SHAREMILKING IN NEW ZEALAND

J.W.M. Gardner
Department of Agricultural and Horticultural Systems Management
Massey University
Palmerston North
New Zealand

ABSTRACT

Sharemilking is an important feature of the New Zealand dairy industry providing a career path that can lead to farm ownership. This paper evaluates the contribution of sharemilking to the New Zealand dairy industry. The types of agreements are described as is the legislation governing the industry. The principal conclusion is that the goal of most sharemilkers, farm ownership, is becoming more difficult. The value of cows has not appreciated as rapidly as land prices during the last two decades. The current generation of sharemilkers must build up a larger herd, than their predecessors of 20 years ago, before a farm can be purchased. This has important implications for the dairy industry, as it is vital to attract and retain highly motivated capable young people into farming.

INTRODUCTION

By world standards the New Zealand dairy industry is small (about the size of that of Wisconsin in the United States), but it is internationally highly regarded for being well-organised, unsubsidised and export-led. The basis of the industry is some 13,000 farmers who have particular expertise in grassland management for seasonal milk production. A feature of the farming population is their relatively young age (39 years; Parker *et al.* 1993) and high level of motivation. Many regard sharemilking, which has been built into the industry's structure, as a key factor contributing to these farmer attributes. This paper traces the history of sharemilking in New Zealand; the types of agreements; sharemilking legislation; the importance of sharemilking to the New Zealand dairy industry; the economics of sharemilking and in particular the costs and returns to each party under the different sharemilking agreements. Changes over time in returns to sharemilkers and farm owners are also examined.

NATURE OF SHAREMILKING AGREEMENTS

Sharemilking agreements are a lease arrangement. The literature distinguishes two types of lease; share leases and cash leases (Heady, 1960). In a cash lease the lessee for a fixed payment (rent) acquires access to resources, principally land and buildings, but sometimes also livestock, plant and machinery. Rent is a fixed charge and the lessee reaps the rewards of high prices and/or production but runs the risks of low production and/or prices.

All sharemilking agreements are share lease arrangements. Rent for resources (either land and buildings or land, buildings and livestock) is paid as a share of production. Under a share lease both lessee and lessor benefit from the returns in good years and bear the risk of unfavourable seasons.

ORIGINS OF SHAREMILKING

Many of the early dairy farmers in New Zealand came from Scotland, and since forms of share farming were in use in Scotland in the nineteenth century, the origins of sharemilking are usually attributed to this source. It seems probable, however, that American share cropping also influenced the form of the original contract.

The first documented instance of sharemilking in New Zealand, a note in the records of the Henley Land Company near Dunedin in the South Island, reports that the company manager introduced the system in 1884 (Maughan *et al.*, 1978). Sharemilking was introduced into the Waikato and Taranaki, the principal dairying regions in the North Island, in the late 1880's (Maughan *et al.*, 1978). Since this time sharemilking has become an integral part of the structure of the co-operative dairy industry and some 24 to 30 percent of the dairy farms in New Zealand now have a sharemilker who milks or owns the herd (Dairy Statistics, 1994).

RATIONALE FOR THE SHAREMILKING SYSTEM

Sharemilking owes its existence to the simple fact that few dairy farmers wish to spend their entire working lives milking cows twice daily. Some dairy farm owners (investors) do not wish to milk cows themselves. Both groups must therefore employ labour. The alternatives are a sharemilker or manager/employee. For a dairy farmer who does not want to milk, there are compelling reasons for engaging a sharemilker rather than a manager/employee. The sharemilker enters into a contract with the farmer for at least a year who is then freed from the daily chore of milking and can be confident that the herd duties will be undertaken. This confidence does not always exist if a manager/employee is hired; the latter may terminate their employment at any stage possibly at a most inopportune time.

The dairy farm owner who does not live on the farm has little option other than to employ a sharemilker. The arrangement ensures that the property will be well farmed and minimises the input of the owner. The sharemilking system therefore has wide appeal to those who own a dairy farm but who do not wish to milk the cows and undertake farm work themselves.

Sharemilking has a number of attractions for employees. It acts as an inducement to stay in the industry as it can provide a career structure from farm worker, "lower order" sharemilker, "50-50" sharemilker, cash lease to perhaps farm ownership. This path provides the opportunity to learn about farming; to enter into a farming business with minimum capital (as a "lower order" sharemilker); to accumulate capital and to be rewarded according to skill and effort although the system is not without risks to sharemilkers. The chief aspiration however of most sharemilkers, as shown by a recent survey, (Hall & Martyn, 1993) remains farm ownership.

The sharemilking system exists because it suits both parties to the agreement. This is fundamental to the continued existence of the arrangement. If for example employers perceive rewards to sharemilkers as being "too great", then jobs will not be offered. This situation arose in the 1970's and 1980's when payments to "29%" and "39%" sharemilkers, enshrined by statute, were viewed by employers as being excessive. Job numbers fell and "contract milking" came into vogue. Contract milkers are contracted to milk a herd at a fixed price per kilogram of milksolids. The rate is determined by negotiation and depends upon the work to be done. Clearly if sharemilking is to survive, it is essential that arrangements are kept flexible so that adaptation can be made to new technology and changed economic circumstances.

The sharemilking system does not appear to have been copied elsewhere in the world, and it has not been followed by the sheep/beef sector in New Zealand. There appear to be three main reasons for this. First, the "tie" that exists in dairying (milking) does not occur in sheep/beef farming where the workload can be eased, if necessary, by less intensive shepherding or changing the enterprise mix. Second, the sheep and beef (or arable) farm income distribution is much more variable than for dairying where monthly payments for milk are received in most months of the year. A more uniform cashflow, and generally a higher level of profitability, have made the implementation of sharefarming easier under dairying than other forms of farming.

A third factor impeding the development of sheep/beef sharefarming relates to the complexity of the operation compared to dairying where there is a single enterprise and relatively straight forward and uniform system of management. In contrast, the two parties involved in sheep and beef sharefarming must negotiate (and agree) over a wide range of matters, before a sharefarming agreement can be implemented. In practice, the more topics for which agreement is required, the less likelihood there is that a sharefarming contract can be obtained.

SHAREMILKING LEGISLATION

If there is a sharemilking agreement in place, the herd is owned by either the sharemilker or the land owner. Since 1937, when the Sharemilking Agreements Act came into force, legislation has specified minimum conditions for sharemilkers where the herd is owned by the land owner. There is no comparable legislation if the herd belongs to the sharemilker.

The schedule to the 1937 Act provided for the milker to receive not less than 25 percent of the milk income for milking the herd and undertaking some associated duties and not less than 33.33 percent of the milk income for carrying out all the farm maintenance work, in addition to the milking. The Act provided for the terms and conditions to be varied by order-in-council, following representations by parties representing owners and sharemilkers (currently Federated Farmers of New Zealand (Inc.) and the New Zealand Sharemilkers Association (Inc.)). New orders were issued in 1939 and 1944 but it was the 1946 order which became the forerunner of all orders until 1990. The 1946 order was divided into two parts, one relating to 29 percent sharemilking and the other to 39 percent sharemilking. The latter provided for the sharemilker to receive 39 percent of the milk income for undertaking farm maintenance and milking the herd. The 29 percent milker received this percentage for milking the herd and fulfilling related duties, for example cleaning the plant. The terms 29 percent and 39 percent agreements became well established in the industry following the 1946 order.

The most recent order was promulgated in 1990. This broke new ground. In keeping with the Government focus on economic deregulation, the fixed remuneration agreements (29 percent and 39 percent), were made negotiable. In brief, the principal features of the 1990 order (known as the "Variable Percentage Sharemilking Agreement") are as follows;

1. The percentage split of income and expenses between the parties is negotiable.

2. Under a Part 1 agreement, the sharemilker in return for sharing animal health costs, participates in proceeds from stock sales and supplements.

3. Under a Part 2 agreement, the owner pays all animal health costs and the sharemilker receives no income from stock sales or supplements.

4. The agreement can only be legally altered if the sharemilker is not disadvantaged by proposed changes.

5. The agreements run for one year and provide the owner with overall management control of the herd and farming operations.

The owner's obligation are to provide a herd, plant, housing and pay for fertiliser and farm maintenance. The sharemilker undertakes milking, care and feeding of the herd and pays for expenses incurred in the milking shed such as electricity and detergents. Some other expenses, such as nitrogen, hay and silage, are met by both parties based on the agreed share of remuneration.

50-50 AGREEMENTS

For 50-50 agreements, the sharemilker owns the herd and some plant and machinery (e.g. tractor). There is no specific legislation covering 50-50 agreements, and consequently contracts can vary considerably. The term "50-50" refers to the proportion of milk income received by each party. Cull cow sales belong to the sharemilker while "bobby calves" are usually shared equally. Costs related to the land (e.g. rates, repairs to fencing, water supply, weed control) are paid for by the land owner while those associated with the herd are the responsibility of the sharemilker (e.g. herd testing, artificial breeding, shed expenses, electricity). Some expenses are shared equally (e.g. grazing off, purchased feeds, nitrogen). Contracts often run for three years, but there is no fixed term.

The main clauses in a 50-50 agreement include stock numbers (a maximum and minimum is specified), replacement allowance, fertiliser (phosphate and potash fertilisers are the owner's responsibility), labour (paid for by the sharemilker), remuneration (the sharemilker may get more or less than 50 percent of the milk income), term of the agreement, control of bloat, facial eczema and grass staggers, production obtained in previous years (warranty clause), weed and pest control, and supplementary feed. All 50-50 agreements, like lower order agreements, confer management and control on the owner although the sharemilker must be consulted and cannot be required to adopt management practices detrimental to his/her stock. In the absence of instructions or directions from the owner, the sharemilker is required to observe and follow recognised farming practices.

OPERATING STRUCTURES

The principal operating structures in the New Zealand dairy industry for the 1993/94 year are shown in Table 1. Of those with known operating structures 29% (3523) were sharemilkers and 23% (2714) were `50-50' agreements. Less than 1% of all dairy herds were operated by a contract milker.

The average herd and farm size (effective hectares) was smaller for owner/operators than for contract milkers or sharemilkers (Table 1). The stocking rate for owner/operators at 2.5 cows per effective hectare was less than that for all sharemilking groups except 39% sharemilkers (Table 1). In terms of milksolids per cow only 39 and 40-44 percent agreements had significantly lower milksolids per cow production than owner/operator farms. An impressive feature is the high milksolids per cow obtained by most sharemilking groups, relative to owner/operators, especially given the herd sizes on farms with sharemilkers. Although sharemilkers comprised only 29 percent of known ownership structures, they produced 35.8 percent of national milksolids output because herds farmed under sharemilking agreements are larger on average than those on owner/operator properties (Table 1).

A comparison of the operating structures for factory supply herds (approximately 95% of all herds) in the New Zealand dairy industry between 1977/78 (Maughan *et al.* 1980) and 1990/91 is shown in Table 2. Since 1992/93 statistics have been combined for factory supply and town milk herds. Between 1977/78 and 1990/91 the number of suppliers decreased by 2,700. (The long-term decline in suppliers was reversed in 1993/94 when there were 14,597 suppliers). Despite this decline the number of 50-50 and 29% agreements increased from 1977/78 by 728 and 111 respectively. Numbers of operators in all other structures decreased.

Table 1: Characteristics of New Zealand dairy farms according to their operating structure during the 1993/94 season.

Operating structure	Number of herds	Average Herd size (cows)	Average Farm size (ha)	Stocking rate (cows/ eff.ha)	Milksolids per cow (kg)	Milksolids per farm (kg)
Owner/operators	8344	175	74	2.5	274	48642
Contract milkers	97	248	98	2.6	289	71953
Sharemilkers:						
Less than 20%	38	275	107	2.6	273	76231
20-28%	299	251	100	2.6	283	71404
29%	118	212	86	2.6	278	59052
30-38%	171	207	85	2.6	276	57634
39%	108	179	76	2.5	255	46439
40-44%	75	202	80	2.6	268	53911
50/50 (45-55%)	2714	224	89	2.6	277	62476
All sharemilkers	3523	224	89	2.6	277	62358
Operating structure unknown	2633	175	70	2.6	293	51807
All farms	14597	187	77	2.5	278	52678

Source: Dairy Statistics 1993/94, Livestock Improvement Corporation (1994).

Table 2: Changes in the operating structures of New Zealand factory dairy farms between 1977/78 and 1990/91.

	1977/78[1]		1990/91[2]	
	No.	% of suppliers	No.	% of suppliers
Sharemilkers (29%)	211	1.3	322	2.4
Sharemilkers (39%)	501	3.1	146	1.1
Sharemilkers (50%)	2,412	15.0	3,140	23.4
Other sharemilkers	539	3.3	467	3.5
Leased herds	64	0.4	N.A.	-
Contract milkers	171	1.1	130	1.0
Owner operators	12,228	75.8	9,220	68.7
Total suppliers	16,126	100.0	13,425	100.0
Total sharemilkers, leased herds and contract milkers	3,898	24.2	4,200	31.3

Source: *(1) Dairy Statistics 1991/92, Livestock Improvement Corporation (1992).*
(2) Maughan, C.W.; Lowe, K.I.; Ridler, B.J (1980). Sharemilking - A Position Paper. Technical Discussion Paper No. 16, Department of Agricultural Economics & Farm Management, Massey University.

Recent data for 1993/94, although not strictly comparable with 1990/91, show little change in the proportion of owner/operators to sharemilkers. In 1993/94, where the operating structure was known, 70 percent of farms were owner/operated whilst 3523 (29 percent) were conducted as a sharemilking or contract milking agreement.

RETURNS TO SHAREMILKERS AND OWNERS

This section compares returns to owners and sharemilkers under the 50-50 agreement for the 1972/73 and 1991/92 financial years (commencing 1 July). It is based on a recent publication by the Ministry of Agriculture and Fisheries (Hall & Martyn, 1993) which included an estimate of the net return to an owner and a 50-50 sharemilker, in both 1972/73 (1972 dollars) and 1991/92 (1992 dollars). The budget for the sharemilker included a labour and management allowance (Table 3). Neither budget included depreciation which is likely to have inflated the farm owner's return because they have a greater investment in buildings and plant than a sharemilker. The return on investment, assuming unencumbered assets, is higher for the sharemilker than it is for the owner. This is consistent with the greater risk associated with livestock ownership compared to land.

Table 3: A comparison of economic returns to sharemilkers and owners during the 1972/73 and 1991/92 seasons. Financial values are those applying in the year of the budgets.

	1972/73	1991/92
Area	63 ha	63 ha
Cow numbers	130	150
Production (milkfat)	16,000 kg	24,000 kg
Owner		
Assets	$60,500	$586,000
Gross income	$9,816	$76,200
Expenditure	$4,230	$33,675
Cash surplus	$5,586	$42,525
Return on investment	9.2%	6.3%
Sharemilker		
Assets	$27,000	$146,500
Gross income	$12,336	$88,700
Expenditure	$6,912	$55,275
Cash surplus	$5,424	$33,425
Return on investment	20%	22.8%

The comparison between 1972/73 and 1991/92 show that returns to the sharemilker increased by 2.8% while those to the farm owner fell by 2.9%. One reason for this is that the value of the sharemilker's assets increased 5.4 times over this period compared to 9.6 times for the owner's assets. The value of the sharemilker's assets did not kept pace with the rising value of land (the main asset of the owner). Consequently more cows, that is a larger asset base, are now required before a sharemilker can expect to move to farm ownership.

WHO ARE BUYING DAIRY FARMS?

As outlined in the previous section, it is now more difficult for sharemilkers to purchase a farm than in 1972. In that year 31 percent of all purchases went to new farmers, many of whom would be sharemilkers. They were helped by measures such as low interest and suspensory loans which were discontinued in 1984. In 1992 most farms were purchased by existing owners (Table 4) and this contributed to the increased scale of New Zealand farms (and a commensurate increase in the size of sharemilker's herds (Table 1)).

Table 4: Categories of dairy farm buyers (%) in 1972 and 1992.

Year	Existing farmers	New farmers	Business	Local Authority or Government	Total (n)
1972	61.2	31.3	3.1	4.4	100
1992	79.0	13.4	5.2	2.4	100

Source: Valuation New Zealand.

Existing owners are at an advantage over sharemilkers in competing for land because their larger asset base has enabled them to meet land prices which have increased more rapidly than those for dairy cows. It may become harder for sharemilkers to accumulate capital in future because the strong demand for sharemilking jobs, together with new legislation ("The Sharemilking Agreements Order 1990"), has allowed farm owners to increase their share of the farm income. Recent statistics (Dairy Statistics, 1994) show an increase in the number of unconventional sharemilking agreements where the owner's income has been increased and the sharemilker's reduced.

SUMMARY AND CONCLUSIONS

This paper has described sharemilking in New Zealand, from its origins in Scotland in the late nineteenth century to the current day. The various agreements have been outlined and the returns to owners and 50-50 sharemilkers presented for the 1972/73 and 1991/92 seasons. While sharemilkers have maintained their returns to assets over this period, prices for cows have not increased at the same rate as land prices. Consequently a larger asset base (more cows) is now required before a sharemilker can purchase a farm.

Traditionally sharemilking has been seen as leading to farm ownership. The aspiring dairy farm owner starts his, and now sometimes her, career by working for wages. This is followed by a period as a lower order sharemilker, for which minimal capital is required. Concurrently a few calves could be reared, grazed out and then leased, to provide the nucleus of a future herd. The next step is a 50-50 operation involving at least $120,000 in assets, of which half might be borrowed. The timing of entry into a 50-50 operation is critical. If too much is paid for the cows, the young sharemilker faces a drastic loss of capital if cow value falls. The 50-50 sharemilker may work on several contracts, moving to progressively larger herds before buying a farm.

As mentioned previously it is becoming more difficult to achieve farm ownership by sharemilking. This has important implications for the future of the New Zealand dairy industry. It is vital that dairying continues to attract capable young people and sharemilking plays a major role in achieving this. Sharemilking must therefore continue to offer a realistic chance of farm ownership but with the `non-intervention' stance of Government the dairy industry may itself have to consider proactive steps to ensure this.

What is the future of sharemilking? Sharemilking jobs are offered by employers because it is in their economic and lifestyle interests to do so. The jobs are not usually offered to assist young people or to help the dairy industry. Sharemilkers also look at jobs in terms of "what is in it for me" or more commonly "us", as many sharemilkers conduct their business as a husband and wife partnership. Mutual benefits are fundamental to the continuation of the sharemilking system. Unless sharemilking is seen to offer something to both parties, it will not survive, let alone develop.

REFERENCES

Dairy Statistics 1991/92, Livestock Improvement Corporation, Hamilton, New Zealand.

Economic Survey of Factory Supply Dairy Farmers, 1993/94. Livestock Improvement Corporation, Hamilton, New Zealand.

Hall, F.J., Martyn, P. (1993). Changes in Sharemilking 1972-93. MAFPolicy Technical Paper 93/11. Ministry of Agriculture & Fisheries, Wellington, New Zealand.

Heady, E.O. (1960). Economics of Agricultural Production and Resource Use. Prentice-Hall, Inc. Englewood Cliffs, New Jersey, U.S.A.

Maughan, C.W., Lowe, K.I., Ridler, B.J. (1980). Sharemilking - A Position Paper. Technical Discussion Paper No. 16. Department of Agricultural Economics and Farm Management, Massey University, Palmerston North, New Zealand.

Maughan, C.W. (1985). Sharemilking: Its Contribution to the New Zealand dairy Industry - Past, Present and Future. Proceedings of the Massey Dairy Farmers Conference, Massey University, Palmerston North, New Zealand.

Parker, W.J., Gray, D.I., Lockhart, J.C., Todd, E.L. (1993). Drying off management and the use of management aids on seasonal supply dairy farms. Proceedings of the New Zealand Society of Animal Production 53: 127-131.

Sharemilking Agreements Act, 1937. New Zealand Government, Wellington, New Zealand.

Sharemilking Agreements Order, 1990. New Zealand Government, Wellington, New Zealand.

Sharemilking Agreement (1990). NZ Dairy Group Ltd, Hamilton, New Zealand.

Shepheard, John (1991). Sharemilking Agreements and the Dairy Industry. Lawlink, June. The Lawlink Group Ltd, Wellington, New Zealand.

Shepheard, John (1991). Sharemilking Agreements - Shaping the Dairy Farms. Lawlink, September. The Lawlink Group Ltd, Wellington, New Zealand.