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PROFILE OF THE WORK FORCE ON DAIRY FARMS IN NEW YORK AND WISCONSIN

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Introduction and Problem Identification

In 1990, of 104 million persons employed in wage or salary jobs, 886 thousand (0.85%) were classified as hired farm workers (Oliveira, 1991) and of 29 million self-employed persons, 2.2 million (7.6%) were classified as farm proprietors (Salsgiver and Majchrowicz, 1993). From 1989 to 1990, the number of hired farm workers and farm proprietors fell by 65,000 reflecting the trend toward labor-saving technology and a shrinking agricultural work force (Salsgiver and Majchrowicz, 1993).

Significant differences between hired farm workers and the rest of the employed population exist. Oliveira (1992) provides a detailed examination of the demographics and employment characteristics of hired farm workers in the U.S. Hired farm workers are predominantly male, have less formal education and are younger than the total employed population. Hispanic farm workers account for 29.4% of hired farm workers but only 7.9% of all employed persons. All other racial/ethnic groups have a lower percentage of farm workers than employed persons. Significant differences in average formal education, type of production and geographic location were observed between racial/ethnic groups. Hispanics, with the lowest average level of formal education (6 years), are concentrated in the crop production and service sector of agriculture in the western region of the U.S. African-American farm workers are concentrated in the southeast and delta regions with 10 years of formal education. White farm workers have the highest average level of education (12 years) and are concentrated on livestock operations. Hired farm workers work longer hours and earn less money than other wage and salary workers (Oliveira, 1991).

In 1988, on dairy farms with more than 75 cows in New York, Maloney and Woodruff (1989) found that 36% and 32% of hired farm workers were under 25 or between 26-35 years of age, respectively, 36% had less than 12 years of formal education while 9% had more than 12 years, and 98% were male. Average value of total wages and benefits on New York dairy farms was $19,283 with cash wages accounting for $12,812 of the total. Housing was the largest single benefit accounting for $2,025 of total compensation. Performance incentives accounted for only $38 of the $19,283. Maloney and Woodruff (1989) also found that 69% of hired workers worked more than 60 hours per week, only 5% worked less than 50 hours per week and the average number of hours worked per week was 61.

Human Resource Management (HRM) on dairy farms, or any other type of small enterprise, must not only address administrative (i.e. planning, staffing, appraising, compensation, and training & development) and strategic (i.e. matching HR policies and decisions to the goals of the farm) HRM issues, but must also address inter-personal employee relationships that often involve family members (Kanter, 1989). To obtain a competitive advantage, agricultural production enterprises must first identify and/or develop HRM methods that effectively attract, retain, and motivate the required work force. However, implementation of HRM programs may cause problems, or fail, if appropriate groundwork or expertise is lacking in the organization. Many managers, or owners, of small production enterprises such as a dairy

farm with less than 25 employees (especially those with less than 5 employees) perceive that the HR problems that arise are beyond their control and they lack the resources to identify and/or develop the most effective HRM. These enterprises are often dependent on the public sector (i.e. Agricultural Extension and land grant universities) to provide this type of research and information.

Educators and consultants for small agricultural enterprises, however, must rely heavily on personal experiences, case studies, and research from large firms for information concerning HRM. Wortman (1994) has developed a typology of theoretical foundations for the field of family-owned businesses, but is concerned with the lack of empirical researchers in the field and emphasizes that most of the research in the field to date has focused on succession of the business. He is also concerned that no empirical work, and very little conceptual work, has been completed upon theories, definitions, and models of family-owned business. While Wortman's typology is admittedly incomplete, his complete omission of HRM as a theoretical foundation in the field is distressing.

Purpose of Publication

The purpose of this publication is to provide a profile of the work force on dairy farms with more than 100 cows in New York and Wisconsin for:

1. Researchers in HRM for agricultural enterprises and other small businesses;
2. Cooperative Extension staff, agricultural business consultants and other educators involved in the agricultural community;
3. Owners and/or managers of both family and non-family owned farms or small businesses.

This information is critical for development of effective research and education programs. Farm owners and managers can use this information in the recruitment and selection of new employees and in the development of more effective compensation programs.

This publication does not provide any statistical analysis nor does it imply any causality.

Survey Methodology and Response

Self-reported data from surveys distributed in April, 1995, were used in preparing this publication. Surveys were distributed to a random sample of dairy farms in New York and Wisconsin with more than 100 cows. These states were selected because of the dominant role that dairy production has in each state. It was also felt that these states fairly represented the Northeast and Great Lake regions. Information was obtained identifying the: number of family and non-family employees; hours worked; cash salary paid; years of tenure on the farm; and level of formal education of farm workers. The section of the survey instrument used to obtain this information is provided in Appendices 1.A. and 1.B. The sample was drawn and the surveys were distributed and collected by the Agricultural Statistical Service in each respective states.

Three hundred six surveys were returned. Distribution and response rate is provided in Table 1. Usable surveys for identifying job classification distribution and level of family inputs were obtained from 258 farms. Responses were dropped for the following reasons.

1. No longer a dairy operation.
2. Less that 70% of gross farm receipts were from the sale of milk or dairy animals.
3. Did not report any employees.

Table 1. Distribution and response of survey

State	# of Surveys Mailed	Total # of Returns	Response %	No longer a Dairy	Dairy Receipts < 70% of Total	No Employee Data Reported	Usable Surveys
New York	1100	111	10 %	-7	-0	-5	99
Wisconsin	1400	195	14 %	-16	-13	-7	159
Total	2500	306	12 %	-23	-13	-12	258

Job Classifications for Dairy Farm Work Force

Three broad job classifications for dairy farms were defined. The job titles and their descriptions are:

1. **Laborer**, Provides labor with no management or supervisory responsibilities;
2. **Independent Worker**, Provides labor and supervision. Has some, but limited, involvement in decision making;
3. **Manager**, Provides labor and supervision. Has significant involvement in, or complete control of decision making.

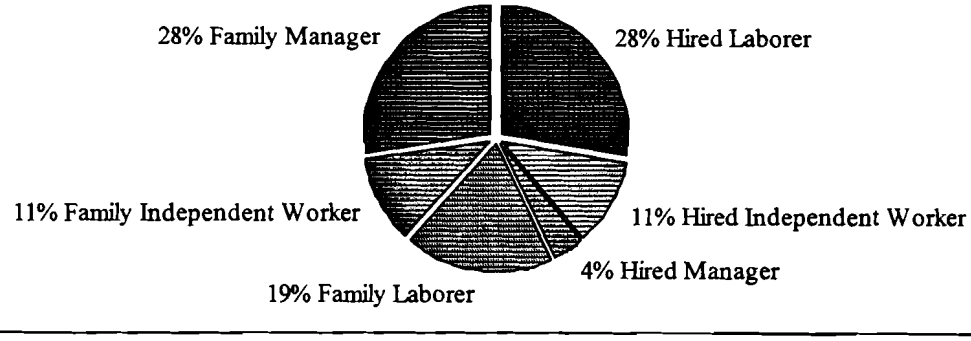
Respondents were asked to provide the number of people, both family and non-family, who worked on the dairy farm in each of the defined job classifications and to provide the number of months/year that they worked on the farm (the survey is provided as Appendices 1.A. and 1.B.). Full Time Equivalents (FTEs) were obtained by assuming that each employee or family member working 12 months/year, 6-11 months/year, or < 6 months/year are providing 1, 0.66, or 0.33 FTE, respectively. This method of calculating FTE's resulted in a total work force of 1287.33 FTEs that are used in describing job classification distribution and level of family participation.

Distribution of the Work Force Across Job Classifications

Data are provided in Appendix 2.A. Figure 1. illustrates this distribution when data from both states are combined. Of the 1287 FTEs reported from both states:

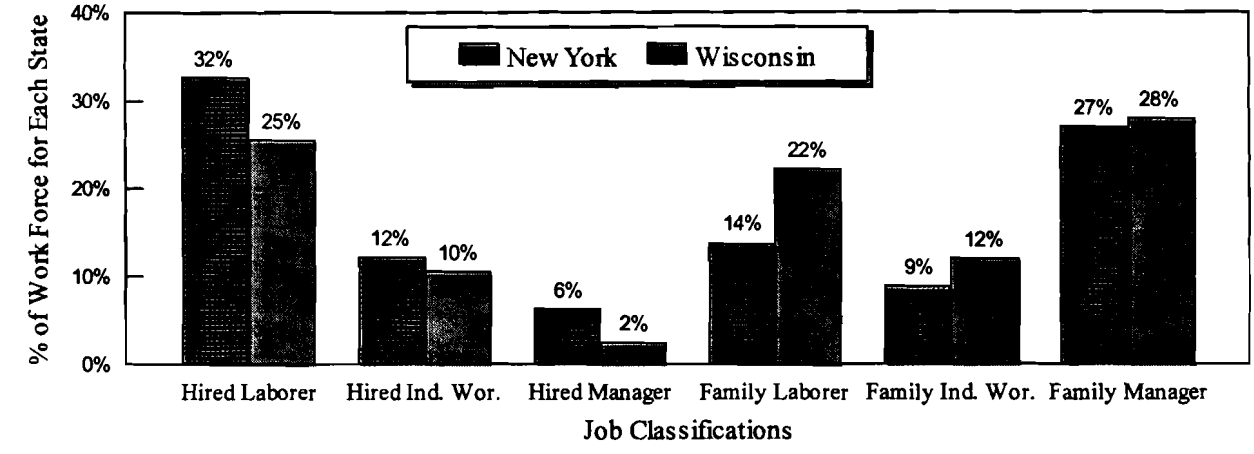
- **57% of farm workers were family members.** This supports the findings of Maloney and Woodruff (1989) that family labor is an important component of the farm work force.
- **354 FTEs (28%) were classified as family managers and 47 (4%) were classified as hired, non-family managers.** This supports the common assumption that family members fill most managerial positions. Of the 401 Manager FTEs, 88% (354/401) are filled by family members.
- **359 FTEs (28%) were classified as hired laborers and 245 (19%) were classified as family laborers.** This supports the assumption that most of the non-skilled labor used on large dairy farms is provided by hired employees. Of the 605 Laborer FTEs, 59% (359/605) are filled by hired employees.
- **359 hired laborer FTEs account for 65% (359/549) of all hired, non-family employees.** This supports the assumption that most hired employees have no management or supervisory responsibilities.

Figure 1. Distribution of Entire Dairy Farm Work Force Across Job Classifications, Both States



There are differences in the distribution of the work force across these classifications based on state and size of farm (as measured by number of cows). These differences are illustrated in Figures 2., 3., and 4.

Figure 2. Distribution of Dairy Farm Work Force Across Job Classifications by State



For all New York farms there is essentially a 50-50 split between hired and family FTEs (49.3% family, 50.7% hired). In Wisconsin, however, there is a greater reliance on family FTEs (62% family, 38% hired) FTEs. As illustrated in Figure 2., with data reported in Table 2., this trend is observed in all three job classifications but is most visible in the position of laborer.

Table 2. Distribution of Dairy Farm Work Force Across Job Classifications

	# of Farms in Group	Total number of FTE's	Hired Non-Family Employees % of Total FTE's Independent			Hired Family Employees % of Total FTE's Independent		
			Laborer	Worker	Manager	Laborer	Worker	Manager
All Farms	258	1287.3	27.9%	11.0%	3.7%	19.1%	10.8%	27.5%
All NY Farms	99	461.7	32.5%	12.1%	6.1%	13.6%	8.8%	26.9%
with less than 150 cows	58	209.7	24.2%	9.1%	3.2%	18.1%	12.2%	33.2%
with 150-250 cows	33	171.0	33.1%	16.4%	5.1%	12.3%	7.2%	25.9%
with more than 250 cows	8	81.0	52.7%	10.7%	16.0%	4.9%	3.3%	12.3%
All WI Farms	159	825.7	25.4%	10.5%	2.3%	22.1%	11.9%	27.9%
with less than 150 cows	95	405	19.5%	7.6%	1.2%	28.1%	14.2%	29.5%
with 150-250 cows	43	240.33	21.8%	11.8%	1.7%	23.6%	11.9%	29.3%
with more than 250 cows	21	180.33	43.3%	15.2%	5.5%	6.7%	6.8%	22.6%

Figure 3. Distribution of New York Dairy Farm Work Force Across Job Classifications by Number of Cows

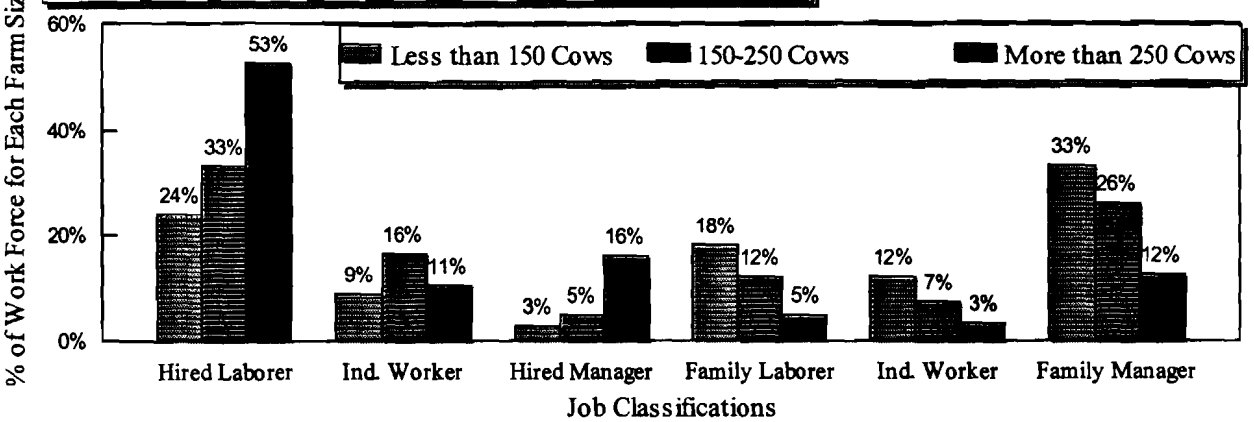
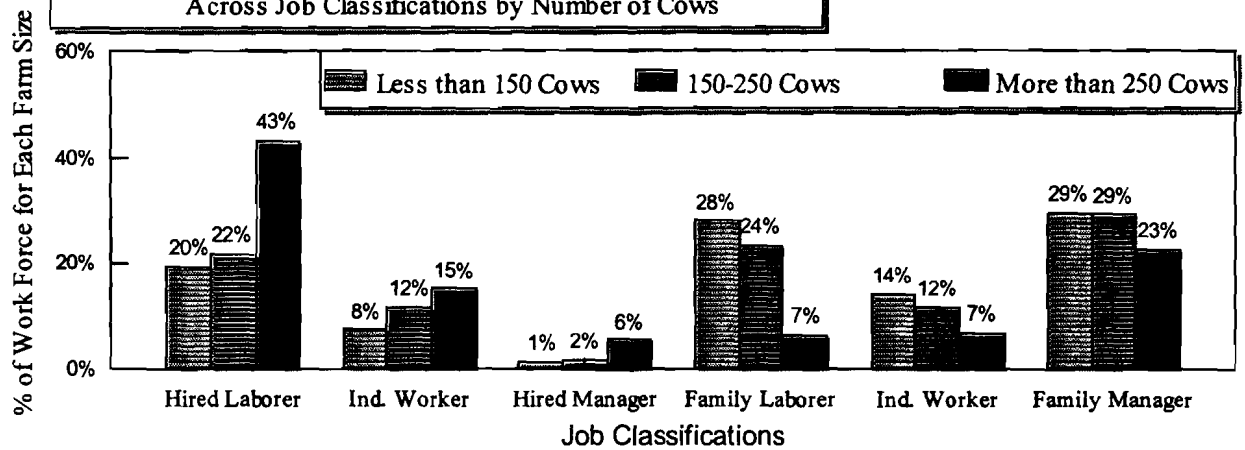


Figure 4. Distribution of Wisconsin Dairy Farm Work Force Across Job Classifications by Number of Cows



As the number of cows per farm increase, the importance of hired, non-family farm employees becomes greater in both states, but the trend for higher levels of non-family employees in New York relative to Wisconsin is even more apparent (Figures 3. and 4., Table 2.). On farms with more than 250 cows, hired, non-family employees account for 79% and 64% of all farm workers in New York and Wisconsin, respectively (see Figures 7. and 8., page 8). Another difference between states is the dependence of New York dairy farms on hired, non-family managers relative to Wisconsin farms. In New York, 57% of managers on farms with more than 250 cows are hired, non-family employees, while in Wisconsin only 20% of managers on farms with more than 250 cows are hired, non-family employees.

Ratio of Full-Time to Part-Time FTEs

Figure 5. Full-Time vs Part-Time Employees

All Dairy Farms in New York, 1995

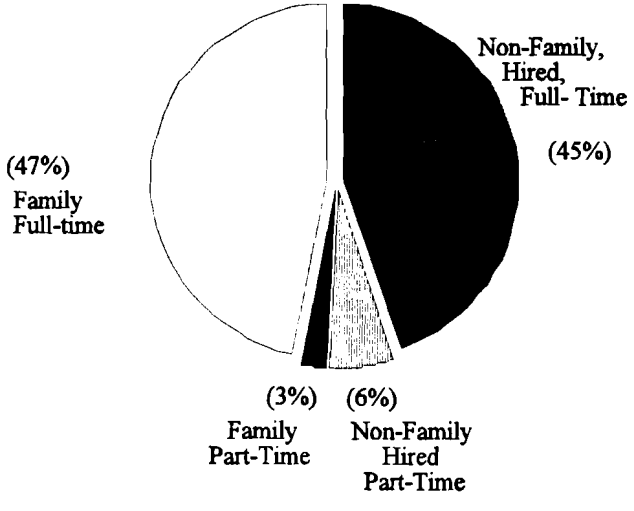
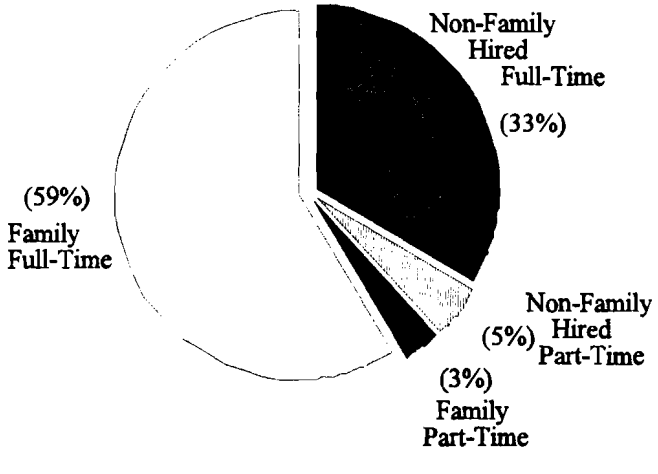


Figure 6. Full-Time vs Part-Time Employees

All Dairy Farms in Wisconsin, 1995



Dairy farms, in both states regardless of size, rely primarily on full-time employees. Of the 1287 FTEs in the complete data set from both states, 5% and 3% were classified as part-time hired employees and part-time family employees, respectively. These percentages, for each individual state, are only slightly different than the combined data and are provided and illustrated in Figures 5. and 6. and illustrate the importance of full-time employees in each state as well as differences between the states.

Again, as illustrated previously in Figures 2., 3., and 4., the higher percentage of family farm employees in Wisconsin relative to New York is observed.

Differences in the ratio of full to part-time FTEs were not found between large and small farms. But, in both states, as farms grew larger (as measured by number of cows), their dependence on hired FTEs grew. The trend of Wisconsin farms having a higher percentage of family employees than New York farms is again observed.

Figure 7. Level of Part-Time and Full Time FTEs in Wisconsin by Number of Cows, 1995

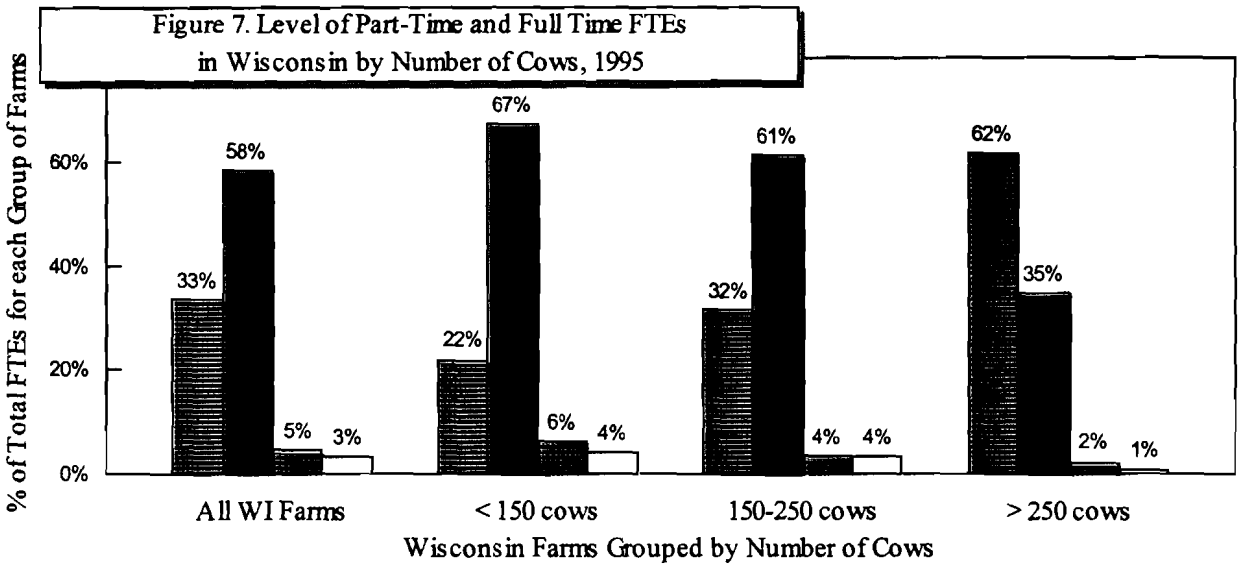
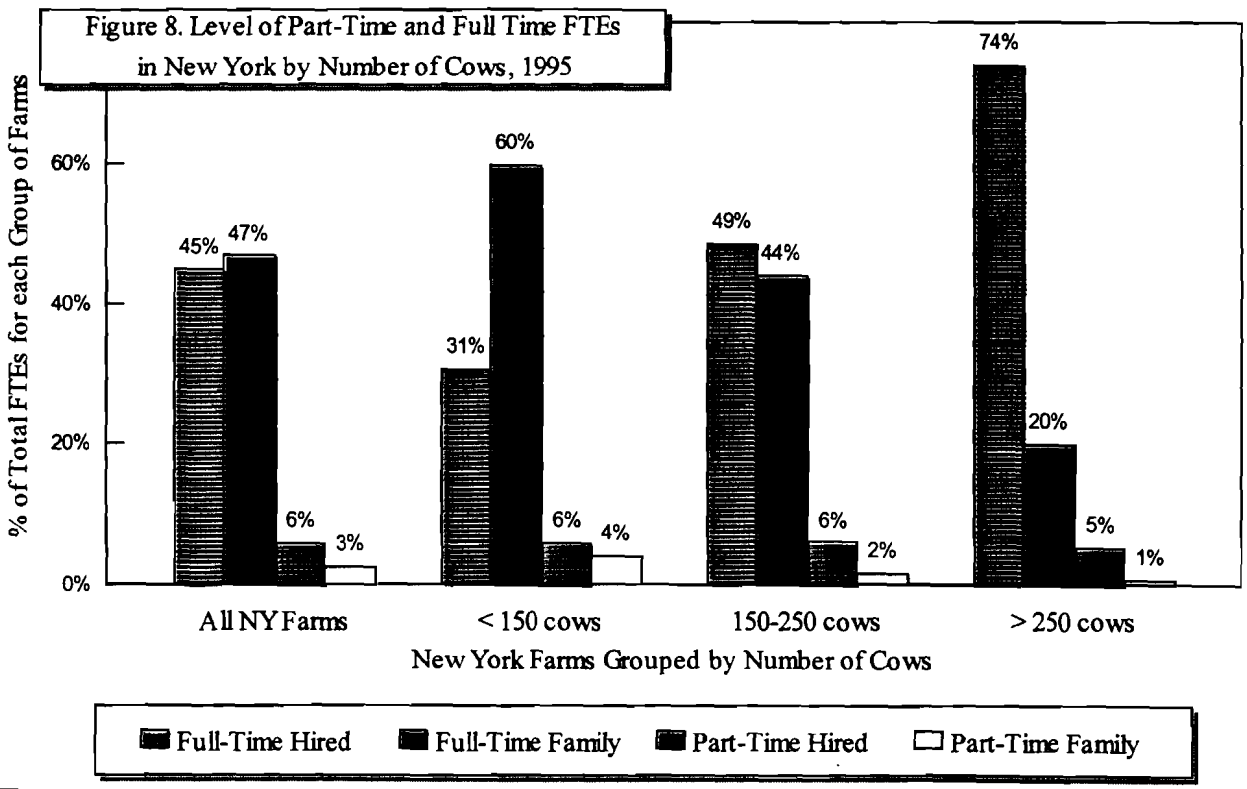


Figure 8. Level of Part-Time and Full Time FTEs in New York by Number of Cows, 1995



Compensation and Hours Worked

To report hours worked, cash salaries paid, tenure on farm, and education level of the work force, the data set containing all 258 farms was sub-divided based on employee job classification, source of labor (family or hired labor) and state. Any record with data missing from hours worked, cash salaries paid, tenure on farm, and education level was dropped for analysis of the work force concerning all of these areas. This removal of records due to incomplete data resulted in a loss of 197.6 FTE's leaving 1089.7 FTE's. To calculate the average number of hours worked per week per employee, assumptions were made that employees who, as indicated on the survey, worked more than 65 hours/week, 55-64 hours/week, 45-54 hours per week, or less than 45 hours per week actually worked 66, 60, 50, or 40 hours per week respectively. Using these assumptions the average number of hours worked per employee for each job classification was estimated. To calculate the average weekly cash salary per employee, assumptions were made that employees who, as indicated on the survey, were paid more than $2000 / month, $1,500-1,999 / month, $1,000-1,499 / month, and less than $1,000 / month, were paid $2,300, $1,750, $1,250 and $800 per month, respectively. Using these assumptions the average monthly salary for each job classification was estimated. The average weekly salary was estimated by dividing the monthly salary by 4.33. A summary of the data used in developing the salaries, time requirements, tenure and education profiles of the force work are provided in Appendices 3.A., 3.B, 4.A., and 4.B.

The cash salary for hired farm workers increased from 27 to 31% in New York from 1988 to 1995 (Table 3.). The value of a manager relative to a laborer had not changed, however. In 1988, in New York, a laborer received 69% ($10,463/$15,147) of what a manager did. In 1995, in New York, a laborer received 70% ($13,676/$19,656) of what a manager did. In Wisconsin, managers receive higher salaries relative to laborers than in New York, i.e. a laborer in Wisconsin receives 61% of the salary that a manager receives ($14,404/$23,712). Managers in Wisconsin also received cash compensation that was 21% higher than managers in New York in 1995.

Table 3. Annual Cash Compensation for Hired Farm Employees, 1988 and 1995

	Job Classification		
	Laborer	Independent Worker	Manager
1988 Cash Salary, New York *	$10,463	$12,968	$15,147
1995 Cash Salary, New York	$13,676	$16,484	$19,656
% Increase in New York, 1988-1995	31%	27%	28%
1995 Cash Salary, Wisconsin	$14,404	$17,836	$23,712
% Difference in 1995 Salary, New York vs. Wisconsin	5%	8%	21%

* See Maloney and Woodruff (1989), page 23, Table 18

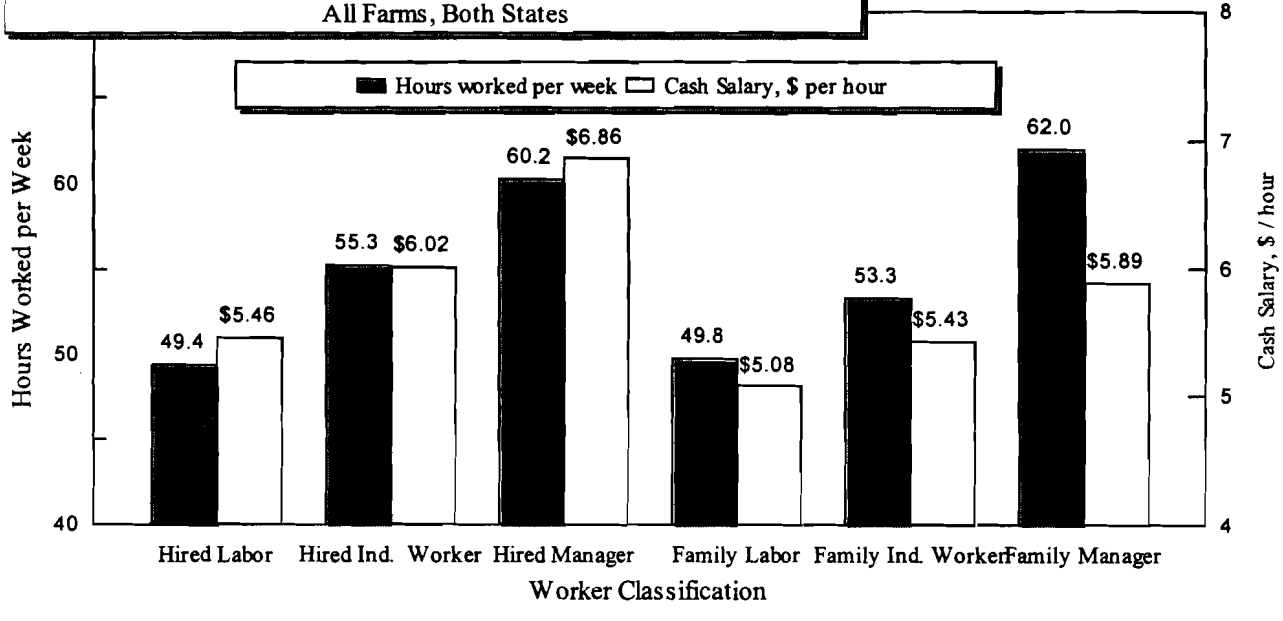
Maloney and Woodruff (1989) reported that the cash salary of hired dairy farm employees accounts for 66% of the total value of their compensation with no significant differences based on job classification. Therefore, the level of cash compensation is used in this report as an index of total compensation but should not be considered total compensation. Guzzo (1989) found that for expatriates, a position that is as similar to farming in the manner in which it often consumes the entire life of the employee and their families, the non-cash components of compensation are perceived by the employee as significant components of total compensation. The actual value, as well as the perceived value that family members place on the non-monetary forms of compensation associated with working on a dairy farm, may be higher for family members than non-family farm employees which would result in family members being satisfied with lower cash salaries relative to non-family farm employees.

Table 4. Hours Worked and Cash Salaries Paid, Grouped by Classification and State

Source of Labor and Job Classification	# of Farms in Data Set	# of FTEs in Data Set	Avg. Hours worked / week	Average Weekly Cash Salary	Average Hourly Cash Salary
Hired Labor					
New York	68	141.7	49.83	$263	$5.26
Wisconsin	86	198.3	48.97	$277	$5.66
Family Labor					
New York	32	57.67	48.94	$242	$4.93
Wisconsin	57	127.3	50.27	$259	$5.15
Hired Indep. Worker					
New York	33	51.67	56.67	$317	$5.59
Wisconsin	50	82.33	54.37	$343	$6.28
Family Indep. Worker					
New York	28	33.67	51.77	$258	$4.90
Wisconsin	56	66.67	54.03	$305	$5.65
Hired Manager					
New York	16	25.67	61.31	$378	$6.16
Wisconsin	14	17	58.46	$456	$7.09
Family Manager					
New York	63	104.67	61.24	$301	$4.98
Wisconsin	88	183.67	62.47	$411	$6.61

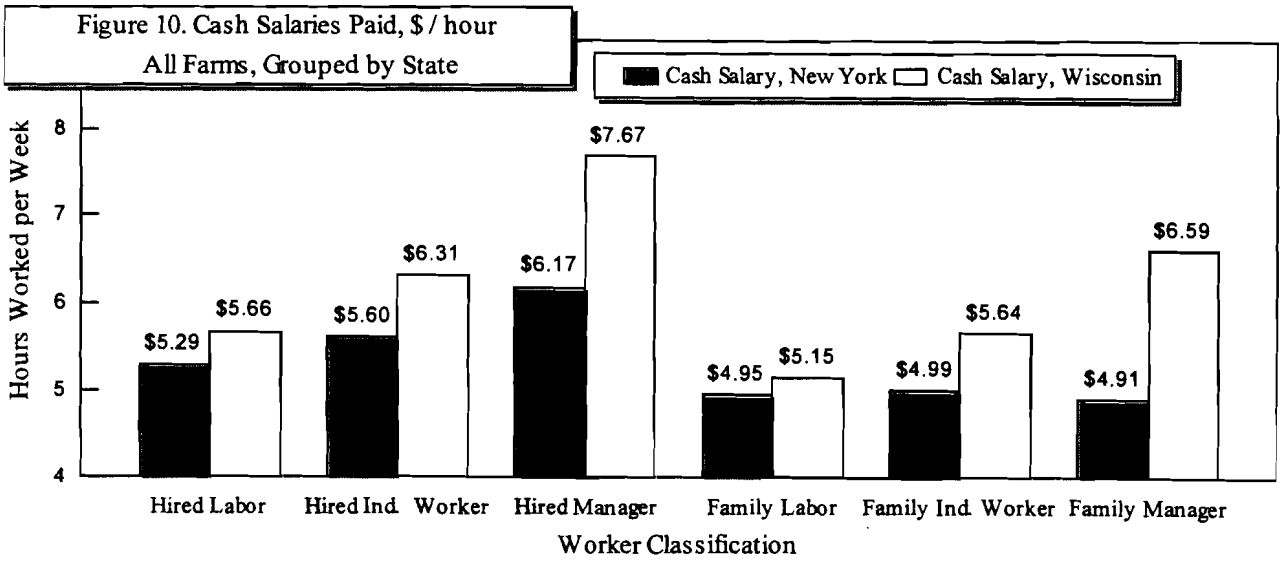
Differences in hourly cash salary for the same job classification were found between non-family, hired employees and hired family members, but the average hours worked for non-family and family employees were similar after controlling for job classification (Table 4 and Figure 9.). The full data set used to prepare Table 4. is found as Appendices 3.A. and 3.B.

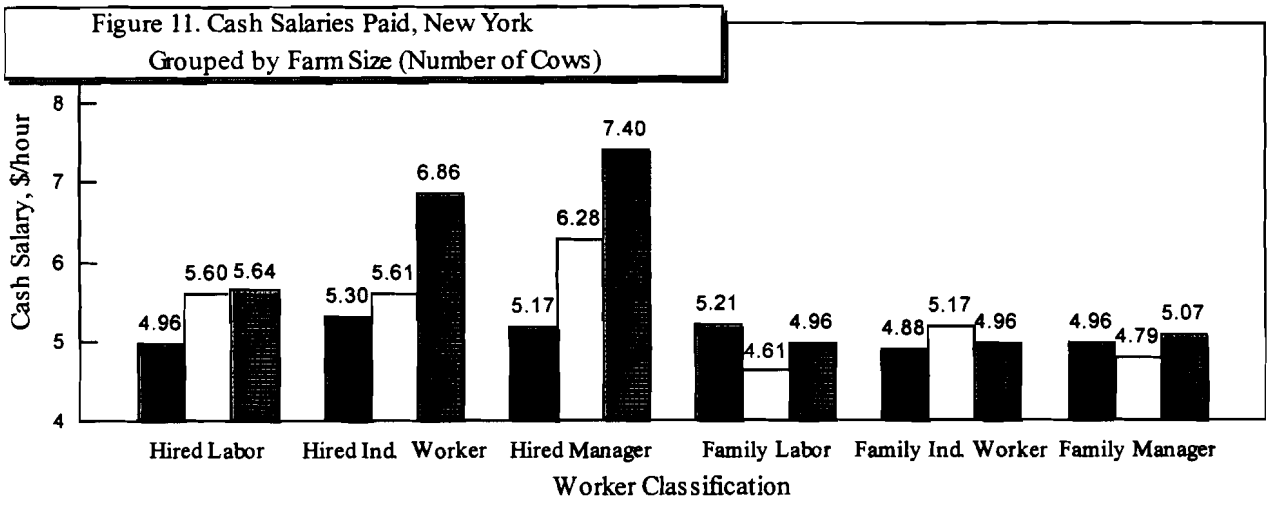
Figure 9. Average Hours Worked and Cash Salaries Paid
All Farms, Both States

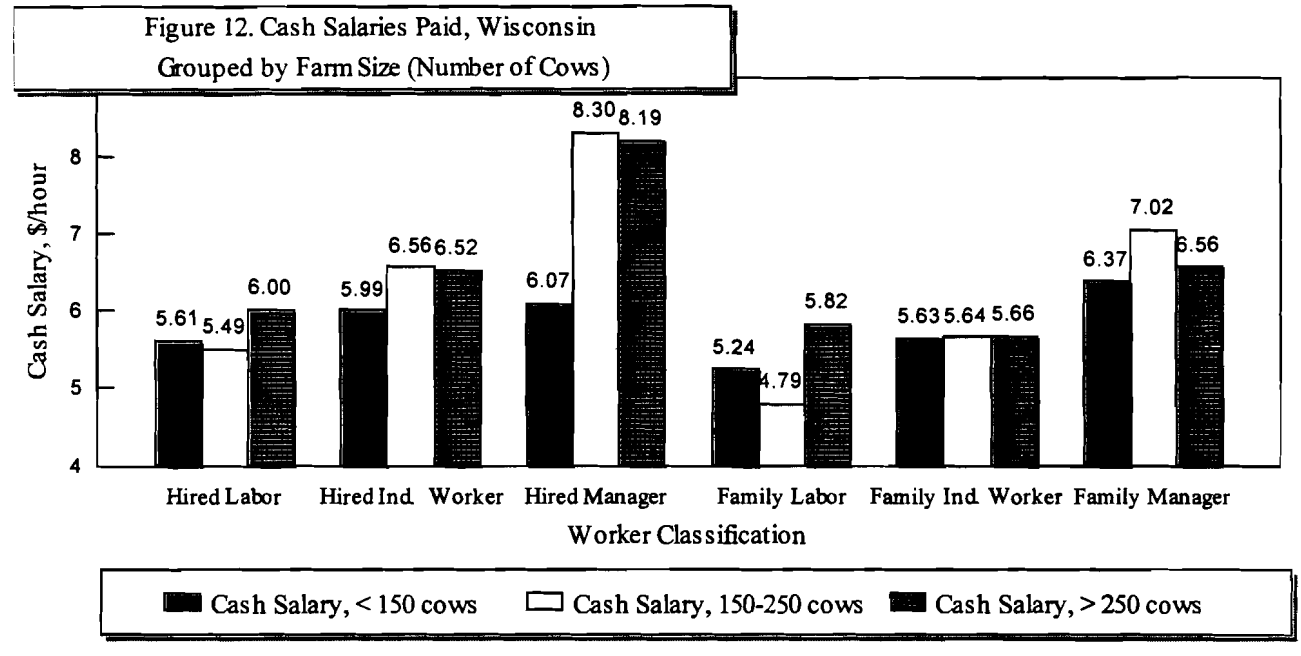


Differences between states in cash salaries paid are illustrated in Figure 10. Non-family, hired employees consistently receive lower cash salaries in New York relative to Wisconsin. Again, as observed in the complete data set (Figure. 9.), cash salaries for family members are lower relative to non-family employees in each individual state.

Figure 10. Cash Salaries Paid, $ / hour
All Farms, Grouped by State







Splitting the database into three groups for each state based on the number of cows milked (Figures 11. and 12.) reveals that:

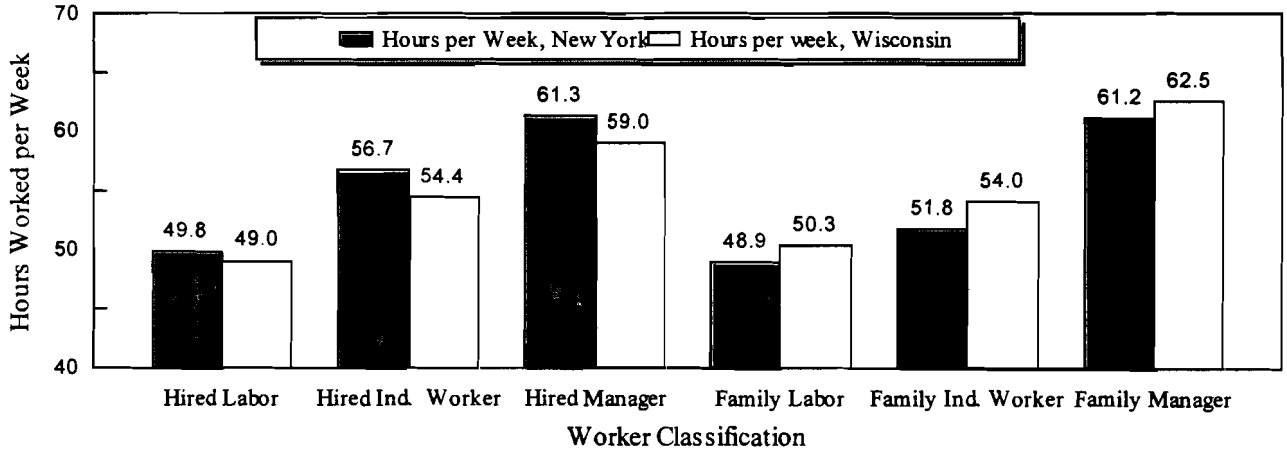
1. as farms grow larger the hourly salary paid to hired, non-family, employees increases;

2. farm size appears to have no effect on the salaries paid to family farm workers; and

3. family farm workers in each job classification receive lower cash salaries than hired, non-family farm workers in the same job classification, regardless of state or size of farm.

A comparison of hours worked by each job classification in both states is illustrated in Figure 13. The largest difference found between states for the same job classification was 2.3 hours worked per week for hired independent workers. A trend, however, of hired, non-family workers in New York working longer hours than hired, non-family workers in Wisconsin is observed. In contrast, family farm workers in Wisconsin work longer hours than family farm workers in New York.

Figure 13. Average Hours Worked
All Farms, Grouped by State

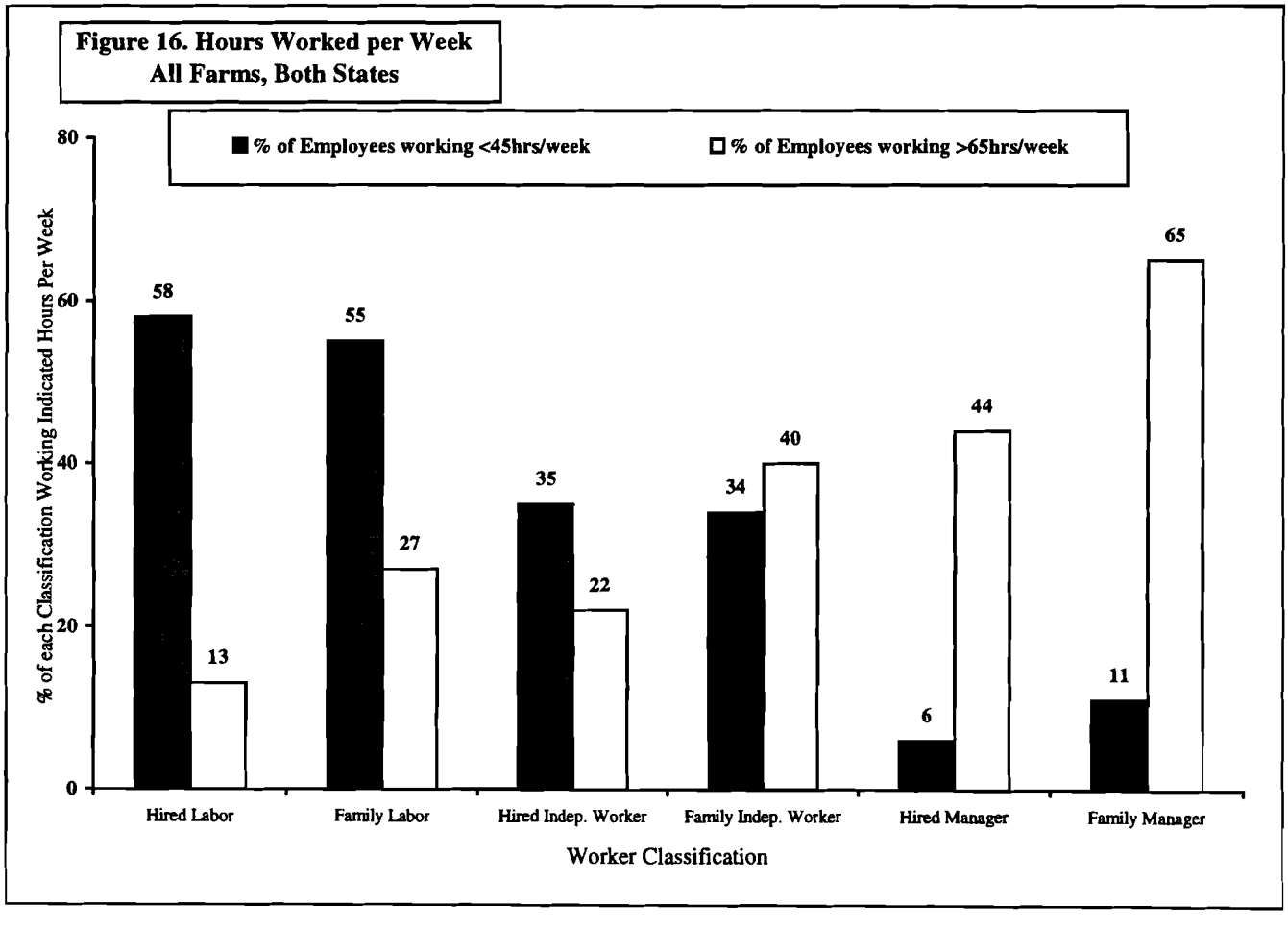


By integrating the hours worked data (Figure 13.) with the salary data (Figure 10., page 11), it can be seen that hired, non-family farm workers in New York receive a lower hourly cash salary and work longer hours per week than their peers in Wisconsin.

There is a common perception that dairy farm workers work long hours, with 70 hours per week common. Figure 13. (page 13) illustrates that farm laborers work an average of 49 to 50 hours per week and farm managers work an average of 59 to 62 hours per week. The percentage of employees from each job classification working less than 45, 45 to 55, 55 to 65, and greater than 65 hours per week was calculated and are provided in Appendices 3.A. and 3.B.

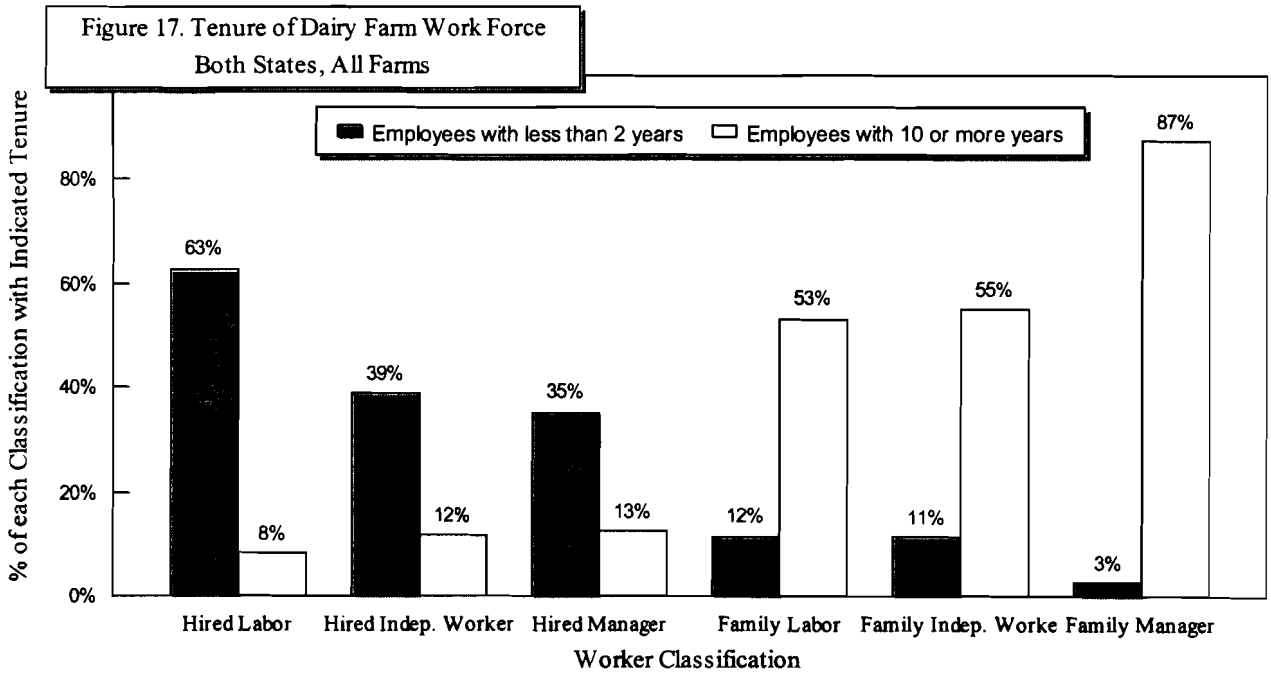
As shown in Figure 16.:

1. 58 % of hired laborers and 55% of family laborers work less than 45 hours per week;
2. 65% of family managers and 44% of hired managers work more than 65 hours per week;
3. for each classification, a higher percentage of family members relative to non-family members work more than 65 hours per week



Tenure of Farm Work Force

The causes and consequences of similarities in hours worked, but differences in pay for hired and family farm employees, should be of great interest for farm owners and managers. It could be hypothesized that this situation could result in the perception of inequity and consequently in an increased level of family employee dissatisfaction and turnover rate. However, even though hired employees receive higher levels of cash salary for the same number of hours worked, the empirical data collected for this study show that the turnover rate is much higher for hired farm workers than family farm workers (Figures 17.). The majority of hired, non-family laborers (63%) and 42% and 38% of hired independent workers and managers, respectively, have been working on the farm for less than two years. In contrast, the majority of all family employees, regardless of job classification (53%, 55% and 87% of family laborers, independent workers, and managers, respectively), have been working on the farm for more than ten years.

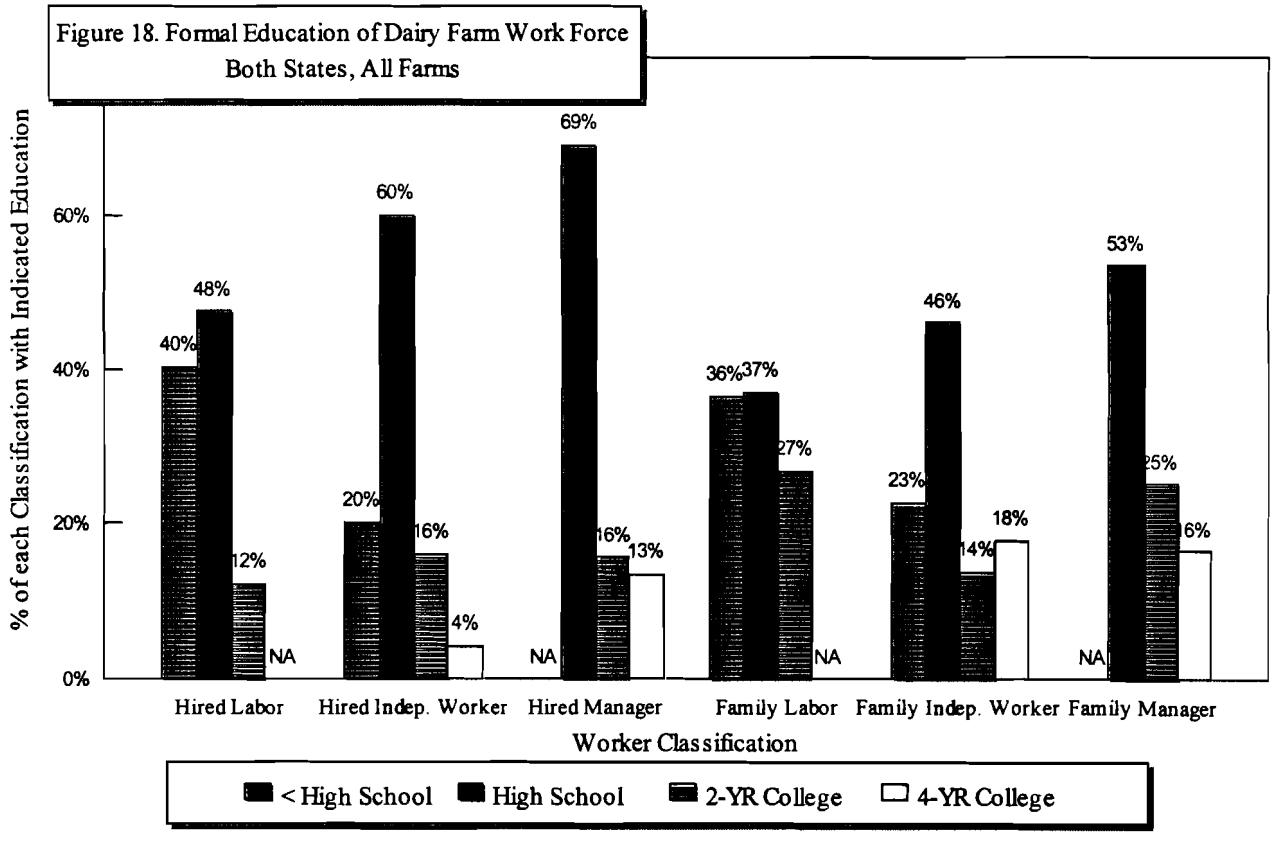


Formal Education Level of Farm Work Force

The findings of this study confirms the findings of previous reports and publications that the farm work force does not possess a high level of formal education (Oliveira, 1991, Oliveira, 1992, Maloney and Woodruff, 1989). Twenty four percent of the work force have less than a high school education, 49% have a high school education, and 19%, 6% and 1% have completed a 2 year, 4 year, or a graduate college education, respectively. This data has been divided by job classification, state, and size of farm as measured by number of cows in Appendices 4.A. and 4.B.

The percentage of workers in each job classification obtaining each level of formal education is illustrated in Figure 18.

Of the 45 reported non-family , hired managers, only 1 (2%) had received any graduate education and only 6 (13%) had obtained a 4 year bachelors degree. In contrast, of the 292 reported family managers, 15 (5%) had received graduate education and 47 (16%) had obtained a 4 year bachelors degree.



Conclusions and Discussion

The majority (57%) of the entire dairy farm work force for farms with more than 100 cows is comprised of family members. Management of these farms is primarily controlled by family members (88% of all managerial positions are filled by family members) while 65% of the non-family faction of the work force is classified as labor with no management or supervisory responsibilities. As farms grow larger, however, the percentage and importance of the farm work force that is non-family increases dramatically. On farms in this data set with more than 250 cows, non-family employees account for 79% and 64% of all employees in New York and Wisconsin, respectively .

Higher levels of cash salary normally result in lower levels of employee turnover (Organ and Bateman, 1991). Data from this survey, however, show that non-family employees receive a higher level of cash compensation than family members for the same job responsibilities, yet have a much higher turnover rate. This relationship between cash salary and turnover rate is not intuitive and requires further investigation for an explanation. A review of the literature from the fields of human resources studies, organizational behavior, and family business provides many possible explanations for this anomaly.

One explanation for the observed relationship between cash salary and turnover could be the non-monetary forms of compensation that family members enjoy. The findings of Guzzo, et al. (1994) emphasize the importance of the psychological contract between an employer and employee. If the employer is not fulfilling the intangible factors of the psychological contract that the employee perceives as important, job satisfaction will fall, resulting in higher turnover. These intangible factors will range from identifiable equity issues to unidentifiable issues such as fulfilling an employee's need for self-esteem. The data from this survey, particularly the higher turnover rate for non-family employees in spite of higher cash salaries relative to family farm workers, would suggest that the non-monetary factors of total compensation are much higher for family members compared to non-family members. These data would support the hypothesis that a primary attraction for family farm workers to this profession is not immediate financial rewards, but rather the longer term, intangible compensation factors that they receive.

The high turnover rate for hired, non-family employees has serious implications for dairy farms that desire to expand with the use of hired, non-family employees. To attract, retain and motivate competent, skilled employees, dairy farms will need to either increase the level of cash compensation or increase the level of non-monetary factors of total compensation, or a mixture of both, so that the total compensation provided to non-family members is equitable to that provided to family members. For managerial positions stock options, or some other type of ownership transfer, would be a possible method of providing the sense of equity building that family members enjoy. For supervisory or labor positions, a gainsharing or other participatory plan to increase the level of cash compensation and to link pay to performance would be possible due to the existence of the cow production records. For strictly labor positions, utilization of methods for monitoring and linking pay to performance should lead to increased productivity and job satisfaction.

Additional research to identify and develop methods of increasing total compensation for non-family employees, while maintaining farm profitability, is warranted if the long term goal of the dairy industry is to attract and retain these employees. A common theme of comments by respondents was that qualified, capable employees were difficult, if not impossible, to locate. Considering the level of compensation and the working hours, it is understandable that young college graduates are refusing to consider working on a dairy farm.

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Appendix 1.A. Survey instrument used for family members working on farm.

For the owner, partners, or shareholders & immediate family members working on the farm please indicate the number of people that fall into each category listed below.

Job Classification	Please indicate the **number of family members** that fall into each range of values provided for each job classification listed. Do not include employer share of mandatory taxes or value of benefits in Cash Salary . Benefits include housing, food, health insurance, paid leave, retirement plan, etc.					
	Number of family members working:	Number of family members working:	Number of family members receiving CASH Salary of:	Number of family members receiving housing or health insurance as part of compensation:	Number of family members that have been working on the farm for:	Number of family members working on the farm that have completed:
Laborer, Provides labor with no management or supervisory responsibilities.	___ 12 mo/year ___ 6- 11 mo/yr ___ < 6 mo/yr	___ > 65 hrs/wk ___ 55 - 64hrs/wk ___ 45 -54hrs/wk ___ < 45 hrs/wk	___ > $2,000 / month ___ $1,500-1,999 / month ___ $1,000-1,499 / month ___ < $1,000 / month	____ Housing ____ Health Insurance	___ > 10 years ___ 5 - 10 years ___ 2 - 5 years ___ < 2 years	___ Some college ___ High School ___ < High School
Independent Worker, Provides labor and supervision. Has some, but limited, involvement in decision making.	___ 12 mo/year ___ 6- 11 mo/yr ___ < 6 mo/yr	___ > 65 hrs/wk ___ 55 - 64hrs/wk ___ 45 -54hrs/wk ___ < 45 hrs/wk	___ > $2,000 / month ___ $1,500-1,999 / month ___ $1,000-1,499 / month ___ < $1,000 / month	____ Housing ____ Health Insurance	___ > 10 years ___ 5 - 10 years ___ 2 - 5 years ___ < 2 years	___ 4 yr college ___ 2 yr college ___ High School ___ < High School
Manager, Provides labor and supervision. Has significant involvement in decision making.	___ 12 mo/year ___ 6- 11 mo/yr ___ < 6 mo/yr	___ > 65 hrs/wk ___ 55 - 64hrs/wk ___ 45 -54hrs/wk ___ < 45 hrs/wk	___ > $2,000 / month ___ $1,500-1,999 / month ___ $1,000-1,499 / month ___ < $1,000 / month	____ Housing ____ Health Insurance	___ > 10 years ___ 5 - 10 years ___ 2 - 5 years ___ < 2 years	___ Grad. School ___ 4 yr college ___ 2 yr college ___ High School

Appendix 1.B. Survey instrument used for non-family, hired farm employees

For non-family Hired Farm Workers,

please indicate the number of employees that fall into each category listed below.

Job Classification	Please indicate the **number of Hired Farm Workers** that fall into each range of values provided for each job classification Do not include employer share of mandatory taxes or value of benefits in Cash Salary . Benefits include housing, food, health insurance, paid leave, retirement plan, etc.					
	Number of employees working	Number of employees working:	Number of employees receiving CASH Salary of:	Number of employees receiving housing or health insurance as part of compensation:	Number of employees that have been on the farm for:	Number of employees that have completed:
Laborer, Provides labor with no management or supervisory responsibilities.	___ 12 mo/year ___ 6- 11 mo/yr ___ < 6 mo/yr	___ > 65 hrs/wk ___ 55 - 64hrs/wk ___ 45 -54hrs/wk ___ < 45 hrs/wk	___ > $2,000 / month ___ $1,500-1,999 / month ___ $1,000-1,499 / month ___ < $1,000 / month	____ Housing ____ Health Insurance	___ > 10 years ___ 5 - 10 years ___ 2 - 5 years ___ < 2 years	___ Some college ___ High School ___ < High School
Independent Worker, Provides labor and supervision. Has some, but limited, involvement in decision making.	___ 12 mo/year ___ 6- 11 mo/yr ___ < 6 mo/yr	___ > 65 hrs/wk ___ 55 - 64hrs/wk ___ 45 -54hrs/wk ___ < 45 hrs/wk	___ > $2,000 / month ___ $1,500-1,999 / month ___ $1,000-1,499 / month ___ < $1,000 / month	____ Housing ____ Health Insurance	___ > 10 years ___ 5 - 10 years ___ 2 - 5 years ___ < 2 years	___ 4 yr college ___ 2 yr college ___ High School ___ < High School
Manager, Provides labor and supervision. Has significant involvement in decision making.	___ 12 mo/year ___ 6- 11 mo/yr ___ < 6 mo/yr	___ > 65 hrs/wk ___ 55 - 64hrs/wk ___ 45 -54hrs/wk ___ < 45 hrs/wk	___ > $2,000 / month ___ $1,500-1,999 / month ___ $1,000-1,499 / month ___ < $1,000 / month	____ Housing ____ Health Insurance	___ > 10 years ___ 5 - 10 years ___ 2 - 5 years ___ < 2 years	___ Grad. School ___ 4 yr college ___ 2 yr college ___ High School
Consultant, Provides a specific service. Fee is not affected by sales. May be involved in decision making or provides advice to assist the owner(s) or manager.	Type of Consultant Utilized		Approximate Annual Fees Paid		Does Cooperative Extension Provide Educational Opportunities for This Skill	
	____ Accountant		$ _____		___ yes ___ no ___ don't know	
	____ Veterinarian		$ _____		___ yes ___ no ___ don't know	
	____ Agronomist/Field Scout		$ _____		___ yes ___ no ___ don't know	
	____ Animal Nutritionist		$ _____		___ yes ___ no ___ don't know	
	____ General Management		$ _____		___ yes ___ no ___ don't know	
	____ _____ Other type not listed		$ _____		___ yes ___ no ___ don't know	

Appendix 2.A. Distribution of Dairy Farm Work Force Across Job Classifications by Size

	# of Farms in Group	Average # of Cows	GRAND TOTAL FTE	Total Hired FTE	Hired Full-Time FTE	Hired Part-Time FTE	Hired Laborer FTE	Hired Ind. Wor. FTE	Hired Manager FTE	Family Fat-Time FTE	Family Laborer FTE	Family Ind. Wor. FTE	Family Manager FTE
All Farms	258	162.5	1287.3	548.7	483.0	65.7	359.3	142.0	47.3	739.7	245.3	139.0	354.3
	% of total		100.0%	42.6%	37.5%	5.1%	27.9%	11.0%	3.7%	57.1%	19.1%	10.8%	27.5%
New York Farms													
All NY Farms	99	160.5	461.7	234.0	207.0	27.0	150.0	55.7	28.3	221.7	63.0	40.7	124.0
	% of total		100.0%	50.7%	44.8%	5.8%	32.5%	12.1%	6.1%	49.5%	13.6%	8.8%	26.9%
< 150 cows	58	115.6	209.7	76.3	64.0	12.3	50.7	19.0	6.7	138.3	38.0	25.7	69.7
	% of total		100.0%	36.4%	30.5%	5.9%	24.2%	9.1%	3.2%	63.0%	18.1%	12.2%	33.2%
150-250 cows	33	187.1	171.0	93.3	83.0	10.3	56.7	28.0	8.7	72.7	21.0	12.3	44.3
	% of total		100.0%	54.6%	48.5%	6.0%	33.1%	16.4%	5.1%	45.6%	12.3%	7.2%	25.9%
> 250 cows	8	375.9	81.0	64.3	60.0	4.3	42.7	8.7	13.0	10.7	4.0	2.7	10.0
	% of total		100.0%	79.4%	74.1%	5.3%	52.7%	10.7%	16.0%	20.8%	4.9%	3.3%	12.3%
Wisconsin Farms													
All WI Farms	159	163.8	825.7	314.7	276.0	38.7	209.3	86.3	19.0	528.0	182.3	98.3	230.3
	% of total		100.0%	38.1%	33.4%	4.7%	25.4%	10.5%	2.3%	64.4%	22.1%	11.9%	27.9%
< 150 cows	95	111.8	405	114.7	89.0	25.7	79.0	30.7	5.0	297.3	113.7	57.3	119.3
	% of total		100.0%	28.3%	22.0%	6.3%	19.5%	7.6%	1.2%	73.3%	28.1%	14.2%	29.5%
150-250 cows	43	187.1	240.3	84.7	76.0	8.7	52.3	28.3	4.0	118.7	56.7	28.7	70.3
	% of total		100.0%	35.2%	31.6%	3.6%	21.8%	11.8%	1.7%	64.6%	23.6%	11.9%	29.3%
> 250 cows	21	351.5	180.3	115.3	111.0	4.3	78.0	27.3	10.0	62.0	12.0	12.3	40.7
	% of total		100.0%	64.0%	61.6%	2.4%	43.3%	15.2%	5.5%	36.1%	6.7%	6.8%	22.6%

Appendix 2.B. Detailed Distribution of Dairy Farm Work Force Across Job Classifications by State and Farm Size

	# of Farms in Group	TOTAL FTE	Hired FT Labor FTE	Hired PT Labor FTE	Hired FT Ind Worker FTE	Hired PT Ind Worker FTE	Hired FT MGR FTE	Hired PT MGR FTE	Family FT Labor FTE	Family PT Labor FTE	Family FT Ind Worker FTE	Family PT Ind Worker FTE	Family FT MGR FTE	Family PT MGR FTE
All Farms	258	1287.3	313.0	46.3	125.0	17.0	45.0	2.3	224.0	21.3	127.0	12.0	348.0	6.3
		100.0%	24.3%	3.6%	9.7%	1.3%	3.5%	0.2%	17.4%	1.7%	9.9%	0.9%	27.0%	0.5%
New York Farms														
All NY Farms	99	461.7	131.0	19.0	49.0	6.7	27.0	1.3	58.0	5.0	36.0	4.7	122.0	2.0
% of Total		100.0%	28.4%	4.1%	10.6%	1.4%	5.8%	0.3%	12.6%	1.1%	7.8%	1.0%	26.4%	0.4%
< 150 cows	58	209.7	41.0	9.7	17.0	2.0	6.0	0.7	35.0	3.0	22.0	3.7	68.0	1.7
% of Total		100.0%	19.6%	4.6%	8.1%	1.0%	2.9%	0.3%	16.7%	1.4%	10.5%	1.7%	32.4%	0.8%
150-250 cows	33	171.0	51.0	5.7	24.0	4.0	8.0	0.7	19.0	2.0	12.0	0.3	44.0	0.3
% of Total		100.0%	29.8%	3.3%	14.0%	2.3%	4.7%	0.4%	11.1%	1.2%	7.0%	0.2%	25.7%	0.2%
> 250 cows	8	81.0	39.0	3.7	8.0	0.7	13.0	0.0	4.0	0.0	2.0	0.7	10.0	0.0
% of Total		100.0%	48.1%	4.5%	9.9%	0.8%	16.0%	0.0%	4.9%	0.0%	2.5%	0.8%	12.3%	0.0%
Wisconsin Farms														
All WI Farms	159	825.7	182.0	27.3	76.0	10.3	18.0	1.0	166.0	16.3	91.0	7.3	226.0	4.3
% of Total		100.0%	22.0%	3.3%	9.2%	1.3%	2.2%	0.1%	20.1%	2.0%	11.0%	0.9%	27.4%	0.5%
< 150 cows	95	405.0	63.0	16.0	22.0	8.7	4.0	1.0	104.0	9.7	52.0	5.3	117.0	2.3
% of Total		100.0%	15.6%	4.0%	5.4%	2.1%	1.0%	0.2%	25.7%	2.4%	12.8%	1.3%	28.9%	0.6%
150-250 cows	43	240.3	45.0	7.3	27.0	1.3	4.0	0.0	51.0	5.7	27.0	1.7	69.0	1.3
% of Total		100.0%	18.7%	3.1%	11.2%	0.6%	1.7%	0.0%	21.2%	2.4%	11.2%	0.7%	28.7%	0.6%
> 250 cows	21	180.3	74.0	4.0	27.0	0.3	10.0	0.0	11.0	1.0	12.0	0.3	40.0	0.7
% of Total		100.0%	41.0%	2.2%	15.0%	0.2%	5.5%	0.0%	6.1%	0.6%	6.7%	0.2%	22.2%	0.4%

Appendix 3.A. Hours Worked, Cash Salary, Housing and Health Ins. Benefits Received by Non-Family Farm Workers

Job Classification, State, and Size of Farm	# of Farms in Data Set	# of Workers in Data Set	# of FTEs in Data Set	Avg. Hours worked/ week	Average Weekly Cash Salary	Average Hourly Cash Salary	Employees working >65 hrs/week		Employees working 55-65 hrs/week		Employees working 45-55 hrs/week		Employees working <45 hrs/week		Employees Receiving Housing		Employees Receiving Health Insurance	
							#	%	#	%	#	%	#	%	#	%	#	%
Hired Labor																		
Both States	154	393	340	49.4	$270	$5.46	52	13%	69	18%	43	11%	228	58%	59	15%	83	21%
New York	68	165	141.7	49.8	$263	$5.29	20	12%	36	22%	21	13%	88	53%	31	19%	19	12%
< 150 cows	34	54	43.3	49.7	$246	$4.96	7	13%	10	19%	4	7%	33	61%	8	15%	7	13%
150-250 cows	26	62	55.7	50.3	$282	$5.60	8	13%	13	21%	12	19%	29	47%	10	16%	7	11%
> 250 cows	8	49	42.7	49.1	$277	$5.64	5	10%	13	27%	5	10%	26	53%	13	27%	5	10%
Wisconsin	86	228	198.3	49.0	$277	$5.66	32	14%	33	15%	22	10%	140	62%	28	12%	64	28%
< 150 cows	42	85	70.0	47.9	$268	$5.61	6	7%	13	15%	14	17%	51	61%	13	15%	11	13%
150-250 cows	26	58	49.3	49.9	$274	$5.49	14	24%	7	12%	3	5%	34	59%	8	14%	13	22%
> 250 cows	18	85	79.0	50.1	$301	$6.00	12	14%	13	15%	5	6%	55	65%	7	8%	40	47%
Hired Independent Worker																		
Both States	83	145	134.0	55.3	$333	$6.02	45	22%	57	28%	29	14%	70	35%	42	29%	47	32%
New York	33	57	51.7	56.7	$317	$5.60	13	23%	19	33%	8	14%	17	30%	15	26%	10	18%
< 150 cows	13	18	17.0	56.5	$299	$5.30	4	22%	7	39%	0	0%	7	39%	8	44%	4	22%
150-250 cows	17	30	26.0	57.2	$321	$5.61	6	20%	11	37%	5	17%	8	27%	7	23%	4	13%
> 250 cows	3	9	8.7	54.8	$376	$6.86	3	33%	1	11%	3	33%	2	22%	0	0%	2	22%
Wisconsin	50	88	82.3	54.4	$343	$6.31	19	22%	19	22%	13	15%	36	41%	27	31%	37	42%
< 150 cows	22	35	30.7	52.2	$313	$5.99	7	20%	3	9%	9	26%	16	46%	9	26%	6	17%
150-250 cows	17	29	28.3	58.2	$381	$6.56	7	24%	13	45%	2	7%	7	24%	12	41%	14	48%
> 250 cows	11	24	23.3	52.9	$345	$6.52	5	22%	3	13%	2	9%	13	57%	6	25%	17	71%
Hired Manager																		
Both States	30	45.0	43.7	60.2	$413	$6.86	31	44%	30	42%	6	8%	4	6%	24	53%	20	44%
New York	16	26.0	25.7	61.3	$378	$6.17	13	50%	11	42%	1	4%	1	4%	13	50%	13	50%
< 150 cows	5	5.0	5.0	64.8	$335	$5.17	4	80%	1	20%	0	0%	0	0%	4	80%	2	40%
150-250 cows	7	8.0	7.7	62.0	$389	$6.28	4	50%	3	38%	1	13%	0	0%	5	63%	3	38%
> 250 cows	4	13.0	13.0	55.8	$413	$7.40	5	38%	7	54%	0	0%	1	8%	4	31%	8	62%
Wisconsin	14	19.0	18.0	59.0	$453	$7.67	5	26%	8	42%	4	21%	2	11%	11	58%	7	37%
< 150 cows	4	5.0	4.0	52.8	$320	$6.07	1	20%	0	0%	3	60%	1	20%	5	100%	0	0%
150-250 cows	3	4.0	4.0	64.0	$531	$8.30	2	50%	2	50%	0	0%	0	0%	1	25%	3	75%
> 250 cows	7	10.0	10.0	60.4	$495	$8.19	3	27%	6	55%	1	9%	1	9%	5	50%	4	40%

Appendix 3.B. Hours Worked, Cash Salary Paid, Housing and Health Insurance Benefits Received by Family Farm Workers

Job Classification, State, and Size of Farm	# of Farms in Data Set	# of Workers in Data Set	# of FTEs in Data Set	Avg. Hours worked/ week	Average Weekly Cash Salary	Average Hourly Cash Salary	Employees working more than 65 hrs/week		Employees working 55-65 hrs/week		Employees working 45-55 hrs/week		Employees working less than 45 hrs/week		Employees Receiving Housing		Employees Receiving Health Insurance	
							#	%	#	%	#	%	#	%	#	%	#	%
Family Labor																		
Both States	89	207.0	185.0	49.8	$253	$5.08	71	27%	24	9%	26	10%	145	55%	124	60%	133	64%
New York	32	65.0	57.7	48.9	$242	$4.95	12	20%	7	12%	7	12%	34	57%	28	43%	33	51%
< 150 cows	17	36.0	32.7	49.0	$255	$5.21	6	19%	4	13%	5	16%	16	52%	18	50%	21	58%
150-250 cows	13	25.0	21.0	49.9	$230	$4.61	6	24%	3	12%	1	4%	15	60%	10	40%	12	48%
> 250 cows	2	4.0	4.0	42.5	$211	$4.96	0	0%	0	0%	1	25%	3	75%	0	0%	0	0%
Wisconsin	57	142.0	127.3	50.3	$259	$5.15	47	32%	10	7%	12	8%	77	53%	96	68%	100	70%
< 150 cows	34	90.0	82.7	52.9	$277	$5.24	36	39%	4	4%	8	9%	45	48%	62	69%	60	67%
150-250 cows	18	42.0	36.7	46.2	$221	$4.79	9	21%	6	14%	3	7%	25	58%	28	67%	30	71%
> 250 cows	5	10.0	8.0	47.2	$275	$5.82	2	20%	0	0%	1	10%	7	70%	6	60%	10	100%
Family Independent Worker																		
Both States	84	127.0	114.7	53.3	$289	$5.43	51	40%	14	11%	20	16%	43	34%	86	68%	71	56%
New York	28	40.0	33.7	51.8	$258	$4.99	12	30%	6	15%	6	15%	16	40%	26	65%	21	53%
< 150 cows	17	26.0	20.7	51.7	$253	$4.88	7	27%	4	15%	5	19%	10	38%	17	65%	17	65%
150-250 cows	10	11.0	10.3	51.8	$268	$5.17	4	36%	2	18%	0	0%	5	45%	8	73%	3	27%
> 250 cows	1	3.0	2.7	52.0	$258	$4.96	1	33%	0	0%	1	33%	1	33%	1	33%	1	33%
Wisconsin	56	87.0	81.0	54.0	$305	$5.64	39	44%	8	9%	14	16%	27	31%	60	69%	50	57%
< 150 cows	30	47.0	43.0	55.5	$312	$5.63	25	53%	2	4%	7	15%	13	28%	29	62%	24	51%
150-250 cows	19	29.0	27.7	52.9	$298	$5.64	10	33%	4	13%	7	23%	9	30%	24	83%	19	66%
> 250 cows	7	11.0	10.3	50.7	$287	$5.66	4	36%	2	18%	0	0%	5	45%	7	64%	7	64%
Family Manager																		
Both States	151	292.0	288.3	62.0	$365	$5.89	189	65%	46	16%	23	8%	32	11%	194	66%	176	60%
New York	63	106.0	104.7	61.2	$301	$4.91	64	60%	20	19%	8	8%	14	13%	65	61%	57	54%
< 150 cows	34.00	55.0	54.3	60.8	$302	$4.96	31	56%	11	20%	6	11%	7	13%	34	62%	32	58%
150-250 cows	23.00	41.0	40.3	62.2	$298	$4.79	26	63%	9	22%	1	2%	5	12%	25	61%	19	46%
> 250 cows	6.00	10.0	10.0	60.3	$306	$5.07	7	70%	0	0%	1	10%	2	20%	6	60%	6	60%
Wisconsin	88	186.0	183.7	62.5	$411	$6.59	125	72%	26	15%	15	9%	7	4%	129	69%	119	64%
< 150 cows	48	93.0	92.0	62.9	$401	$6.37	67	73%	12	13%	7	8%	6	7%	65	70%	53	57%
150-250 cows	25	54.0	54.0	61.9	$435	$7.02	32	62%	12	23%	3	6%	5	10%	38	70%	40	74%
> 250 cows	15	39.0	37.7	61.8	$405	$6.56	26	68%	2	5%	5	13%	5	13%	26	67%	26	67%

Appendix 4.A. Tenure and Level of Formal Education of Non-Family Farm Work Force

Job Classification, State, and Size of Farm	Avg. Years Tenure on Farm	Employees with 10 or more years		Employees with 5- 10 years		Employees with 2-5 years		Employees with less than 2 years		Avg. Years of Formal Educ.	Less than High School		High School		2-YRaduate Collegchool		
Hired Labor		#	%	#	%	#	%	#	%		#	%	#	%	#	%	%
Both States	3.59	47	8%	58	10%	103	18%	350	63%	11.35	156	40%	184	48%	47	12	
New York	3.84	16	10%	15	9%	31	19%	103	62%	11.29	76	46%	71	43%	19	11	
< 150 cows	4.40	8	15%	4	7%	8	15%	34	63%	11.08	32	59%	17	31%	5	9	
150-250 cows	3.26	2	3%	8	13%	16	26%	36	58%	11.50	24	38%	28	44%	11	17	
> 250 cows	3.33	6	12%	3	6%	7	14%	33	67%	11.50	20	41%	26	53%	3	6	
Wisconsin	3.39	15	7%	28	12%	41	18%	144	63%	11.40	80	36%	113	51%	28	13	
< 150 cows	3.45	6	7%	12	14%	16	19%	52	60%	11.39	35	42%	41	49%	7	8	
150-250 cows	2.92	3	5%	5	9%	12	21%	38	66%	11.13	26	46%	25	44%	6	11	
> 250 cows	3.92	6	7%	11	13%	13	15%	54	64%	11.80	19	23%	47	58%	15	19	
Hired Independent Worker																	
Both States	4.35	24	12%	18	9%	81	40%	78	39%	12.21	29	20%	87	60%	23	16	
New York	4.13	8	14%	4	7%	28	49%	17	30%	12.12	12	21%	35	60%	10	17	
< 150 cows	4.48	3	17%	4	22%	6	33%	5	28%	12.23	5	28%	9	50%	3	17	
150-250 cows	3.96	4	13%	0	0%	17	57%	9	30%	12.08	6	19%	18	58%	7	23	
> 250 cows	3.50	1	11%	0	0%	5	56%	3	33%	11.87	1	11%	8	89%	0	0	
Wisconsin	4.49	8	9%	10	11%	25	29%	44	51%	12.26	17	20%	52	60%	13	15	
< 150 cows	4.27	2	6%	4	11%	11	31%	18	51%	12.14	5	14%	25	71%	3	9	
150-250 cows	5.01	3	10%	4	14%	10	34%	12	41%	12.34	4	14%	18	62%	6	21	
> 250 cows	4.14	3	13%	2	9%	4	17%	14	61%	12.39	8	35%	9	39%	4	17	
Hired Manager																	
Both States	5.47	9	13%	18	25%	19	27%	25	35%	13.18	NA		31	69%	7	16	2%
New York	6.07	3	12%	8	31%	7	27%	8	31%	13.05	NA		18	69%	4	15	0%
< 150 cows	5.60	1	20%	1	20%	1	20%	2	40%	13.20	NA		3	60%	1	20	0%
150-250 cows	5.93	1	13%	2	25%	4	50%	1	13%	13.14	NA		5	63%	2	25	0%
> 250 cows	6.90	1	8%	5	38%	2	15%	5	38%	12.70	NA		10	77%	1	8	0%
Wisconsin	4.79	3	16%	2	11%	5	26%	9	47%	13.33	NA		13	68%	3	16	5%
< 150 cows	4.50	1	20%	0	0%	0	0%	4	80%	14.00	NA		2	40%	2	40	0%
150-250 cows	2.25	0	0%	0	0%	2	50%	2	50%	13.33	NA		3	75%	0	0	0%
> 250 cows	6.05	2	18%	2	18%	3	27%	4	36%	12.95	NA		8	80%	1	10	10%

Appendix 4.B. Tenure and Level of Formal Education of Family Farm Work Force

Job Classification, State, and Size of Farm	Avg. Years Tenure on Farm	Employees with 10 or more years		Employees with 5- 10 years		Employees with 2-5 years		Employees with less than 2 years		Avg. Years of Formal Educ.	Less than High School		High School		2-YR College		4-YR College		Graduate School	
		#	%	#	%	#	%	#	%		#	%	#	%	#	%	#	%	#	%
Family Labor																				
Both States	9.2	110	53%	43	21%	30	14.5%	24	11.6%	11.76	78	36%	79	37%	57	27%	NA		NA	
New York	7.5	29	48%	7	11%	15	24.6%	10	16.4%	11.61	27	44%	18	30%	16	26%	NA		NA	
< 150 cows	8.6	19	58%	4	12%	8	24.2%	2	6.1%	11.45	13	39%	15	45%	5	15%	NA		NA	
150-250 cows	7.1	10	42%	3	13%	7	29.2%	4	16.7%	11.75	12	50%	3	13%	9	38%	NA		NA	
> 250 cows	1.0	0	0%	0	0%	0	0.0%	4	100.0%	12.00	2	50%	0	0%	2	50%	NA		NA	
Wisconsin	10.2	81	55%	36	25%	15	10.3%	14	9.6%	11.85	51	33%	61	40%	41	27%	NA		NA	
< 150 cows	10.5	51	56%	22	24%	9	9.9%	9	9.9%	11.92	29	31%	46	49%	19	20%	NA		NA	
150-250 cows	9.2	25	56%	12	27%	3	6.7%	5	11.1%	11.57	18	39%	11	24%	17	37%	NA		NA	
> 250 cows	11.7	5	50%	2	20%	3	30.0%	0	0.0%	12.33	4	31%	4	31%	5	38%	NA		NA	
Family Independent Worker																				
Both States	10.1	72	55%	23	18%	21	16.0%	15	11.5%	12.5	28	23%	57	46%	17	14%	22	18%	NA	
New York	10.3	23	58%	8	20%	5	12.5%	4	10.0%	12.7	9	23%	18	45%	8	20%	5	13%	NA	
< 150 cows	11.4	16	62%	7	27%	1	3.8%	2	7.7%	12.6	5	19%	12	46%	6	23%	3	12%	NA	
150-250 cows	7.8	4	36%	1	9%	4	36.4%	2	18.2%	13.0	1	9%	6	55%	2	18%	2	18%	NA	
> 250 cows	15.0	3	100%	0	0%	0	0.0%	0	0.0%	10.0	3	100%	0	0%	0	0%	0	0%	NA	
Wisconsin	10.1	49	54%	15	16%	16	17.6%	11	12.1%	12.4	19	23%	39	46%	9	11%	17	20%	NA	
< 150 cows	9.3	24	50%	10	21%	9	18.8%	5	10.4%	12.2	10	21%	27	57%	4	9%	6	13%	NA	
150-250 cows	10.9	18	58%	4	13%	4	12.9%	5	16.1%	12.4	7	26%	10	37%	4	15%	6	22%	NA	
> 250 cows	11.2	7	58%	1	8%	3	25.0%	1	8.3%	13.0	2	20%	2	20%	1	10%	5	50%	NA	
Family Manager																				
Both States	13.8	252	87%	19	7%	10	3.5%	8	2.8%	13.4	NA		154	53%	72	25%	47	16%	15	5%
New York	13.9	90	87%	6	6%	3	2.9%	5	4.8%	13.6	NA		50	48%	33	31%	17	16%	5	5%
< 150 cows	14.2	49	91%	1	2%	1	1.9%	3	5.6%	13.5	NA		28	52%	16	30%	7	13%	3	6%
150-250 cows	13.7	33	80%	5	12%	1	2.4%	2	4.9%	13.5	NA		19	46%	13	32%	8	20%	1	2%
> 250 cows	13.1	8	89%	0	0%	1	11.1%	0	0.0%	14.2	NA		3	30%	4	40%	2	20%	1	10 %
Wisconsin	13.8	162	88%	13	7%	7	3.8%	3	1.6%	13.2	NA		104	57%	39	21%	30	16%	10	5%
< 150 cows	13.9	85	90%	4	4%	4	4.3%	1	1.1%	13.0	NA		61	66%	17	18%	11	12%	4	4%
150-250 cows	14.1	50	93%	3	6%	1	1.9%	0	0.0%	13.5	NA		26	49%	14	26%	8	15%	5	9%
> 250 cows	12.8	27	73%	6	16%	2	5.4%	2	5.4%	13.4	NA		17	46%	8	22%	11	30%	1	3%

OTHER A.R.M.E. EXTENSION BULLETINS

EB No	Title	Author(s)
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