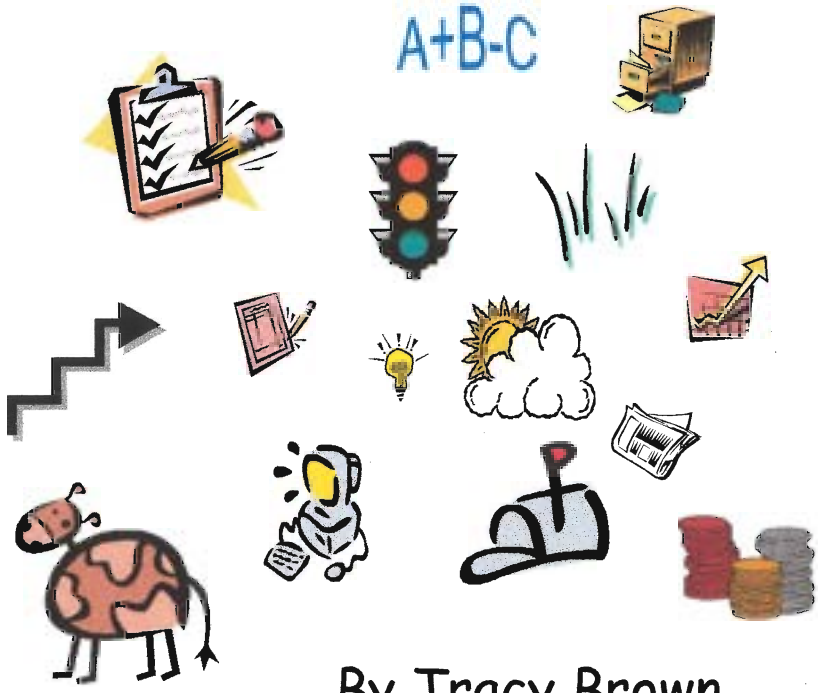
THE LAYPERSONS GUIDE TO THE DAIRY INDUSTRY

A guide for new entrants to the dairy industry



By Tracy Brown

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A guide for
New Entrants to the Dairy Industry

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KEY POINTS CHECKLIST - Things to know about

There are no right or wrong answers in farming. Things vary so much from farm to farm in the same area and different areas, depending soil type, climate, fertility and topography. The following is a checklist of things any new entrant to the industry needs to be aware of and search out the answers for him or herself on his or her farm:-

- ☐ Know what happens at different times of the year.
- ☐ Be familiar with the roles of the 'players' in the industry.
- ☐ Understand how you get paid for milk.
- ☐ Understand production figures and graphs from the dairy company.
- ☐ Be familiar with cleaning routines and checks.
- ☐ Be aware of the different milk quality grades and what causes them.
- ☐ Know what to do if you have a grading problem.
- ☐ Be familiar with SAMM Plan and know the steps to take to minimise the incidence of mastitis.
- ☐ Be aware of what is involved with the Annual Farm Dairy Assessment
- ☐ Know your way around the farm dairy.
- ☐ Be familiar with the New Zealand Dairy Industry Farm Dairy Code of Practice
- ☐ Pay attention to problem areas and hygeine 'hot spots'.
- ☐ Be aware of obligations with regards to effluent disposal
- ☐ Be familiar with methods of measuring pasture.
- ☐ Be familiar with target covers and the factors which influence these.
- ☐ Understand how rotation lengths can be varied to match cow intake with pasture growth rates.
- ☐ Understand animal evaluation indexes.
- ☐ Know how to rear good young stock.
- ☐ Know how to update your herd records.
- ☐ Be able to condition score cows
- ☐ Know which cows to cull.
- ☐ Know about herd testing.
- ☐ Understand mating options, targets, tail painting and when to inseminate.
- ☐ Be familiar with the legislation covering the employment relationship.
- ☐ Know what makes a good employment relationship.
- ☐ Understand your obligations under the Occupational Health and Safety Act.
- ☐ Understand NPKS.
- ☐ Know the difference between capital and maintenance fertiliser requirements.
- ☐ Be familiar with fertiliser application rates.
- ☐ Understand the difference between clinical and subclinical animal health problems.
- ☐ Be familiar with common animal health problems.
- ☐ Do your homework on computers before you buy one.
- ☐ Know how to do annual and cashflow budgets.
- ☐ Do your homework before purchasing cows.
- ☐ Know where to go to get information.
- ☐ Decide what you want out of farming and decide how you're going to get there!!

Tricks of the Trade

- Learn which way to turn when putting on cups in the pit of a herringbone.
- Keep an eye out for cows tails when you're in the pit.
- Make sure you've got a good (hole-less) set of wet weather gear for winter, and a pair of long gumboots for milking in.
- Don't wear a cap while milking or you could well end up wearing overhead rails.
- When spreading causmag - make sure you're upwind!
- Don't hose into the wind when hosing down the yard.
- Get a good firm grip of the high pressure hose before turning it on.

One Page Summary

Reasons for this Booklet

The Lay Persons Guide to the Dairy Industry has been prepared as part of the 2nd stage of the Kelloggs Rural Leadership Programme 1997. Having been a recent new entrant to the dairy industry myself I have discovered that there are a few technical (and some not so technical things) that it would have been good to know when I first got involved. To succeed in the dairy industry you need to 'walk the walk and talk the talk' and this booklet is designed to help you do that whether you are a young farm worker or if you have entered the industry as a partner, wife, or husband of a dairy farmer.

Introduction

The New Zealand dairying industry is about efficiently converting feed into profit.

"Efficiency of milk production is the New Zealand dairy industry's key strategic advantage as it competes against subsidised milk products in the international marketplace..."

(Sir Dryden Spring - Chairman of the New Zealand Dairy Board).

To do this well we need to get the basics right and concentrate on doing well what we do best which is using our low cost, low input pasture based system to produce high value products to sell on the overseas markets.

The New Zealand Dairy Industry is currently an exciting industry to be a part of. Despite what the critics say there <u>are</u> lots of opportunities for new entrants to the industry - but to succeed you need to know what you're doing, you need the right attitude, you need to be self disciplined, and you need to be prepared to put in the hard work.

Authors Comment

Information for this booklet has come from written material, articles, books, and from speaking to and listening to other people as well as my own personal thoughts and observations. I am certainly not an expert and don't profess to know all or even many of the answers but have set out some of the basics as a starting point for others who like myself are new entrants to the New Zealand Dairy Industry.

As you read through this booklet you will see that things have been set out in boxes within key topics of interest. This has been done so as to have easier access to the specific piece of information you want. I havn't even started to cover all the relevant areas under each key topic as to do that we would be looking at several volumes of something substantially thicker than this booklet. Instead I have tried to pick out some of the key things I myself, or others that I know have had queries on.

Each section has a "References & Further Information" section at the end where the reader can go to get more in depth information about a specific topic. The one page summary on page 3 summarises the key points covered in each section.

As part of the preparation of this booklet a questionnaire was sent to recent new entrants to the dairy industry. The aim of this exercise was to cross check with other new entrants that I was on the right track with regards to the things that people might have difficulty understanding or might most want to know about when they first entered the dairy industry. Most useful sources on information were also indicated. Fourty questionnaires were sent to Agricultre ITO students. Twenty-two were returned. The results are shown on the opposite page. In preparing this booklet I have tried to cover the topics with the highest rankings.

Any suggestions or comments on changes that could be made to this booklet, or further information that could be added, would be gratefully received by the author.

Questionnaire Results

A. Topics people had most difficulty understanding

The figures indicate the number of people who put each topic into their top five things they had most difficulty with:-

	No. of people		No. of people
Pasture & Feed Requirements	13	Computers	5
Structure of the Industry	13	Milk Quality Requirements	4
Fertiliser	12	Fencing & Water Supply	3
Breeding & Herd Records	10	What you need to get ahead	3
Legal Requirements	9	Seasonal Events	2
Farm Finance	8	Animal Health	2
Payout & Production	7	Staff & Employment	2
Dairy Plant & Equipment	6	Where to get hold of information	2
Vehicles & Machinary	5		

B. Topics people most wanted to know about

The figures indicate the number of people who put each topic into their top five things they most wanted to know about:-

Animal Health	16	Seasonal Events	5
Breeding & Herd Records	14	Vehicles & Machinary	4
Pasture & Feed Requirements	13	Computers	4
Milk Quality Requirements	12	Structure of the Industry	3
Farm Finance	8	Where to get hold of information	3
Payout & Production	7	Staff & Employment	2
Dairy Plant & Equipment	6	Legal Requirements	1
Fertiliser	6	Fencing & Water Supply	1
What you need to get ahead	6		

C. The most useful sources of information

The figures indicate the number of people who put each source of information in the top five they found most useful:-

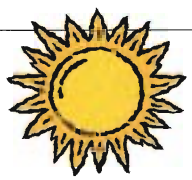
The Farming Press		TV, Radio & Computers	
The Dairy Exporter	15	Faming with Pictures	11
The Dairyman	8	TV & Radio	1
Straight Furrow	2	The Internet	2
The Farmer	5		
Other published information		People	
Farm Facts	8	Discussion Groups	16
The Farm Advisor	5	Farm Consultants	9
Local vet newsletter	9	Research Organisations	0
		Conferences/Fieldays	6
Other			
Farmer Trainers	5		
Friends, Family, YFC	2		
Polytech	3		

Early Spring

Milk Quality	Withhold colostrum from the vat.
Breeding	Calves must have colostrum within 12-24 hours of birth.
	Eartag & record heifer replacements.
	Be aware of scours and respiratory disorders in calves.
	Yearling heifers should be showing oestrus activity.
Pasture & Feed	Draw up a spring rotation planner prior to the start of calving.
	Pregnant cows restricted and grazed intensely.
	Calved cows fed generously, grazed laxly.
	Pasture growth rates will be increasing.
	About 1/30 of the farm grazed each day.
	Longer winter saved pasture grazed first.
Fertiliser	Nitrogen fertiliser may be applied if pasture is scarce.
Animal Health	Watch for mastitis, milk fever, grass staggers, bloat and disorders of the repro ductive tract.

Late Spring

Breeding	All cows should have calved within 6-8 weeks.
	Cows should cycle by 30-50 days after calving.
	All cows and heifers should have been mated at least once in the first seven weeks of the mating period.
	Wean heifer replacement calves at 8-12 weeks of age.
	Drench calves to prevent intestinal worms.
	Graze calves generously on clean, leafy pasture.
Pasture & Feed	Pastures will be growing rapidly.
	About 1/20 of the farm grazed each day.
	Silage may be made if there is a feed surplus.
	Cultivate ground to sow fodder crops.
Fertiliser	Phosphate and potassium fertilisers may be applied.
	Also nitrogen if there is a forecast feed deficit.
Animal Health	As for early spring.
	Also watch for retained placenta in induced cows.
	Get the vet out to examine non cycling cows.



Calving which occurs in early spring, and **Mating** which occurs in late spring are the two single most important events on the dairy farmers calender.

Summer

Breeding	Cows and heifers should have all been mated within 7 weeks from the start of mating.
Pasture & Feed	Pasture growth will be slower than in late spring. Take actions to control weeds. About 1/30 of the farm grazed each day.
Animal Health	Bloat may be a problem on lush pasture. Facial eczema and ryegrass staggers may occur in warm humid conditions.

Late Summer & Autumn

Production	Dry off all or some of the cows depending on their level of milk production, body condition and amount of feed available.
Breeding	Pregnancy test all cows and heifers.
Pasture & Feed	Draw up an autumn and winter rotation planner/feed plan. Cultivate and resow with grass and clover paddocks that were used for crops.
Fertiliser	Apply phosphate and potassium fertilisers. Nitrogen may also be applied if conditions are moist.
Animal Health	Administer dry cow therapy at drying off according to SAMM Plan. Disease problems as for summer. Vaccinate heifer calves against brucellosis (and leptospirosis).

Winter

Breeding	Sell cull cows (animals that are empty, diseased, low producers or have other problems).
Pasture & Feed	Intensive grazing behind electric fences, hay and silage may be fed About 1/80 of the farm grazed each day. Avoid pasture damage in wet weather.
Farm Dairy	Milking machines should be tested and any necessary repairs made.
Fertiliser	Nitrogen may be applied in late winter to provide additional pasture for early spring.
Animal Health	Dry cows can bloat occasionally so keep an eye out for symptons. Keep pregnant cows away from macrocarpa trees as eating these will make them abort. Give cows magnesium before as well as after calving to to prevent grass staggers.

References & Further Information

Milk Production from Pasture (Holmes & Wilson)
Farm Facts No. 7 - Calf Rearing (LIC)
Farm Advisor - November 1997, February 1997, May 1997, August 1997 (LIC)

The Payout Formula

A+B-C

- Most of a farmers milk income comes from the payment for kilograms of fat and protein.
- Traditionally the payment system has been based on the formula A+B-C where:-
  A = payment for fat, B = payment for protein and C = a deduction for volume.

The 'Test Payment' system which the New Zealand Dairy Group administers pays for kilograms of fat and protein, but administers the volume costs associated with handling a farmers milk slightly differently from the A+B-C system. Milk with a high percentage milk solids tests receives a monthly credit if it is above the Company's annual average compostition of 8.43% milksolids. On the other hand, lower testing milk receives a volume debit.

The volume cost represents the costs which are borne in fam vats, milk collection, and the processing of that milk through to a standard point in the processing chain. The company pays for the fat and protein content of the milk and then makes an adjustment for the cost of getting the milk through to the standard point of the processing chain.

Under the Test Payment system, if a farmer supplies milk of a lower percentage than the company average then they receive a volume debit for the extra water they suppy. Similarly, a farmer who supplies milk with a milkfat percentage test higher than the company average receives a monthly credit.

Daily Return Slip

The Daily Return Slip is the docket left by the tanker indicating production from the previous, and most recent pickups (usually for the last 10 days).

The NZDG Daily Return Slip (DRS) has the following information (other companies will be similar):-

- Milk quality results for the previous 10 days will appear in the body of the docket.
- If your milk has been down graded in any way 'DEMERITS INCURRED' will appear across the top of the docket.The grade result will be printed next to the date on which it was incurred. Refer to the back of the docket for further information/explanation on the grade.
- Litres, fat (kg), protein (kg) and milksolids (kg) information compares the farms performance to last season on a month to date and season to date basis.
- % MS change for Farm, TAPP District and Company compares percentage milk solids change in production on a month to date and season to date basis for:-
  Farm - this indicates what percentage the farm is ahead or behind on a month to date or season to date basis.
  TAPP District - Total AnchorMilk Production Programme has the New Zealand Dairy Group supply area divided in fourty districts from Kaipara in the North to the Bay of Plenty. This figure indicates whether your TAPP district is ahead or behind on a month to date and season to date basis.
  Company - this indicates what percentage the dairy company is ahead or behind on a month to date or season to date basis.
- SOMAT - this column indicates the somatic cell count results.

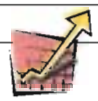
The Dairy Company Statement

- Sent to all suppliers each month.
- Contains details of payment for protein, fat and litres of milk produced.
- Income as scheduled on the statement is automatically credited to the suppliers account on the 20th of each month.
- The New Zealand Dairy Board and your local dairy company set 'advance' rates of payment prior to the start of the season.
- Further additions to the advance rate are made as the season progresses depending on returns from overseas markets.
- Interim final and final payments may also be made towards the close or after the close of the season. These payments (in cents per kg of protein or fat) are additional to the advance payments and are applied to the total season to date production figures.

Purchases made from your dairy company trading store are deducted automatically from the amount paid to you by the dairy company and appear on your statement as a deduction.

To assist you to fix any grading problems as quickly as possible, the dairy company will compensate you for money paid to a professional that helps solve your problem eg MAF or a vet. This is called 'demerit relief'. If you want demerit relief you need to contact your local dairy company Field Officer. If you have used demerit relief this will appear on your dairy company statement as a gross credit, while any demerit or grades incurred will appear as a debit.

TAPP



TAPP stands for Total AnchorMilk Production Programme, which was introduced in 1990 by the New Zealand Dairy Group of Companies (NZDG). The aim of TAPP is to help farmers improve their farm income, by increasing their total milk production over the course of a season. Milk produced outside the October/November 'flush' period is of greater value to your dairy company and therefore makes a greater contribution to the overall total payout.

TAPP graphs are produced monthly and are sent out with the dairy company statement. The information on them is based on the farms area, cow numbers and anticipated (or target) production levels that the farmer gives the dairy company.

The TAPP graph has three lines:-

- Suppliers Target - the farmer can nominate monthly targets, or the dairy company computer can derive a curve based on your nominated calving date and total production.
- Last Years Production - based on area information supplied to the dairy company
- Monthly Actual - actual monthly production achieved in this season.

The top 10% figure is the average production of those farmers who were amongst the 10% of highest producers in your TAPP district last season.

If you wish to change any base information you need to contact your local dairy company Field Officer.

References & Further Information:-

NZDG Supplier News - June 1997, July 1997, August 1997, September 1997, October 1997 (NZDG)

Types of Grades

Bactoscan - this measures the total bacterial contamination of the milk.

Thermoduric Plate Count - caused by heat tolerant bacteria not shown by bactoscan.

Coliform Plate Count - these are bacteria from soil, dung or dirty plant.

Organoleptic Assessment - these are taints and odours that come from a wide range of sources.

Cress Taint - twin cress or land cress is a common weed that has a strong mustard odour.

Sediment - results from soil and dung contamination that comes from the cows legs, tail or udder.

Colostrum - early lactation milk which contains high levels of antibiotics and should be withheld from the vat for a minimum of eight milkings.

Inhibitory substances - mainly antibiotics but may also include other drugs, drenches, bloat treatments, pesticides, weed killers, detergents, sanitisers and teat sprays.

Freezing Point - this test measures water contamination of milk through poor washing techniques or leaving water in the system.

Somatic Cell Count - the number of somatic cells per millilitre of milk indicate the level of sub-clinical mastitis in the herd.

Cleaning Routines & Checks

Cleaning routines and checks are an important part of quality management.

- Stick to regular cleaning routines.
- Have a system in place for checking the plant and premises on a regularly (monthly) basis. (Refer to Farm Dairy Code of Practice pg37.)

Grading Problems

- Find out what is causing the problem
- Act immediately
- Get some help to find the problem if you can't find it yourself - some dairy companies refund the cost of technical help (demerit relief).

Penalties

Each indivuidual dairy company will have its own raw milk quality standards and allocate penalties depending on the seriousness of the breech of standard.

Contact your local dairy company or dairy company Field Officer for information on quality standards for your company. They may also be published in your local dairy company newsletter.

Mastitis Control

5 key areas requiring attention in the effort to control mastitis:-

- Regular machine checks
- Regular teat spraying
- Treatment of clinical mastitis
- Dry cow therapy
- Culling of problem cows (26)

Annual Farm Dairy Assessment

Each year a MAF Qual Farm Dairy Consultant will visit your farm dairy to carry out a Hazard Analysis Critical Control Point (HACCP) assessment. Any hazards identified are rated at one of the following levels depending on the seriousness of their likely effect. It is important that suppliers are present when the assessment takes place.

Critical - 30 points are deducted for each one of these
Major - 10 points are deducted for each one of these
Minor - 2 points are deducted for each one of these

There are four categories on which the farm dairy is rated (each category is given a rating out of 100). The categories are, sanitation - milking plant, sanitation - premises, facilities, structures

Category scores
A = Very good - 91 points and over
B = Fair with room for improvement - 71 to 91 points
C = Not up to standard and needs attention - 70 points and under

The dairy company pays for the initial assessment but if any major hazards are found a follow up visit will be arranged and charged to the farm. Currently a follow-up visit will take place where
- a 'C' classification occurs
- there are major hazards on sanitation of milking plants or premises. (31)

SAMM Plan, Mastitis and Somatic Cell Count

Somatic cells = white blood cells produced by the cows body in response to an infection in the udder.
Mastitis = term given to inflammation/swelling of a cows udder usually caused by bacterial infection.

Mastitis affects the quality of milk. Dairy companys monitor somatic cell count levels , and suppliers need to be aware that quality standards are becoming stricter.

The SAMM Plan or Seasonal Approach to Managing Mastitis was developed by the Dairying Research Corporation. It has been endorsed by all major sectors of the dairy industry and is modified from time to time to take into account experience and latest research. The SAMM Plan Explanatory Booklet published by Livestock Improvement addresses the issues of mastitis for each key period of the dairying year. Together with the SAMM Plan wall chart, problem cows, their treatment and other actions can be recorded. The five key periods are - Lactation, Drying-off, Dry, Calving and Lactation. If you havn't got a copy of this - get one! If you have, but havn't read it!

Be aware that cell counts do change over the lactation period. They are often high at calving and for the first 4-10 days of lactation. Towards the end of lactation they rise again generally because the reduced volume of milk means there is a greater concentration of cells.

References & Further Reading

SAMM Plan Explanatory Booklet (LIC)
NZ Dairying - Let's get the basics rights (Ellis & Dalton)
NZDG Supplier News June 1997 (NZDG)
Profitable Dairying (McDonald)

Terminology

Types of Farm Dairy
Herringbone - rectangular pit, may have straight rail or herringbone rail.
Rotary - circular milking platform. May be internal (milker on inside) or external (milker on outside)

Types of Plant
High lines - milk line overhead, most common in herringbones.
Low Lines - milkline below the level of the cows udder, most common in rotarys.
2" milk line - original type, common in smaller farm dairys, OK for up to 18/20 sets of cups.
4" milk line - brought in for larger farm dairys.
2" loop line - more common now in new farm dairys, more expensive but easier to keep clean than 4" line.

Vacum Levels
The vacum level should be stable. Most plants operate between 40-50 kpa.

Milk Lift Pumps
Diaphragm - large pump, sits above the receiving can, common in older and smaller farm dairys with less the 20 sets of cups.
Impellor - sits below the receiving can. Came in to replace the diaphragm pump. Pumps more efficiently as it speeds up or slows down with change in milk flow. Capable of handling alot more milk flow than a diaphragm pump.

Pulsation Rate
This is the number of cycles of squeezes and releases that occur with the teatcups per minute. One squeeze and one release completes one cycle.
2+2 - cups suck on alternate sides two at a time. Requires one pulsator per set of cups. More even milk flow, better for the cow but more costly.
4+0 - all four cups suck at once. Requires one pulsator per two sets of cups.

Farm Dairy Code of Practice

This booklet has been developed by the dairy industry with representation from the New Zealand Dairy Board, dairy companies, Federated Farmers as well as MAF Quality Management and outlines the New Zealand dairy industry standard. Any dairy farmer complying with this code will be considered to be satisfying the dairy industry's agreed 'minimum' requirements and will also satisfy the requirements of the Dairy Industry Regulations 1990.

The code of practice contains information on minimum requirements for approval and location of farm dairies, construction and maintenance, milking plant and equipment, plant and premises cleaning as well as farm dairy assessment standards.

Refer to pg 15 of this booklet for diagrams of parts of the milking machine.

Effluent Disposal

The Resource Management Act 1991 is the legislation that governs the disposal of effluent. Your local Regional Authority is the body that has the responsibility to administer the Act and see that you comply with the requirements. Check with them for any specific requirements.

TIPS for the Farm Dairy

- Problem areas/hygiene hot spots - check the sticker on the side of the vat for these. Alternatively your dairy machine specialist should be able to show you, or your dairy company may put out a manual.
- Routines - decide with other members of the milking team what the milking, drenching and washdown routines are to be. Make sure it is clear who is doing what job.

References & Further Reading:-
New Zealand Dairy Indsutry Farm Dairy Code of Practice (New Zealand Dairy Board)
Farm Facts No. 63 - The Role of Regional Councils

Measuring Pasture

There are two main ways of doing this on the farm:-

- By eye
- Mechanically - either using a rising plate meter or a pasture probe

Pasture can either be 'scored' in kilograms of dry matter (kgdm) or on a scale of 1 to 10.

The key is to be consistent with your method, and to recognise changes in pasture cover and growth rates.

Late Autumn/Winter/Spring - a pasture walk should be done at least every 10 days.
Summer - this is up to the individual, (depends how keen you are). It is difficult to judge how much pasture is there at this time of the year as dry matter content varies quite markedly.

Target Covers

These vary with factors such as stocking rate, time of drying off and time of calving.

The drying off target is probably the most critical as it is the key to success of the following season (that and cow condition score at drying off).

Target cover must be met by the 1st of May. This will vary depending on:-

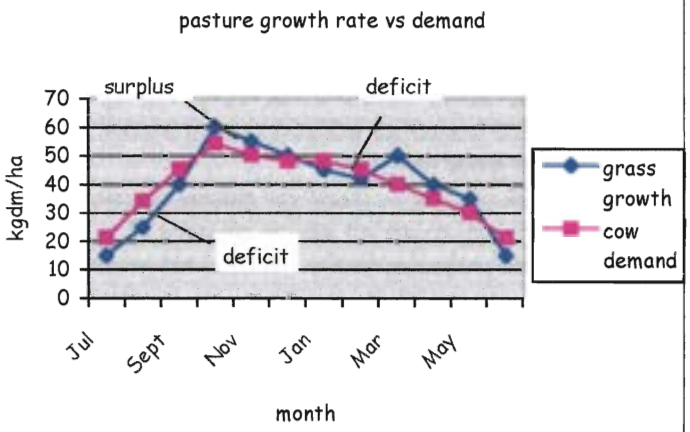
- how much weight you want to put on the cows
- supplements on hand
- stocking rate
- calving date
- nitrogen inputs

Growth Rate vs Cow Demand

Rotation lengths can be used to vary cow intake to match pasture growth rates.

A fully fed friesian cow can eat up to 18kg of dry matter a day. Dry matter actually grown only matches cow intake for a period of little more than three months of the season. It is therefore critical to match your calving date, stocking rate and supplements available to the growth rate patterns of your area.

The graph shows the relationship between grass growth and cow demand. The true surplus grown over October/ November should be conserved to fill periods of deficit.



References & Further Reading
Farm Technical Manual (Lincoln University)
Profitable Dairying (McDonald)
NZ Dairying - Let's get the basics right (Ellis & Dalton)

Animal Evaluation

The 1996 season saw the introduction of Animal Evaluation, a new method of ranking New Zealand dairy animals. This replaced the old Index system which has been used by New Zealand dairy farmers for over 30 years.

The main benefits of the new system are:

- across breed evaluations - between all breeds and crossbred animals
- greater accuracy - as records from every identified relative plus the animals own records are used
- breeding animals for profit and efficiencey - breeding the animals that are the most efficient converters of feed to profit (23)

What Index to Use

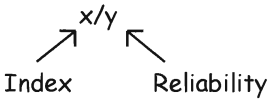
- Breeding decisions should be made using BW figures.
- Culling decisions should be made using PW figures.
- Buying and selling decisions should be made using a combination of BW and PW figures.
- Comparisons on how one cow is performing relative to another within a current season can be made using LW.
- NEVER use LW by itself for making decisions as it is only a current season measure of an animals producing ability. It does not predict her expected lifetime ability. (23)

Growing Young Stock

There are a few key things you need to get right when rearing young stock:-

- Good calf rearing
- Minimise weaning setbacks
- Prevention of parasites and worms
- Avoid mineral & trace elements deficiences
- Good post-weaning grazing management (28)

Definitions



Breeding Worth (BW) = the expected ability of an animal to breed replacements which are efficient converters of feed into profit.

Eg +75/52

This cow (or bull) is expected to generate an extra $75 profit per year, above the base of 0 through breeding replacements which are more efficient converters of feed into profit. This figure has a reliability of 52%.

Current average BW figure of all cows testing is:- +34/48

Production Worth (PW) = the expected lifetime ability of a cow to convert feed into profit.

Eg +141/68

This cow is expected to generate an extra $141 above the base of 0 per year per 4.5 tonnes of dry matter, on average over her lifetime. This figure has a reliabilty of 68%.

Current average PW figure of all cows testing is:- +46/64

Lactation Worth (LW) = The expected current seasons abilty of a cow to convert feed into profit.

Eg +218

This cow is expected to generate an extra $218 profit above the base of 0 per 4.5 tonnes of dry matter in the current season.

Note

The base of 0 represents the average BW, PW and LW figures of all 1985 born cows measured for three production traits (fat, protein, milk) and 17 TOP traits (type and conformation). This was the first generation of New Zealand dairy animals measured in all 20 traits. (23)

Condition Score

Cow condition score is assessed by inspecting the hindquarters of a cow from behind the animal. It is a visual assessment of body 'fatness'. A general recommendation is that dairy cows should be at a score of around 5.0 at calving.

See Farm Facts No.1 - Cow Body Condition Scoring
Lincoln College Farm Technical Manual

MINDA Herd Records

Management INformation for Dairy Animals

There are five ways to get information onto your herd records

- Animal Register - use this to record culls, new animals, deaths, calving dates, calf identifications and well as to allocate herd numbers to replacements. If you use DairyMAN you can transfer your data electronically.
- Mating Detail Certificates - use these to record all matings (AB or natural).
- Milk Samples - herd testing uses milk samples to obtain accurate production and somatic cell count (SCC) information for your milk and individual cows.
- Animal Transfer Cards - for recording purchased animals.
- Liveweight data - from the LIC liveweight data entry form, scale printouts or computer disk. Supplying this information will increase the reliability of your indexes. (25)

Culling

The following are some of the reasons you would cull dairy cows:-

- Empty i.e. not in calf
- Bad temperament or poor conformation
- Late calving date
- Poor health
- Old Age
- Low production index

For more information refer to Farm Facts No.25

The most useful herd reports to order for making these decisions would be the 'Culling Guide and Supplement', 'Herd Test Reports' and if you are town supply the 'Town Supply Acton List'(25).

Note that the more things you select for, the slower the rate of genetic gain for your herd!!

Herd Testing

Frequency

- The more tests you have the more reliable the information
- If you are wanting lactation estimates (kgmf,protein, litres etc) you need to do at least 4 tests per season
- The first test should be within 63 days of calving as earlier production is estimated back to a maximum of 60 days before the test date
- The last test should be within 15 days of drying off, later production is estimated forward to a maximum of 15 days.
- The maximum interval between tests is 120 days as production outside this number of days will be excluded.

Cost

You only pay for the number of cows tested, therefore there is no need to put off testing until the whole herd is in milk.

Options

- Sample officer - installs meters, collects milk samples, (for < 200 cows and/or < 14-16 sets of cups).
- Self sample - meter officer installs meters, you collect milk samples.
- Self sample assist - meters are installed for you, sample officer is present during milking to assist with collection of milk samples. (25)

Mating Options

Insemination
- DIY = Do It Yourself
- Technician - he/she does the insemination and fills out the mating detail certificates for you.

CIDR
Controlled Inter-uterine Drug Release device containing progesterone used to induce ovulation (start the cow cycling)

Semen
Fresh - Bull of the Day (Premier Sires)
Frozen - Nominated bulls

Mating Targets

A compact calving pattern can only be achieved through effective mating management and meeting mating targets. Start recording pre-mating heats one month before the start of mating.

- 70% of herd cycling by mating start date.
- 90% of herd submitted for mating at least once in first 3 weeks of mating.
- 100% of herd submitted within 7 weeks of the start of mating.

Analyse mating records and make decisions sooner rather than later that will assist more cows to cycle if targets aren't being met. (11)

Timing of Mating

Coming into heat (6-10 hours)	Standing heat (6-24 hours) (18 hours average)	After heat
- Will not stand to be ridden	- Stands to be ridden	- Will not stand to be ridden
- Smells other cows	- Nervous and excitable	- Smells other cows
- Attempts to ride other cows	- Rides other cows	- Rides other cows
- Vulva moist, red & slightly swollen	- Vulva moist and red	- Clear mucus discharge from vulva
- Restless & bellows	- Clear mucus discharge	
Too early to inseminate	Best time to inseminate	Too late to inseminate (11)

Tail Painting

One of the simplest ways to identify cows that aren't cycling is to tail paint the whole herd about one month before the start of mating. When a cow cycles, repaint in a different colour. A popular combination of colours is the traffic light system.

Red = when they've been mated
STOP (hopefully in calf)
Yellow = first heat pre-mating
GOING (cycling)
Green = first paint colour
READY (to go/cycle)

Vet check all non-cycling cows that may have been calved 40 days or longer at the start of mating.

References & Further Reading:-

1997 Services Catalogue (LIC)
Farm Advisor - August 1997 (LIC)
Animal Evaluation User Guide (LIC)
Young Stock Rearing Seminar Proceedings (Matamata Vet Services)
Farm Facts No. 25 - Mating Management During a Dry Summer (LIC)
Farm Facts No. 11 - Recommended Liveweights for Young Stock (LIC)

Employment Relationship Legislation

Legislation covering the employment relationship forms a statutory code.

These statutes (or laws) are listed below: -

- Employment Contracts Act
- Wages Protection Act
- Holidays Act
- Health & Safety in Employment Act
- Minimum Wage Act
- Equal Pay Act
- Parental Leave and Employment Protection Act
- Volunteers Employment Protection Act
- Accident Rehabilitation and Compensation Insurance Act
- Smoke-free Environments Act
- Human Rights Act
- Privacy Act
- Industry Training Act
- Wages Protection Act (5)

TIPS on Employment

- Farm employees are a valuable and often necessary asset.
- Good wages, conditions and surroundings attract good staff and create the right attitude.
- In a good employment relationship both parties should benefit i.e. a win win situation.
- Conditions should be clearly spelt out in a written job description and employment contract.

Welcome to the Team

This booklet is aimed at trying to help all existing farm employers to improve their skills. It is a valuable training guide for new employers as well as providing a valuable perspectivee for all current and prospective farm employees and sharemilkers. Definately worth a read! (The author of Welcome to the Team is a previous Kelloggs Rural Scholar.)

Health & Safety in Employment Act

All farmers and employees need to be aware of their responsibilities under the Act.

Employers must take all practicable steps to ensure the safety and health of employees and others while at work. They must take all practicable steps to :-

Provide and maintain a safe working environment.
Provide and maintain facilities for the safety and health of employees.
Ensure that machinery and equipment is safe for employees.
Ensure that working arrangements are not hazardous to employees.
Provide procedures to deal with emergencies that may arise while employees are at work.

While they are at work employees have responsibilities under the Act as well:-

They must take all practicable steps to ensure their own safety and the safety of others, including using safety equipment as instructed.
They must not knowingly expose themselves or others to harm.

References & Further Information:-

Farm Health & Safety Manual (Federated Farmers)
Farmers and Growers Guide (OSH & Dept of Labour)
Employment Rights and Obligations - poster (Federated Farmers)
Rights and Responsibilities in the Employment Relationship (Employers Federation)
Common Legal Issues for Farmers - Brochure No.2 (Federated Farmers)
Human Resource & Employment Guide Handbook (Federated Farmers)
Welcome to the Team (McIntyre)
Lincoln College Farm Technical Manual (Lincoln)
Profitable Dairying (McDonald)

NPKS

The N-P-K-S rating of a fertiliser indicates the percentage amount of plant nutrients in that fertiliser.
Example
30% potassic superphosphateis rated 0-6-15-8.
Contains no Nitrogen (N), 6% Phosphorus (P), 15% Potassium (K) and 8% Sulphur (S).

The Nitrogen Cycle

Nitrogen is important as it is a constituent of all proteins. Nitrates in the soil are used by the plant to make proteins. Plant proteins are eaten and used by animals. The nitogen in protein is returned to the soil in animal excretion (as urine) or by the decay of animal and plant tissues. Bacteria cause decay producing nitrates from ammonia set free from urea and protein. This is known as the Nitrogen cycle. (9)

Assessing Soil Nutrient Status

In a normal farm situation, soil sampling should be done at least once every 2-3 years. Ideally take samples 6-8 weeks prior to application to allow results to be used to decide on what and how much fertiliser to buy.

The common soil tests available and what they are measuring for are listed below:-

- pH - measures soil acidity and hence the requirement for lime.
- Olsen P - measures plant available P.
- Quick Test K - measures plant available K.
- Quick Test Mg - measures plant available Mg.
- Sulphate-S - measures immediatley plant available S.
- Organic S - measures long term supply of S.
- Anion Storage Capacity - measures the capacity of the soil to store nutrients such as P and S (also known as phospahte retention).
- Cation Storage Capacity - measures the capacity of a soil to strore nutrients such as Ca, Mg, K and Na (also known as cation exchange capacity). (38)

Capital vs Maintenance

Capital or development fertiliser applications are to build up nutrient reserve levels in the soil. Maintenance fertiliser applications take place once when the soil reserves are nearly full.

Therefore the amounts of fertiliser required to develop soils are much greater than the amounts required to maintain soil nutrient status once the appropriate status is achieved.

Nitrogen

Nitrogen fertiliser is a management tool as it is a way of producing extra feed at times when animal feed requirements exceed pasture growth i.e. it is a from of 'supplementary feed'.

The key to effective use of Nitrogen is to identify feed deficits early and apply N to fill these deficits. Fertiliser N will not provide extra production when climatic conditions such as cold, dry or wet periods prevent growth.

For more information using Nitrogen fertilisers refer to Farm Facts No. 5 - 'Nitrogen Fertilisers'

Target Soil Test Requirements

Target soil test levels (i.e. what your soil test results should be) are shown as a range for each major soil group in the Waikato, Taranaki and Bay of Plenty areas.

	Soil Type		
	Ash	Pumice	Peat
Olsen P	20-30	35-45	20-30
Soil Test K	7-10	7-10	7-10
Sulphate-S	10-12	10-12	10-12
Organic-S	15-20	15-20	15-20
Soil Test Mg	8-10	8-10	8-10
pH	5.8-6.0	5.8-6.0	5.0-5.5[1] 4.5-5.0[2]

[1] 0-75 mm
[2] 75-150mm

Source: "Fertiliser Use on Dairy Farms" DRC/Agresearch (1993-1995)

Raising Soil Fertility Status

Average amounts of nutrients required to raise the soil test by 1 unit are:-

	Soil Type		
	Ash	Pumice	Peat
Phosphate (P) kg/ha	11	7	-
Potassium (K) kg/ha	60	45	-
Sulphur (S) kg/ha *	25	45	-
Lime (t/ha)	10	10	**

Source: "Fertiliser Use on Dairy Farms" DRC/Agresearch (1993-1995)

* to overcome deficiencey
** depends on depth

Maintaining soil fertility status

Each year nutrients are lost of the farm in meat and milk. It is important that these nutrients are replaced to maintain soil fertility levels. The amount of nutrients required can be determined largely by stocking rate.

Stocking Rate	Maintenance (kg/ha)		
(cows/ha)*	P	K	S
2	25-28	39-46	10-14
2.5	33-36	49-58	13-20
3	41-45	60-70	16-27
3.5	51-55	70-82	19-28
4	59-65	81-95	22-30

Source: "Fertiliser Use on Dairy Farms" DRC/Agresearch (1993-1995)

* 1 cow at 350 kg liveweight producing 290 kgms

Calculating fertiliser application rates

To calculate the quantity of fertiliser needed to apply a given rate of nutrient, the following formula can be used:-

$$\text{Rate of fertiliser application (kg/ha)} = \frac{\text{Rate desired for nutrient (kg/ha)} \times 100}{\text{Nutrient in fertiliser (\%)}}$$

Eg
What rate of 30% patassic superphosphate (NPKS rating is 0-6-15-8) should be applied if a farm requires a maintenace application of 30kgP/ha, 75kgK/ha and 30kgS/ha?

P rate of application = 30x100/6 = 500kg/ha
K rate of application = 75x100/15 = 500kg/ha
S rate of application = 30x100/8 = 375kg/ha

Only need 375kg/ha to supply S requirements but 500kg/ha to supply P and K therefore S will be oversupplied by about 10 kgS/ha. (38)

Costing of Fertilisers

When deciding which fertiliser to buy you need to work out the cost of one kg of the nutient in each alternative fertiliser:-

$$\text{Dollars per kg of nutrient} = \frac{\text{cost (\$) per tonne of fertiliser}}{\text{\% of nutrient} \times 10}$$

Eg
Which nitrogen fertilisers gives the cheapest source of N?

Urea (46-0-0-0) $447/t
= 447/46x10 = $0.97/ kg
Calcium Ammonium Nitrate (28-0-0-0) $437/t
= 437/28x10 = $1.56/kg
Ammonium Sulphate(21-0-0-24) $250/t
= 250/21x10 = $1.19/kg

Therefore on a cost basis Urea is the cheapest source of N.

(8)

References & Further Reading

Fertiliser Use on Dairy Farms (Ag Research)
Farm Facts No.33 - Taking Soil Samples (LIC)
Farm Technical Manual (Lincoln University)
Farm Facts No.5 - Nitogen Fertilisers (LIC)
Farm Facts No.34 - Using Phosphate Fertilisers (LIC)
Longman Illustrated Science Dictionary (Godman)

Clinical vs Subclinical

- Clinical = when an animal shows obvious signs or symptons from which a disease can be diagnosed.
- Subclinical = the animal shows no detectable signs/symptons and the disease can be diagnosed only from the results of a special test.

The clinical and subclinical form of disease can be caused by the same agent and both forms of the disease may reduce a cows productivity. Subclinical diseases are more widespread in New Zealand dairy herds than clinical diseases. (10)

Metabolic Diseases

This is the collective name given to a group of diseases, each of which is due to abnormal metabolism of a substance in the body i.e.

Milk Fever - Calcium
Grass Staggers - Magnesium
Acetonaemia - (Ketosis, Acidosis) - Glucose

When an animals body is subjected to changing conditions (eg calving), this can cause stress and consequently effect the metabolic processes of the body. Once the metabolism breaks down at one point, a chain reaction may occur causing further complications. A cow may therefore have more than one of these dieases at once.

Milk Fever
- most common of the three problems
- majority of cases occur in the first three days of lactation and in older cows.
- The disease occurs rarely in two year olds.

Grass Staggers
- usually occurs in springtime and occasionally in Autumn (don't confuse with ryegrass staggers, caused by fungal infection of grasses).
- it is not restricted to the first few days of lactation and can affect cows of any age.

Acetonaemia
- most common in the first month of lactation in older cows. (10)

Common Health Problems

Mastitis
Mastitis is an inflammation of the udder usually caused by bacterial infection.
Bulk milk SCC of 100,000 cells/ml indicates:-
- about 20% of cows have subclinical mastitis
- about 1% of cows have clinical mastitis

Bulk milk SCC of 500,000 cells/ml indicates:-
- about 50% of cows have subclinical mastitis
- about 2% of cows have clinical mastitis

Milk production is depressed by both subclinical and clinical mastitis, the size of the depression depends on the severity of the disease.
- Clinical expect a 20-30% depression
- Subclinical expect a 5-10% depression

Bloat
Bloat is caused by formation of a stable foam or froth in the rumen which makes it impossible for the cow to get rid of the normal rumen fermentation gas by belching. The accumulation of gas in the rumen causes increased pressure within the rumen which in turn exerts pressure on the heart and lungs causing the cow to suffocate. Most problems occur in springtime when cows are grazing lush pasture in particular large amounts of white or red clover or lucerne.

Facial Eczema
This disease which occurs only in summer is caused by a toxin in fungal spores contained in pasture eaten by the cow. The toxin damages the cows liver leading to jaundice photosensitivty (light) of the skin where the hair is white and general weakness.

Reproductive Disorders
Problems that cause abortions in cattle.

Lameness
This can be caused by bruising or damage to the foot or leg or by secondary infection.

Parasites
Younger cattle are particularly susceptable. (10)

References & Further Information:-
Milk Production from Pasture (Holmes & Wilson)

Disease/Disorder	Symptoms	Prevention	Treatment
Milk Fever	Cows show muscle tremors and restlessness followed by staggering movements and eventual collapse.	Less likely to occur if cows don't have high levels of calcium in diet before calving and if not completely miked out during first few days of lactation.	Injection of calcium boroglu-conate. Must be done promptly.
Grass Staggers	Cows seems nervous, is aggressive and her eye lids twitch. This is followed by staggering movements and eventual collapse.	Give cows extra magnesium during spring - on pasture, in water or drench.	Injection of manesium sulphate (or chloride), sometimes both are used. Must be done promptly.
Acetonaemia	Cows food intake and milk production decrease, it appears dull, and its breath, milk and urine have a peculiar sweet smell. Followed by staggering movements and eventual collapse.	Less likely to occur in cows that are not too fat at calving and are well fed in early lactation.	Glucose injection followed by drench of glycerine or molasses in water. May also treat with calcium and magnesium. Must be done promptly.
Mastitis	Clinical - clots of blood in the milk, swelling, hardness or high temperature in the udder Subclinical - none of these detectable signs will be evident and it can only be recognised by doing a SCC test on the milk. This can be done either electronically or manually using th e Rapid (or Californian) Mastitis Test.	An efficient well adjusted milking plant is critical. Use hygienic methods during and after milking each cow. Use teat spray.	Treat affected quarters with appropraite antibiotic. Only treat clinical mastitis during lactation. Milk the cow out thoroughly, strip any remaining milk, infuse antibiotic through the streak canal of the affected quarter(s). Both types of mastitis can be treated effectively at the end of lactation using Dry Cow Therapy.
Bloat	Mild cases - slight swelling on the left hand side of the cows body, slightly laboured breathing and refusing to graze. Severe cases - both sides of the body are swollen, and the cow may collapse.	Give the animals an antifoaming agent to prevent the formation of foam in the rumen (either drench, add to drinking water or spray on pasture).	Drench with 20-30ml of antifoaming agent or 100ml of liquid paraffin. In severe cases a knife may have to be inserted into the rumen through the left flank (stitch wound afterwards. Don't try this yourself!!
Facial Eczema	Areas of the skin where the hair is white become sunburned and start to peal off. Milk production can suddenly and dramatically decrease.	Count spores on pasture to forecast onset of the disease. Numbers increase rapidly with warm humid weather and on dead pasture. On farms where the disease can be a problem take precautions - spray pasture with fungicide, feed cows hay, silage or a green crop, don't allow cows long pasture or the lower part of the pasture.	Animals should be given shade, dried off and the affected areas of skin treated.
Reproductive Disorders	Abortion of foetus.	Vaccinate against leptospirosis (and brucellosis). Don't let cows eat macrocarpa.	
Lameness	Cow unable to walk and graze properly. Food intake reduced, milk production and body condition decrease.	Look after races. Formalin footbaths or rubber mats on yards where cows exit.	Graze lame cows close to the farm dairy. Offer extra feed. Treat or trim affected feet. Protect with plastic shoe/shoof.
Parasites	Reduced growth rates, scouring, coughing and animal chewing on coat.	Control by routine treatment. Graze calves on clean pasture to avoid picking up worm larvae.	Treat with appropriate drug.

Remember when purchasing a computer that you are buying a 'system' not just an individual computer.

A computer does 4 things:-

- accepts information
- processes it
- stores it
- displays or prints it

What You'll need

What comes with the price quoted for the computer will vary - the one thing that is gauranteed though is that the computer won't be the only cost involved.

Depending on what you want and/or need you may have to buy:-

software	monitor (screen)
keyboard	mouse
cables	mouse pad
printer	desk/table
printer supplies	

(25)

Jargon

Some of the terms or jargon all potential purchasers of computers should be familiar with:-

- PC - personal computer.
- RAM - Random access memory is the working memory of the computer. The greater the RAM the quicker the computer.
- Disk - this is where the computer stores information so it is not lost when the computer is turned off.
- Drive - the place where you put the floppy disk.
- Floppy disk - a 'portable' disk that can be used to transport information from one computer to another, to take back-ups or make copies.
- VDU - Visual display unit or screen.
- Hardware - this refers to the physiacl equipment and devices.
- Software - are programs or sets of instructions that tell the hardware or computerwhat to do.

(25)

Five Point Plan for Success:-

1. Do your homework. Decide on how much money you want to spend and what you want and/or need as far as software and hardware goes. Do this by discussing options with friends and/or experts.

2. Learn the jargon. You won't get far if you don't understand some of the terms, or you may end up with something that you don't want.

3. Shop around. Get quotes, it's a fairly competitive world out there and there are generally good deals going.

4. Allocate 'learning time'. Once you get the machne home it will take time and a fair amount of frustration until you get to know your way around things. Don't be afraid to try things. Get some specific training if you think you need it.

5. Upgrades & maintenance. Remember your computer is just like any other piece of machinary you will use on your farm. It will need upgrading and/or maintaining from time to time. It will also have running costs eg paper, ink cartridges associated with it.

References & Further Reading:-

1997 Services Catalogue (LIC)

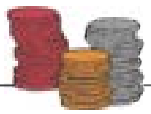
GST

- If the value of your sales exceeds $24,000 a year you must register for GST
- There are 3 options for return periods, monthly, two-monthly or six-monthly
- There are 3 categories of goods and services exempt from GST, residential rents, donated goods and services (sold by a non-profit body), and financial services.
- GST can only be claimed if supported by a GST invoice - so make sure you keep them!

Borrowing Money

The amount a bank is prepared to lend you will depend on your curent equity, and your abilty to repay the money you borrow.

- Prepare Annual & Cashflow budgets
- Be professional



Annual & Cashflow Budgets

- Prepare Annual and Cashflow budgets (see Farm Facts No.22 Monthly Cashflow Budgeting). Categorise your expenditure items i.e. Animal Health, Electricity, Farm Dairy etc.
- Monitor your monthly expenditure by keeping a cashbook (see Farm Facts No.9 Keeping a Cashbook). Compare this to your Cashflow budget.
- Develop a good working relationship with your Rural Finance Manager (banker) & keep them informed on how things are going.

If you have a computer this job becomes much easier as most financial packages have the income and expenditure categories set up and all you have to do is allocate each transaction.

Each month you need to 'reconcile' or check that the information in your cashbook or on your computer matches with that on your printed bank statement.

Buying a Herd

Do your homework
- Decide on your requirements eg breed, price
- Quiz your agent on the history of the herd
- Know th market - get a feel for price

On the Farm
- Talk to the owner
- Check innoculations/vaccinations done
- Check production and evaluation records.
- Inspect the herd - check udders, teeth etc
- Check official identification
- Determine how well the animals for sale compare with the average of the herd, or other herds for sale

Negotiations
- Offer a price that you think the herd is worth NOT necessarily what the owner is asking.
- Negotiate conditions of sale - rejection rate, condition score, calving date, cut off point with bulls, drying off date etc.
- Pregnancy test cows for 'In-Calf Guarantee'

The Purchase
- Enlist the help of your solicter to check whether this herd can legally be purchased
- Enter into a formal sale & purchase agreement.
- The sale won't become unconditional for probably several months

After Purchase
- Keep in touch with your future herd regularly
- If the vendor is agreeable do a milking with them and take not of potential rejects
- Make arrangements for moving them

After animal receipt

Keep an eye out for empty cows, abortions, and movement stress.

(25)

Reference & Further Reading:-

1997 Services Catalogue (LIC)
Farm Facts No. 9 - Keeping a Cashbook (LIC)
Farmers & GST (GST Office)
Farm Fact No. 22- Monthly Cashflow Budgeting (LIC)

The Farming Press 

Every day your mailbox will be filled with flyers, brochures and farming newspapers with people trying to sell you something. You need to get smart and learn to skim read the most important things.

Recent new entrants to the dairy industry questioned as part of the preparation of this booklet found the Dairy Exporter and the Dairyman the most useful 'Farming Press' sources of information.

The Dairy Exporter
Produced monthly and distributed free of charge to all dairy company suppliers. Sometimes referred to as the 'dairy farmers bible' it contains feature articles on topical issues, industry news and regular columns.

Also a good place to catch up on the latest products on the market and contact phone numbers for Consulting Officers, chemical reps etc.

The current subscription cost for 1 year is $27.50. All enquiries should be directed to:-

New Zealand Dairy Exporter Ltd
Box 299
Wellington

Tel (04) 499-0300 or Fax (04) 499-0330

The Dairyman
This is a monthly newspaper supplied free of charge to all rural boxholders. Contains articles on topical issues and other areas of interest.

Other Farming Press
Other farming newspapers that may be of interest:-

The Farmer
Straight Furrow
Farm Equipment News

TIPS with Information

Don't get bogged down!!

Ask yourself these two questions:-

- Where is the information I need?
- How am I going to get it?

Gather the information, analyse it and then formulate your own thoughts and opinions (8).

Other Published Information

Farm Facts
One or two pages of technical information on specific topics of interest.
Eg

Farm Facts No.16 'Heat Detection'

These are produced by Livestock Improvement Advisory - individual Farm Facts are available from your local Consulting Officer or the complete set is available for a fee of $40 from Livestock Improvement at:-

Private Bag 3016
Hamilton
Tel (07) 856-0700

The Farm Advisor
This is the official magazine of Livestock Improvement Corporation Ltd. It is published quarterly (Feb, May, Aug , Nov) and was first produced in November 1996. The Farm Advisor was born from a desire to address the key issue of enhancing the industrys competitive advantage. It is supplied free of charge to dairy farmers and many associated dairy industry personnel. To receive a copy of this publication contact Livestock Improvement.

Local Vet Newsletter
Most vets will produce one of these and are wide ranging in both quality of information supplied and frequency they are produced. If you are not currently receiving these contact your vet to see if his/her practice produces one.

TV, Radio, Computers

Farming with Pictures

This is a video available free to dairy company suppliers. It is funded by the New Zealand Dairy Board as well as other commercial organisations. It is produced quarterly (Winter, Spring, Summer, Autumn) and has been going since 1993. It typically contains 5-10 min slots on relevant or topical information as well as products and services information.

Internet

The Internet has an amazing source of information on farming and is only just starting to develop. In Britain around 68% of farmers now use a computer for business, of these 28% have a modem link and 14% use Internet (39). This is surely a sign of things to come for New Zealand.

Do your homework to find an internet service provider that best suits your needs. There are likely to be three costs involved:-

- Initial set-up fee
- Monthly fee
- Usage fee (per hour or per MB)

Also, depending on whether you want/need technical backup support check whether this is included in the charges (15).

Radio & TV

These have historically been sources of farming information. In recent years specialist faming TV programmes have been cut back due to low ratings while radio has very little rural coverage. If you do want to catch the latest rural issues listen to Morning Report from 6.00- 6.30 am on 3YA (675AM).

Agriculture ITO

If you want to do some training contact your local Agriculture ITO Field Officer (details inside back cover) for information of courses available in your area.

People

Discussion Groups

The Livestock Improvement Advisory Discussion Groups are very much a part of the New Zealand Dairy farming culture and surveys show that over 80% of farmers attend discussion groups (14).

Farmers attend these groups not only to extract technical information but also for social as well as motivational reasons.

If you don't feel confident about speaking up at Discussion Group don't be shy every one else was 'learning' at some time. Alternatively contact you local Consulting Officer or Agriculture ITO Field Officer as there may be a group running in your area for 'non-experts' or students.

Farm Consultants

Quite often it will depend on your employer whether or not you will be involved when the farm consultant visits the farm. Make sure you are if possible. Not only is a farm consultant an excellent source of technical information (and the boss is paying) they are also an excellent source of prospective future jobs.

Conferences/Fieldays

These come in varying sizes and topics. Very often information reported at conferences and fieldays will also be reported in the farming press in some form or another.

The value of attending these events is that you actually get to ask the people the questions first hand - so make sure you do, otherwise you might as well have stayed at home and read about it.

Employers, Family & Friends

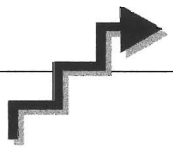
Never underestimate the value of your employer and in some cases your friends and members of your family. You might not always agree with them but you can certainly listen to their opinions in the process of forming your own!

References & Further Information

NZ Dairying - The Best Practices (Ellis & Dalton)
Telecom Yellow Pages Quicktips - Internet (Telecom)

TIPS for Getting Ahead

- Work for progressive people.
- Aim to be in the top 10% in everything that you do.
- Always look for opportunities.
- Fix any weak links in the system.
- Surround yourself with positive people.
- Maintain high personal credibility.
- Make sure you enjoy your farming career.
- Have other interests outside farming.
- Be able to motivate yourself and others.
- Set short-term, medium-term and long-term goals.
- Review your goals on a regular basis.
- Get technical advice and/or training if necessary .
- Be professional.



Successful Farmers Survey

A research team in Victoria Australia, recently discovered that management style is the main difference between dairy farmers running high-growth and medium-growth farms.

Farmers in the high-growth group were more likely to believe events and achievements were the result of their own skills, actions and ideas. They also had a greater sense of self confidence in their ability to achieve success and reach the goals they had set for themselves.

Management by the farmers of high-growth businesses was:-

- Based on five year plans and long term goals.
- Based on consultation with the farm team and advice from external professionals.
- Strategic in vision.
- Conservative and well considered.
- Flexible and open to new ideas or change.

Source: National Dairies Supplier News (May 1996)

Career Options & Progression

Some of the career options in dairy farming are listed below. Historically there has been a natural progression from milk harvestor to 50/50 sharemilker and eventually on to farm ownership. Today, there are many more options and career pathways and more people are becoming professional sharemilkers rather than having money tied up in land and farm ownership.

- Farm assistant/milk harvester - new entrant to the dairy industry.
- Herd manager - responsible for the management of calving, mating, feeding of a herd.
- Manager - responsible for the overall running of the farm. Often includes the management of finances as well.
- Lower order sharemilking - The farm owner owns the cows, you are responsible for the day to day running of the farm. You pay for rubberware, detergents, electricity, and receive a proportion of revenue dependent on the percentage of your contract eg 25%.
  (See Farm Facts No. 21- Variable % Sharemilking Agreement.)
- 50/50 Sharemilking - You own the cows and machinary - you pay 50% of the costs but receive 50% of the revenue.
  (See Farm Facts No.19 - The 50/50 Sharemilking Agreement.)

There are also other equity share type arrangements where you might own part/all of the land and or stock.

References & Further Reading:-

National Dairies National Supplier News - May 1996 (National Dairies)

References & Bibliography

1 Ellis, Malcon and Dalton Clive, NZ Dairying - Let's get the basics right, pp 10-15, 35-42.
2 Ellis, Malcon and Dalton Clive, NZ Dairying - The Best Practices (Autumn 1997) pp 39-48.
3 Farmhouse Publications Ltd, Dairying Today (August 1997) pp 8, 13.
4 Federated Farmers, Common Legal Issues for Farmers - Brochure No.2 (September 1996)
5 Federated Farmers, Employment Rights and Obligations (poster).
6 Federated Farmers, Farm Health & Safety Manual (September 1995) Section 1.
7 Federated Farmers, Human Resource & Employment Guide Handbook (January 1995)
8 Fleming Peter, Farm Farm Technical Manual - Lincoln University (1996) pp A20-23, A-89, E-18
9 Godman, Arthur, Longman Illustrated Science Dictionary (1981) pp233.
10 Holmes CW and Wilson GF, Milk Production from Pasture (1984) pp9-11, 83-87
11 Livestock Improvement, Farm Advisor (August 1997) pp 3, 6-7
12 Livestock Improvement, Farm Advisor (February 1997) pp 1
13 Livestock Improvement, Farm Advisor (May 1997) pp 1.
14 Livestock Improvement, Farm Advisor (November 1996) pp 4
15 Livestock Improvement, Farm Facts No. 1 - Cow Body Condition Scoring
16 Livestock Improvement, Farm Facts No. 5 - Nitrogen Fertilisers
17 Livestock Improvement, Farm Facts No. 7 - Calf Rearing
18 Livestock Improvement, Farm Facts No. 9 - Keeping a Cashbook
19 Livestock Improvement, Farm Facts No. 22 - Monthly Cashflow Budgeting
20 Livestock Improvement, Farm Facts No. 33 - Taking Soil Samples
21 Livestock Improvement, Farm Facts No. 34 - Using Phosphate Fertilisers
22 Livestock Improvement, Farm Facts No. 63 - Effluent Managementand the Role of Regional Councils
23 Livestock Improvement, New Zealand Dairy Industry Animal Evaluation User Guide (1997) pp 3,8-10
24 Livestock Improvement, SAMM Plan Explanatory Booklet pp 2.
25 Livestock Improvement, Services Catalogue (1997) pp 6-9, 15, 41, 48-52.
26 McDonald, Kevin, Profitable Dairying (1997) , pp 9-11, 17-23, 36-39, 41-42, 50.
27 McIntyre, Linda, Welcome to the Team (1990)
28 Matamata Veterinary Services Ltd, Calf and Young Stock Rearing Seminar Proceedings (1995), pp19-21.
29 National Dairies, National Supplier News (May 1996) pp 2-3.
30 New Zealand Dairy Board, New Zealand Dairy Industry Farm Dairy Code of Practice August (1991) pp 15, 37-45.
31 New Zealand Dairy Group of Companies, Supplier News (June 1997) pp 14, 16, 22
32 New Zealand Dairy Group of Companies, Supplier News (July 1997) pp 21
33 New Zealand Dairy Group of Companies, Supplier News (August 1997) pp 17, 20, 22.
34 New Zealand Dairy Group of Companies, Supplier News (September 1997) 11,28-29
35 New Zealand Dairy Group of Companies, Supplier News (October 1997) pp 11-12, 18.
36 New Zealand Employers Federation, Rights and Responsibilities in the Employment Relationship (September 1994)
37 OSH and Department of Labour, Farmers and Growers Guide to the Health and Safety in Employment Act 38 (September 1993)
38 Roberts, Dr AHC and Edmeades Dr DC, Fertiliser Use on Dairy Farms (1993) pp 10,17,20-21,33,37.
39 Telecom, Telecom Yellow Pages Quicktips - Waikato (1997) pp 447
40 The GST Co-ordinating Office, Farmers and GST (1986) pp 4, 6, 15.