

**Study of Labour Supply and Demand  
Within the PEI Agriculture Sector**

**Literature Review and Statistical Analysis**

Submitted to:  
The PEI Agriculture Sector Council

Submitted by:  
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**October 2007**

Atlantic Evaluation Group  
Inc



# Acknowledgements

This report was written for the PEI Agriculture Sector Council by Paul Chaulk and Steve McQuaid of the Atlantic Evaluation Group in partnership with Wendy MacDonald and Associates and Charley Coles under the guidance and direction of the Project Steering Committee, consisting of:

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- Samuel Ileso, Service Canada
- Robert Grandy, Service Canada (at time of project)

The support of the following agricultural groups in completing the labour market research is acknowledged and greatly appreciated:

- The PEI Federation of Agriculture
- The PEI Horticultural Association
- The PEI Hog Commodity Marketing Board
- The PEI Potato Board
- The Dairy Farmers of PEI
- The PEI Cattlemen's Association
- The PEI Blueberry Growers Association

The assistance of Vision Research, Tom MacLellan, Linda Lee, and Shannon McKenna in data collection is also gratefully acknowledged. Finally, this report would not have been possible without the cooperation of employers and workers and other industry stakeholders who provided input into the study. For additional information on this study, please contact:

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This labour market study was funded by Canada/Prince Edward Island Labour Market Development Agreement, co-managed by Service Canada and the Provincial Department of Development and Technology.

The opinions and interpretations contained in this report are those of the authors and do not necessarily reflect the views of the Government of Canada and the Government of Prince Edward Island.

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# Executive Summary

## Key Factors, Literature:

- Labour market is tightening
- Farms are declining in number, increasing in size
- Capital intensity is rising, requiring more financial expertise
- Use of technology is rising, requiring more technical skills
- Intensifying regulatory and food safety requirements require new skills

## Key Issues, Literature:

- Impending retirement bulge – leading to need for succession planning, renewal
- Continuing needs for peak season labour
- Gap between education levels of existing workforce, and rising skill demands
- Challenges in designing and delivering appropriate, accessible training to farmers and farm workers
- Constraints in recruitment due to negative perceptions of agriculture and farm work

## National Farm Trends, 2006 Census of Agriculture:

- Farms down 7.1% 2001 to 2006
- Farm operators down 5.5%
- Land in agriculture largely unchanged
- Average farm size continues to increase
- Growth in number of largest farms
- Slightly more farmers working off-farm
- Slightly fewer farmers working full-time on farm

## PEI Farm Trends, 2006 Census of Agriculture:

- Farms down 7.9%, 1,845 to 1,700
- Growth among largest and smallest farms
- Declines in all middle ranges (10K to \$1M)
- Largest drop in farms grossing \$100-250K
- By sector, decline in larger sectors, growth in smaller sectors
- Livestock farms down 14%, crops down 2%
- Declines in hogs, dairy, beef, growth in other animals
- Declines in potatoes, hay, growth in other types of crops

#### Farms Wage and Salary Trends, PEI, 2006 Census of Agriculture:

- 55% of Island farms have payroll, compared to 39% for Canada
- Island farms are almost twice as likely as average to pay wages to employees, or employees plus family, less likely to pay wages to family only
- Wages make up a larger than average share of Island farm expenditures, and have been growing faster than other expenditures
- Among farms with payroll, wage and salary expenditures increased 24% from 2001 to 2006
- Wages and salaries increased from 15% of expenditures in 2001 to 16% in 2006

#### Agricultural Labour Force Trends, 2006 Labour Force Historical Review:

- Agriculture accounts for 2% of national workforce and has declined 30% in past two decades
- From 1986 to 2006:
  - PEI's total agricultural labour force dropped 31% from 6,700 to 4,700
  - Males account for 76%
  - The largest decline occurred among workers aged 15-24, down 53%
  - Part-time employment decreased and unemployment increased
  - Employment levels in 2006 were similar month by month to 2001 but the labour force was smaller
  - Monthly unemployment rates are higher in the winter and lower in the peak seasons

#### PEI Farm Operator Trends, 2006 Census of Agriculture:

- Declined 5.9% 2001-06
- Female operators up 10%, males down 8%
- Farms with two+ operators up 4%, one operator only down 13%
- Operators under 35 down 21%, 35-54 down 13%, 55+ up 12%
- Island farmers are much more likely to work full-time on farm (57% vs. 47%)
- Over two-thirds of Island farmers work 50+ hours a week
- Educational attainment increased significantly 1991 to 2001

#### General Farm Workers:

- Large occupational group, 2,200 in 2001
- Declined 7% from 1991 to 2001
- Males down 10%, females no change
- Males 70% of total in 2001, females 30%
- Most likely to work 14-26 weeks or full-time
- From 1991 to 2001, males worked a longer season and females a shorter season
- Most likely to work 50+ hours, or 40 hours
- Males worked a longer week than females
- Farm workers younger than overall labour force but aging faster
- Male farm workers younger than females but aged over 1990s while average age of female workers dropped
- Levels of educational attainment low and showed little improvement over 1990s

#### Supervisors and Livestock Workers:

- Small occupational group and declining
- From 130 in 1991 to 105 in 2001
- Over 90% male
- Two-thirds work full-year
- Average hours per week 49 in 2001, down from 57 in 1991
- Workers under age 55 dropped 30% in 1990s, while those over age 55 doubled
- Levels of educational attainment improved over the 1990s

#### Harvest Labourers:

- Small and sharply declining group
- Down 50% in 1990s, from 345 to 185
- Women dropped 60%, men by 30%
- Decline concentrated among younger women
- Two distinct groups – younger men and middle aged women
- Average age males, 31, average age females, 46
- Decline concentrated among those working less than six months a year
- Number and share working part-time increased over the 1990s
- Educational attainment low and fell over 1990s
- By 2001, virtually all workers had less than high school completion

## 1.0 Introduction

The agricultural labour market is distinctive in that, unlike most other sectors, it is experiencing an ongoing decline in both the number of farm operators, and in the farm workforce. At the same time, the industry is continuously becoming more skilled and technology-based. This reduces labour market pressures on the industry in the short and medium term, provided that appropriate retention measures are taken to keep and train the most capable operators and workers as the workforce shrinks, and to build private sector capacity to meet specialized needs through outsourcing. However, the sector faces long-term challenges of renewal through attracting young people and career changers to become farmers or farm workers. The sector also faces other pressures related to its very high degree of seasonality, which create acute shortages of low-skilled workers in the spring and fall seasons, coupled with high unemployment in the late winter months.

The section opens with an overview of the context and environment of the study, drawing on earlier national and local reports, then discusses trends in farm operations in PEI as indicated in the recently released 2006 Census of Agriculture. The next section presents broad trends over the past two decades in the size, gender, age structure, and employment trends of the total agricultural labour force, drawing on data from the Labour Force Survey (LFS). As the LFS does not differentiate between farm operators and other categories of the farm labour force, the section then turns to the Census for its more detailed analysis. It begins with a description of farm operators, drawing on information from the 2006 Census of Agriculture and the 2001 Census. The report then sets out a detailed analysis of general farm workers and briefer analyses of the two smaller categories, supervisors and livestock workers, and harvest labourers, drawing on data from the 2001 and earlier Censuses. These profiles can be readily updated when labour market data from the 2006 Census is released in the spring of 2008. These analyses are augmented with information from the literature, skills profiles, and other sources as applicable.

## 2.0 Context and Environment

Several recent local and national studies provide valuable context for this examination of PEI's agricultural labour force. The national context is analyzed in a literature review and environmental scan of agricultural human resource issues, conducted in 2005 by the George Morris Centre for the Canadian Federation of Agriculture. Additional regional insight is provided by a 2005 study by Mount Allison's Rural and Small Towns Institute of the availability of food production workers in southeast New Brunswick. Issues related to the labour force and training needs of PEI's agricultural sector were recently explored in two major studies by Neolnsight, commissioned by the PEI Agricultural Human Resources Development Council, predecessor to the current sector council. In 2003, an environmental scan was conducted of agricultural learning and skills development opportunities in PEI, followed by a more targeted examination in 2004 of farmer and farm worker skills training needs, and information gathering related to designation of farm worker as an apprenticeable trade. Specific findings of these and other studies will be cited below where applicable; here, the broad environmental context is summarized.

The unique human resource challenges facing the agricultural sector were concisely summarized in the Mount Allison study:

"The food production sector faces many important challenges in matching its cycle of production and activity with the availability of labour to meet its needs. These challenges include, but are not limited to:

- Short, specific seasonal harvesting and processing (including limited opportunity for long-term storage of unprocessed food) requiring labour for only specific periods of time
- Adverse weather impacts on crops, harvests, species, and working conditions
- Fluctuations in supply from one year to the next which may impact labour force needs
- Difficult working conditions for production workers
- Large capital costs for equipment used in harvesting and processing
- Small profit margins on food products
- Competition from other sectors for the supply of labour
- Complex system rules governing seasonal and part-time labour activities which impact on wages and benefits and the "attractiveness" of the sector as a means of employment. <sup>1</sup>

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<sup>1</sup> Rural and Small Towns Institute, David Bruce and Gwen Zwicker. *Labour Force Issues in the Food Production Sector: Labour Force Inventory and Employers Needs in the Southeast Region*. Enterprise Southeast, October 2005. p. 1



The George Morris Centre environmental scan noted a “relatively narrow list of major human resource issues” in the literature:<sup>2</sup>

- Long-run tightening of a skilled workforce in agriculture, due to the demographics of an aging workforce
- Difficulty recruiting and retaining quality people
- Negative perceptions of careers in agriculture
- Lack of a culture oriented toward training and continuous learning
- Lack of availability of seasonal and harvest labour

The study noted the almost universal difficulty of recruiting and retaining good people in agriculture, particularly in the crops sub-sector. Factors in this difficulty include perceptions that agriculture pays relatively low wages, social safety net policies that effectively discriminate against seasonal farm work, and negative perceptions of careers in agriculture.

The study found widespread gaps in the availability of trained workers in agriculture, in several areas:

- Workers trained in basic technical skills
- Training to upgrade skills within the experienced workforce
- Business management training for both farm employees and employers

Most of the literature indicated that existing training programs are poorly targeted, with training focused on basic skills rather than skills upgrading, and training program delivery that is not well matched to needs and lifestyles. Programs could be better delivered.

Several gaps were noted in the understanding of agricultural human resource issues in Canada, requiring further research:

- The relationship between profitability in agriculture and its human resource status, critically important to making the business case for farmers to invest in training
- The impacts, advantages, and disadvantages of unionization of the agricultural workforce
- The impact of perceptions of agricultural working conditions and safety among the potential workforce
- The evolution in agriculture toward aligned supply chains and the more advanced skills in marketing and managing alliances and collaborative relationships that will be required

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<sup>2</sup> George Morris Centre, Al Mussell and Kate Stiefelmeyer. *Environmental Scan and Literature Search of Agricultural Human Resource Issues*. Canadian Federation of Agriculture, February 2005.

Government and industry efforts to address the issues identified in previous studies are characterized as follows:

- Government and third-party services which link agricultural employers with potential employees. However, these have been adopted unevenly across provinces, and appear to suffer from scarcity in funding.
- Programs that allow specific segments of Canadian agriculture to access offshore workers. The greatest use of these programs has occurred in horticulture. It is not evident that access to these programs is even across farm product types.
- Initiatives directed at the domestic workforce. These, however, have not addressed the disincentives to work seasonally imposed by the employment insurance and social safety net system.

The study described the educational programs available in Canada to new farmers or farm workers as relatively basic, particularly compared to other countries such as Australia and the U.S., and fragmented at the provincial level.

In summary, the study sees the top four major human resource challenges facing the agricultural sector as:

- Difficulty accessing seasonal and harvest workers
- Lack of trained workers, and relative lack of training resources to train agricultural workers
- Difficulty establishing an appropriate means of delivering educational and training services for farmers and farm workers
- Constraints in attracting farm workers stemming from negative perceptions of careers in agriculture, and from limits imposed by EI and the social safety net system

To address these challenges, the national report strongly endorsed the sector council approach.

Neolnsight's 2003 environmental scan<sup>3</sup> had the following objectives:

- Identify the education and training needs of PEI's agricultural community
- Catalogue the education and training opportunities available to PEI's agricultural community
- Compare needs and opportunities, highlighting gaps, barriers, and hypotheses

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<sup>3</sup> Neolnsight. *Agricultural Learning / Skills Development Opportunities for PEI*. Agricultural Human Resources Development Council, October, 2003.

The study identified six broad factors affecting the agricultural labour market:

- Farm labour and skills are in demand, driven by a range of factors including declining supply, seasonality, competition from other industries, and a cost-price squeeze
- Farms are declining in number and increasing in size
- Capital-intensive farming approaches are requiring enhanced financial and management expertise
- Use of technology on farms continues to increase, reducing labour demand
- Increasing regulatory and food safety requirements require new skills, knowledge, and attitudes
- There is a gap between education levels and skills required, even among younger farmers

Arising from its analysis of labour market factors, the Neolnsight study noted the following labour market issues for PEI:

- Nationally, 70% of farm assets are expected to be transferred in the next 15 years. Aging farmers need to make succession plans
- Farmers have a continuing need for seasonal labour
- Farmers need to manage their employees' time to enable them to take part in educational activities
- Many core skills are needed by both farmers and farm workers, differing only in degree or level
- Farmers need employees with a broad range of generalist skills
- Farmers themselves need more specialized, advanced skills, both for their farm role and for off-farm work of some

Based on its assessment of available programs, the study noted, "The PEI farm community has essentially no access to formal career training on the Island ... It would appear that more distance education, flexible schedules, or on-the-job training closer to home could all benefit PEI future farmers and farm workers."<sup>4</sup>

The study concluded that farmers would need two separate strands to a skills development program: subsidized, basic training for farm workers in the off season, and a more diverse investment-based program of advanced skills training using a mix of delivery methods.

This conclusion was further explored in Neolnsight's follow-up Farm Learning Study and Designation Survey in 2004. The study examined the skills needed by farmers and farm workers, how best to address these needs, how farmers justify training of workers, the level of support for an apprenticeship program, the perceived benefits and barriers to a successful apprenticeship program, and how farmers and workers envisage such

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<sup>4</sup> Neolnsight 2003, pp. 34-35

training or apprenticeship programs working. This study provided guidance to the subsequent design of major agricultural human resource programs, including the Future Farmers Program, and the Farm Technician Apprenticeship Program currently being designed.

## 3.0 Trends in Farm Operations

The 2006 Census of Agriculture provides valuable data on trends for farm operations, relevant to the agricultural labour market.<sup>5</sup> The following analysis first provides a brief national context, and then sets out a more detailed PEI analysis of trends in farm numbers by size, sub-sector distribution, and wage and salary expenditures.

A Census farm is defined by Statistics Canada in 2006 as “an agricultural operation that produces at least one of the following products intended for sale: crops (hay, field crops, tree fruits or nuts, berries or grapes, vegetables, seed); livestock (cattle, pigs, sheep, horses, game animals, other livestock); poultry (hens, chickens, turkeys, chicks, game birds, other poultry); animal products (milk or cream, eggs, wool, furs, meat); or other agricultural products (Christmas trees, greenhouse or nursery products, mushrooms, sod, honey, maple syrup products).”

### 3.1 National Trends

According to the 2006 Census of Agriculture, the number of farms and of farm operators is continuing its long-term decline that began in 1941. Across Canada, the number of farms dropped by 7.1% from 2001 to 2006, a smaller drop than the 10.7% for the previous five-year period from 1996 to 2001. The number of farm operators dropped by 5.5%. However, land in agriculture remained virtually unchanged, and the average size of farms continued to increase. Farms with receipts over \$1 million increased in number by 25%, upping their share from 1.8% to 2.6% of all farms and from 35% to 40% of receipts. A further 14.4% of farms had receipts from \$250,000 to \$1 million. From 2000 to 2005, farm receipts increased by 8.8% while operating expenses went up 0.7%, both in 2005 constant dollars. While input prices increased more rapidly than prices of farm products, farmers were able to maintain a balance between receipts and costs through increased efficiency, higher program payments, and expanded production.

Across Canada, the number of farm operators dropped by 5.5%. The number of female operators dropped more slowly than that of men, and accordingly their share of the total increased slightly from 26% to 28%. More farmers are working off the farm – 48% in 2006, compared to 45% in 2001. More than 20% of farmers reported working more than 40 hours a week off their farm, up from 18% in 2001. Slightly fewer farmers are working full-time on their farm, 47% in 2006 compared to 48% in 2001.

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<sup>5</sup> Census of Agriculture data are contained on the Statistics Canada website at <http://www.statcan.ca/english/freepub/95-629-XIE/95-629-XIE2007000.htm>

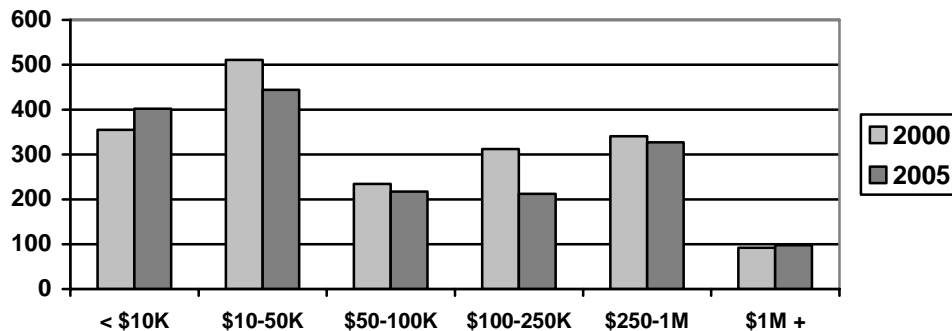
## 3.2 PEI Trends

### 3.2.1 Trends by Farm Receipts

In PEI, the number of farms dropped slightly more than the 7.1% national average, from 1,845 to 1,700, down 7.9%. This drop concealed a pattern of growth in the largest and smallest farms and of decline in the mid-range, as shown in Chart 1 below:

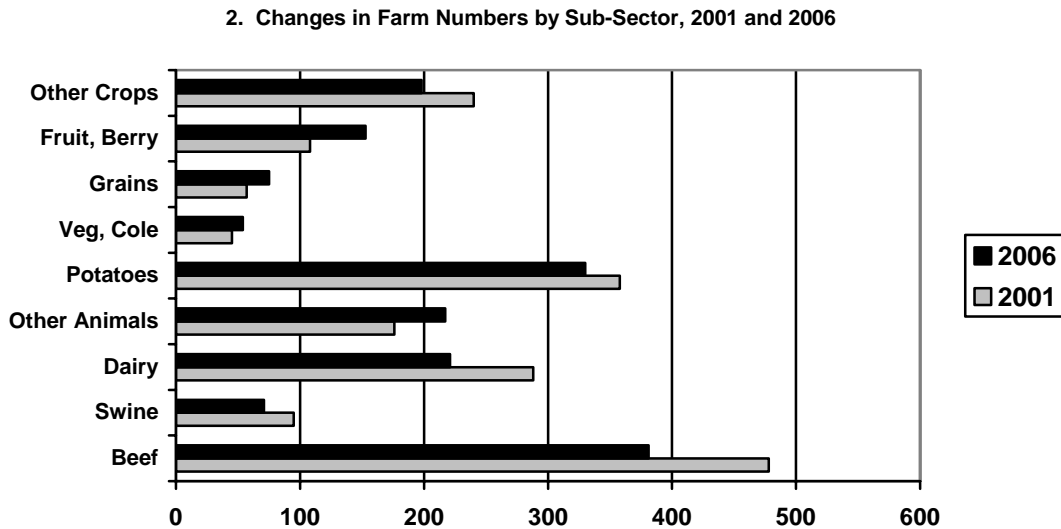
- The number of farms with receipts over \$1 million increased by 6.5%, from 92 farms to 98, a much smaller rate of increase than the national average. However, PEI's proportion of farms with receipts over \$1 million in 2005 was more than double the national average, at 5.8% compared to 2.6%.
- PEI's number of farms with receipts between \$250,000 and \$1 million declined 4%, from 341 to 327. This category's share, however, remained a third higher than the national average, at 19.2% compared to 14.4% for Canada.
- At the other end of the scale, the number of farms with receipts under \$10,000 also increased 13%, from 355 to 402, going from 19% of all farms to 24%.
- Farms with receipts in the \$10-50,000 range remained the largest single group, but dropped 13%, from 511 to 444. Farms in the \$50-100,000 range dropped 7% from 234 to 217.
- The largest drop in both share and number occurred among the farms in the \$100,000 to \$250,000 range, which fell by 32% from 312 to 212, taking their share of the total from 17% to 12%.

1. PEI Farms by Receipts, 2000 and 2005



### 3.2.2 Sub-Sector Trends

The change in farm numbers was spread unevenly across sub-sectors. Generally, as shown in Chart 2 below, the larger sub-sectors declined and the smaller sub-sectors increased, indicating a more diversified agricultural sector. The livestock sector dropped much more sharply than the crops sector. It fell 14.2%, from 1,037 farms to 890, compared to a 2.1% decline for the crops sector, from 751 farms to 735.



The largest decline, proportionately, took place in the small but high-value hog sector, which dropped 25% from 95 farms to 71. Dairy farms fell by 67 farms or 23% and beef farms by 97 farms or 20%. On the other hand, the equine sector almost doubled, going from 50 farms to 92, reflecting the revitalization of the harness racing industry in the province. The poultry sector also increased 16%, from 25 farms to 29. As a result, the “Other livestock” sub-sector saw a net increase of 23%. Taking these trends together, the livestock sub-sector saw an overall decline of 14.2%, from 1,037 farms to 890.

In the crops sector, fruit and berry farms saw the biggest jump in both number and growth rate, going up 42% from 108 farms to 153. Grains also grew by 32% from 57 to 75 farms, while vegetables other than potatoes increased by 20% from 45 to 54 farms. Potato farms dropped by 8%, from 358 farms to 330, and the “other crop” sector declined by 18%, from 240 farms to 198, mostly due to a drop in the number of hay farms.

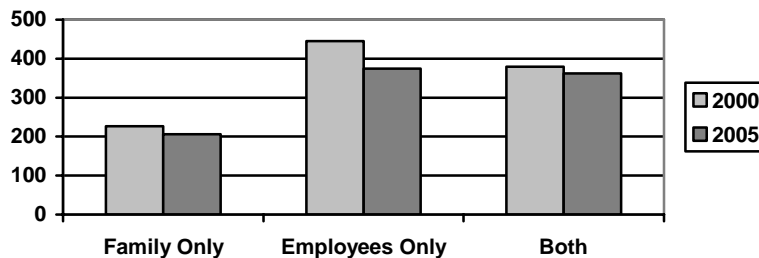
### 3.2.3 Trends in Number and Share of Farm Employers

Over half of Island farms – 55% or 942 farms -- reported operating expenditures for salaries and wages in 2005. This was a 10% drop from 1,051 farms in 2000 or 57% of farms. Included within this number were 568 farms paying a salary to family members, and 736 farms paying a salary to employees. Compared to 2000, the number of farms paying salary to family dropped 6%, from 606 to 568, resulting in an increased share

from 32.8% to 33.4%. The number of farms paying salary to employees dropped 11%, from 824 to 736, and dropped in share from 44.7% to 43.3%.

Within these categories, it is helpful to distinguish the distribution of these totals among farms which pay a salary to family members only, those which pay a salary to employees, and those which employ both. These categories (based on an arithmetic calculation as they are not identified separately in Census data) are shown in Chart 3.

3. Farms Reporting Wages and Salaries, 2005 and 2006

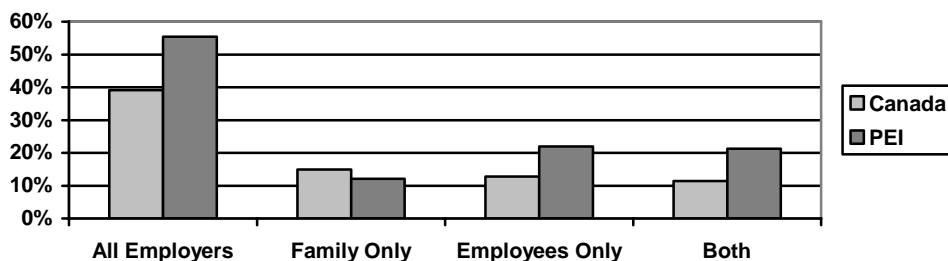


As indicated in the chart:

- The number of farms paying a salary only to family members declined 9% from 227 to 206, resulting in a very small drop in share from 12.3% to 12.1%.
- The number of farms paying a salary only to employees saw the largest drop, of 16%, going from 445 to 374, and from 24% to 22% of all farms.
- The number of farms paying a salary both to family members and to employees dropped 4% from 379 to 362, but increased slightly in share from 20.5% of all farms to 21.3%.

Compared to the national average, Island farms are more likely to be employers, at 55% in 2005 compared to 39% for Canada. Within this context, Island farms are less likely to pay a salary only to family members, but are almost twice as likely to pay a salary to employees only, or to both family members and employees. Comparisons are shown in Chart 4.

4. Proportion of Farms with Payroll, Canada and PEI, 2005





### **3.2.4 Trends in Wage and Salary Expenditures**

With regard to operating expenses, wages and salaries make up a larger than average share of Island farm expenditures, as might be expected from the high proportion of employers with payroll. Wage and salary costs have been increasing faster than average.

- From 2000 to 2005, total farm operating expenditures in PEI increased by 3.2% from \$338 million to \$349 million. Given the decline in the number of farms, operating expenditure per farm saw a bigger jump of 12.2%, from \$183K to \$205K.
- Wages and salaries grew 10.8%, from \$49.1 million to \$54.3 million, going from 14.5% of total expenditures to 15.6%.
- Total payroll for family members increased most strongly, up 15.5% from \$17.4 to \$20.1 million, while payroll to employees increased at a slower pace, up 8.2% from \$31.7 to \$34.3 million.
- Payroll for family members increased from 5.2% of all farm expenditures to 5.8%, while payroll to all other persons increased from 9.4% to 9.8% of expenditures.
- Among farms with wage and salary expenditures, average payroll increased 23.6% from 2000 to 2005, from \$46,705 to \$57,742.
- Average payroll to family members was lower per participating farm than payroll to employees, but grew slightly more quickly over the period:
  - Average payroll per farm for family members increased by 23% from \$28,698 to \$35,381.
  - Average payroll per farm for employees increased by 21% from \$38,465 to \$46,599.

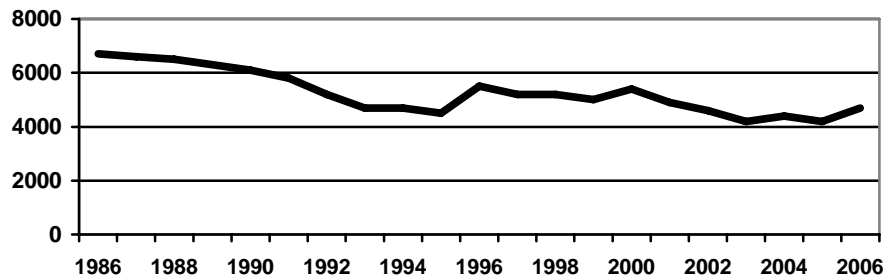
## 4.0 Overview of Agricultural Labour Force Trends

Across Canada, the agricultural labour force is experiencing a continuing decline. According to Statistics Canada:<sup>6</sup>

- In 2003, agriculture accounted for just over 2% of the Canadian labour force, the third smallest industry sector.
- Agriculture was one of only two sectors to see an employment decline from 1987 to 2003. The natural resources workforce dropped about 2% while the agriculture workforce dropped about 30%.

Consistent with this national picture, historical data from the Labour Force Survey for the period 1986 to 2006 indicate that over the long-term, the agricultural labour force has trended downward in PEI.<sup>7</sup> Most recently, in 2006, the labour force saw an increase of 14% from the previous year, up 600 workers from 4,100 to 4,700. This increase may be in part a fluctuation similar to those of earlier years, or it may indicate a shift towards greater labour intensity in the sector. Long-term trends are shown in Chart 5 below.

5. Average Annual Agricultural Labour Force, 1986 - 2006



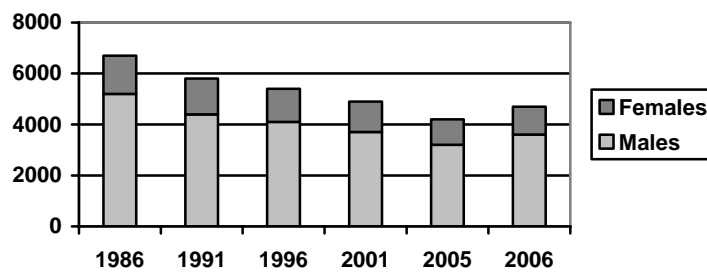
<sup>6</sup> Statistics Canada, Labour Statistics Division, *The Canadian Labour Market at a Glance 2003*. Catalogue no. 71-222-XIE, 2004, pp. 37-38.

<sup>7</sup> The data in this section are taken from "Labour Force Estimates by Detailed Industry," Tables 5-annual and 5-monthly, CD-1 of the Labour Force Historical Review 2006, Cat. # 71F0004XCB.

## 4.1 Total Size and Gender Trends

For PEI's agriculture industry, the total labour force (annual average) dropped over one-third (37%) in two decades, from 6,700 in 1986 to 4,200 in 2005, before recovering in 2006 to 4,700. Males make up the majority of the agricultural labour force; however, their share declined slightly from 78% in 1986 to 77% in 2006. In 1986, males accounted for 5,200 workers and 78% of the agricultural labour force, while women accounted for 1,500 workers or 22%. Between 1986 and 2006, males dropped in number somewhat more rapidly than women, falling by 31% to 3,600 in 2006. Women dropped from 1,500 to 1,100 over the same period, down 27%. These trends are shown in Chart 6.

6. Average Annual Labour Force by Gender, 1986-2006



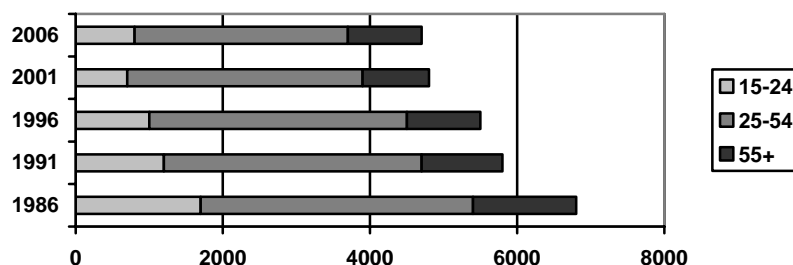
## 4.2 Age Trends

As in all sectors, the labour force has been aging, with the sharpest drop taking place among young workers, age 15-24:

- From 1986 to 2006, the age group 15-24 dropped 53%, from 1,700 to 800, falling from one-quarter to one-sixth of the agriculture labour force.
- The age group 25-54 dropped 22%, from 3,700 to 2,900, but its share increased, going from 54% to 62% of the agriculture labour force.
- The age group 55-plus dropped 29%, from 1,400 workers to 1,000, very slightly increasing its share of the agriculture labour force from just under 21% to just over 21%.

These trends are shown in Chart 7 below.

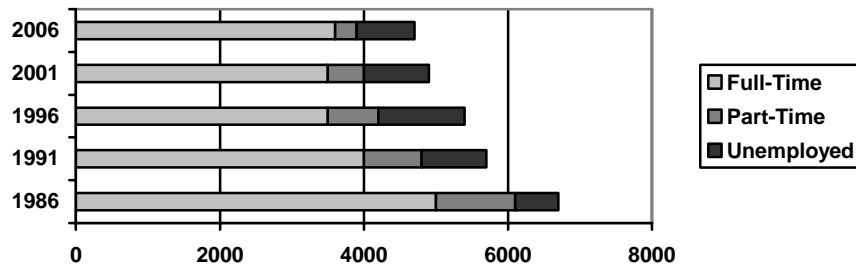
7. Average Annual Labour Force by Age Group, 1986-2005



### 4.3 Full-Time, Part-Time and Unemployment Trends

Employment patterns of the agriculture labour force shifted over the two decades. Part-time employment dropped sharply by almost two-thirds from 1,100 workers in 1986 to 300 in 2006, declining from 16% of the labour force to 6%. Full-time employment dropped more slowly, declining by 38% from 5,000 workers in 1986 to 3,100 in 2005 and then increasing to 3,600 in 2006, or 77% of the agricultural labour force. Unemployment doubled in the decade from 1986 to 1996, going from 600 workers or 9% to a peak of 1,200 workers or 22% of the agriculture labour force in 1996 before dropping to its 2006 level of 800 workers or 17%. Those trends are shown in Chart 8.

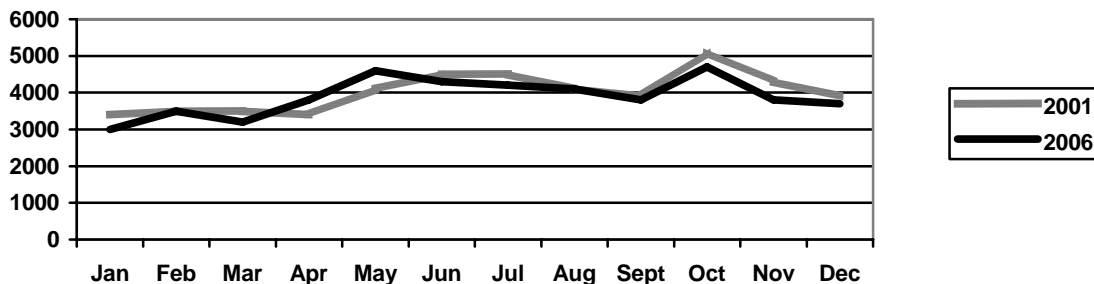
8. Annual Labour Force by Employment Status, 1986 - 2006



### 4.4 Seasonality Trends

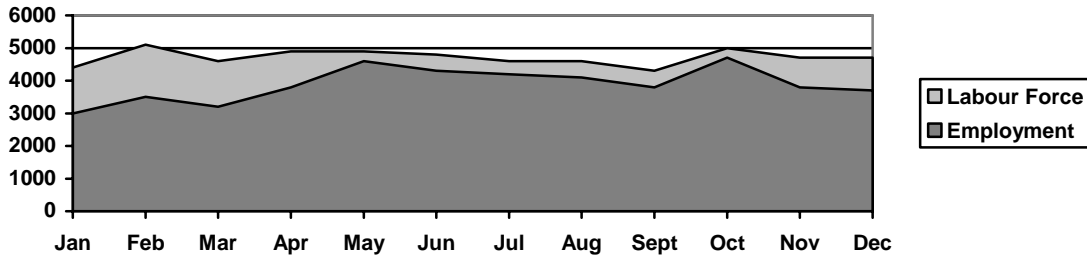
A comparison of employment levels by month in 2001 and 2006 indicates relatively little change. Employment in 2006 was somewhat higher in April and May and slightly lower in October and November than five years earlier. Employment levels during the spring planting and fall harvest seasons have declined only slightly. These patterns are shown in Chart 9.

9. Employment by Month, 2001 and 2006



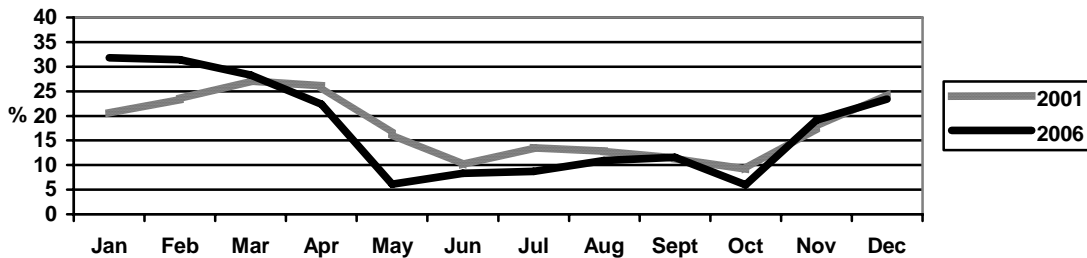
The agriculture labour force was fairly stable over the twelve months of 2006, resulting in high unemployment in the winter months, as shown in Chart 10.

10. Labour Force and Employment by Month, 2006



A comparison of 2001 to 2006, Chart 11, indicates that monthly unemployment rates became more volatile over that time. Rates in 2001 ranged from a high of 27% in March to a low of 9% in October, while in 2006, rates peaked in January at over 31% and bottomed out at 6% in May and again in October. However, this represented an easing of labour market supply from 2005, when unemployment rates had hit highs of 36% in February and lows of 4% in June and October, and 2003, when the unemployment rate in October was zero.

11. Monthly Unemployment Rates 2001 and 2006



## 5.0 Profiles of Agricultural Occupations

### 5.1 Farm Operators

The 2006 Census of Agriculture provides valuable insights into some major trends in the demographic profile of farm operators and their patterns of farm ownership and on- and off-farm work. Those trends are discussed in Sections 5.1.1 to 5.1.4 below. Additional data on other characteristics is available from the 2001 Census. Those are discussed in sections 5.1.5 to 5.1.8. Updated information on those characteristics from the 2006 Census will be released over the coming year and can be used to update sections 5.1.5 to 5.1.8.

Since 1991, Statistics Canada has defined ‘farm operators’ as “those persons responsible for the day-to-day management decisions made in the operation of a Census farm or agricultural operation. Up to three farm operators could be reported per farm. Prior to the 1991 Census of Agriculture, the farm operator referred to only one person responsible for the day-to-day decisions made in running an agricultural operation.”<sup>8</sup>

Neolnsight’s Farm Learning Study 2004 identified the following priorities of Island farmers for skill development:<sup>9</sup>

“Farmers named areas they would like to know more about, or get better at doing. Over one-third of responses involved business skills. Other skills mentioned were evenly divided between mechanical skills and production skills. Human resource management skills were brought up frequently. Farmers were quick to identify mechanical skills they need – mostly in welding and basic mechanics, but also electrical, plumbing, and carpentry. Production skills mentioned by farmers included vaccinations, animal health, feed ration evaluation, “cost of production”, “field knowledge”, and different crops. Two-thirds of farmers do not plan to take five days of formal training in the next year... Farmers preferred to gain their training through a mix of classroom, hands-on, and informal learning, depending on the topic at hand.”

#### **5.1.1 Number of Farm Operators by County**

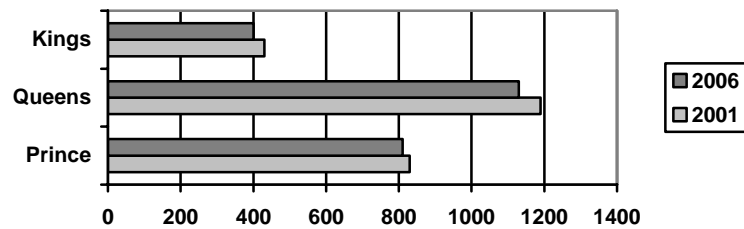
Between 2001 and 2006, the number of farm operators in PEI declined by 5.9%, down 145 operators, from 2,455 to 2,310. This rate of decline was slightly higher than the national average decline of 5.5% between 2001 and 2006. As indicated in Chart 12, the decline was somewhat unevenly spread across counties, with Kings seeing a 7% drop, Queens a 5% drop, and Prince a 2.4% drop.

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<sup>8</sup> From Statistics Canada, <http://www.statcan.ca/english/freepub/95-629-XIE/2007000/terms.htm>

<sup>9</sup> Neolnsight, Mike Atyeo, Scott Smith, Gord Hopkins. *PEI Farm Learning Study and Designation Survey*. Agricultural Human Resources Development Council, May 2004, pp. 1-2.

12. Number of Farm Operators by County, 2001 and 2006



### 5.1.2 Trends in Gender and Number of Operators

This overall decline masked a net increase of 9.6% in female operators from 365 to 400, more than offset by an 8.1% decrease in the number of male operators from 2,100 to 1,930. As a result, female operators increased their share of the total from 15% to 17%. This increase, however, still leaves Island women at a lower share than the national average, of 26% in 2001 and 28% in 2006.

As well, the overall decline also masked a 4.3% increase in the number of farms with two or more operators from 1,160 to 1,210, more than offset by a 12.7% decrease in the number of farms with only one operator, from 1,295 to 1,130. As a result, farms with two or more operators moved into the majority, from 47% in 2001 to 52% in 2006. This trend also brought PEI closer to although still below the national average re the share of farms with two or more operators, 56% in 2001 and 58% in 2006.

With regard to gender trends by number of operators, the only sub-category to see an increase was female operators in farms with two or more operators. All other categories declined, as shown in Table 1 below. In part, these trends may reflect a choice by some existing operations to shift their reporting from one operator in 2001 to two operators in 2006, indicating a greater involvement of the female partner in the farm operation.

<b>Table 1: Gender Trends by Number of Operators, 2001 and 2006</b>				
	<b>2001</b>	<b>2006</b>	<b># Change</b>	<b>% Change</b>
<i>Farms with One Operator</i>				
<b>Males</b>	1,230	1,080	- 150	- 12.2%
Female	70	55	- 15	- 21.4%
<i>Total</i>	<i>1,300</i>	<i>1,135</i>	<i>- 165</i>	<i>- 12.7%</i>
<i>Farms with Two or More Operators</i>				
Males	865	860	- 5	- 0.6%
Female	295	340	45	15.3%
<i>Total</i>	<i>1,160</i>	<i>1,200</i>	<i>40</i>	<i>3.4%</i>
<i>All Farms</i>				
Males	2,100	1,930	- 170	- 8.1%
Female	365	400	35	9.6%
<i>Total</i>	<i>2,465</i>	<i>2,330</i>	<i>- 135</i>	<i>-5.5%</i>

### **5.1.3 Age Trends**

Like all sectors of society, farm operators are aging, reflecting the movement of the leading edge of the baby boomers into their retirement years:

- Between 2001 and 2006, operators under age 35 dropped 21% from 265 to 210, falling from 11% of the total to 9%
- The number of operators aged 35 to 54 also declined 13%, from 1,390 to 1,205, dropping their share from 57% to 52%
- The number of operators aged 55 and over, meanwhile increased by 12% from 805 to 910, increasing their share of all farm operators from 33% to 39%

These age distributions and trends are fairly similar to although slightly less severe than national trends. Nationally, the number of operators under age 35 dropped 25% to make up 9% of the total, like PEI; the number aged 35 to 54 dropped 12% to 50% of the total; and the number aged 55 and over increased by 10% to 41% of the total.

With regard to age distribution by number of operators, the largest decline occurred among farm operators aged 35 to 54 on farms with only one operator, down 22% from 715 to 555. The largest increase occurred among farm operators aged 55 and over on farms with two or more operators, who increased by 31% from 305 to 410. Trends by age and operating category are detailed in Table 2 below. Reference to gender data



indicates that female farm operators, while younger than males, are aging slightly more rapidly. From 2001 to 2006, the average age of female operators increased from 46 to 50, while the average age of male operators increased from 49 to 51.

<b>Table 2: Patterns and Trends in Age by Number of Operators, 2001 and 2006</b>				
	<b>2001</b>	<b>2006</b>	<b># Change</b>	<b>% Change</b>
<b><i>Farms with One Operator</i></b>				
Under 35	90	75	- 15	- 16.6%
Age 35-54	715	555	- 160	- 22.4%
Age 55 plus	495	505	+ 10	+ 2%
<i>Total</i>	<i>1,295</i>	<i>1,130</i>	<i>- 165</i>	<i>- 12.7%</i>
<b><i>Farms with Two or More Operators</i></b>				
Under 35	175	140	- 35	- 20%
Age 35-54	675	655	- 20	- 3%
Age 55 plus	305	410	+ 95	+ 31.1%
<i>Total</i>	<i>1,160</i>	<i>1,210</i>	<i>+ 50</i>	<i>+ 4.3%</i>
<b><i>All Farms</i></b>				
Under 35	265	210	- 55	- 20.8%
Age 35-54	1,390	1,205	- 185	- 13.3%
Age 55 plus	805	910	+ 95	+ 11.8%
<i>Total</i>	<i>2,465</i>	<i>2,330</i>	<i>- 135</i>	<i>- 5.5%</i>

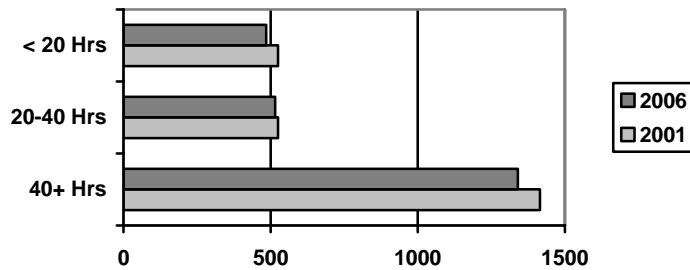
#### **5.1.4 Residency and On-Farm/Off-Farm Work Patterns and Trends**

The vast majority of Island farm operators live on their farms – over 88% or 2,060 in 2006, up slightly in share from 87% in 2001. The number of Island farm operators not living on their farms dropped by 16% over this period, from 320 to 270, while the number living on-farm saw a smaller rate of decrease at 4%, from 2,140 to 2,060. These patterns and trends are very similar to national averages.

As indicated in Chart 13 below, over half of Island farm operators, 57%, worked full-time, 40 hours a week or more, on their farm operations in 2006, a proportion almost identical to 2001. The proportion working on-farm 20 to 40 hours a week increased slightly from 21% to 22%, while the proportion working less than 20 hours a week fell slightly from

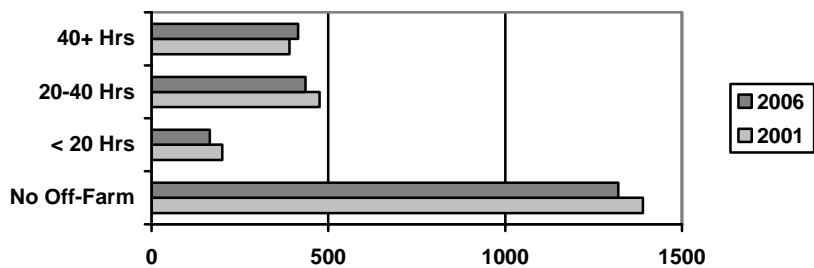
just over 21% to just under 21%. Island farmers are significantly more likely than average to work full-time on their farm operations. Nationally, only 47% of farm operators work 40-plus hours a week on their farms, 26% work 20 to 40 hours a week, and 27% work less than 20 hours a week.

13. Hours per Week Worked On-Farm, 2001 and 2006



As might be expected, the proportion of Island farm operators working only on their farms is very similar to the proportion working over 40 hours a week on the farm, at 57% in both 2001 and 2006. However, among those farm operators also working off-farm, the tendency to work part-time decreased slightly from over 27% to less than 26%, and the tendency to work full-time increased slightly, from 16% to 18%. These patterns are shown in Chart 14 below.

14. Hours per Week Worked Off-Farm, 2001 and 2006



Nationally, farmers are somewhat more likely to work off farm, as might be expected given the lower share of full-time farmers. Across Canada, 28% of farmers work off-farm part-time, and 20% work off-farm full-time.

The foregoing analysis has drawn on information from the 2006 Census of Agriculture, released in May 2006. The remainder of this report uses information from the 2001 Census, to describe attributes for which updated data from the 2006 Census have not yet been released. The analysis that follows provides additional demographic information on farm operators and workers drawn from a detailed table of Census

information by NOC (National Occupational Code) for Farmers and Farm Managers.<sup>10</sup> It should be noted that these data identify a smaller number of operators in 2001 than does the 2006 Census of Agriculture noted above, as it is based on individuals self-identifying as farm operators on the main Census form. The total number of respondents also varies from one question to another. While not fully comparable to the Census of Agriculture, the data from the main Census do provide useful baseline and trend information on some important variables, which can be updated when the 2006 Census information on paid work is released.

### **5.1.5 Annual Weeks and Weekly Hours Worked**

**Weeks Worked** Almost 78% of Island farm operators worked full-time full-year in 2001, down slightly from 82% in 1991. A further 7% worked part-time full-year in 2001, up from 5% in 1991. The distribution of weeks worked in 2001 is shown in Table 3.

<b>Table 3. Distribution of Weeks Worked, 2001</b>						
	<i>0-13 Weeks</i>	<i>14-26 Weeks</i>	<i>27-39 Weeks</i>	<i>40-48 Weeks</i>	<i>49-52 Weeks</i>	<i>Total</i>
<i>Full-Time</i>	20	95	45	45	1,610	1,815
<i>Part-Time</i>	10	25	20	25	145	225
<i>Total</i>	30	120	60	70	1,765	2,040

**Hours Worked per Week** Island farm operators reported working long hours, with over two-thirds working 50 or more hours per week in 2001. Among male operators, average hours worked per week declined from 61.5 hours in 1991 to 58.1 hours in 2001. Among female farm operators, hours worked increased from 38.1 in 1991 to 45.2 in 2001. Distribution of hours worked in 2001 by gender is shown in Table 4.

<sup>10</sup><http://www12.statcan.ca/english/census01/products/standard/themes/RetrieveProductTable.cfm?Temporal=2001&PID=60932&APATH=3&GID=517770&METH=1&PTYPE=55496&THEME=46&FOCUS=0&AID=0&PLACENAME=0&PROVINCE=0&SEARCH=0&GC=0&GK=0&VID=0&VNAMEE=&VNAMEF=&FL=0&RL=0&FREE=0>

<b>Table 4. Distribution of Hours Per Week by Gender, 2001</b>							
	<i>1-19 Hours</i>	<i>20-29 Hours</i>	<i>30-39 Hours</i>	<i>40 Hours</i>	<i>41-49 Hours</i>	<i>50 + Hours</i>	<i>Total</i>
<i>Males</i>	40	45	40	245	75	1,200	1,645
<i>Females</i>	40	15	15	100	0	95	265
<i>Total</i>	80	60	55	345	75	1,295	1,910

### **5.1.6 Mobility, Migration, and Immigration**

Not surprisingly, the vast majority of farm operators, 86%, were non-movers in the five years preceding the 2001 Census. Of the remaining 14%, 115 or 5.7% had moved within their county; 2.7% had moved from another PEI county; 2.7% had moved to PEI from another province; and 1.7% had moved from another country.

In 2001, 8.5% of Island farm operators or 180 respondents reported that they were of immigrant origin. Almost half those individuals had entered Canada more than 20 years ago, with the balance fairly evenly spread across more recent Census periods. Similarly, 8.8% reported a non-official mother tongue. None identified visible minority status.

### **5.1.7 Education Trends**

*Educational Attainment* Educational levels of farm operators improved significantly from 1991 to 2001. The proportion with less than high school dropped sharply from 57% to 41%. The share with a high school diploma or uncompleted post-secondary declined slightly from 21% to less than 20%, while the share with a post-secondary credential increased strongly from 26% to 40%. The detailed distribution is shown in Table 5.

<b>Table 5: Trends in Educational Attainment, 1991-2001</b>				
	<b>1991</b>		<b>2001</b>	
	<i>#</i>	<i>%</i>	<i>#</i>	<i>%</i>
Less than high school	1,150	57.4%	820	40.9%
High school diploma	265	13.2%	260	13%
Some post-secondary	155	7.7%	130	6.5%
Trades certificate	185	9.2%	285	14.2%
College diploma	130	6.5%	250	12.5%
University certificate	0	0	55	2.7%
Bachelors degree	90	4.5%	170	8.5%
Graduate degree	20	1.0%	40	2%
<b>Total</b>	<b>2,005</b>	<b>100%</b>	<b>2,005</b>	<b>100%</b>

*Field of Study* Among the 810 farm operators who reported post-secondary qualifications in 2001, over one-third, 275 individuals or 34%, had a credential in applied science technologies and trades. A further 245 or 30% held a credential in agricultural, biological, nutritional, and food sciences, while 80 or 10% had a credential in business, commerce, or administration. The remaining 210 or 26% were spread across various other fields of study.

In 1991, the proportion of males and females reporting post-secondary credentials was almost identical, at 21%. However, by 2001, the share of female farm operators with post-secondary qualifications had increased to 48%, compared to 39% for males. During that decade, the number of women with post-secondary qualifications almost tripled, from 50 to 145, while the number of males with post-secondary qualifications increased by 280 or 75%. However, males were more than twice as likely as females to hold credentials in the three agriculturally-relevant fields cited above, at 82% compared to 38%.

### **5.1.8 Income**

Over 90% of farm operators reported that they received income during 2000. Income averaged \$27,786, with females receiving a higher income (\$36,453) than males (\$26,450)

## 5.2 General Farm Workers

### 5.2.1 Overview

The General Farm Worker occupation, NOC 8341, although declining in number, remains one of PEI's larger occupational groupings, with over 2,000 Islanders reporting this occupation in the 2001 Census. A thorough description of this occupation is contained on the Job Futures website. General farm workers are employed on crop, livestock, fruit, vegetable and specialty farms, and carry out tasks including:

- Planting, fertilizing, cultivating, spraying, irrigating and harvesting crops;
- Feeding and tending livestock and poultry;
- Cleaning stables, barns, barnyards and pens;
- Transporting livestock;
- Operating and maintaining farm machinery and equipment;
- Detecting disease and health problems in crops, livestock and poultry; and
- Preparing produce for market.

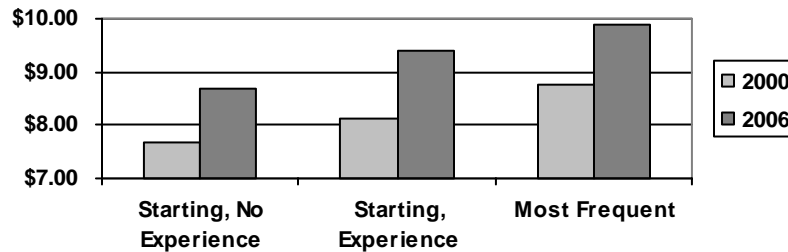
An earlier profile on Job Futures described the employment outlook for this occupation in PEI as "limited," due to the trend toward fewer and larger farms, which use technologically advanced equipment and machinery, reducing the dependence on manual labour in the farming industry. The shift in the potato sub-sector away from table and seed potatoes towards less labour intensive processing feedstock market was also noted as a factor. As well, the occupational group is relatively large and includes a number of experienced workers who return to the same employer each season. However, despite these factors, the current profile<sup>11</sup> has upgraded the outlook to "good," due to the decline in supply of workers in recent years. In particular, it is noted that employers have difficulty recruiting enough workers in September and October. For longer-season jobs, openings due to retirements are expected to be limited, but some replacement openings may occur as current workers exit the industry.

Wages are rising for this occupational group. Chart 15, below, shows trends in wages from 2000 to 2006, based on data from the *2000 Wage Survey* reported in the earlier Job Futures profile, and new data from the *2006 Wage Survey*.

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<sup>11</sup> <http://www.pei.jobfutures.org/profiles/profile.cfm?noc=8431&lang=en&site=graphic>

15. General Farm Worker Wages, 2000 and 2006



To this point, no specific education or training has been required in order to become a general farm worker. Basic farm knowledge, usually obtained from working on a family farm, may be required for employment. Some employers may require more specialized training, such as farm equipment mechanics, agricultural welding, and pesticide use and applications. Such training is available through college programs, short courses offered by the Agricultural Human Resources Sector Council, or government agencies. Many employers also seek out workers with a Class 3 truck driver license. General farm workers have traditionally been able to progress to farm supervisors or specialized livestock workers, such as dairy or cattle herdsman, (NOC 8253) through experience.

However, Job Futures notes, skill and knowledge requirements are rising due to increased use of technology, the use of new production techniques, the challenge in marketing and land stewardship, and the need to add value and improve the quality of farm products.

In Neolnsight's Farm Learning Study 2004, farmers identified the following priorities for their workers:<sup>12</sup>

"Farmers rated safety the most important skill needed in farm workers. The important skills they told us they need in workers are essential skills and basic skills. Half of the top six skills were essential skills: communicating, motivating, getting along, and initiative. Basic skills like safety, operating equipment, and maintenance rated more highly than specialties like breeding, crop inspection, soil quality, transactions, and marketing. In open discussion about worker skills, production skills were mentioned most often. Farmers brought up eighteen skills related to production. Two-thirds of these mentions were skills related to livestock. These skills included: milking, feeding, breeding, and husbandry. Other skills mentioned that relate to production included: food safety, quality, grading potatoes, and product integrity. Farmers told us workers need to have basic mechanical skills, understand how to work safely, care for animals, know how to operate equipment or have a truck or pesticide license, and be responsible, trustworthy, and willing to work."

<sup>12</sup> Neolnsight, Mike Atyeo, Scott Smith, Gord Hopkins. *PEI Farm Learning Study and Designation Survey*. Agricultural Human Resources Development Council, May 2004, p. 2

The study found that farmers varied in their preference for their workers to have prior training versus being trained on the job for its specific requirements. As well, they noted that training needs varied by age and experience. The report suggests that farm workers can be segmented into several groups for more targeted training – seasonal, part-time, junior, and senior. These roughly correspond to this study's groupings of harvest labourers, general farm workers, and supervisors and specialized livestock workers. The study further noted that there is mobility between these groups, with the most promising workers moving from seasonal work to general farm worker jobs, and on to supervisory and specialized jobs. It recommends that training be designed to work with these mobility patterns.

During the past several years, in response to the needs outlined above, work has been underway to develop an apprentice training program for farm workers. Key milestones in this process include the following:

- 2003: The PEI Agricultural Human Resources Development Council and the provincial agriculture department began investigating the possible development of an agriculture apprenticeship program for farm workers.
- 2003: Following surveys of the industry, an application to designate farm worker as a trade was submitted to the Provincial Apprenticeship Board.
- 2004: The PEI Agricultural Human Resources Development Council conducted further surveys and focus groups with agricultural employers, employees and future farmers and received significant support for the designation of farm worker as a trade.
- May 2005: The Minister of Education endorsed the Provincial Apprenticeship Board's recommendation and designated Farm Technician as an apprenticeable trade.
- December 2005: A Farm Technician Trade Advisory Committee of agricultural employers and employees representing various commodities, began meeting to outline the skill requirements for the Farm Technician Apprenticeship Program.
- May 2006: The Farm Technician DACUM Chart, developed by the Farm Technician Trade Advisory Committee, was presented to the Provincial Apprenticeship Board. Approval was given to present the DACUM Chart to an educational institution for development of the program.
- Summer 2006: The Agriculture Sector Council released an RFP seeking proposals from an educational institutions to develop and deliver the Farm Technician Apprenticeship Program

This innovative initiative is of interest to other jurisdictions across Canada.



## 5.2.2 Labour Market and Demographic Profile

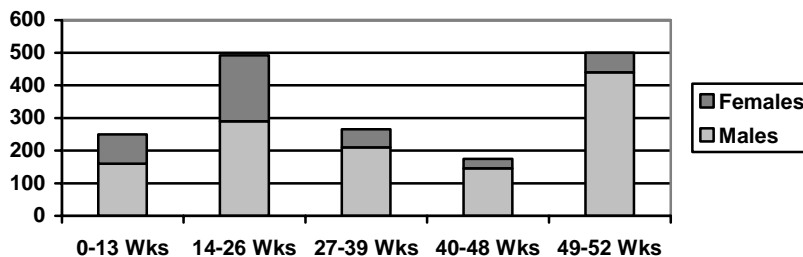
The analysis of general farm workers is based on the 2001 Census data on occupations noted above, for NOC 1021, General Farm Workers. (This corresponds very closely to NOC 8341; use of the older classification enables comparisons to 1991 data.)

*Total by Gender* The total number of Islanders reporting their occupation as general farm worker declined 7% from 2,375 in 1991 to 2,200 in 2001. However, this decline was concentrated among males, who dropped over 10% from 1,725 to 1,545, reducing their share of the total from 72% to 70%. Females held almost steady, going from 650 to 655 over the decade.

*Part-Time and Full-Time Work* Overall, 23% of general farm workers worked part-time in 2001, down from 26% in 1991. This decrease took place entirely among males, who dropped from 395 part-time workers or 24% of all male workers in 1991, to 295 or 19% in 2001. Females held steady at 200 part-time workers or 31% of the female total in both years.

*Annual Weeks of Work* In 2001, general farm workers were most likely to work either 14 to 26 weeks, or full-year. Women were far more likely to work a short season, while men were more likely to work full-year. Reflecting this, women worked an average of 23.6 weeks in 2001, while men worked an average of 32.5 weeks. The distribution of weeks by gender in 2001 is shown in Chart 16.

16. Weeks Worked by Gender, 2001



Average weeks worked declined slightly from 1991 to 2001, from 30.7 weeks to 29.9. However, this masked a significant shift towards a longer work season for males and a shorter work season for females, as shown in Table 6 below:

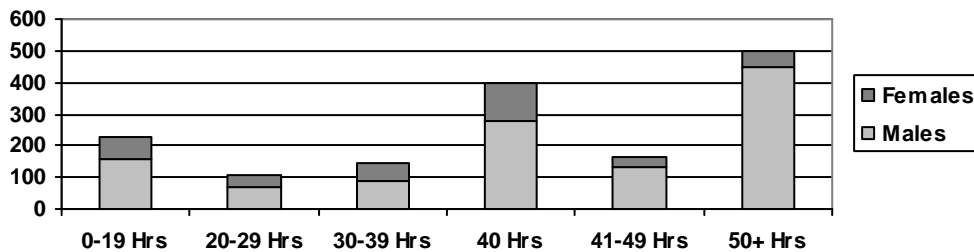
- In 1991, 31% of males and 40% of females worked full-year. A further 20% of males and 13% of females worked between 27 and 48 weeks a year. Those working less than six months a year accounted for 49% of males and 47% of females.
- By 2001, the proportion of males working full-year had increased slightly to 33%, but the proportion of females working full-year had plummeted to 16%. Those working less than six months a year had dropped to 41% among males, but jumped to 68% among females.

In 1991, women had worked a longer season, on average, than men, at 33 weeks compared to 30. By 2001, men had increased their average season to just over 32 weeks, but women's had dropped to less than 24 weeks. The sharpest drop for women took place for full-time full-year work, with part-time full-year work seeing a smaller decrease.

<b>Table 6. Changes in Weeks Worked by Gender, 1991-2001</b>						
	<i>0-13 Weeks</i>	<i>14-26 Weeks</i>	<i>27-39 Weeks</i>	<i>40-48 Weeks</i>	<i>49-52 Weeks</i>	<i>Total</i>
<b><i>Males</i></b>						
1991	375	455	215	110	510	1,665
2001	270	360	250	150	510	1,540
% Change	- 28%	- 21%	+ 16%	+ 36%	0	- 8%
<b><i>Females</i></b>						
1991	90	205	35	50	250	630
2001	165	275	65	35	105	645
% Change	+ 83%	+ 34%	+ 86%	- 30%	-58%	+2%
<b><i>Total</i></b>						
1991	465	660	250	160	760	2,295
2001	435	635	315	185	615	2,185
% Change	- 7%	- 4%	+ 26%	+ 16%	- 19%	- 5%

*Hours Worked per Week* As shown in Chart 17, the largest single group of farm workers, 500 or almost one-third, worked more than fifty hours a week on average in 2001. As will be discussed below, this proportion, although high, is substantially lower than in 1991. The second largest group, 400 or just over one-quarter, worked forty hours a week. Men were more likely to work long hours (41-49 hours or 50+ hours), while women were more likely than average to work exactly forty hours, or less than twenty hours.

17. Average Hours per Week by Gender, 2001



Between 1991 and 2001, the average work week of Island general farm workers declined from almost 44 hours a week to 40.5 hours. This drop took place among male workers, whose average work week fell from 47 hours to 42 hours. Women saw a slight increase in their average work week, from 34.5 hours to 35.4 hours. This reflected somewhat different patterns of change among males and females:

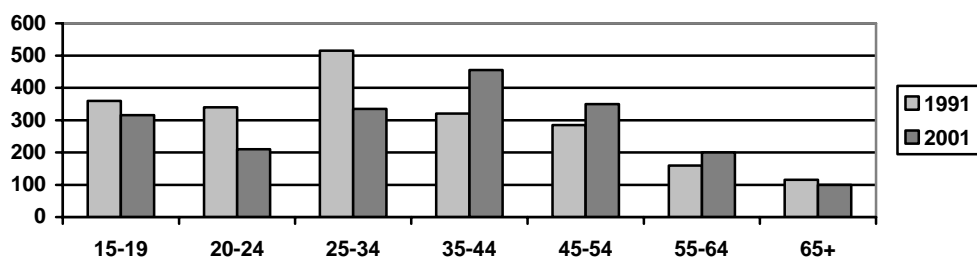
- The number of males working over 40 hours a week dropped sharply, and the number of males working either less than 20 hours a week, or 30-40 hours a week, increased. The largest single drop took place among males working over 50 hours a week, from 620 down to 450.
- The number of females working in all categories other than 40 hour a week decreased, and the number working 40 hours a week increased strongly.

These patterns are shown in Table 7 below.

<b>Table 7. Changes in Average Work Week by Gender, 1991 and 2001</b>							
	<i>1-19 Hours</i>	<i>20-29 Hours</i>	<i>30-39 Hours</i>	<i>40 Hours</i>	<i>41-49 Hours</i>	<i>50 + Hours</i>	<i>Total</i>
<b>Males</b>							
<i>1991</i>	125	105	60	245	170	620	1,315
<i>2001</i>	155	70	90	280	130	450	1,175
<i>% Change</i>	+ 24%	- 33%	+ 50%	+ 14%	- 24%	- 27%	- 11%
<b>Females</b>							
<i>1991</i>	115	60	65	70	70	70	455
<i>2001</i>	70	35	55	120	35	50	365
<i>% Change</i>	- 39%	- 42%	- 15%	+ 71%	- 50%	- 29%	- 20%
<b>Total</b>							
<i>1991</i>	240	165	125	315	240	690	1,775
<i>2001</i>	225	105	145	400	165	500	1,540
<i>% Change</i>	-6%	- 36%	+ 16%	+ 27%	- 31%	- 28%	- 13%

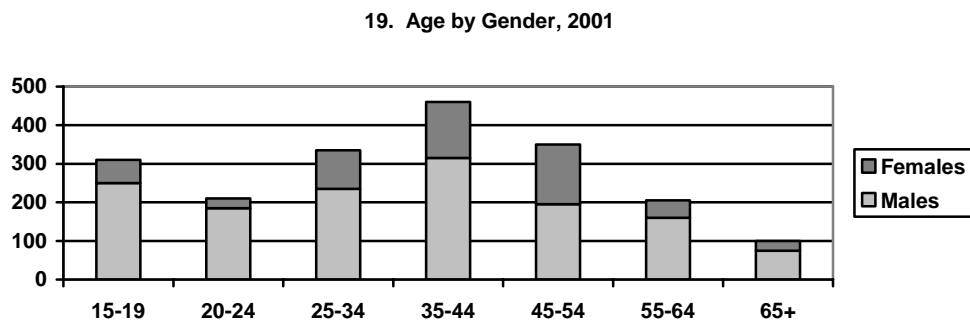
**Age Profile** The general farm worker group is more youthful than the overall labour force: in 2001, the average age of farm workers was 37.4, compared to 39 for the workforce. However, this was a smaller gap than in 1991, when the average age of farm workers was 34.6 compared to 37.1 for the workforce. The distribution of workers by age group in 1991 and 2001 is shown in Chart 18. As indicated, all groups under age 35 declined, while the group aged 35-64 increased, with a particularly large increase among workers aged 35-44.

18. Age Distribution, 1991 and 2001



Age patterns of general farm workers differ significantly by gender but converged over the 1990s. In 1991, the average female general farm worker was just over 40, while the average male worker was 32.5 years old. In 2001, the average age of female workers dropped very slightly to just under 40, while the average age of male workers had increased by four years, to 36.4. As such, the aging of the overall general farm worker group in the 1990s was entirely due to changes in the distribution of males among age groups.

The distribution of the workforce by age and gender is shown in Chart 19, below.



Patterns of change over the 1990s are set out in Table 8, following.

<b>Table 8. Changes in Average Age by Gender, 1991 and 2001</b>								
	<i>15-19</i>	<i>20-24</i>	<i>25-34</i>	<i>35-44</i>	<i>45-54</i>	<i>55-64</i>	<i>65+</i>	<i>Total</i>
<b>Males</b>								
<i>1991</i>	315	270	400	205	170	75	80	1515
<i>2001</i>	250	185	235	315	195	160	75	1415
<i>% Chg</i>	- 21%	- 33%	- 41%	+ 54%	+15	+ 113%	- 6%	- 7%
<b>Females</b>								
<i>1991</i>	45	65	120	115	115	80	40	580
<i>2001</i>	60	25	100	145	155	45	25	555
<i>% Chg</i>	+33%	- 62%	- 17%	+26%	+ 35%	- 44%	- 38%	- 4 %
<b>Total</b>								
	<i>15-19</i>	<i>20-24</i>	<i>25-34</i>	<i>35-44</i>	<i>45-54</i>	<i>55-64</i>	<i>65+</i>	<i>Total</i>
<i>1991</i>	360	335	520	320	285	155	120	2095
<i>2001</i>	310	210	335	460	350	205	100	1970
<i>% Chg</i>	- 14%	- 37%	- 36%	+ 44%	+ 23%	+ 32%	- 17%	- 6%

*Mobility, Migration, and Immigration* General farm workers were more mobile than the farm operator group discussed above; however, most moves were only local. Just under three-quarters, 73%, had not moved in the five years preceding the 2001 Census. Of the remaining 27%, 300 or 15% had moved within their county; 160 or 8% had moved from another PEI county; and 55 or 3% had moved to PEI from another province. None had immigrated from another country in the five years prior to the 2001 Census.

In 2001, 2% of Island general farm workers or 40 respondents reported that they were of immigrant origin. The majority of those individuals had entered Canada more than 20 years ago, with the remainder arriving ten to fifteen years ago. Similarly, 40 respondents or 2% reported a non-official mother tongue. None identified visible minority status.

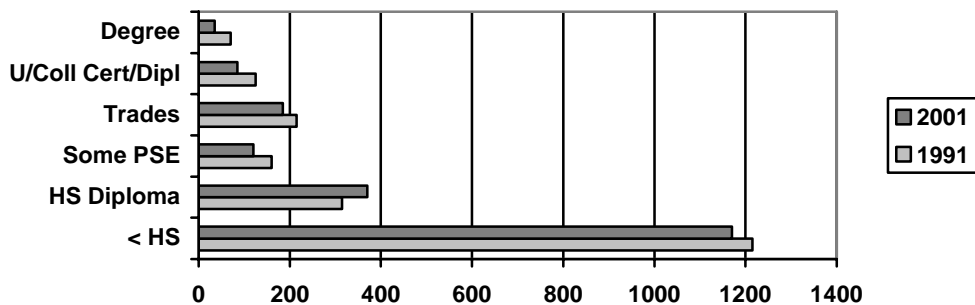
*Educational Attainment* The educational attainment of general farm workers is relatively low, as indicated in Chart 20. Almost 60% had less than high school, and another 19% had a high school diploma only. Almost 10% had a trades certificate.

20. Educational Attainment by Gender, 2001



Moreover, these levels of educational attainment showed little net improvement from a decade earlier. On a positive note, the number with less than high school declined, and the number of workers with high school completion increased. On the other hand, there were also declines in every group with more than high school, as shown in Chart 21.

21. Changes in Educational Attainment 1991 - 2001

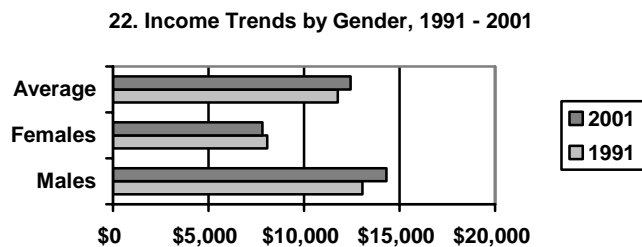


Within this context, the educational levels of male farm workers improved slightly, while the educational level of female farm workers declined. The number of male workers with less than high school declined by 9%, from 930 to 845, while the number of female

worker in this group increased by 14%, from 285 to 325. Both groups saw an increase in high school grads and declines in all other more highly educated groups.

*Field of Study* A total of 300 farm workers reported post-secondary qualifications in 2001 – 220 males and 80 females. The proportion of males and females with credentials was very similar, at about 15%. Over half the total, 155 individuals, had a credential in applied science technologies and trades. A further 50 or 16% had a credential in agricultural, biological, nutritional, and food sciences, while 45 or 14% had a credential in business, commerce, or administration. The remaining 50 or 16% were spread across various other fields of study. As with farm operators, males were more likely to hold a credential in a field related to agriculture.

*Income* Over 95% of farm workers reported that they received income during 2000. Income averaged \$12,444, with males receiving a significantly higher income (\$14,311) than females (\$7,823). Moreover, males' income increased over the 1990s, while female workers' income dropped, reflecting in part the shift to fewer weeks of work discussed above. Income changes are shown in Chart 22.



## 5.3 Farm Supervisors and Specialized Livestock Workers

### 5.3.1 Overview and Description

As described in Job Futures for NOC 8253, farm supervisors supervise the work of general farm workers and harvesting labourers and perform general farm duties. Specialized livestock workers carry out feeding, health and breeding programs on dairy, beef, sheep, poultry and hog farms and may also supervise general farm workers and harvesting labourers. Workers in these occupations may be required to have a college certificate or other specialized training in agriculture or livestock husbandry.

Farm supervisors may specialize in dairy, poultry, swine, beef, sheep, fruit, vegetable, mixed, specialty and equine farms, and may perform some or all of the following duties:

- Co-ordinate and supervise the work of general farm workers and harvesting labourers
- Supervise breeding programs and harvest operations
- Develop work schedules and establish procedures

- Maintain quality control and production records
- Perform general farm duties

Specialized livestock workers usually specialize in one type of farm animal, such as beef cattle, dairy cattle or swine, and perform some or all of the following duties:

- Formulate a feeding program
- Maintain livestock performance records
- Carry out a pasture or pen breeding program
- Recognize and treat certain livestock health problems
- Train horses
- Perform general farm duties
- May supervise general farm workers and harvesting labourers

Job Futures describes the employment outlook to 2009 for farm supervisors as only fair; however, because employers have had difficulty recruiting specialized livestock workers, the outlook for these workers is good. Overall, employment levels are expected to grow at a slower rate than the average expected for occupations that require similar education and training. Due to the increased mechanization of farms and the trend toward fewer but larger farms in PEI, the demand for these workers may decline. The retirement rate is expected to be about average. Only a few job openings are expected to result from retirements.

### ***5.3.2 Labour Market and Demographic Profile***

In the 2001 Census, 105 Islanders reported their occupation as Farm Supervisor or Specialized Livestock Worker, down from 130 in the 1991 Census. Most of the workers, 95 or 90%, are male, and as such a gender analysis will not be included in the following profile. As well, owing to the small size of the group, the sub-categories are imprecise due to rounding of numbers. As such, the description that follows is more general than for the other groups.

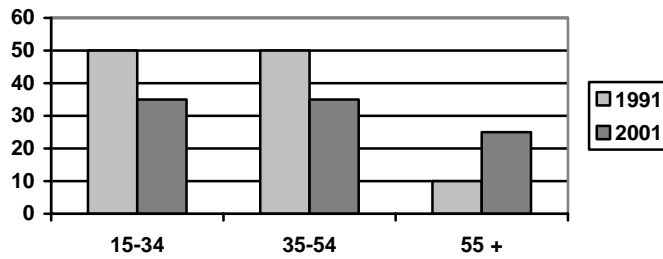
Two-thirds of workers in this occupation reported working a full year, with the remainder split between a 40-48 week year and a 14-26 week year. The average number of weeks worked was 43 in both 1991 and 2001. Virtually all workers in this category worked full-time, and over half worked more than fifty hours a week. The average hours worked per week were 49.6 in 2001, down from over 57 in 1991.

Supervisors and livestock workers reported low levels of migration in the five years preceding the 2001 Census. Almost 90% were non-movers, and most of the remainder had moved within the county.

Like other farm occupations, this group aged over the 1990s, as shown in Chart 23. Workers under age 55 dropped by 30%, from 100 to 70, while workers age 55 and over more than doubled, from 10 to 25.

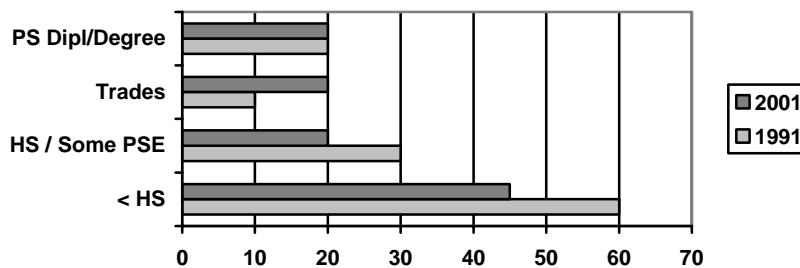


23. Age Trends, 1991 and 2001



Levels of educational attainment improved significantly over the 1990s, as shown in Chart 24. The number and share without high school completion dropped, as did the number of those with a high school diploma only or some post-secondary. The number and share with a trades certificate or a university degree increased. Virtually all credentials were in agriculture-related fields.

24. Changes in Educational Attainment 1991 and 2001



## 5.4 Harvest Labourers

### 5.4.1 Overview and Issues

As described in Job Futures, the occupation of harvesting labourer, NOC 8611, involves assisting other farm workers to harvest, sort, and pack crops. Harvest labourer duties may include the following:

- Pick row and orchard crops
- Sort, weigh and pack fruit and vegetables at farm
- Load, unload and transfer crates, supplies and farm produce, livestock and poultry
- Clean up racks, trays, growing, and packaging areas

The occupation has no training or education requirements. The work is usually outdoors and physically demanding, and requires physical stamina, effective verbal communications skills, and the ability to follow directions and adhere to safety standards and procedures.

In recent years, Island farm operators have experienced increasing difficulty in meeting their peak needs for seasonal labour during the harvest season, and, to a lesser extent, the planting season. As noted earlier in this paper, in October 2003, the monthly unemployment rate dropped to zero for PEI's overall agricultural labour force.

In response to this growing challenge, the PEI Agricultural Human Resources Development Council, the predecessor of the current Sector Council, commissioned a study in early 2003 of seasonal agricultural labour issues.<sup>13</sup> The study included a review of literature and secondary data, interviews, focus groups, and surveys of workers and of 315 producers in ten agricultural sub-sectors. Based on this research, the study concluded that the employers surveyed could have hired an additional 418 workers the previous year had they been available, a 20% increase over their existing workforce of 2,100. As a result of shortages, 19 producers reported reducing their production levels, and 31 reported crops left in the ground, resulting in lost value of over \$1 million.

The top three concerns of employers were related to quantity of workers – the ability to recruit seasonal labour, the effect of the Employment Insurance system, and worker turnover. Ranking fifth, sixth, and seventh were concerns related to quality of workers – worker attitude, absenteeism, and skills.

To address these issues, the study recommended that:

- All commodity sectors be allowed to hire foreign workers through the national Seasonal Agricultural Worker Program then available to Island producers only on an ad hoc basis
- A private sector fee-for-service agricultural recruitment agency be established to serve the agricultural industry
- The Agricultural Human Resources Development Council develop a comprehensive human resource strategy for the sector
- The agricultural sector undertake a public education and awareness initiative on the issues facing the industry

Subsequently, access to foreign workers was expanded, and the Agricultural Sector Council was established and is addressing the other three recommendations.

#### **5.4.2 Labour Market and Demographic Profile**

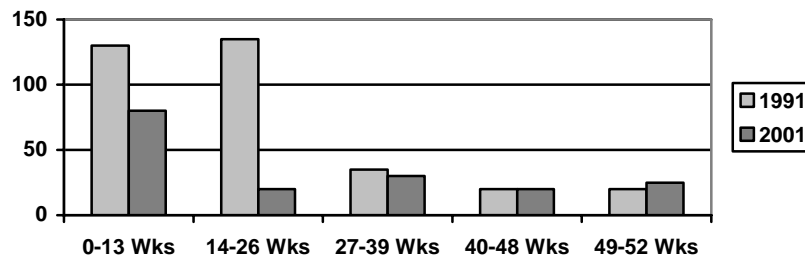
*Total by Gender* In the 2001 Census, 185 Islanders reported their occupation as NOC 1211, Harvest Labourer, down over 50% from 345 in 1991. Most of this decline occurred among women, who dropped almost 60% from 205 to 85. Men had a smaller drop of 31%, from 140 to 95. As a result the gender balance of this occupation shifted from 60% female in 1991 to 45% female in 2001.

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<sup>13</sup> Matheson Consulting Ltd. *Seasonal Agricultural Labour Issues in Prince Edward Island*. PEI Agricultural Human Resources Development Council, 2003, p. 16

*Average Weeks of Work per Year* The decline in harvest labourers and especially among female labourers was concentrated among those working less than six months a year, and especially among those working 14-26 weeks, as shown in Chart 25. As a result, the average weeks worked per year increased from 18 weeks in 1991 to almost 23 weeks in 2001. However, this remained well below the provincial average of 36 weeks in 1991 and 38 weeks in 2001.

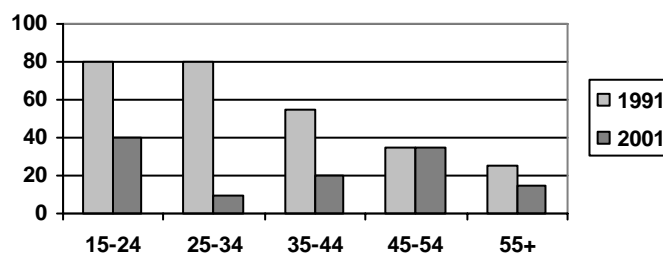
25. Trends in Weeks Worked, 1991 and 2001



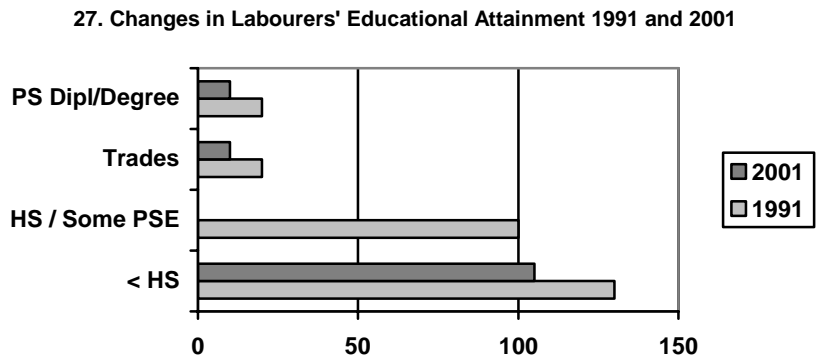
*Average Hours Worked Per Week* Both the number and proportion of harvest labourers working part-time increased over the 1990s. In 1991, 60 out of 345 labourers or 17% of this group were working part-time. In 2001, 65 out of 180 or 36% were working part-time. About one-third were working more than 40 hours a week in 2001, a similar proportion to 1991. Average hours worked per week declined slightly from 42 to 41.

*Age Trends* The age data is somewhat questionable as it is based on a smaller number of respondents. However, consistent with other groups, it indicates a sharp aging trend, as shown in Chart 26. Unlike other groups, however, this was concentrated among female workers, with female workers under age 35 dropping from 80 to 20. By 2001, the harvest labourer group had differentiated into two distinct groups of younger men and middle-aged women. The average age of male workers increased slightly over the period, from 30 to 31, while the already much higher average age of female workers increased from 37 to 46.

26. Age Trends, 1991 and 2001



*Educational Attainment* In 1991, the educational attainment of harvest labourers was well below the provincial average. It fell further over the 1990s with the loss of virtually all workers with high school or above, as shown in Chart 27.



## **6.0 Conclusion**

The agricultural labour force is critically important to Prince Edward Island, not only economically, but in the social and cultural domain. As set out in the foregoing analysis, the agricultural labour force is evolving to meet the challenges of a rapidly changing, increasingly science-based farm sector.

In the short-term, as the industry moves to a smaller number of more highly skilled farm operators and farm workers, training of the existing workforce will be vital to ensure that the industry can adapt and prosper.

In the long-term, as many farm operators and workers move into retirement, effective career promotion, recruitment, and entry level training will be needed to ensure the renewal of the workforce. It is hoped that the historical and strategic context provided by this report will assist in meeting those goals.

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