

Dairy Marketing

Introduction

In this paper we will first discuss the evolution of dairy marketing in South Africa. This will be followed by a look at domestic market trends in the dairy industry. Finally, we will discuss current marketing channels for dairy and what the dairy farmer can do to find and keep a profitable market opportunity.

The evolution of dairy marketing in South Africa

As far as we know, the first farmer managed to make a living from the sale of milk in 1656.

In 1930, Act No. 35 was enacted which led to the establishment of the Dairy Industry Control Board. The Board was re-established in 1939 under the terms of the Marketing Act of 1937.

- The Dairy Board had the exclusive right to sell milk.
- Fixed prices were paid to the primary producers of milk.
- Prices were fixed by the Minister of Agriculture and were adjusted periodically after consultation with the Dairy Board.

However, statutory intervention in the dairy industry has gradually been removed since 1982, as follows:

- the abolition of retail price control of fresh milk in July 1983,
- retail price control of butter and cheese was abolished in 1985,
- in June 1986 the setting of the retail price for cheese, together with the operation of a pool for cheese was suspended,
- restrictive registration of butter, cheese, condensed milk and milk powder factories was suspended in 1986,
- the wholesale price of butter and the operation of the butter pool was terminated in 1988. The Dairy Board also implemented a uniform marketing system for milk, and reduced the control measures to a minimum.

The Dairy Scheme was rescinded as from 1 January 1994 (with the result that the Dairy Board ended its activities on 31 December 1993). The new Milk Scheme was promulgated on 24 December 1993 and the Milk Board and Milk Producers Organisation (MPO) started functioning on 1 January 1994. In contrast to the position which had applied to the Dairy Board, which until its abolition had handled the affairs of the primary and secondary dairy industries, the newly established Milk Board represents only the primary milk producers (dairy farmers) and its Council consists of only 13 producer representatives.

The new **Marketing of Agricultural Products Act, No 47 of 1996** spelled out a new set of rules that differ greatly from earlier legislation. ***“Producers can now produce milk on their own responsibility and sell to milk buyers of their choice at a mutually agreed price.”***

All statutory agricultural marketing boards were phased out by 1998. The Milk Board dissolved and merged into the Milk Producers Organisation (MPO) and the South African Milk Federation (SAMFED) was formed. SAMFED is a federation of organisations concerned with the dairy industry to act as a discussion forum and mouthpiece. The founder members of SAMFED were the MPO, SA Milk Organisation (SAMO), National Milk Distributors Association (NMDA), Organised Labour and Organised Consumer.

Domestic dairy market trends

To understand the dairy business it is important to have knowledge of the overall **demand and supply situation, price trends and imports.**

Production and consumption:

In Figure 1 the production and consumption trends of dairy in South Africa are shown. The following are some interesting points:

- In 2000 the consumption and production of milk was just under 2 000 million litres.
- There has been a definite increase in local consumption from 1992 to 2000.
- An interesting observation is that from 1992/93 until 1999/00 the consumption of dairy products has never exceeded the production but it is forecast to do so in 2000/01.
- Not only will consumption exceed production, but consumption will further increase as a result of a more favourable economic climate, the population increase, the rising standard of living and increasing urbanization. This will increase the demand for milk and therefore the price that is paid for milk as well.

In Figure 2 the seasonal cyclical nature of the dairy industry is illustrated.

- One of the characteristics of the dairy industry is its instability. This is a result of the extensive nature of dairy farming which, in turn, is closely connected with the ecological differences between regions and the remarkable variations in the average annual rainfall and the consequent seasonal fluctuations.
- There is usually a higher production of milk in the summer followed by lower production in the winter.
- Demand for milk is also cyclical, with a higher demand for milk in the early summer.

Milk prices

Prices are formed as a result of market demand and supply. When there is a shortage of milk, prices increase. Farmers then produce more milk at the higher producer prices and, as a result, a surplus of milk develops, with a subsequent decrease in producer prices.

Producer prices registered an increasing trend from March 1999 because of a shortage of milk. However, this did not result in higher production because producers were still suffering from the combined effects of declining producer prices and high interest rates during the previous two years. Producers can absorb lower prices for only a short period of time. If prices decline to a level below variable cost and stay at that level for a long time, this will inevitably lead to the liquidation of dairy herds, e.g. selling of herds for cash.

- The national female dairy herd declined over the past 10 years.
- Since 1992, the dairy herd has shown a decline, as milk producers cut back as a result of low profitability. This trend bottomed out in 1995/1996, when a herd-expansion phase started. However, during 1998 profitability declined again.

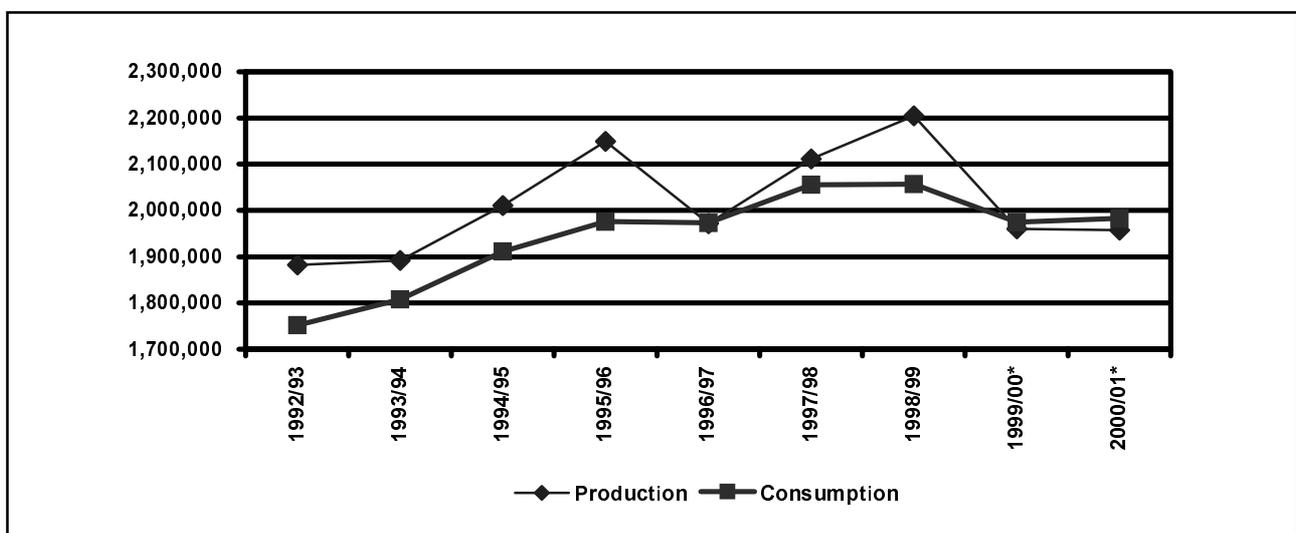


Figure 1: Production and consumption trends for domestic dairy (in '000 litres)

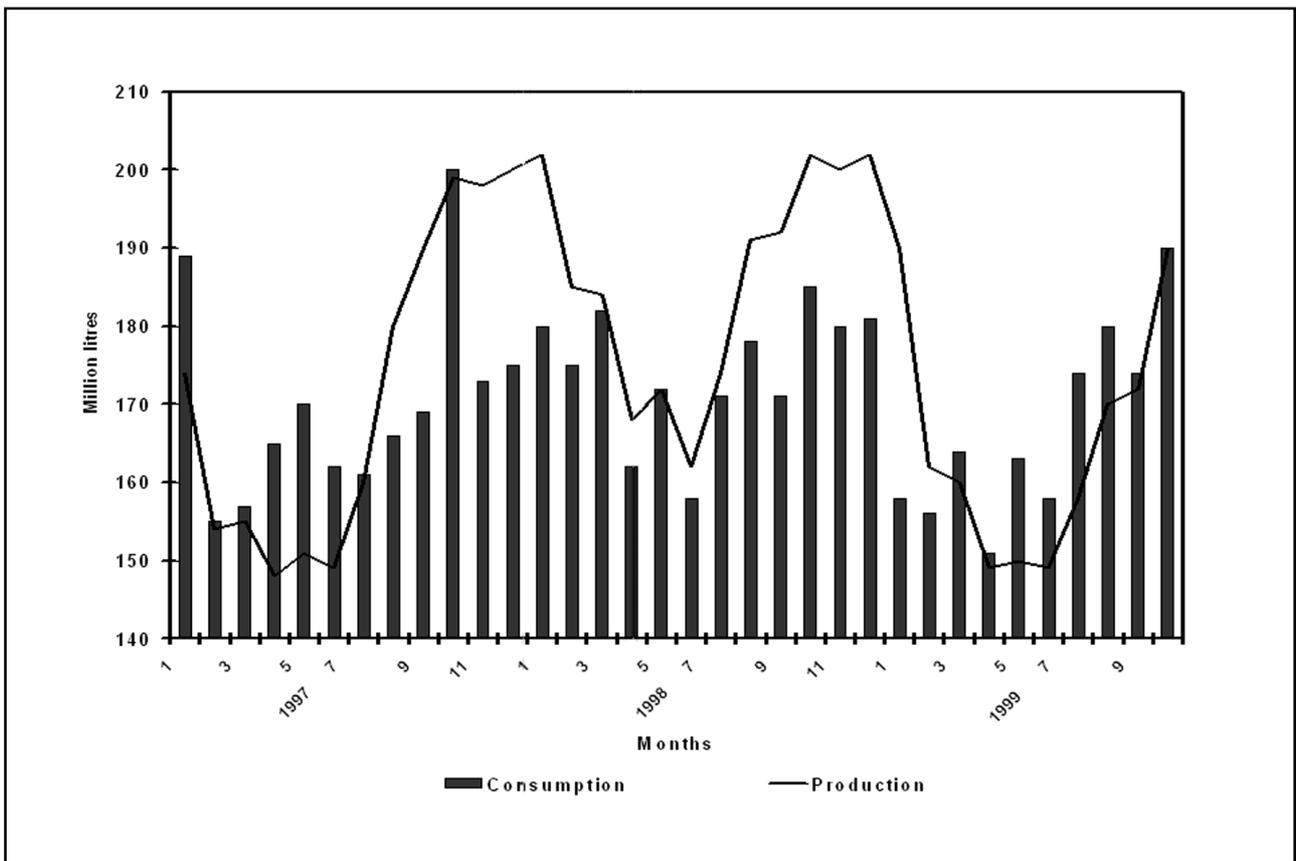


Figure 2: The cyclical nature of the dairy industry

- Heifers as a percentage of cows, increased with herd building activities in 1996/1997 and peaked in 1997.
- The dairy herd in South Africa is therefore going through a rebuilding stage at the moment after reaching the turning point in 1999 after a continuous decline in herd numbers since 1995/96.
- This increase in herd numbers is expected to even out in 2004 and then start declining again.

Dairy imports exports

Related to total production, imports and exports are relatively insignificant. Total imports were around 24 000 tons in 2000. The South Africa dairy industry exported nearly 50 000 tons of dairy products during 1999, with milk powder being the main product exported.

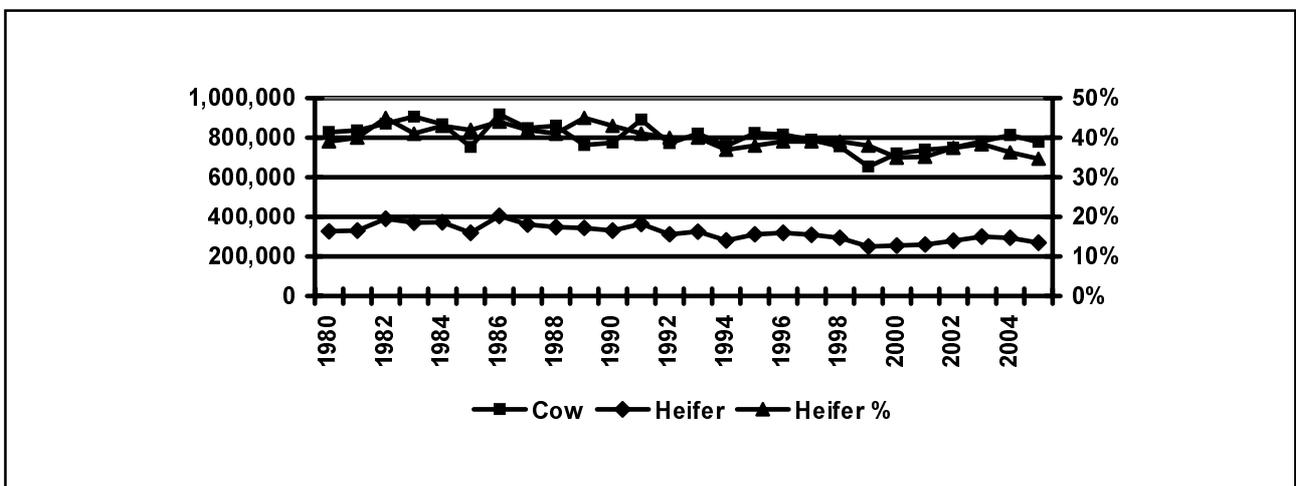


Figure 3: The South African dairy herd

Market opportunity

What can the dairy farmer do to find and keep a market opportunity?

The different markets and marketing channels for milk are indicated in Figure 4. The following possibilities are open to the producer:

- To sell direct to the consumer.
- To sell to a retailer, e.g. supermarket, cafe, street vendor, etc.
- To sell to processors or distributors, e.g. Clover, Parmalat, neighbouring farm etc.
- Process and sell to retailer or consumer.

Dairy farmers can use any of these marketing channels to market their products.

It is important to realise the advantages and disadvantages of each channel.

• Direct selling

Shortening the milk chain from the cow to the consumer (for example selling to a retailer or direct to the consumer) **requires an entrepreneurial spirit, a willingness to accept increased risk, sometimes also higher capital requirements and a sound personal relationship built with the retailer on mutual trust.**

An advantage is that the price paid for milk is higher.

Shortening the milk chain involves risks for both producer and retailer. The main risk is fluctuating supply and demand. A spell of unusually hot, dry weather or any other stress situation can play havoc with any herd's milk production, leaving the retailer hunting desperately for an alternative short-term source of supply. Conversely, a drop in demand may leave the retailer with surplus milk he cannot sell.

• Selling to processors/distributors

Since deregulation and the adoption of the concept of free enterprise, the number of milk processors and distributors has increased dramatically. This approach links producers into a modern capital intensive agri-business system. The major processors include:

- NCD/Clover
- Parmalat
- DairyBelle
- Nestle

These processors not only use modern equipment for the processing, packing and distribution of fresh milk but distributors also give considerable attention to promoting fresh milk. They also support farmers with dairy extension. **Linking up with them therefore provides access to a comprehensive support service.**

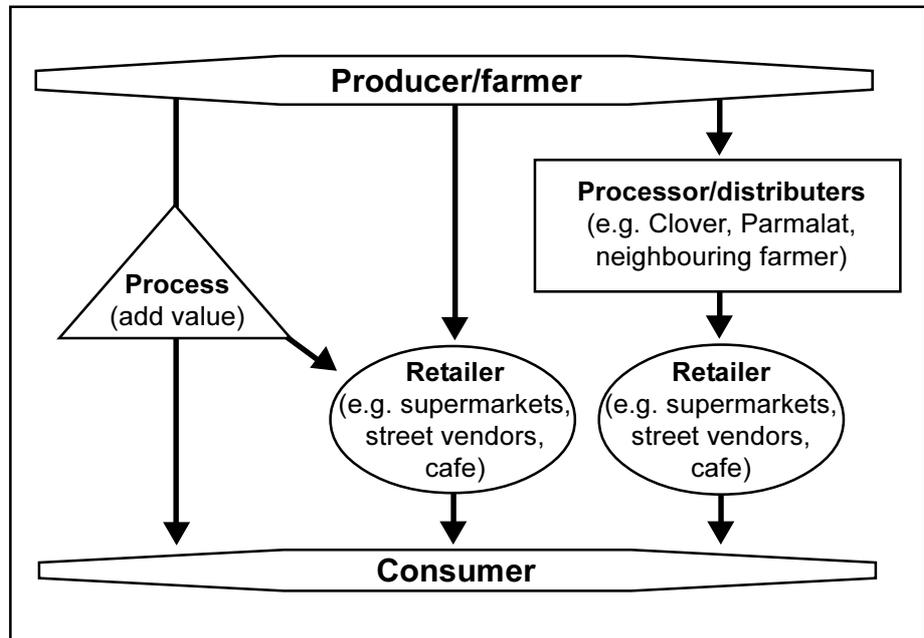


Figure 4: The different marketing channels for milk and milk products

Visual aid 1

Tip



It is very important to find a reliable buyer or buyers, because of the nature of milk production (cows must be milked twice a day, seven days a week and 52 weeks a year). A good relationship with the buyer/buyers is also important to ensure financial survival.

Getting milk to the market

If a farmer has a few cows with low volumes of milk, it will not be profitable to transport the milk to a market that is far from the farm. Even though prices may be higher at these markets, it will be better to sell the milk at **slightly lower prices locally** rather than endure high transport costs to formal markets.

If there are other small producers in the area, **farmers may think of combining efforts and sharing transport costs to the markets**. This will also result in **higher volumes being offered for sale**.

Processors fetch the milk from the farm with cold trucks. E.g. Clover has a 450 truck fleet which collects milk on 211 routes country wide from 1 400 farmers. It is not economically viable for these large processors to buy milk in small quantities (**at least 100 litres of milk per day will be required**); therefore group action might be a possible solution for small producers to participate in this well-structured market.

Extension officers can assist by:

- Organising groups.
- Promoting milk cooling/collection centres for small farmers.
- Contacting processors.

Give the market the right product (consumer preferences)

The market wants milk of appropriate quality that includes taste, appearance, hygiene and solids. The price a dairy farmer is paid for his or her milk is to a large extent determined by its quality. Farmers should therefore know how to produce milk of the required quality.

Quality and health

Milk is an excellent medium for growth of bacteria and if precautionary steps are not taken the bacteria multiply very quickly with drastic effect. To prevent this, **cooling the milk to 3 °C should commence immediately after milking and this temperature should be maintained constantly**.

The cold chain must not be broken at any stage from the cow to the consumer. The cleanliness of the milking equipment and the level of hygiene maintained during the milking process is also important. (Contact your nearest State Veterinarian for more details on the hygiene requirements of milk production.)

The consumer has the right to safe and wholesome milk and milk products. Several laws protect this right. At present two Acts, the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972) and the Health Act, 1977 (Act No. 63 of 1977), deal with food safety. The Agricultural Product Standards Act, 1990 (Act No. 119 of 1990) governs composition quality. The Animal Disease Act, 1984 (Act No. 35 of 1984) is concerned with controlling animal diseases including bovine tuberculosis and brucellosis. From 1 June 1986, Uniform Regulations for stables were introduced by the Department of Health and Population Development whereby the stables of fresh and industrial milk producers had to comply with the same standard.

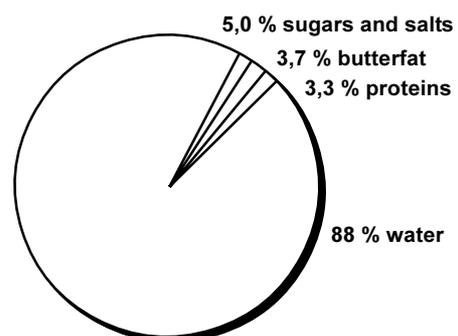
If farmers plan to sell direct to the public at a small farm stall, remember that Health Inspectors will come and check for cleanliness and hygiene regularly. Thus, the production and marketing of quality milk is an important but expensive process.

Take note



Milk consist of about 88 percent water and 12 percent solids.

*Solids are made up of butterfat (3,7 percent), proteins (3,3 percent) and sugars and salts (5,0 percent). When milk products are manufactured, the water is usually removed and concentrates prepared, e.g. condensed milk, powdered milk and butter. The farmer is therefore also compensated for the solids in the milk, specifically for the butterfat and proteins. Here the breed factor in dairy cattle plays an important role. The feed intake directly affects the cow's ability to produce milk solids. A rule of thumb is that **as the quality of the diet increases, so does the volume of milk and percentage of solids**.*



Add value to milk

Milk is a natural product which has value in society as a source of protein and many other valuable elements. However, in its raw form, it has only a **commercial value** which is usually **sufficient to cover the basic cost of milk production**. The quality of the milk is very important and will determine the final price that the farmer is paid. To make milk farming more profitable it is advisable to add value to the basic product.

Consider the following:

- Dairy products play a **vital role in the early development stages of children's development**, and the consumption of **dairy products is beneficial to the health of aging people**.
- There is both a shortage of **affordable** dairy products and a **lack of processing skills** with regard to dairy products in the emerging communities.
- The production of **sour milk (Amasi), yoghurt, cheese** and other dairy products will increase the opportunities for creating income. All these are **traditional products** and are not protected by patent trade marks, etc. The products are well known and loved among traditional groupings in urban and rural environments.

Many **institutions** (e.g. the Agricultural Research Council) teach interested people the **basic skills for adding value to dairy products**. The courses are developed to fit small and larger scale manufacturing. The processes of making dairy products include heat treatment, cooling to fermentation temperatures, inoculation with selected microbial starter cultures, fermentation, refrigeration, mixing and packaging.

The milk price is determined by demand and supply. Dairy farmers have to take the price on offer most of the time. Thus, it is important for them to know their cost of production in order to determine if they can make profits at different price levels.

Keeping detailed and accurate records is essential for efficient dairy production. The following information should be recorded:

- Milk production of each cow.
- Losses and possible diagnoses.
- Abnormalities, sickness and diseases.
- Calf birth date, weight, breeding and inoculations.
- Incomes and expenses, etc.

Restructuring of agricultural marketing in South Africa has created many **new opportunities which entrepreneurial producers can exploit**, by themselves or in conjunction with other parties. The number of **small privately-owned milk shops** which have taken over the role once filled by milk depots belonging to large milk cooperatives, is evidence of this.

The continuing economic squeeze on dairy farmers during the past decade has elicited creative responses from smaller producers. Many have **opted for adding value to their own products, and finding outlets close enough to home to market them directly**. By so doing, they have made their dairying operations financially viable.

Quantity isn't usually a factor in small-scale production. However, **quality, marketing and service are**. Small operators are generally in a good position to give personal attention to all these factors.

Take note



*In the souring process, the natural *Lactobacillus* bacteria in the milk convert lactose (milk sugar) into lactic acid. The milk can then safely be drunk. Unfortunately pasteurised milk (sold in the major consumer outlets) goes bad instead of souring naturally, as the pasteurisation process kills *Lactobacillus* bacteria. This is why pasteurised milk is not acceptable to the people, especially traditional groups.*

Think!



*It will be **interesting to see whether small-scale, privately owned door-to-door milk delivery services will follow small privately-owned milk shops.***

In the townships, where there are far more dwellings per kilometre of street than in the middle-income suburbs, and a less mechanically mobile population, this would make sense.

Choosing the business model

Dairy farming is a business. The business of the dairy industry, which includes marketing, purchasing of inputs, value adding, etc. can be conducted through a number of marketing channels and also different business models. The following can be considered:

- **Cooperative business**

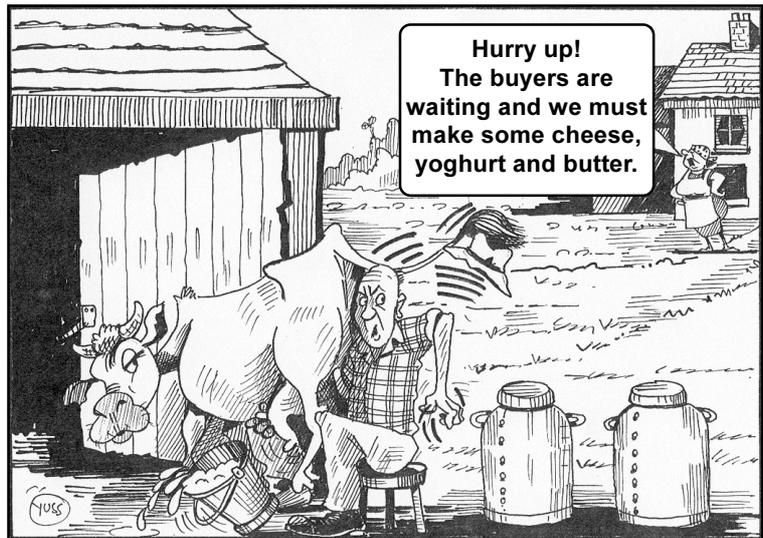
Cooperative business can be directed by a group of farmers to:

- **purchase inputs** on a collective basis,
- market on a collective basis by **investing jointly in capacity and assets**,
- produce on a cooperative basis with specialization in milking, calf rearing, artificial insemination, animal husbandry procedures and value adding processes.

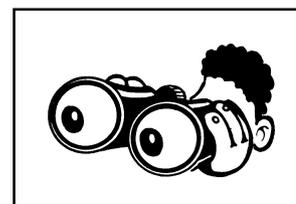
The cooperative model does have advantages based on **collective bargaining and community mobilisation**. Strict entrance requirements, quality control and clear ownership rights, however, are required to prevent problems. Cooperative business is governed by the Cooperatives Act.

- **Direct contracts**

Individual dairy producers can link into marketing and value added processes through direct contracts with agents and retailers. Important conditions for successful contract dairy business are **consistency in volumes and quality, forward planning and the avoidance of risk**. Larger-scale operations would normally be required for a successful contract approach.



Focus points for the extension officer



What the extension officer needs to know

- The evolution of dairy marketing in South Africa.
- Domestic market trends.
 - Production and consumption trends.
 - Price trends.
- Different marketing channels available for small scale dairy farmers.
- Requirements to enter marketing channels.
- Contact numbers of milk producer organisations and other important role players.
- Consumer preferences for milk.
- Contact numbers of institutions who teach value adding techniques.
- Different business models available to small scale producers.

What the extension officer can do

Promote the idea of commercial milk production

- Help to link the small dairy producer into one of the marketing channels, e.g. processors, dairy, retail shops, hawkers, etc.
- Organise group action to help small producers participate in well-structured markets e.g. bulk collection of milk.
- Inform small farmers how to produce dairy products of the appropriate quality and format.
- Help in organising training days for example the ARC or RUTEC in value adding.
- Inform farmers of market trends for example in supply, demand, prices.

Strategies for dairy producers

The following table gives a summary of the strategies for a dairy producer

Market	Opportunity	Weakness
Sell direct to consumer e.g. local market.	Consumers like to buy fresh milk direct from producers because then he knows the origin of the milk. Producer(s) can built up a sound relationship with local consumers.	Market can be small and is easily saturated.
Sell to a retailer.	Sell to a small cafe, street vendors or supermarket like Spar. Many of these buyers exist. Shortening the milk chain can increase profits.	Higher risk, higher capital requirements, needs sound relationship built on mutual trust with retailer.
Sell to processor.	Since deregulation the number of milk processors has increased dramatically. Willing to receive milk from small producers.	Needs critical mass and high hygiene standard.
Value adding through processing.	High demand for products such as sour milk, yoghurt, cheese etc.	Market knowledge, training and investment needed.
Value adding through packaging.	Put milk and other products in attractive and functional packaging.	Market knowledge, research, training and investment needed.



Case studies

Shortening the milk chain

Mr Josef Hartman and his son Henk farm on 35 ha with a herd of 60 Friesland cows. The herd averages 19,8 litres per cow per day over a lactating period of 300 days, with an average butterfat content of between 4,1 % and 4,25 % and a protein content of 3,3 %. Strict herd hygiene ensures a high-quality product.

Changes in marketing have opened up new opportunities. “Originally we supplied one of the large milk distributors, DairyBelle. Then, with the restructuring of the agricultural industry in general and the dairy industry in particular, new opportunities were created for milk producers.”

“However, these opportunities also entailed an increased element of risk. We decided to accept the challenge, accept the risk, and supply milk directly to a small retailer, Hantam Melkery at Bon Accord, north of Pretoria.”

“This worked well for a few years, but the transportation costs (for a round trip around 120 km a day) were eating into our profits, and we decided to look for a retailer situated closer to our farm.”

“A representative of *De Lange melkmasjiene* had supplied our milking parlour equipment, and we had built up an excellent relationship with him. When he mentioned that his daughter was opening a milk shop – *Soetmelksvlei Plaasprodukte* we immediately seized the opportunity. Although *Soetmelksvlei* has changed owners twice since then, we have supplied it right from the start. The owners have always insisted on top-quality milk, from cow to consumer in less than 24 hours, and this suits our operation perfectly. In addition the round trip is now only 54 km.”

The Hartmans milk twice a day. In accordance with standard practise, the milk is cooled rapidly and stored in a stainless steel cooler tank holding 1 200 litres. *Soetmelksvlei Plaasprodukte* collects the milk once a day, pumping it directly from the dairy’s cooler tank into its tanker trailer, using a portable electric pump. The level of the milk in the tank is measured with an old-fashioned dipstick.

Less than 30 minutes later, the milk is pumped directly into *Soetmelksvlei*’s pasteurising unit, then into two cool holding tanks from which the milk is dispensed. Customers have a choice between buying the milk in plastic bottles or bringing their own containers to be filled from the tank.

Shortening the milk chain involves risks for both producer and retailer. The main risk is fluctuating supply and demand. A spell of unusually hot, dry weather or any other stress situation can play havoc with any herd’s milk production, leaving the retailer hunting desperately for an alternative short-term source of supply. Conversely, a drop in demand may leave the retailer with surplus milk he cannot sell. This can happen during school holidays when many regular customers are on vacation.

Conclusions

- **The farmers chose direct sale for higher prices for their high quality milk.**
- **They changed customer twice in the search for better arrangements.**
- **Milk is cooled and collected by the buyer.**
- **The main risk is when production and demand differ.**

Profits from small-scale dairy farms

You can make money with small-scale dairy farming, even if you are on a small plot. All you need is careful planning, sound management and an effective marketing strategy. That's the way Chris Vosloo of Chinette Jerseys at Randgate runs his herd of 50 dairy cows on a smallholding of 8,3 ha.

When he bought this plot of ground about 12 years ago he decided the best policy would be to keep his ears and eyes wide open, and learn from established farmers. He also bought a couple of commercial dairy cows which he milked by hand. Before long some of his neighbours started asking to buy milk, and he decided to build a milking parlour and move into small-scale dairy farming. For the first ten years of farming he concentrated on building up the milk quality of his animals.

Mr Vosloo milks three times a day, at about nine o'clock in the morning, five in the afternoon and one o'clock at night. This has resulted in an added 17 % production of milk.

The initial approaches from his neighbours led Mr Vosloo to begin distributing his own milk. He soon found that many people prefer 'raw milk', so he does not pasteurise his milk, but maintains a high level of hygiene so that his milk is certified pathogen free. The total daily production is between 1 200 and 1 300 litres. About 800 litres milk a day is distributed locally, while the rest is used to make yoghurt and a small quantity of cottage cheese. (A skill acquired by attending a yoghurt-making course.) He set up his own small factory and is very proud of the quality of the yoghurt produced, most of which is sold to hospitals. Other markets include guest houses, old age homes, schools and supermarkets.

Mr Vosloo is convinced that there are still good prospects for dairy farming in South Africa, and that with careful planning and marketing a farmer can still make a living with a small herd. He adds that the returns on a small herd can be enhanced if the farmer learns to process his own product, whether to make yoghurt, cottage cheese or anything else. "Adding value to the product is the best way to make money, and there is always a market for good quality products in this line."

Conclusions

- **The farmer gradually built up his experience and the quality of his production.**
- **Milking three times a day increase to output, which is critical for increasing output on a small farm.**
- **Initially sold to neighbours and found that his customers wanted unpasteurised milk.**
- **Two thirds of his milk is sold locally. The rest he processes into yoghurt for added value, which proved to be financially viable.**

It's a question of taste

The demand for Oumakoei fresh Holstein milk is growing so fast that dairy farmer Linda Giliomee is planning to expand her herd to keep up the supply. Linda's Oumakoei Dairy at Bitourivier, near Napier in the southwestern Cape, is an example of what a small-scale farmer can do.

Linda's association with Holsteins began on the farm Geskenk in the Bredasdorp region. Her brother gave her nine three-month-old calves. Two years later she decided to sell these animals, only to find that they were all in an advanced stage of pregnancy. She decided to keep the animals. Those early years were extremely difficult, but she received a lot of help from a variety of people.

Initially, Linda didn't know what to do with the milk, so she gave it away to anyone who would have it. However, the point came when she had to decide whether to sell the milk herself or deliver it to one of the large distributors. She chose the latter course of action, and phoned Bonnita. They were happy to collect her milk on their rounds, but she had to have a minimum of 90 litres a day to make it worth while. As her herd was producing only 70 litres a day, she bought in the balance from a neighbour. Eventually the neighbour gave her an additional cow, a Nguni, to make up her shortfall and Linda hasn't looked back since.

Ten years on, her initial herd of nine calves had increased to 135. Eighty cows are milked daily in a relatively primitive and limited tandem parlour. Linda estimates that the average milk production of the Oumakoei herd is about 25 litres per cow per day. Protein and butterfat both average out at about 3,8 %. The herd is milked twice a day, at 5:00 and 16:00.

Milk is pumped directly to the dairy, where it is pasteurised immediately in two 600 litre batch pasteurisers. After it has been cooled to 35 °C, the milk goes into a 1 500 litre holding tank and the temperature is reduced to 4 °C. The holding tank is raised 3 m above floor level, and milk is gravity fed from the tank to the filling machine.

Oumakoei milk is marketed in one-litre sachets and 250 ml, 500 ml, 1 litre and 2 litre bottles with screw caps. Linda explains, different clients prefer different packaging formats. To begin with, when she had about 100 litres a day to sell, she battled to get a foot in the door at local retail outlets, as a number of other big and small producers were delivering milk to nearby towns. Armed with a winning smile and plenty of determination, she persuaded several potential clients to buy a few litres of her milk.

Basie van Tonder of The Beehive in Caledon was one such client. It wasn't long before he was on the phone to Linda to say that his clients had tried her product and had come back demanding a regular supply of Oumakoei milk. Now, eight months later, he sells 1000 litres of Oumakoei milk a week. Other brands are not as sought after. The milk isn't all sold from his shop, Basie, also supplies local school hostels, the old age home and hospital in Caledon.

Admittedly, there is an attractive price difference between Oumakoei milk and its competitors, but customers consistently comment on its excellent flavour. This is due to a number of factors. Firstly, Linda believes that, although lucerne boosts milk production, too much of it taints the milk. For this reason she takes her milkers off the lucerne grazing four or five hours before they are milked to prevent an overpowering "pasture" flavour. Secondly, although batch pasteurisation is slower than other systems, up-to-date electronics improve control over the process, preventing caramelising of the milk and reducing protein breakdown.

There are other factors which greatly enhance the quality of Oumakoei milk. By raising her bulk tank, Linda has eliminated all unnecessary pumping. Although she is a modern farmer, she subscribes to the "old-fashioned" idea that milk is "fragile" and should be handled with care. She is convinced this makes a difference to the quality of the end product. Last, but not least, the Oumakoei product isn't homogenised. A lot of consumers still prefer the flavour of "traditional" milk.

Conclusions

- **Initially she chose to sell to a large distributor. By buying in milk from a neighbour she could achieve the necessary minimum quantity for collection.**
- **On the farm the milk is pasteurised and chilled. This enabled her to start to sell to local retailers and now she has her own brand.**
- **Flavour is an important selling point.**

KwaZulu-Natal's female farmer of the year

Glorious Nxumalo started subsistence farming in the Ndwedwe district in 1983. She practises mixed farming with livestock, vegetables, field crops and fruit trees. Mrs Nxumalo practises a zero grazing system, which is unknown in rural areas, but which she manages with great success. She gets cane tops from the local sugar-cane producers and feeds these to the cattle for roughage. She also supplements their diets with licks. When she realised that the market for milk is not very large, she started producing amasi, which is in great demand and is sold to the local community.

Conclusions

- **Small producer selling direct, when the local market was oversupplied.**
- **Diversified into Amasi (sour milk) for which there was a much stronger local demand.**

Useful information

Agricultural Business Chamber (ABC)

The ABC aims to improve the performance of its members through negotiating and positioning for a favourable agribusiness environment. The ABC has 70 agribusinesses and cooperatives as members.

PO Box 1508
Pretoria 0001
Tel: (012) 322 6980
Fax: (012) 320 0787

Milk Producers' Organisation (MPO)

The MPO is a voluntary, democratic organisation founded by milk producers to protect general interests and serve as their mouthpiece.

PO Box 1284
Pretoria 0001
Tel: (012) 804 4811
Fax: (012) 804 4800

ARC-Institute for Agricultural Engineering

Private Bag X519
Silverton 0127
Tel: (012) 672 9111

ARC-Onderstepoort Veterinary Institute

Private Bag X6
Onderstepoort
0110
Tel: (012) 529 9111

ARC-Irene Animal Production Institute

Private Bag X2
Irene
0062
Tel: (012) 672 9111

Rutec

Training in added value opportunities and equipment for micro-enterprises or entrepreneurs in milk processing.

50 Davies Street
New Doornfontein
Johannesburg
PO Box 32011
Braamfontein 2017
Tel: (011) 402 3245
Fax: (011) 402 3246
e-mail: rutec@iafrica.com

Animal Nutrition and Animal Products Institute (ANPI)

The institute has been in operation since 1964. All international agricultural and scientific bodies respect the organisation. The Irene Dairy Education Center (IDEC) is seen by FAO as a world leader in small-scale dairy manufacturing. IDEC was responsible for the initiation of at least 600 small-scale dairy manufacturing units in Africa.

Mission

To provide the necessary knowledge and skills of dairy manufacturing processes to individuals, communities and organisations in order to uplift the whole community in wealth, health and empowerment.

Team

IDEC is a well-organised team, experienced in small-scale dairy development. The team consists of researchers, technicians and support staff. The effort and successes of this staff during the past 5 years is renowned in the developing dairy industry throughout the world.

Description of project

The project teaches volunteers the basic skills for dairy product manufacturing. They will, from the knowledge learned, be able to start their own small-scale dairy manufacturing units.

The volunteers will be trained in the manufacture of the following dairy products:

- **Maas** (a fermented milk product with a slightly creamy colour and a sour tangy taste).
- **Yoghurt** (a semisolid fermented milk product, with or without real fruit, in various flavours).
- **Drinking yoghurt** (a fermented milk product in various flavours, which is derived from fruit concentrates).
- **Cottage cheese** (a soft fresh cheese available in plain or spiced flavours).
- **Feta cheese** (a semi-hard cheese in brine, in plain or herb flavours).
- **Milk ices** (ices made of real milk and milk-fruit concentrates).

Volunteers will also be trained in:

- **Hygienic procedures** in product manufacture.
- The use of small-scale **dairy equipment**.

Volunteers will be trained in the language of their choice using various mediums, for example, videos, practical demonstrations and pamphlets.

For information on small dairy and dairy processing equipment contact the **ARC-Irene Animal Production Institute**.