increase in production over five years
- To provide comparative information for farmers in the monthly Tui newsletter.

Unlike Bay Milk Products, Tui also had additional an objective relating solely to the focus

farmers. Tui's objective was to increase production on the focus farms by 250 kg MS/ha over five years. The five year period was used because Tui believed the changes brought about during the three years of the programme would take a further two years to have full effect on the focal farmers production.

Tui like Bay Milk Products, had a desire to increase milk throughput with increased throughput likely to increase the Company's payout. It recognised that some of the extra milk could come from conversions to dairying. It was decided however that it would be better overall for both the company and suppliers if the increased milk production came from existing dairy farms.

The operation of the focus farms was similar to Bay Milk Products programme. Farms selected were typical of the districts they represented and were producing at district average levels. In the first year of the programme the goal was to assess each farms production potential. The consultant aimed to identify current management practices and define the limitations to profitable production. Opportunities for improvement could then be specified, and a plan drawn up for the farmer to achieve the goals projected in years two and three.

The mass extension programme organised for the focus farms was similar to that run by Bay Milk Products. It included field days, a section in the monthly newsletter and reports from consultants to Tui. Tui's field days had a set of objectives that were different to Bay Milk Product's. They aimed to motivate and educate farmers to conduct monitoring programmes on their own farms, and encouraged the farmers to learn about basic input/output relationships involved on farms.

After three years of the programme many of the changes have yet to influence production and profit (Tui Milk Products, 1995). Although the focus farm project has been completed, each farm's progress is being monitored for another two years. It is hoped that the five year target of increasing milk production by 250 kg MS/ha will be achieved

The Tui focus farm project appears to involve more ambitious goals than both the Northland and Bay Milk Products programmes. Tui appears to have developed a more structured and goal orientated project, where every step in the project includes individual goals of achievement. Like Bay Milk Products and the Northland Dairy Company, Tui failed to implement a mechanism for farmer feedback. Neither did they consider **how** farmers would benefit from the programme.

1.10 Evaluations of Comparative Farm Programmes

The only evaluations of monitoring farm programmes (Deane, 1992; Johnson, 1993), discuss the programmes from a production view point. This section outlines the findings from these two studies and looks at alternatives to evaluating comparative farm programmes.

The Northland Dairy Company (refer section 1.8.2), recently completed a three year focal farm programme. The results from the programme were varied, with some farms experiencing an increase in production/ha and production/cow and others a decrease. Figures 1.1 and 1.2 below show the percentage differences in milkfat/ha and milkfat/cow in year three of the programme compared with year one, involving the 21 farms that completed the programme.

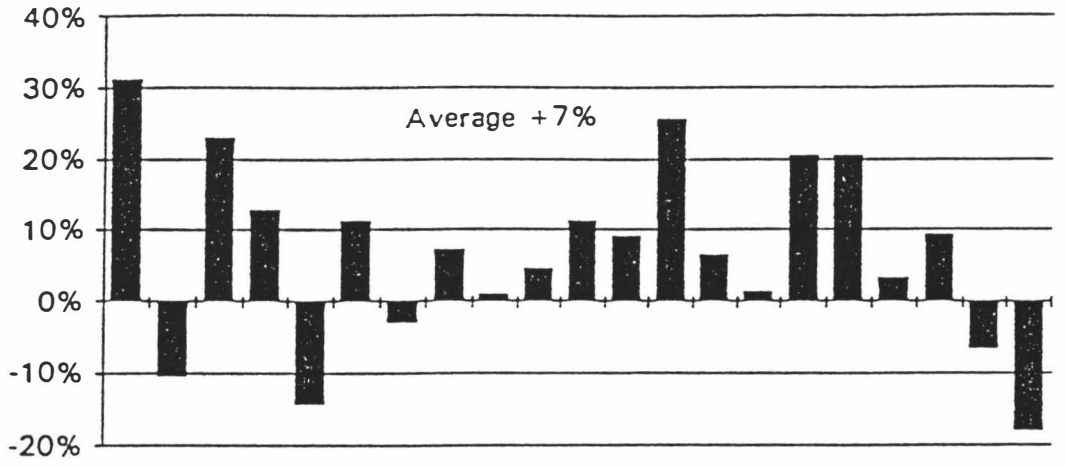

Figure 1.1 The percentage differences in milkfat/ha production in year 3 compared with year 1 on 21 Northland monitoring farms (Deane, 1992).

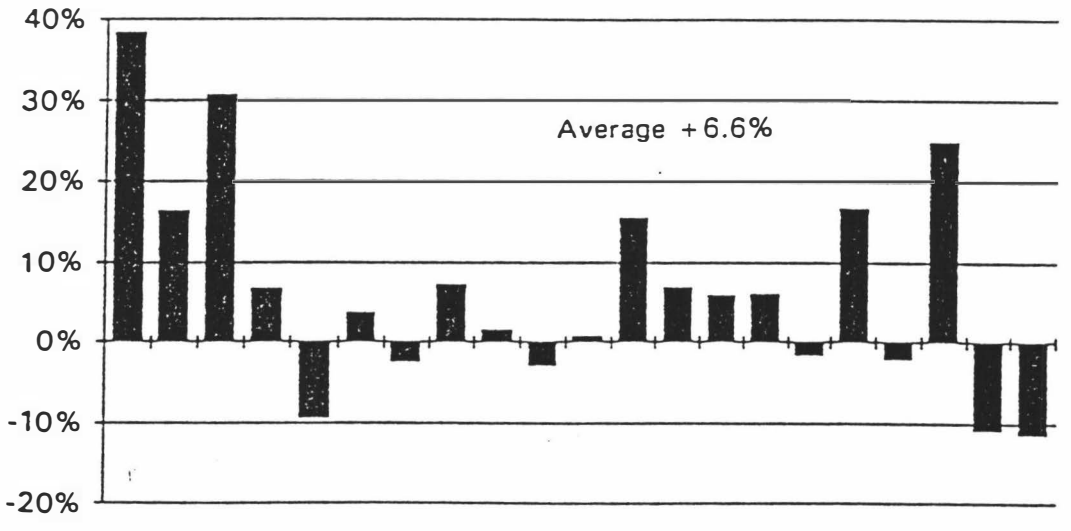

Figure 1.2 The percentage difference in milkfat/cow production in year 3 compared with year 1 on 21 Northland monitoring farms (Deane, 1992).

During the same period the average Northland dairy farm increased milkfat production by .05%. Figure 1.1 and 1.2 show positive results for some of the monitoring farmers. The farms were not set up so that only 21 farmers could increase their production. Instead they were set up so that surrounding farmers would increase their production. When comparisons were made between the surrounding farms and the monitor farm the production gains observed were not as great as those experienced by the monitor farmers. Deane (1992) showed production gains seen on farms surrounding the two original monitor farms set up in Northland were varied. The original programme ran for three years and the two monitor farms had increases of 10% and 20% in total kg milkfat produced. A comparison with local farms was made three years after the programme was completed. Table 1.2 below shows the change in milkfat production on the monitor farms in comparison with surrounding farms.

Table 1.2 Changes in milkfat production per farm to the factory on the two original Northland focal farms and the neighbouring farms (Johnson, 1993) .

	Average Milkfat per Farm (kg)		% change between
	86/87 - 88/89	89/90 - 91/92	three year periods
Dargaville farm	28077	27744	- 1.19%
16 surrounding farms	18355	18522	+ 0.91%
Whangarei farm	20584	23519	+ 14.26%
22 surrounding farms	20803	22014	+ 5.82%

Many reasons have been outlined for the differences relating to production on the monitor farms to that of the surrounding farms (Deane, 1992; Johnson, 1993). The results seen in the Northland programme however have been duplicated in the Bay Milk Products programme. Johnson (1993) states there were several significant differences between the structure of the two monitoring schemes, but resulting trends were quite similar overall. In both cases the production gains accomplished on the monitor farms have not been obtained on surrounding farms (Table 1.3). Johnson (1993) claims this is similar to production progress made by Hawera farmers neighbouring the Taranaki Agricultural Research Station. Deane (1992) claimed monitor farm programmes appeared to have the greatest effect on the farms being monitored, from the above results and table 1.3 this appears to be true.

Table 1.3 Percentage change in average farm production per hectare from 1989/90 to 1991/92 for the Northland and Bay of Plenty regions (Johnson, 1993).

	Focal Farms	Surrounding Farms
Northland	+ 7.0%	- 2.1%
Bay of Plenty	+ 9.1%	+ 0.5%

Little evaluation of anything other than production changes have been carried out on monitor farms. Johnson (1993) outlined other outcomes of the programme. These were the development of a database of local information in both Northland and Bay of Plenty from monitoring; the reinforcement of basic principles of profitable dairy farming to farmers; and showing that Northland has similar management problems to those

experienced in other dairying areas.

Johnson (1993) stated care should be taken when evaluating a monitoring project in terms of only milk production. Farmers may believe a programme is highly successful even though they have not significantly increased production levels. This clashes with Bodeker's (1992) opinion that an extension programme must show measurable benefits to the farmers it is targeting to justify its continuation. There is a conflict here, between how an extension programme should be evaluated. The milk company's measure of success was increased milk production. Johnson (1993) shows that renewed interest and enthusiasm for dairy farming, attainment of personal goals (not always production orientated) and increases in net farm income have all occurred in the Northland programme. Are all these measurable benefits which warrant the continuation of the programme? To the milk company they were not, but using Bodeker's (1992) criteria it can be argued that at least some are.

Johnson (1993) believes the monitor farmers gained confidence in their ability to make decisions and solve problems. This can be considered the most valuable outcome from the programme, the realisation that human inputs, particularly farmer confidence, are important factors controlling milk production (Johnson, 1993).

The availability of monitoring information along with outside advice from consultants and veterinarians enabled some of the monitoring programme farmers to develop the confidence and skills needed to overcome personal and physical constraints to production in a relatively short period of time (Johnson, 1993).

Deane (1992) stated monitor farmers indicated monitoring encouraged them to undertake management action earlier than in the previous seasons. Johnson (1993) reported Northland monitor farmers found monthly visits to the farm by a trusted peer encouraged them to also make critical decisions (eg. drying off or nitrogen application) earlier. The result of these changes in decision making led to significant production gains on some farms at little or no added expense (Johnson, 1993).

Deane (1992) heeds that we should not consider farm monitoring programmes as standalone extension products, but instead consider them as part of the extension process.

1.11 Conclusion

In conclusion, it appears that comparative farms have had a lot of expectations placed upon them. These expectations are not being achieved by the current programmes. The criteria used to evaluate the programmes are production orientated, using simple production comparisons of the comparative farms with neighbouring and district farm averages. Little work has been done to assess other benefits to the farming community. Further, no attention has been paid to establishing what these other benefits may involve and how they may be evaluated.

Bay Milk Products have not carried out any formal evaluations of their comparative farm programme. Little data therefore exists to evaluate the programme as a whole. The purpose of this study is to document the issues facing farmers who attend and do not attend a comparative farm programme. The research needs to discover how farmers may benefit from a comparative farm programme. The objectives of the study are:

a) to determine the usefulness of a comparative farm programme for supplying information to dairy farmers,
b) to determine if farmers find the comparative farm beneficial and
c) to gain a better understanding of the issues surrounding a comparative farm programme from the farmers' perspective.

To achieve this a case study of one of Bay Milk Product's comparative farms has been set up. The case study will involve surveys of all suppliers the farm represents and interviews with selected farmers to discover what the issues are for the them.

CHAPTER TWO
THE OPOTIKI COMPARATIVE FARM CASE STUDY

2.1 Introduction

This chapter describes the comparative farm on which the study is based. The description includes a farm profile, the changes in management over the three years of the programme and an outline of the goals and objectives which the comparative farmer wanted to achieve in the last season in the programme. This chapter also describes the research methods employed to carry out the study.

2.2 The Opotiki Comparative Farm.

The comparative farm on which this study is centred is Bay Milk Products, Opotiki comparative farm in the Eastern Bay of Plenty. This section aims to give a description of the farm prior to it becoming involved in the comparative farm programme and at the end of the programme. It also gives a general description of the farm, along with the subsequent changes to the management of the farm that occurred over the three years of the running of the programme. Examples of the goals and targets which were set yearly by the comparative farmer are also documented for the 1993/94 season.

2.2.1 Farm Profile

The Opotiki comparative farm in this study, started in the programme in the 1991/92 season and completed in June 1994. Table 2.1 presents a before and after profile of the farm.

Table 2.1 Profile of the comparative farm at Opotiki.

	1990/91	1993/94
Dairy farm size (ha)	96	96
Effective area (ha)	82	84
Run off area (ha)	12	12
Herd size 1993/94 (cows)	227	230
Stocking rate 1993/94 (cows/ha)	2.77	2.74
Total farm production (kgs milksolids)	55,364	82,450
Production per hectare (kgs milksolids)	675	989
Production per cow (kgs milksolids)	244	363

2.2.2 Changes in Management on the Farm

Table 2.2 lists the main management changes seen on the farm over the three years of the programme, they help to better describe the farm from a management view point. The changes described are those that were documented by the consultant at the end of the programme.

Table 2.2 Main management changes on the comparative farm (Grieg, 1994).

1991/92	1992/93	1993/94
-Dropped cow numbers wintered to increase per cow production -Held cows in August to ensure feed and 30 day round in September -Round length March out to 35 days -Pasture quality and cow selection maintained with residuals 1600 kg/DM/ha Oct-Feb -Split mobs of calves/heifers all season -Calves/Heifers grown to above monthly targets -Used tail painting analysis and premating heats to improve submissions. -Identified bottom 50 PI cows and culled 12% on PI -Increased fertiliser and lime application to soil test requirements	-Dried off at target MF and cover 13 April 1992 -Fed dry cows as -Heifers/1st calvers 6.4 CS -Cows 5.4 CS -Heifers mated to horned Hereford, calved 10 days late -Season 10% ahead to January due to clover (Seasonal rye and clover sown spring 1992) -Cow condition and high peak allowed production to carry over well in dry Autumn -also high pasture cover over January and lack of topping and clean up helped dry Autumn production -More cow days in milk due to previous seasons improvement in mating -Improved pasture growth rates with fertiliser, wintering on flats and paddock renovation programme	-Crop helped leaving more cover on pastures -Slow down 1 April not March -always grazing longest feed -Fed out silage to slow down -Culling 10% of herd on production -Mature cows calved @ 6 CS -Heifers calved @ 6.5 CS -Pushed cow intakes -Confidence of having maize silage -21% of the farm = 50% of the flats regrassed -Maintain high pasture cover summer, decreases in summer grass/weeds -Topping weeds only

2.2.3 Comparative Farmer Objectives and Goals

The comparative farmers' production objectives in the 1993/94 season were to achieve 936 kg MS/ha and 340 kg MS/cow at 2.8 cows per hectare. While these were their production objectives their personal goals were:

- Reduce overdraft
- Increase labour use - 10 years + sharemilker
- 5 years out purchase a dry stock property
- Grow more grass - use less inputs
- Sustainable system at low payouts and simple management

2.2.4 General Information About the Comparative Farm

The farm commenced with production levels well below that of the New Zealand average. In the first year of the programme production increased by 15%, in the second year production increased by 17% and in the final year production increased by 8%. The total change in production throughout the entire programme represented a 48.5% increase in total MS produced. Thus the farm definitely benefited through increased production during its time as the Opotiki comparative farm.

With the programme now over the production objectives and targets set for the farm have been reached, indicating the consultant's goals for the farm were achievable and not over ambitious. The personal goals of the farmer however, do not appear to of been met by the programme at this stage.

2.3 Methods

2.3.1 Introduction

This section describes in detail the steps involved in setting up the comparative farm study. It describes the methods undertaken to complete the surveys and case studies

involved with the study. Included also is a description of how the results were coded and the steps involved in the subsequent data analysis.

2.3.2 Preliminary Work

Initial contact was made with Bay Milk Products to ascertain their potential involvement in the study. After a favourable response, a meeting was organised to discuss the comparative farm programme with the Bay Milk Products farm resource officer.

During the initial visit to the Bay of Plenty region to meet Bay Milk Product representatives, visits to a comparative farm field day and a meeting with a consultant running a comparative farm were organised. A few weeks later a visit was also organised with the consultant on the monthly tour of a comparative farm. These initial visits gave insights into preliminary issues considered likely to be valuable to follow up with the study.

Time available for this study limited consideration to just one of the four comparative farms. The research would therefore become a case study of one comparative farm run by Bay Milk Products; the Opotiki comparative farm.

2.3.3 Methods Used to Complete Study

The preliminary study involved a mail survey sent out to 180 suppliers farming in the Opotiki comparative farm area, to determine the percentage of farmers attending comparative farm field days. The next step involved case studies of four farmers, two were attenders and two non-attenders. The case studies were used to broaden the

researcher's understanding of what issues there may be to study from the farmers' perspective. From these case studies several main issues were identified. These issues were incorporated into a larger mail survey, which was sent out to 208 suppliers who farmed in the area serviced by the Opotiki comparative farm. The second survey was to establish how the wider population of farmers ranked, scored, agreed/disagreed, and added to, to the issues identified during by the case studies.

2.3.3.1 First Mail Survey.

The first mail survey was a one page questionnaire (Appendix A). It was designed for ease of completion, as suppliers only had to indicate their response to two questions. This survey was constructed with the purpose of providing basic information on the frequency of suppliers' attendance to the comparative farm field days. The survey was posted in the last week of June, with no follow up letter. A reminder however was given to suppliers by the farm resource officer at a field day, to return the survey as quickly as possible.

The first question asked how frequently over the last 12 months, the supplier had attended the comparative farm field days on the Opotiki comparative farm. The second asked the supplier to indicate the ownership structure under which they operated their farm.

2.3.3.2 Case Studies

The case studies were designed to provide an insight into the issues faced by four farmers (two attenders and two non-attenders of the comparative farm field day) in relation to sourcing information, attendance at comparative farm field days, and use

of comparative farm information. These case studies were to provide the basis for the second survey. Questions were structured to identify these issues, using semi-structured personal interviews.

The case study farmers were selected from a group of 10 farmers which were provided by the consultant running the case study comparative farm. Exactly half of the group were attenders and half non-attenders, and all were farming within the area determined by Bay Milk Products which was serviced by the Opotiki comparative farm. The first two farmers in each group of were selected as the case study farmers. One non-attender declined to be involved, thus the third farmer in the non-attender group was instead used.

The interviews lasted between 45 minutes and 2 hours and were taped to allow time to fully focus on the direction of questioning to which the farmers were responding to.

The questions asked related to the following subject areas;

- The information the farmers used in order to manage their farms.
- Sources from which the farmers obtained the above information.
- The level of importance the farmer placed on the comparative farm information.
- Farmer likes and/or dislikes in regard to the comparative farm programme
- Reasons for not attending the field days (to non-attenders)
- Proposed beneficial changes to the programme.

The case study interviewee's tapes were transcribed, then analysed to ascertain which issues should be further examined by a second mail survey to meet the objectives of the study.

2.3.3.3 Second Mail Survey

The second survey (refer Appendix D) was designed to see how the farmers in the area the Opotiki comparative farm represented rated, scored, agreed/disagreed and added to, to the issues identified in the case studies. It was decided that the survey be divided up into three sections for ease of completion and to help with later analysis.

Section One: Background Information.

The first section required completion by all suppliers, and contained 11 questions relating to personal and farming background information and several additional general questions. It also asked for all farmers to indicate their reading habits of the Bay Milk Products newsletter, Update. These questions were designed to build an overall general picture of the suppliers that had responded to the survey.

The last two questions in the first section were classification questions asking farmers to state their own view regarding their personal attendance record, and whether they considered themselves regular attenders to comparative farm field days; and secondly if they deemed these field days worthwhile. If farmers answered yes to both the above questions they progressed directly to section three, if they answered no to either or both questions, they continued on to section two.

Section Two: Non-Attenders.

Farmers who completed section two were those who were, regular attenders who found the programme not worthwhile or non-regular attenders who found the programme either worthwhile or not worthwhile. They answered specific questions relating to this group of suppliers. These questions targeted reasons for non-attendance and lack of worthwhileness.

Section two also asked the suppliers to indicate what they had liked and disliked about the comparative farm programme, and any changes or improvements they could suggest to make them regular and worthwhile attenders of the programme's field days.

Section Three: Regular and Worthwhile Attenders

Section three was specifically aimed towards the suppliers who had found the comparative farm programme worthwhile and were regular attenders of the field days. This section was constructed to obtain their response to issues identified by case study farmers who regularly attended field days.

The suppliers were asked if they compared their farm to the comparative farm, and if they found this a worthwhile exercise. The comparative farm programme is structured to work through farmers comparing their own farming operation to that of the comparative farm, thus being motivated to make improvements on their own farm. This forms the philosophy behind the first two questions in section three.

Section three also required farmers to identify what information they used from the comparative farm programme. The farmers were asked, what they liked and disliked about the programme and any future improvements or changes to the programme they would like to see.

2.3.3.4 Survey Construction

The second survey went through a number of editions before the question layout and wording was finally decided. To enhance the surveys presentation, and to ensure a good response rate, it was made into a small booklet and printed on gold coloured paper in order for it to stand out from other reading matter. The Massey University commercial logo was placed in a prominent position on the front of the survey, to

attract peoples attention to the importance of the survey.

The survey was pre-tested first on, fellow masterate students and then secondly on the four case study farmers. A number of small changes were made to question wording and layout from these pre-tests.

It was mailed out in A4 envelopes to make the survey stand out in the mail box. Included in the envelope were an accompanying letter of introduction (Appendix B) and a pre-paid return envelope. A follow up letter (Appendix C) was sent out three weeks later to all suppliers who had not responded to the initial mail out.

2.3.4 Analysis of results

The results were coded on their return and entered into a computer spreadsheet format. This spreadsheet was used for preliminary analysis of the surveys. The spreadsheet data was then entered into the programme SPSS/PC (Statistical Package for Social Sciences) (SPSS Inc 1990) for further detailed analysis. All variables were analysed for either basic frequencies, percentages or counts depending on the format of the data. Selected variables were cross tabulated and statistically analysed. Statistical analysis included the use of pearsons coefficient, chi-squared, and t-tests, in order to identify the significance of relationships.

2.3 Results from Preliminary Studies

The first mail survey and the case studies were regarded as preliminary research, as they were used to identify issues used to fulfill the objectives of the research. The results from both of these help to demonstrate how the issues followed up in the second mail survey were concluded.

2.4.1 First Mail Survey

2.4.1.1 Response Rate

The overall response rate after four weeks from the date of posting was 117 replies received from a total of 180 surveys posted. This represented a response rate of 65%.

2.4.1.2 Attendance Frequency

The results from this survey are tabulated below in Table 2.3. These results give an insight into the percent of farmers attending the comparative farm and their attendance record over the previous twelve months. These results highlight that there is no large differences in the number of sharemilkers attending compared to owners.

Table 2.3 Attendance frequency of all respondents, and determined in relation to ownership structure.

	All Respondents (n=117)	Owners[1] (n=87)	Sharemilkers (n=30)
Regularly (3-4 times/yr)	14.5 % (17)	16 % (14)	10 % (3)
Sometimes (1-2 times/yr)	36 % (42)	32 % (28)	46.5 % (14)
Never (0 times/yr)	49.5 % (58)	52 % (45)	43.5 % (13)

[1] Includes owners with sharemilkers on the farm.

2.4.2 Case Studies

The transcripts from the four case studies were analyzed and the main issues, from each of the case study farmers identified, and are presented in this section. The issues which were identified covered a broad range of topics, and not all were related to the study's objectives. The results presented illustrate the issues which are specific to each group of farmers who attend and do not attend the comparative farm field days.

2.4.2.1 Case Study Farm A

- The farmer's current production levels have remained static for the last 10 years.
- The farmer attends discussion groups and reads farming journals to keep up with the latest developments in dairy farming.
- He occasionally goes to the Ruakura Farmers Conference, and attends field days held in the district related to dairy farming.
- The case study farmer was a regular attender and had found the programme very beneficial.
- The farmer thought the comparative farm was relatively similar, even though the topography of his farm was different, and still allowed for comparisons to be made with his farm.
- The farmer used the comparative farm to gain information on fertiliser and cow condition and health which was brought back and used on his own farm.
- The farmer does not monitor on his own farm any of the data that was recorded on the comparative farm. He uses the data from the comparative farm as a guide for his own farm.
- As the farmer is over 30 minutes drive and 45 kilometres from the comparative farm, he would have preferred a farm closer to his own.
- The reason given for this, was that would of enable him to compare how well he is doing

in his area which he thinks may be a better production area than Opotiki.

2.4.2.2 Case Study Farm B

- Production has remained static over the last few years.
- Employs a farm consultant.
- Farm consultant has been in area for 20 years, and the farmer feels he knows the area better than anyone else.
- Follows consultants recommendations.
- Reads Dairy Exporter, but finds has little time to do or read anything else.
- Also runs two orchards and has a beef unit.
- Used to attend the first Opotiki comparative farm, doesn't any more as finds, he has little time available to be a regular attender.
- Feels as though the current comparative farm is too dissimilar to his to make worthwhile comparisons.
- Doesn't monitor pastures but uses the comparative farms pasture growth rates, and information supplied by consultant as an example for his own farm.
- Found information on stocking rates, supplement use and wintering methods the most useful to use on own farm.

2.4.2.3 Case Study Farm C

- Young farmer, with a young family, has been farming for five years.
- Had a consultant in every second month after the first year of farming, now uses the consultant only once or twice a year.
- Use the consultant nowadays to confirm changes which he would like to make.
- Reads numerous magazines, as always on the lookout for new ideas.

- Used to attend discussion groups.
- Regularly attends comparative farm field days, states that he has not missed one.
- Feels that the comparative farm and his farm are relatively similar though not identical.
- Thinks that the most valuable information from the comparative farm is on pastures.
- Follows the climatic records from the farm also as a guide for his own farm
- Thought that the comparative farm was one way of getting access to a good advisor for nothing.
- Dislikes how the new farm was chosen this year as it is not nearly as similar to his farm.
- Found comparing production records was good for motivating him to work harder and achieve better results.

2.4.2.4 Case Study Farmer D

- Has been farming for over 20 years and comes from a big family.
- Has four brothers, all dairy farming.
- Production has remained static over last five years.
- Regularly talks to brothers to find out new information and ideas.
- Attends discussion groups regularly.
- Likes to read the Dairy Exporter for new ideas.
- Doesn't attend the comparative regularly now.
- Doesn't go because finds it takes up too much time and his interest in it has started to drop off.
- Feels that his farm is very similar to the comparative farm.
- Follows what is happening on the farm through the company magazine.
- Doesn't read the pasture and climatic data, just the farm report.
- Would like it if the comparative farm was a lot closer in distance to his farm.

2.4.2.5 Conclusions

The interviews highlighted that farmers were very much aware of the comparative farm programme. They all knew where the farm was, and what was happening on the farm. The farmers who were not regular attenders both gave several different reasons, why they were non-regular attenders. These issues were used to create the second section of the second mail survey which the non-regular attenders completed. The two attenders highlighted similar reasons for why they found the programme to beneficial, and their comments were used to create the third section of the survey. The case studies overall highlighted that there were more issues which could of been followed up however due to the time limit of the study only those which benefited the study's objectives were followed up in the second survey.

2.5 Conclusion

This chapter has described the comparative farm on which the study was based and how the study of this farm was carried. Due to the study only looking at one comparative farm, the conclusions of the results presented in the following chapter can only draw inferences to the farm studied. It was not the study's aim to draw inferences which could be related to all comparative farms or comparative farm programmes. Instead it was to look at one farm and document the issues on it. The results presented in the following chapter could however be used when considering how to undertake a formal evaluation of a comparative farm programme.

CHAPTER THREE
RESULTS FROM SECOND MAIL SURVEY

3.1 Introduction

This chapter presents the results from the second mail survey. The results presented highlight the important findings from the study, though discussion of the implications of the results is confined to chapter four. The second survey was designed to gauge the response of farmers in the area served by the Opotiki comparative farm on issues which may effect the usefulness of the comparative farm programme.

3.2 Response Rate.

The overall response rate after five weeks of returns was 82 replies received from a total of 208 surveys posted. This represented a response rate of 39.4 %. After the initial mailing of the survey, only 21% were returned. A follow up letter was distributed at the beginning of the third week, and this increased the response rate to 39.4 % overall.

3.3 Farm Profile

The results summarised in this section provide background information into all of the farmers who responded to the survey (refer Table 3.1). The average age of the respondents was 46 years. The average number of years these farmers have been involved with dairy farming was 24 years. 55% of farmers were owner operators,

24% were sharemilkers or contract milkers and 21% were owners employing a sharemilker or contract milker. (Note this indicates some farms may have been used twice in the calculation of average farm profile.)

The average farm area was 96 hectares with an average effective milking area of 73 hectares. Average herd size of 195 cows with a stocking rate of 2.74 cows per hectare. Exactly half of the respondents leased or owned a runoff.

Average farm production for the 1993/94 season was 61,183 kilograms of milksolids at 857 kilograms of milksolids per hectare with the average production per cow was 314 kilograms milksolids for the 1993/94 season.

Table 3.1 Farm Profile

	Number[1]	Mean	Range
Farmer age (years)	80	46	27-79
Farmer experience (years)	82	24	1-60
Dairy farm size (ha)	80	96	18-450
Effective area (ha)	81	73	18-280
Herd size 1993/94 (cows)	81	195	47-800
Stocking rate 1993/94 (cows/ha)	81	2.74	1.92-4.7
Total farm production (kgs milksolids)	80	61,183	11,795-300,000
Production per hectare (kgs milksolids)	80	857	455-1,350
Production per cow (kgs milksolids)	80	314	226-442

[1] Number of farmers responding with this characteristic.

20% of respondents were involved in one other farming enterprise besides dairying. These included horticulture, dairy beef, sheep and forestry. A further 6% of respondents were involved in two or more other farming enterprises.

In order to determine the respondents current use of extension services they were

asked about their attendance at discussion groups and use of consultants. 57% of the respondents indicated they attended discussion groups, and 42.5% indicated that they employed a farm consultant. However, how regularly they made contact with the consultant or how regularly they attended the discussion group was not established.

3.4 Comparative Farm Attendance Results

Respondents are referred to as being in either of two groups. The first group is the 'regular' group, they are the respondents who have indicated in question 11 that they were regular attenders of the comparative farm field days and that they found them worthwhile. The other group is the rest group. This group includes the respondents who did not fall into the first group. The regular group were required to complete sections one and three of the second mail survey and the rest group to complete sections one and two of the second survey.

When asked about their attendance of the comparative farm field days, 17% of all respondents (n=82) indicated they were regular attenders (refer Table 3.2). When this group was asked if they found the field days worthwhile only one regular attender (out of 14) indicated they were not worthwhile. The remaining 13 respondents indicated they were regular attenders who found the field days worthwhile to attend. These 13 respondents make up the regular group.

For all respondents, exactly half indicated they thought the comparative farm field days were worthwhile (Table 3.2). Of the remaining 50% of respondents, 30% thought the field days were not worthwhile, and the remaining 20% stating no opinion.

In the rest group there is only one regular attender. 40% of the rest group rated the field days worthwhile even though they did not attend them regularly, 35 % found them not worthwhile, and 25% were undecided.

Table 3.2 Attendance information of respondent, with percentage of respondents in each group.

	All Respondents	Regular	Rest
Regular attender	17 % (14)	100% (13)	1% (1)
Worthwhile to attend			
Worthwhile	50% (41)	100% (13)	40% (28)
Not Worthwhile	30% (24)		35% (24)
Unsure	20% (17)		25% (17)

Numbers in parenthesis are the actual number of respondents in each category.

Those farmers who indicated they were not regular attenders, were asked if they had ever attended a field day at all. Of all the respondents in this group 46 or 56% had indicated they had never been to a field day at all. Of those respondents who did not attend any field days, seven indicated they thought the field days would be worthwhile even though they had not attended (refer Table 3.3).

Table 3.3 Farmer response to the worth of field days in regard to attendance.

	Have attended	Have not attended
Worthwhile	41 % (34)	9 % (7)
Not Worthwhile	1 % (1)	28 % (23)
No opinion	1 % (1)	20 % (16)
Totals	43 % (36)	57 % (46)

Numbers in parenthesis are the actual number of respondents in each category.

The table 3.3 shows from all the farmers who attended a field day, only two did not classify them as worthwhile. Of the two who did not deem the field days worthwhile one was a regular attender who was unsure of the direct worth of the field days in relation to his/her farming situation. The second was a non-regular attender who found the comparative farm irrelevant to his/her situation. These results indicate that nearly all of the farmers who attended the field days found them worthwhile. Only 14 (n=36) though, who have been to a field day have remained regular attenders. Of

the other 22 who are not regular attenders, 20 found the field days worthwhile. This signals that these farmers had other reasons for not regularly attending the field days. The majority of respondents who deem the field days not worthwhile have actually yet to attend one, which suggests that they may change their mind if they attended a field day.

3.5 Comparison of Respondents.

Table 3.4 shows when all respondents were divided into two groups, regular and rest, their farm profiles differed very little. The main difference shown from the results involves the range of responses. The regular group has a narrower range than the rest group in all categories. The two groups were statistically analysed, results indicate none of the differences seen in the farm profiles two groups are significantly different ($P<0.05$).

Table 3.4 Farm profile of regular attenders and the rest of the sample.

	Number[1] Regular	Number[1] Rest	Mean Regular	Mean Rest	Range Regular	Range Rest
Farmer age	13	67	45	46	27-74	29-79
Farmer experience (yr)	13	69	23.5	24	10-55	1-60
Dairy farm size (ha)	13	67	87	97	60-140	18-450
Effective area (ha)	13	68	74	73	45-125	18-280
Herd size 1993/94	13	68	194	195	114-395	47-800
Stocking rate 1993/94	13	67	2.6	2.76	2.06-3.16	1.92-4.7
Total farm production (kgs milksolids)	13	67	62,336	60,958	36,630-116,816	11,795-300,000
Production per hectare (kgs milksolids)	13	66	843	859	630-1,000	455-1,350
Production per cow (kgs milksolids)	13	67	326	312	282-401	226-442

[1] Number of farmers responding with this characteristic.

The ownership structure of the two groups differed little (refer Table 3.5), the regular group consisted of only a slightly greater proportion of sharemilkers and slightly smaller proportion of owner operators who employ a sharemilker / contract milk compared to the rest group.

Table 3.5 Ownership structure comparison.

Ownership structure	Regular (n=13)	Rest (n=69)
Owner operator	54 % (7)	55 % (38)
Sharemilker / contract milker	31 % (4)	23 % (16)
Owner with sharemilker / contract milker	17 % (2)	22 % (15)

Numbers in parenthesis are the actual number of respondents in each category.

Of the regular group only 46% lease or own a runoff while a only slightly greater proportion of the rest group lease or own a runoff at 51%. 15% or 2 of the regular group have one other farming business enterprises, while 20% or 14 of the rest group have one other farming business enterprise and 8% or 5 of the rest group have two or more other farming business enterprises.

An interesting comparison involves the attendance at discussion groups and the use of farm consultants (refer Table 3.6). There is a significant difference between the two groups in regard to attendance at discussion groups (χ^2, $P<0.05$), with a significantly larger proportion of the regular group attending discussion groups. The use of a farm consultant between the two groups is not significantly different (χ^2, $P<0.05$).

Table 3.6 Comparison of attendance at discussion groups and use of farm consultants.

	All respondents	Regular	Rest
Attendance at discussion groups	57% (47)	85%(11)	52%(36)
Use of a farm consultant	42.5%(35)	38%(5)	43.5%(30)

Numbers in parenthesis are the actual number of respondents in each category.

3.6 Distance and Time from the Comparative Farm

Suppliers were asked to indicate the distance in both kilometres and minutes they were from the comparative farm. The average distance to the comparative farm was 20 kilometres with a range of 1 - 140 kilometres (six farmers were unsure of the distance). The average time estimated to reach the comparative farm was 18 minutes, with a range of 1 - 120 minutes.

On average the regular group were only 17 kilometres and 15 minutes away from the comparative farm, with the rest group being 21 kilometres and 19 minutes away. These differences between the two groups were not significant ($P<0.05$).

3.7 The Rest Group

This group consisted of 69 respondents who did not classify themselves as both regular and worthwhile attenders of the comparative farm field days. The respondents in this group consisted of all farmers who considered themselves to not be regular attenders of the comparative farm field days plus one regular attender who considered the field days not worthwhile. Of the respondents in this category 66.6%

had never been to a field day at all while the others had been to at least one or more field days.

As this group consisted of respondents who were not regular attenders, questions were asked to determine why they had not been regular attenders. Of the 69 respondents within the rest group, 68 were not regular attenders. Table 3.7 summarizes several reasons farmers indicated why they were not regular attenders at the field days. This table also compares the reason for not being a regular attender with those who have attended, and have not attended a field day at all.

Table 3.7 Reasons for not being regular attenders.

	All (n=68)	Have not attended a field day (n=42)	Have attended a field day (n=22)
Not enough time available	36% (24)	26% (12)	55% (12)
Components of the farm not relevant to own situation	3% (2)	4% (2)	0
Prefer to use other sources of information	7% (5)	6.5% (3)	9% (2)
Attend another comparative farm	3% (2)	4% (2)	0
Multiple reasons given	32% (22)	35% (16)	27.5% (6)
No reason given	19% (13)	24.5% (11)	8.5% (2)

The above table indicates that not having enough time available to attend the field days is the most common single reason given. As some respondents gave multiple reasons for not being a regular attender table 3.8 below shows the total number of responses to each reason from the 68 respondents who were not regular attenders.

Table 3.8 Number of responses to each reason.

Reason	Total Responses
Not enough time available	39
Components of the farm not relevant to own situation	15
Prefer to use other sources of information	19
Attend another comparative farm	6
None	13

The above table highlights the comments made before that not having enough time available to attend the field days was the main reason respondents gave. This represents over half the non-regular attenders having not enough time available, which indicates the current format of the field days is too time consuming for over half the farmers who do not regularly attend. Of the farmers who indicated they preferred to use other information sources to find information, table 3.9 summarises the other sources which these farmers used.

Table 3.9 Summary of other information sources which the non-regular attenders preferred to use (n=19).

Source of information	Number of responses
Farming journals and magazines	10
Consultants	7
Discussion groups	5
Neighbours	2
Videos	2
Other	5

NB. Some farmers listed more than one source which they preferred to use

3.8 The Regular Group.

The regular group as previously mentioned were classified as all those who indicated that they were both regular attenders and found the comparative farm field days worth while. There were thirteen respondents who fitted this category.

This group of respondents were asked if they thought it was valid to compare their farm to the Opotiki comparative farm. Eleven thought this was a valid comparison, and commented the reason it was valid was because aspects of their farms were similar to that of the comparative farm. Aspects which these farmers considered similar are listed below:

- country
- aspect
- topography
- area
- management
- production levels
- ratio of hill to flat
- size of farm and herd.

Only one of the two farmers who thought the comparison not valid commented on why this was so. This respondent commented that the farms were totally different properties, therefore a comparison was not valid.

Of the group who thought comparisons were valid, ten had compared aspects of their farm with the comparative farm. These farmers had all considered making comparisons of their farm with the comparative farm a worthwhile exercise to undertake. They were then asked to describe the aspects they compared the most. Seven respondents listed these aspects, and they are presented in table 3.10. Some farmers mentioned up to five aspects which they considered important to compare with the comparative farm. The most common comparison that the respondents made

with their own farms, was that of milk production.

Table 3.10 Comparisons made with the comparative farm by the regular group (n=10).

Aspect compared with comparative farm	Number of responses
Milk Production	5
Grass/pasture production	3
Management	3
Cow condition	2
Young stock	2
Calving pattern	2
Animal health	2
Stocking rate	1

NB. Some farmers listed more than one aspect they compared with the comparative farm

Of the management information collected on the comparative farm for the field days and the company magazine Update, all respondents assimilated some of this information. Table 3.11 shows some selected pieces of information collected that was made available to the respondents and shows how many respondents used each type.

Table 3.11 Types of information collected on the Comparative Farm and used by the regular group (n=13).

Type of information	Number of Respondents using the information
Pasture growth rates	8
Rotation lengths	12
Fertiliser recommendations	10
Cow condition scores	12
Supplement making and feeding	10
Other	6

From table 3.11 the most popular information supplied by the Comparative Farm is that on rotation lengths and cow condition scores.

3.9 Likes, Dislikes and Changes to the Comparative Farm Programme as Suggested by the Rest Group

The rest group of farmers were asked to list what they liked or disliked about the comparative farm programme and any improvements they thought were necessary in order for them to become regular field day attenders.

These comments were analysed and similar topics were grouped under headings which best represented them. Table 3.12 summarizes the comments on what the respondents liked about the programme, table 3.13 summarizes the dislikes and table 3.14 summarizes the changes suggested. Beneath each table is a list of selected comments which represents the headings used in each table.

Table 3.12 Summary of what the rest group liked.

Comment	Number of responses (n=54)
Provided a comparative farming example	16
Provided new ideas and information	18
Interesting discussions and debates	9
Guest speakers at field days	6
Other	5

NB: Some farmers indicated more than one reason.

Examples of individual comments under each heading are listed below

Provided a comparative farming example:

-"Excellent example of what can be achieved."

-"Gives a good indication of conditions on other farms in the local area."

-"Gives you an opportunity to compare your own achievements."

-"Can compare how well our farm is doing to the comparative farm."

Provided new ideas and information:

-"Good way to keep up with the latest ideas."

-"Well run, with good information available."

-"Good source of information."

-"Up to date ideas."

Discussions that arose:

-"Exchange of ideas with fellow farmers outside your own discussion group."

-"Opportunity to talk to other farmers."

-"Input into discussions from other farmers."

-"Talking to forward and progressive thinking people."

Guest speakers:

-"Interesting guest speakers."

-"Opportunity to listen to guest speakers."

Others:

-"Cheap information source."

-"Close to own farm."

-"First hand report on how the company is going."

Table 3.13 Summary of dislikes of the rest group regarding the comparative farm programme.

Comment	Number of responses
Didn't relate to own farm situation	7
Dislike the farm's consultant	5
Too much time was required to attend field days	4
Resource constraints limited the use of obtained information	3
Others	6

NB. Some farmers indicated more than one reason.

Examples of individual comments made under each heading are listed below.

Didn't relate to own farm situation:

-"Relevance of farm to district."

-"Doesn't relate to low producing farms in marginal areas."

-"The type of farm being used."

Disliked the consultant:

-"Consultant pushing own barrow."

-"Consultant does not tell the full story, only the positive points."

Too much time was required to attend field days:

-"Not enough time to attend."

-"Too time consuming."

Resource constraints limited the use of obtained information:

-"The financial input required to make some practices go are well beyond those I have as a mortgaged sharemilker on a small job, so I can't make them work, and the farm advisor overlooks this fact."

-"The ideas are excellent, but when you just starting out you lack the finance

to implement them yourself."

Others:

-"Competitive atmosphere."

-"Not enough encouragement for the average farmer to improve."

-"Too much focus on one farm and consultant, along with their methods and biases."

Table 3.14 Rest group opinion of the proposed changes to the comparative farm programme.

Change suggested	Number of responses
Change the emphasis of farm	7
Change the consultant	4
Other	7

Examples of individual comments under each heading are listed below.

Change the emphasis of the farm:

-"Follow more mainstream farming practices."

-"Do something on summer crops."

-"A sustainable farming attitude."

Change the consultant:

-"Change the advisor."

Other:

-"Better linking of financial viability of a course of action, including feedback after the event."

-"Change the farm more regularly."

-"Tie in more with discussion groups."

-"A farm with the same soil type and production levels."

3.10 Likes, Dislikes and Changes to the Comparative Farm Programme as Suggested by the Regular Group.

Like the rest group the regular group were also asked to comment on aspects of the comparative farm which they liked, disliked and thought could be improved (refer Table 3.15). Two major aspects were identified that respondents liked about the programme, they were the contact with other farmers and the new ideas, information and advice that came out of the programme.

Table 3.15 Aspects of the comparative farm the regular group liked (n=11).

Comment	Number of responses
Contact with other farmers	6
New ideas, information and advice	6
Guest speakers	4
The consultant	3
The farms progress	3
Company information and update	3

NB. Some farmers indicated more than one aspect.

Some examples of the individual comments under each heading are listed below.

Contact with other farmers:

-"Chance to talk to other farmers...."

-"Contact with other farmers."

New ideas, information and advice:

-"Getting different ideas."

-"Getting ideas and views from other farmers."

-"Good learning day..."

Guest speakers:

-"Guest speakers on topical subjects."

The consultant:

-"Good advisor holding field day."

-"The consultants justification of decisions based on facts."

The farms progress:

-"The farm improving so much in three years."

Company information and update:

-"An update on how the factory was going."

Outlined below are dislikes of the comparative programme as determined by the regular attenders.

- "Because the advisor always looks to the positive - negative parts of the farm are not shown or discussed."
- "Don't think the new farm will be as successful."
- "Afternoon sessions."
- "Poor attendance from locals."
- "Perhaps a little slow getting going."
- "Competition between consultants."
- "He was doing better than me."

No particular issue seemed to be a common dislike amongst the group.

When this group of respondents were asked what changes could be made to the programme to make it better a number of useful comments were made. These

comments are listed below:

- "A shorter discussion time before going around the farm with more time after when you have something to discuss."
- "Looking at young stock more."
- "Keep them more realistic, the new Opotiki farm has tonnes of potential so the gains able to be achieved aren't comparative with many farms."
- "Would like to see a farm in our area selected."
- "If you attend all functions associated with dairy farming you would never be at home."

While once again these were all individual responses with each respondent describing a different change or improvement they would like to see in the programme.

3.11 Reading Update

In the first section of the survey all farmers were asked to indicate if they regularly read the Bay Milk Products monthly company magazine Update, which is sent to all suppliers. 94% of all respondents indicated that they regularly read the monthly magazine. The suppliers were also asked to indicate which sections in the magazine they regularly read. The monthly comparative farm report for Opotiki was read by all respondents who read Update regularly and 99% of the readers read the management notes regularly.

Analysis of the reading of the magazine was also made with the two groups of respondents, regular and rest (refer Table 3.16). All the regular group read the magazine, while 93% of the respondents in the rest group regularly read the magazine. There were no large differences between what sections each group read in the magazine.

Table 3.16 Percent of respondents reading Update and what sections they regularly read.

	All respondents	Regular	Rest
Read Update regularly	94 (77)	100 (13)	93 (64)
Sections regularly read			
The monthly pasture information section	83 (64)	85 (11)	83 (53)
The monthly climatic information section	83 (64)	70 (9)	86 (55
The monthly Comparative Farm report for Opotiki	100 (77)	100 (13)	100 (64)
All the monthly Comparative Farm reports	86 (66)	92 (12)	84 (54)
The management notes	99 (76)	100 (13)	98 (63)
The upcoming events	93 (72)	92 (12)	94 (60)

NB. The figures given for the percentage who regularly read each section is calculated using only those who indicated that they regularly read the magazine.

CHAPTER FOUR
DISCUSSION AND CONCLUSIONS

4.1 Introduction

This chapter discusses how the results from the surveys and case studies progressed towards achieving the objectives of the study. It also looks at further work which could be carried out to enhance the results already obtained. Some recommendations are made for how Bay Milk Products could improve the comparative farm scheme. Conclusions are drawn on the implications of the results for the further use of comparative farms as an extension tool.

4.2 Response Rate

Parker and Hughes (1989) suggest response rates from mail surveys are usually in the range of 50-75%. The response rate of the first survey at 65% could therefore be considered good. The second mail survey recorded a response rate of 39.4 % which is well outside the range suggested by Parker and Hughes (1989). This survey consisted of considerably more questions than the first and was posted to farmers in a busy time of the year (Christmas). This response rate though compares favourably to a recent mail survey of all dairy farmers in New Zealand, that was prepared by the MRL Research Group. This survey had a response rate of 46%, which was considered very high by the managing director of the research company who carried out the survey (MRL Research Group, 1994). If this survey is used as the benchmark then response rate for the first survey was very good and the second survey average.

The second survey does not however, represent the views of the majority of the farmers

in the Opotiki district. The survey results may be biased towards those who responded if the population of non-respondents is not similar to the respondents. Table 1.1 showed the average farm profile for Opotiki and Whakatane districts in the Bay of Plenty. These averages are similar to those presented in Table 4.2 which are for the respondents from the second survey. The farm profile of the average responder is similar to that of the average farm in the Opotiki and Whakatane districts. On this basis the respondents seem to represent a good cross sample of all production levels seen in the Opotiki district.

4.3 Attendance at Field Days

The first survey indicated that 17 or 14.5% of the respondents in the Opotiki district were regular attenders of the comparative farm field days, 42 or 36% attended sometimes and 58 or 49.5% had never attended. The second survey, which had a lower response rate, indicated 14 or 17% of respondents were regular attenders, 22 or 27% attended sometimes and 46 or 56% had never attended a field day. The 'sometimes' group were classified as those who attended either one or two field days a year. If it is assumed those in the 'sometimes' group all attended one field day a year, then using the results from the first survey and considering there were four field days a year the average number of suppliers at a field day would be 28. This indicates 24% of the respondents are present at each field day at the Opotiki comparative farm. If the wider population of suppliers were of the same mix of farmers, then 24% of suppliers in the Opotiki area attended each field day. Johnson (1993) stated Bay Milk Products estimated approximately 25% of suppliers were regularly attending the field days. Results show in fact only 17% are regular attenders and the others are suppliers who attend between one and two field days a year. From the results of the first survey, over half of suppliers attend the field days at the comparative farm throughout the year with approximately 24% in attendance at each field day.

4.4 Worthwhile Attenders.

Farmers were asked in the second survey to state if they found the field days worthwhile. The results showed only two farmers from the total number of respondents who had attended at least one field day (n=36) had not considered the field days to be worthwhile. Of the respondents who had never been to a field day (n=46), seven thought they would be worthwhile even though they had never attended one, 23 thought they were not worthwhile and 16 were of no opinion. Overall, exactly half of the respondents had indicated they thought the comparative farm field days were worthwhile, with 30% indicating they were not worthwhile. If nearly all the farmers who attended a field day found them worthwhile then there is an avenue for improvement in the percentage of non-attenders who would find the field days worthwhile. If more of the farmers who have never been to a field day attend one, based on current observations they should find going to a field day a worthwhile exercise and may become regular attenders. Obviously the respondents who already find them not worthwhile without having been to one may not, but the respondents who currently have no opinion or who find them worthwhile would be ideal targets for increasing the patronage of the field days.

Care should be taken when assuming the farmers who have never attended a field day, will attend one, find it worthwhile and will become regular attenders. Of the respondents who have been to at least one field day (n=36), only 39% have remained regular attenders. This indicates that though the subsequent 61% found the field days worthwhile, they were for other reasons not regular attenders.

4.5 Non-Regular Attenders

The reasons farmers listed for not being regular attenders were seen as issues that could help meet the objectives of this study and were followed up from comments made by the case study farmers. If the reasons why some farmers were not regular attenders could

be identified then it could be ascertained if it was due to a dislike they had with the programme or a personal issue that had nothing to do with the programme.

The results chapter showed that farmers had a number of reasons for not being regular attenders. 39 respondents out of 68 said, time factors were a major constraint in attending the field days. This response was more common from respondents who had been to at least one field day, which suggests that it is an important issue which must be addressed in order for attendance levels to increase. It may be the case that some farmers, due to time constraints may never be able to attend a field day, and may be one reason for non-attendance that changes to the current comparative farm field day format will not overcome.

Other reasons farmers indicated on the survey for not being regular attenders were: components of the farm were not relevant to their own situation, they preferred to use other sources of information and attended another comparative farm. The case studies highlighted the fact some farmers may not attend the field days at all because they felt the farm being used was too different to theirs, for the field day to be of any use to them. Only 18% of farmers indicated this was a reason for not being regular attenders and 3% gave it as their only reason. The case studies also showed that while some farmers considered their farms to be quite different to the comparative farm, they still found the field days to be worthwhile and the information coming from the farm to be useful.

23% of the respondents indicated they preferred to use other sources of information over being a regular attender at the field days. It was anticipated from the case studies the most popular sources of other information would be consultants, discussion groups and farming journals. Table 3.9 indicates this was true as 10 of the respondents said they preferred to use farming journals and magazines as an information source, 7 said they used a consultant and 5 said they used discussion groups. This reveals that some farmers may find other sources of information more accessible, regular, appropriate, easier to obtain or understand as compared to the information from the comparative farm.

A small group of farmers indicated their reason for not being regular attenders at the field

days was because they attended field days at another comparative farm. The main reason given for attending other comparative farms, was the farmer had previously lived in the area serviced by the alternative comparative farm they presently attended, and they still found it worthwhile to attend the field days there. Conversely this could mean there may be attenders at the Opotiki comparative farm field days who reside outside the Opotiki area, which were not included in the survey.

4.6 Discussion of Comparisons Between the Regular and Rest Groups of Respondents

This section looks at the two groups to see if there were any differences between them. The objectives of the comparative farm programme were to stimulate an increase in production as well as profitability. The second survey only gathered data on production levels and not profit. The effect of the comparative farm then has only been considered in terms of milk production.

4.6.1 Farm Profiles

The comparison of the two farm profiles showed there were no significant differences between the two groups. This information reveals the regular attenders are drawn from a range of farms and production levels, similar to the rest group. The regular group are not all high producing farmers nor are they all low producing farmers looking for management and production answers. This study did not include a longitudinal comparison, therefore no comment can be made on the changes in level of production achieved by the regular and rest groups.

Johnson (1993) stated the production gains accomplished on comparative farms have not been observed in surrounding farms. This appears to be the case for the Opotiki

comparative farm, as there appears to be no real advantage in terms of production levels to the regular attenders of the comparative farm field days. If the regular group had mirrored the gains made on the comparative farm then they should currently have production levels which are well above the averages currently observed, considering the Opotiki comparative farm increased total milksolids production by 48.5% over the last three seasons.

4.6.2 Distance to the Comparative

The distance both groups had to travel to reach the comparative farm was not significantly different. This was investigated to determine the geographical range of suppliers being serviced by the comparative farm. The results indicate farmers who do attend the field days come from just as far away as the rest group and are willing to travel long distances to attend the field days if they consider them to be a worthwhile exercise.

4.6.3 Discussion Groups and Consultants

The regular group had a significantly higher attendance rate at discussion groups at 85%, when compared to the rest group at 52%. The implications this result has to the study are uncertain, but one reason maybe, the regular group are more interactive and prefer learning within a group environment. If this was the case, one could predict the rest group to employ farm consultants more often. This was not the case as the rest group (43.5%) were not significantly different to the regular group (38%) in their use of farm consultants.

4.6.4 Conclusion

There appears to be no direct benefit to the farmers who attend the comparative farm field days in terms of increased milk production. This study has not increased our knowledge on how farmers use information to improve their farming situation. Rather it does confirm that while some farmers value interaction with comparative farms others do not. Traditional measures of differences between farmers (age, level of production, distance from comparative farm etc) are not helpful in distinguishing between farmers in this matter.

4.7 Usefulness of Information

The regular group were used to answer questions aimed at determining the usefulness of the information obtained from the comparative farm. In hindsight, all of the respondents should of been asked these questions. The answers in this section therefore only represent the views of the regular group.

11 of the 13 respondents in the regular group thought it was valid to compare their farm to the comparative farm. From the comments given in the results chapter, the main reason farmers thought this comparison was beneficial, was because they considered their farm to be similar in some way to that of the comparative farm. This suggests, as observed in the regular attenders, some farmers may only find the comparative farm useful when it is relevant to their own situation. However two regular attenders who found the field days worthwhile thought their farms were so different that comparisons between their farm and the comparative farm were not valid. This shows some farmers find the comparative farm programme useful, and worthwhile to attend even though they cannot compare their own farm directly to the comparative farm. Ten of the thirteen in the regular group actually compared aspects of their farm with the comparative farm. This indicates that some farmers had found the field days worthwhile without actually having to compare their farm

to the comparative farm at all.

Other farmers in the regular group may find the programme useful due to the information generated on the comparative farm. All of the regular group used some of the information generated through continuous monitoring on the comparative farm. This leads to the conclusion, that the comparative farm provided a useful service to some farmers by providing information which they could utilize on their own farms.

The rest group were not asked which sources of information they used. The case studies however, highlighted that this group may also use information from the comparative farm. The two non attenders in the case studies both indicated through Update, (the company magazine) they used information on pasture growth rates and current management practices on the comparative farm. The readership of Update suggests nearly all farmers were well aware of the comparative farm programme. With 94% of respondents reading Update regularly and 100% of these reading the monthly comparative farm report for Opotiki, the level of awareness does appear to be high among respondents. It is presently unknown how many of these readers use the practical information contained in the magazine, though limited information from the case studies suggests that it could be high. One area which could be investigated is the number of farmers who do not have direct contact with the comparative farm, but still use information about the farm published in Update. This would show exactly how many farmers are making use of the information that is being produced by the comparative farm programme. The current study almost certainly undervalues the extent to which comparative farm information is used.

4.8 What Respondents Liked, Disliked and Wanted Changed in the Comparative Farm Programme

The rest group indicated the two things they liked the most about the comparative farm was it provided a comparative farming example which they could follow and it provided new ideas and information. The regular group also liked the new ideas and information

they obtained from being regular attenders of the comparative farm field days. The regular group also indicated, social contact with other farmers as a major benefit of the programme. This is obviously limited to attenders of the field days. Both groups listed guest speakers at the field days as something they liked.

Few dislikes were expressed by the rest group. The main dislikes of the rest group were assumed to be reasons for their non-regular attendance of the field days. The most common dislike was the comparative farm did not relate to their own farming situation. This has already been discussed as a reason for non-regular attendance. Another common reason was that too much time was required to attend field days and this has previously been mentioned. This shows that some respondents may have wanted to be regular attenders but are not due to dislikes of the programme.

7% of respondents mentioned they disliked the consultant running the programme. The consultant is a very important part of the running of the programme. As the comparative farmer has the most contact with the consultant they are allowed to select the consultant of their choice, to ensure they both have a good working relationship. The small number of respondents who dislike the consultant could be accepted as not all farmers will like every consultant.

The main dislikes of the rest group, time required to attend field days, emphasis on how the farm is run and the consultant were not mentioned by any of the regular group. The dislikes of this group were minor personal complaints. Addressing these issues would not alter how the comparative farm programme was run.

Few respondents of the rest group indicated changes which they thought would make the comparative farm field days worthwhile to attend. The most common change among the responses recorded was to change the emphasis of the farm. Farmers wanted to see a new approach taken on the farm, compared to the current farm management practices. However all of the approaches suggested by the respondents were different. The other common response was to change the consultant. As mentioned previously, this does not seem to be a worthwhile issue to pursue as the choice of consultant is the comparative

farmers prerogative. The changes suggested by the regular group were specific to the running of the field day and all suggestions were different. Overall the changes suggested by both groups were quite specific with little in common.

4.9 Objectives

The objectives of the study were to determine: a) the usefulness of a comparative farm programme for supplying information to dairy farmers, b) if the farmers find the comparative farm beneficial and c) to gain a better understanding of the issues surrounding a comparative farm programme from the farmers' perspective. This section discusses how the results of the survey progressed towards each objective being met.

4.9.1 Objective a

From the results presented it appears the comparative farm programme is useful for supplying information to dairy farmers. Nearly all farmers came in contact with information generated by the farm through reading the company magazine Update. The case studies showed the non-attenders may be actively using the information from the comparative farm through reading the company magazine. The regular attenders of the programme were actively using information on variety of topics from the comparative farm back on their own farms. Many of the respondents also indicated that what they liked best about the programme was the new ideas information and advice which the programme gave them. This leads to the conclusion that the comparative farm programme was useful for supplying information to farmers.

4.9.2 Objective b

From the results section and the discussion on objective (a) it must be concluded that the comparative farm programme is useful to farmers. Even though only 14.5% of the respondents in the first survey were regularly attending each field day, the awareness of the programme is very high among all respondents. A majority of farmers are probably using information generated on the farm either through attendance at the field days or reading the company magazine. This would indicate the farmers are finding some benefit in the programme. 50% of the respondents have indicated they find the field days worthwhile, with only 30% of the respondents indicating the field days are not. Therefore it must be accepted that the programme is beneficial and useful to farmers.

4.9.3 Objective c

The results of this study have documented the findings of a survey on one comparative farm. While data on the farmers who attend and do not attend the farm is limited, it has provided some insight into the two group's reasons and issues for why they chose to attend or not attend the field days. Further research is needed, to uncover more background information on the respondents so that comparisons could be made on financial data and trends in production over the duration of the comparative farm programme. This study has documented some aspects of the comparative farm programme and how farmers may be benefiting from the programme. The issues investigated have helped to shed more light on how a comparative farm programme may benefit farmers.

4.10 Conclusions

This study has shown that comparative farms are useful in supplying information to farmers. The study has also concluded half of the respondents found the field days worthwhile and nearly all followed the comparative farms progress and that most of these would of used information from the comparative farm. Obviously not all farmers will find it beneficial but there appears to be a majority of farmers who do and follow the farms progress. No measurable benefit to milk production in the regular attenders group was discovered in the study, but this has more to do with the methods used then their being none to observe.

4.10.1 Further Work.

While this study did provide some answers it also uncovered more questions which need to be answered to fully understand how farmers are benefiting from the comparative farm programme. As indicated in chapter one, the farmers are probably not seeing an increase in production as a result of contact with the comparative farm. Where then do farmers see a benefit in being involved with the farm? Further work is needed to find this answer. Their may be no measurable benefits to production as Johnson (1993) has indicated. However the unmeasurable benefits Johnson (1993) describes could be examined in further work and in particular how farmers are using information they assimilate from the comparative farm.

4.10.2 Problems Encountered

The second survey in hindsight had many failings. Many questions which were directed to only one group of respondents should have been completed by all respondents,

especially the questions directly asking the regular respondents to indicate which types of information they used from the comparative farm, should of been addressed to **all** respondents.

The response rate to the second survey could of been improved with more forward planning. The survey was posted out in a busy time of the year (Christmas). The follow up letter was posted less than a week before Christmas day and all suppliers may not of been at home during this time of year (on holidays most likely). Ideally the survey should of been posted a month or two earlier.

The worst problem could be a result of only 39.4% of farmers being represented in the second mail survey, a worst case scenario, of all the non-respondents disliking the programme, and not having any contact with the information generated on the comparative farm, would have a big effect on the outcome of the study's results. If all farmers who do find the comparative farm programme worthwhile have responded, then the results would indicate only 20% of farmers find the programme worthwhile. This would change the outcome of the study dramatically.

4.10.3 Recommendations

The study has lead to few conclusions which could provide information to Bay Milk Products on changes which could be implemented. Perhaps only an awareness to the company that if they could attract new attenders to the comparative farm field day these people may find the programme worthwhile, thus lifting the percentage of people who are directly benefiting from the programme.

The only reason given for not being a regular attender, which changes to the current format of the comparative farm programme could rectify was, that components of the farm were not relevant to the respondents own situation. The changes required will occur naturally every three years, when a new farm is selected. The problem would be that

when a new farm is selected even if it was relevant to the group who currently do not find it relevant there would be some farmers who still would find the new farm not relevant to their situation. With over 210 farmers in the area which the Opotiki comparative farm is supposed to represent, it would be hard to find one farm which would satisfy all.

With over half of the respondents having their only contact with the farm through the company magazine Update, then more farms could be used to monitor data on and be documented monthly in Update. This is currently being done to some extent with farms that have completed the programme still being used to monitor pasture and climatic data. The suggestion outlined here is for more farms to be used in this way to increase the number of production areas being represented by monitored data. As Deane (1991) stated, the benefits of comparative farm programmes come from the aspect of monitoring. With more data being monitored and made available, more farmers will be able to find a farm which is relevant to their own farming situation and use the monitored data back on their own farm. Thus increasing the number of farmers who can find a farm which is relevant to their own farm and increasing the amount of information which farmers can use to compare their farms too.

4.11 Conclusion

Bay Milk Products comparative farm programme is a worthwhile extension tool for farmers and provides them with a useful source of information. The programme benefits farmers by the supplying of information, which is monitored regularly on the farm and published monthly in the company magazine and used at field days on the farm. Farmers do not need to attend the field days to follow the farms progress and obtain information which will be beneficial to them which is important as over half the farmers have time constraints which prevent them regularly attending the field days. The only recommendation from the study is that more farms could be used to monitor data on, so that those who currently find the comparative farm not relevant to their own farm, can have access to comparative data

The study has uncovered more issues which could be investigated with further research, especially the issue of how farmers are actually benefiting from the programme and how this could be evaluated. Also the information farmers are using form the comparative farm how are they using this back on their own farms? The answers to these questions could be difficult to uncover and may require more time and more indepth case studies than this study has completed. Work is currently being undertaken (per. comm. David Gray) to look at what information dairy farmers use and how they make decisions with it. The farmer first research programme which has already established the importance of farmer circumstances in the Sheep and Beef sector has also begun work in dairying. It seeks to establish the issues that farmers are attempting to address on their own farms (per. comm. Alan McRae).

Until it is know what decisions farmers are trying to make and how they make them and the information needed in the process, current extension programmes could be misguided. Once these results are obtained, then a framework can be formulated for the evaluation of extension programmes like Bay Milk Products comparative farm programme.

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PPENDIX A

MASSEY
UNIVERSITY

Private Bag
Palmerston North
New Zealand
Telephone 0-6-356 9099
Facsimile 0-6-350 5606

FACULTY OF
AGRICULTURAL
AND
HORTICULTURAL
SCIENCES

DEPARTMENT OF
AGRICULTURAL
AND
HORTICULTURAL
SYSTEMS
MANAGEMENT

6th June 1994

ear Supplier

Comparative Farm Study Survey.

y Milk Products Ltd. is assisting a Massey University post-raduate student with a study on the usefulness to farmers, of ie companies "Comparative Farm" program.

ould you please assist this study by answering the following uestion.

uestion 1: Over the last twelve months I have attended omparative farm field days;

- regularly (3-4 times)
- sometimes (1-2 times)
- never

elete as appropriate)

uestion 2: I am;

-Owner
-Sharemilker

elete as appropriate)

ease sign, add your supply number, and return this card as on as possible in the reply-paid envelope (no stamp ecessary). All information will be treated with the trictest of confidence.

gnature:_____

pply Number:_____

PPENDIX B

MASSEY
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FACULTY OF
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SCIENCES

DEPARTMENT OF
AGRICULTURAL
AND
HORTICULTURAL
SYSTEMS
MANAGEMENT

lovember 25th, 1994

ear Supplier,

ay Milk Products Ltd. have been running Comparative Farms since 1989.

as a student from Massey University, am trying to determine the usefulness of ese farms to farmers. This work will form the basis of my masterate research at lassey University.

ly study relates only to the Comparative Farm run at Opotiki. Due to this, only ppliers in the areas immediately surrounding Opotiki have been selected to rticipate in this survey.

s part of my study you may have already completed a pilot questionnaire in early ly. This enclosed survey is a follow-up of that work, and I would appreciate your sponse. **Please complete this survey even if you did not complete or receive the rst questionnaire.**

ou can be assured of complete confidentiality. The return envelope has an lentification number for mailing purposes only. This permits me to check your me off the mailing list when your survey is returned, and guarantees that you on't receive any additional follow-up mailings. Your name will never be placed n your survey.

he results of this survey will be presented to Bay Milk Products Ltd., and a mmary of findings will be included in a future copy of UPDATE.

you have any questions regarding the survey please feel free to contact me at:

Work (06) 356 9099 extn 8040 (Massey University)
Home (06) 359 3570.

hank you for your assistance. I look forward to receiving your completed estionnaire.

ours sincerely

R. C. Romano

ichard Romano
Agr.Sci. Student

)PENDIX C

MASSEY
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FACULTY OF
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DEPARTMENT OF
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SYSTEMS
MANAGEMENT

December 1994

ar Supplier.

cording to my records you have not yet responded to my survey of mparative Farms, which was posted to you two weeks ago. It may be that the vey form was misplaced, or put aside to fill in later, or just forgotten about all ether. Whatever the reason, there is still time for you to return your survey d have your say. I really would appreciate and value your views on the matters investigating.

uld you please complete the survey and return it in the free post, (no mp required) reply envelope provided. All that is required is 10 minutes of ur time.

ould you have any problems or questions regarding this survey please do not sitate to contact me at the above address or on (06) 356 9099 extn 8040. mers knowledge and views are required to support the future directions of the ur industry. Thank you for your time and cooperation.

urs sincerely

hard Romano
Agr.Sci. Student

APPENDIX D

COMPARATIVE FARM SURVEY

MASSEY
UNIVERSITY

1994

SECTION A.

Question 1. What is the size of your farm?

_____Total ha

_____Effective milking ha

Peak number of cows milked 1993/94

_____

Expected peak number of cows milked 1994/95

_____

Total production 1993/94 season (to the factory plus any other milk sales)

_____kg MS

Expected production 1994/95 season (to the factory plus any other milk sales)

_____kg MS

Question 2. Do you own or lease a run-off?

☐ YES ☐ NO

If YES, was it used for

Dry cows?	☐ Yes	☐ No
Rearing replacements?	☐ Yes	☐ No
Making hay or silage?	☐ Yes	☐ No

Other ? (Please specify) .....
.....

Question 3. Are you a

☐ Sharemilker / Contract milker.
☐ Owner operator.
☐ Owner operator who employs a Sharemilker/Contract milker.

How long have you been in this position?

_____years

Question 4. How long have you been involved with dairy farming?

_____years

Question 5. How old are you?

_____years

Question 6. If dairying is not your only farm business enterprise, please list in order of importance your farm enterprises. (With 1. = most important)

1. .....
2. .....
3. .....

Question 7. Do you attend any discussion groups?

☐ YES ☐ NO

Question 8. Do you employ a consultant? (For example: Agriculture New Zealand, Farm Wise or a private firm.)

☐ YES ☐ NO

Question 9. Do you regularly read the Bay Milk Products Limited monthly newsletter UPDATE?

☐ YES ☐ NO

If YES, what sections do you regularly read in UPDATE?

Monthly pasture information section	☐ YES	☐ NO
Monthly climate information section	☐ YES	☐ NO
Monthly Comparative Farm report for Opotiki	☐ YES	☐ NO
All monthly Comparative Farm reports	☐ YES	☐ NO
The management notes	☐ YES	☐ NO
The upcoming events	☐ YES	☐ NO

Question 10. How far were you from the Comparative Farm when it was Arnold and Lois Reeves' farm at Opotiki?

Distance :_____ kilometres

Time :_____ minutes

Question 11. During the time that the Comparative Farm was Arnold and Lois Reeves' farm at Opotiki, did you consider yourself to be

A **regular** attender at the Comparative Farm field days?

☐ YES ☐ NO

Someone who found them **worthwhile**?

☐ YES ☐ NO

If you answered **YES** to **both** questions in **Question 11,** go to **Question 20**. Otherwise go to **Question 12** below.

SECTION B.

Question 12. Have you ever attended a Comparative Farm field day at the Reeves' farm?

☐ YES ☐ NO

Question 13. If you didn't attend regularly the Comparative Farm field days at the Reeves' farm, is it because you do not have enough **time** available to be a regular attender?

☐ YES ☐ NO

Question 14. If you didn't attend regularly the Comparative Farm field days at the Reeves' farm, is it because you consider components of the Comparative Farm **not relevant** to your situation?

☐ YES ☐ NO

If YES, which of the following about the Reeves' Comparative Farm do you consider **not relevant** to your situation?

☐ The proportion of hills on the farm.
☐ The size of the farm.
☐ The district the farm is located in.
☐ The number of cows the farm has.
☐ The level of production achieved by the farm.
☐ The soils on the farm.
☐ Other (please specify).....
.....
.....
.....

Question 15. If you didn't attend regularly the Comparative Farm field days at the Reeves' farm, is it because you prefer to use other sources of information.

☐ YES ☐ NO

If YES, what are the other sources of information you prefer?

.....
.....
.....

Question 16. If you didn't regularly attend the Comparative Farm field days held at Reeves' farm, during the same time did you regularly attend field days at another Comparative Farm?

☐ YES ☐ NO

If YES, which farm was it?

.....

If YES, why did you go there?

.....
.....
.....

Question 17. What do you dislike about the Comparative Farm scheme?

.....
.....
.....
.....
.....

Question 18. What do you like about the Comparative Farm scheme?

.....
.....
.....
.....
.....

Question 19. What changes, if any, would make the field days on a Comparative Farm worthwhile for you to attend?

.....
.....
.....
.....
.....

The remainder of this survey is not relevant if you have just completed Question 19. Please return the survey in the enclosed reply envelope. Thank you for your participation.

SECTION C.

Question 20. Do you think comparing your farm to the Reeves' Comparative Farm is valid?

☐ YES ☐ NO

Why? (Please specify).....
.....
.....
.....
.....

Question 21. Did you ever compare your farm to the Reeves' Comparative Farm?

☐ YES ☐ NO

If YES, did you find comparing your farm to the Comparative Farm a worthwhile exercise?

☐ YES ☐ NO

If YES, what aspects of your farm did you compare with the Comparative Farm the most? (Please specify).....
.....
.....
.....

Question 22. Were you able to use information on the following topics from the Reeves' Comparative Farm?

Pasture growth rates	☐ YES	☐ NO
Rotation lengths	☐ YES	☐ NO
Fertiliser recommendations	☐ YES	☐ NO
Cow condition scores	☐ YES	☐ NO
Supplement making and feeding	☐ YES	☐ NO

Is there other information which you used from the Comparative Farm ?
(Please specify)

.....
.....
.....
.....
.....

Question 23. What other aspects of the Comparative Farm made it worthwhile for you to be a regular attender?

.....
.....
.....
.....
.....

Question 24. Are there any aspects of the Comparative Farm scheme which you dislike?
(Please specify)

.....
.....
.....
.....
.....

Question 25 Are there any changes or improvements to the current running of the Comparative Farm scheme which you would like to see? (Please specify)

.....
.....
.....
.....
.....
.....

Please place the completed survey in the reply envelope provided and mail as soon as possible. Thank you for your participation.

Any other Comments

.....

.....

.....

.....

.....

.....

.....

.....

Thank You For
Your Participation.

Agriculture NEW ZEALAND MAF

APPENDIX E

COMPARATIVE FARM PROGRAMME
Consultancy Summary

For : Opotiki

By : Management Consultant (Agriculture)
Agriculture New Zealand

Visited : 19 April 1994

1.0 FARM SITUATION

1.1 Pasture Cover

Average farm cover is about 2050 kgDM/ha. Cover is as predicted but growth rates have been well above average and maize silage wasn't fed out till April.

1.2 Supplement

About 500 bale equivalents of maize silage have been fed out and expected to have fed about 800-1000 by end of April. None will be fed in May leaving about 4500 b.e for rest of winter and spring. Only about 2500 required.

1.3 Stock Numbers, Condition and Intakes

	Nos	Intakes	Requirement/ha Area 96-8 ha	Supplement	c.s
Milkers	180	13	26 kgDM/ha/day	2 kgDM/hd/day	4.6
Dry cows	20	7 }	5.4	2	4.4
Heifers	48	7 }		2	6÷ (480÷)
Calves	50	6	3.4	0	240÷ kg lwt
			35 kgDM/ha	5.6 kgDM/ha/day	

Note: Feed demand from pasture is about 29 kgDM/ha/day. Drying off

Agriculture New Zealand, Whakatane
Housing Corporation Building, Pyne Street, Private Bag 1001, Whakatane
Telephone 07-308 7346 Facsimile 07-307 1352
A division of the Ministry of Agriculture and Fisheries

cows by 25th April should maintain cover for May assuming calves get mostly new grass and no supplement is fed. (248 cows @ 8 kgDM on 88 ha = 22 kgDM/ha) = May growth).

1.4 Animal Health

Blood tests show cows have some facial eczema good trace elements. Calves - which were given zinc have no facial eczema. Lameness still occurring.

1.5 New Grass

About 8.7 ha is in new grass including the orchard - all up.

1.6 Production (summary chart included)

47,000 kgMF all be achieved before drying off about April 25.

To April 18th	46,475 kgMF - last year	414,000
	81,586 kgMS - last year	72,623

Production is 18% ahead daily due to maize silage and higher peak and 12% ahead season to date.

Cows are producing	0.84 kg milksolids/cow/day	0.52 kgMF
	1.82 kg MS/ha/day	

from 180 cows on once a day.

2.0 RECOMMENDATIONS

A - HAVE A GOOD HOLIDAY!!

2.1 Dry off about April 25th as planned.

2.2 Feed out as much maize silage as practical till end of April. Keeping drying off cows to 6 kgDM/head/day total feed.

2.3 Feed cows all grass in May while on holiday at about 8 kg/head/day older cows and 9 kgDM/head/day heifers and light cows.

Note Heifers are so large that you may be better to farm 2 mobs just on condition and feed heifers/heavy cows 8 and light cows 9 kgDM/head/day.

2.4 Lightly graze new grass with calves in May.

2.5 Get surplus cows off farm end of April and winter only those to be milked next season.

2.6 Send final production to accountant to revise tax estimate before May.

2.7 Each mob of 120 cows needs about 0.8 ha/day on all grass if going into about 2500 kgDM/ha and grazing to 1200 kgDM/ha. This is about 2 days per paddock in small paddocks and 3 days in big paddocks. Assuming 50 paddocks including Runoff and excluding new grass - a 60 day round.

2.8 This can be back to 90 days with maize in June.

MILK LIMITED

UPDATE

MARCH 1994

MPARATIVE FARM UPDATE

RCH MANAGEMENT NOTES:

Continue Facial Eczema precautions.

Plan for
- undersowing poorer pastures
- possibility of bloat
- lengthening rotation length
- putting on Autumn nitrogen
- treating cows with dry cow therapy to reduce potential mastitis problems next season.

Continue teat spraying to reduce mastitis.

ivestock Improvement Consulting Officer Service has put out a chart recommending the following liveweights for this time of the year:

	9 months	18 months
Jersey	150 kg	285 kg
Jersey x Friesian	170 kg	330 kg
Friesian	190 kg	380 kg

COMPARATIVE FARM FIELD DAY

PONGAKAWA

John Scrimgeours - Pongakawa Bush Road - S. No 1563

DATE: Wednesday 30th March (mark this on your calendar now)

TIME: 10.00 a.m. - 12.30 p.m.

GUEST SPEAKER: Norm Thompson

TOPIC: "Setting up to increase performance further next year."

MER OF THE YEAR AND SHAREMILKER OF THE YEAR:

ined dinner will be held at the Whakatane Motor Lodge on Saturday 26th March. Tickets are d to 200, cost $27.50 per head and are available from Federated Farmers Tauranga (ph 07 578 Martin Pryor (07 366 4882) and Bay Milk Products Ltd. (phone Jeanette 07 304 9011)

FEBRUARY PASTURE INFORMATION

	Visit Date		KG DRY MATTER/HA/DAY Cages	Cage Ave. 1994	Cage Ave. 1993	Farm Est	%D.M.	% RYE	%CLOVER
OTIKI	24-2	- Flat	56				16	82	9
		- Undersown	45	50	28	42	15	56	14
		- Not undersown	49				14	43	16
LATEA	24-2	- Front	43				13	47	3
		- Middle	29	39	17	42	12	24	4
		- Back	46				13	18	5
		- Lucerne	68	(est)			17	Lucerne 95%	
GECUMBE	24-2	- Peaty	50				14	51	14
		- Sandy	54	51	NA	38	12	11	18
		- Lease	51				15	57	12
GECUMBE	24-2	- McHardy	53	51	34	34	15	59	15
NGAKAWA	23-2	- Top	37				17	29	2
		- Slope	34	42	7	31	18	39	11
		- Flat	57				13	18	11
PAMOA	25-2	-	34	34	NA	25	18	51	5
AKURA	23-2	-	43	43	24	40	25	73	9

CLIMATE FOR FEBRUARY

	SOIL TEMP 1994	SOIL TEMP 1993	SOIL TEMP RANGE	RAINFALL mm 1994	RAINFALL mm 1993	NO. RAIN DAYS	TOTAL from 1.6.93	TOTAL from 1.6.92
OPOTIKI	18.4	17.4	16-21	126	79	10	674	979
GALATEA	20.5	20.0	19-22	89	42	7	660	833
EDGECUMBE(Watkins)	19.7		18-22	97		9	697	
EDGECUMBE(McHardy)	19.3	16.8	16-22	93	88	9	709	1062
PONGAKAWA	19.5	17.3	17-22	154	95	9	840	1167
PAPAMOA	19.2		17-21	95		7	557	
RUAKURA	19.4		17-21	34		5	654	

OTIKI - 84 ha *(Farm Consultant, Tonya Greig Ag NZ)*

Reeves are producing about 1.17 kg MS/cow/day (0.7 kg MF/cow) and 3.1 kg MS/ha/day on 84 ha 97% of the December cow numbers (222 still milking). 40,000 kg MF was achieved on Feb 28 pared with the 40,000 target on April 3 last year - 46,600 kg MF (81,500 kg MS) is likely by April 20. condition has dropped 0.3 condition score to 4.7 over the month. Calves and heifers are all on the ing area cleaning out pastures for regrassing - all are well above target live weights.

ure cover at 2100 kg DM/ha is still 100 kg DM/ha above target with additional growth since rain.

ure quality is excellent with abundant clover.

nagement plans for next month are to maintain rotation length at about 24-25 days. Keep fully feed- cows to maintain 0.7 kg MF/cow/day and cow condition. Dry off 6 light cows (under 4.0) now. There weeks feed ahead for the cows then culls should go. Feed out last years maize silage. Graze out bras- crop for early sowing of new grass. Sell surplus calves and cows to winter requirements by mid rch.

ATEA - 83 ha *(Farm Consultant, Peter Livingstone, Ag NZ)*

and Tania are continuing to find seasonal conditions favourable. However this in itself does not natically transform into good production. Consequently a sharp watch will be maintained to ensure ıcus of fully feeding stock is not jeopardised by other decisions.

nain focus for March will be to hold milking numbers and high intakes for as long as possible. ever as March progresses so will the necessity of starting to set up for 1994/95.

condition is still excellent at just under 5.0 average. The herd is currently producing at over 1.1 kg us protein per day or at 2.5 kg/ha/day. This remains significantly above past achievements for this of the season. Peter and Tania are again able to confirm the good conception rate for the herd. few have cycled in the last month. Decisions on pasture renovation, and autumn fertilizer are to be in the near future. The farm should continue to benefit from the pro-active decision-making that red right from last August. This has highlighted the benefits from planning well ahead and not just day by day or weekly basis.

ECUMBE - 119 ha *(Farm Consultant, Mark Macintosh, Ag NZ)*

pared to last year February this has been a good production month with daily milksolids up 16% for rst 14 days and 25% for the last period. Season to date production is still up 29% on last year and n that targeted. The daily per cow of 1.24 MS has been well maintained largely as a result of a er rotation which is down to 21 days. The milkers are leaving behind 1800-2000 kg DM/ha which romoting high regrowth. There was still alot of dead matter in the base of the pasture which was ly disappearing with recent rain (70 mm). The crop has just finished with 4 days of deferred graz- ft. Maize silage is being fed out at the rate of 1.5 kg DM/cow/day (started 21 Feb) to increase fibre nt of feed after the rain. Pasture cover is on target at 2300 kg DM/ha.

the next month emphasis will be on preparing for next season. The aim will be to drop down to 250 (290 at peak) mid March at which time lengthen the rotation out to 30-35 days. Feeding supple- from now to ensure cows are fed at least 16 kg/DM/cow/day. Applying fertilizer with nitrogen, and ssing the crop paddocks. Also to keep putting weight on the calves and yearlings.

season is shaping up well. Take note the above management is designed for a 10% increase in cow ers and a 10 day earlier mean calving date. Next season we expect a 12% increase in production this season which would equate to a 40% increase in 2 years.

GAKAWA - 141 ha, 114 milked on. *(Farm Consultant, John Simmonds, L.I.C.O.)*

Scrimgeours are down to 249 cows, producing about 0.95 kg MS/day, which is over 70% ahead of ear, and a fraction below the budget line. We are fast getting to the point where planning for next takes priority. The weekly (22 Feb) condition score check at 4.43 average is a slight decline, signal- warning. Probably 30-50 will be dried off very soon, to give them the time to get back to score 5 by May. This will have to be done on the milking area, so will further reduce the area available to milking. Using last autumns excellent growth rates, we are unlikely to be able to handle more than ilkers for March/April, and still feed dries to be gaining weight. This will all be on grass only, with lage kept for the unexpected. This all sounds strange, with the farms greenness (from the fertiliser on - 70 tonne - and the excellent rain) translating into an average cover of 2500, which is 400 more last year. But that is only 2 weeks extra milking, which we have had.

leferred grazing has been used throughout Feb by the first 4-5 rows out of the shed, and as usual a week for the cows to adjust to. The grazing round stayed at 25 days on the rest of the farm. While bviously far from an ideal feed, the recovery of clover stolons and new rye seedlings in the deferred is already spectacular, and likely to be some of the better performing paddocks in future.

s continue on a daily shift ahead of the herd, and were 135 kg at a weighband check mid month; s ahead of the target lines. FE precautions continue with zinc drenching to cows and calves and trough to yearlings. All cows and yearlings have been P/D'ed to confirm the expected good result and 2 respectively not in calf, and about 30 due after Sept 1, or 6 weeks.

OMPANY UPDATE

RMING WITH PICTURES VIDEO: Your next Farming with Pictures video - "Dairying, Autumn)4" - will be posted to company suppliers during the first fortnight in March. Farming with Pictures is e to all dairy company suppliers. Copies are also available to non-suppliers at $25.00 each including S.T. and postage. To order, please phone 09 522 0338, or write to Farming with Pictures, O. Box 9728, Newmarket, AUCKLAND.

MATIC CELL COUNTS: The Company average S.C.C. is currently around 230,000. Over the last ıonths our lowest 10 suppliers have averaged 60,000. Our worst 10 suppliers over the last 6 months ve averaged 650,000. The February Dairy Exporter has a good article on pages 47 & 48 on steps that ı be taken this Autumn to reduce cell counts for next season. Past experience shows it is possible to atly reduce cell counts and to do it without a lot of culling. Further information can be obtained from ın Pitchers ph. 07 304 9011.

e 1994-95 SAMM calendar is arriving soon and suppliers should receive it this month.

IRRIGATION FIELD DAY

DATE:	Thursday 17th March at 10.00 a.m. - 2.00 p.m.
PLACE:	Mr P. Briscoe's farm at Hamea Rd, Galatea
LUNCH:	Bring your own lunch.
SPEAKERS:	P. Briscoe - Farmer
	Gerald Van den Bosch - on his system.
	Keith Pheasant - on management and economics
	Environment BOP speaker - on water rights
	Gavin Williamson - Dept of Conversation

The day will look at the Long Lateral irrigation system and also the environmental aspects of irrigation systems.

FUTURE EVENTS:

March	*Thursday 17*	*Irrigation Feild Day, Galatea*
	Thursday 24	*DRC Autumn Field Day, Ruakura*
	Saturday 26	*Sharemilker & Farmer of the Year - Dinner*
	Wednesday 30	*Pongakawa Comparative Farm Field Day*
April	*Thursday 7*	*Sharemilker of the Year Field Day*
	Monday 11	*Dairy Industry Ward Conference , Hamilton*
	12 - 16	*Bay Milk Products Communication Meetings*
	Thursday 21	*Farmer of the Year Field Day*
June	*14 - 18*	*National Feild Days Week, Hamilton*
	28 - 29	*Bay Milk Products Winter Seminars*

Mann Printing Ltd.