A FARMERS PERSPECTIVE

OF

THE LONG TERM BENEFITS

OF

THE BAY OF PLENTY POLYTECHNIC'S

TRAINING DAIRY FARM.

A G Buchanan.

1992.

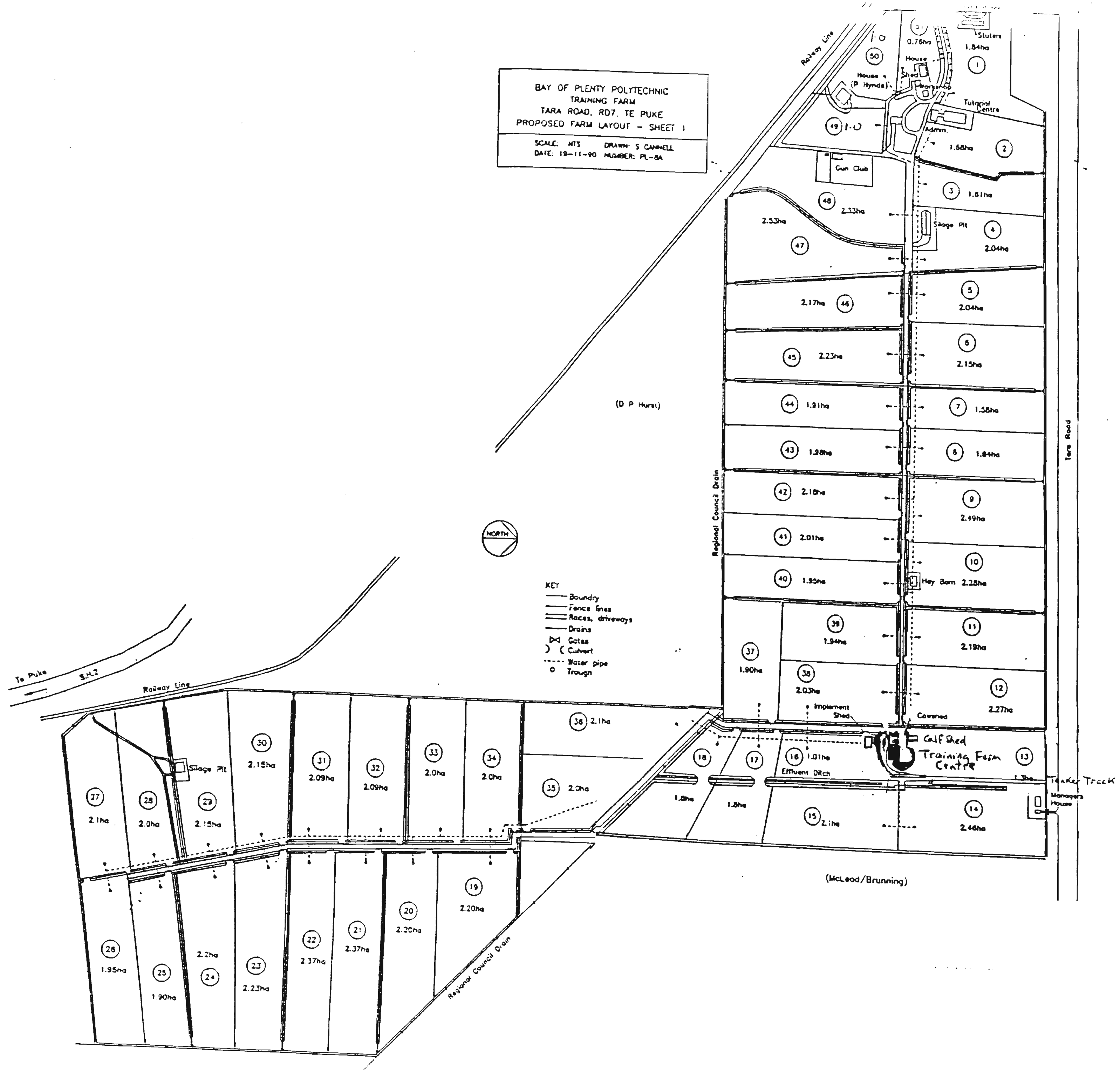

BAY OF PLENTY POLYTECHNIC
TRAINING FARM
TARA ROAD, RD7, TE PUKE
PROPOSED FARM LAYOUT - SHEET 1
SCALE: NTS DRAWN: S CANNELL
DATE: 19-11-90 NUMBER: PL-8A
KEY
Boundry
Fence lines
Races, driveways
Drains
Gates
Culvert
Water pipe
Trough
NORTH
Tara Road
Railway Line
Te Puke
S.H.2
Regional Council Drain
(D P Hurst)
(McLeod/Brunning)
Tanker Track
Managers House
Calf Shed
Training Farm Centre
Cowshed
Implement Shed
Effluent Ditch
Hay Barn
Silage Pit
Gun Club
Admin.
Tutorial Centre
Workshop
House
Shed
House (P Hynds)
Stulels
1 1.84ha
2 1.68ha
3 1.81ha
4 2.04ha
5 2.04ha
6 2.15ha
7 1.58ha
8 1.84ha
9 2.49ha
10 2.28ha
11 2.19ha
12 2.27ha
13
14 2.46ha
15 2.1ha
16 1.01ha
17 1.8ha
18 1.8ha
19 2.20ha
20 2.20ha
21 2.37ha
22 2.37ha
23 2.23ha
24 2.2ha
25 1.90ha
26 1.95ha
27 2.1ha
28 2.0ha
29 2.15ha
30 2.15ha
31 2.09ha
32 2.09ha
33 2.0ha
34 2.0ha
35 2.0ha
36 2.1ha
37 1.90ha
38 2.03ha
39 1.94ha
40 1.95ha
41 2.01ha
42 2.18ha
43 1.98ha
44 1.91ha
45 2.23ha
46 2.17ha
47 2.53ha
48 2.33ha
49 1.0
50 1.0
51 0.76ha

TABLE OF CONTENTS

PAGE

THE PROJECT

To consider the long term policies that could be adopted to maximise the returns from the Bay of Plenty Polytechnic's Training Dairy farm in relation to ;

1) Commercial return to the Polytechnic.

2) Training of students.

3) Practical research of dairying topics.

4) Extension of research findings.

The Polytechnic's Agriculture Team in conjunction with the Farm Advisory Committee developed the following Mission Statement for the Bay of Plenty Polytechnic's Training Dairy Farm for it's inclusion in the 1993 Activity Plan;

" To have the leading productive, profitable dairy farming unit that provides a suitable environment for training and facilitates agricultural research."

This Project attempts to combine the viewpoints of **some** of the wide range of people and organisations who can potentially have an interest in the outcome from the Polytechnic Farm.See Appendix 1. As current Chairman of the Farm Advisory Committee, I considered it important that such consultation took place in order that future policy direction for the farm is in step with those other interested parties.

HISTORY

Agricultural training commenced in the Bay of Plenty in 1978 with the appointment of an Agricultural Tutor by the Senior Technical Division of the Tauranga Boys' College.

Further developments followed with the opening of the Rural Education Centre at Edgcumbe in 1984.

In 1988 the Papamoa Agriculture Centre became the Bay of Plenty Polytechnic's centre for Agricultural Training.

In the Bay of Plenty farming has a history of being a strong area for employment, and courses run to date have shown an excellent record of job placements per person trained.Practical skills training was initially achieved by using co-operating neighbours farms for the training. However this was not the ideal situation, as the practise of using private properties for training was restrictive. The properties were not set up for training, farmers became less tolerant of the inevitable botch up and it became obvious that the Polytechnic would ultimately outstay their welcome.

From this realisation stemmed a desire to purchase a farm property which would form a permanent base for Agricultural skills training.Not only was the property to be suitable for training but it also needed to be cost effective, thereby not requiring subsidy by students attending other Polytech courses.

The Pacific Education Development Trust, an organisation set up to assist with financing of major developments by the Polytechnic also saw merit in the proposal.The Trust saw an opportunity for farming to benefit from improved training whilst at the same time provide a property where research and further extension could take place for the benefit of all farmers in the Bay of Plenty.

As a result a well located, but poorly managed town supply dairy farm with substantial potential for improvement was purchased in July 1990.Ownership of the farm is retained by the Pacific Education Development Trust. The farm is leased to the Polytechnic, who in turn manage it with assistance from a Farm Advisory Committee. Advice on Farm Management policy and practice is given by the committee.

THE BAY OF PLENTY POLYTECHNIC'S TRAINING FARM

DESCRIPTION

Area ; 108ha

Location ; Papamoa, approx 1km from Agric. Centre.

Type ; A flat low lying dairy farm, ideally suited for development as an intensive dairy unit.

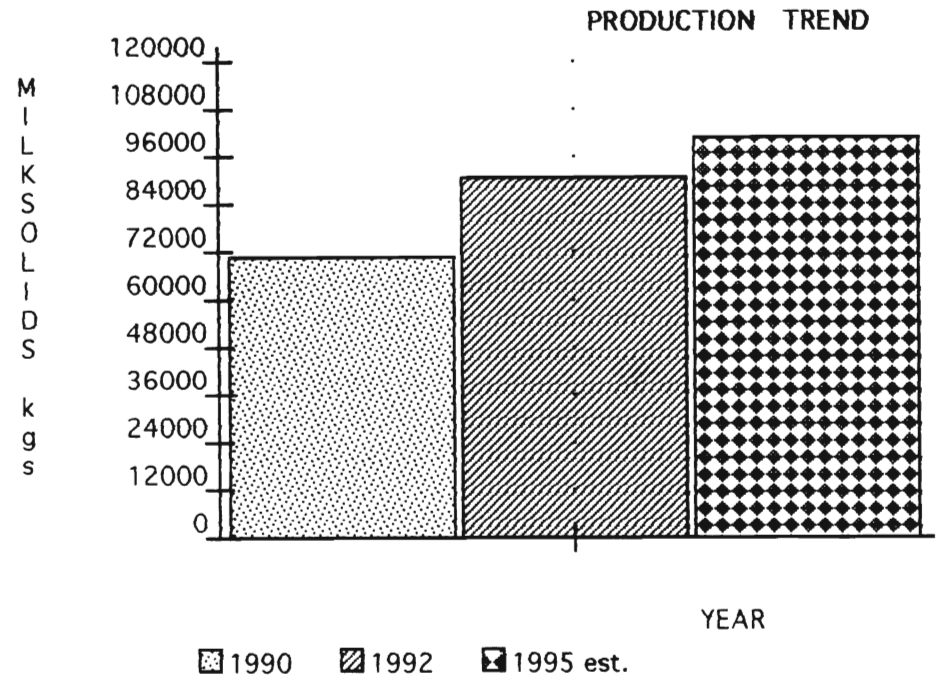
STOCK AND PRODUCTION

120 Autumn Calving Fr Cows
180 Spring Calving Fr Cows
300 Fr Dairy Cows plus replacements grazed off

80,000kg milksolids including 1776 litre winter milk contract.

Production has been increased from approx 68,000kg milksolids at the time of purchase to the above level anticipated in the current year.The increase is a creditable 26% in 2 years and is due largely to the development inputs along with improved management. (See figure 1 below)

FIGURE 1



INFORMATION ANALYSIS

1) COMMERCIAL RETURN TO POLYTECHNIC

The farm is currently operated as an intensive dairy unit supplying milk to Bay Milk Products Ltd under both a Winter Milk Contract and also Seasonal Supply.At the time of purchase in mid - winter 1990 the farm was in a very run down state. Since then a huge amount of time, effort, and a considerable amount of additional capital have been injected to improve the farm to the point where physical constraints such as poor access, lack of subdivision and drainage,and inadequate water supply have been largely overcome. In addition a new cowshed with some adaptations for training has been built, a capital fertilizer programme has been implemented and regrassing of half the farm has been completed.

I consider the key to maximising the "Commercial Return" or Net Farm Surplus is to maximise the production per hectare whilst at the same time maintaining Farm Working Expenses or reducing them per unit of production.eg.

Example 1

750 kg milksolids per ha	@ $3.40 per kg =	$2550 per ha
Less Farm Working Expenses	@ $2.00 per kg =	$1400 per ha
NET FARM SURPLUS		$1150 per ha

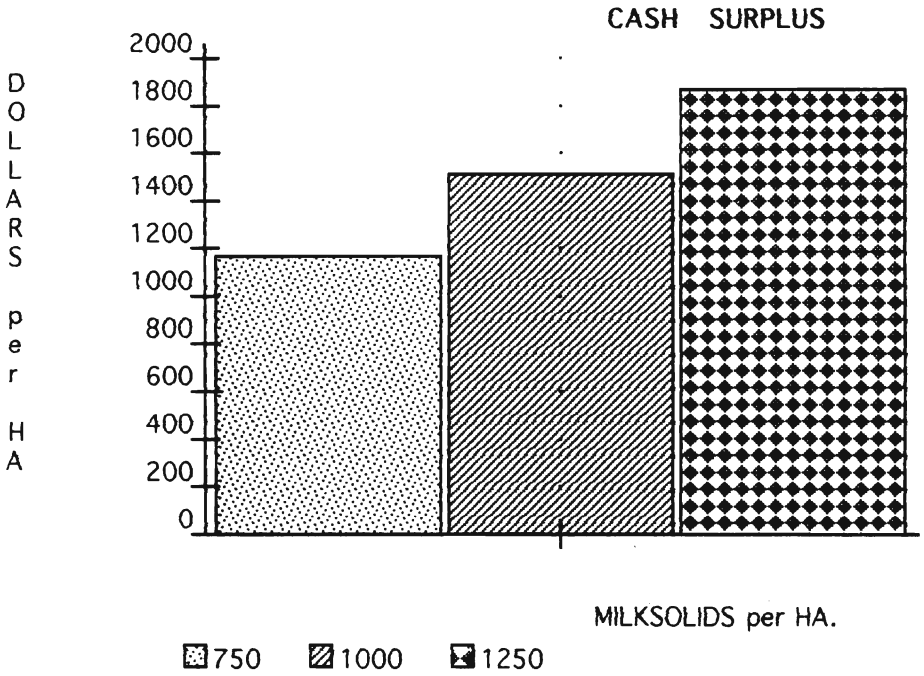
Example 2

1000kg milksolids per ha	@ $3.40 per kg =	$3400 per ha
Less Farm Working Expenses	@ $2.00 per kg =	$1900 per ha
NET FARM SURPLUS		$1500 per ha

The farm currently produces at the level of Example 1 whilst the level of Example 2 is achievable in 3 - 5 years.On 108ha an increase of $37800 in Net Farm Surplus equates to 30%. (See figure 2)

Individual farm owners have little control over product prices,however, and it is important to note that a 15% movement up or down in milksolids price affects the Net Surplus by approx 30% also.

FIGURE 2


CASH SURPLUS
DOLLARS per HA
2000
1800
1600
1400
1200
1000
800
600
400
200
0
MILKSOLIDS per HA.
750
1000
1250

CONCLUSION AND RECOMMENDATIONS

Whilst the farm is poised to deliver the increases in production, the prerequisites of such an increase are substantially improved management and herd quality rather than physical development.

Policies which in the long term will ensure steady improvement in production and thereby maximise returns are as follows;

1) Management

Good farm management involving the understanding of the concepts of low cost dairying, and the application of good day to day husbandry practices.

a) The Farm Manager employed needs a high level of practical skills and needs to be suitably qualified, given that the job involves a relatively complex farming system, as well as Tutoring role.

b) The Manager needs to be motivated and accountable.Profit sharing by way of a variable contract sharemilking basis could work in this situation, but would need to take account of possible research projects.

c) Ex cadets as Managers would make suitable role models,with cadets as farm staff.

d) Good Liaison and Supervision between the Advisory Committee and the Farm Manager is essential for consistent application of the Committee's policies and recommendations.

2) Farm Management Policies

Given sound day to day management is in place, the major factors influencing production will thence be;

a) Stocking Rate/ Cow Condition
b) Calving Date and Calving Rate
c) Herd Quality
d) Pasture Management
e) Soil Fertility

Policies designed to focus on the above were introduced into the 1993 Activity Plan.

3) Financial Management

1) A financial management package such as the Kellogg Financial Recording System would enable;

a) More accurate budgeting and cashflow forecasting
b) The production of management reports

Both of which are essential.

2) More flexibility in the area of financial decision making would allow for better and more timely decisions.

4) Advisory Committee

Maintaining a high calibre of farmers on the Advisory Committee will assist in maximising the financial returns over the longer term.

a) Regular turnover of members, - 3 year term.
b) Appoint members with proven farm management skills
c) Retain challenging farming systems. eg winter milk.
d) Allow Committee more autonomy.
e) Remunerate members.

2) TRAINING OF STUDENTS

The farm provides a commercial environment for practical on farm training for the following courses.

a) **Certificate in Agricultural Skills**
A 16 week fulltime introductory course for Farm Education and Training Cadet Scheme entrants.

b) **NZQA Trade Certificate in Farming - (Dairy Option)**
A two and a half year part time course in knowledge and skills for dairy farm workers and cadets.

c) **NZQA Trade Certificate in Business Management**
A two year part time course for those in positions of responsibility such as farm business managers.

d) **Certificate in Animal Care and Technology**
A 34 week fulltime course providing knowledge and skills training for veterinary nurses and animal care attendents.

e) **Certificate in Agricultural Science**
A 40 week fulltime course providing theoretical training in agricultural science for farmers and rural service sector that cross credits to a Diploma of Agriculture (Massey).

f) **Primary Industries Course - Access Funded.**
Three 16 week courses per year, providing basic skills training.

Currently the number of students involved is approximately 130 per year.

DEVELOPMENT OF TRAINING AND CURRENT PLANS

The Polytechnic Agricultural Team at present are focusing their attention on the further enhancement of existing full and part time courses being offered.Whilst the mainstay of training provided in the foreseeable future, will remain revolved around dairy farm cadets, the future trend is likely to be towards full time courses providing students with units able to be cross credited to either University degrees or diplomas.The courses in Agricultural Science and Animal Care and Technology are designed to cater for students seeking higher qualifications in the areas

associated with Farm Management and the Veterinary Servicing sectors respectively.The Agric. Team Leader hopes in the future to develope a course based around Food Processing Technology, which he believes will be a growth area for employment.

Approx eight years ago the Agriculture Team completed a survey of farm owners, sharemilkers and contract milkers, to assess their requirements in terms of labour, and additional courses applicable to the business of farming.The survey was completed prior to the farm purchase and questions asked were not related to the present circumstances where a farm is available for training.The survey did indicate that their was a desire for a range of courses, and a number of short courses were run on subjects such as;

1) Legal responsibilities of farmers
2) Financial Planning and control
3) Labour management.

These courses were discontinued after a time as they proved to be uneconomic to run.Numbers attending were not assured and recoveries were not sufficient to cover the costs of Course preparation, administration and Polytechnic overheads.The courses tended to be Industry related, servicing those already part of the dairy industry, rather than being Vocation related, leading directly to employment and a career.

The direction Bay of Plenty Polytechnic is towards Vocational Training, leaving Industry Training to the Industry itself to organise.

Nevertheless, there is an ongoing need for further training of farmers and their employees. With advances in technology, continuing advances in quality standards for milk and increasing capital values for farms and livestock,improved standards of management are required.In the deregulated economy, farming has become less of a lifestyle and more business orientated, thereby requiring greater accountability from those in positions of responsibility.The Training Farm has a role to play in this area, but there are also others who provide continuing education to farmers. They include;

1) Livestock Improvement Consulting Officers
Field days
Discussion Groups
Farm Visits

2) Bay Milk Products
   - Comparative Farm Programme
   - Milk quality Programmes
   - Newsletters / Magazines

3) Proprietory Companies
   - Field trials
   - Farm Visits and Advice
   - Seminars / Field days

4) Veterinary Practices
   - Farm Visits
   - Newsletters

5) Private Farm Management Consultants
   - Farm Visits

6) Magazines, Newspapers, Periodicals.

A telephone survey of 15 farmers,mainly employers of cadets, conducted to gather information for this report, identified the following areas in which they considered that further training would be beneficial to their staff, themselves as farmers, and also themselves as employers;

1) **Personal Managment**
   - Time Managment
   - Target/ Goal Setting
   - Personal Motivation

2) **Farm Managment**
   - Feed Budgeting
   - Pasture Management
   - Labour Manangement
   - Financial Management

3) **Practical Skills**
   - Heat Detection
   - Cow Condition Scoring
   - Winter Herd Management
   - Milking Management/ Shed Routine
   - Milking Plant Cleaning/ Servicing
   - Farm Machinery Operation/ Maint.
   - Fencing

The farms training role to date has been in the area of practical skills training of 16 week course pre cadet students, and some specific skills and practical demonstrations for full time students.The farmers surveyed were unanimous in their affirmation of the skills training being given to 16 week course students. They are also largely satisfied with the programme of training given to farm cadets.However when asked for areas where the current training could be improved, the majority of farmers suggested more use of the farm for practical skills training as in 3) above.

Suggestions ranged from more testing of skills to assess levels of competency, to refresher courses for farm managers, to workshop / field days to demonstrate practical application of topics relevant for the time of year.

CONCLUSIONS AND RECOMMENDATIONS

My conclusions consider the best use for the farm in terms of training for those involved in dairy farming.They do not attempt to consider the best use or otherwise of the farm in terms of other courses, or students training for careers in agricultural field but not necessarily dairying.

Current training very nearly optimises the use of the farm, however I believe there is room for expanding courses in the area of practical farm operational skills, as outlined in 3) above. This is in line with the policy on Vocational Training and targeting should be extended beyond farm cadets to include all farm employees.

I see the training as being complementary to that that is provided by farmer employers now, and in fact has the potential to set a bench mark for the standard of training in the Bay of Plenty.An important spin off from the farms existence is that the Tutors are more closely involved with a working model and inevitably the improved level of knowledge they have will result in a better standard of training.

Traditionally, Discussion Groups and more latterly Comparative farms offer existing farmers a medium that is more appropriate than the training farm, through which they can upskill in the areas of farm management technique.Whilst not all farmers attend either of those it is unlikely that those that don't would attend courses run on the training farm.

3) RESEARCH AND EXTENSION.

Neither the Polytechnic, nor the Training Farm have a history in terms of Research and Extension of Dairying related activities.However one of the reasons for the Training Farm project receiving support from the Pacific Education Development Trust was that it gave all Bay of Plenty farmers the opportunity to be involved in local research on a property in their Region. If the results prove to be of benefit to farming, then the whole Bay of Plenty region will also benefit via the multiplier effect of farm expenditure.

Virtually everybody spoken to is in agreement that the Training Farm has a role to play in research and extension. Care needs to be taken , however to ensure that research undertaken is not merely duplication of work already done. A wide range of research on most basic dairying topics has been completed, but with the passage of time, there could be a tendency to overlook work already done.Likewise care needs to be taken to ensure that extension work does not duplicate work traditionally done by Consulting Officers,Discussion Groups, and more latterly Comparative Farms.

Notwithstanding the above, the results of my survey and interviews indicate a desire to see the farm used in several different ways;

RESEARCH

1) Project work to test farmers field observations prior to making submissions in support of major research to be done on a national scale.

2) For local application and demonstration of major research findings, to assess their application and suitability to local conditions.

3) Researching topics of local significance which have application on a smaller scale, and on particular farms or soil types.

4) For trial work on topics where it may be inappropriate for such work to be done on private properties.

EXTENSION

1) Extension of results of trials through special field days organised to publicise the findings.

2) Special seminars, with visiting speakers organised to focus on particular topics, using the farm as a venue and perhaps it's data for demonstration.

3) Publicising the farms existence Internationally, will inevitably result in a cross fertilization of ideas between ourselves and visiting quests.

The type of projects for research suggested by farmers and others spoken to were as follows;

a) Local demonstration of alternative grasses.
b) Heavy use of nitrogen.
c) Animal health trials - selenium treatments.
- bloat treatmant
d) Fertilizer trials.

Several options exist for the funding of research including;

a) Crown Research Institutes
b) Regional Dairy Company
c) Proprietory Companies with an interest.

CONCLUSIONS AND RECOMMENDATIONS

The Training Farm has a useful role to play in research and extension.The most likely research projects to be undertaken are those with local significance funded by shared arrangements between the parties interested in the outcome.Some minor research of direct benefit to the farm itself should be accomodated within the farms annual budget, but care will be needed to ensure there is a high likelihood of a positive return.

Use of the farm for extension purposes is more likely to be optimised through special Field days and Seminars than regular Open Days. The Bay of Plenty is well served by Comparative Farms, Livestock Improvement Consulting Officers, Discussion Groups, and Private Farm Consultants.

However, the Training Farm,with some improvements to facilities will make an excellent venue for Workshops, Field Days and small Seminars. The Farm is supported by an enthusiastic Tutorial Staff with a genuine interest in the farm. This combined with the use of collected data has the potential to make a very valuable contribution to dairying extension and at the same time raise the profile of the Polytechnic, the Tutorial staff,as well as the farm staff.

SUMMARY

The long term benefits of the Bay of Plenty Polytechnic's Training Dairy Farm are widespread and will only become fully apparent over a longer period of time.The decision to purchase the farm was a far sighted one, and the choice of farm ideal.Benefits not readily apparent in the short term will accrue in all areas studied and combine to make the farm a very valuable asset to both the Pacific Education Development Trust and Polytechnic as owners, and the Farming Community in general.Many of the benefits have yet to see the light of day and will only be fully realised through continued support by the farming community at large.

APPENDIX 1

INFORMATION SOURCES

In gathering the information, forming the basis of this report the following people or groups of people were interviewed either directly or by telephone survey.

1) Chairman and secretary Pacific Education development Trust.
2) Deputy Chief Executive Bay of Plenty Polytechnic.
3) Agriculture Team Leader
4) Federated Farmers Bay of Plenty Dairy Section Chairman
5) Farm Advisory Committee members.
6) Farm Education and Training Assn. Chairman and Field Representative
7) Livestock Improvement Corporation Consulting Officer
8) Bay Milk Products Production Officer.
9) 15 Farmers as employers of cadets and non cadet farm staff.

APPENDIX 2

THE SURVEY

A telephone survey of farmers who employ staff, both cadets and non - cadets was conducted to gauge answers to the following questions.

THE FARM

1) Were they aware of the reason for the Polytech's purchase of the farm.

STUDENT TRAINING

2) Were they aware of the Polytech's role in cadet and student training.

3)Did they consider the training adequate?

4) How could the training be improved ?

4) What other courses or types of training would be of benefit in the long term to them as employers.

RESEARCH

5) Did they consider the farm had a role to play in terms of research for the benefit of dairy farming ?

6) If yes, what type of project ?

7) How should the research be funded ?

EXTENSION

8) Did they think the farm had a role to play in the extension of research findings ?

9) How should that extension be undertaken ?

a) Comparative farm
b) Regular field days
c) Special field days on specific topics.
d) Discussion groups visiting.