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Labor and wages, Agric

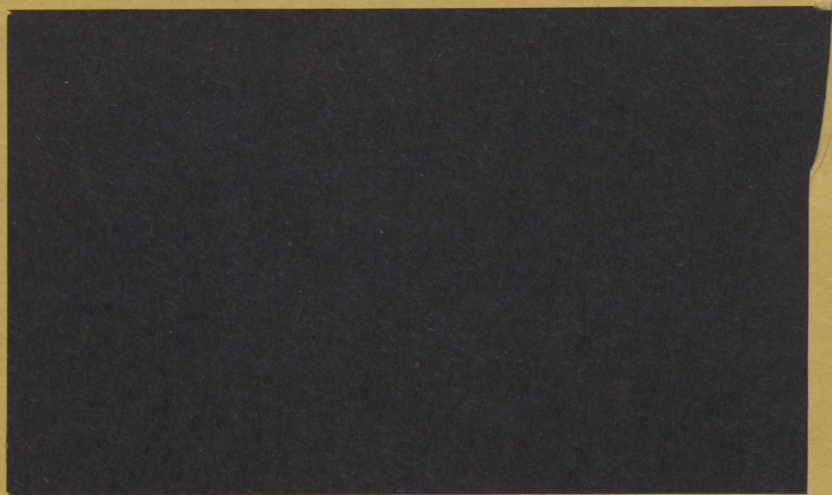


**SCHOOL OF
AGRICULTURAL ECONOMICS
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ONTARIO AGRICULTURAL COLLEGE
UNIVERSITY OF GUELPH
Guelph, Ontario, Canada



AN ECONOMIC ANALYSIS OF FULL-TIME
HIRED LABOUR ON ONTARIO DAIRY FARMS

Thomas F. Funk and William Okyere

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The Ontario dairy industry is one of the province's larger and more important agricultural industries. In 1971 there were approximately 17,000 dairy farms in Ontario with a total capital investment of almost \$1.5 billion.⁽¹⁾ In 1974 total milk production on these farms was 6 billion pounds with a total value of just under half a billion dollars. This represented 37 percent of total Canadian cash receipts for dairy products and 17 percent of total Ontario farm cash receipts.⁽²⁾

1.1 Economic Problem

Because of the size and importance of the dairy industry, problems in this sector can have a major impact on the agricultural economy of the province and the nation. A problem of major importance in this industry at the present time is what has been commonly referred to as the "farm labour problem." Although this problem is not unique to the dairy industry, it has become particularly acute in this industry because of the large number of dairy operations requiring full-time hired labour. In 1971 it was estimated that more than 3,000 of the 17,000 dairy farms in Ontario required at least one full-time employee.⁽³⁾

The labour problem on Ontario dairy farms is essentially one of low job satisfaction on the part of full-time hired employees. This problem manifests itself in a number of ways of which the most visible are high labour turnover and inadequate job performance. As a result,

(1) 1971 Census of Agriculture

(2) Statistics Canada, Catalog No.21-202, 1974

(3) 1971 Census of Agriculture

dairy operators are finding it more and more difficult to attract and retain the type of employees they need. In many cases this problem has been the prime reason for operators' decisions not to increase the size of their operations even though this could lead eventually to more efficient milk production.

Although the nature of the labour problem on dairy farms is fairly well known, the causes of this problem remain obscure. Past research on this problem has identified a number of possible causes, but has not attempted to show their relationship to, or relative importance in, contributing to low job satisfaction. Without this type of information it is virtually impossible to develop meaningful guidelines which may reduce the magnitude of the basic problem.

1.2 Research Objectives

The primary objective of this research is to investigate the causes of low job satisfaction on Ontario dairy farms and, as a result, to prescribe appropriate management programs and policies to improve the level of employee satisfaction. In addition to this primary objective, some related secondary objectives are:

- (1) To describe the current labour situation on Ontario dairy farms with respect to recruiting, training, motivating and compensating employees.
- (2) To investigate differences between employers and employees in their perceptions of working conditions, personal treatment, remuneration, and benefits.

1.3 Data Sources

Data for this research was collected using separate questionnaires mailed to dairy farm operators and their full-time employees in March and April 1975. The survey covered all the counties and districts of Ontario. The map in Figure 1.0 shows the number of questionnaires mailed to farmers in each county and the number returned and used in the analysis.

The Ontario Milk Marketing Board supplied the names and addresses of dairy operators who they knew or suspected had full-time employees. This list contained the names of 955 dairy farmers which were included in the survey.

Each farm operator was mailed one employer questionnaire and two employee questionnaires to give to his employees. Letters were sent along with the questionnaires explaining the objectives of the study and business reply envelopes were provided for each respondent to return the completed questionnaires. Three weeks were allowed for respondents to fill out and return the questionnaires. After the three week period, follow-up letters were mailed to farm operators from whom completed employer or employee questionnaires had not been received. The purpose of the follow-up letters was to increase the overall response rate.

After accounting for the questionnaires that were returned stamped unknown at address and those returned because the farmer did not hire full-time labour, there was 802 employer questionnaires that could have been filled out by the farm operators. Using this as a base, the overall response rate for farm operators was 42 percent (see Table 1.0). Only about half of these questionnaires, or 22 percent of the potential, were deemed

Table 1.0 Analysis of Survey Response

Response Category	Employers		Employees	
	Number	Percent	Number	Percent
Total questionnaires mailed	955		1910	
Unknown at address	37		74	
Returned stating no full-name time employees	<u>116</u>		<u>232</u>	
Potential responses	802	100	1604	100
Questionnaires returned	332	42	273	17
Useable Questionnaires	177	22	158	10

useable and therefore included in the analysis.⁽¹⁾

On the employee side, only 273 or 17 percent of potential responses were returned. This figure, however, is misleading since the number of potential responses for employees is based on the assumption of two employees per farm when in fact most farms hire only one employee. In the sample, only 28 farms had more than one employee who returned completed questionnaires.

2.0 ANALYSIS OF CURRENT LABOUR SITUATION

This section focuses on describing the current labour situation on dairy farms in Ontario as determined from an analysis of the employer and employee questionnaires. The discussion is organized around the four basic personnel management functions of recruiting, training, motiv-

(1) Those questionnaires which were not considered useable contained a large amount of missing information, particularly with respect to wage levels and fringe benefits.

ating, and compensating hired workers. In addition, a brief discussion of the personal and farm characteristics of the employer and employee samples are given.

2.1 Description of Employer and Employee Samples

As a first step in the analysis, the employer and employee samples were described in terms of the five characteristics shown in Table 2.1. These descriptive statistics are based on 177 useable employer and 158 useable employee questionnaires.

Table 2.1 Description of Employer and Employee Samples

Characteristic	Employer Sample (percent)	Employee Sample (percent)
Age:		
Under 25 years	2	35
25 to 45 years	50	47
Over 45 years	48	18
Sex:		
Male	100	99
Female	0	1 ⁽¹⁾
Marital Status:		
Single	7	35
Married	93	65
Origin:		
Canadian origin	81	70
Non-Canadian origin	19	30
Education:		
8 years or less	27	32
8 to 12 years	44	52
More than 12 years	29	16

(1) One employee out of the total of 158 was female.

The information in Table 2.1 shows that the majority of employers are in the older age categories while most of their employees are in the younger categories. Although both groups tend to have high proportions of married men of Canadian origin, the proportions are slightly higher for the employer group than for the employee group. The educational distribution of both groups is very similar.

In addition to the descriptive information in Table 2.1, an analysis of the background of employees was made. This analysis showed that 69 percent of the employees lived on farms while they were growing up, 16 percent in rural non-farm communities, and 15 percent in urban areas. At the time of the survey, 89 percent of the employees were living on farms, ten percent lived in towns, and only one percent, or two employees, lived in an urban area. Those employees who lived away from the farm on which they worked commuted an average of six miles (one way) to their jobs every working day.

The average size farm in the sample in terms of cows milked per day was 53 with a range of 15 to 225. The distribution of farms according to gross returns from dairy in 1974 was: five percent under \$25,000; 31 percent between \$25,000 and \$49,999; 35 percent between \$50,000 and \$74,999; 19 percent between \$75,000 and \$100,000; and ten percent over \$100,000. Over 90 percent of the farms were in the Group 1 pool.

Table 2.2 and Figures 2.1 through 2.5 summarize the dairy farm labour employment situation in Ontario for full-time employees.

As seen in Table 2.2, the average dairy farmer in the sample had been operating his farm an average of approximately 18 years, during which time he hired full-time labour an average of about 14 years. The mean

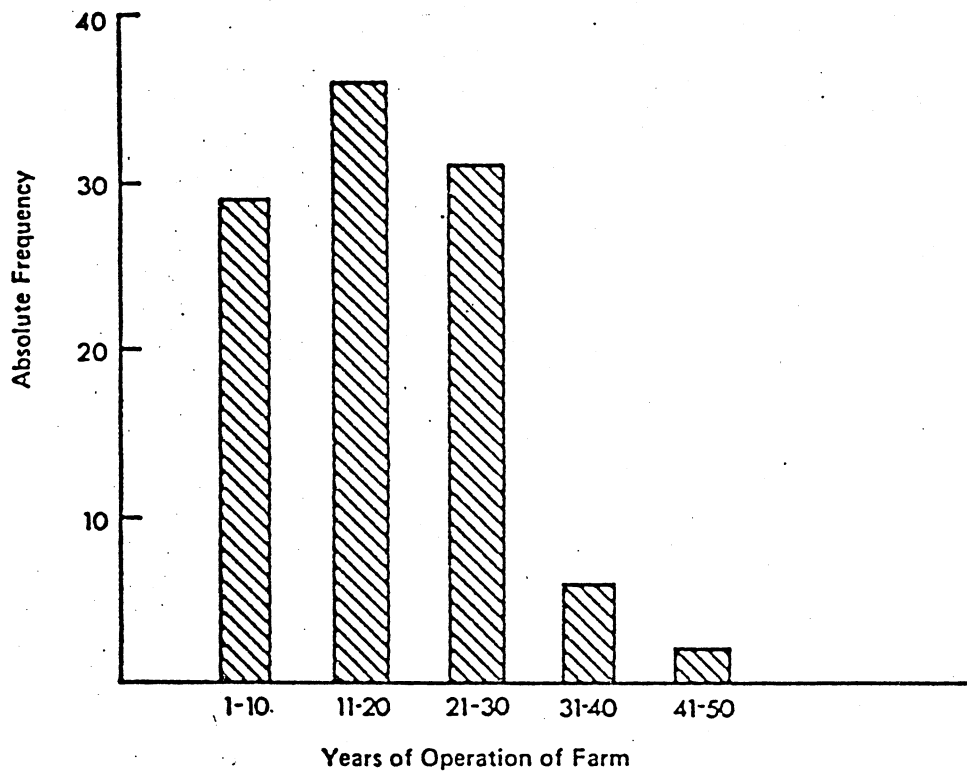


FIGURE 2.1. Frequency Distribution of Years of Operation of Farm

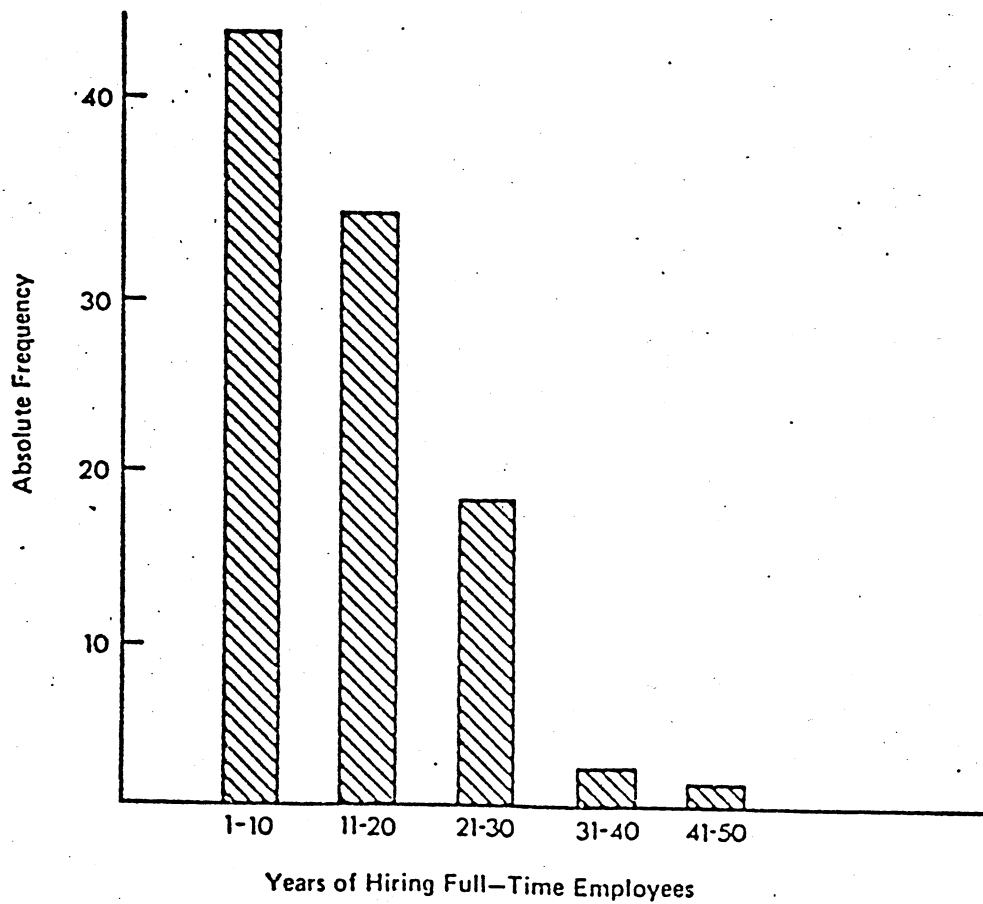


FIGURE 2.2, Frequency Distribution of Years of Hiring Full-Time Employees

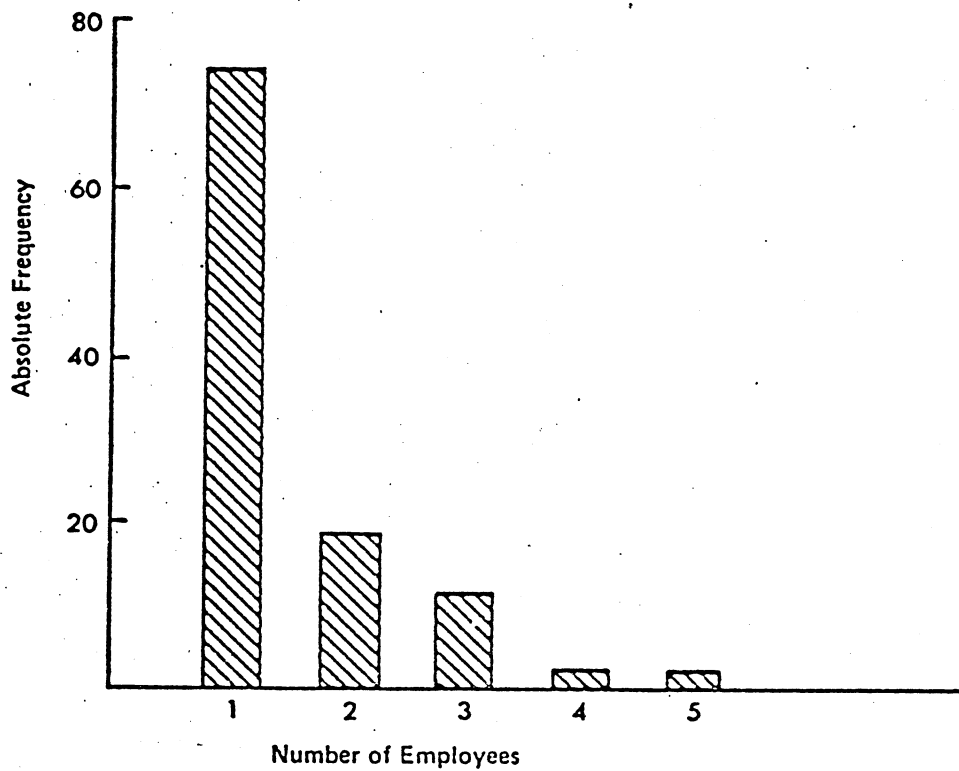


FIGURE 2.3. Frequency Distribution of Present Number of Employees per Farm

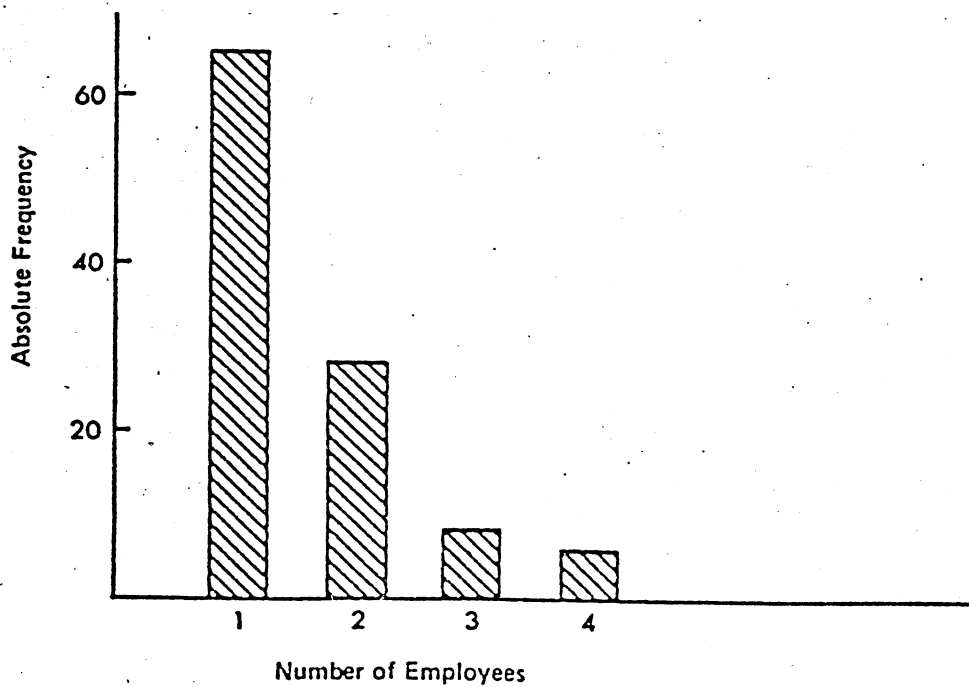


FIGURE 2.4. Frequency Distribution of Number of Employees Needed per Farm

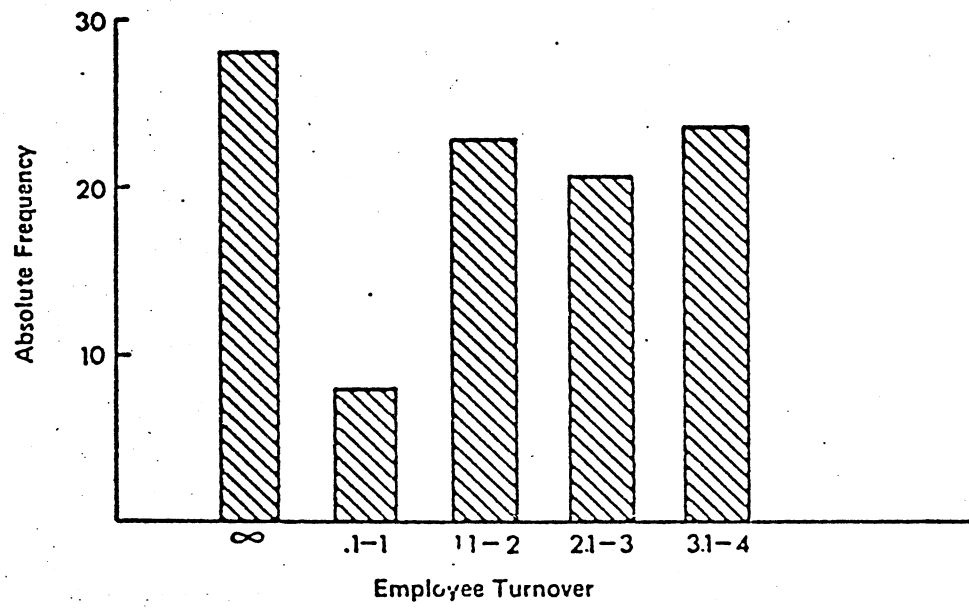


FIGURE 2.5. Frequency Distribution of Employee Turnover

number of employees on dairy farms at the present time is 1.5, compared with an employer's estimate of the optimum number of 1.6 employees. This small differential implies there is currently a slight shortage of full-time labour on Ontario dairy farms. This point is also made in Figures 2.3 and 2.4 where the graphs show that a small number of operators who currently have one employee feel that they need two employees for their present size of operation.

Table 2.2 also shows that the average tenure of employees was about five years which is substantially less than the average length of time operators hired full-time labour. As a result, on the average dairy farm one employee left every three years. The highest incidence of employees quitting their jobs occurred on one farm where 35 supposedly full-time employees quit. There were only 28 farms in the sample reporting no labour turnover during the time they had been hiring full-time labour.

2.2 Current Recruiting Methods

An important personnel management function on dairy farms is recruiting new employees. Although this function is not performed often, it is extremely important since the quality of the employee obtained depends directly on the thoroughness of this activity.

The recruiting function in personnel management can be divided into three categories -- advertising the job to potential employees, establishing qualifications, and evaluating applicants for employment. Each of these categories was investigated in this research.

Table 2.2 Summary of Full-time Dairy Farm Labour
Employment in Ontario

Item	Mean	Maximum
Years operating farm	18.4	50
Years hiring full-time labour	14.1	50
Current number of employees	1.5	5
Optimum number of employees	1.6	5
Tenure of employees (years)	4.9	35
Number of employees quit	4.1	35
Number of employees fired	1.2	10
Employee turnover ⁽¹⁾	2.9	--

(1) Employee turnover was calculated by dividing years hiring full-time labour by the sum of the number of employees who either quit or were fired.

Table 2.3 Uses of Labour Advertising Media by Ontario
Dairy Farm Employers and Employees⁽¹⁾

Method	Present Employer Users (percent)	Employers finding it to be a satis- factory method (percent)	Present Employee Users (percent)
Current employees	24	31	4
Other farm operators	23	--	11
Newspapers and/or farm magazines	50	58	19
Canada Farm Labor Pools	11	--	2
Canada Manpower and/or OMAF Agricultural Manpower Services	39	27	6
Personal Contact	57	52	43
Other Sources	--	--	16

(1) Percentages add to more than 100 since some respondents used more than one method.

2.2.1 Advertising the Job

Responses from employers indicated that they used a combination of different methods of advertising their labour needs to potential employees. As shown in Table 2.3, the largest number of respondents mentioned that they used, and were satisfied with, newspaper and/or farm magazine advertisements and personal contact with prospective employees. Almost all the employers who said they used government manpower services evaluated the OMAF Agricultural Manpower Services favourably, but expressed concern with the services of Canada Manpower as a means of obtaining good farm employees.

The last column in Table 2.3 shows the percentage of employees using the various advertising media to obtain their last job. This data shows a similar pattern to the employer responses in the sense that newspapers, farm magazines, and personal contacts were the most widely used methods.

2.2.2 Establishing Qualifications

A second important management activity in recruiting new employees deals with establishing qualifications expected of new workers. To determine the nature of these qualifications the employers were asked to check, from a list of six, those qualifications they considered important when evaluating new employees. In addition, for each qualification considered important, they were asked to indicate the level desired.

The results of this questioning are shown in Table 2.4. The first two columns of this table show the number and percentage of the total employer sample that considered each qualification in evaluating new

employees. From this information it is evident that dairy operators look primarily for age, marital status, sex, background, and skill level when hiring new employees with education and training being of secondary importance.

Columns three and four of Table 2.4 show the preferred categories for each of the qualifications checked as being important by the dairy operators. This data shows that most dairy operators prefer a new employee who is a 25 to 45 year old married man with either a grade school or high school education. In addition, their preferred employee is either semi-skilled or skilled and possesses a farm background.

2.2.3 Evaluating Applicants

The third personnel management activity in recruiting new employees involves evaluating applicants for possible employment. To perform this function approximately 76 percent of the respondents said they used personal interviews, 18 percent used reference checks, 37 percent contacted previous employers, and 58 percent tried the applicant on the job.

2.3 Training New Employees

Once an employee has been hired, management's attention must be directed at providing adequate training for this worker. Results of this research indicate that on dairy farms most operators used one of four methods to train their new employees; about 5 percent put the new employee under an experienced worker during the training period; 15 percent demonstrated how to do the work then left the employee alone to do it; 59 percent worked with the employee during the training period; 11 percent showed the new employee what to do and then observed him doing it; and

Table 2.4 Qualifications Considered by Employers When Hiring New Employees

	Qualifications ⁽¹⁾		Preferred ⁽²⁾	
	Number	Percent	Number	Percent
1. Age	123	69.9		
Under 25 Years			35	28.5
25-45 Years			80	65.0
Over 45 Years			8	6.5
2. Marital Status	150	84.8		
Single			37	24.7
Married			113	75.3
3. Education and Training	77	43.5		
Grade School			30	39.1
High School			30	39.1
Agricultural Diploma			16	20.5
University Degree			1	1.3
4. Sex	148	83.6		
Male			148	100.0
Female			0	0.0
5. Background	139	78.5		
Farm			100	71.9
Rural Non-farm			39	28.1
5. Skill Level ⁽³⁾	155	87.6		
Unskilled			7	4.5
Semi-skilled			56	36.1
Skilled			86	55.5
Highly skilled			6	3.9

(1) Percentages based on total sample of 177.

(2) Percentages based on total number considering qualification.

(3) The definitions of skill level used in this research are:

- (a) Unskilled - denotes those jobs which include manual work involving simple duties that may be learned in a short period of time and that require little or no independent judgment. (Example: clean barns).
- (b) Semi-skilled - denotes those jobs which include craft and manual work where the workers must possess some knowledge of the process involved. (Example: move livestock).
- (c) Skilled - denotes those jobs which include craft and manual work where the workers must possess a thorough knowledge of the process involved. Considerable independent judgment must be exercised and in some instances workers are responsible for valuable equipment or products. (Examples: vaccinate, milk cows, mix feed, and care for livestock when calving)
- (d) Highly Skilled - denotes those jobs which usually require a high degree of mental activity by the worker and are concerned with theoretical or practical aspects of the operation. (Examples: select breeding stock, develop rations).

3 percent used a combination of the four approaches.

The length of the training period was found to vary from one day to several years depending on the experience of the new worker and the complexity of his new duties. The large percentage of employers indicating long training periods in Table 2.5 is probably indicative of the general attitude that training is a continual management responsibility on dairy farms.

Table 2.5 Frequency Distribution of Length of Training Period

Training Period	Absolute Frequency	Relative Frequency ⁽¹⁾ (percent)
About one day	9	5.1
About one week	40	22.6
About one month	35	19.8
Several months	33	18.6
About one year	16	9.0
Several years	25	14.1
No training	19	10.7

(1) Percentage based on total sample of 177.

2.4 Compensation Programs

An integral function of personnel management deals with the establishment of compensation programs which are equitable to both the employer and employee, and provide incentives for the employee to perform his assigned duties in the proper manner. This section discusses the nature and level of various compensation programs for Ontario dairy farm workers in 1974; a more detailed discussion of the effectiveness of these

programs follows in Section 3.0.

Most compensation packages for dairy farm workers are comprised of three basic elements -- cash wages, fringe benefits, and extra payments. The data in Table 2.6 and Figures 2.6 through 2.9 summarize the level and extent to which each of these elements were used in 1974.

2.4.1 Annual Cash Wages

The information in Table 2.6 shows that the average Ontario dairy farm employee received slightly in excess of \$6,000 in cash wages in 1974. The distribution of this cash income to dairy employees is shown in Figure 2.6. Here it is seen that over 80 percent of employees earned between \$3,000 and \$9,000, while about 17 percent earned less than \$3,000 and only 3 percent earned an amount greater than \$9,000.

2.4.2. Fringe Benefits

Table 2.6 also reports the number of farmers reporting the payment of various fringe benefits in 1974 and the average value of these payments. In the total sample, almost 85 percent of the employers reported paying at least one fringe benefit to their employees. The average value of these fringe benefits per employee was almost \$2,000. In terms of individual fringe benefits those most commonly used were social insurance, house rent, utilities, milk, and meat and food. Only a very small percentage of employers included retirement benefits, transportation, and insurance policies in their fringe benefit programs.

The distribution of the value of fringe benefits to dairy farm employees is shown graphically in Figure 2.7. This information demonstrates the considerable variability in the value of fringe benefit programs

Table 2.6 Summary of Employee Wages, Fringe Benefits, Bonus Payments and Incentive Plans

Item	(1)	Number Reporting	(2)
	Average Value		Percentage Reporting
Annual Cash Wages	\$6,082	166	93.8
Fringe Benefits:			
Social Insurance ⁽³⁾	380	121	68.4
House Rent	1,529	107	60.5
Utilities	347	83	46.9
Milk	247	95	53.7
Meat and Food	305	73	41.2
Transportation	271	23	13.0
Other Insurance	153	10	5.6
Retirement	114	10	5.6
Total Fringe Benefits	\$1,981	150	84.7
Extra Payments:			
Incentives ⁽⁴⁾	457	26	14.7
Bonuses ⁽⁵⁾	207	66	37.3
Total Extra Payments	\$ 664		
Total Income ⁽⁶⁾	\$8,026	166	93.8

(1) The calculation of all statistics is based only on the number reporting payment of a particular item.

(2) Based on total sample of 177.

(3) Unemployment Insurance and Canada Pension.

(4) A payment made in cash on goods having the following characteristics
 (a) Payment is above and beyond the normal basic wage and privileges;
 (b) The extent and limit of the payment is known to the employee beforehand; and (c) The employee knows that the manner in which he performs his job influences the payment.

(5) A general term applied to a payment to the employee over and above his wages which is made at the discretion of the employer and is not known to the employee beforehand.

(6) The sum of cash wages, fringe benefits, and extra payments shown above do not equal the amount shown for total income because of the differences in numbers of employers reporting payment in each of these categories.

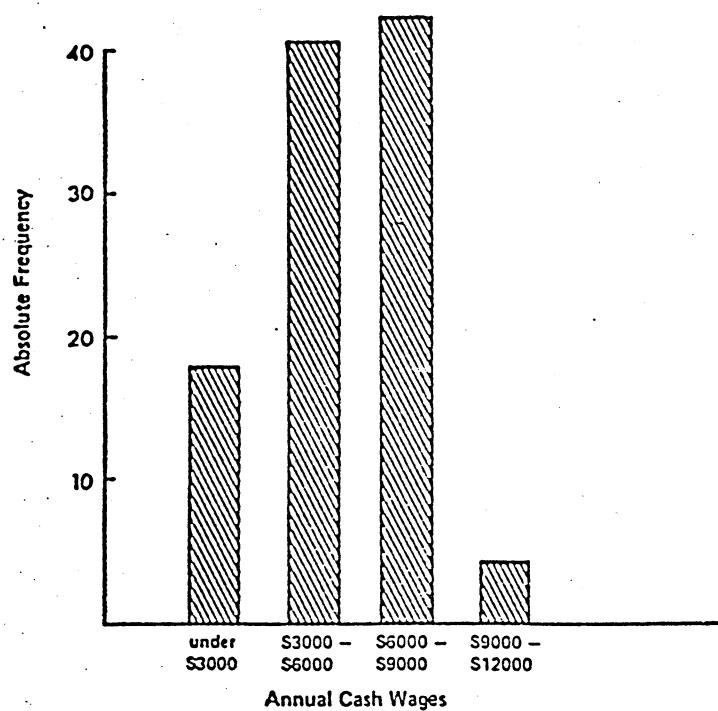


FIGURE 2.6. Frequency Distribution of Annual Cash Wages

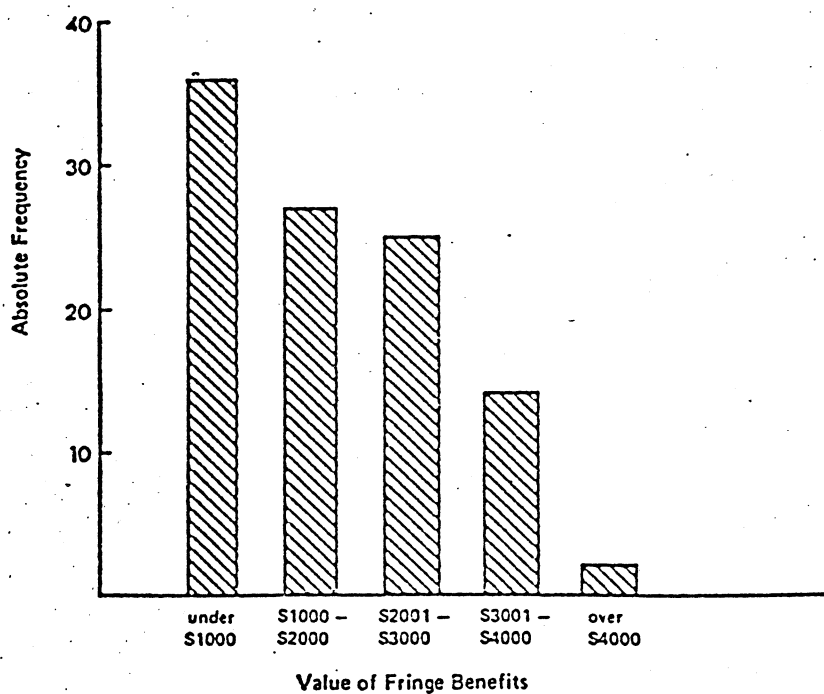


FIGURE 2.7. Frequency Distribution of Value of Fringe Benefits

in 1974. Although the average value of benefits in this year was about \$2,000, almost 65 percent of the sample employers paid less than this amount, while a few paid in excess of \$4,000.

2.4.3. Extra Payments

In addition to cash wages and fringe benefits, some dairy farm operators included incentives and bonuses in their compensation programs. In 1974, approximately 15 percent included incentive payments and 37 percent bonuses with a combined average value of \$664. The distribution of these extra payments shown in Figure 2.8 indicates that the value of extra payments for most employees was less than \$400 in 1974.

The results of this survey indicate that only a small percentage of dairy farms used incentive plans as motivating tools in 1974. On the farms using incentives, a variety of plans were employed. The most popular type of incentives were those allowing the employee to use part of the operator's land and equipment to rear animals or grow crops. Thirty-six percent of farms with incentives used this type of plan. Other types of plans and the extent of their use were: plans based on physical production, 28 percent of the farms; plans based on tenure, 20 percent of the farms; and plans based on a percentage of the gross profits, 15 percent of the farms. Only one quarter of the farm with incentive plans reported they had written agreements with employees covering the terms and conditions of the plan.

Some farms which previously had incentive plans reported dropping the plans for a variety of reasons: about ten percent of the operators said they discontinued the plans because they were unprofitable; another

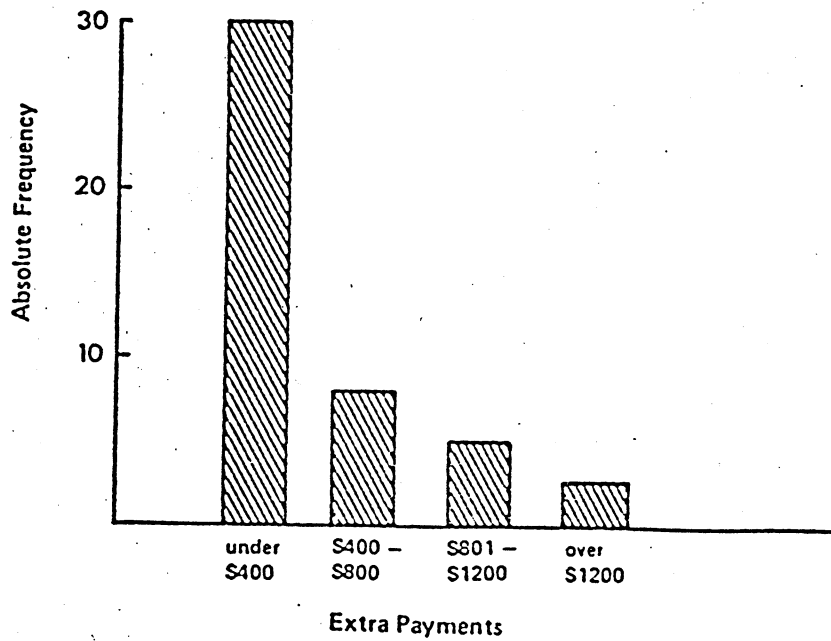


FIGURE 2.8. Frequency Distribution of Extra Payments

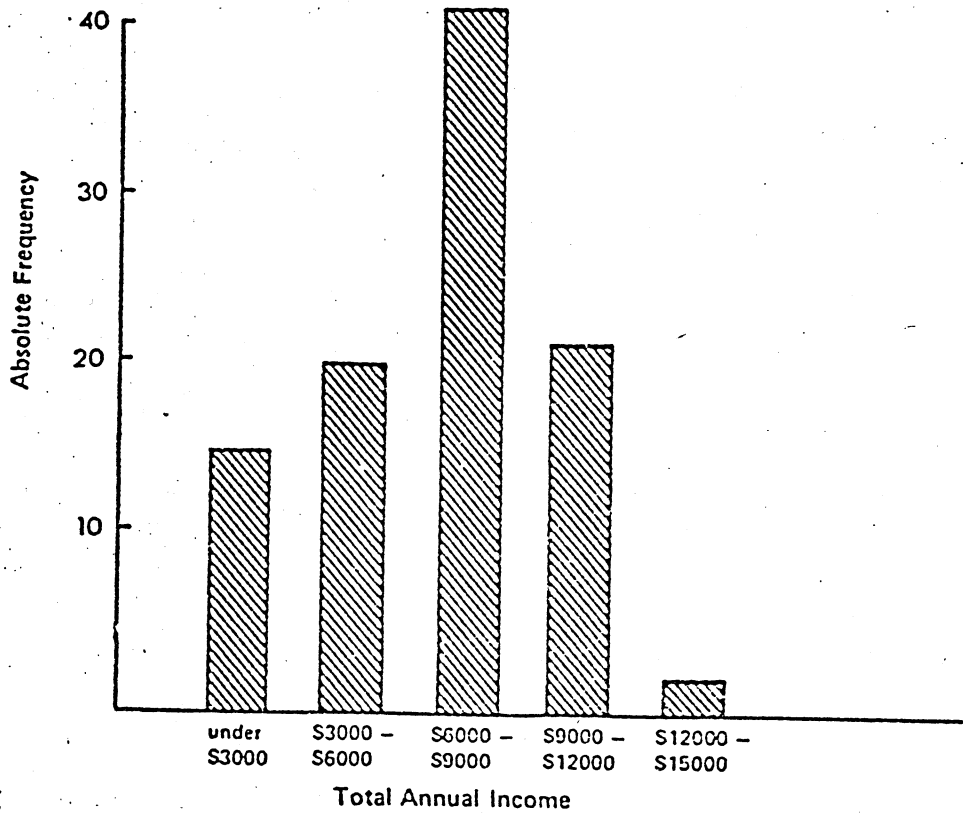


FIGURE 2.9. Frequency Distribution of Total Annual Income

ten percent felt the plan was beyond the control of the employee; nearly 52 percent realized the plan did not yield the expected motivation for the employee, and about 23 percent reported their plan resulted in misunderstandings between themselves and the employees concerned.

2.4.4. Total Income

Considering cash wages, fringe benefits, and extra payments, the average total income for an Ontario dairy farm employee in 1974 was determined to be slightly more than \$8,000. This value was calculated using the assumption that where an employer did not give a figure for a particular fringe benefit or extra payment implied he did not provide it to his employees. Thus the \$8,000 average total income may be somewhat understated since some employers may not have supplied the value of a particular fringe benefit they provided if they found it difficult to estimate.

2.4.5. Work Periods

In exchange for the above compensation, the employee provides the services of his labour to the farm operator for specified periods of time. The amount of time exchanged was measured by obtaining information on the number of hours worked per day, the number of days worked per week, and the number of days of paid vacation and holidays given to employees per year. This information is summarized in Table 2.7.

The data in Table 2.7 shows that during the winter months the average Ontario dairy farm employee worked 9.1 hours per day for 5.9 days during the winter months and 10.3 hours per day for 6.1 days during the summer months. On a weekly basis this amounts to an average of

approximately 54 hours per week during the winter and 63 hours per week during the summer. Assuming an equal number of winter and summer months, the total hours of work per year were slightly in excess of 3,000.

Using the 3,000 hours of work per year it is possible to calculate the average hourly wage of Ontario dairy farm employees in 1974. On the basis of cash wages of \$6,000 per year the average wage was exactly \$2.00 per hour. If total income of about \$8,000 is considered the relevant base, the average hourly wage increases to about \$2.65.

The data in Table 2.7 also shows that most dairy operators give their employees two weeks of paid vacation each year. In most cases the operators said their employees could take their vacation at any time except during critical work periods.

2.4.6. Written Agreements

In the total sample, only 14 percent of the operator respondents reported having written agreements with their employees outlining conditions of employment. As shown in Table 2.8, the most frequently appearing items in these agreements were wages, days off, and vacations.

2.5 Multivariate Analysis of Total Income

Although the average total income for Ontario dairy farm employees was approximately \$8,000 in 1974, Figure 2.9 shows that this total income was distributed over a fairly wide range. As a result, it was decided to attempt to account for this variability by relating total annual income to a number of independent variables. In this analysis, four major classes of independent variables were used: (1) employee characteristics, (2) farm characteristics, (3) work periods, and (4) compensation plan characteristics.

Table 2.7 Work Periods For Ontario Dairy Farms

Item	Mean	Mode
Winter hours of work per day	9.1	10
Summer hours of work per day	10.3	10
Winter days of work per week	5.9	6
Summer days of work per week	6.1	6
Days of paid vacation per year	11.4	14
Official holidays per year	2.9	0

Table 2.8 Items Included in Written Agreements

Items	Number	Percent ⁽¹⁾
Hours of work per day	11	44
Days of work per week	9	36
Wages	22	88
Incentive payments	5	20
Sick leave	7	28
Days off	18	72
Bonus payments	6	24
Housing	16	64
Overtime payments	7	28
Vacations	22	88

(1) Percentage based on 25 respondents who had written agreements.

The specific independent variables and their symbols were:

TN = Employee tenure (years)

AG = Employee Age

$AG_1 = 0$ when employee is less than 25 years old

$AG_2 = 1$ when employee is between 25 and 45 years of age

$AG_3 = 1$ when employee is older than 45 years

MS = Marital status of employee

$MS_1 = 0$ when employee is single

$MS_2 = 1$ when employee is married

SL = Skill level of employee

$SL_1 = 0$ when employee is classified as low skilled

$SL_2 = 1$ when employee is classified as skilled

$SL_3 = 1$ when employee is classified as highly skilled

OR = Employee's place of birth

$OR_1 = 0$ when employee was born in Ontario

$OR_2 = 1$ when employee was born in Canada, but not in Ontario

$OR_3 = 1$ when employee was born outside of Canada

BK = Employee's background

$BK_1 = 0$ when employee was raised in a city

$BK_2 = 1$ when employee was raised on a farm

$BK_3 = 1$ when employee was raised in a town

RG = Region of Ontario

$RG_1 = 0$ when farm is located in Eastern Ontario⁽¹⁾

$RG_2 = 1$ when farm is located in Western Ontario⁽²⁾

$RG_3 = 1$ when farm is located in Northern Ontario⁽³⁾

GR = Farm's gross returns from dairy

$GR_1 = 0$ when returns are less than \$50,000

$GR_2 = 1$ when returns are between \$50,000 and \$75,000

$GR_3 = 1$ when returns are greater than \$75,000

HR = Average hours of work per week

FR = Frequency of pay

$FR_1 = 0$ when employee is paid weekly

$FR_2 = 1$ when employee is paid every two weeks

$FR_3 = 1$ when employee is paid monthly

DT = Method of determining employee's wage

$DT_1 = 0$ when wages are set at Ontario minimum

$DT_2 = 1$ when wages are determined through
negotiation with individual employee

$DT_3 = 1$ when wages are paid in relationship to
local industries

$DT_4 = 1$ when wages are paid in relationship to other
local farmers

-
- (1) Includes the counties: Ontario, Victoria, Durham, Peterborough, Northumberland, Hastings, Prince Edward, Lennox and Addington, Frontenac, Lanark, Leeds, Carleton, Grenville, Dundas, Russell, Stormont, Prescott, Glengarry.
 - (2) Includes the counties: Simcoe, York, Peel, Dufferin, Grey, Bruce, Wellington, Halton, Huron, Perth, Waterloo, Wentworth, Lincoln, Welland, Middlesex, Oxford, Brant, Haldimand, Norfolk, Elgin, Lambton, Kent, Essex.
 - (3) Includes the counties and districts: Renfrew, Haliburton, Muskoka, Parry Sound, Nipissing, Sudbury, Algoma, Timiskaming, Thunder Bay, Rainy River, Kenora.

IP = Presence of incentive plan

$IP_1 = 0$ when farm does not have an incentive plan

$IP_2 = 1$ when farm has an incentive plan

BN = Presence of bonuses

$BN_1 = 0$ when farm does not pay bonuses

$BN_2 = 1$ when farm pays bonuses

OV = Use of overtime payments

$OV_1 = 0$ when farm does not pay overtime

$OV_2 = 1$ when farm pays overtime

To investigate the relationship between total annual income and the above variables, a simple linear model was specified and estimated using least-squares regression analysis. The results of this analysis are shown in Table 2.9. Because the dependent variable, total annual income, was expressed in dollars, the unstandardized regression coefficients for continuous variables can be interpreted as the change in income associated with a one unit change in the independent variable assuming all other variables remain the same. In the case of dummy variables, the coefficients can be interpreted as the change in income associated with the presence of the characteristic implied by the dummy variable, again assuming all other variables remain the same.

The results in Table 2.9 show that only six of the 23 independent variables were significantly related to total annual income. The first two significant variables are dummy variables for age categories. The positive coefficients associated with these variables implies that total annual income for employees in the older age categories is higher than total income for employees in the younger category. However, the

Table 2.9 Regression Analysis of Total Income

Variable	Unstandardized Coefficient	Standard Error
Constant	4329.28	
TN	3.11	57.95
AG ₂	2191.00**	702.56
AG ₃	1898.61**	957.28
MS ₂	816.71	648.09
SL ₂	557.92	818.03
SL ₃	96.48	1745.72
OR ₂	-1223.32	1170.23
OR ₃	-27.64	652.24
BK ₂	562.16	1756.49
BK ₃	-3426.74	3062.75
RG ₂	1612.69**	634.78
RG ₃	-725.56	1120.27
GR ₂	397.80	682.91
GR ₃	1393.56**	754.61
HR	-3.72	25.52
FR ₂	433.85	777.75
FR ₃	282.65	779.50
DT ₂	-928.66	2724.12
DT ₃	-316.32	2915.59
DT ₄	-7.54	2846.02
IP ₂	1373.03**	676.71
BN ₂	256.03	570.61
OV ₂	1505.60**	736.42

** Significance greater than .95

fact that the coefficient for variable AG_2 is larger than for variable AG_3 means that total income for middle age employees (25 to 45 years) is higher than for older employees (over 45 years).

The third significant variable is the dummy for the Western Ontario region. The positive sign and value of this coefficient indicates that total income for a dairy farm employee in Western Ontario is approximately \$1600 higher than for employees with identical characteristics in Eastern Ontario. Although it is not statistically significant, the negative sign on the dummy variable for Northern Ontario employees indicates that total income is lower in this region than in either the Eastern or Western regions.

A significant relationship was also found between total annual income and gross returns from dairy. The positive coefficient associated with variable GR_3 implies that employees on farms where the gross returns from dairy are greater than \$75,000 earn approximately \$1400 more income than employees on smaller dairy units.

Finally, significant coefficients were found for the dummy variable associated with the presence of incentive plans and overtime payments. In both cases, the results show substantial increases in total income on dairy farms where these methods of compensation are used.

2.6 Differences in Employer and Employee Perceptions

As a final step in the description of the current labour situation on Ontario dairy farms, an analysis was made of differences in the perception of employers and employees with respect to factors needed to keep a good employee, compensation programs, and work periods.

Because of the nature of this analysis, only matching employer and employee questionnaires were used. Thus this analysis was restricted to the 104 farms which supplied responses from both employers and their employees.

2.6.1 Factors Needed to Keep a Good Employee

In deciding whether to retain their jobs on dairy farms, past research has shown that employees consider many factors. Using this research as a guide, a list of 23 factors were identified and grouped under the four major headings: work conditions, personal treatment, remuneration, and non-cash benefits. Both employers and employees were then asked to indicate the degree of importance they attached to each factor by evaluating each on a four point scale with responses coded as:

- 1 = not important,
- 2 = somewhat important,
- 3 = important,
- 4 = very important.

From these responses, the mean scores shown in Table 2.10 were computed.

The data in Table 2.10 indicates that, for the most part, employer and employee perceptions of factors needed to keep a good employee are very close, especially for those factors determined to be most important by both groups. This can be observed by comparing the top ten factors of each group. The similarity of the ratings can be seen from the following lists by observing that eight of the top ten factors selected by employers are also included in the employee list. There are some differences in the rankings of the individual factors, but most of these differences tend to be small and insignificant.

<u>Employer Factors</u>	<u>Employee Factors</u>
1. Reasonable and regular hours	1. Good Wages
2. Take personal interest in employees	2. Take personal interest in employees
3. Prompt, regular pay	3. Good food and living quarters
4. Good wages	4. Reasonable and regular hours
5. Avoid sharp criticism when employees make mistakes	5. Prompt, regular pay
6. Share undesirable jobs	6. Time off
7. Give employees responsibility	7. Give employees responsibility
8. Good food and living quarters	8. Share undesirable jobs
9. Time off	9. Vacations
10. Work with employees	10. Plan work with employees

The largest differences between employer and employee evaluations were found for those factors deemed relatively unimportant by both groups. These differences are particularly noticeable in the area of non-cash benefits where the employee rankings of transportation, utilities, retirement plans, health insurance, and life insurance are all significantly higher than the employer rankings.

2.6.2 Compensation Programs

An analysis was also made of differences in employer and employee perceptions of compensation programs, the results of this analysis, shown in Table 2.11, indicate that the perceptions of cash wages, bonuses, utilities, milk, meat, and food, transportation and fuel, and retirement plans are virtually identical for both groups. However, for incentives, house rent, and overtime pay per hour the opposite situation was found.

Table 2.10 Employer and Employee Perceptions of Factors Needed to Keep a Good Employee

Factor	Mean Employer Score	Mean Employee Score	Difference	t-Value	Probability
Working Conditions					
Reasonable and regular hours	3.63	3.45	0.18	1.79	0.076*
Time off	3.27	3.31	-0.04	-0.37	0.712
Vacations	3.11	3.22	-0.11	-1.10	0.275
Plan work with employees	3.16	3.17	-0.01	-0.08	0.936
Give employees responsibility	3.38	3.31	0.07	0.74	0.460
Definite agreement on work conditions	2.94	3.02	-0.08	-0.64	0.526
Personal Treatment					
Work with employees	3.25	2.97	0.28	1.92	0.058*
Share undesirable jobs	3.46	3.26	0.21	1.69	0.094*
Avoid sharp criticism when employees make mistakes	3.48	3.10	0.38	3.07	0.003**
Take personal interest in employees	3.54	3.50	0.04	0.50	0.618
Remuneration					
Good wages	3.49	3.56	-0.07	-0.74	0.461
Prompt, regular pay	3.53	3.39	0.14	1.42	0.158
Extra pay for extra work	3.12	3.40	-0.28	-1.78	0.078*
Cash bonuses or profit sharing	1.82	2.13	-0.31	-1.86	0.066*
Good incentive plans	1.78	2.31	-0.53	-3.23	0.002**
Non-Cash Benefits					
Good food and living quarters	3.37	3.47	-0.10	-0.95	0.346
Transportation or fuel	1.54	1.96	-0.42	-2.43	0.017**
Utilities	2.26	2.55	-0.29	-1.77	0.079*
Vacation with pay	3.06	3.11	-0.05	-0.27	0.789
Sick leave with pay	2.64	2.74	-0.10	-0.55	0.581
Retirement plan other than Canada Pension	0.88	1.80	-0.92	-4.71	0.001**
Health Insurance	1.40	2.13	-0.73	-3.91	0.001**
Life Insurance	0.80	1.39	-0.54	-3.51	0.001**

* Significance greater than .90.

** Significance greater than .95.

Table 2.11 Employer and Employee Perception of Compensation Programs

Items	Mean Employer Rating	Mean Employee Rating	Mean Difference (1)	t-Value	Probability
Wages and Incentives					
Annual cash wages	\$6114.40	\$6160.90	-46.50	-0.39	0.700
Value of Incentive payments	633.70	355.70	278.00	2.08	0.083*
Value of Bonuses	290.30	243.80	46.50	0.73	0.472
Overtime pay per hour (2)	2.70	1.20	1.50	3.46	0.004**
Fringe Benefits					
Social Insurance	392.20	232.20	160.00	3.32	0.002**
House Rent	1520.90	1165.20	355.70	2.74	0.009**
Utilities	447.60	435.90	11.70	0.18	0.862
Milk	248.60	298.90	-50.30	-1.88	0.067*
Meat and Food	290.80	303.80	-13.00	-0.38	0.067*
Transportation and Fuel	391.80	348.40	43.40	0.49	0.635
Retirement Plan	166.00	184.00	18.00	-0.27	0.810

* Significance greater than .90.

** Significance greater than .95.

(1) Negative difference implies the employee estimate is higher than that of the employer.

(2) Based on 15 farms that paid extra for overtime work.

For these important elements of compensation programs, the employee's perception of their value was substantially lower than the perception of employers. This was particularly true in the case of house rents where the value assigned by employees was over \$350 lower than the corresponding value assigned by employers.

2.6.3. Work Periods

The final area in which differences between employers and employees was explored dealt with perceptions of work periods. The data in Table 2.12 shows significant differences between employers and employees estimates of winter and summer hours of work per day, winter and summer days of work per week, days of paid vacation per year, and number of official holidays. In each case the employees tended to report higher values for length of working periods and lower values for vacations and holidays than their employers.

Table 2.12 Employer and Employee Perception of Work Periods

Items	Mean Employer Rating	Mean Employee Rating	Mean Difference	t-Value	Probability
Winter hours of work per day	9.2	10.1	-0.9	-5.40	0.001**
Summer hours of work per day	10.5	11.6	-1.1	-7.16	0.001**
Winter days of work per week	5.9	6.2	-0.3	-3.56	0.001**
Summer days of work per week	6.2	6.5	-0.3	-5.23	0.001**
Days of paid vacation per year	11.7	9.7	2.0	3.64	0.001**
Number of official holidays	2.9	1.8	1.1	3.50	0.001**

** Significance greater than .95.

3.0. ANALYSIS OF EMPLOYEE JOB SATISFACTION

The primary objective of this research was to investigate the factors associated with employee job satisfaction on Ontario dairy farms. Using past research and discussions with dairy industry officials as a guide, several possible related factors were determined. These were:

- (1) Monetary rewards - level of cash wages, value of fringe benefits, value of extra payments.
- (2) Job attributes - days of paid vacation, work employee is doing.
- (3) Employee characteristics - employee tenure, level of education, age, marital status, skill level.
- (4) Farm characteristics - gross returns from dairy, availability of incentive plan.
- (5) Employee attitudes - attitude toward the dairy industry, attitude toward country living.

To analyze the relationship between these factors and employee job satisfaction, a multi-variate statistical model was specified and estimated. In this analysis, a measure of employee job satisfaction was the dependent variable while the above factors were treated as independent variables.

3.1. Measurement of Employee Job Satisfaction

In order to determine the relationship between job satisfaction and the independent variables listed above, the first step was to develop some measure of employee job satisfaction. In this research, job satisfaction was considered as a complex variable consisting of a variety of job related

factors. As a result, it was measured using a series of twelve statements which were then combined into a single measure. The twelve statements used to form the satisfaction scale were evaluated on a five point scale with responses coded as: 4 = very satisfied, 3 = satisfied, 2 = dissatisfied, 1 = very dissatisfied, and 0 = not applicable.

The distribution of responses to the twelve questions is shown in Table 3.1. Using these responses a Likert type scale⁽¹⁾ was formed by multiplying each response by a weighting factor indicating the relative importance of each factor. These weighted factors were then summed and divided by the number of positive responses to give a job satisfaction score for each employee. This score was then used as the dependent variable in the subsequent analysis.

Because of the importance of this measure of job satisfaction, an attempt was made to establish its validity. This was done by relating the satisfaction scored with responses to a question asking employees what they expected to be doing in the next three years. The results of this analysis, shown in Table 3.2, tend to support the measure of job satisfaction used in the sense that a significantly higher percentage of low satisfaction employees anticipated leaving the job they now had than high satisfaction employees. In addition, a higher percentage of high satisfaction employees anticipated remaining on the same job over the next three years than low satisfaction employees. The almost 45 percent of employees

(1) In the Likert scale each response is given a numerical weight, usually based on a series of integers in arithmetic sequence. Each individual's score represents the algebraic summation of weights associated with each item checked.

Table 3.1 Distribution of Responses on Job Satisfaction Scale

Satisfaction Element	Distribution of Responses (percent)			
	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
(1) The personal relationship between you and the other workers	36	44	1	0
(2) The supervision you receive	42	51	3	0
(3) The work you do	45	52	1	0
(4) The responsibility you have	47	50	2	0
(5) The pay you receive	34	54	11	0
(6) The pay raises available in your job	34	42	10	1
(7) How instructions are given to you by your employer	36	59	3	0
(8) How you share work with your fellow employees	24	47	3	0
(9) The personal relationship between your family and that of your employer	46	38	1	0
(10) Your wife's attitude to your job	26	32	6	1
(11) The bonuses you receive	18	29	3	3
(12) The incentives you receive	20	25	2	2

Table 3.2 Relationship Between Employee Job Satisfaction
Score and Future Expectations

Future Expectation	Employee Satisfaction (percent) (1)		Number
	Low	High	
Remain in same job	44.9	55.1	98
Move to another farm	60.1	40.1	10
Work in non-farm business	76.5	23.5	17
Own my farm	68.2	31.8	22

(1) Chi-square = 8.58, Significance = 0.0355.

who had low satisfaction and who expect to remain in the same job could be explained by the absence of suitable alternative jobs for these men.

3.2 Measurement of Independent Variables

In the multi-variate statistical models which follow, the variable employee job satisfaction is related to a series of independent variables. The measurement of most of these variables like cash wages, fringe benefits, days of paid vacation, etc. is fairly straightforward and need not be discussed. Three other variables, however, are formed by combining other measures. The computation of these variables is discussed below.

3.2.1. Computation of Employee Image of The Dairy Industry

The first of these computed measures is employee image of the dairy industry. According to Taylor, the image of an industry consists of knowledge and beliefs concerning the character, importance, and prestige of the industry.⁽¹⁾ In this study, employee image of the dairy industry was defined as the sum total of an employee's knowledge and beliefs about people, conditions, and events of the dairy industry.

To obtain a measure of employee image, the employees in the sample were asked to indicate their extent of agreement with the following ten statements:

- (1) Working on dairy farms is pleasant.
- (2) Workers on dairy farms have high prestige or social status.
- (3) Most workers on dairy farms work with their hands rather than their minds.

(1) Taylor, L. and P. J. Leagans, Workers in Agribusiness, (Ithaca, N.Y.: Cornell University, 1970).

- (4) Most people working on dairy farms would prefer to work elsewhere if they had the opportunity.
- (5) Most people working on dairy farms receive incomes equal to people in non-dairy business.
- (6) Most workers on dairy farms desire to receive more recognition for their work than they presently receive.
- (7) There are good career opportunities on dairy farms.
- (8) Most work on dairy farms can be done by people with little education.
- (9) Most workers on dairy farms receive adequate pay.
- (10) Dairy farming is a declining business.

These statements were evaluated on a four point scale with responses coded as: 4 = strongly agree, 3 = agree, 2 = disagree, and 1 = strongly disagree. To maintain consistency in direction, the order of coding for statements (3), (4), (6), (8), and (10) were reversed. Using this coding scheme, an image score was then computed for each respondent by dividing his total score on the ten statements by the number of statements with a positive response.

3.2.2. Computation of Attitude Toward Country Living

To obtain a measure of attitude toward country living, the employees in the sample were asked to indicate their extent of agreement with the following three statements:

- (1) Living in the country is living in isolation.
- (2) There is not adequate entertainment in the country.
- (3) Poor rural services discourages workers from living in the country.

The coding and computation of an attitude score for this variable is identical to that used to compute the image score in Section 2.2.1.

3.2.3. Computation of Employee Turnover

Employee turnover was defined in this study as the number of years the average employee would stay on the farm before quitting or being fired; thus employee turnover for any particular farm was obtained using the following formula:

$$\text{Employee Turnover} = \frac{\text{Years of full-time labour employment}}{\text{Employees fired} + \text{Employees who quit}}$$

3.3. Multivariate Analysis of Employee Job Satisfaction

To investigate the factors related to employee job satisfaction, a multivariate statistical model was developed and estimated using Stepwise Least Squares Multiple Regression Analysis. In this model employee job satisfaction was specified as the dependent variable, and the major classes of independent variables were: monetary rewards, job attributes, employee characteristics, farm characteristics, and employee attitudes. The specific independent variables and their symbols were:

CW = Annual cash wages

FB = Annual value of fringe benefits (includes social insurance, house rent, utilities, milk, meat and food, transportation and fuel, and retirement plan).

EP = Annual value of extra payments (includes incentive payments, and bonuses).

PV = Days of paid vacation per year

WK - Work employee is doing

WK_1 = 0 when employee is doing the type of work he expected to be doing when hired.

WK_2 = 1 when employee is not doing the type of work he expected to be doing when hired.

IM = Employee image of the dairy industry (See Section 2.2.1 for definition).

CL = Attitude toward country living (See Section 2.2.2 for definition).

TV = Employee turnover (See Section 2.2.3 for definition).

TN = Employee tenure (number of years employee has been working on farm).

ED = Years of formal education

AG = Employee Age

$AG_1 = 0$ when employee is less than 25 years old

$AG_2 = 1$ when employee is between 25 and 45 years of age

$AG_3 = 1$ when employee is older than 45 years

MS = Marital status of employee

$MS_1 = 0$ when employee is single

$MS_2 = 1$ when employee is married

SL = Skill level of employee

$SL_1 = 0$ when employee is classified as low skilled

$SL_2 = 1$ when employee is classified as skilled

$SL_3 = 1$ when employee is classified as highly skilled

GR = Farm's gross returns from dairy

$GR_1 = 0$ when returns are less than \$50,000

$GR_2 = 1$ when returns are between \$50,000 and \$75,000

$GR_3 = 1$ when returns are greater than \$75,000

IP = Availability of incentive plan

$IP_1 = 0$ when farm has no incentive plan

$IP_2 = 1$ when farm has an incentive plan but the employee dislikes it

$IP_3 = 1$ when farm has an incentive plan and employee likes it.

Three different regression models were estimated using the above variables: the first model was composed of all the employees regardless of wage level, the second consisted only of those employees whose annual wages were greater than \$6000, and the third contained observations for those employees whose annual cash wages were less than \$6000.

The estimation procedure used was stepwise least squares multiple regression analysis. In this procedure, variables are entered into the equation on the basis of their contribution to explained variance. The variable that explains the greatest amount of variance unexplained by the variables in the equation enters the equation at each step provided certain statistical criteria are met. The criteria used in this application were: (1) a minimum F value of .01 and (2) a minimum tolerance of .001.⁽¹⁾ The variables entering each equation using this procedure are shown in Table 3.3.

3.3.1. Regression Analysis for All Employees

The first model that was estimated contained observations on all employees in the matched sample. Results of this analysis, in terms of both unstandardized and standardized regression coefficients, are shown in the first two columns of Table 3.3. These results show that only two variables -- employee image of the dairy industry and the availability of an incentive plan which the employee dislikes -- were significantly related to employee job satisfaction. For the first variable, the positive coefficient implies that employees who have a favourable image of the dairy

(1) The tolerance of an independent variable being considered for inclusion is the proportion of the variance of that variable not explained by the independent variables already in the regression equation.

Table 3.3 Results of Regression Analysis For Three Models

Variable	All Employees		Employees With Cash Wages in Excess of \$6000		Employees With Cash Wages Less Than \$6000	
	RC ⁽¹⁾	SRC ⁽²⁾	RC	SRC	RC	SRC
Constant	8,16260		6,56309		5,78132	
CW	0,00002	0,03478	0,00035*	0,29006	-0,00004	-0,06207
FB	0,00004	0,03218	0,00029	0,21949	-0,00008	-0,06165
EP	0,00038	0,09049			0,00138**	0,34322
PV						
WN ₂	-0,81929	-0,14299	0,50737	0,09640	-1,01982	-0,15562
IM	1,00910**	0,27527	1,12288*	0,28958	1,85899**	0,53652
CL	-0,12974	-0,05802	-0,11541	-0,04901	0,38733	0,18280
TV	0,20657	0,07111	0,24509	0,09803	-0,58499	-0,14387
TN	-0,01504	-0,07020			-0,01799	-0,07179
ED			-0,08733	-0,14464	-0,04238	-0,07179
AG ₂						
AG ₃	-0,23175	-0,06563	-0,72912	-0,18774	0,05140	0,01604
MS ₂	0,11244	0,04053			-0,19665	-0,07728
SL ₂	-0,11834	-0,04155	0,48360	0,16473	-0,67079	-0,24469
SL ₃	-0,32871	-0,09508			-1,41034**	-0,35722
GR ₂			-0,62607	-0,21828	0,28355	0,10343
GR ₃	-0,34040	-0,12040	-1,96701**	-0,67848	0,66232	0,24160
IP ₂	-1,78071**	-0,22310	-2,56180**	-0,35112	-2,18736*	-0,23842
IP ₃						

* Significance greater than .90.

** Significance greater than .95.

(1) Regression coefficients.

(2) Standardized regression coefficients.

industry also tend to have a high level of job satisfaction. The negative coefficient attached to the second variable implies that the presence of an incentive plan which the employee dislikes tends to reduce job satisfaction.

The absence of any significant monetary variable in this model was a disturbing result. Original expectations were that monetary rewards of one kind or another would be positively related to employee job satisfaction. As a result, to explore this issue in more depth, it was decided to estimate separate equations for employees with above and below average wages. The idea behind this approach was that employee job satisfaction is not a simple linear function of monetary rewards, but rather the relationship is such that as monetary rewards increase, employee job satisfaction also increases, but at a decreasing rate. If this is the case, then simply fitting a linear function to the data will not produce significant coefficients.

This situation is depicted in Figure 3.1 where line AB is the hypothesized relationship between employee job satisfaction and monetary rewards, and line CD is the least squares regression line. Because of the curvilinear nature of line AB, it is obvious that a linear function such as line CD will not provide a good fit. On the other hand, if the data is segregated into two groups as shown in Figure 3.2, and separate functions estimated for each, then it is likely that better estimates of the regression coefficients for the monetary variables can be made.

3.3.2. Regression for High Income Employees

Based on the above reasoning, separate estimates were made for high

and low income employees. The results of this analysis for high income employees (cash wages over \$6000) are shown in columns three and four of Table 3.3. These results show four variables to be significantly related to employee job satisfaction. As expected, one of these variables was annual cash wages. The positive sign on this variable indicates that employees with higher cash wages tend to exhibit higher levels of job satisfaction. As in the first model, employee image of the dairy industry and the availability of an incentive plan which the employee dislikes were also found to be significantly related to job satisfaction. For both these variables the signs were the same as in the model estimated for all employees.

In addition to the above, the second model also found a significant relationship between the farm's gross returns from dairy and the employee's level of job satisfaction. The nature of this relationship was such that when gross returns were very high (above \$75,000), employee job satisfaction was lower. One possible explanation of this result is that employees involved in larger dairy operations feel they should be receiving more compensation, hence have low job satisfaction.

3.3.3. Regression for Low Income Employees

The regression results for low income employees (cash wages less than \$6000) are shown in columns five and six of Table 3.1. As in the previous two cases, a favourable employee image of the dairy industry was found to be associated with high job satisfaction while the availability of an incentive plan which the employee disliked was found to be associated with low job satisfaction.

Contrary to expectations, no significant relationship was found between annual cash wages and job satisfaction for lower income employees. Instead, a significant coefficient was found for the value of extra payments. The positive sign on this variable implies that as extra payments (incentives and bonuses) are increased, employee job satisfaction also increases. In addition, the larger size of this coefficient (0,00138), as compared to the coefficient on cash wages in the second model (0,00035), implies that a one dollar increase in monetary rewards for lower income employees has more effect on job satisfaction than a one dollar increase for higher income employees. Thus these results tend to confirm the revised hypothesis shown in Figures 3.1 and 3.2, with the exception that lower income employees tend to respond more to extra compensation received in the form of incentives and bonuses, while higher income employees respond more to simple increases in cash wages.

Finally, a significant relationship was also found between the skill level of an employee and his level of job satisfaction. The nature of this relationship is such that employees who were rated as being highly skilled tend to have low job satisfaction if they are in the lower income group.

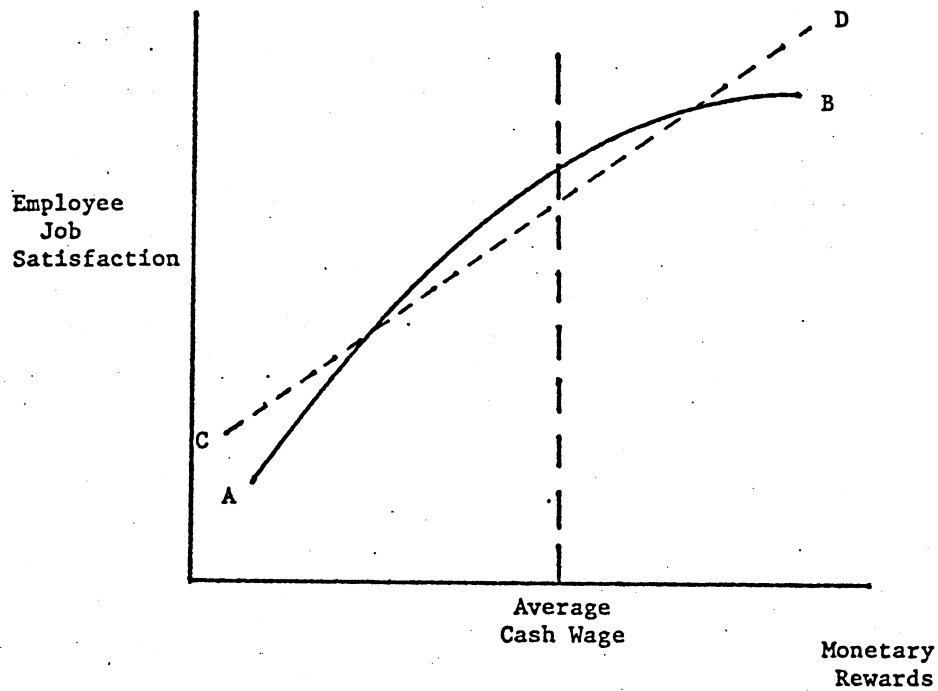


FIGURE 3.1 Hypothesized Relationship Between Employee Job Satisfaction and Monetary Rewards

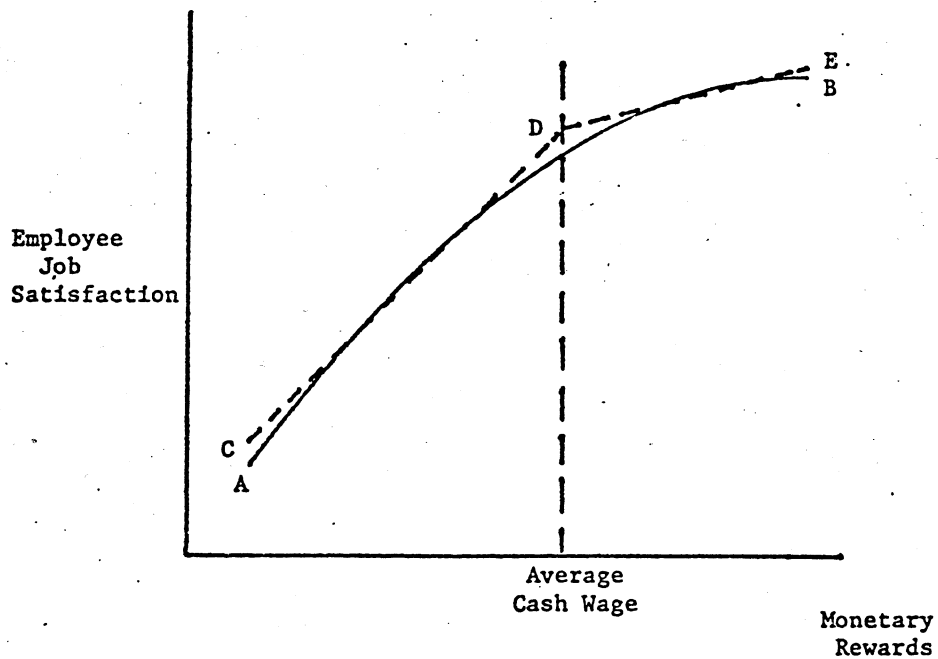


FIGURE 3.2 Illustration of Method of Estimating Relationship Between Employee Job Satisfaction and Monetary Rewards

4.0.

SUMMARY AND CONCLUSIONS

The objectives of this research have been to describe the current labour situation on Ontario dairy farms, and to analyze the determinants of job satisfaction among dairy farm employees. The purpose of this final section is to summarize the major findings of this study, and on the basis of these findings, to make various recommendations to improve personnel management on Ontario dairy farms.

4.1. Summary of Results

(1) The rate of employee turnover on Ontario dairy farms is very high. Results of the survey indicate that on the average dairy farm, one employee leaves every three years. Thus at this interval, the average operator must find and train a replacement for the man who has been fired or who has quit.

(2) In recruiting new employees, the most satisfactory and commonly used methods are through newspapers and farm magazines, and through personal contact. Although many employers use Canada Manpower and/or OMAF Agricultural Manpower Services, a much smaller percentage rate these to be a very satisfactory method. Most prospective employees use personal contacts in finding employment.

(3) In evaluating prospective employees most dairy operators consider the applicant's age, marital status, sex, background, and skill level. The preferred applicant is one who is a 25 to 45 year old married man with either a grade school or high school education. In addition, he should be either semi-skilled or skilled and possess a farm background.

(4) The methods used to train new employees vary considerably from one employer to another; however, the most commonly used method is for the employer to work with the employee during the training period. The very long training periods reported by most employers indicate that training is considered a continual management responsibility on most dairy farms.

(5) The average income received by Ontario dairy farm employees in 1974 was approximately \$8000. Of this total, approximately \$6000 was in the form of cash wages and the remaining \$2000 in the form of fringe benefits and extra payments.

(6) Almost all employers of full-time hired labour use fringe benefits of one kind or another in their compensation programs. The most commonly used fringe benefits are social insurance, house rent, utilities, milk, and meat and food. Only a very small percentage of employers include retirement benefits, transportation, and insurance policies in their fringe benefit programs.

(7) The use of bonuses, and particularly incentive plans, is not common on Ontario dairy farms; and when these methods of compensation are used they account for only a very small percentage of an employee's total income. The use of incentive plans apparently is declining as some operators reported dropping established plans because they did not yield the expected motivation for the employee.

(8) The average Ontario dairy farm employee works about 3000 hours a year for his employer. On a weekly basis this amounts to 54 hours of work per week during the winter and 63 hours per week during the summer. Most

employees are given two weeks of paid vacation a year which they can take at any time except during critical work periods.

(9) On the basis of cash wages of \$6,000 per year for 3000 hours of work, the average Ontario dairy farm employee received exactly \$2.00 per hour, the Ontario minimum wage during most of 1974. Including fringe benefits and extra payments, the hourly wage increases to about \$2.65.

(10) Only a very small proportion of employers have written agreements with their employees outlining the conditions of employment.

(11) The total annual income of dairy farm employees is distributed over a fairly wide range. Some of this variability can be accounted for by five important factors: age of the employee, geographic location of the farm, size of the farm, presence of incentive programs, and the use of overtime pay for extra work. Assuming all other factors remain constant, employees who are between 25 and 45 years of age earn \$2,191 more than younger employees; employees who are over 45 years of age earn \$1,898 more than employees in the under 25 year age category; employees in Western Ontario earn \$1,612 more than employees in Eastern Ontario; employees on farms grossing over \$75,000 from dairy operations earn \$1,393 more than employees on smaller units; employees on farms with incentive plans earn \$1,373 more than employees on farms without incentive plans; and employees on farms with pay overtime for extra work earn \$1,505 more than employees on farms which do not pay overtime.

(12) Employer and employee ratings of factors needed to keep a good employee are virtually identical for those factors considered most important by both groups; however, employees tend to rate other factors such as transportation, utilities, retirement plans and various insurance

programs higher than employers.

(13) In most areas, employers and employees tend to agree on the actual value of various items in the total compensation package; however, the employee's perception of the value of incentives, house rent, and overtime pay per hour is substantially lower than the perception of employers. Moreover, the estimates of employees concerning the length of work periods are substantially higher than the estimates of employers.

(14) The level of job satisfaction of Ontario dairy farm employees is related to several factors. For employees earning less than \$6000 per year in cash wages the important factors which are positively related to job satisfaction are the value of extra payments and the employee's image of the dairy industry. The factors negatively related to job satisfaction are the presence of incentive programs which the employee doesn't like and the employee's skill level. For employees earning more than \$6000 per year in cash wages the important factors which are positively related to job satisfaction are the level of cash wages and the employee's image of the dairy industry. The factors negatively related to job satisfaction for this high income group are the presence of an incentive plan the employee doesn't like and the size of the dairy operation.

4.2. Recommendations

Based on the results of this research, several recommendations can be made to improve personnel management on Ontario dairy farms. Of these, those which seem to be most strongly supported by the findings of this study are:

(1) Communications between employers and their employees need to be improved. The fact that this is a major problem area is evidenced by the large and significant differences between employer and employee perceptions of the value of certain fringe benefits and extra payments, and the length of work periods. As long as differences of the magnitude found in this research persist, there is bound to be a lack of understanding between employers and their employees in many important areas. A good method to improve communications could very well be the use of written job agreements which specifically take into account such things as: length of work periods, days off, vacations, sick leave, wages, bonus payments, terms of incentive plans, and housing. Although these types of agreements are not widely used in the dairy industry at the present time, they could be very effective in improving communications between employers and their hired workers and, as a result, creating an atmosphere of trust and understanding in cases where this does not exist.

(2) The monetary rewards provided employees should be more closely tied with the employees' length of service and level of skill. In both cases, results of this research showed no relationship between the total income an employee received and these important variables. Furthermore, the results clearly showed that employees in high skill categories receiving

low wages tended to exhibit low job satisfaction. As a result, employers should pay more attention to tying wage levels to the skill level of employees in order to improve job satisfaction and performance. In addition, by also establishing some relationship between wage levels and length of service, employers perhaps could expect to increase the length of service from their employees.

(3) In order to increase job satisfaction, employers should consider some increases in the current wage levels being provided their employees. For lower income employees, at least part of these increases preferably should be in the form of extra payments (bonuses and/or incentives), while for higher income employees straight increases in cash wages are preferable. Increases in fringe benefits will not have much effect on the level of job satisfaction for any employee.

(4) Employers considering incentive plans for their employees should carefully tailor such plans to the specific needs and situation of their employees. Also, they should be aware of the fact that poorly designed and administered incentive plans can have a negative effect on the overall satisfaction of their employees. As a result, it is very important that employers thoroughly evaluate the potential effects of any incentive plan before it is made operational. In addition, these plans should be reviewed periodically to ensure that they are performing according to expectations; if they are not, changes should be made immediately or the plan should be discontinued.

(5) Employers should make every effort to hire employees that have favourable attitudes toward the dairy industry. Moreover, once an employee is on the job, every employer should consider it part of his

responsibility to ensure that this favourable attitude is maintained and strengthened. According to the results of this research, efforts along these lines can be very effective in maintaining a high level of employee job satisfaction.

