Chartered Institute of Management Accountants



1

November 2016 Strategic case study examination

Pre-seen materials



Contents

	Page
Company background	2
Structure	3
Organisation chart	4
Hiland's farming industry	5
ADF's farming operations	6
SWOT analysis	8
Risk register	9
Feed costs	11
Staff costs	12
ADF's Financial statements	13
Press articles	15
Alternative farm business plan	18

You are the Senior Manager in the Anderson Dairy Farming Company (ADF). You report directly to the Board and advise on special projects and strategic matters.

Company background

The company's origin is a dairy farm that was established by Jonathan Anderson 150 years ago. The farm remains an integral part of the present-day company.

Over time, the farming business was incorporated as a company (Anderson Dairy Farming Company "ADF"), although it has never sought a stock market quotation. All shares remain with members of the Anderson family.

ADF has expanded through the acquisition of three neighbouring farms, with the most recent acquisition being made in 2001. These farms became available when their owners retired and agreed to sell to ADF. Each farm has a large "shed" which houses the dairy cattle and the milking equipment. ADF owns approximately 1,600 dairy cattle, with approximately 400 cows housed in each shed.

Each of the four farms has 250 - 300 acres of farmland, which is used to grow crops for animal feed. It is also used to graze heifer calves until they are old enough to breed and afterwards enter the dairy herd.

ADF is based in Hiland, where the climate lends itself to farming. Hiland is known for its dairy products and is in the top 15 milk producing countries in the world.

Hiland is stable and economically developed. The country's economy is focussed on manufacturing, although it has a major agricultural industry.

Hiland's currency is the H\$.

Structure

ADF is presently headed by Jolene and Archie Anderson, who are joint chief executives. They also take direct responsibility for the management of North Farm. Jolene and Archie each own 22.5% of the shares.

Jolene and Archie are assisted by their three children:

- Max Anderson Director of Finance and IT and Manager of East Farm
- Susanne Anderson Director of Farming Operations and Manager of West Farm
- Graeme Anderson Director of Human Resources and Marketing and Manager of South Farm

Each of the children owns 15% of the shares of ADF. The remaining 10% of the shares are held in small quantities by several other family members, none of whom has an active role in the company.

The role of farm manager is very much a matter of day-to-day management. All strategic decisions are taken jointly by the Board during so-called "family meetings".

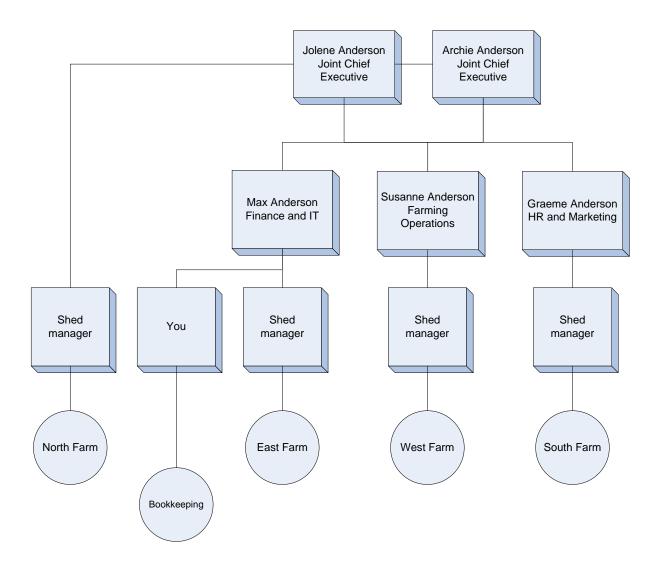
The four separate farms are adjacent to one another. Each one is self-contained with regard to the management of its dairy herds because the cows are housed in dairy sheds. Each shed has sufficient space to accommodate 400 cows and all of the equipment necessary for milking them.

ADF employs shed managers and cowherds to take care of the cows and farm workers to grow crops. Each shed is under the supervision of a shed manager. The cowherds are responsible for milking and generally taking care of the cows. There are also farm workers, who are responsible for growing and harvesting the grass that is used to make silage for feeding the cattle.

ADF operates as a single entity. It is simply a matter of convenience to have the dairy herd divided into four, each with its own shed. Splitting the herd in this way also limits the potential spread of illness. The cowherds and farm workers work wherever they are needed and the silage that is made from farm crops is treated as a common resource. There is a small administrative office that deals with all bookkeeping and invoicing.

ADF employs a part-time internal auditor. She is an accountant who has an office in the nearby village of Wellchester. The internal auditor reports directly to Jolene and Archie.

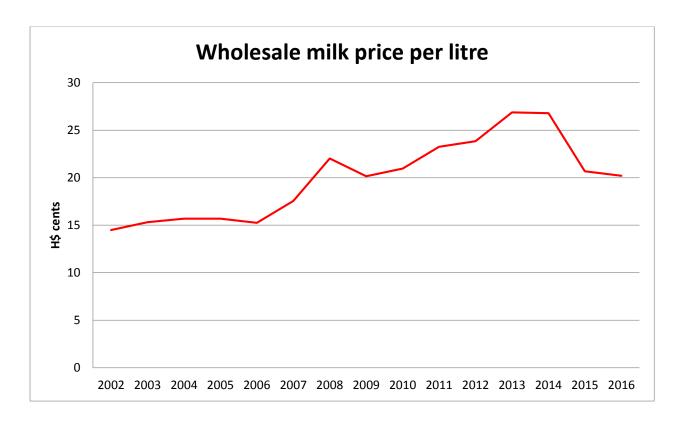
Organisation chart



Hiland's farming industry

Hiland has a significant farming industry, raising both livestock and crops.

Dairy farming accounts for 18% of total agricultural output in Hiland and generates revenues totalling H\$6.6 billion. The dairy sector has been struggling in recent years because of constant reductions in wholesale prices paid by major supermarkets for fresh milk. Supermarkets buy milk in such large quantities that they can put farmers under considerable pressure, to the extent that milk is often sold for little more than it costs to produce.



The total number of dairy cows in Hiland has fallen from 3 million 20 years ago to 2 million in 2016. Hiland remains self-sufficient in milk, but imports increasing quantities of dairy products such as butter and cheese.

Hiland's dairy farms range from small independent farms to major farming corporations. ADF falls within the small independent category, although it is one of the largest companies in this sector. The average independent dairy farm has 180 cows, compared to ADF's 1,600. However, a major farming corporation can have many thousands of cows.

ADF's farming operations

ADF follows the common industry practice of keeping its dairy herd indoors in the cattle sheds. Doing so reduces the amount of energy wasted by walking around, so the cows require less food. Keeping the cows indoors also simplifies the task of milking them twice a day.



Each of ADF's sheds has a milking room containing mechanical milking stations that require very little human intervention. Guard rails channel the cows into rotary milking stations where the cows are secured by automatic barriers until they have been milked. The milking machinery connects itself to each cow's udder automatically. The cowherds responsible for supervising milking are there to ensure that there are no equipment

failures and to monitor the cows' welfare. The cows themselves are accustomed to being milked and do not find the procedure painful or distressing.

The milk is piped from the milking stations to a pasteurisation machine in a separate part of the shed. Heat treatment is used to kill the bacteria that occur naturally in milk. This is necessary to protect consumers from infection and to extend the useable life of the milk. The pasteurised milk is refrigerated until it can be collected by tanker for delivery to the customer, usually within hours of being pasteurised.

The milk tankers are operated by third parties who specialise in collecting milk from dairy farms.

All of ADF's milk is sold to major supermarkets in Hiland. The supermarkets are responsible for bottling and distribution after collection of the milk by tanker. The pasteurised milk can be sold as it is, but the supermarkets sometimes process it further. For example, some milk is "skimmed" to reduce the fat content and so reduce the calories in a serving.

Keeping the cows indoors means that they are unable to graze on grass and so they have to be fed in the sheds. ADF grows grass and other plants in its fields and converts the resulting crops into silage, an animal feed that is used extensively by the dairy industry. Silage is relatively easy to manufacture and can be stored for years. ADF's fields can supply sufficient grass to make a whole year's silage during the growing season.

The farm workers use tractors and other agricultural equipment to spread fertiliser on the fields to feed the growing crops. The fertiliser can come from natural sources, including cow dung gathered from ADF's cow sheds, and also chemical fertilisers and pesticides that are bought in. The crops are harvested mechanically, again using tractors and associated agricultural equipment.

Cows start producing milk after they have given birth. ADF breeds its own cows. Each cow will have a calf every 13 months. Cows have a dry period of 6-8 weeks during the 13-month breeding cycle, during which they will not produce any milk. Male calves are sold immediately to beef farms. Female calves, or heifers, are allowed to graze in the fields until such time as they are old enough to be used for breeding, usually at an age of 13 to 15

months. Some of the heifers are taken into ADF's dairy herd and the remainder are sold to other farms.

Every cow is tagged with a plastic label fixed to it's ear. The label has a unique reference number and also a radio frequency identification (RFID) chip that can be read electronically. ADF maintains detailed records of each cow's milk production, which is logged by the milking apparatus that reads each cow's RFID chip, and other observations such as calves produced, health problems and temperament.

Dairy cows are generally kept until they are five years old, at which time they are sold for slaughter. Their meat is used as pet food. Cows will also be sold for slaughter if they produce insufficient milk or if they are aggressive and difficult to handle in the shed.

Keeping the cattle indoors increases the risk of disease. Apart from infectious diseases spreading in the enclosed space, animals' hooves can be injured or infected from walking on slippery floors that are contaminated with cow dung. Sick and injured cows are isolated from the herd and will either be treated by a vet or sold for slaughter, depending on the severity of any illness or injury and the cost of treatment in comparison to potential milk yield.

The law in Hiland requires that medical treatment of animals must be carried out by a qualified veterinary practitioner (a vet). Vets can carry out surgery on sick and injured animals and can prescribe and administer pharmaceutical products such as antibiotics. Vets also dehorn young calves, when it is simple and relatively painless to do so, in order to reduce the risk of cows injuring cowherds or one another.

Vets' fees are generally expensive and in some cases veterinary treatment would cost more than the value of a healthy animal. It may be cheaper to send sick or injured cattle to a registered slaughterhouse where they can be killed humanely and, if it is safe to do so, their carcasses can be butchered for meat or pet food. Slaughterhouses can also dispose of diseased carcasses that are not fit for consumption.

SWOT analysis

ADF's Board has prepared the following outline SWOT analysis:

Strengths	Weaknesses
 Strong technical knowledge of farming. High average milk yield per cow. Family companies have fewer pressures to deliver profits in the short term. 	 Intensive farming methods create a constant threat of disease in the herd. Inability to negotiate realistic wholesale prices from supermarket customers. Danger of "group think" within longestablished board comprising family members.
Opportunities	Threats
 Growing market for some dairy products such as cheese and yoghurt. Potential synergies, such as use of farm waste as an alternative energy source. Selective breeding and other techniques creating new breeds of dairy cows that are better suited to intensive farming. 	 Staff recruitment is difficult because potential workers wish to move to cities for better pay. Growth of major farming corporations that use economies of scale to undercut independent farms' prices. Public concerns about animal welfare on farms.

Risk register

ADF's Board has prepared the following risk register:

Risk	Likelihood 1=Unlikely 5=Very likely	Severity 1=Little impact 5=Major impact	Risk factor (LxS) Low Risk 1-8 Medium Risk 9-14 High Risk 15- 25	Control	Priority	Who is responsible
Public safety						
Farm machinery may injure members of the public	2	5	10	Clear signage and proper fencing of all operational areas	High	Farm workers
Road traffic accidents due to tanker movements	3	3	9	Access roads to be kept clear and well signposted	Medium	Farm workers
Consumer safety						
Cattle diseases such as mastitis can taint milk	5	4	20	All cows to be inspected for signs of illness on a daily basis Milk samples to be tested daily	High	Cowherds Shed managers
Bacteria multiply rapidly in milk	5	4	20	Highest possible hygiene standards in milking equipment All pipes and tanks to be cleaned frequently	High	Cowherds Shed managers
Staff health and safety					1	
Farm workers can be killed or injured by farm machinery	3	5	15	Only trained staff to operate machinery	High	Farm workers

				All machinery to be maintained to a high standard		Farm managers
Cowherds at risk of crushing by cows	4	5	20	All cowherds to be trained in herd management	Medium	Cowherds Shed managers
Risk of injury from slipping on shed floors	4	2	8	Entry to cowsheds restricted to those wearing safety boots	Medium	Shed managers
Animal welfare						
Diseases can be spread in sheds	3	4	12	Cows who display any symptoms to be isolated.	High	Cowherds
				Veterinary advice to be sought where appropriate		Shed managers
Animal rights						
Protestors may wish to disrupt operations				Maintain good relations with local police service		Board
	2	4	8	Care over security arrangements		Shed managers
				High standard of care in managing herd		Cowherds
Staffing						
Experienced staff may be lost to competing farms	2	3	6	Ensure wage rates competitive		Board
New staff may be difficult to find				Offer training		
	3	4	12	Actively recruit through local schools and colleges		Board

Feed costs

Description	Cost/cow/day
Purchased concentrates	1.00
Silage	0.40
Total feed cost	1.40



This is the average cost per cow per day. There are feeding stations in the cattle sheds and the cows are free to help themselves. The feeding stations are designed to prevent jostling or crowding. They also enable cowherds to add feed without coming into direct contact with the herd. Being crushed by cattle is one of the most common forms of fatal agricultural accidents.

The basic nutrition comes from silage, which is made by ADF. The concentrates contain vitamins and other minerals that are mixed through the silage before it is given to the cows so that their health is maintained and milk yield improved.

Staff costs

Each shed has 400 cows and it takes 2.5 hours to milk all of them. The cows are milked twice daily, morning and late afternoon, with the time between each milking spent cleaning and maintaining the milking equipment and associated piping and pasteurisation equipment.

ADF employs eight cowherds, whose shifts are designed to enable them to assist with both daily milking cycles, including cleaning and maintenance.

The cowherds are paid at Hiland's minimum wage, but ADF also provides each cowherd with the use of a farm cottage, without any wage deduction.

ADF also employs ten farmworkers, who tend the fields and make silage. Their wages and benefits are identical to those of the cowherds.

There are also four shed managers, all of whom are former cowherds. They receive salaries of H\$35,000 per annum and have the use of a farm house, which is larger than a farm cottage.

There is a single administrative office, staffed by two of the shed managers' wives. They receive salaries of H\$20,000 per annum. They handle all aspects of bookkeeping and administration.

Finally, each of the five Board members draws a salary of H\$50,000 per annum.



Financial statements

Anderson Dairy Farms (ADF) Statement of profit or loss for the year to 30 November

	2016 H\$	2015 H\$
Milk sales	3,165,520	3,387,106
Calves and heifers sold	212,330	231,440
Total gross revenue	3,377,850	3,618,546
Purchased concentrates	(733,680)	(711,670)
Diesel for tractors and equipment	(43,829)	(44,706)
Fertiliser, seed and spray	(166,450)	(164,786)
Tractor and equipment repairs	(76,487)	(71,898)
Other silage expenses	(25,614)	(24,589)
Change in fair value of biological assets	(179,890)	(181,689)
Staff costs	(758,320)	(735,570)
Veterinary fees and medicines	(138,460)	(145,383)
Hiland Milk Marketing Association Levy	(225,000)	(225,000)
Milking room supplies	(95,489)	(91,669)
Heat, light and power	(135,497)	(134,142)
Insurance	(16,844)	(15,833)
Fencing repair	(21,463)	(19,746)
Cowshed repairs	(141,657)	(144,490)
Depreciation	(192,614)	(200,319)
Other expenses	(6,487)	(6,552)
Operating expenses	(2,957,781)	(2,918,042)
Operating profit	420,069	700,504
Finance charges	(261,333)	(336,000)
	158,736	364,504
Tax	(34,922)	(87,481)
Profit for year	123,814	277,023

Anderson Dairy Farms (ADF) Statement of financial position as at 30 November

	2016	2015
Non ourrent accets	H\$	H\$
Non-current assets	200 400	204.056
Dairy livestock - immature	366,400	381,056
Dairy livestock - mature	1,577,600	1,672,256
Total biological assets	1,944,000	2,053,312
Property, plant and equipment	12,246,675	13,103,942
	14,190,675	15,157,254
Current assets		
Inventories	42,412	43,684
Trade receivables	213,793	234,259
Bank	64,735	60,745
	320,940	338,688
Total assets	14,511,615	15,495,942
Equity	10,815,095	10,753,915
Non-current liabilities		
Loans	3,266,667	4,200,000
Current liabilities		
Trade and other payables	164,758	161,463
Loans	233,333	300,000
Tax	31,762	80,564
	429,853	542,027
	14,511,615	15,495,942

Hiland Daily News

Protestors stage animal rights rally

Yesterday, animal rights protestors blocked the roads leading to Fen Pastures Farm, Hiland's largest intensive dairy farm. The protestors' actions were timed to disrupt the collection of milk by supermarket tankers.

One of the organisers, who asked not to be named, commented, "The dairy industry loves to use imagery of contented cows grazing in lush pastures, but the reality is that these poor cows never get to leave the cattle sheds, where they are crammed together in their hundreds. At least 25% of the herd dies each year, with life expectancies shortened thanks to the stressful and unhealthy lifestyle".

The protest ended peacefully, after the second collection of the day had to be cancelled. A farm spokesman claimed that a significant quantity of milk was wasted because the farm does not have sufficient storage capacity to keep a whole day's production.

The police confirmed that the protestors had blocked only privately owned farm roads and not public highways. They made no arrests.

Hiland Daily News

Milk contaminated with antibiotics

The controversy concerning the use of antibiotics on dairy farms to prevent the spread of disease and maximise milk yields continues. A spokesman for the Hiland Milk Marketing Association commented that antibiotics were one of the reasons for low milk prices in the supermarkets.

Many dairy farms add antibiotics to the animal feed in order to deal with some of the health problems caused by high intensity dairy farming. For example, twice-daily milking can lead to udder infections in the absence of antibiotics. Also, the crowded conditions in cattle sheds mean that infectious diseases can spread quickly.

The problem is that antibiotics are entering the human food chain. Frequent small doses of antibiotics are enabling bacteria to build up a resistance to antibiotics that are also used to treat medical conditions in humans. The result is that sick people cannot be treated because the antibiotics have no effect on the infections that are making them ill.

Calls to ban the routine use of antibiotics have generally been resisted by the farming industry. Beef farmers also use antibiotics, which have been shown to increase muscle growth and so generate more profits.

Hiland Daily News

Organic produce – spot the difference

Most supermarkets offer "organic" ranges of products. These are invariably more expensive than the alternatives that are not labelled in this way, but what does that organic label actually mean and is it worth paying extra for?

At its most literal, the word "organic" suggests that the food was created without the use of artificial inputs such as artificial pesticides or fertilisers and without processes such as irradiation to extend its shelf life or genetic modification to improve yields.

Legally, the word "organic" is certified. Hiland's Foods Standards Agency insists that food labelled "100% organic" must be exactly that, and contain nothing other than organic produce. Food labelled "organic" can contain up to 5% of items that can be anything but. If the label says "made from organic ingredients" then up to 30% can be non-organic.

Not surprisingly, the price premium creates a fraud risk. For example, if you buy an organic beef steak, the farmer who raised the animal may have sold it in good faith without realising that supplies of "organic" cattle feed had been deliberately mislabelled by a dishonest supplier.

Why would you want to eat organic food? Some people claim to prefer the flavour. Whether that is true or not depends on personal taste. Others feel that it is healthier. It is unlikely that organic food will be any more nutritious in terms of protein content or vitamins. It could be free of unnatural products, such as traces of chemical fertiliser. It may also be untainted with antibiotic-resistant bacteria. Very few medical practitioners believe that there are significant health benefits to be had from switching to organic food.

Kevin Docherty's business plan

Kevin Docherty, Jolene Anderson's brother, wishes to create a dairy farm on a 340 acre site located about 80 kilometres from ADF. It is currently used as an organic arable farm, growing wheat and similar crops. Kevin has worked in dairy farming all his life and he is presently the manager of a large dairy farm.

Kevin's farm will differ from ADF's. He will leave his cows to graze in the fields. They will only be brought indoors to be milked. During the winter months, when grass does not grow, he will set up feeding stations in his pastures so that the cows can be fed on bought-in feed.

The farming model is less intensive than that used by ADF. Kevin believes that it is potentially more humane and also more sustainable. He believes there will be a growing market for milk produced in this humane and organic manner, it will also command a higher price. Furthermore, he is not convinced that high intensity farming is particularly profitable. The cows require very little care and management if they are left in a field to take care of themselves. They are also less prone to pass on diseases when they are kept in an open space with room to move. Walking on grass will significantly reduce the risk of foot injuries. There would be no point to routinely dosing the cows with antibiotics.

Kevin has asked Jolene and Archie to look at his plan, knowing that they have neither the time nor the wealth to become directly involved in managing or financing his farm. He values their advice because he respects their farming skills. He is, however, taking a deliberate step backwards in terms of running a traditional dairy farm. Almost all of the dairy farms in Hiland use intensive methods, such as those adopted by ADF.

All of the following figures are expressed in current prices. The figures are expected to vary in response to cycles in the management of the land and the herd, for example a fallow policy after year three.

Herd turnover and mortality rates

Description	Year 1	Year 2	Year 3	Year 4	Year 5
Target herd size (number of cows)	300	300	300	300	300
Annual cull rate, excluding natural deaths (%)	25	22	20	18	18
Annual natural death loss (%)	4	4	4	4	4
Calving interval (months)	14.0	13.5	13.0	12.8	12.8

Daily milk production and rolling herd averages

Description	Year 1	Year 2	Year 3	Year 4	Year 5
Litres per day	30.0	34.0	35.0	35.0	35.0

Capital investments for the 300-cow natural grazing dairy model

Description	Quantity	Cost/Unit H\$	Investment H\$
Land	240 acres	2,000	480,000
Dairy cows	300 cows	1,250	375,000
Buildings and farm setup			
Milking room, equipment, tank, holding area, and office	48 stalls	5,600	268,800
Storage and feed bins		72,000	72,000
Storage Sheds	10,000 sq ft	4	40,000
Fencing and paddock setup	45,000 sq ft	1.00	45,000
Establishing new pastures (organic fertiliser, seed, tillage)	225 acres	150.00	33,750
Machinery and equipment			
New Tractor		60,000	60,000
Used tractor with loader		20,000	20,000
Pickup truck		25,000	25,000
Feeding equipment		20,000	20,000
Other farm equipment		20,000	20,000
Total investment			1,459,550
Investment per cow			4,865

Dairy enterprise budget for the 300-cow grazing dairy model (5-year average)

	Herd H\$	Per cow H\$	Percent of total
INCOME FROM OPERATIONS			
Milk sales	620,475	2,068	94%
Sales of young stock	43,488	145	6%
Total gross receipts	663,963	2,213	100.0%
OPERATING EXPENSES			
Feed			
Supplementary Feedstuffs	152,139	504	28%
Total feed	152,139	504	28%
Herd replacement costs			
Change in fair value—dairy cows	25,891	86	5%
Loss on sale of cows	16,339	54	3%
Total herd replacement costs	42,230	140	8%
OTHER OPERATING EXPENSES			
Cow expenses			
Hired labour (including staff benefits)	107,420	358	20%
Health screening	4,800	16	1%

Breeding costs	10,577	35	2%
Hiland Milk Marketing Association Levy	40,891	136	8%
Repairs/truck/fuel	18,000	60	3%
Vet/medicine	14,040	47	3%
Milk room supplies	13,814	46	3%
Utilities	16,967	57	3%
Insurance	3,942	13	1%
Other expenses	10,000	33	2%
Pasture expenses			
Organic Fertiliser	18,923	63	3%
Seed	8,410	28	2%
Equipment hire	6,308	21	1%
Fuel	6,577	22	1%
Fence/water	6,000	20	1%
Depreciation	52,614	175	10%
Total other operating expenses	339,283	1,131	64%
TOTAL OPERATING EXPENSES	535,652	1,776	100.0%
NET INCOME FROM OPERATIONS	131,311	438	

Budgeted cash flow statement for the 300-cow grazing dairy model

	Year 1 H\$	Year 2 H\$	Year 3 H\$	Year 4 H\$	Year 5 H\$	5-year average H\$		
CASH INFLOWS								
Farm cash receipts								
Milk sales	552,102	633,371	641,262	637,819	637,819	620,475		
Livestock sales	97,200	91,967	89,100	85,465	85,464	89,839		
TOTAL	649,302	725,338	730,362	723,284	723,283	710,314		
CASH OUTFLOWS								
Cow expenses								
Purchased concentrates	97,479	97,033	96,554	96,300	96,300	96,733		
Purchased supplementary feed	54,729	55,133	55,569	55,800	55,800	55,406		
Hired labour (including staff benefits)	102,181	104,736	107,354	110,038	112,789	107,420		
Health screening	4,800	4,800	4,800	4,800	4,800	4,800		
Breeding	10,500	10,538	10,576	10,615	10,656	10,577		
Hiland Milk Marketing Association Levy	36,384	41,741	42,261	42,034	42,034	40,891		
Repairs/truck/fuel	18,000	18,000	18,000	18,000	18,000	18,000		
Vet/medicine	14,040	14,040	14,040	14,040	14,040	14,040		
Milk room supplies	13,140	13,469	13,805	14,150	14,504	13,814		

Utilities	16,140	16,544	16,957	17,380	17,816	16,967	
Insurance	3,751	3,843	3,940	4,040	4,139	3,942	
Other expenses	10,000	10,000	10,000	10,000	10,000	10,000	
Total cow expenses	381,144	389,877	393,856	397,197	400,878	392,590	
Grazing expenses							
Organic fertiliser	18,000	18,450	18,911	19,384	19,869	18,923	
Seed	8,000	8,200	8,405	8,615	8,831	8,410	
Equipment hire	6,000	6,150	6,304	6,461	6,623	6,308	
Fuel	6,500	6,538	6,576	6,616	6,656	6,577	
Fence/water	6,000	6,000	6,000	6,000	6,000	6,000	
Total grazing expenses	44,500	45,338	46,196	47,076	47,979	46,218	
Capital purchases							
Breeding livestock	108,749	97,502	90,000	82,500	82,500	92,251	
TOTAL	534,393	532,717	530,052	526,773	531,357	531,058	
NET CASH FLOW	114,909	192,622	200,310	196,511	191,926	179,256	

Budgeted income statement for the 300-cow grazing dairy model

	Year 1	Year 2	Year 3	Year 4	Year 5	5-year average	
GROSS REVENUE							
Milk sales	552,102	633,372	641,262	637,819	637,819	620,475	
Young stock and heifers sold	40,950	42,466	44,100	44,964	44,964	43,488	
Total gross revenue	593,052	675,838	685,362	682,783	682,783	663,963	
OPERATING EXPENSES							
Purchased concentrates	97,479	97,033	96,554	96,300	96,300	96,733	
Purchased supplementary feed	54,729	55,133	55,569	55,800	55,800	55,406	
Total operating expenses	152,208	152,166	152,123	152,100	152,100	152,139	
HERD REPLACEMENT COSTS							
Change in fair value—dairy cows	28,831	26,929	25,548	24,074	24,074	25,891	
Loss on sale of cows	18,779	17,049	15,968	14,951	14,951	16,339	
Total herd replacement costs	47,610	43,978	41,516	39,025	39,025	42,230	
OTHER OPERATING EXPENSES							
Cow expenses							
Labour (includes staff benefits)	102,181	104,736	107,354	110,038	112,789	107,420	
Health screening	4,800	4,800	4,800	4,800	4,800	4,800	
Breeding	10,500	10,538	10,576	10,615	10,656	10,577	

Hiland Milk Marketing Association Levy	36,385	41,741	42,261	42,034	42,034	40,891
Repairs/truck/fuel	18,000	18,000	18,000	18,000	18,000	18,000
Vet/medicine	14,040	14,040	14,040	14,040	14,040	14,040
Milk room supplies	13,140	13,469	13,805	14,150	14,504	13,814
Utilities	16,140	16,542	16,957	17,381	17,816	16,967
Insurance	3,750	3,844	3,940	4,038	4,139	3,942
Other expenses	10,000	10,000	10,000	10,000	10,000	10,000
Total cow expenses	228,936	237,710	241,733	245,097	248,778	240,451
Grazing expenses						
Organic fertiliser	18,000	18,450	18,911	19,384	19,869	18,923
Seed	8,000	8,200	8,405	8,615	8,831	8,410
Equipment hire	6,000	6,150	6,304	6,461	6,623	6,308
Fuel	6,500	6,538	6,576	6,616	6,653	6,577
Fence/water	6,000	6,000	6,000	6,000	6,000	6,000
Total grazing expenses	44,500	45,338	46,196	47,076	47,975	46,218
Depreciation (buildings and equipment)	52,614	52,614	52,614	52,614	52,614	52,614
Total other operating expenses	326,050	335,662	340,543	344,787	349,359	339,283
TOTAL OPERATING EXPENSES	525,867	531,806	534,182	535,912	540,494	533,652
NET INCOME	67,185	144,032	151,180	146,871	142,289	130,311