

**Ontario's Agricultural and Rural Economy: Today and Tomorrow?  
A Qualitative and Quantitative Perspective**



**Submitted to: Agriculture Canada**

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**December 2003**  
(updated April 2005)

## **Acknowledgements**

I would like to acknowledge the assistance and major contributions of Don Murray, Doug Obright, Tricia Givens, the Ontario Federation of Agriculture and its provincial and county representatives, the University of Guelph, Ontario Ministry of Agriculture and Food, Government of Canada – Human Resources Skills Development and many others to this work.

This report has not been approved by any of the partners. I remain solely responsible for any errors or omissions

Harry Cummings, University of Guelph, December 2003, updated April 2005

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## 1.0 Introduction

Rural Ontario has experienced tremendous change in the past half century. While the rural population has become predominantly non-farm based, the labour structure of the rural economy has undergone a major shift with jobs in the service sector exceeding jobs in agriculture. This trend led some analysts to discount the importance of agriculture and diverted attention to other sectors of the economy.

In response to the perception that agriculture is an industry in decline and to gain assistance in measuring its economic value more accurately, the Huron County Federation of Agriculture, sought help in 1996 from the University of Guelph and Harry Cummings. Other interested parties such as Agriculture Canada, the Ontario Ministry of Agriculture, Food and Rural Affairs and Human Resources Development Canada added their support in initiating a study to provide a more complete picture of agriculture's impact on Huron County's economy.

This report attempts to identify and measure the economic and societal impact of agriculture in the Province of Ontario. The results obtained in previous county/regional reports of the economic impact of agriculture were used as a base for this study. These studies started in the western county/regions of Huron, Simcoe and Perth; extended to the eastern regions of Prescott, Russell, Stormont, Dundas, Glengarry, Lanark, Renfrew, Kingston area and Ottawa; and then moved south to Lambton, Elgin, Middlesex, Oxford, Lambton, and Waterloo regions; concluding in the northern regions of Blue Sky, Algoma-Manitoulin and Temiskaming<sup>1</sup>.

While providing an analysis of primary agriculture in Ontario, this report also identifies agriculture off the farm - the feed manufacturers, the veterinarians, the trucking companies, the lawyers and accountants and others who deal with the agriculture sector. In the past, many studies of this type have ignored the size and importance of agriculture beyond the farm gate. Accordingly, the impact of agriculture on the economy was under-emphasized and under-estimated.

This study endeavors to set the record straight by presenting a more complete picture of agriculture's contribution to the economy. While the basic focus of this report is on dollars and jobs, it also covers farming and agriculture and its contribution to the social and physical environment of the community and province.

The research presented in the report relies on data from the Population Census, Agricultural Census, surveys of and case studies on agriculture-related businesses, and information from local citizens knowledgeable of the area. The main methods employed in the report comprise descriptive and technical analysis of the social and economic profile of Ontario's regional communities using data drawn from the census; economic impact analysis of the role of agriculture using economic base and input-output-like techniques; and a policy discussion on the future of agriculture in rural communities

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<sup>1</sup> See the following website:

[http://www.ofa.on.ca/site/main.asp?pic=../cutting/maintit\\_studies.jpg&line=900&Inc=../whatwedo/studies.asp](http://www.ofa.on.ca/site/main.asp?pic=../cutting/maintit_studies.jpg&line=900&Inc=../whatwedo/studies.asp)



from the planning and development perspective. The analysis concludes with a discussion of the role of agriculture in the Ontario economy together with a discussion of related socio-economic conditions in the province.

## **1.1 Background and Objectives to the Research Report**

Over the past 50 years the number of people living and working on farms in Canada has declined while the size of farms has increased. Data taken from Statistics Canada's 2001 Census of Agriculture tell us that for the 5 year period since the last census the number of farms in Ontario dropped 11.5% while the average farm size increased from 83 to 92 hectares (1 hectare = 2.471 acres) and the number of people living and working on farms decreased by 15.9% and 8.5%, respectively. For many this is evidence of a reduction in the role of agriculture in the local economy. Other sectors such as the service sector and special sectors like tourism were seen to replace agriculture as the future for jobs. Consequently there was strong societal pressure to develop these sectors and people were encouraged to find jobs related to them.

Despite the decline in direct jobs in agriculture (i.e. on the farm), the value of farm gate sales has continued to rise. For example, between 1986 and 2001 farm gate sales in Ontario rose from \$5.5 billion to \$9.1 billion or \$3.4 to \$6.0 million in constant dollars while employment on farms fell. Since the value of production increased together with volume this implies an increase in productivity and efficiency of farm workers and more capital-intensive farm operations. Consequently, with fewer people working on farms, the linkages to industries and sectors supporting agriculture become increasingly important.

### **1.1.1 Objectives**

The study addresses both the economic and social impact of Agriculture in Ontario. However, it does not deal with special issues such as the environment, and BSE that have negatively impacted agriculture in many areas of the country. Specifically, the objectives are as follows:

- To estimate the economic impact of agriculture in Ontario including on-farm and off-farm components,
- To provide a summary of the Ontario Agricultural Impact studies carried out between 1997 and 2004,
- To provide a discussion of agriculture-related socio-economic conditions existing in the province,
- To examine how industry stakeholders have used the information contained in the agri-economic impact reports and what action/reaction has resulted from the release of the information,
- To provide a report that will assist in Agricultural Policy debates in local, provincial and federal government forums,
- To provide a resource for planners, policy makers and others interested in Ontario Agriculture, and finally,

- To make recommendations on the future role of agriculture in Ontario.

## **2.0 The Agricultural & Rural Economy Project: Measuring the Linkages**

In order to measure these linkages data from many sources was analyzed including the Population and Agriculture Censuses, municipal planning offices, county and Ontario Federation of Agriculture (OFA) representatives, agriculture-related business interviews, focus groups with farmers, regional phone books and business directories. Census data was updated from earlier reports to provide a current picture of the economic importance of agriculture in the province.

The origins of the project derive from a request initiated in 1997 by the Huron County Federation to the University of Guelph and Harry Cummings for help in assessing the significance of Agriculture in their county. The results of this work were presented to the Ontario Federation of Agriculture meeting in Toronto in 1998 and subsequent Economic Impact studies were completed as a result of similar invitations for assistance. The linkage measurement models include “input-out-like” analysis, economic base approach and multipliers. Media coverage for the project has been extensive and includes coverage from radio, television, and print. University of Guelph public affairs representatives provided additional media exposure.

### **2.1 Data Sources**

The Census of Agriculture and Population Census have proved a rich source of data for this report. Information from the Agriculture Census included statistics about the significance of agriculture within the region (the direct impact) as well as to other sectors in the area (the indirect impact) such as the wholesale, finance and retail trade sectors.

Despite the volume of data available from the Census of agriculture and population it remains an underutilized information source. One of the problems with effective utilization of this data is that some technical skills are necessary for accurate analysis.

To assist with local information on agriculture in the region, Municipal planning offices were approached. Maps, rural planning guidelines and municipal economic development and assessment data formed the basis of the information obtained from this source. Another pool of information came from the Ontario Federation of Agriculture (OFA) organization and the member service representative in the relevant County. The county federations generally have township representatives who are well informed about agriculture and related activities in their area. These individuals compiled business lists, identified key informants in the region willing to assist the researchers, and brought agricultural and rural issues in the county to the attention of study personnel.

An important addition to this study is the information provided by the agriculture-related business interviews on the indirect impact of agriculture in the area. This is original interview data never previously collected. To measure these indirect impacts a survey-

based 'input-output-like' approach was used. This survey was aimed at businesses that sell products to, or buy products from, the farmer.

In order to measure the induced economic and employment impacts of the agriculture sector, primary data derived from the Statistics Canada census records was studied. Other data sources included local business directories and phone books.

## **2.2 Project Process**

At the County level, the projects typically started with interest from the local Federation of agriculture or municipal economic development officer. Partners were recruited, committee's were established, funding was raised and a research team was recruited to carry out the work. The research process included: focus groups, secondary data analysis, interviews with businesses related to agriculture, media events, report writing and presentations. After the report was done, committee members then took the work back to their partner organizations to be used in the policy development process. The approach varied, but most often included the above elements.

### **2.2.1 Committee**

As a way of involving community and industry stakeholders in the research process, Dr. Cummings encouraged the use of partnerships with various farm and farm sector commodity groups.

Many of the agri-economic impact studies that have been directed by Dr. Cummings were implemented through multi-stakeholder steering committees to promote wider ownership of the results while allowing the researchers to draw on additional resources (i.e. financial, administrative, in-kind, etc.).

- Ownership by local committee of 5-10 persons comprised of the region's farmers
- The research model was developed with the participation by and direction of these partners
- The study was a partnership between the local committee and the researchers

### **2.2.2 Funding**

Some of the partnering organizations in this study include the following:

- FedNor/Industry Canada
- Local Federations of Agriculture
- Ontario Federation of Agriculture
- Human Resources Development Canada
- Ontario Ministry of Agriculture, Food and Rural Affairs
- Regional Training Boards
- Local Economic Development Agencies

- Municipal Governments
- Chambers of Commerce
- District School Boards
- Sustainable Rural Communities Research Program (SRC) through the University of Guelph/OMAF
- Canada Agricultural Adaptation Council (Can-Adapt) supported the Farmers' Market Study (done via U of G).
- Agriculture Canada through Canadian Agricultural Rural Communities Initiative (CARCI).

### **2.2.3 Timeline**

- ◆ There are two components to the timeline:
  - Individual studies from Huron County in 1997 to Temiskaming County and Waterloo region in the present
  - Each individual study took from 6 months to 18 months.

### **2.2.4 Media**

There was extensive media involvement and publicity for all of the research reported here:

- Several MP's tabled these studies in parliament
- Radio interviews
- Press releases were done for all studies
- Town & Country magazine coverage
- Major media events often included local food festivals
- Farm Press did major articles on the research
- Rural Voice
- Ontario Farmer
- Agrinews in Eastern Ontario-website: [www.agrinewsinteractive.com](http://www.agrinewsinteractive.com)
- London TV station farm show

This ensured that the work was widely circulated.

These two chapters have introduced you to the study process. In the following chapter, a literature review related to the topic is presented.

## **3.0 Literature Review**

### **3.1 Introduction**

Agricultural activities play an important role in the economy and day-to-day life of most countries. It is not surprising therefore that a significant amount of research has been undertaken into the linkages among, and the economic impacts of, such activities. This literature review, which draws on a variety of studies, journal articles, Internet and other sources, is designed to reflect some of the more pertinent findings of recent work as they relate to Ontario. It outlines the important role Ontario's agriculture sector plays in Canada's agricultural economy and in the Ontario economy. It provides an overview of general trends being observed in the North American agricultural sector. It identifies specific challenges facing Ontario's agriculture sector. It concludes with a summary of specific themes requiring action.

The agricultural sector includes farmers and all other food producers. Canadian federal agencies, such as Statistics Canada and the Canadian Customs and Revenue Agency (CCRA), consider a farmer as someone who derives 51% of his or her income from farming.<sup>2</sup> As is discussed later in the report, the current definition of farmer is sometimes problematic when one is attempting to understand primary agricultural employment, as an increasing number of Canadian farmers derive a significant portion of their income from off-farm employment.

Notwithstanding this definitional issue, the economic contribution of farmers is typically measured in terms of jobs and dollars created on the farm through primary production activities. The number of farm jobs and the value of farm gate sales (farm receipts) are viewed as the direct economic impacts of agriculture.

## **3.2 The Importance of Ontario's Agricultural Sector in Canada's Agricultural Economy**

### **3.2.1 Agricultural Employment**

While Ontario is often thought of as Canada's manufacturing heartland, Table 3.1 illustrates that the province also employs approximately 25% of the country's agricultural labour force - 21.1% of those involved in mixed farming, 25.0% of those in animal production and 26.7% of those in crop production.

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<sup>2</sup> Statistics Canada defines a census farm as an agricultural operation that produces at least one of the following products intended for sale: crops (field crops, tree fruits or nuts, berries or grapes, vegetables or seed); livestock (cattle, pigs, sheep, horses, exotic animals, etc.); poultry (hens, chickens, turkeys, exotic birds, etc.); animal products (milk or cream, eggs, wool, fur, meat); or other agricultural products (greenhouse or nursery products, Christmas trees, mushrooms, sod, honey, maple syrup products).

**Table 3.1 Employed Labour Force in Key Agricultural Industries, Ontario and Canada, Annual Averages, 2001**

Industry	Ontario (000's)	Canada (000's)	Ontario as a share of Canada
<b>All Industries</b>	5962.7	15076.8	39.5%
<b>Mixed Farming (NAICS 1100)</b>	5.5	26.1	21.1%
<b>Crop Production (NAICS 1111-1119)</b>	33.8	126.5	26.7%
<b>Animal Production (NAICS 1121-1129)</b>	41.6	166.5	25.0%

Source: OMAF Web Site ([www.gov.on/OMAFRA/english/stats/food/labourforce01.html](http://www.gov.on/OMAFRA/english/stats/food/labourforce01.html))

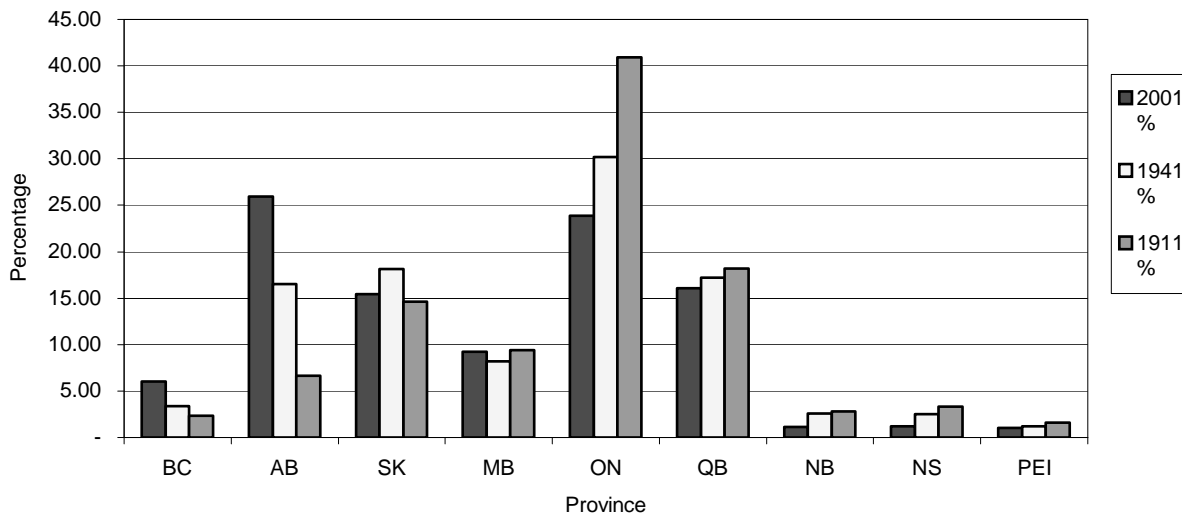
Given the significant numbers employed in agriculture, it is not surprising to find that the province also makes a significant contribution to the nation's total farm cash receipts.

### 3.2.2 Farm Cash Receipts

#### *Historical Trend*

Figure 3.1 presents each province's share of Canada's farm sales for the years 1911, 1941, and 2001. While Ontario's share fell from 40.9% in 1911 to 24% in 2001, its farm sales in 2001 were only exceeded by Alberta which had 26% of the national figure. These percentages demonstrate Ontario's continued and significant contribution to the nation's agriculture economy.

**Figure 3.1 Share of Canadian Farm Sales by Province (2001, 1941, 1911)**



Source: Statistics Canada, 1911, 1941, 2001

## Recent Experience

Whereas Figure 3.1 suggests a gradual decline in Ontario's share of Canadian farm sales between 1911 and 2001, Table 3.2 suggests that Ontario's share seems to have stabilized in recent years at just under 25%.

**Table 3.2 Total Farm Cash Receipts for Canada and Ontario 1999-2003 (\$'000)**

	1999	2000	2001	2002	2003
Ontario	7,186,221	7,872,186	8,535,258	8,492,486	8,343,708
Canada	30,357,110	32,960,524	36,329,119	36,217,136	34,122,273
Ontario as a percentage of Canada	23.67	23.88	23.49	23.44	24.45

Source: Statistics Canada, Catalogue No. 21-603 &  
[www.gov.on.ca/OMAFRA/english/stats/finance/crprov.html](http://www.gov.on.ca/OMAFRA/english/stats/finance/crprov.html)

## Cash Receipts by Commodity

If Canada's total farm cash receipts are broken out by commodity, Ontario produces over 50% of the national receipts for the following commodities – tobacco (92.6%), soybeans (78.4%), ginseng (66.4%), sheep (65.6%), other tree fruits (61.3%), rye (54.9%), corn (54.6%), and greenhouse vegetables (51.3%). While Ontario has significant sales in a variety of commodities as depicted by Table 3.3, it is apparent the province plays a lead role in the production of those noted and a major role in the production of a host of others.

**Table 3.3 Ontario's Share of Canadian Total Farm Cash Receipts by Commodity, 2003 (%)**

Commodity	Ontario	Canada	Total (\$'000)
Wheat, excluding Durum	16.7	100.0	1,800,519
Durum Wheat	-	100.0	640,559
Oats	2.9	100.0	243,509
Barley	2.7	100.0	386,724
Deferments/liquidations (see note)	-	100.0	6,510
Rye	54.9	100.0	12,440
Flaxseed	-	100.0	192,168
Canola	0.7	100.0	1,755,119
Soybeans	78.4	100.0	714,605
Corn	54.6	100.0	783,804
Sugar beets	-	100.0	22,732
Potatoes	10.1	100.0	849,555
Greenhouse vegetables	51.3	100.0	623,864
Other vegetables	46.0	100.0	818,384
Apples	33.8	100.0	148,442
Other tree fruit	61.3	100.0	85,390
Strawberries	33.5	100.0	53,475
Other berries, grapes	14.7	100.0	252,932
Floriculture and nursery	49.3	100.0	1,928,639
Tobacco	92.6	100.0	228,455
Ginseng	66.4	100.0	67,307
Mustard seed	-	100.0	88,649
Sunflower seed	-	100.0	54,915

Lentils	-	100.0	157,805
Canary seed	-	100.0	75,911
Dry beans	31.7	100.0	140,371
Dry peas	-	100.0	253,495
Chick peas	-	100.0	52,503
Forage, grass seed	3.0	100.0	69,616
Hay and clover	23.1	100.0	138,527
Maple products	6.8	100.0	153,216
Forest products	17.5	100.0	101,534
Christmas trees	8.7	100.0	68,549
Miscellaneous crops	-	100.0	x
<b>Total Crops</b>	<b>27.6</b>	<b>100.0</b>	<b>13,054,514</b>
Cattle	17.4	100.0	4,587,562
Calves	9.6	100.0	605,950
Hogs	25.5	100.0	3,390,189
Sheep	65.6	100.0	4,402
Lambs	35.3	100.0	97,925
Dairy products	32.7	100.0	4,496,107
Hens and chickens	32.6	100.0	1,524,414
Turkeys	45.2	100.0	260,657
Hatcheries	30.6	100.0	37,415
Eggs	36.7	100.0	566,033
PMU	-	-	-
Wool	21.2	100.0	1,229
Honey	14.3	100.0	143,148
Furs	24.7	100.0	47,878
Embryos	x	100.0	x
Horses	x	100.0	x
Miscellaneous Livestock	14.3	100.0	289,507
<b>Total livestock &amp; products</b>	<b>25.6</b>	<b>100.0</b>	<b>16,212,617</b>
Total payments	12.1	100.0	4,855,142
<b>Total receipts</b>	<b>24.5</b>	<b>100.0</b>	<b>34,122,273</b>

Note: Deferments/liquidations includes liquidated deferred grain receipts of 2002 less receipts of grain shipped in 2003 for which payment is deferred to 2004.

Source: Statistics Catalogue No. 21-603 & [www.gov.on.ca/OMAFRA/english/stats/finance/provshare.html](http://www.gov.on.ca/OMAFRA/english/stats/finance/provshare.html)

### 3.3 The Importance of Ontario's Agricultural Sector in Ontario's Economy

#### 3.3.1 Agricultural Employment

In 2001, Agriculture directly supported 106,470 jobs in Ontario consisting of farm operators/managers, farm employees and support activities related to farming.<sup>3</sup> This represents 1.9% of the total workforce for Ontario (Table 3.2). While, there were 24,590 fewer people employed in agriculture in Ontario in 2001 than in 1996 (an 18.8% decline), it is important to emphasize that this decline in employment does not reflect trends in farm productivity. Overall

<sup>3</sup> Support activities related to agriculture include crop planting/ spraying/harvesting services, farm management services, farm product sorting/grading/packing (for the grower), orchard fruit picking, livestock and poultry breeding services, horse boarding/training (except racehorses), horseshoeing, sheep dipping and shearing (North American Industry Classification System - NAICS, Statistics Canada, 1997).



farm productivity has increased substantially. This will be addressed in further detail later in the report.

**Table 3.4 Employment by NAICS Industrial Sector for Ontario, 2001**

NAICS Industrial Sector <sup>a</sup>	Ontario	
	Number of jobs	Percentage of total jobs
All industries	5,713,900	100%
Agriculture	106,470	1.9%
Forestry	10,765	0.2%
Mining and oil and gas extraction	19,885	0.3%
Utilities	44,930	0.8%
Construction	332,250	5.8%
Manufacturing	932,075	16.3%
Wholesale trade	268,355	4.7%
Retail trade	638,195	11.2%
Transportation and warehousing	269,655	4.7%
Information and cultural industries	163,160	2.9%
Finance and insurance	283,855	5.0%
Real estate and rental and leasing	105,395	1.8%
Professional, scientific and technical services	410,635	7.2%
Management of companies and enterprises	7,690	0.1%
Administrative and support services <sup>b</sup>	236,710	4.1%
Educational services	358,765	6.3%
Health care and social assistance	517,390	9.1%
Arts, entertainment and recreation	113,975	2.0%
Accommodation and food services	352,765	6.2%
Other services (except public administration)	261,205	4.6%
Public administration	298,685	5.2%

<sup>a</sup> The North American Industry Classification System (NAICS) is an industry classification system developed by the Statistical agencies of Canada, Mexico and the United States. The NAICS classification system replaces the Standard Industrial Classification system which was used by Statistics Canada prior to the 2001 Census.

<sup>b</sup> Includes waste management and remediation services.

Source: Statistics Canada, 2001.

### 3.3.2 Economic Impact of Agriculture

The percentage share of employment in agriculture has been declining while service sector jobs have experienced considerable growth. This trend has led some analysts to discount the value of agriculture while turning their attention to other sectors of the economy such as tourism. Results from over 20 Ontario county/district level studies conducted between 1998 and 2004, however, indicate that the backward and forward linkages associated with agriculture have significant implications for their respective regional economies. The studies provide an important source of benchmark data for rural communities for analyzing the overall size and impact of the local agriculture sector.

## ***Measuring the Impact of Agriculture on the Local Economy***

Economic impact is generally a measure of the impact of a sector or a project on all sectors of the economy. Economic Impact Analysis studies are aimed at identifying "...changes in a local economy resulting from a stimulus (positive or negative) to a particular segment of the economy" (Davis, 1990, p 5). These studies are often based on one of the several standard methodologies of regional analysis: the economic base analysis and input-output analysis (Faas, 1980, p. 4).

### ***Economic Base Approach***

Economic Base Theory maintains that economic growth is only possible if the economy's exports grow (Bradfield, 1988, p.38). The theory is based on the belief that as exporting industries expand their sales, there will be an increasing demand for inputs locally which will consequently drive local economic growth (Bradfield, 1988, p.39). In economic base theory, the economy is classified into two sectors of basic and non-basic. The basic sector includes industries that ultimately export their product out of the region. The non-basic sector is the economic activity with final sales remaining inside the region (Davis, 1990, p. 10). These are support industries that provide everything from industrial inputs to houses for basic sector employees (Higgins and Savoie, 1995, p. 66). The exporting industries are identified as basic sectors while all other industries are classified as non-basic.

Economic base theory asserts that a stable relationship exists between export and service employment in a given region so that changes in export jobs will result in predictable changes in service jobs and in total employment (Weiss and Gooding, 1968, p. 235). The theory maintains that as export or 'production' related activities expand, requirements for service activities increase, and total employment (or income) will grow by some multiple of the original increase in export jobs (or income). Indeed, economic base theory claims that any increase in basic employment necessarily ripples into non-basic employment as increased demand is created for local goods and services (Vias and Mulligan, 1997, p. 958).

Economic base theory has been refined to the point where it can be questioned: "What is the overall gain in employment or income in the region associated with each gain in export sales?" (Bendavid-Val, 1991, p. 78). This question is answered through the economic base ratio indicator and the base multiplier indicator (Bendavid-Val, 1991, p. 780). The economic base ratio calculates jobs that are theoretically created from one additional job in the basic sector. The economic base ratio is the ratio between employment in the basic and non-basic sectors and is supported by the idea of basic and non-basic employment combined equaling total employment (Bendavid-Val, 1991, p. 78). The economic base multiplier is the ratio of total employment to basic employment and indicates how many jobs in total are provided for each basic job. Thus, the economic base multiplier is the total sum of the jobs created in both sectors from one job in the basic sector (Bendavid-Val, 1991, p. 78).

## ***Input-Output Analysis***

Input-Output (I-O) analysis is used to measure the inter-relationships between economic activities at the sector, national and regional levels. Linkages are expressed by estimating the sales (outputs) from a given sector to all other sectors in the economy, and by estimating inputs from all other sectors to a specific sector. What makes the I-O model so useful is its comprehensiveness, which disaggregates the economy into individual sectors (Josling, 1996, p. 5). Disaggregation permits analysis at the sector level, providing researchers with a close-up view of the economy. This analysis allows the researcher to assess where each sector purchases its inputs and where it sells its outputs. Such analysis is invaluable in identifying what investment will provide the greatest impact on an economy (Poole et al., 1994, p. 30).

The I-O model estimates the movement of expenditures through the economy. This is traced through four different levels of expenditure: intermediate and primary suppliers, and intermediate and primary purchasers (Bendavid-Val, 1991, p. 88). Suppliers - intermediate and primary - purchase inputs for processing into inputs. Purchasers - intermediate and primary - buy outputs from suppliers and either use them to manufacture a product, or sell them as a final product (Bendavid-Val, 1991, p.88).

Input-output analysis has two main approaches. The Open Model allows the estimation of only the direct and indirect effects of a sector. The Closed Model estimates these, as well as the induced effects of a sector. The open model is used to trace the flow of variables between sectors of the economy (i.e. direct and indirect expenditures). The open model does not measure induced spending in the economy; expenditures on food, services and other household expenses would not be included (Davis, 1990, p. 59). The closed model is used to measure all aspects of the economy, including the direct, indirect and induced effects. Treating the household sector as a producer that sells labour to other purchasing sectors assesses induced effects (Davis, 1990, p. 59).

There are several problems associated with the IO model. The first is that it is time-specific; it takes a snapshot of the economy at a specific point in time. This model cannot account for changes in product demand or input costs, or for the introduction of new technology into the industrial sector (Davis, 1990, p. 62). Thus, the IO model does not adjust for the changing nature of the economy. A second problem of the IO model is the cost and time needed for the construction of the tables associated with this analysis. For this reason, the analysis for this study has been carried out using a survey-based "input-output-like" approach.

## ***Multipliers***

Essentially, what these models do is measure the multiplier effects that result from a change in the economic system. In basic terms, multiplier effects are the relationship between direct jobs produced by a project or sector and indirect and/or induced jobs caused by the direct jobs, presented in a single number (Lewis et al., 1979, p. 1). Therefore, an economic multiplier can be used to estimate the impact of change in one variable (for example, the value of agricultural production) on another variable (for

example, the value of non-agricultural production). Direct employment and production in the agriculture sector will affect the rest of the economy by supporting employment in related industries as well as in the retail sector. In this way, "...a multiplication of transactions occurs in the economy by people re-spending money" (Van Hoeve, 1995, p. 66).

### ***Agriculture Impact Studies in Ontario***

The agriculture impact studies completed in Ontario rely on data from the Population and Agriculture Census (direct impacts), and a survey of agri-related businesses (indirect impacts). The multipliers calculated from the data include a sales expenditure multiplier and an employment multiplier.

The research method used to measure the indirect impacts is a survey-based 'input-output-like' approach. The method and survey format was originally developed for use in Huron County in 1996 (Cummings, Morris and McLennan, 1998). Subsequently Dr. Harry Cummings and his associates have further refined the method and used it in many other areas of the province including Prescott, Russell, Stormont, Dundas and Glengarry Counties in 1998; Simcoe, Lambton and Perth Counties in 1999; Elgin, Middlesex, Oxford, Lanark, Renfrew, Frontenac, Lennox and Addington, Leeds and Grenville Counties, and the new City of Ottawa in 2000; Parry Sound, Nipissing, Sudbury, Manitoulin, and Algoma Districts, and the City of Greater Sudbury in 2001; Waterloo Region in 2003 and Timiskaming in 2004. Other consultants have used variations of the methodology in the Greater Toronto Area; Northumberland, Hastings, and Prince Edward Counties; Chatham-Kent; Niagara Region and the City of Hamilton.

Harry Cummings and colleagues have used economic base analysis and input-output analysis to quantify the direct, indirect, and induced impacts of agriculture. By tracking agri-related jobs and sales, Cummings found that 1 to 3 jobs are generated in other industrial sectors for every on-farm job. Similarly, for every dollar in farm gate sales, approximately two dollars are generated in agriculture related sales. Additional details are provided in Chapters 5 to 9. These studies have helped policy makers, at both the provincial and local levels, to better understand the important role agriculture plays in the economy and impacts it has on associated sectors.

### **3.4 Broad Trends Affecting Agriculture and Agri-Business in Canada and the United States**

A number of the trends affecting and interrelated with agricultural issues in Ontario are shared with the broader agricultural community across Canada. Although the specific details may differ somewhat, these trends are also shared with the agriculture sector in the United States. Some of the more significant of these trends are outlined in the following sections.

### **3.4.1 Food System Integration**

The North American (and, increasingly, global) food system has seen rapid and extensive integration and concentration across the entire system from “land to mouth.” A relatively small number of very large international corporations control an increasingly large proportion of the entire food system, with companies or subsidiaries selling farm production inputs and support services, purchasing and processing farm products and marketing processed food products to consumers (Kirshenmann, 2003a, and 2000b; Hefferman, 1999).

While vertical and horizontal integration allows for the maximization of economic efficiency and can lead to high food quality and food safety, the extensive corporate control exerted by the limited number of major players leaves farm operators with limited options as far as their choice of inputs, production methods and markets. The insatiable drive for economic efficiency also results in very low operational margins for producers and may reduce the ability of operators to pay heed to the land stewardship and environmental concerns that they would otherwise address. In turn, these potential limitations influence the lifestyle attributes often prized by farm operators and their families.

### **3.4.2 Changing Consumer Buying Trends**

Marcotte et al., in a 1999 study of Canadian Consumer Food Buying Trends, identified a number of key economic factors impacting on consumer demand:

- Slow Population Growth – although Canada’s population is projected to grow faster than any of the G-7 nations (1.2% annually) in the next decade, aggregate growth in the domestic market is expected to be small. The global market, however, will continue to expand offering significant export opportunities.
- Aging Population – a significant portion of the population is entering late middle age and becoming seniors. By 2016, it is projected that 44% of the population will be 45+ years of age. This graying population brings with it opportunities for those producing foods targeted at seniors.
- Disappearing “Traditional Family” – the number of single-person, one-parent and childless couples is increasingly offering a growing number of niche markets.
- Ethnic Diversity – sources of immigration to Canada have changed substantially over the years. Asia has become a major source of immigrants. Significant numbers are also coming from Central and South America, Africa and the Caribbean (Food Bureau, 2001). Each of these growing ‘ethnic’ populations offers unique opportunities for producers who cater to their unique tastes and traditions.
- Disposable Income – consumer spending on food service and higher value-added product purchases tends to increase when growth in disposable income exceeds growth in inflation and to decline in times when growth in disposable income is lagging.

## ***Spending on Food***

The Food Bureau of Agriculture and Agri-Food Canada (2001, p.1) estimates that Canadians spent \$55.8 billion in grocery stores and \$29.9 billion in various foodservice outlets in 2000. Whereas Canadians spent 13.6% of their personal disposable income on food and non-alcoholic beverages in 1974, that percentage dropped to 10.9% in 1983 and an estimated 8.95% in 2000.

## ***Consumption Patterns***

Over the past 20 years, per capita consumption of rice, breakfast cereals, pulses<sup>4</sup> and nuts, vegetable-based fats, chicken, fish, fresh fruit and vegetables, frozen vegetables, cheese, yogurt, low-fat dairy products and soft drinks have increased. During the same period of time, per capita consumption of sugar, animal fats (butter and lard), red meat, offal<sup>5</sup>, eggs, canned vegetables, skim milk powder, cocoa and tea have decreased. (Food Bureau, 2001, p.2).

## ***Grocery Purchases***

The Food Bureau (2001, p.2) notes that, “in 1996, the average Canadian spent almost \$1,625 on groceries.” By 2001, this had increased to \$2338 in Ontario assuming 2.2 members per average household. Purchases of red meat (16.3%), cereal and bakery products (14.8%), dairy products (13.3%) and vegetables (10%) make up two-thirds of the total. “Compared to 1982, Canadians are spending a smaller share of their grocery dollar on red meats, dairy products, fats and oils and eggs, while the largest gain in food basket share has been for prepared foods – from 4.7% in 1982 to 7.1% in 1996, reflecting the ongoing consumer demand for convenience.” The bulk of these grocery purchases were made in grocery stores (81%). The remaining 19% were distributed across specialty food stores (bakeries, butchers, etc) with 8%, other stores (drug stores, department and warehouse stores, etc) with 8% and convenience stores with 3% (Food Bureau, 1999, p.8).

## ***Customer Demands and Concerns***

The Food Bureau, in its 2001 overview of Canadian Consumers, notes that food producers and processors face an increasingly knowledgeable and demanding consumer. With respect to quality, Atkins and Bowler (2001, p. 191) suggest consumers are increasingly looking for foods exhibiting the following characteristics:

- full of flavour;
- free from germs; (The food health scares of the last 10 years have alerted consumers to the presence of micro-organisms causing food poisoning, BSE, tuberculosis and a number of other diseases.)

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<sup>4</sup> Pulses are the edible seeds of certain leguminous plants such as peas, beans and lentils.

<sup>5</sup> Offal are the “waste” parts cut off a carcass that are meant for food - head, heart, liver, etc.

- low in additives from the food manufacturers and residual contaminants from farming;
- have been sustainably produced, for instance from organic farms without negative environmental side effects;
- from sources that can be trusted; (Important here is knowledge about the origins of the food, through certification/labeling or even purchased directly from the producer. Trust may also be put in a brand.)
- provide information about the constituents (fat, sugar, salt, etc.) and preparation, allowing the food to be consumed as part of a balanced diet; and
- miscellaneous qualitative aspects that imply quality: fresh, exotic, luxurious, expensive, highly refined, traditional.

### **3.4.3 The Increased Use of Technology in Agricultural Production**

As an industrial sector, production agriculture has, arguably, witnessed as much substitution of technology for labour as any other sector in North America. The post World War II period witnessed intensive and rapid mechanization of farm production, and the period between approximately 1950 and 1970 was one of massive off-farm migration – movement pushed by mechanization on the farm, and pulled by increased off-farm, urban employment opportunities – most in manufacturing industries.

Recent decades have brought increasingly sophisticated technology to farm production, including computerization and biotechnology. These technologies have influenced farming practice directly (e.g., computers in farm management) and increasingly through integration with mechanical systems (e.g. electronics in farm equipment) and across the entire production system (e.g. computer financial/business management systems integrated with geographic information systems, supporting the application of biotechnology across the entire production system).

### **3.4.4 Value-Added and Niche Development**

Many individual producers are reacting to economic uncertainty by attempting to increase the value-added nature of their operations – adding more value to products before they leave the farm, and thus capturing economic value that would normally accrue higher in the production chain. This activity may or may not accompany niche development, where operators produce a product or service that is in high demand by a relatively small (usually local) component of the population. Some of this value-added and niche activity may be facilitated by existing government programs (some non-specific to agricultural) providing innovation knowledge and advice, product/service support, and marketing/business expertise to encourage traditional producers to develop products and services that address niche market demand.

Succeeding in niche markets and specialty products requires entrepreneurial business skills, including financial planning, marketing, human resources management,

communications, and leadership. These are skill groups that may not have been given significant attention in previous mainstream agricultural training initiatives.

### **3.4.5 Increasing Farm Size and Decreasing Numbers of Farm Operations**

Census of Agriculture statistics for both Canada and the United States indicate that the size of North American farm operations has been increasing for the past few decades, and this trend toward larger farms appears to be intensifying<sup>6</sup> (Statistics Canada, 2002; USDA, 1997). The growth of the average farm size is attributable to a number of factors, which include the following:

- Decreasing operational margins for individual operations (Statistics Canada, 2002), have stimulated the accumulation of more land.
- An increase in the number of large corporate-controlled operations, which tend to be larger in size than traditional single-family farms.
- An increase in the vertical and horizontal integration of the entire food production system, which has a negative effect on operational margins.

These factors, in turn, interact with globalization, which has had multiple and complex impacts on agricultural production. While globalization has increased competition for the production of many agricultural commodities, it has also introduced market distorting subsidy reactions from national governments. Globalization - induced competition has increased the demand for economic efficiency in agriculture, which has been a factor in the parallel development of larger, more integrated corporate farm operations and the trend to larger traditional family farms.

Growing farm size, the push for production efficiency, and the intensification of the capital requirements for farming has driven down the total number of individual farm operations in Canada and the United States. The land and physical assets of previously existing small farms are often purchased by larger independent or corporate operations. Those small family-farming operations not incorporated into larger single-family farms or corporate operations may be put to some other rural land use, or ultimately converted to residential, commercial, or industrial uses through urban expansion.

### **3.4.6 An Aging Agricultural Workforce**

As a broad economic sector, production agriculture in Canada has a workforce that is significantly older than the total national workforce and one that is older than the workforce in most other sectors. Canadian agriculture does share this characteristic with its counterpart in the United States. The average age of Canadian agricultural workers is advancing more rapidly than the overall workforce, largely because the proportion of

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<sup>6</sup> Statistics for the United States (USDA National Agricultural Statistics Service) 2002 census are not yet available, but earlier agricultural data suggests that average farm size increased from 364 acres in 1964 to 487 acres in 1997 (USDA, 1997). There have been anomalies in this trend, with the 1997 census indicating that average farm size had decreased somewhat in comparison to 1992.



the workforce made up of young workers (< 35 years old) is rapidly declining – fewer young people are entering careers in production agriculture (Statistics Canada, 2001b). While the age cohorts below 35 years of age make up approximately 40% of the overall Canadian labour force, farm operators in these cohorts represent only 12% of total farm operators in the country. Furthermore, the number of farmers under the age of 35 has decreased by approximately one-third since the 1996 census. Even with other influences remaining static, this trend translates into a significant long-term decline in the number of skilled operators available to the industry and in the amount of farm leadership available. For agriculture, the relative lack of young operators is amplifying the aging phenomenon occurring in the broader Canadian workforce, which stems from the demographic shift – the aging of Canada’s “Baby-Boom” cohorts.

The aging phenomenon in Canadian agriculture is more complex than the summary statistics portray, however, because the average age of farm operators varies geographically and by the type of agricultural production. For example, workers in some types of Southwestern Ontario production, notably dairy and cash cropping, have average ages that are significantly lower than the provincial and national averages (Yourk, 2002).

Agricultural economics experts and farm operators both cite a number of reasons why there is such decline in the number of young operators. These include the amount of capital required to get into production agriculture, the ongoing financial risk that is exacerbated by international trade barriers and disputes, the long hours involved in maintaining production, and the growing demands of business management associated with modern production operations. In addition, many older operators may discourage potential entrants into industry because of their own perception of a livelihood that suffers from very low return on human and financial investment.

As mentioned earlier, young operators face the daunting prospect of ever-increasing capital intensity in agriculture. When starting out, young operators must be prepared to make or continue large capital investments that have a long-term horizon. Even where the ownership of a family farm is changing from one generation to the next, very few of these transfers take the form of a direct inheritance. Most transfers require provisions to allow for the continued support of the previous generation of operators in their retirement, because much of their life-long investment is represented in the farm assets (Hoppe, 1997). Few farming parents are in the position to hand over their operation with minimal financial obligation as it is their retirement security, regardless of how much they may wish to support their children’s pursuit of agricultural careers and the associated lifestyle.

In one response to the capital intensity problem, some younger farmers are turning to contract production agreements as these reduce risk, pay relatively well, may not require as much capital as independent production, and may be more appealing to financial institutions (American Farm Bureau, 1999; Spurr and Coughler, 2000). However, these agreements have their own drawbacks, including potentially contributing to a short-term outlook on agriculture as a career and lifestyle.

The disincentive effect of the need for greater capital is made worse by continuing financial uncertainty in agriculture, driven in part by the complex relationship between globalization, trade disputes, and subsidy conflict. The need to acquire and manage more capital also creates increased management complexity and adds stress to the business management component of production agriculture. The need to expend more effort on business tasks rather than direct farming tasks, and to do so in a financial environment over which they have relatively little control, may act as a further disincentive to potential young operators. Older operators may, consciously or unconsciously, reinforce perceptions of these disincentives as they themselves struggle to adapt to a rapidly changing industry.

The changing commercial and socio-cultural landscape in agricultural areas is contributing to increasing land values, making it difficult for young people to acquire land and, at the same time, making the sale of existing high quality agricultural land appear more favourable. In addition, the increasing presence of large corporate farms often may increase land prices. In areas adjacent to urban centres, the land price increases are exacerbated by the demand for new land for industrial, commercial, and residential development. Regardless of the specific factors, the relatively rapid increase in land values is another significant obstacle to young Ontario farmers attempting to establish their own operations.

Other factors are influencing the relative lack of new entrants to agricultural production. Implicit in the comments above is the reality that the traditional pool of replacement farmers (children raised on farms) has decreased as a result of off-farm migration (for economic, as well as socio-cultural reasons), but farming is also affected by the same trends influencing the broader Canadian society and economy - the "Baby-Boom," as mentioned above, and the declining birth rate. The declining birth rate means that the number of children born within farm families (the traditional source of new workers) has fallen, and therefore there is a smaller number of potential young operators and workers for employment in production activity.

The extent of the aging of the agricultural workforce has serious long-term implications for agricultural production. If the trend is not reversed, there may not be enough skilled farm operators and workers to achieve the desired level of production from Canadian agriculture. In addition, the lack of young entrants means the potential for lost opportunity with respect to the transfer of skills and knowledge from older farmers to younger farmers. While those involved in agriculture generally accept that the low proportion of young producers represents a potential longer-term crisis for the industry, others argue that the lack of replacement farmers will not be a significant issue in the future, as technological advances and new management structures will mean that fewer workers will be required to produce any given level of output.

### **3.4.7 Evolving Rural Demographics and Social-Cultural Change**

Although there are local exceptions, rural populations across most of North America are increasing. However, with a decline in the proportion of the rural population involved in

agriculture, the social and cultural landscape of rural areas is evolving away from the traditional agricultural environment of much of the twentieth century. One result is greater potential for conflict between agricultural and non-agricultural residents. Another is a dilution of the common values and community supports that were a part of a more homogeneous agricultural setting. The extent and rate of social and cultural change affecting agriculture appears to be greatest in rural settings adjacent to large urban areas.

While the rate of social and cultural change may be greatest in rural areas along the urban fringe, an American farm and employment study found that since the 1970's ranch and farm employment has remained relatively stable in these areas, with more remote areas experiencing greater declines (University of Michigan, 2003). These findings were surprising and suggest that urbanization may not have the degree of negative impact on farming as many have speculated. In reality, urban development may have a net positive impact for agriculture by stimulating employment growth through niche markets, the potential for value-added production, and even by creating better access to more diversified support services. It is in urban-adjacent areas where the greatest opportunities for agricultural innovation and diversification may exist.

#### **3.4.8 The Growing Importance of Off-Farm Employment**

The proportion of Canadian farms that derive a portion of their income from off-farm employment has risen significantly in the past two decades. For example, part-time off-farm employment in Canada increased by approximately 50% between 1982 and 2002. In 2002, approximately 68% of farm families had at least one adult member working in non-farm employment (Martz and Brueckner, 2003). While more women work off the farm than men, the greatest increase in off-farm work has occurred among the latter. This reality, when combined with the fact that younger operators are more likely to seek employment away from the farm, means that operators and their families often face serious time constraints. While off-farm employment generates valuable income to invest in the farm, operators have to make difficult choices about where to expend their limited on-farm time.

One outcome of the increase in off-farm work has been that segregation of farm work along gender lines has decreased – in other words, the availability of on-farm time has become a more important factor than one's gender in determining who will address various farm tasks.

### **3.4.9 Long-Term Decline in the Perceived Value of Agricultural Careers**

The perception of agriculture has changed dramatically in recent decades, both among those familiar with agricultural operations, and among the general population, whose linkage to, and understanding of, agriculture as an activity has decreased significantly.<sup>7</sup>

Potential young farmers are all too familiar with the financial uncertainty, the hard, and often poorly compensated work involved, and the reality that financial and lifestyle benefits may accrue only in the very distant future, if at all. As a whole, producers and workers in agriculture may never have had a more pessimistic outlook regarding their occupations and careers. For example, a 2001 study in the United States found that only one-quarter of farmers and ranchers felt that they were better off than five years previously (Allen, 2001). This result was significantly lower than for persons reporting from a broad aggregate of occupations in the U.S. economy.

This “insider” perception of agricultural hardship and the negative implications of industrialized agriculture, among other things, also may have the effect of decreasing the value or desirability of agricultural careers on the part of young people who might otherwise be drawn to the sector – from both the traditional sources (existing agricultural households) and from the broader Canadian workforce.

On the part of the public, a limited and superficial understanding of subsidy “wars” and the seemingly low “public good” value of agricultural support programs are among the drivers of misperception about the production side of the industry.

### **3.4.10 Lack of Understanding of the Food System**

A significant factor in the long term decline in the perceived value of agriculture as a career is the lack of a general understanding of the importance and complexity of the food system. Pothukuchi and Kaufman (1999) suggest that the low visibility of the food system is due to the following reasons: urban residents take food for granted and do not consider the many linkages that are required to bring food into the urban centers; rapid urbanization excluded food from other recognized urban issues such as housing, health, pollution, jobs, and crime; the continuous changes in technology, transportation and food processing and preservation have led to storage of foods closer to urban centers thus further removing farmers and farms from the urban viewpoint; and finally, public policy has divided urban and rural into two domains in which the latter disappears during the decision making process.

Feenstra (1997) concurs and suggests that strategies and initiatives need to be implemented in order to increase the viability and health of a community’s food system. The strategies include learning about the local food system through historical reviews; estimating the region’s ability to grow its own food (urban agriculture); noting the local,

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<sup>7</sup> The various Ontario agricultural impact studies conducted by Cummings and others highlight these perceptions explicitly and implicitly. For example, refer to the *Middlesex Agricultural Sector Assessment Study*, conducted by Cummings et al. in 2000.

seasonal foods and recommend food guides; an examination of distribution, barriers, and opportunities in order to market foods more efficiently. Furthermore, Feenstra recommends that a process be established for gathering data and developing plans, as well as, diversifying community resources involved in outreach and education; finally, Feenstra (1997) reinforces that local food policy planning focuses on enhancing urban-rural linkages.

Pothukuchi and Kaufman (1999) are of the view that the food system needs to be thought of as an integral part of any urban system since:

- restaurants, fast food places, supermarkets, food stores, taverns, and food wholesalers are part of the food sector and this sector is an important part of the urban economy;
- city residents are employed in the food economy;
- households spend a large part of their income on food;
- cities are being asked to take responsibility for the loss of farmlands;
- food waste, such as food packaging, is a significant portion of the urban wastebasket;
- city water pollution can be a result of fertilizers and pesticides leached from agricultural lands;
- food contamination can result in urban health problems;
- household and individual trips to acquire food can result in higher transportation volumes - the quality of the transport system becomes an issue; and
- food banks, food pantries and soup kitchens are an integral part of life for some lower income city residents.

On a more positive note, more recent research suggests that attitudes to the food system and agriculture are shifting, with consumers showing more interest and a willingness to become better informed about food production. Public awareness and concern regarding agriculture and food production appears to be increasing and consumers are starting to recognize the importance of an agricultural system that is socially, economically, and environmentally healthy. It is likely too early to determine to what extent consumer attitudes will shift, and whether this shift will have a positive impact on the perception of agricultural careers, or will contribute to the enhancement or stabilization of employment within the industry.

#### **3.4.11 Revisiting Co-operative and Alternative Production and Marketing Structures**

One response to uncertainty in agriculture is one of engaging in or revisiting alternative business structures, especially producer, processor, and marketing co-operatives. Although agricultural co-operatives have a long history in Canada, renewed interest in this type of business structure may be reflective of a desire to regain some of the lost individual and “local” control over production, employment, and livelihoods, and an effort to reduce the financial uncertainty. While Canadian co-operatives have enjoyed considerable success, with annual sales in the billions of dollars, they face increasing

competition from the same concentrating global market forces which make them appealing to potential members (CCA, 2003).

### **3.4.12 Attempts to Address, Stabilize, and Improve Agricultural Employment**

Canada, the United States, and nations within the European Union have a long history of governmental and non-governmental attempts to improve agricultural employment and livelihoods, with variable results. These interventions include the following:

#### ***Subsidies***

Virtually all developed nations employ or have employed various forms of subsidization in an effort to preserve, improve, or promote national agricultural activity. Subsidies take many forms, but they are essentially direct or indirect methods of managing prices (for inputs and outputs) and production levels. In the current globalizing marketplace, agricultural subsidies are a major source of ongoing trade tensions. Much of this tension stems from differing views of what comprises subsidization. Indeed, it seems that governments deliberately employ complexity in developing subsidy programs to obscure, or at least introduce an element of doubt as to the exact nature of programs, and thus make it difficult for competing nations to build and present a case for sanctions and counter-actions when presenting before various international trade organizations<sup>8</sup>.

Although Canada continues to provide an array of subsidization programs for various agricultural sub-sectors, many writers and industry experts would argue that the United States and the European Union directly and indirectly subsidize their agricultural producers more than any other world nations. In fact, the United States has recently embarked on the implementation of their largest, most comprehensive, and most-globally influential agricultural subsidy programme in their history – the Farm Security and Rural Investment Act of 2002. This legislation has met with resistance and condemnation from other world nations because they perceive it as contradicting recent global efforts at reducing agricultural subsidies and because of the potential impact on global agricultural commodity prices.<sup>9</sup>

In spite of the global popularity of agricultural subsidies, and the fact that, from a national perspective, many can be legitimized, there are many local, national, and international drawbacks to their use (AAFC, 2000b). Their impact on agricultural employment, careers, and livelihoods is huge; with these impacts varying across the scale from local to global. For example, direct agricultural support programs are often difficult to implement in a way that is equitable, given the present broad-spectrum of operation size and business structure. The same subsidy program applied to both small

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<sup>8</sup> For recent commentary on the complexity of resolving international farm subsidies, see (Fitzgerald, 2003).

<sup>9</sup> For EU reaction to the U.S. Farm bill see the Europa web site dedicated to information and commentary on this legislation: [http://europa.eu.int/comm/agriculture/external/wto/usfarmbill/index\\_en.htm](http://europa.eu.int/comm/agriculture/external/wto/usfarmbill/index_en.htm).

family farms and large corporate operations may actually increase inequity and negatively affect smaller operations. Larger corporate operations are likely to receive greater funding or greater benefits and leverage these advantages to accumulate assets or gain efficiencies that are inaccessible to smaller operations.

Any discussion of agricultural subsidies is laden with emotion, conflicting values, and often promotes conflict on a number of levels, including national and regional autonomy, cultural, social, and even economic development philosophies. Nationally and regionally, viewpoints vary from those that see subsidy and support programs as hastening the decline of rural life and rural communities to those that view them as useful tools and a natural progression in contracting traditional agricultural employment in the name of modernizing and increasing efficiency in the entire agricultural sector.

### ***Recent Producer Subsidy Trends in Canada***

The federal government has employed a wide array of agricultural subsidies in recent decades, but the three most recent programs are as follows (NFU, 2003a):

- Crop Insurance (CI), which reimburses farmers who suffer large yield losses on specific crops.
- The Canadian Farm Income Program (CFIP), which reimburses farmers who suffer very large decreases in gross revenue.
- The Net Income Stabilization Account (NISA), a program that allows farmers to deposit funds and provides government matching funds in order to build up cash reserves that farmers can use to deal with price and revenue declines.

In spite of direct and indirect subsidization in recent years, and improved overall access in maintaining and often improving access to foreign markets (agri-food exports have increased overall), the profit margins on Canadian farms as a whole have continued to narrow (Statistics Canada, 2002a). Furthermore, the proportion of farm incomes derived from government programs has increased substantially, while market incomes have declined (AAFC, 2002a), and the current farm income crisis is widely known.

### ***Rural Economic and Social Development Initiatives***

This category of intervention encompasses a host of methods aimed at improving rural economies and/or improving rural social conditions. Many are explicitly directed toward supporting and improving employment and livelihoods in agriculture.

Assessment of the relative economic, employment, and social impacts of the wide range of rural development initiatives is highly interpretive. From the perspective of the agricultural community, many recent Canadian national and provincial efforts at rural economic and social development have essentially bypassed agriculture – either viewing it as a dead industry, or possessing programming and implementation flaws that intentionally or unintentionally prevent the effective participation of agricultural producers. From the perspective of other industries, organizations and interest groups, opinions vary from one of believing that agriculture is not a good investment of funding

and effort, to the view that agriculture already receives enough assistance in other ways. Nationally, this debate is likely influenced by geographic differences in the economic importance of agriculture and how the media portrays agricultural issues. To many, diversification or improvement in local or regional economies often means essentially writing-off existing activity, including agricultural production.

However, there are differences in provincial approaches to agriculture within rural economic development initiatives, and differences in perceptions about how agriculture fits into these broader initiatives. In Manitoba, for example, all programs that promote rural economic development and employment to rural areas are seen as supporting agriculture – as many farmers are also working at off-farm employment (Kraft, et al, 2001).

### ***Facilitating Transitions From the Agricultural Industry***

The Government of Canada, along with provincial and territorial governments and the agriculture and agri-food industry, is developing a comprehensive agricultural policy that will increase the profitability of the entire agri-food sector. The Agricultural Policy Framework (APF), cost-shared with the provinces, will provide the tools and the choices for producers to strengthen their businesses... (AAFC, 2003).

The APF is comprised of six distinct, but interrelated elements: *Food Safety and Quality, Environment, Business Risk Management, Renewal, Science and Innovation, Gaining Recognition for Quality, and Maximizing International Opportunities, and Consultations*

Under the *Renewal* component, the APF includes a deliberate effort to facilitate not only the augmentation of production activities with other business activity, but also the transition of some farm operators away from production agriculture. The framework intends to do this by providing assessment, funding, and resource support services to help individual operators build on existing secondary businesses and skills (AAFC, 2002b).

### **3.4.13 Skill and Training Trends, Issues, and Needs in Agricultural Employment**

#### ***Changing Federal Approach to Training and Development***

At the macro level, there is considerable research and discussion of skill and training issues in agriculture in Canada and the United States. However, the availability of research and the identification of industry-specific issues, trends, and potential solutions decreases rapidly as one explores the large number of sub-sectors that make up agriculture and agri-business. This is problematic, as once one gets below the aggregate level, the labour market, skills, and training characteristics would appear to differ considerably across these sub-sectors, and across the broad primary, secondary, and tertiary categories.



Regardless of whether one considers the decline in the traditional family farm to be a critical issue for agriculture as a whole, or part of a necessary social and economic adjustment for rural areas, the change does have implications for the supply of labour. These small-scale farm operations were the source of most of the new workers for production agriculture. While the number of workers needed in agriculture may decrease, there will always be a need for some skilled production workers. The rapid decline of young workers is of concern to the industry – with so few family farm offspring entering production agriculture, what mechanisms exist to address the skilled labour needs of modern production agriculture?

Until recently, change in the skill and training situation for production agriculture might be seen as one of relatively rapid evolution of skills rather than the emergence of new occupations. However, technology and new products and markets may be forcing a complete re-description of what it means to be a producer or farm operator. Rapid progression in the complexity of overall business management skills required, as well as advancing technical skill requirements (production methods and techniques, and the use of computer technology across all aspects of operation and management) have radically changed the nature of farming, and therefore the types of skills and training required.

Regardless of one's perspective on the change from so-called traditional farming to modern farming, there are potential skill and training implications for the transition. For example, while science and technology have, and will continue to offer much benefit for agricultural production and agri-business, the industry may be unconsciously discounting the value of traditional proven practices and the effective intergenerational exchange of knowledge that was inherent in a system dominated by the small family farm. With small farming operations clearly in decline, a rapid aging of the workforce in the production sector, and the low rate of new entrants into the workforce, the opportunity for exchanging "traditional" knowledge and blending it with "modern" applied technical and scientific knowledge may be substantially reduced.

The most recent national and provincial policy with respect to agricultural training and skills development is evident in the evolving APF (AAFC, 2003), which clearly demonstrates a distinct shift in federal and (as they reach independent agreements) federal-provincial-territorial policy with respect to agricultural training and skills development. For example, the federal government has moved from supporting traditional approaches to individual agricultural operator or worker training ("people-in-seats;" in the words of one agricultural training expert) to providing funding for the support of business and technical skills development where they consider the investment to be most viable. This new training and development approach is, therefore, a much more indirect type of support (supporting consultants and interventions by "experts"). It also potentially places more responsibility on operators to identify and justify their own training needs. An important component of this new approach is an explicit government attempt to build on existing secondary businesses and skills and use direct funding and resource access to entice marginal producers to develop other alternatives and to exit from agricultural production.

Although the training and skills development aspects of the APF may appear to represent subtle change, they hold significant implications for long-term agricultural sector employment. As a result, the framework has its detractors and the criticisms include the following (NFU, 2003a, 2003b):

- The APF does not appear to be adapted to the interests of small family farms, but is more in the interest of larger operations.
- As outlined in current APF documentation, the proposed safety net programs do little to enable young farmers to move into full partnership in their family farms.
- Program components that require matched funding from the individual may act as a significant barrier to smaller operators and younger operators trying to enter the industry.
- Young farmers often do not have the production history necessary to fully utilize programs that are based on three and five year average revenues and margins.
- The “whole farm” subsidy approach penalizes farmers who diversify their operations, because the programs are oriented to one operation-wide commodity or production method. It may also penalize farmers who cut their costs and work harder during difficult times. These characteristics may be sending the message to young and beginning farmers: diversification and adaptability will penalize them in terms of the amount of government support that they can expect to receive.

There are also concerns about the implementation of a knowledge intensity approach to agricultural training – the approach inherent in the APF training and development components, but one that is also evident in other current training initiatives.

One such concern involves the barrier represented by the continuing absence of broadband Internet access across substantial portions of the Canadian rural landscape. In addition, although recent evidence suggests that Canadian farmers have embraced the Internet to a remarkable extent, it is not clear how many farm operators and workers have the skills or computer technology to effectively take part in online learning or sophisticated searching and information exchange.

Finally, many agriculture workers may be less inclined to spend the required time to indulge in Internet learning – the incentive to take the time on the farm to engage with computer learning may be lower than that for attending a course or workshop with one’s peers. Again, the aging phenomenon has a major impact on these potential barriers, at least for the short to medium-term future.

In spite of these uncertainties, it is clear that the Internet has already significantly influenced agriculture, and this influence will almost certainly increase. As an example of the importance of the World Wide Web, It has been estimated that in 2003, 10% of the world’s 4 trillion dollar market in agricultural goods were traded on line.

The individual-driven, support services-and–resources approach to training and skills development, as represented in the APF, appears to be widely accepted as the most effective approach. However, there is some research to support the need for continuing

a broad traditional approach to training. For example, the Saskatchewan Council for Community Development (SCCD) recently released a report that includes the following findings (SCCD, 2003):

- There is current and future need for training and education to keep producers current with changes to agriculture.
- Agribusiness requires more training for managers in skills such as financial planning, marketing, communications, leadership, and human resources.
- The industry would benefit from greater partnership between colleges, universities, and training centers, and the delivery of information in ways that accommodate a greater number of producers.
- The industry and governments should cooperate in the development of a centre for agribusiness training and education – to provide services that could be accessed via the Internet or phone and allow producers to access information, resources, and contacts.
- Agricultural training programs and providers should seek alliances with training programs in other provinces.

### ***The Increasing Importance of Biotechnology***

All agricultural sub-sectors and activity classifications (primary, secondary, and tertiary) are being influenced by rapid developments in biotechnology. If there is one group of agricultural skills that appears to be in significant demand, it is those related to biotechnology. Because of its cutting edge nature and the industry's entrepreneurial atmosphere, occupations in biotechnology are especially demanding skill sets, requiring both breadth (the combination of business/management *and* applied science/engineering knowledge and skills) and depth (specific expertise within the applied sciences and engineering).

### ***Skill Needs***

The combination of technology, biotechnology, changing consumer demand, and globalization continue to have a significant impact on all aspects of the agricultural economy and the skills required by the multitude of occupations within it. Combined with a rapidly aging primary production workforce, and serious current or emerging skill shortages in other sectors, the agricultural labour market, skill development, and training situation is cause for concern. Furthermore, the current agricultural labour force situation is complex, with skill shortages and new skill needs varying across sectors. In spite of ongoing discussion of agricultural skills development on the part of government, agricultural organizations, and individual operators, there appears to be little by way of comprehensive research into agricultural skills shortages, issues, and potential solutions in Canada. However, both studies of smaller geographic areas and research focused on other agricultural economic issues have provided some insight into the specifics of skill and training needs within production agriculture.

**(i) *Employment, Labour Market, Training, and Skills Implications From Broader Agricultural Economic Research and Commentary From Canada and the United States***

- Although not limited to agricultural businesses, participants at the Second National Rural Conference: Charlottetown Action Plan identified the development of leadership skills as a major rural priority (Rural Secretariat, 2002). The need for enhanced leadership skills in agriculture was echoed by the OATI Learning Group as one outcome of the federal shift in training policy. Their rationale was that given the increased importance of shared knowledge and individual/community identification of training issues and needs, the role of leaders in agricultural training and skills development is more important than ever (Pletsch, 2003).
- In spite of the trend to increasing skill levels, there are still production agriculture jobs where skill requirements remain low, as in some fruit and vegetable harvesting activities. In Canada, migrant workers from Central America and the Caribbean have often filled these jobs; because the working conditions and relatively low wage rates do not appeal to Canadian workers.
- The increasing complexity with respect to the interrelationship between farm and off-farm work has prompted research interest in the definition and analysis of farm work and farm incomes.<sup>10</sup> Evolving farm work characteristics have also stimulated interest in changing gender roles with respect to work and income.<sup>11</sup>

**(ii) *Employment, Labour Market, Training, and Skills Implications From Previous Agricultural Economic Impact Studies in Ontario***

There have been at least twenty agricultural economic impact studies conducted in Ontario since 1998, covering most of the province's counties and northern districts with significant agricultural activity. While the treatment of labour market, skills and training issues has not been entirely consistent across the studies, most have included these components in surveys of and/or focus groups with farm operators. As one might expect, given the variable importance of the various production sub-sectors, the labour market and skills related findings vary somewhat by geographic area. However, some common elements emerge from the research. These broadly similar findings include the following:

- The skills demanded of farm management personnel and labourers tend to be broadening and the diversity of skills needed within a given occupation is increasing. This diverse skill set includes computer skills and a wide range of

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<sup>10</sup> For example, see Korb, 1997 and Allen, 2001

<sup>11</sup> An example of a recent Canadian agriculture and gender study is *The Canadian Farm Family at Work: Exploring Gender and Generation*. In Ontario, WRED is currently conducting a study on evolving skill development needs for rural women. The article by Pamela Ferdinand also provides insight into the evolving role of women in farming in the U.S.

mechanical aptitudes in such areas as welding and equipment maintenance and repair.

- Given the low profit margins, and the increasing complexity of modern farm management, farm operators prefer workers with previous farm employment experience. This desire for experienced workers is in conflict with the reality that there is a decline in the number of workers from traditional sources (i.e. individuals who have been raised in a family farm environment).
- Farm operators require an increasingly sophisticated set of business management skills. These include skills related to financial management/accounting, applied computer skills (e.g., business financial software, production management related software, and information management applications), and human resource management/workforce development skills and knowledge.
- In spite of recent research that suggests that the demand for computer skills in rural jobs continues to lag behind the demand in urban-based employment (Kusmin, 2002; Kusmin, 1997), computer skills are increasingly important for a wide range of occupations. This is certainly true of management positions, but the increased use of computer technology in all facets of production is driving the need for computer skills in non-management positions as well.
- The so-called “soft skills” – abilities and aptitudes that include attitude, work ethic, and interpersonal communication skills, remain high on the list of desired skills among farm operators.

### **3.5 Additional Challenges Facing Ontario’s Agricultural Sector**

Ontario’s agricultural sector, in addition to having to deal with the aforementioned broad national trends, also faces a number of more specific challenges some of which it shares with other provinces and some which are unique to Ontario. This section outlines the more important of these specific challenges.

#### **Economic viability of agriculture**

Paramount in the mind of many Ontario farmers is the basic question of whether they can or should continue to farm. Given the low commodity prices many are receiving, the substantial increases in input costs (petroleum, hydro, fertilizer, machinery, municipal taxes, etc.) they are facing, the increasingly complex regulatory environment they must navigate, many are facing an income crisis and are wondering if it is worth continuing. Many are committed to farming and the importance of domestic food security but are frustrated by the minimal or non-support they feel they get from much of society and both levels of government.

### **Agri-Food Research**

Many significant advances in Ontario agriculture have been the result of research done at the University of Guelph and its affiliated agricultural colleges and research stations around the province. Whereas the Ministry of Agriculture and Food put 75 million dollars into such research in 1995, that figure had dropped to 50.5 million in 1999. If Ontario is to continue to experience the productivity gains it enjoyed in the later part of the 20<sup>th</sup> century, it is important that adequate research funding be made available. (Otto, OFA Commentary # 1703).

### **Drainage**

When the provincial government withdrew its commitment to the Municipal Outlet Drainage Program in the summer of 2004, farmers planning to install tile drainage felt abandoned by the government. While this program has been recently reinstated, the precipitous action by the government in 2004 was not well received by the farm community and did not facilitate a smooth transition to the new reality.

### **Environmental Issues**

While the Ontario farm community is largely committed to functioning in an environmentally responsible fashion, as reflected by the widespread use of environmental farm plans, there is a growing concern with the likely costs of emerging environmental legislation and who pays for its implementation. Many farmers see the costs of new nutrient management practices, water taking permits and well water tests as further input costs that they can ill afford (Odyssey Report, 2002).

Similarly, there is underlying concern with the implications of new approaches to the disposal of bio-solids, the implementation of the Drinking Water Source Protection Act, pest management and the storage and use of fertilizers and pesticides.

### **Energy Costs**

With recent increases in oil and gas prices, farmers are finding it increasingly expensive to fill the tanks of their vehicles and farm machinery and to heat essential farm buildings. Similarly, as the province moves to raise electricity rates closer to the cost of production, that too will increase these essential input costs.

### **Farm Property**

With the introduction of provincial plans such as the Oak Ridge Moraine Conservation Plan and the Greenbelt Plan, there is concern among some in the affected farm community that the public may view such areas as public lands which may in turn lead to crop damage or injury to livestock. Accordingly, some farmers would like to see a strengthening of the Trespass to Property Act to provide for stiffer fines and higher damage awards.

### **Food Safety**

With the outbreak of E. coli bacteria in Walkerton and BSE in Alberta, the general public is more aware of the serious implications of food and water borne diseases. As a result of such events, consumers are expressing a greater interest in the traceability of food – where it was grown, under what conditions, etc. While the inclusion of such information

with Ontario produced food may provide some attractive marketing opportunities, it may also result in an additional input cost for the producer.

### **Land Use Planning**

Ontario has recently gone through a number of major land use planning initiatives – the Oak Ridges Conservation Plan, the Greenbelt Plan and a revamping of the Provincial Policy Statement – and is still working on a Growth Plan for the Greater Golden Horseshoe. While the agriculture community support many aspects of these initiatives, there is widespread frustration and anger, particularly with the Greenbelt Plan, that these initiatives do not address the critical issue of agricultural viability (OFA Pre-budget 2005 – Part II).. While plans can preserve lands for agricultural uses, many farmers argue that such initiatives are unfair and futile unless farmers can make a decent living in agriculture.

At the local level, the issue of land use compatibility is an ongoing concern. While the Minimum Distance Separation (MDS) formulae, which have been incorporated into most rural zoning by-laws, help protect existing livestock operations, they can also prevent needed expansions if there are residential uses in close proximity. While the Farming and Food Production Protection Act, 1997 provides some protection to farmers carrying out normal agricultural practice, there is interest in strengthening this legislation to enhance a farmer's ability to carry out their best management practices on farms (OFA Pre-budget 2005 – Part II).

### **Municipal Restructuring**

As extensive restructuring has occurred among Ontario's municipalities since the early 1990s, the farm populations in some newly created municipalities feel they have less of a voice in local decisions since their councils are now dominated by urban representatives. If rural issues are to be adequately addressed in such situations, mechanisms such as agriculture advisory committees need to be explored to ensure legitimate rural concerns are addressed.

### **Rural Infrastructure**

As some rural municipalities are experiencing an absolute decline in their population, there is a concern in these areas that essential rural services and infrastructure may disappear. If both parents need to work off the farm, is child care going to be available? Similarly, is it going to be possible to maintain local schools, hospitals and medical services in a time of budgetary constraint? Are essential farm services such as implement sales and service, feed mills, elevators, seed and fertilizer dealers and large animal veterinarians going to remain viable and available?

### **Taxation**

As "farm" land values around larger urban centres are bid-up by commuters and hobby farms, neighbouring production farmers are also seeing an increase in their municipal tax bills. Such tax increases in conjunction with increases in provincial health taxes are additional input costs that eat into the farmer's net income.

Certain rural uses such as riding stables have recently been assessed as commercial uses as opposed to farm uses. As a result, some stables have seen major increases in their municipal taxes. If rural areas are to remain vibrant, it is important that a clear differentiation be made between farm-related and non-farm uses.

### **Telecommunications**

With computer technology making its way into many farm operations, some farmers are finding they are unable to fully utilize the latest technology as they do not have access to high speed Internet services.

### **Trade/Border Issues**

Most trade and border issues fall under the jurisdiction of the federal government. Nevertheless, Ontario farmers are highly interested in such matters as the delay in the full opening of the US border to Ontario beef following the BSE crisis, the outcome of any World Trade Negotiations that may impact on Ontario's Supply Management System and in the farm-related implications of Canada signing the Kyoto Protocol. Each of these international agreements can have a major impact on the bottom line of Ontario farmers and they want to be involved.

### **Wild Life**

As the province promotes the protection and linking of wildlife corridors in provincial and municipal planning documents, there is concern in the farm community as to who will pay for crop and livestock losses resulting from the wildlife attracted to and using these corridors.

## **3.6 Summary**

A number of trends are in evidence: increasingly capital intensive agriculture, more part time work, increasing farm size, changing consumer preferences, increases in farm production, declines in rural service centers, increasing government regulation and an increasingly global competitive market place.

With this literature review providing an overview of the general and more specific issues faced by Ontario agriculture, attention will now focus on the details of each of the province's five agricultural regions.



## **4.0 Agricultural Regions of Ontario – An Overview**

### **4.1 Discussion of the Regionalization of Ontario within a Canadian Context**

The purpose of this chapter is to look at agriculture in a regional context. The issues of Ontario regions are different than those at a county or local level. The use of larger groupings of counties with common characteristics and shared issues will be addressed in the following discussion. The section will begin with a general discussion of what regionalization is and how it applies to Ontario. This will be followed by a brief description of how Ontario has been divided into five agricultural regions for the purposes of analysis in this report. Each agricultural region will be discussed and compared in greater detail using data from the Population and Agricultural Census.<sup>12</sup>

### **4.2 The Process of Regionalization in Canada**

The ongoing need for planning on a regional scale has manifested itself in two ways in Canada (Hodge and Robinson, 2001:4). The first relates to the needs of the vast and differing terrain of the country. In order to build a single united nation, it was important to acknowledge the needs of each region across the country. An example of this was the dream of John A. Macdonald to link central Canada with the West and the Maritimes. These types of regional initiatives each had the main goal of “nation building”. To this end, the federal government typically takes the lead in these types of initiatives.

The second manifestation of regional planning is derived primarily from the need for “province building” (Hodge and Robinson, 2001:5). This need became increasingly apparent at the end of the 1930s. As an urban industrial economy developed alongside rural areas, regional issues began to arise that were specific to individual provinces. It became increasingly apparent that the issue of how regional boundaries are created is mainly an administrative decision (Hodge and Robinson, 2001:106).

The setting of boundaries is typically done within a political or geographical milieu. There are two main perspectives in the creation of boundaries, the first poses the question: “Of what kind of space should the planning region be comprised?” The other perspective poses the question: “Who needs the region for planning?” (Hodge and Robinson, 2001:106). Each question carries differing perspectives and each is pivotal to the definition of the region.

The rapid expansion of urban areas following the Second World War caused Ontario to assess the importance of the preservation of farmland (Hodge and Robinson, 149). As prime agricultural lands were often located in close proximity to growing urban centres, Ontario began to use the Canada Land Inventory in order to facilitate the planning of rural areas. It utilized a mapping system of agriculturally capable lands as well as other rural resource sectors (such as forestry, recreation, wildlife).

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<sup>12</sup> Chapters 6 through 10 will provide a more detailed profile of each individual Region.

Between 1969 and 1974, Ontario began developing a system of regional municipalities (Hodge and Robinson, 151). These municipalities tended to correspond to regions surrounding major urban centres and therefore provided a means for dealing with urban-rural interactions. During this period, twelve regional municipalities were established. Each was structured with full local government status, with elected councils, taxation powers, and land-use regulatory resources.

During the 1970s there was greater federal involvement in regional planning (Robinson IM and Gerald Hodge, Plan Canada “Canadian Regional Planning at 50: Growing Pains” Vol 38: no 3, 1998, 10-14). Regional economic development programs began in Canada through the Department of Regional Economic Expansion (DREE, 1969 to 1982) and the enactment of the 1970 Canada Water Act. Under this Act there was joint federal and provincial planning of the provinces’ river basins. Within this timeframe, the Ministry of the Environment was created (1971), and a number of programs were created to sponsor regional planning and development tools. However, the 1980s saw the demise of some significant regional activities including Ontario’s “Design for Development”, and “Toronto-Centred Region Plan”, and the DREE. From this time forward, regional planning strategies changed and began to focus increasingly on urban development and expansion.

#### **4.3 Examining Ontario in a Regional Context**

Ontario has been categorized into regions based on geographical and social qualities. A broad regional division would differentiate between Northern and Southern Ontario. This division between the two regions is positioned at the south end of Nipissing and Muskoka Districts. This is a general division, dependent upon the purpose and need. Regions can be created using different variables, such as geographical boundaries, county separations, or large urban centres.

Using the initial definition of Southern Ontario, overall, it is the place of residence for the majority of the provincial population and it is also the location of the majority of both the provincial and the national prime agricultural land. Ontario possesses approximately 76,537 square kilometres of dependable agricultural land<sup>13</sup> or 15.5% of the total dependable agricultural land in Canada. Most of this land is located in Southern Ontario where the mixture of waterways, landscape, and infrastructure has promoted increased urbanization. One of the impacts of urbanization in Southern Ontario has been the ongoing decline in dependable agricultural land. In 1971 just under 6% of the province’s Class 1 farmland was being used for urban purposes. By 2001, over 11% of the Ontario’s best agricultural land was being used for urban purposes (Hofmann, Filoso, and Schofield. January 2005. Statistics Canada Rural and Small Town Bulletin, Vol. 6, No.1.5-8).

Statistics Canada has divided Ontario into a number of different regions and census sub-divisions in order to better define and understand particular areas and provincial

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<sup>13</sup> ‘Dependable’ agricultural land is defined as land designated as Class 1, 2 and 3 by the Canada Land Inventory. This agricultural land is characterized by soils that are not hampered by constraints for crop production.

trends. For example, Statistics Canada has seventeen geographical divisions that are used to analyze the population.

One such geographical division is the Census Agricultural Region. A Census Agricultural Region is a sub-provincial geographic area used by the Census of Agriculture for disseminating agricultural statistics. In most provinces, Census Agricultural Regions are composed of groups of adjacent Census Divisions (i.e. counties, districts, regional municipalities).<sup>14</sup>

Ontario has five Census Agricultural Regions: Southern, Western, Central, Eastern and Northern.

The Southern Ontario Region is comprised of ten Census Divisions including the Counties of Brant, Chatham-Kent, Elgin, Essex, Oxford, Lambton, and Middlesex; the Regional Municipalities of Haldimand-Norfolk and Niagara; and the City of Hamilton (formerly the Regional Municipality of Hamilton Wentworth). This region is bordered by Lake Erie in the south, Lake Ontario in the east, and Lake Huron in the west. The northern boundary is marked by several counties in the Western Ontario Region.

The Western Ontario Region is comprised of ten Census Divisions including the Counties of Bruce, Dufferin, Grey, Huron, Perth, Simcoe, and Wellington; and the Regional Municipalities of Peel, Halton and Waterloo. This region is bordered by Lake Huron in the west and Georgian Bay in the north. The eastern boundary is marked by several counties in the Central Ontario Region while the southern boundary is marked by counties in the Southern Ontario Region.

The Central Ontario Region is comprised of eleven Census Divisions including the Counties of Haliburton, Hastings, Northumberland, Peterborough, and Prince Edward; the Districts of Muskoka and Parry Sound; the Regional Municipalities of Durham and York; and the Cities of Kawartha Lakes (formerly Victoria County) and Toronto (given that there are so few farms remaining in the City of Toronto, the agricultural census data for this region is usually combined with York). The southern boundary of the Region is marked by Lake Ontario while the northern boundary is marked by Lake Nipissing, the French River and Algonquin Provincial Park. The western boundary is marked by Georgian Bay and several counties in the Western Ontario Region. The eastern boundary is marked by several counties in the Eastern Ontario Region.

The Eastern Ontario Region is comprised of eight Census Divisions including the Counties of Frontenac, Lennox and Addington, Lanark, Renfrew, Leeds and Grenville (United Counties), Prescott and Russell (United Counties), Stormont, Dundas and Glengarry (United Counties); and the City of Ottawa (formerly the Regional Municipality of Ottawa Carleton). The southern boundary of the Region is marked by the St.

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<sup>14</sup> Census Division is the general term for provincially legislated areas (such as county, regional municipality and regional district) or their equivalents. Census divisions have been established in provincial law to facilitate regional planning, as well as the provision of services that can be more effectively delivered on a scale larger than a municipality. (Statistics Canada, 2001)

Lawrence River while the northern boundary is marked by the Ottawa River. The eastern boundary is marked by the border with the Province of Quebec and the western boundary is marked by Algonquin Provincial Park and two counties in the Central Ontario Region.

The Northern Ontario Region is comprised of ten Census Divisions including the Districts of Algoma, Cochrane, Kenora, Manitoulin, Nipissing, Rainy River, Thunder Bay, Temiskaming, and Sudbury; and the City of Greater Sudbury. The land mass of the Northern Region accounts for almost 90% of the total land mass of Ontario however it comprises only about 10% of the total reported farmland area in the province. In the Canadian Shield area of Northern Ontario farming is restricted to small pockets of land and the majority of farms are located in the several clay belts within the shield.

The western boundary of the Northern Region is marked by the provincial border with Manitoba while the eastern border is marked by the provincial border with Quebec. The northern boundary of the Region is marked by the sea coasts of Hudson Bay and James Bay. Most of the southern border is marked by Lake Superior and the border with the United States. A small portion of the southern border (in north eastern Ontario) is marked by Lake Huron, Georgian Bay, the French River and Lake Nipissing.

Appendix A presents a map of the five Census Agricultural Regions and their respective Census Divisions.

#### **4.4 Characteristics of the Census Agricultural Regions**

##### **4.4.1 Number of Farms**

Statistics Canada defines a census farm as an agricultural operation that produces at least one of the following products intended for sale: crops (field crops, tree fruits or nuts, berries or grapes, vegetables or seed); livestock (cattle, pigs, sheep, horses, exotic animals, etc.); poultry (hens, chickens, turkeys, exotic birds, etc.); animal products (milk or cream, eggs, wool, fur, meat); or other agricultural products (greenhouse or nursery products, Christmas trees, mushrooms, sod, honey, maple syrup products).

As shown in Table 4.1, the Census of Agriculture reported a total of 59,728 farms in Ontario in 2001. The majority of farms in Ontario are located in Southern (33%) and Western Ontario (32%). Central and Eastern Ontario each account for approximately 15% of the total farms in Ontario while Northern Ontario has the fewest number of farms accounting for just over 4% of the provincial total. Soil and climate conditions in Eastern and Northern Ontario place greater limitations on farm operations in these areas while urbanization is major limiting factor in Central Ontario.

Table 4.1 also illustrates the change in the number of census farms in Ontario between 1986 and 2001. During this period the province experienced a loss of 12,985 census farms, which represents a decline of 18%. Each Region of Ontario also experienced a

decline in farm numbers with the highest rate of loss occurring Southern Ontario (21%) and the lowest rate of loss occurring in Western Ontario (15%).

**Table 4.1 Change in Number of Census Farms in Ontario by Region in 1986 - 2001**

Region	Number of Farms by Census Year				Percent Change in Farm Numbers 1986 – 2001
	1986	1991	1996	2001	
Southern Ontario	24,914	23,034	22,427	19,631	- 21.2
Western Ontario	22,561	21,567	21,305	19,191	- 14.9
Central Ontario	10,950	10,469	10,400	8,938	- 18.4
Eastern Ontario	11,136	10,655	10,473	9,333	- 16.2
Northern Ontario	3,152	2,908	2,915	2,635	- 16.4
Ontario	72,713	68,633	67,520	59,728	- 17.8

Source: Census of Agriculture, Statistics Canada 1986, 1991, 1996, 2001.

#### 4.4.2 Area of Census Farms

Table 4.2 provides an overview of the change in total area of Ontario census farms between 1986 and 2001. During this period, the province experienced an overall decline of 445,000 acres (3%) of farmland. Between 1991 and 1996, the Census reported an increase in farmland area in Ontario, which is partly explained by a change to the definition of census farms. In 1996, definition was expanded to include commercial poultry hatcheries and operations that produced only Christmas trees.

With the exception of Southern Ontario each Region of the province experienced a net loss in total farmland area between 1986 and 2001. The highest rate of decline occurred in Central Ontario (9%), which also features the largest urban centre in Canada (Toronto and the Greater Toronto Area). Southern Ontario reported a small increase in total farmland area (1.4%) during this period, which is likely related to the new census farm definition that was adopted in 1996.

**Table 4.2 Change in Total Area of Census Farms in Ontario by Region in 1986 - 2001**

Region	Number of Farmland Acres by Census Year				Percent Change in Farmland Area 1986 – 2001
	1986	1991	1996	2001	
Southern Ontario	3,930,710	3,902,841	4,100,912	3,985,132	+ 1.4%
Western Ontario	4,163,469	4,021,332	4,193,177	4,060,986	- 2.5%
Central Ontario	2,167,948	2,049,187	2,059,487	1,973,104	- 9.0%
Eastern Ontario	2,596,535	2,480,000	2,500,799	2,476,109	- 4.6%
Northern Ontario	1,094,347	1,017,293	1,025,190	1,012,026	- 7.5%
Ontario	13,953,009	13,470,653	13,879,565	13,507,357	- 3.2%

Source: Census of Agriculture, Statistics Canada 1986, 1991, 1996, 2001.

#### 4.4.3 Farm Size

As farmers exit the industry, much of the farmland is purchased or leased by other farmers and kept in production. One of the results of farm consolidation is an increase in average farm size.

Between 1986 and 2001 the average farm size in Ontario increased from 192 acres to 226 acres or 18% (Table 4.3). Southern Ontario reported the smallest average farm size in 2001 at just over 200 acres per farm. However, this Region also reported the largest rate of increase since 1986 at almost 29%. The smallest rate of increase in average farm size during this period occurred in Northern Ontario where farms increased from 347 acres to 384 acres or 10.6%. Farms in Northern Ontario are generally larger in terms of average farm acreage relative to other regions of Ontario. This is partly related to local soil and climate conditions, which limits the type of production activities and results in large tracts of land being used for pasturing cattle.

**Table 4.3 Change in the Average Farm Size in Ontario by Region in 1986 - 2001**

Region	Average Farm Size (Acres) by Census Year				Percent Change in Farm Size 1986 - 2001
	1986	1991	1996	2001	
Southern Ontario	158	169	183	203	28.7%
Western Ontario	185	186	197	212	14.7%
Central Ontario	198	196	198	221	11.5%
Eastern Ontario	233	233	239	265	13.8%
Northern Ontario	347	350	352	384	10.6%
Ontario	192	196	206	226	17.9%

Source: Census of Agriculture, Statistics Canada 1986, 1991, 1996, 2001.

Table 4.4 presents the number and percentage of census farms by acreage categories. At the provincial level, approximately half of all farms are less than 130 acres in size. Farms less than 10 acres make up a small percentage of all farms (5%). Large farms (560 acres or more) account for just over 8% of all farms in the province. Farms in Northern and Eastern Ontario have a larger percentage of farms in the largest farm size categories compared to Southern, Western and Central Ontario. Over 40% of the farms in Northern and Eastern are 240 acres or larger while less than 30% of the farms in Southern, Western and Central Ontario fall into this category.

**Table 4.4 Size of Farm Operations in Ontario by Region by Acres, 2001**

Region	Number and Percentage of Farms by Size Category (Acres)								Total Number of Farms
	1 to 9	10 to 69	70 to 129	130 to 179	180 to 239	240 to 399	400 to 559	560 and over	
Southern Ontario	1,277 6.5%	5,380 27.4%	4,327 22.0%	2,030 10.3%	1,785 9.1%	2,354 12.0%	1,080 5.5%	1,398 7.1%	19,631 100%
Western Ontario	836 4.4%	3,511 18.3%	5,450 28.4%	2,279 11.9%	2,217 11.6%	2,628 13.7%	1,021 5.3%	1,249 6.5%	19,191 100%
Central Ontario	382 4.3%	2,006 22.4%	2,219 24.8%	887 9.9%	896 10.0%	1,226 13.7%	624 7.0%	698 7.8%	8,938 100%
Eastern Ontario	274 2.9%	1,393 14.9%	1,929 20.7%	942 10.1%	1,106 11.9%	1,848 19.8%	850 9.1%	991 10.6%	9,333 100%
Northern Ontario	91 3.5%	226 8.6%	337 12.8%	393 14.9%	188 7.1%	500 19.0%	361 13.7%	539 20.5%	2,635 100%
Ontario	2,860 4.8%	12,516 21.0%	14,262 23.9%	6,531 10.9%	6,192 10.4%	8,556 14.3%	3,936 6.6%	4,875 8.2%	59,728 100%

Source: Census of Agriculture, Statistics Canada 2001.

#### 4.4.4 Farm Land Use

Farmland in Ontario is used predominantly for crop production. In 2001, 67% of the total farmland in the province or just over 9 million acres was used for crop production.<sup>15</sup> The area of land in crop production varies considerably across the province. As shown in Table 4.5, the majority of the land in crop production in Ontario (70%) is located in Western and Southern Ontario. In 2001, Southern, and Western Ontario reported 3.4 million and 2.9 million acres in crop production, which represents 84% and 71% of the total farmland area in each respective Region. The high level of cropping activity in these two regions is related to favourable soil and climate conditions. In other regions

<sup>15</sup> Statistics Canada associates the following land uses with farmland: land in crops, land in summer fallow, land in pasture, and 'other' land uses including land occupied by farm buildings and yards, land used for Christmas tree production, woodlots, etc.

of the province, particularly Eastern and Northern Ontario, cropping activities are more adversely affected by topography such as the Canadian Shield.

Climate conditions coupled with soil conditions play a significant role in determining the type of agricultural activity in Northern Ontario. Despite the limitations on agricultural capacity there are pockets of good agricultural soils in Northern Ontario, which allow for a variety of crops to be produced. Farm productivity in Northern Ontario has also been enhanced through land improvement activities such as tiling and liming.

**Table 4.5 Farmland Use in Ontario by Region, 2001**

Region	Number and Percentage of Farmland Acres by Use					Total Number of Acres
	Crops	Summer Fallow	Improved Pasture	Unimproved Pasture	All Other Land	
Southern Ontario	3,358,182	10,486	93,430	87,679	435,355	3,985,132
	84.3%	0.3%	2.3%	2.2%	10.9%	100%
Western Ontario	2,897,492	8,633	291,501	278,928	584,432	4,060,986
	71.3%	0.2%	7.2%	6.9%	14.4%	100%
Central Ontario	1,062,062	7,851	134,426	336,579	432,186	1,973,104
	53.8%	0.4%	6.8%	17.1%	21.9%	100%
Eastern Ontario	1,340,492	5,692	159,812	385,970	584,143	2,476,109
	54.1%	0.2%	6.5%	15.6%	23.6%	100%
Northern Ontario	377,687	2,513	94,481	225,179	312,166	1,012,026
	37.3%	0.2%	9.3%	22.3%	30.8%	100%
Ontario	9,035,915	35,175	773,650	1,314,335	2,348,282	13,507,357
	66.9%	0.3%	5.7%	9.7%	17.4%	100%

Source: Census of Agriculture, Statistics Canada 2001.

#### 4.4.5 Farm Types

Farm typing is a procedure that classifies each census farm according to the predominant type of production. This is done by estimating the potential receipts from the inventories of crops and livestock reported on the questionnaire and determining the product or group of products that make up the majority of the estimated receipts. For example, a census farm with total potential receipts of 60% from hogs, 20% from beef cattle and 20% from wheat, would be classified as a hog farm. Farm type is based on farms reporting total gross farm receipts of \$2,500 or more. Specialty farms include greenhouse flower and plant production, bulbs, shrubs, trees, sod, ornamentals, mushroom houses, honey production, maple syrup production, deer, mink, etc.

Beef farms are the most common type of farm in Ontario. In 2001, the Census of Agriculture reported a total of 13,669 Beef farms, which accounts for almost 25% of all



farms in the province. The second most common type of farm is Grain and Oilseed (12,863 farms or 23%) followed by Specialty (7,301 farms or 13%), Dairy (6,414 farms or 11.6%), and Field Crop farms including Wheat (4,926 farms or 8.9%). The other remaining sectors including Hog, Poultry and Egg, Fruit, Vegetable, and Combination farms account for approximately 18% of the farms in Ontario.

As shown in Table 4.6 Beef farms are the most common type of farm in every Region of the province (30% or higher) except Southern Ontario where Grain and Oilseed farms dominate (42%). Grain and Oilseed farms are the second most common type of farm in Western Ontario (18%) while Dairy farms are the second most common in Eastern Ontario (22%). Specialty type farms are the second most common type of farm in Central Ontario (19%). The concentration of Specialty farms in Central Ontario is linked to the large urban population base in this area and the associated marketing opportunities for specialty products.

Table 4.7 provides a similar profile of the farm type data for Ontario from the 1996 Census of Agriculture while Table 4.7 shows the change in the number and percentage of farms by farm type between 1996 and 2001.

The number of farms in Ontario declined by 4,795 or 8% between 1996 and 2001. At the provincial level all of the agricultural sectors experienced a decline in farm numbers between 1996 and 2001 with the exception of Grain and Oilseed type farms, which experienced a 5% increase. The highest loss occurred in the Dairy sector where farm numbers declined by 23%. There were 1,906 fewer Dairy farms in 2001 compared to 1996. The Specialty sector also experienced a significant decline in farms with 1,246 fewer farms between 1996 and 2001. While the Beef sector lost 503 farms during this period, the number of farms as a percentage shrunk by only 3.5%. Other sectors that experienced notable losses include Fruit (283 farms or 14%) and Vegetable (195 farms or 14%).

The ongoing decline in farm numbers does not represent a decline in overall agricultural productivity in Ontario. For example, although the number of Dairy farms has declined across the province, total milk production has actually increased as Dairy farmers expand their herds. In 1996, Ontario's 8,320 Dairy farmers shipped 2.38 million kilolitres of milk to processors, which translates into 286 kilolitres/farm. In 2001, Ontario's 6,414 Dairy farmers shipped 2.54 million kilolitres of milk to processors or 395 kilolitres/farm, which represents an increase of 38% in production per farm. While the Dairy industry is shrinking in terms of farm numbers it has actually experienced an increase in overall production through the consolidation of farms and the expansion of farm dairy herds.

**Table 4.6 Number and Percentage of Farms by Farm Type in Ontario by Region, 1996**

Region	Total Number and Percentage of Farms by Farm Type <sup>a</sup>												Total Farms
	Dairy	Beef	Hog	Poultry and Egg	Wheat	Grain and oilseed (except wheat)	Field crop (except grain and oilseed)	Fruit	Specialty	Livestock Combination	Vegetable	Other Combination	
Southern Ontario	1,645	1,560	955	714	296	8,177	1,813	1,390	2,529	455	767	455	20,756
	7.9%	7.5%	4.6%	3.4%	1.4%	39.4%	8.7%	6.7%	12.2%	2.2%	3.7%	2.2%	100%
Western Ontario	2,752	5,957	1,513	643	119	2,827	1,004	296	2,505	1,045	261	395	19,317
	14.2%	30.8%	7.8%	3.3%	0.6%	14.6%	5.2%	1.5%	13.0%	5.4%	1.4%	2.0%	100%
Central Ontario	1,191	2,999	116	205	36	591	793	212	1,797	250	274	241	8,705
	13.7%	34.5%	1.3%	2.4%	0.4%	6.8%	9.1%	2.4%	20.6%	2.9%	3.1%	2.8%	100%
Eastern Ontario	2,370	2,828	78	102	12	599	901	95	1,257	198	98	192	8,730
	27.1%	32.4%	0.9%	1.2%	0.1%	6.9%	10.3%	1.1%	14.4%	2.3%	1.1%	2.2%	100%
Northern Ontario	362	828	15	22	3	56	454	23	459	82	28	47	2,379
	15.2%	34.8%	0.6%	0.9%	0.1%	2.4%	19.1%	1.0%	19.3%	3.4%	1.2%	2.0%	100%
Ontario	8,320	14,172	2,677	1,686	466	12,250	4,965	2,016	8,547	2,030	1,428	1,330	59,887
	13.9%	23.7%	4.5%	2.8%	0.8%	20.5%	8.3%	3.4%	14.3%	3.4%	2.4%	2.2%	100%

<sup>a</sup> Total number of farms reporting total gross farm receipts greater than \$2,499.

Source: Census of Agriculture, Statistics Canada 1996.

**Table 4.7 Number and Percentage of Farms by Farm Type in Ontario by Region, 2001**

Total Number and Percentage of Farms by Farm Type <sup>a</sup>													
Region	Dairy	Beef	Hog	Poultry and Egg	Wheat	Grain and oilseed (except wheat)	Field crop (except grain and oilseed)	Fruit	Specialty	Livestock Combination	Vegetable	Other Combination	Total Farms
Southern Ontario	1,212	1,537	875	694	213	7,811	1,562	1,198	2,147	306	699	395	18,649
	6.5%	8.2%	4.7%	3.7%	1.1%	41.9%	8.4%	6.4%	11.5%	1.6%	3.7%	2.1%	100%
Western Ontario	2,303	5,348	1,414	642	124	3,308	989	248	2,243	783	245	382	18,029
	12.8%	29.7%	7.8%	3.6%	0.7%	18.3%	5.5%	1.4%	12.4%	4.3%	1.4%	2.1%	100%
Central Ontario	845	2,833	98	173	32	748	777	166	1,523	267	202	242	7,906
	10.7%	35.8%	1.2%	2.2%	0.4%	9.5%	9.8%	2.1%	19.3%	3.4%	2.6%	3.1%	100%
Eastern Ontario	1,815	2,911	51	84	15	935	815	98	1,051	201	68	185	8,229
	22.1%	35.4%	0.6%	1.0%	0.2%	11.4%	9.9%	1.2%	12.8%	2.4%	0.8%	2.2%	100%
Northern Ontario	239	1,040	16	16	11	61	388	23	337	60	19	69	2,279
	10.5%	45.6%	0.7%	0.7%	0.5%	2.7%	17.0%	1.0%	14.8%	2.6%	0.8%	3.0%	100%
Ontario	6,414	13,669	2,454	1,609	395	12,863	4,531	1,733	7,301	1,617	1,233	1,273	55,092
	11.6%	24.8%	4.5%	2.9%	0.7%	23.3%	8.2%	3.1%	13.3%	2.9%	2.2%	2.3%	100%

<sup>a</sup> Total number of farms reporting total gross farm receipts greater than \$2,499.

Source: Census of Agriculture, Statistics Canada 2001.

**Table 4.8 Change in the Number and Percentage of Farms by Farm Type in Ontario by Region, 1996 to 2001**

Change in the Number and Percentage of Farms by Farm Type 1996 to 2001 <sup>a</sup>													
Region	Dairy	Beef	Hog	Poultry and Egg	Wheat	Grain and oilseed (except wheat)	Field crop (except grain and oilseed)	Fruit	Specialty	Livestock Combination	Vegetable	Other Combination	Total Farms
Southern Ontario	-433	-23	-80	-20	-83	-366	-251	-192	-382	-149	-68	-60	-2,107
	-26.3%	-1.5%	-8.4%	-2.8%	-28.0%	-4.5%	-13.8%	-13.8%	-15.1%	-32.7%	-8.9%	-13.2%	-10.2%
Western Ontario	-449	-609	-99	-1	5	481	-15	-48	-262	-262	-16	-13	-1,288
	-16.3%	-10.2%	-6.5%	-0.2%	4.2%	17.0%	-1.5%	-16.2%	-10.5%	-25.1%	-6.1%	-3.3%	-6.7%
Central Ontario	-346	-166	-18	-32	-4	157	-16	-46	-274	17	-72	1	-799
	-29.1%	-5.5%	-15.5%	-15.6%	-11.1%	26.6%	-2.0%	-21.7%	-15.2%	6.8%	-26.3%	0.4%	-9.2%
Eastern Ontario	-555	83	-27	-18	3	336	-86	3	-206	3	-30	-7	-501
	-23.4%	2.9%	-34.6%	-17.6%	25.0%	56.1%	-9.5%	3.2%	-16.4%	1.5%	-30.6%	-3.6%	-5.7%
Northern Ontario	-123	212	1	-6	8	5	-66	0	-122	-22	-9	22	-100
	-34.0%	25.6%	6.7%	-27.3%	266.7%	8.9%	-14.5%	0.0%	-26.6%	-26.8%	-32.1%	46.8%	-4.2%
Ontario	-1,906	-503	-223	-77	-71	613	-434	-283	-1,246	-413	-195	-57	-4,795
	-22.9%	-3.5%	-8.3%	-4.6%	-15.2%	5.0%	-8.7%	-14.0%	-14.6%	-20.3%	-13.7%	-4.3%	-8.0%

<sup>a</sup> Total number of farms reporting total gross farm receipts greater than \$2,499.  
Source: Census of Agriculture, Statistics Canada 2001.

#### 4.4.6 Farm Gate Receipts and Farm Operating Expenses

Ontario reported \$9.1 billion in total gross farm receipts in 2000 compared to \$7.8 billion in 1995. In 2000, Ontario's total gross farm receipts represented 24% of the national total (\$38.3 billion). Only the province of Alberta reported a higher level of gross farm receipts with \$9.9 billion or 26% of the national total (Statistics Canada, Census of Agriculture, 2001).

Total gross farm receipts in Southern Ontario amounted to \$3.9 billion or 43% of the provincial total in 2000. The next leading Region in terms of gross farm receipts is Western Ontario (\$3.2 billion or 35%) followed by Eastern Ontario (\$932 million or 10%), Central Ontario (\$849 million or 9%), and Northern Ontario (\$162 million or 2%). Table 4.9 shows the total gross farm receipts and farm operating expenses in Ontario for 1995 and 2000. In 2000, the province reported the average total net revenue per farm at \$21,534. Southern Ontario reported the highest level of total net revenue per farm at \$31,372, which is almost \$10,000 higher than the next leading Region, Western Ontario (\$21,914).

**Table 4.9 Total Gross Farm Receipts and Farm Expenses in Ontario by Region, 1995-2000**

Region	Total Number of Farms	Total Gross Farm Receipts	Total Farm Operating Expenses	Total Net Revenue	Total Net Revenue per Farm
1995					
Southern Ontario	22,427	\$3,383,354,632	\$2,799,078,044	\$584,276,588	\$26,052
Western Ontario	21,305	\$2,661,259,194	\$2,270,710,164	\$390,549,030	\$18,331
Central Ontario	10,400	\$782,072,882	\$691,500,411	\$90,572,471	\$8,709
Eastern Ontario	10,473	\$800,003,735	\$650,478,696	\$149,525,039	\$14,277
Northern Ontario	2,915	\$151,786,040	\$133,749,010	\$18,037,030	\$6,188
Ontario	67,520	\$7,778,476,483	\$6,545,516,325	\$1,232,960,158	\$18,261
2000					
Southern Ontario	19,631	\$3,964,859,834	\$3,349,000,014	\$615,859,820	\$31,372
Western Ontario	19,191	\$3,205,925,743	\$2,785,364,933	\$420,560,810	\$21,914
Central Ontario	8,938	\$849,729,629	\$754,715,591	\$95,014,038	\$10,630
Eastern Ontario	9,333	\$932,840,334	\$796,126,279	\$136,714,055	\$14,648
Northern Ontario	2,635	\$162,099,250	\$144,039,757	\$18,059,493	\$6,854
Ontario	59,728	\$9,115,454,790	\$7,829,246,574	\$1,286,208,216	\$21,534

Source: Census of Agriculture, Statistics Canada 1996, 2001.

Table 4.10 depicts the number of farms distributed across different gross farm sales categories. At the provincial level, 31% of the farms reported total gross farms receipts of \$100,000 or more while 11% of farms reported total receipts of \$50,000 to \$99,999. Approximately 32% of farms in Ontario reported total receipts of \$10,000 to \$49,999 and 26% of the farms reported total receipts of less than \$10,000.

A major difference between farms in Southern and Western Ontario and farms in Central, Eastern and Northern Ontario is the percentage of farms in the lower sales categories. Farms with total sales under \$10,000 account for 37% or more of all farms in Central, Eastern and Northern Ontario compared to 18% to 21% of farms in Southern and Western Ontario. Conversely, Southern and Western Ontario reported a higher percentage of farms in the higher sales categories. Farms with total sales of \$100,000 or more account for 38% and 35% of all farms in Southern and Western Ontario compared to 24% in Eastern Ontario, 19% in Central Ontario and 15% in Northern Ontario.

**Table 4.10 Number of Farms by Gross Farm Sales Category in Ontario by Region, 2000**

Region	Number of Farms by Farm Sales Category									
	\$2,499 and Under	\$2,500 to \$4,999	\$5,000 to \$9,999	\$10,000 to \$24,999	\$25,000 to \$49,999	\$50,000 to \$99,999	\$100,000 to \$249,999	\$250,000 to \$499,999	\$500,000 and Over	Total Number of Farms
Southern Ontario	982 5.0%	751 3.8%	1,783 9.1%	3,358 17.1%	2,799 14.3%	2,511 12.8%	3,562 18.1%	2,223 11.3%	1,662 8.5%	19,631 100%
Western Ontario	1,162 6.1%	868 4.5%	1,996 10.4%	3,424 17.8%	2,650 13.8%	2,342 12.2%	3,610 18.8%	1,926 10.0%	1,213 6.3%	19,191 100%
Central Ontario	1,032 11.5%	697 7.8%	1,621 18.1%	2,071 23.2%	1,072 12.0%	771 8.6%	884 9.9%	504 5.6%	286 3.2%	8,938 100%
Eastern Ontario	1,104 11.8%	784 8.4%	1,541 16.5%	1,888 20.2%	973 10.4%	742 8.0%	1,285 13.8%	732 7.8%	284 3.0%	9,333 100%
Northern Ontario	356 13.5%	260 9.9%	433 16.4%	637 24.2%	368 14.0%	176 6.7%	246 9.3%	108 4.1%	51 1.9%	2,635 100%
Ontario	4,636 7.8%	3,360 5.6%	7,374 12.3%	11,378 19.0%	7,862 13.2%	6,542 11.0%	9,587 16.1%	5,493 9.2%	3,496 5.9%	59,728 100%

Source: Census of Agriculture, Statistics Canada 2001.

#### 4.4.7 Farm Capital

Ontario reported \$50.5 billion in total farm capital in 2000 compared to \$40.8 billion in 1995. As shown in Table 4.10, total farm capital in Southern Ontario amounted to \$19.3 billion or 38% of the provincial total in 2000. The next leading Region in terms of total farm capital is Western Ontario (\$17.9 billion or 35%) followed by Central Ontario (\$6.6 billion or 13%), Eastern Ontario (\$5.5 billion or 11%), and Northern Ontario (\$1 billion or 2%).

Table 4.11 also shows the total farm capital per farm in Ontario for 1995 and 2000. In 2000, the province reported the average total farm capital per farm at \$845,998. Southern Ontario reported the highest capital per farm at \$984,601, which is more than double the average farm capital value reported in Northern Ontario (\$401,826).

**Table 4.11 Total Farm Capital (Market Value) in Ontario by Region, 1995-2000**

Region	1995			2000		
	Total Number of Farms	Total Farm Capital	Total Farm Capital per Farm	Total Number of Farms	Total Farm Capital	Total Farm Capital per Farm
Southern Ontario	22,427	\$15,202,664,622	\$677,873	19,631	\$19,328,708,521	\$984,601
Western Ontario	21,305	\$13,614,649,740	\$639,035	19,191	\$17,962,263,633	\$935,973
Central Ontario	10,400	\$6,245,681,071	\$600,546	8,938	\$6,663,976,981	\$745,578
Eastern Ontario	10,473	\$4,775,193,651	\$455,953	9,333	\$5,516,021,856	\$591,023
Northern Ontario	2,915	\$1,022,746,952	\$350,857	2,635	\$1,058,812,514	\$401,826
Ontario	67,520	\$40,860,936,035	\$605,168	59,728	\$50,529,783,505	\$845,998

Source: Census of Agriculture, Statistics Canada 1996, 2001.

Table 4.12 depicts the number of farms distributed across different farm capital categories. At the provincial level, 22% of the farms reported total farm capital of \$1 million or higher while 25% of farms reported total farm capital of \$500,000 to \$999,999. Approximately 39% of farms in Ontario reported total farm capital of \$200,000 to \$499,999 while 14% of farms reported total farm capital of less than \$200,000.

A major difference between farms in Southern and Western Ontario and farms in Central, Eastern and Northern Ontario is the percentage of farms in the lower farm capital categories. Farms with total farm capital under \$200,000 account for 18% of farms in Central Ontario, 23% of farms in Eastern Ontario, and 33% of all farms in Northern Ontario compared to 9% of farms in Western Ontario and 10% of farms in Southern Ontario. Conversely, Southern and Western Ontario reported a higher percentage of farms in the higher farm capital categories. Farms with total farm capital of \$1 million or more account for 29% and 24% of all farms in Southern and Western Ontario compared to 15% in Eastern Ontario, 14% in Central Ontario and 6% in Northern Ontario.

**Table 4.12 Number of Farms by Capital (Market Value) Category in Ontario by Region, 2000**

Region	Number of Farms by Market Value Category									Total farms
	Under \$50,000	\$50,000 to \$99,999	\$100,000 to \$199,999	\$200,000 to \$349,999	\$350,000 to \$499,999	\$500,000 to \$999,999	\$1,000,000 to \$1,499,999	\$1,500,000 to \$1,999,999	\$2,000,000 and over	
Southern Ontario	111 0.6%	259 1.3%	1,539 7.8%	3,968 20.2%	2,940 15.0%	5,155 26.3%	2,301 11.7%	1,166 5.9%	2,192 11.2%	19,631 100%
Western Ontario	95 0.5%	229 1.2%	1,465 7.6%	3,772 19.7%	3,277 17.1%	5,774 30.1%	2,035 10.6%	897 4.7%	1,647 8.6%	19,191 100%
Central Ontario	71 0.8%	211 2.4%	1,356 15.2%	2,640 29.5%	1,556 17.4%	1,828 20.5%	574 6.4%	228 2.6%	474 5.3%	8,938 100%
Eastern Ontario	85 0.9%	298 3.2%	1,755 18.8%	2,641 28.3%	1,296 13.9%	1,863 20.0%	696 7.5%	302 3.2%	397 4.3%	9,333 100%
Northern Ontario	40 1.5%	167 6.3%	679 25.8%	770 29.2%	384 14.6%	440 16.7%	92 3.5%	25 0.9%	38 1.4%	2,635 100%
Ontario	402 0.7%	1,164 1.9%	6,794 11.4%	13,791 23.1%	9,453 15.8%	15,060 25.2%	5,698 9.5%	2,618 4.4%	4,748 7.9%	59,728 100%

Source: Census of Agriculture, Statistics Canada 2001.

#### 4.4.8 Farm Operators and Employment in the Agricultural Sector

Ontario reported a total of 85,010 farm operators in 2001 compared to 96,940 farm operators in 1996.<sup>16</sup> As shown in Table 4.12, this represents a 12% decline between the two census periods. The average age of farm operators in Ontario was 51 years in 2001, which increased from 49 years in 1996. Approximately 73% of all farm operators in Ontario were men in 1996 and 2001.

Southern Ontario reported the greatest rate of loss between 1996 and 2001 as the number of farm operators declined by 14% from 32,720 to 28,140. Central Ontario reported the next highest rate of loss at 13.4% followed by Eastern Ontario at 11.3%, Western Ontario at 11%, and Northern Ontario at 8.6%. In terms of absolute numbers, Western Ontario reported the second largest loss as the number of farm operators declined from 30,170 to 26,880. Women accounted for approximately 27% of all farm operators in each of the Regions with the exception of Northern Ontario where female operators represent just over 30% of all farm operators.

<sup>16</sup> In 1996 and 2001, Statistics Canada 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.



As shown in Table 4.13, the rate of decline among female operators in Central, Eastern and Northern Ontario is lower than the rate of decline for male operators. In Western Ontario male and female farm operators experienced a comparable rate of loss between 1996 and 2001 while the rate of loss associated with female operators in Southern Ontario is outpacing males.

**Table 4.13 Number, Age and Gender of Farm Operators in Ontario by Region, 1996 to 2001**

Region	1996				2001				Percent Change in Number of Operators 1996-2001	% change male	% change female
	Total number of operators	Average age	Male	Female	Total number of operators	Average age	Male	Female			
Southern Ontario	32,720	50	23,885	8,835	28,140	51	20,775	7,360	-14.0%	-13.0%	-16.7%
Western Ontario	30,170	48	22,140	8,030	26,880	50	19,725	7,155	-10.9%	-10.9%	-10.9%
Central Ontario	14,640	51	10,820	3,825	12,665	52	9,215	3,455	-13.5%	-14.8%	-9.7%
Eastern Ontario	15,230	50	11,195	4,040	13,505	51	9,830	3,675	-11.3%	-12.2%	-9.0%
Northern Ontario	4,180	49	3,010	1,170	3,820	51	2,670	1,150	-8.6%	-11.3%	-1.7%
Ontario	96,940	49	71,050	25,900	85,010	51	62,215	22,795	-12.3%	-12.4%	-12.0%

Source: Census of Agriculture, Statistics Canada 1996, 2001.

In terms of the total number of people employed by the agriculture sector in Ontario, the number of jobs in this sector declined by 16.5% from 130,750 jobs in 1996 to 109,171 jobs in 2001.<sup>17</sup> As shown in Table 4.14, each of the Regions in Ontario experienced a decline in job numbers in the agriculture sector during this period. The greatest job loss occurred in Central Ontario where jobs in the agriculture sector declined by 33% from 19,105 in 1996 to 12,811 in 2001. Southern Ontario reported the lowest rate of job loss in the agriculture sector during this period with 11% fewer jobs. However, in terms of absolute numbers Southern Ontario reported the second highest loss of agriculture jobs with 5,620 fewer jobs between 1996 and 2001.

<sup>17</sup> The agriculture sector includes employment associated with Primary Agriculture and Agricultural Services. Primary Agriculture includes paid workers, self-employed workers and unpaid family workers who work on farms. Agricultural services includes employment in services directly related to the farm such as livestock breeding services, poultry breeding and hatching, barn cleaning, egg grading, sheep shearing, cropping services provided to farmers including soil preparation and cultivation, crop dusting and spraying, harvesting, hay baling and other services such as grain drying services. Also included are agricultural consulting and farm management services as well as agriculture-related research (Statistics Canada, 2001).

**Table 4.14 Total Number Employed in Agriculture in Ontario by Region, 1996 to 2001**

Region	Total Number Employed in Agriculture		Change in Number of Agricultural Jobs 1996 to 2001	Percent Change in Agricultural Jobs 1996 to 2001
	1996	2001		
Southern Ontario	52,175	46,555	5,620	-10.8%
Western Ontario	38,005	32,600	5,405	-14.2%
Central Ontario	19,105	12,811	6,694	-32.9%
Eastern Ontario	16,810	13,420	3,390	-20.2%
Northern Ontario	4,655	3,785	870	-18.7%
Ontario	130,750	109,171	21,579	-16.5%

Source: Population Census, Statistics Canada 1996, 2001.

This chapter of the report provided an overview of the agricultural characteristic associated with the different Census Agricultural Regions of Ontario. Chapter 5 will examine the size and importance of the industries that supply goods and services to the agricultural sector.

## **5.0 Agriculturally Related Businesses in Ontario – An Overview**

### **5.1 Introduction – Defining Agricultural-Related Business in Ontario**

The agriculture sector has extensive linkages with businesses in other sectors of the economy. When we examine the relationship between agriculture and agri-related businesses, it is helpful to think of backward and forward linkages. To produce agricultural products, farmers require inputs such as fuel, equipment, chemicals, seed, construction materials and services, and livestock-related services. Businesses that provide these goods and services represent important backward linkages for the agriculture sector. Following production, agriculture has important forward linkages to a variety of sectors including transportation, warehousing, and meat and grain processing industries.

An agri-related business is defined as any business that sells products or services to, and/or buys products or services from agricultural producers. These businesses also typically conduct trade with other sectors of the economy. For example, an electrical contractor may provide services to a variety of business clients including farmers, retailers, manufacturers, restaurants, etc.

In developing a provincial profile of agri-related businesses in Ontario, the authors reviewed 19 agricultural economic impact studies completed between 1998 and 2004. A standardized methodology and survey instrument was used in 13 of these studies, which enabled the authors to compile sales and employment data from over 2,600 agri-related businesses.

A key process in the agri-economic impact methodology was the development of a comprehensive list of all agri-related businesses in each of the study areas. This was facilitated with the assistance of local stakeholders (e.g. the local affiliate of the Ontario Federation of Agriculture, municipal offices, chambers of commerce, etc.) and the use of different resources (e.g. business directories, phone directories, etc.). Once the list of agri-related businesses was compiled a sample of businesses was randomly selected to participate in the survey. A sufficient number of businesses were selected and surveyed in each study area to provide a 95% level of confidence in the results.

As shown in Table 5.1 the number of businesses surveyed in each study area range from 307 businesses in the combined Counties of Elgin, Middlesex and Oxford to 89 businesses in Temiskaming District. More than 200 business surveys were completed in most of the study areas.

**Table 5.1 Number of Agri-Related Businesses Surveyed by Study Area**

Study Area (year study completed)	Number of businesses surveyed	Percent of total businesses surveyed
Huron County (1998)	201	7.6%
Prescott, Russell, Stormont, Dundas and Glengarry Counties (1999)	284	10.7%
Simcoe County (1999)	247	9.3%
Lambton County (1999)	238	9.0%
Perth County (2000)	249	9.4%
Frontenac, Lennox and Addington, Leeds and Grenville Counties (2000)	109	4.1%
Elgin, Middlesex and Oxford Counties (2000)	307	11.6%
City of Ottawa (2000)	231	8.7%
Lanark and Renfrew Counties (2000)	220	8.3%
Parry Sound, Nipissing, and Eastern Sudbury Districts (2001) <sup>a</sup>	153	5.8%
Algoma, Manitoulin, and Western Sudbury Districts (2002)	134	5.0%
Waterloo Regional Municipality (2003)	195	7.3%
Temiskaming District (2004)	89	3.3%
Total businesses surveyed	2,657	100%

<sup>a</sup> This study area is also known as the Blue Sky Region and includes the City of Greater Sudbury.  
Source: Cummings et al. 1998, 1999, 2000, 2001, 2002, 2003, and 2004.

The 13 agri-economic impact studies cover 23 of the 49 Agricultural Census Divisions (e.g. counties, districts, and regional municipalities) in Ontario.<sup>18</sup> When combined, the 23 Divisions represent a significant portion of the agriculture sector in Ontario. As shown in Table 5.2 the 23 Divisions account for 50% of the total farms in Ontario, 54% of the total farmland area, 45% of the total farm jobs, and 50% of the total gross farm receipts.

In terms of representation across the different Census Agricultural Regions, the 23 census divisions cover four or more counties/districts/municipalities in each of the Southern, Western, Eastern and Northern Ontario Regions. Eastern and Northern Ontario are particularly well represented. Only one district is represented from the Central Ontario Region (Parry Sound).<sup>19</sup>

<sup>18</sup> Census Division is the general term for provincially legislated areas (such as county, regional municipality and regional district) or their equivalents. Census divisions have been established in provincial law to facilitate regional planning, as well as the provision of services that can be more effectively delivered on a scale larger than a municipality. (Statistics Canada, 2001)

<sup>19</sup> A Census Agricultural Region is a sub-provincial geographic area used by the Census of Agriculture for disseminating agricultural statistics. In most provinces, Census Agricultural Regions are composed of groups of adjacent Census Divisions. (Statistics Canada, 2001)

**Table 5.2 Agricultural Sector Profile for Census Agricultural Regions and Selected Census Divisions, 2001**

<i>Census Division (Study Area)</i>	Number of Farms	Number of Acres	Number of Jobs	Total gross farm receipts
Ontario	59,728	13,507,357	109,171	\$9,115,454,790
Southern Ontario Region	19,631	3,985,132	46,555	\$3,964,859,834
<i>Oxford County</i>	2,104	445,458	4,900	\$556,129,845
<i>Elgin County</i>	1,608	382,786	3,600	\$262,605,470
<i>Lambton County</i>	2,427	604,555	3,370	\$321,690,461
<i>Middlesex County</i>	2,640	620,321	5,055	\$494,456,195
Western Ontario Region	19,191	4,060,986	32,600	\$3,205,925,743
<i>Waterloo Regional Municipality</i>	1,444	225,800	3,505	\$379,601,661
<i>Perth County</i>	2,570	502,926	4,375	\$555,081,128
<i>Huron County</i>	2,880	719,066	4,845	\$656,497,798
<i>Simcoe County</i>	2,463	540,870	4,135	\$293,933,003
Central Ontario Region	8,938	1,973,104	12,811	\$849,729,629
<i>Parry Sound District</i>	392	95,810	455	\$13,785,626
Eastern Ontario Region	9,333	2,476,109	13,420	\$932,840,334
<i>Stormont, Dundas and Glengarry Counties</i>	1,939	496,498	3,190	\$252,046,737
<i>Prescott and Russell United Counties</i>	1,148	297,384	2,130	\$183,265,517
<i>Ottawa Division</i>	1,318	297,644	2,210	\$151,877,673
<i>Leeds and Grenville United Counties</i>	1,348	336,650	1,640	\$144,744,197
<i>Lanark County</i>	910	241,972	805	\$41,001,440
<i>Frontenac County</i>	699	205,542	1,050	\$36,193,428
<i>Lennox and Addington County</i>	629	197,441	800	\$57,051,653
<i>Renfrew County</i>	1,342	402,978	1,595	\$66,659,689
Northern Ontario Region	2,635	1,012,026	3,785	\$162,099,250
<i>Nipissing District</i>	284	83,170	350	\$13,140,579
<i>Manitoulin District</i>	284	173,523	265	\$12,270,754
<i>Sudbury District</i>	168	58,633	160	\$10,858,996
<i>Greater Sudbury Division</i>	159	25,414	355	\$8,122,001
<i>Temiskaming District</i>	532	214,835	745	\$44,163,495
<i>Algoma District</i>	337	94,124	475	\$16,747,188
Total - All study areas	29,625	7,263,400	50,010	\$4,571,924,534
Combined Study Areas as a % of the Province	49.6%	53.8%	45.3%	50.2%

Source: Population Census and Census of Agriculture, Statistics Canada, 2001.

## 5.2 Agricultural-Related Businesses in Relation to NAICS

All of the businesses surveyed have a direct linkage with the agricultural sector in that they sell products or services directly to, and/or buy products or services directly from agricultural producers. These businesses also typically conduct trade with other sectors of the economy. The businesses were classified according to their primary activity, using the North American Industry Classification System (NAICS). This system

separates Canadian businesses into different industrial sectors such as Manufacturing, Construction, Retail Trade, and Agriculture and Related Service Industries.<sup>20</sup>

As shown in Table 5.3, businesses from 14 different industrial sectors were represented in the survey. This indicates that the agriculture sector has linkages with almost every sector of the economy. The largest number of businesses surveyed were from the Retail sector (21% of all agri-related businesses surveyed) followed by Construction (16%), Wholesale (13%), Other Services (12%) Finance and Insurance (10%), Professional Services (8%), and Manufacturing (7%). Other sectors including Transportation and Warehousing, Agricultural Services, Real Estate and Rental, and Mining accounted for approximately 13% of all businesses surveyed.

**Table 5.3 Agri-Related Businesses Surveyed by Industrial Sector**

Industrial Sector	Number of businesses surveyed	Percentage of total businesses surveyed
Agriculture	90	3.4%
Mining	14	0.5%
Construction	430	16.2%
Manufacturing	187	7.0%
Wholesale Trade	338	12.7%
Retail Trade	556	20.9%
Transportation and Warehousing	117	4.4%
Information Industries	20	0.8%
Finance and Insurance	264	9.9%
Real Estate and Rental	71	2.7%
Professional Services	219	8.2%
Administrative and Support, Waste Management	25	0.9%
Accommodation and Food Services	2	0.1%
Other Services	324	12.2%
<b>Total</b>	<b>2,657</b>	<b>100%</b>

Source: Adapted from Cummings et al. 1998, 1999, 2000, 2001, 2002, 2003, and 2004.

<sup>20</sup> The North American Industry Classification System (NAICS) is an industry classification system developed by the Statistical agencies of Canada, Mexico and the United States. The NAICS classification system replaces the Standard Industrial Classification (SIC) system, which was used by Statistics Canada prior to the 2001 Census. The NAICS classification consists of a systematic and comprehensive arrangement of industries structured into sectors, sub-sectors and industry groups (Source: Statistics Canada, 2001). The authors reviewed the SIC codes used in the agri-economic impact studies completed prior to 2001 and converted these codes to the appropriate NAICS codes.

### 5.3 Agriculture-Related Business Sales

Agri-related businesses were asked to report on their total gross sales for the previous year and to estimate the percentage of their total gross sales that was agri-related. An assumption of the studies was that the percentage of sales related to agriculture is related to the percentage of employees working on agriculture-related activities.

Approximately 95% of the businesses surveyed provided sales data. The total gross annual sales for all 2,525 businesses amounted to \$5 billion or an average of \$1.9 million per business. Total gross annual sales per business ranged from \$2,000 to \$300 million. As shown in Table 5.4, there was considerable variation in the size of businesses in relation to gross annual sales.

The total agri-related sales component amounted to over \$2.6 billion or 51% of the total gross annual sales. This represents an average of approximately \$1 million in agri-related sales per business. While this average is substantial, it should be noted that the range for agri-related sales per business was also large at \$299,999,400 (based on a minimum of \$400 and a maximum of \$300 million). Over 50% of businesses reported agri-related sales under \$100,000 while only two businesses reported sales over \$100 million. The interquartile range was calculated at \$355,750 with \$19,250 as the 25<sup>th</sup> percentile and \$375,000 as the 75<sup>th</sup> percentile.

**Table 5.4 Agri-Related Businesses Surveyed by Total Gross Annual Sales**

Total Gross Annual Sales	Agri-related and Non-Agri-related Sales Combined		Agri-related Sales Only	
	Number of Businesses Reporting Sales Data	Percentage of Businesses	Number of Businesses Reporting Sales Data	Percentage of Businesses
Under \$10,000	8	0.3%	412	16.3%
\$10,000 to \$24,999	33	1.3%	300	11.9%
\$25,000 to \$49,999	101	4.0%	278	11.0%
\$50,000 to \$74,999	154	6.1%	194	7.7%
\$75,000 to \$99,999	109	4.3%	152	6.0%
\$100,000 to \$499,999	975	38.6%	631	25.0%
\$500,000 to \$999,999	336	13.3%	174	6.9%
\$1,000,000 to \$4,999,999	525	20.8%	275	10.9%
\$5,000,000 to \$9,999,999	184	7.3%	73	2.9%
\$10,000,000 to \$19,999,999	63	2.5%	20	0.8%
\$20,000,000 and Over	35	1.4%	15	0.6%
<b>Total</b>	<b>2,525</b>	<b>100%</b>	<b>2,525</b>	<b>100%</b>

Source: Adapted from Cummings et al. 1998, 1999, 2000, 2001, 2002, 2003, and 2004.

Although the largest number of businesses surveyed were from the Retail sector, the Wholesale sector accounted for the largest proportion of agri-related sales. As shown in Table 5.5, the Wholesale sector accounted for almost \$1 billion in agri-related sales or 37% of the total agri-related sales reported across all industrial sectors. The next highest ranking sector in terms of sales is Transportation and Warehousing at \$507

million or 15% of the total agri-related sales. However, it is important to note that a single transportation business accounted for most of this revenue. When we exclude this business from the profile, the next highest ranking sectors after Wholesale Trade are Retail Trade and Manufacturing.

**Table 5.5 Agri-Related Business Sales by Industrial Sector**

Industrial Sector	Number of Businesses Reporting Sales Data	Total Sales (million)	Agri-Related Sales		
			Total Agri-Related Sales (million)	Percentage of Sales Related to Agriculture	Percentage of Total Agri-Related Sales
Agriculture	87	\$160.1	\$117.5	73.4%	4.6%
Mining	12	\$12.2	\$5.8	47.7%	0.2%
Construction	414	\$309.2	\$95.6	30.9%	3.7%
Manufacturing	176	\$456.9	\$291.0	63.7%	11.3%
Wholesale Trade	318	\$1,236.1	\$944.3	76.4%	36.8%
Retail Trade	528	\$1,381.8	\$390.7	28.3%	15.2%
Transportation/Warehousing	108	\$582.0	\$506.6	87.0%	19.8%
Information Industries	20	\$16.4	\$5.6	34.1%	0.2%
Finance and Insurance	246	\$417.2	\$83.2	19.9%	3.2%
Real Estate and Rental	71	\$105.8	\$18.6	17.5%	0.7%
Professional Services	210	\$116.9	\$43.2	36.9%	1.7%
Admin. Support, Waste Mgt.	24	\$16.5	\$11.5	69.4%	0.4%
Accomm. and Food Services	1	N/A	N/A	N/A	N/A
Other Services	310	\$169.1	\$50.6	29.9%	2.0%
Total all businesses	2,525	\$4,982.5	\$2,564.2	51.5%	100%

Source: Adapted from Cummings et al.1998, 1999, 2000, 2001, 2002, 2003, and 2004.

#### 5.4 Location of Agriculture-Related Business Sales

Businesses were asked to estimate the percentage of their sales in relation to four sales location categories: (i) local sales i.e. sales made within the study area, (ii) sales outside the study area but within Ontario, (iii) sales outside Ontario but within Canada, and (iv) sales outside Canada.

As shown in Table 5.6, agri-related businesses in many of the study areas derived the majority of their sales from within their respective County or District. For example, agri-related businesses in Northern Ontario Districts generated 90% or more of their total sales within their own District. Temiskaming was the exception in Northern Ontario as agri-related businesses reported substantial sales activity with the farm sector in neighbouring Quebec.

Agri-related businesses in most of the Eastern Ontario Counties also derived the majority of their total sales from within their own county. The City of Ottawa stands apart from the Eastern Ontario Counties in that 36% of its total agri-related business sales were derived from other parts of Ontario. This suggests that the City of Ottawa is a major agricultural service centre in the Eastern Ontario Region.



Other Counties in Ontario were also identified as major regional service centres based on the proportion of export related sales (i.e. sales outside the study area). Huron County and Waterloo Region reported over 50% of their total agri-related business sales activity as export related and represent important agricultural service centres for Western and Southern Ontario. Simcoe County also reported over 50% of its agri-related business sales activity as export related and represents an important agricultural service centre for Western and Central Ontario.

**Table 5.6 Location of Agri-Related Business Sales**

Study Area	Location of Agri-Related Sales (%)				
	Sales within the Study Area	Sales outside the Study Area	Sales outside the Study Area		
			Sales to other parts of Ontario	Sales to other Provinces	Sales outside Canada
Huron County	42.9	57.1	34.5	22.6 <sup>a</sup>	
Prescott, Russell, Stormont, Dundas and Glengarry Counties	91.5	8.5	5.8	1.5	1.2
Simcoe County	43.6	56.4	41.5	3.5	11.4
Lambton County	83.6	16.4	15.6	0.3	0.5
Perth County	65.5	34.5	33	1.2	0.3
Frontenac, Lennox and Addington, Leeds and Grenville Counties	76.4	23.6	20.5	0.7	2.4
Elgin, Middlesex and Oxford Counties	66.8	33.2	24.7	3.8	4.7
City of Ottawa	63.7	36.3	36.2	0.1	--
Lanark and Renfrew Counties	86.2	13.8	9.9	3.8	0.1
Parry Sound, Nipissing, and Eastern Sudbury Districts	91.9	8.1	6.6	1.5	--
Algoma, Manitoulin, and Western Sudbury Districts	95	5	5	--	--
Waterloo Regional Municipality	30.2	69.8	52.4	6.2	11.1
Temiskaming District	74.8	25.2	10.1	15.1 <sup>b</sup>	--

<sup>a</sup> Sales to other provinces and international sales were combined for this study.

<sup>b</sup> Reported as exclusive sales to Quebec.

Source: Cummings et al., 1998, 1999, 2000, 2001, 2002, 2003 and 2004.

Overall, local sales accounted for \$1.3 billion or 51% of the total agri-related sales as reported by the 2,525 businesses that provided sales data. Sales to other parts of Ontario accounted for \$911.6 million or 35.6% while sales to other provinces accounted for \$251.6 million or 9.8% of the total agri-related sales reported. International sales accounted for \$91 million or 3.6% of the total agri-related sales reported.

When analyzed by the individual industrial sectors, the Wholesale sector accounted for the largest percentage of international sales at 57% or \$51.5 million of the total international sales (Table 5.7). Agricultural related services were the next highest ranking sector in terms of international sales accounting for 17% or \$15.7 million of the total international sales. The types of agricultural services associated with international sales include livestock and poultry breeding services (genetics), and fruit and vegetable produce packing for international markets.

It is important to note that most of the sales data was collected prior to the world wide embargo placed on Canadian cattle as the result of a single case of bovine spongiform encephalopathy (BSE or mad cow disease) in Alberta. Since 2003, the level of international sales associated with cattle has been severely impacted. Ontario's 21,000 beef producers were estimated to be losing about \$4 million per week during the height of the BSE situation (Ontario Cattlemen's Association, September 2, 2003).

With respect to sales to other provinces, the Transportation and Warehousing sector accounted for the largest percentage of sales at 41% or \$103 million of the total sales to other provinces. The Wholesale sector was the next highest ranking sector in terms of sales to other provinces accounting for 38.6% or \$97 million of the total sales.

**Table 5.7 Location of Agri-Related Business Sales by NAICS (\$ million)**

Industrial Sector	Local sales within the study area		Sales to other parts of Ontario		Sales to other provinces		International sales	
	Sales	%	Sales	%	Sales	%	Sales	%
Agriculture	\$27.6	2.1%	\$60.0	6.6%	\$14.1	5.6%	\$15.7	17.3%
Mining	\$4.7	0.4%	\$1.1	0.1%	\$0.0	0.0%	\$0	0.0%
Construction	\$58.5	4.5%	\$34.7	3.8%	\$2.1	0.8%	\$0.3	0.4%
Manufacturing	\$126.9	9.7%	\$134.4	14.7%	\$21.6	8.6%	\$7.4	8.1%
Wholesale Trade	\$552.8	42.3%	\$242.9	26.6%	\$97.1	38.6%	\$51.5	56.7%
Retail Trade	\$298.5	22.1%	\$89.0	9.8%	\$11.0	4.4%	\$1.0	1.1%
Transportation & Warehousing	\$95.4	7.3%	\$293.6	32.2%	\$103.1	41.0%	\$14.4	15.9%
Information Industries	\$5.2	0.4%	minimal	0.0%	minimal	0.0%	\$0	0.0%
Finance and Insurance	\$61.1	4.7%	\$21.2	2.3%	minimal	0.0%	\$0	0.0%
Real Estate and Rental	\$16.6	1.3%	\$1.6	0.2%	\$0.3	0.1%	\$0	0.0%
Professional Services	\$28.7	2.2%	\$13.6	1.5%	\$1.0	0.3%	\$0	0.0%
Admin, Support, Waste Mgt	\$6.6	0.5%	\$3.6	0.4%	\$1.0	0.4%	\$0.2	0.3%
Accomm. and Food Services	minimal	0.0%	minimal	0.0%	minimal	0.0%	\$0	0.0%
Other Services	\$34.4	2.6%	\$15.7	1.7%	minimal	0.1%	\$0.2	0.2%
<b>Total</b>	<b>\$1,308.2</b>	<b>100%</b>	<b>\$911.6</b>	<b>100%</b>	<b>\$251.6</b>	<b>100%</b>	<b>\$90.8</b>	<b>100%</b>

Source: Adapted from Cummings et al.1998, 1999, 2000, 2001, 2002, 2003, and 2004.

## 5.5 Agriculture-Related Business Employment

In terms of employment, businesses were asked to report on the total number of full-time, part-time, and seasonal employees and their hours of work on a weekly basis. Employment figures were converted to full time equivalents (FTE).<sup>21</sup> The agri-related employment component was estimated by applying the agri-related sales percentage to the employment data.

Approximately 99% of the businesses surveyed provided employment data. The total number of FTE jobs for all 2,632 businesses amounted to 29,680 or an average of approximately 11 jobs per business. Total jobs per business ranged from a portion of one FTE job to 1,858 FTE jobs. As shown in Table 5.8, there was considerable variation in the size of businesses in relation to employment.

According to Statistics Canada, a small business employs one to fifty people; a medium business employs 51 to 250 people and a large business employs over 250 people. By this standard, over 97% of the agri-related businesses surveyed were small.

In terms of agri-related jobs, there were a total of 12,049 FTE jobs, which represents 41% of the total FTE jobs. This represents an average of approximately 5 agri-related jobs per business. While this average is meaningful, it should be noted that the range for agri-related jobs per business was large at 1,486 (based on a minimum of less than one FTE job and a maximum of 1,487 jobs). Almost half of the businesses surveyed reported less than one FTE agri-related job. The interquartile range was calculated at 3 FTE agri-related jobs with 0.3 FTE jobs as the 25<sup>th</sup> percentile and 3.3 FTE jobs as the 75<sup>th</sup> percentile.

Although the largest number of businesses surveyed were from the Retail sector, the largest proportion of agri-related jobs were reported in the Wholesale sector. As shown in Table 5.9, the Wholesale sector accounts for 2,695 FTE agri-related jobs or 22.3% of the total agri-related jobs reported across all industrial sectors. The next highest ranking sector in terms of jobs is Transportation and Warehousing at 2,343 jobs or 19.4% of the total agri-related jobs. However, it is important to note that a single transportation business accounted for most of these jobs. When we exclude this business from the profile, the next highest ranking sectors after Wholesale are Manufacturing and Retail.

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<sup>21</sup> Full Time Equivalent (FTE) jobs are based on a 1,875 hours per year workload (7.5 hours per day X 5 days per week X 50 weeks per year).

**Table 5.8 Agri-Related Businesses Surveyed by the Number of Full Time Equivalent Jobs**

Number of FTE Jobs	Agri-related and Non-Agri-related FTE Jobs Combined		Agri-related FTE Jobs Only	
	Number of Businesses Reporting Employment Data	Percentage of Businesses	Number of Businesses Reporting Employment Data	Percentage of Businesses
Less than 1	99	3.8%	1,218	46.3%
1 to 2	562	21.3%	619	23.5%
3 to 5	776	29.5%	350	13.3%
6 to 10	537	20.4%	234	8.9%
11 to 15	224	8.5%	87	3.3%
16 to 20	121	4.6%	34	1.3%
21 to 25	82	3.1%	21	0.8%
26 to 30	50	1.9%	21	0.8%
31 to 40	63	2.4%	16	0.6%
41 to 50	45	1.7%	16	0.6%
51 to 250	68	2.6%	13	0.5%
Over 250	5	0.2%	3	0.1%
<b>Total</b>	<b>2,632</b>	<b>100%</b>	<b>2,632</b>	<b>100%</b>

Source: Adapted from Cummings et al.1998, 1999, 2000, 2001, 2002, 2003, and 2004.

**Table 5.9 Agri-Related Business Employment by Industrial Sector**

Industrial Sector	Number of Businesses Reporting Employment Data	Total Full Time Equivalent Jobs	Agri-Related Employment		
			Total Full Time Equivalent Agri-Related Jobs	Percentage of Jobs Related to Agriculture	Percentage of Total Agri-Related Jobs
Agriculture	89	964	652	67.6%	5.4%
Mining	14	167	82	49.1%	0.7%
Construction	424	3,482	908	26.1%	7.5%
Manufacturing	186	3,353	1,875	55.9%	15.5%
Wholesale Trade	335	4,165	2,695	64.7%	22.3%
Retail Trade	550	6,773	1,708	25.2%	14.2%
Transportation/Warehousing	111	3,606	2,342	65.0%	19.4%
Information Industries	20	310	88	28.5%	0.7%
Finance and Insurance	262	2,488	586	23.6%	4.9%
Real Estate and Rental	71	974	136	14.0%	1.1%
Professional Services	215	1,426	485	34.0%	4.0%
Admin. Support, Waste Mgt.	25	125	76	60.9%	0.6%
Accomm. and Food Services	2	N/A	N/A	N/A	N/A
Other Services	318	1,796	426	23.7%	3.5%
<b>Total all businesses</b>	<b>2,622</b>	<b>29,682</b>	<b>12,061</b>	<b>40.6%</b>	<b>100%</b>

Source: Adapted from Cummings et al.1998, 1999, 2000, 2001, 2002, 2003, and 2004.

## **5.6 Profile of Agri-Related Businesses by Industrial Sector**

The following profile provides a more detailed description of the agri-related sales and jobs associated with the different industrial sectors. The profile draws on the industry definitions used by Statistics Canada (North American Industry Classification System, Canada, 2002 – Catalogue No. 12-501-XPE) and examples of agri-related businesses that were surveyed through the 13 agri-impact studies presented in Table 5.1.

### **5.6.1 Agriculture**

This sector comprises establishments primarily engaged in growing crops, raising animals and poultry, and providing related support activities. Establishments primarily engaged in agricultural research or that supply veterinary services are not included in this sector (see Professional Services).

Agri-related businesses in this sector often have backward linkages in the form of crop and livestock/poultry production support services. This includes services such as custom ploughing and cultivation, seeding, spraying, harvesting and seed cleaning. Examples of livestock and poultry support services include breeding services, cattle registration services, and sheep shearing.

A total of 90 businesses were surveyed from this sector of which 87 provided sales data. These businesses reported a combined total of \$160 million in gross sales of which \$117.5 million or 73% were agri-related. The amount of agri-related sales reported by businesses ranged from \$500 to \$21.8 million and average agri-related sales amounted to \$1.3 million per business.

With respect to jobs, 89 businesses from this sector reported a total of 964 FTE jobs of which 652 or 68% were agri-related. The number of agri-related jobs reported by businesses ranged from less than one FTE to 81 FTE jobs. The average number of agri-related FTE jobs per business was 7.

### **5.6.2 Mining**

This sector features businesses primarily engaged in extracting naturally occurring minerals. The term "mining" is used in the broad sense to include quarrying, well operations, milling (e.g. crushing, screening, washing, etc.) and other preparation customarily done at the mine site, or as a part of mining activity.

Businesses in the mining sector provide backward linkages to agriculture by supplying aggregates such as sand, gravel, and agricultural limestone.

A total of 14 businesses were surveyed from this sector of which 12 provided sales data. These businesses reported a combined total of \$12.2 million in gross sales of which \$5.8 million or 48% were agri-related. The amount of agri-related sales reported by the businesses ranged from \$1,500 to \$2.5 million and average agri-related sales amounted to \$485,000 per business.

With respect to jobs, 14 businesses from this sector reported a total of 167 FTE jobs of which 82 or 49% were agri-related. The number of agri-related jobs reported by businesses ranged from less than one FTE to 42 FTE jobs. The average number of agri-related FTE jobs per business was 6.

### **5.6.3 Construction**

This sector comprises businesses primarily engaged in constructing, repairing and renovating buildings and engineering works, and in subdividing and developing land. These businesses may operate on their own account or under contract to other businesses or property owners. They may produce complete projects or just parts of projects.

Businesses in the construction sector have strong linkages to agriculture through building foundation, structure and exterior contractors (e.g. concrete forming, structural steel, roofing and siding, masonry, etc.) and building equipment contractors (e.g. electrical, plumbing, heating, cooling, refrigeration, etc.). Businesses in this sector also provide excavation, drainage, fencing and well drilling services.

A total of 430 businesses were surveyed from this sector of which 414 provided sales data. These businesses reported a combined total of \$309 million in gross sales of which \$95.6 million or 31% were agri-related. The amount of agri-related sales reported by businesses ranged from \$500 to \$13 million and average agri-related sales amounted to \$231,000 per business.

With respect to jobs, 424 businesses from this sector reported a total of 3,482 FTE jobs of which 902 or 26% were agri-related. The number of agri-related jobs reported by businesses ranged from less than one FTE to 67 FTE jobs. The average number of agri-related FTE jobs per business was 2.

### **5.6.4 Manufacturing**

This sector includes businesses primarily engaged in the physical or chemical transformation of materials or substances into new products. These products may be finished, in the sense that they are ready to be used or consumed, or semi-finished, in the sense of becoming a raw material for an establishment to use in further manufacturing.

Manufacturing establishments are known by a variety of trade designations including plants, factories and mills. Manufacturing businesses may own the materials, which they transform or they may transform materials owned by other businesses. Manufacturing may take place in factories or in workers' homes, using either machinery or hand tools.

Businesses in the manufacturing sector have strong linkages to agriculture through animal feed manufacturing (e.g. feed premixes, supplements, livestock and poultry

feeds, etc.), food manufacturing and processing (e.g. animal slaughtering and processing), agricultural implement/equipment manufacturing (e.g. ploughs, grain buggies, milking equipment, manure handling equipment, etc.), and other manufactured goods (e.g. concrete and building supplies).

A total of 187 businesses were surveyed from this sector of which 176 provided sales data. These businesses reported a combined total of \$456.9 million in gross sales of which \$291 million or 64% were agri-related. The amount of agri-related sales reported by businesses ranged from \$2,500 to \$50 million and average agri-related sales amounted to \$1.6 million per business.

With respect to jobs, 186 businesses from this sector reported a total of 3,353 FTE jobs of which 1,875 or 56% were agri-related. The number of agri-related jobs reported by businesses ranged from less than one FTE to 164 FTE jobs. The average number of agri-related FTE jobs per business was 10.

### **5.6.5 Wholesale Trade**

The wholesale trade sector includes businesses primarily engaged in wholesaling merchandise and providing related logistics, marketing and support services. The wholesaling process is generally an intermediate step in the distribution of merchandise; many wholesalers are therefore organized to sell merchandise in large quantities to retailers, and business and institutional clients. However, some wholesalers, in particular those that supply non-consumer capital goods like farm equipment sell merchandise in single units to final users.

This sector recognizes two main types of wholesalers: wholesale merchants and wholesale agents and brokers.

Wholesale merchants buy and sell merchandise on their own account (i.e. they take title to the goods they sell). These businesses generally operate from warehouse or office locations and they may ship from their own inventory or arrange for the shipment of goods directly from the supplier to the client. In addition to the sale of goods, they may provide, or arrange for the provision of, logistics, marketing and support services, such as packaging and labelling, inventory management, shipping, handling of warranty claims, in-store or co-op promotions, and product training. Dealers of machinery and equipment, such as dealers of farm machinery fall within this category.

Wholesale agents and brokers buy and sell merchandise owned by others on a fee or commission basis. They do not take title to the goods they buy or sell, and they generally operate at or from an office location. Wholesale agents and brokers for grain and livestock are included in this category.

Businesses in the wholesale trade sector have strong forward and backward linkages to agriculture. Wholesalers/distributors have forward linkages through purchases of commodities such as grains and oilseeds and backward linkages through the sale of products such as grain and animal feed and other agricultural supplies (e.g. seed, fertilizer, pesticides, herbicides, etc.), and farm machinery.

A total of 338 businesses were surveyed from this sector of which 318 provided sales data. These businesses reported a combined total of \$1.2 billion in gross sales of which \$944 million or 76% were agri-related. The amount of agri-related sales reported by businesses ranged from \$2,000 to \$120 million and average agri-related sales amounted to \$2.9 million per business.

With respect to jobs, 335 businesses from this sector reported a total of 4,165 FTE jobs of which 2,695 or 65% were agri-related. The number of agri-related jobs reported by businesses ranged from less than one FTE to 205 FTE jobs. The average number of agri-related FTE jobs per business was 8.

### **5.6.6 Retail Trade**

The retail trade sector includes businesses primarily engaged in retailing merchandise and providing services related to the sale of merchandise.

The retailing process is the final step in the distribution of merchandise to consumers. Retail businesses are organized to sell merchandise in small quantities to the general public. Retail businesses typically sell merchandise to the general public for personal or household consumption, but some also serve business and institutional clients (e.g. farm businesses).

In addition to selling merchandise, some types of retail businesses are engaged in the provision of after-sales services such as repair and installation (e.g. new automobile dealers, electronic and appliance stores, etc.). Gasoline service stations are also treated as retail businesses.

Businesses in the retail trade sector have strong backward linkages to agriculture through the sale of products to farmers for use in the farm business, such as tire, truck and auto sales and service, hardware sales, and computer sales and service. Some forward linkages also exist in the food retail sector, where goods are purchased from farms for resale.

A total of 556 businesses were surveyed from this sector of which 528 provided sales data. These businesses reported a combined total of \$1.4 billion in gross sales of which \$391 million or 28% were agri-related. The amount of agri-related sales reported by businesses ranged from \$600 to \$18 million and average agri-related sales amounted to \$740,000 per business.

With respect to jobs, 550 businesses from this sector reported a total of 6,773 FTE jobs of which 1,708 or 25% were agri-related. The number of agri-related jobs reported by businesses ranged from less than one FTE to 80 FTE jobs. The average number of agri-related FTE jobs per business was 3.



### **5.6.7 Transportation and Warehousing**

This sector includes businesses primarily engaged in transporting goods, warehousing and storing goods, and providing services to these establishments.

These businesses have backward linkages to agriculture through the transport of livestock, grains and oilseeds, fruits and vegetables, raw milk, etc. Farm product warehousing and storage includes businesses primarily engaged in storage only of grain and oilseeds.

A total of 117 businesses were surveyed from this sector of which 108 provided sales data. These businesses reported a combined total of \$582 million in gross sales of which \$506.6 million or 87% were agri-related. The amount of agri-related sales reported by businesses ranged from \$500 to \$300 million and average agri-related sales amounted to \$4.7 million per business.

With respect to jobs, 111 businesses from this sector reported a total of 3,606 FTE jobs of which 2,342 or 65% were agri-related. The number of agri-related jobs reported by businesses ranged from less than one FTE to 1,486 FTE jobs. The average number of agri-related FTE jobs per business was 20.

It should be noted that one business alone accounted for almost 60% of the total agri-related sales and 63% of the total agri-related jobs in this sector. If this business is excluded from the profile, the average agri-related sales per business amounts to \$1.9 million while the average agri-related jobs per business amounts to 8.

### **5.6.8 Information and Cultural Industries**

This sector includes businesses primarily engaged in producing and distributing information and cultural products. Businesses providing the means to transmit or distribute these products or providing access to equipment and expertise for processing data are also included.

The main components of this sector are publishing industries (e.g. newspapers), motion picture and sound recording industries, broadcasting industries (e.g. radio and television), internet publishing and broadcasting industries, telecommunications industries, internet service providers, data processing industries, and the other information services industries.

A total of 20 businesses were surveyed from this sector and all 20 provided sales data. These businesses reported a combined total of \$16.4 million in gross sales of which \$5.6 million or 34% were agri-related. The amount of agri-related sales reported by businesses ranged from \$2,500 to \$1.8 million and average agri-related sales amounted to \$279,000 per business.

With respect to jobs, 20 businesses from this sector reported a total of 310 FTE jobs of which 88 or 28% were agri-related. The number of agri-related jobs reported by

businesses ranged from less than one FTE to 32 FTE jobs. The average number of agri-related FTE jobs per business was 4.

### **5.6.9 Finance and Insurance**

This sector includes businesses primarily engaged in financial intermediation (e.g. banks, credit unions, etc.) or in facilitating financial transactions. This sector also includes businesses primarily engaged in underwriting annuities and insurance (e.g. insurance agencies and brokerages).

These businesses have backward linkages to agriculture through the provision of loans, banking and insurance services to farm operations. In many cases, local branches have a department responsible for servicing farm operations.

A total of 264 businesses were surveyed from this sector. These businesses generated a combined total of \$417 million in gross sales of which \$83 million or 20% were agri-related.<sup>22</sup> The amount of agri-related sales generated by businesses ranged from \$875 to \$7.2 million and average agri-related sales amounted to \$329,000 per business.

With respect to jobs, 262 businesses from this sector reported a total of 2,488 FTE jobs of which 586 or 24% were agri-related. The number of agri-related jobs reported by businesses ranged from less than one FTE to 44 FTE jobs. The average number of agri-related FTE jobs per business was 2.

### **5.6.10 Real Estate and Rental and Leasing**

This sector includes businesses primarily engaged in renting, leasing or otherwise allowing the use of tangible or intangible assets. Businesses primarily engaged in managing real estate for others; selling, renting and/or buying of real estate for others; and appraising real estate, are also included.

Real estate agencies and rental businesses (e.g. equipment and tool rental) have backward linkages to the agriculture sector. The main service provided by real estate agencies to agriculture is the selling of agricultural property. These businesses are also involved in land appraisals and leasing farm properties.

A total of 71 businesses were surveyed from this sector and all 71 provided sales data. These businesses reported a combined total of \$105.8 million in gross sales of which \$18.6 million or 17% were agri-related. The amount of agri-related sales reported by

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<sup>22</sup> Sales data from financial institutions, such as banks and credit unions, were collected differently. Typically, these sales would be based on profits generated from loans and services provided to farm businesses. However, this information is difficult to obtain. A conservative estimate is that revenue from farm businesses would at least cover the salaries of employees providing services to farmers. For the purposes of the 13 agri-economic impact studies reviewed in this section of the report, 'sales' by financial institutions were based on the number of employees at the institution multiplied by an average salary of \$30,000, a conservative estimate.

businesses ranged from \$2,475 to \$3.5 million and average agri-related sales amounted to \$261,000 per business.

With respect to jobs, 71 businesses from this sector reported a total of 974 FTE jobs of which 136 or 14% were agri-related. The number of agri-related jobs reported by businesses ranged from less than one FTE to 17 FTE jobs. The average number of agri-related FTE jobs per business was 2.

#### **5.6.11 Professional, Scientific and Technical Services**

This sector includes businesses primarily engaged in activities in which human capital is the major input. These businesses make available the knowledge and skills of their employees, often on an assignment basis. The individual industries of this sector are defined on the basis of the particular expertise and training of the service provider.

The main components of this sector include legal services industries, accounting and related services industries, architectural, engineering and related services industries, surveying and mapping services industries, design services industries, management, scientific and technical consulting services industries, scientific research and development services industries, and advertising services industries. This sector also includes veterinarian services.

A total of 219 businesses were surveyed from this sector of which 210 provided sales data. These businesses reported a combined total of \$117 million in gross sales of which \$43 million or 37% were agri-related. The amount of agri-related sales reported by businesses ranged from \$500 to \$9 million and average agri-related sales amounted to \$205,000 per business.

With respect to jobs, 215 businesses from this sector reported a total of 1,426 FTE jobs of which 485 or 34% were agri-related. The number of agri-related jobs reported by businesses ranged from less than one FTE to 44 FTE jobs. The average number of agri-related FTE jobs per business was 2.

#### **5.6.12 Administrative and Support, Waste Management**

This sector includes two different types of businesses: those primarily engaged in activities that support the day-to-day operations of other organizations; and those primarily engaged in waste management activities.

The first type of business is engaged in activities such as administration, hiring and placing personnel, providing security and surveillance, cleaning buildings, and packaging and labelling products. Auctioneering services are also included in this sector.

Waste management establishments are engaged in the collection, treatment and disposal of waste material, the operation of material recovery facilities, the remediation

of polluted sites and the cleaning of septic tanks. Pest control services are also included in this sector.

A total of 25 businesses were surveyed from this sector of which 24 provided sales data. These businesses reported a combined total of \$16.5 million in gross sales of which \$11.5 million or 69% were agri-related. The amount of agri-related sales reported by businesses ranged from \$750 to \$4.7 million and average agri-related sales amounted to \$478,000 per business.

With respect to jobs, 25 businesses from this sector reported a total of 125 FTE jobs of which 76 or 61% were agri-related. The number of agri-related jobs reported by businesses ranged from less than one FTE to 43 FTE jobs. The average number of agri-related FTE jobs per business was 3.

### **5.6.13 Accommodation and Food Services**

This sector includes businesses primarily engaged in providing short-term lodging and complementary services (e.g. conference services) to travellers, vacationers and others, in facilities such as hotels and motels. This sector also includes establishments primarily engaged in preparing meals, snacks and beverages, to customer order, for immediate consumption on and off the premises.

Too few businesses were surveyed from this sector to present meaningful sales and employment data.

### **5.6.14 Other Services**

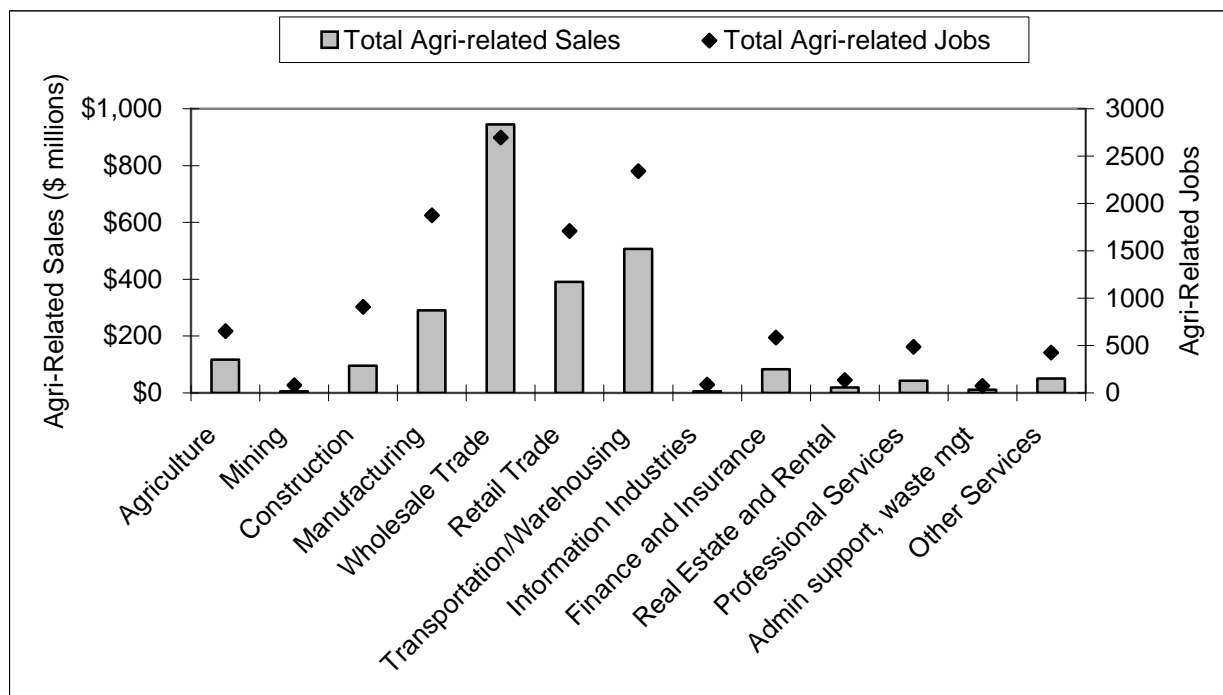
This sector includes businesses not classified to any other sector. Other services industries which are the most relevant to agriculture include businesses primarily engaged in repairing, or performing general or routine maintenance, on motor vehicles, machinery, equipment and other products to ensure that they work efficiently.

A total of 324 businesses were surveyed from this sector of which 310 provided sales data. These businesses reported a combined total of \$169 million in gross sales of which \$50.6 million or 30% were agri-related. The amount of agri-related sales reported by businesses ranged from \$400 to \$7 million and average agri-related sales amounted to \$163,000 per business.

With respect to jobs, 318 businesses from this sector reported a total of 1,796 FTE jobs of which 426 or 24% were agri-related. The number of agri-related jobs reported by businesses ranged from less than one FTE to 47 FTE jobs. The average number of agri-related FTE jobs per business was 1.

Figure 5.1 illustrates the total agri-related sales and employment associated with each of the industry sectors as described above.

**Figure 5.1 Agri-Related Sales and Employment by Industrial Sector**



Source: Adapted from Cummings et al. 1998, 1999, 2000, 2001, 2002, 2003, and 2004.

## 5.7 Regional Analysis of the Agri-Related Businesses Surveyed

Given that a number of different counties participated in the agri-related business survey in each of the Census Agricultural Regions (with the exception of Central Ontario), it is possible to identify some of the general industry features associated with the different regions.

### 5.7.1 Number of Businesses Surveyed by Industrial Sector and Region

As shown in Table 5.10, agri-related businesses from Western Ontario accounted for the largest proportion of the total businesses surveyed at 34% followed by Eastern Ontario at 32%, Southern Ontario at 20% and Northern Ontario at 14%.<sup>23</sup>

The four regions were similar in one respect in that Retail Trade, Wholesale Trade, Construction, Finance and Insurance Services, and Other Services consistently ranked as the top five industry sectors in terms of the number of businesses surveyed. However, there was some variation between the four regions in terms of the proportion of businesses represented in each sector and their ranking in the top five positions.

<sup>23</sup> Parry Sound District is normally considered to be part of the Central Ontario Region as defined by the Agricultural Census, Statistics Canada. However, it has been included as part of Northern Ontario for the purpose of this analysis given that the original agri-economic impact study that included Parry Sound also encompassed Sudbury and Nipissing.

The Construction and Retail Trade sectors accounted for the largest number of businesses surveyed in Southern Ontario. Each of these sectors represented 17% of the total businesses surveyed. Rounding out the top five sectors were Wholesale Trade (16%), Other Services (12%), and Finance and Insurance Services (9%).

The top five sectors in Western Ontario were Retail Trade (19%), Construction (16%), Wholesale Trade (12%), Finance and Insurance Services (10%), and Other Services (10%). The top five sectors in Eastern Ontario were Retail Trade (21%), Construction (18%), Other Services (14%), Wholesale Trade (12%), and Finance and Insurance Services (10%). The top five sectors in Northern Ontario were Retail Trade (30%), Other Services (13%), Construction (11%), Wholesale Trade (11%), and Finance and Insurance Services (9%).

The above analysis indicates that Retail businesses are more strongly represented in Northern Ontario relative to other regions of the province. It suggests that the economic linkages between the Retail sector and the farming sector are more significant in this region than is the case in other regions of the province. Indeed, as the following section shows, the Retail sector in Northern Ontario accounted for over 50% of the total agri-related sales based on the businesses surveyed.

**Table 5.10 Agri-Related Businesses Surveyed by Industrial Sector in Southern, Western, Eastern, and Northern Ontario Regions**

Industrial Sector	Southern Ontario		Western Ontario		Eastern Ontario		Northern Ontario	
	Number of Businesses	%	Number of Businesses	%	Number of Businesses	%	Number of Businesses	%
Agriculture	15	2.8	41	4.6	32	3.8	2	0.5
Mining	2	0.4	9	1	3	0.4	0	0
Construction	94	17.2	138	15.5	155	18.4	43	11.4
Manufacturing	38	7	84	9.4	43	5.1	22	5.9
Wholesale Trade	85	15.6	107	12	103	12.2	43	11.4
Retail Trade	94	17.2	171	19.2	179	21.2	112	29.8
Transportation/Warehousing	29	5.3	45	5	15	1.8	28	7.4
Information Industries	4	0.7	8	0.9	5	0.6	3	0.8
Finance and Insurance	52	9.5	91	10.2	86	10.2	35	9.3
Real Estate and Rental	16	2.9	26	2.9	24	2.8	5	1.3
Professional Services	41	7.5	74	8.3	72	8.5	32	8.5
Admin. Support, Waste Mgt.	8	1.5	7	0.8	7	0.8	3	0.8
Accomm/Food Services	0	0	2	0.2	0	0	0	0
Other Services	67	12.3	89	10	120	14.2	48	12.8
<b>Total all businesses</b>	<b>545</b>	<b>100</b>	<b>892</b>	<b>100</b>	<b>844</b>	<b>100</b>	<b>376</b>	<b>100</b>

Source: Adapted from Cummings et al.1998, 1999, 2000, 2001, 2002, 2003, and 2004.

### 5.7.2 Agri-Related Sales by Industrial Sector and Region

In terms of the total agri-related sales by industrial sector, the Wholesale sector was the top ranking sector in Southern, Western and Eastern Ontario while in Northern Ontario the Retail sector ranked first followed by Wholesale (Table 5.11). Other sectors that commonly ranked in the top five across the four regions included Manufacturing, Transportation and Warehousing, Construction, and Agricultural Services.

The top five sectors in Southern Ontario in terms of agri-related sales were Wholesale Trade which accounted for 49% of the total agri-related sales across all sectors followed by Retail Trade (11%), Manufacturing (11%), Transportation and Warehousing (10%), and Finance and Insurance tied with Agricultural Services (4%).

The top five sectors in Western Ontario were Wholesale Trade (34%), Transportation and Warehousing (26%), Manufacturing (13%), Retail Trade (11%), and Agricultural Services (5%). When we factor out one large business that accounted for most of the agri-related sales in the Transportation sector the ranking is as follows: Wholesale Trade (42%), Manufacturing (16%), Retail Trade (14%), Transportation and Warehousing (8%), and Agricultural Services (7%).

The top five sectors in Eastern Ontario were Wholesale Trade (37%), Retail Trade (26%), Transportation and Warehousing (12%), Manufacturing (6%), and Financial and Insurance Services tied with Other Services (4%).

The top five sectors in Northern Ontario were Retail Trade (51%), Wholesale Trade (27%), Manufacturing (9%), Transportation and Warehousing (4%), and Construction (3%). The low number of businesses and low level of sales associated with the Agricultural Service sector in Northern Ontario (relative to other regions of the province) suggests that farm operations in Northern Ontario are less reliant on these types of businesses and/or have less need for these types of services. This is likely associated with the availability of land in Northern Ontario for crop production and the need for crop planting, spraying, harvesting, etc. services. In 2001, 37% of the total farmland area in Northern Ontario was reported in crop production. This is in contrast to other regions of the province, which reported 60% or more of their total farmland area in crop production. The province as a whole reported 67% of its total farmland area in crop production in 2001 (Census of Agriculture, Statistics Canada, 2001).

**Table 5.11 Agri-Related Sales for Businesses Surveyed by Industrial Sector in Southern, Western, Eastern, and Northern Ontario Regions (\$ millions)**

Industrial Sector	Southern Ontario		Western Ontario		Eastern Ontario		Northern Ontario	
	Total Agri-related Sales	%	Total Agri-related Sales	%	Total Agri-related Sales	%	Total Agri-related Sales	%
Agriculture	\$18.2	3.6	\$82.9	5.4	\$16.4	3.9	\$0.05	0.04
Mining	\$2.6	0.5	\$3.0	0.2	\$0.2	0.1	\$0.0	0
Construction	\$18.1	3.5	\$57.5	3.8	\$16.6	3.9	\$3.4	3.3
Manufacturing	\$55.0	10.8	\$201.6	13.2	\$25.0	5.9	\$9.4	9.1
Wholesale Trade	\$247.8	48.6	\$512.4	33.6	\$156.2	36.8	\$28.0	27.2
Retail Trade	\$56.3	11.0	\$171.9	11.3	\$110.8	26.1	\$51.7	50.3
Transportation/Warehousing	\$51.7	10.1	\$401.2	26.3	\$49.8	11.7	\$3.9	3.7
Information Industries	\$2.7	0.5	\$2.4	0.2	\$0.4	0.1	\$0.07	0.1
Finance and Insurance	\$20.2	4.0	\$42.7	2.8	\$17.9	4.2	\$2.4	2.3
Real Estate and Rental	\$5.7	1.1	\$6.0	0.4	\$6.6	1.6	\$0.3	0.2
Professional Services	\$11.4	2.2	\$23.9	1.6	\$6.4	1.5	\$1.5	1.5
Admin. Support, Waste Mgt.	\$4.8	0.9	\$6.0	0.4	\$0.5	0.1	\$0.2	0.2
Accomm/Food Services	\$0.0	0	N/A	N/A	\$0.0	0	\$0.0	0
Other Services	\$15.7	3.1	\$14.8	1.0	\$18.0	4.2	\$2.0	2.0
Total all businesses	\$510.4	100	\$1,526.1	100	\$424.9	100	\$102.9	100

Source: Adapted from Cummings et al.1998, 1999, 2000, 2001, 2002, 2003, and 2004.

### 5.7.3 Agri-Related Employment by Industrial Sector and Region

In terms of the total agri-related jobs by industrial sector, the Wholesale sector was the top ranking sector in Southern, Western and Eastern Ontario while in Northern Ontario the Retail sector ranked first followed by Wholesale (Table 5.12). Other sectors that commonly ranked in the top five across the four regions included Manufacturing, Transportation and Warehousing, and Construction.

The top five sectors in Southern Ontario in terms of agri-related jobs were Wholesale Trade which accounted for 23% of the total agri-related jobs across all sectors followed by Manufacturing (21%), Retail Trade (15%), Construction (9%), and Transportation and Warehousing (7%).

The top five sectors in Western Ontario were Transportation (30%), Wholesale Trade (21%), Manufacturing (17%), Retail Trade (9%), and Agricultural Services (7%). When we factor out one large business that accounted for most of the agri-related jobs in the Transportation sector the ranking is as follows: Wholesale Trade (27%), Manufacturing (21%), Retail Trade (11%), Transportation and Warehousing (11%), and Agricultural Services (8%).

The top five sectors in Eastern Ontario were Wholesale Trade (27%), Retail Trade (22%), Finance and Insurance (10%), Construction (9%), and Manufacturing (8%).



The top five sectors in Northern Ontario were Retail Trade (44%), Wholesale Trade (17%), Manufacturing (10%), Construction (9%), and Transportation and Warehousing (6%).

While the Wholesale and Retail Trade sectors generally represent the most important sectors in terms of agri-related jobs in Eastern and Northern Ontario, the Wholesale and Manufacturing sectors represent the most important sectors in Southern and Western Ontario.

**Table 5.12 Agri-Related Jobs for Businesses Surveyed by Industrial Sector in Southern, Western, Eastern, and Northern Ontario Regions**

Industrial Sector	Southern Ontario		Western Ontario		Eastern Ontario		Northern Ontario	
	Total Agri-related Jobs	%	Total Agri-related Jobs	%	Total Agri-related Jobs	%	Total Agri-related Jobs	%
Agriculture	95	4.3	459	6.6	97	4.2	2	0.4
Mining	42	1.9	37	0.5	2	0.1	0	0
Construction	194	8.9	434	6.3	216	9.4	64	9.4
Manufacturing	454	20.8	1,158	16.8	192	8.4	70	10.4
Wholesale Trade	508	23.3	1,448	21.0	625	27.3	113	16.8
Retail Trade	328	15.0	585	8.5	497	21.7	298	44.2
Transportation/Warehousing	153	7.0	2,077	30.1	72	3.1	41	6.0
Information Industries	20	0.9	45	0.7	21	0.9	2	0.3
Finance and Insurance	109	5.0	227	3.3	228	10.0	22	3.3
Real Estate and Rental	19	0.9	56	0.8	55	2.4	6	0.8
Professional Services	121	5.6	220	3.2	114	5.0	30	4.5
Admin. Support, Waste Mgt.	8	0.3	52	0.7	13	0.6	4	0.6
Accomm/Food Services	0	0	N/A	N/A	0	0	0	0
Other Services	131	6.0	113	1.6	159	6.9	22	3.3
<b>Total all businesses</b>	<b>2,183</b>	<b>100</b>	<b>6,910</b>	<b>100</b>	<b>2,291</b>	<b>100</b>	<b>675</b>	<b>100</b>

Source: Adapted from Cummings et al.1998, 1999, 2000, 2001, 2002, 2003, and 2004.

## **5.8 Agriculture, Agri-Related Businesses and Economic Impact**

Economic impact is generally a measure of the impact of a sector or a project on all sectors of the economy. The economic impact of agriculture for each of the study areas was measured through an accounting of the total sales and employment associated with agriculture and agri-related businesses. The total economic impact of agriculture is comprised of the direct, indirect and induced impacts of agriculture.

### **5.8.1 Direct Impacts**

Direct impacts refer to the direct or on-farm employment and production. It is this economic activity that affects the rest of the economy by supporting or generating employment in other industrial sectors (e.g. manufacturing, retail, construction, etc.). For the purposes of this analysis, direct impacts refer to farm related jobs and sales as collected through the Population and Agricultural Census.

### **5.8.2 Indirect Impacts**

For the purposes of this analysis, indirect impacts refer to the jobs and sales generated 'off the farm' by agri-related businesses which interact directly with farm operations through buying and selling products and services. This does not include sales to farm families for personal consumption (e.g. household goods and services), which are included under induced impacts.

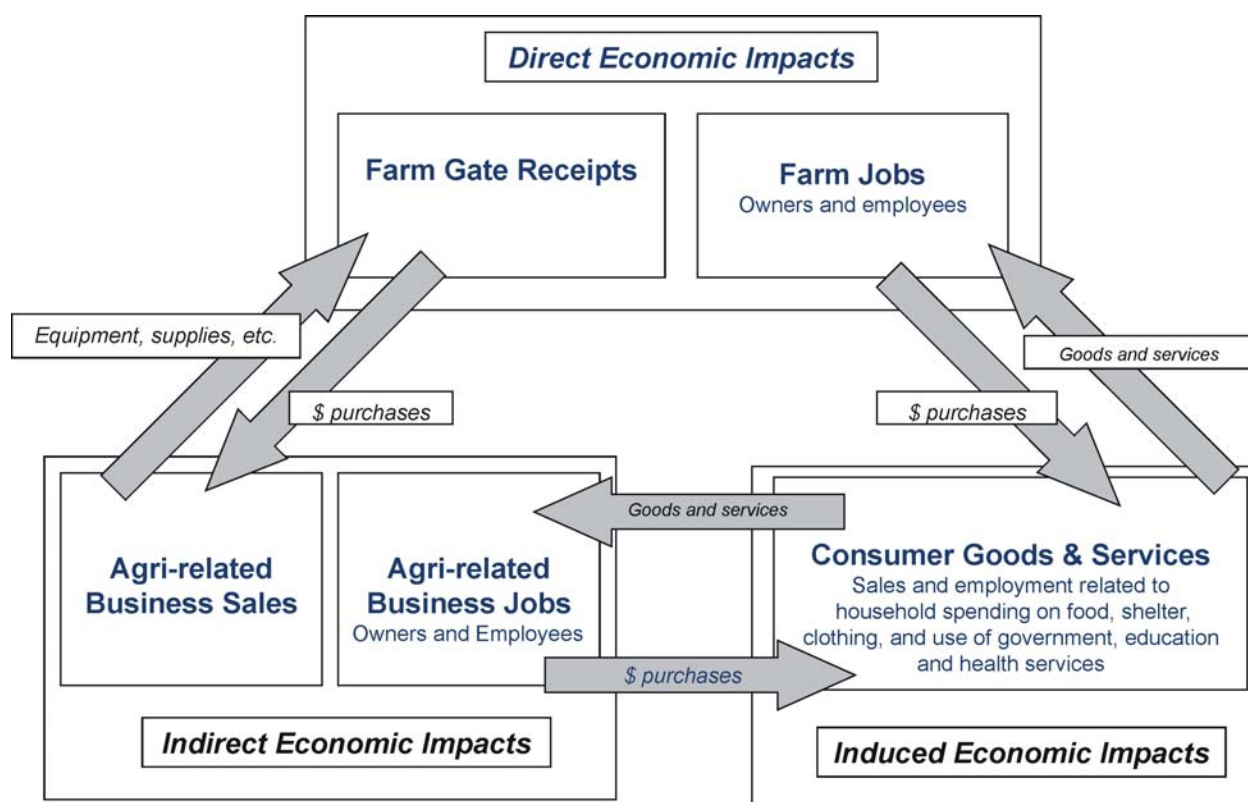
In order to estimate the total indirect impacts, we used the agri-related sales and employment data from the representative sample of agri-related businesses surveyed in each study area to extrapolate sales and employment values for the total population of agri-related businesses.

### **5.8.3 Induced Impacts**

Induced impacts refer to the jobs in the Education, Government, Health and Social service sectors that are supported by the people employed in the agricultural sector or in agri-related businesses that use the services provided by these three service industries. Population Census employment data from the agriculture and manufacturing sectors were compared to service sector jobs in the three sectors mentioned above to estimate the number of induced jobs in each of the study areas.

The sum of the original agricultural production, the direct impact, plus the indirect and induced values provides us with the total economic impact. Figure 5.2 illustrates the relationship between the direct, indirect and induced economic linkages.

**Figure 5.2 Direct, Indirect and Induced Economic Impacts of the Agriculture Sector**



### 5.8.4 Summary of Agriculture’s Economic Impacts and Multipliers

Tables 5.13 and 5.14 provide an overview of the direct, indirect and induced economic impacts of agriculture in each of the study areas. The tables also present the sales expenditure multipliers and employment multipliers associated with each of the study areas.

A multiplier is a simple ratio of the total change in the economy that results from a change in some agricultural economic measure (e.g. farm receipts, farm jobs). In this analysis, multipliers for each of the study areas were calculated by dividing the total economic impact by the direct impact. For example, in Temiskaming District the total economic impact of the agriculture sector in terms of employment was 2,161 jobs. Considering the direct impact accounted for 745 of these jobs the estimated employment multiplier is 2.9 (2,161 jobs ÷ 745 jobs = 2.9). This means that for every job in agriculture approximately 2 jobs are sustained in the rest of the economy.

In terms of dollars, the total economic impact of agriculture in Temiskaming District was \$145 million of which \$44 million were direct impacts. The resulting employment multiplier is 3.3 (\$145 million ÷ \$44 million). This means that for every dollar’s worth of

farm production approximately \$2.30 in additional sales accrue to the rest of the economy. It's important to note that the analysis reflects gross agriculture-related sales and no attempt has been made to identify the "net value-added" component.

While sales and job figures are not directly comparable because of differences in size and characteristics of the study areas, the multipliers associated with each of the studies provide some insights into the importance of the linkages between agriculture-related business and farm enterprises.

As shown in Table 5.13 and 5.14, the agriculture sector in the combined Counties of Elgin, Middlesex and Oxford had the greatest economic impact in terms of total agri-related sales and jobs relative to the other study areas. The direct and indirect sales associated with agriculture in Elgin, Middlesex and Oxford amounted to \$2.6 billion while the direct, indirect and induced jobs amounted to 32,720.

Other leading areas in terms of total agri-related sales and jobs were Huron County (\$2 billion in sales and 22,739 jobs), Waterloo Region (\$1.3 billion in sales and 18,037 jobs), the combined Counties of Prescott, Russell, Stormont, Dundas and Glengarry (\$1.1 billion in sales and 17,478 jobs), and Perth County (\$1.1 billion in sales and 11,131 jobs).

Sales expenditure multipliers ranged from 2 in the combined Districts of Parry Sound, Nipissing, and Eastern Sudbury to 3.9 in Huron County. Other top ranking areas in terms of sales expenditure multipliers included Waterloo Region (3.4), Temiskaming District (3.3), the combined Counties of Prescott, Russell, Stormont, Dundas and Glengarry (3.1), and Simcoe County (3.0).

Employment multipliers ranged from 2 in the combined Counties of Elgin, Middlesex, and Oxford to 5.2 in Waterloo Region. Other top ranking areas in terms of employment multipliers included Huron County (4.5), the combined Districts of Parry Sound, Nipissing, and Eastern Sudbury (3.8), the combined Districts of Algoma, Manitoulin, and Western Sudbury (3.5), and Simcoe County (3.0).

**Table 5.13 Total Agri-Related Sales and Sales Expenditure Multiplier for Study Areas in Ontario (\$ millions)**

Study Area	Direct Sales <sup>a</sup> (Farm gate sales)	Indirect Sales (Agri-related businesses)	Total Agri-related sales	Sales Expenditure Multiplier
Temiskaming	\$44.1	\$100.9	\$145	3.3
Algoma, Manitoulin, and Western Sudbury Districts	\$31.3	\$41.3	\$72.7	2.3
Parry Sound, Nipissing, and Eastern Sudbury Districts	\$43.6	\$42.6	\$86.2	2.0
Waterloo	\$379.6	\$897.3	\$1,276	3.4
Lambton	\$301	\$472	\$773	2.6
Elgin, Middlesex, Oxford	\$1,131	\$1,490	\$2,621	2.3
Huron <sup>b</sup>	\$512	\$1,489	\$2,001	3.9
Perth	\$430	\$653	\$1,083	2.5
Simcoe	\$265	\$518	\$783	3
Frontenac, Lennox & Addington, Leeds & Grenville	\$183	\$351	\$534	2.9
Lanark & Renfrew	\$98	\$142	\$240	2.4
Prescott, Russell, Stormont, Dundas & Glengarry	\$363	\$756	\$1,119	3.1
City of Ottawa	\$137	\$265	\$402	2.9

<sup>a</sup> Agricultural sales values from the Census of Agriculture, Statistics Canada 1996, 2001.

<sup>b</sup> Huron County was the first study of this type to be carried out. The methodology has been continuously refined for the succeeding studies. The higher numbers associated with Huron County's Indirect Sales may reflect these refinements.

Source: Cummings et al., 1998, 1999, 2000, 2001, 2002, 2003 and 2004.

**Table 5.14 Total Agri-Related Jobs and Employment Multiplier for Study Areas in Ontario**

Study Area	Direct Agri. Jobs <sup>a</sup>	Indirect Jobs (Agri-related businesses)	Induced Jobs	Total Jobs	Employment Multiplier
Temiskaming	745	526	890	2,161	2.9
Algoma, Manitoulin, and Western Sudbury Districts	805	242	1,780	2,827	3.5
Parry Sound, Nipissing, and Eastern Sudbury Districts	1,250	404	3,143	4,797	3.8
Waterloo	3,450	7,616	6,971	18,037	5.2
Lambton	3,920	1,624	3,382	8,926	2.3
Elgin, Middlesex, Oxford	16,515	6,856	9,348	32,720	2.0
Huron	5,025	14,186	3,528	22,739	4.5
Perth	4,935	3,133	3,066	11,131	2.3
Simcoe	4,770	2,237	7,414	14,421	3.0
Frontenac, Lennox & Addington, Leeds & Grenville	4,325	1,935	5,321	11,581	2.7
Lanark & Renfrew	3,010	848	3,163	7,021	2.3
Prescott, Russell, Stormont, Dundas & Glengarry	5,955	4,516	7,007	17,478	2.9
City of Ottawa	3,510	1,045	5,466	10,021	2.8

<sup>a</sup> Agricultural employment values from the Census of Agriculture, Statistics Canada 1996, 2001. Source: Cummings et al., 1998, 1999, 2000, 2001, 2002, 2003 and 2004.

Agriculture plays a prominent role in the provincial economy. It is also important to acknowledge the spatial dimension to Ontario's agricultural economy. Although considerable economic growth is associated with non-agricultural activities in large urban areas of the province, a substantial portion of Ontario depends on the economic contributions made by agriculture. At the regional or county level many agri-related businesses are strongly linked to the agricultural sector. For example, agriculture has strong linkages with a variety of Wholesale and Retail businesses. The needs of agriculture also support a diverse Manufacturing sector and an extensive Transportation and Warehousing sector. Key services are provided to the agricultural sector through Construction and Professional Service businesses. The agricultural sector also depends strongly on the Finance and Insurance sector.

This chapter examined the size and importance of the industries that supply goods and services to the agricultural sector. Chapters 6 through 10 will provide a more detailed profile of the Census Agricultural Regions that were introduced in Chapter 4 and illustrate trends and changes occurring in the agriculture sector using Census Division (County, Regional Municipality, District) data.

## **6.0 Southern Ontario – Summary of Agricultural and Rural Trends**

For the purposes of this analysis, the definition of Southern Ontario includes the boundaries outlined in the Agricultural Region Census from Census Canada. The counties included under this designation include Brant, Chatham-Kent, Elgin, Essex, Haldimand-Norfolk, Hamilton, Lambton, Middlesex, Niagara, and Oxford.

As a whole, Southern Ontario is one of the richest agricultural areas in Canada in terms of soil, climate, terrain, and infrastructure. It is also an area experiencing rapid urban growth. Therefore, although an area best suited for a wide variety of agricultural production activities, Southern Ontario is an area experiencing various development pressures. The new City of Hamilton for example, represents one of the fastest growing regions of the province and pressure for growth is intensifying. With the recent amalgamation, the majority of the 227,000 acres within the Hamilton boundary qualify as prime agricultural land (City of Hamilton, Agricultural Economic Impact and Development Study, 2003: pp. i-v).

### **6.1 Soil Capability for Agriculture**

The Canada Land Inventory (CLI) classification system is a soil classification system that ranks mineral soils into seven classes according to their potential and limitations for agricultural use (Environment Canada, 1980:1). The most highly rated soils, those having no significant limitations for cropping, are designated Class 1. Soils with no agricultural potential are designated Class 7. Soils designated 2 to 6 indicate, in declining order, capability for agriculture. For organic soils a separate category, Class 0, was established.

Classes 1, 2 and 3 are considered suitable for sustained production of common field crops if specified management practices are observed. Class 4 is physically marginal for sustained arable agriculture. Class 5 is capable of use only for permanent pasture and hay. Class 6 is capable of use only for grazing and Class 7 soils are considered to be unsuitable for agriculture (although specialty certain specialty crops such as tobacco thrive under very controlled conditions in Class 7 soils). While the soil areas in Classes 1 to 4 are suited for cultivated crops, they are also suited for permanent pasture. Soil areas in all classes may be suited for forestry, wildlife and recreational uses.

Table 6.1 provides a breakdown for the acreages of soil capabilities in Southern Ontario. This information has been adapted from Hoffman and Noble (1975). Approximately 4.4 million acres or 83% of the total land area in Southern Ontario is classified as suitable for sustained production of common field crops (Class 1, 2, and 3 soils).

Oxford has the highest percentage of Class 1 soils at 58% while Essex has the lowest percentage of Class 1 soils at 7%. Chatham-Kent has the highest percentage of Class 2 soils at 73%, while Oxford and Hamilton have the smallest percentage of Class 2 soils at 23%.

All of the counties in Southern Ontario have over 80% of their total land area classified as Class 1 to 3 soils except for Haldimand-Norfolk (60%) and Hamilton (73%).

**Table 6.1 Acreages of Soil Capability for Agriculture in Southern Ontario, Class 1 to 3 and Organic Soils**

County (Census Division)	Total Acres	Number of Acres by Soil Capability Classification							
		Class 1 Soil		Class 2 Soil		Class 3 Soil		Organic	
Brant	270,080	62,435	23.1%	111,575	41.3%	44,160	16.4%	9,535	3.5%
Chatham-Kent	616,320	63,065	10.2%	451,815	73.3%	66,825	10.8%	9,730	1.6%
Elgin	464,640	95,590	20.6%	163,315	35.1%	130,455	28.1%	4,095	0.9%
Essex	460,160	33,550	7.3%	321,341	69.8%	53,668	11.7%	1,880	0.4%
Haldimand-Norfolk	719,360	56,717	7.9%	331,354	46.1%	43,364	6.0%	3,328	0.5%
Hamilton	275,200	77,756	28.3%	64,071	23.3%	60,650	22.0%	11,182	4.1%
Lambton	740,480	156,695	21.2%	399,039	53.9%	78,672	10.6%	5,428	0.7%
Middlesex	830,720	327,809	39.5%	273,001	32.9%	121,443	14.6%	12,745	1.5%
Niagara	457,600	40,561	8.9%	211,016	46.1%	132,153	28.9%	7,420	1.6%
Oxford	501,760	289,488	57.7%	115,723	23.1%	52,545	10.5%	12,743	2.5%
Southern Ontario	5,336,320	1,203,666	22.6%	2,442,250	45.8%	783,935	14.7%	78,086	1.5%

Source: Hoffman and Noble, 1975.



## **6.2 Terrain Characteristics**

In terms of physical characteristics of Southern Ontario, the Niagara Region has some unique physiographic areas including the Niagara Escarpment, Iroquois Plain, and the Haldimand Clay Plain. The Escarpment divides the areas by isolating the Iroquois Plain (lower adjacent to Lake Ontario) from the elevated areas above the lip of the Escarpment (Planscape, 2003a: 2.3).

Hamilton is comprised of some of the same physical characteristics as Niagara Region. In total, there are six distinct physiographic regions in Hamilton. These include the Niagara Escarpment Iroquois Plain, Haldimand Clay Plain, Norfolk Sand Plain, Horseshoe Moraines, and the Flamborough Plain. The Niagara Escarpment is a distinct feature, and isolates the Iroquois Plain from the elevated areas of the Escarpment. The Iroquois Plain includes three subareas within Hamilton: the Niagara Fruit Belt; the Ontario Lakehead; and the Hamilton to Toronto shoreline (Planscape, 2003b: 2.1).

The Niagara Fruit Belt extends from Hamilton to Grimsby. The soil in this area is mainly heavy clay and course soils that developed on gravel ridges. Most of the farms in these areas specialize in fruits and vegetables.

The Haldimand Clay Plain typically has more relief in the western portion than in other areas. The drainage is controlled by ridges, which direct surface waters to the east. Some of the streams have carved deep notches in the Escarpment and drain into Lake Ontario. The Dunnville Sand Plain is characterized with wet sandy loam. Adjacent to this area is the Wainfleet Bog. This area is comprised of organic soil deposits overlying the heavy clay soil materials.

## **6.3 Climate and Crop Heat Units**

Climate is another important factor that affects the productivity of agricultural land. In terms of rating, Southern Ontario has the “most favourable” climate and crop heat units in Ontario for farm production (Keddie and Mage, 1985: 9).

For example, the Region of Niagara is located within the Niagara Fruit Belt and the Lake Erie Counties Climatic Region. The northern portion of Niagara Region is better suited to tender fruit and grape production than any other region in Ontario. In fact, Niagara is ranked second in North America for stability of producing stone fruit (Planscape, 2003: 2.5).

Climatic factors are also important in determining the suitability for specialty crop production. Temperature, precipitation, and growing season data suggest that, in general, the climate of Niagara is well suited for a wide range of specialty crop and horticulture crops. The main reason for this is the close proximity to Lake Ontario.

Southern Ontario is located in an area of high Crop Heat Units (CHU). The Crop Heat Unit system, once referred to as Corn Heat Units, was developed in the 1960's and is used to recommend corn hybrids and soybean varieties that are best suited for production in specific CHU zones in various regions of Canada. There is a wide selection of hybrids and varieties for most crops. Most of the warm-season crops have a wide range of maturities. The CHU ratings are based on the total accumulated CHUs for the frost-free growing season in each area of the province.

Latitude, elevation and distance to the Great Lakes all affect daily temperatures and have a marked influence on the accumulated CHU across Southern Ontario. In Southern Ontario, the CHUs range from 3700 CHU in Chatham-Kent and Essex regions through to 3100 CHU in Elgin, Middlesex, and Oxford Counties, as well as Hamilton. In Niagara the CHU ranges around 3300. The lowest CHU in Southern Ontario is about 2900 CHU. No other regions in Ontario have CHU's at these consistently high levels.

## **6.4 Population**

Southern Ontario reported a total population of 2.3 million in 2001, which represents 20% of the provincial total. In 2001, Southern Ontario reported approximately 17% of the total provincial urban population and 23% of the total provincial rural population. As shown in Table 6.2, close to 83% of the Southern Ontario population lives in urban areas while 17% lives in rural areas.<sup>24</sup>

Hamilton reported the largest total population in Southern Ontario in 2001 with 467,799 while Elgin reported the smallest with 79,159. Essex reported the largest rural population in 2001 with 58,678 followed closely by Haldimand-Norfolk with 57,520. Haldimand-Norfolk is the only County in Southern Ontario where the rural population accounts for more than 50% of the total population. In Chatham-Kent, Elgin, and Oxford the rural population accounts for 33%-37% of the total population. Only 7% of the population is rural based in Hamilton. Most of the counties in Southern Ontario experienced an increase in population between 1996 and 2001 with the exception of Chatham-Kent and Lambton. While Southern Ontario as a whole experienced a 2.4% decline in rural population between 1996 and 2001, several counties saw the rural population grow or remain unchanged including Brant, Middlesex, and Niagara. The largest rate of decline in rural population occurred in Hamilton where the population declined by almost 10% between 1996 and 2001.

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<sup>24</sup> As defined by Statistics Canada, Urban Areas have minimum population concentrations of 1,000 and a population density of at least 400 per sq. km. All territory outside urban areas is considered rural. Rural Areas are defined as sparsely populated lands lying outside urban areas. Rural population includes all population living in the rural fringes of census metropolitan areas (CMAs) and census agglomerations (CAs), as well as population living in rural areas outside CMAs and CAs.

**Table 6.2 Rural and Urban Population in Southern Ontario by County, 1996 to 2001**

County (Census Division)	1996			2001			Percent Change 1996 to 2001		
	Total population	Urban	Rural	Total population	Urban	Rural	Total	Urban	Rural
Brant	114,564	97,400 85.0%	17,164 15.0%	118,485	100,649 84.9%	17,836 15.1%	3.4%	3.3%	3.9%
Chatham- Kent	109,650	73,174 66.7%	36,476 33.3%	107,709	72,524 67.3%	35,185 32.7%	-1.8%	-0.9%	-3.5%
Elgin	79,159	48,223 60.9%	30,936 39.1%	81,553	51,258 62.9%	30,295 37.1%	3.0%	6.3%	-2.1%
Essex	350,329	289,283 82.6%	61,046 17.4%	374,975	316,297 84.4%	58,678 15.6%	7.0%	9.3%	-3.9%
Haldimand- Norfolk	102,575	44,589 43.5%	57,986 56.5%	104,670	47,150 45.0%	57,520 55.0%	2.0%	5.7%	-0.8%
Hamilton	467,799	428,202 91.5%	39,597 8.5%	490,268	454,603 92.7%	35,665 7.3%	4.8%	6.2%	-9.9%
Lambton	128,975	92,996 72.1%	35,979 27.9%	126,971	91,823 72.3%	35,148 27.7%	-1.6%	-1.3%	-2.3%
Middlesex	389,616	344,672 88.5%	44,944 11.5%	403,185	358,258 88.9%	44,927 11.1%	3.5%	3.9%	0.0%
Niagara	403,504	352,710 87.4%	50,794 12.6%	410,574	359,761 87.6%	50,813 12.4%	1.8%	2.0%	0.0%
Oxford	97,142	61,762 63.6%	35,380 36.4%	99,270	64,886 65.4%	34,384 34.6%	2.2%	5.1%	-2.8%
Southern Ontario	2,243,313	1,833,018 81.7%	410,304 18.3%	2,317,660	1,917,216 82.7%	400,453 17.3%	3.3%	4.6%	-2.4%

Source: Population Census, Statistics Canada 1996, 2001.

## 6.5 Profile of Agriculture in Southern Ontario

### 6.5.1 Number of Farms

In 2001, Southern Ontario reported a total of 19,631 farms. Over half of the counties in the Region reported more than 2,000 farms in 2001. As shown in Table 6.3, the leading counties in terms of farm numbers include Middlesex (2,640 farms), Haldimand-Norfolk (2,602), Lambton (2,427) and Chatham-Kent (2,352). Brant County reported the fewest farms in 2001 at 817.

Between 1986 and 2001, the total number of farms in Southern Ontario declined by 21%, from 24,914 farms to 19,631 farms. At the County level, the greatest decline occurred in Essex where farm numbers declined by 32% followed by Niagara and Hamilton, which declined by 28% and 26% respectively. The lowest decline occurred in Oxford where farms numbers declined by 14.5% between 1986 and 2001.

**Table 6.3 Total Number of Farms in Southern Ontario by County, 1986 to 2001**

County (Census Division)	Number of Farms by Census Year				Percentage Change in Number of Farms 1986 - 2001
	1986	1991	1996	2001	
Brant	988	1,010	984	817	-17.3%
Chatham-Kent	2,913	2,822	2,690	2,352	-19.3%
Elgin	1,902	1,764	1,808	1,608	-15.5%
Essex	2,644	2,215	2,109	1,789	-32.3%
Haldimand-Norfolk	3,300	3,066	2,985	2,602	-21.2%
Hamilton	1,393	1,225	1,228	1,026	-26.3%
Lambton	2,923	2,682	2,622	2,427	-17.0%
Middlesex	3,244	3,162	2,987	2,640	-18.6%
Niagara	3,147	2,706	2,672	2,266	-28.0%
Oxford	2,460	2,382	2,342	2,104	-14.5%
Southern Ontario	24,914	23,034	22,427	19,631	-21.2%

Source: Census of Agriculture, Statistics Canada 1986, 1991, 1996, 2001.

## 6.5.2 Farm Land

Middlesex County reported the largest area of farmland in Southern Ontario in 2001 at 620,321 acres or 15.5% of the total farmland in the Region. As shown in Table 6.4, three other counties reported over 500,000 acres of farmland in 2001 including Lambton, Chatham-Kent, and Haldimand-Norfolk. The City of Hamilton reported the smallest area of farmland in 2001 at 138,879 acres or 3.5% of the total farmland in the Region. Southern Ontario reported a small increase in total farmland area (1.4%) between 1986 and 2001. This is likely related to the revised 1996 census farm definition, which was expanded to include commercial poultry hatcheries and operations that produced only Christmas trees. Several counties including Lambton, Oxford, Elgin, and Chatham-Kent reported increases in farmland area between 1986 and 2001. All other counties in Southern Ontario reported a decline in farmland area during this period.

**Table 6.4 Total Number of Acres of Farmland in Southern Ontario by County, 1986 to 2001**

County (Census Division)	Number of Acres of Farmland by Census Year				Percentage Change in Number of Acres 1986 – 2001
	1986	1991	1996	2001	
Brant	158,945	166,626	177,287	158,693	-0.2%
Chatham-Kent	543,524	568,088	584,765	552,402	1.6%
Elgin	379,060	373,891	400,584	382,786	1.0%
Essex	335,494	330,276	351,414	334,122	-0.4%
Haldimand-Norfolk	522,205	500,855	530,464	515,099	-1.4%
Hamilton	145,083	138,382	147,980	138,879	-4.3%
Lambton	567,210	569,574	596,270	604,555	6.6%
Middlesex	623,628	619,231	641,403	620,321	-0.5%
Niagara	236,942	215,939	229,832	232,817	-1.7%
Oxford	418,619	419,979	440,913	445,458	6.4%
Southern Ontario	3,930,710	3,902,841	4,100,912	3,985,132	1.4%

Source: Census of Agriculture, Statistics Canada 1986, 1991, 1996, 2001.

### 6.5.3 Farm Size

Table 6.5 presents the number and percentage of census farms by acreage categories. In many of the counties in Southern Ontario, over 50% of the farms are smaller than 130 acres. Small farms under 70 acres account for 45% or more of all farms in Essex, Hamilton and Niagara. Niagara has the highest number of farms in the 1 to 9 acre farm size category (410 farms) followed by Essex (141 farms). Middlesex has the highest number of farms in the 560 acres and over category (244 farms) followed by Lambton (221 farms).

**Table 6.5 Total Number of Farms by Size Category in Southern Ontario by County, 2001**

County (Census Division)	Number and Percentage of Farms by Size Category (Acres)								Total Number of Farms
	1 to 9	10 to 69	70 to 129	130 to 179	180 to 239	240 to 399	400 to 559	560 and over	
Brant	47 5.8%	224 27.4%	189 23.1%	93 11.4%	88 10.8%	89 10.9%	37 4.5%	50 6.1%	817 100%
Chatham-Kent	69 2.9%	482 20.5%	542 23.0%	247 10.5%	263 11.2%	334 14.2%	202 8.6%	213 9.1%	2,352 100%
Elgin	73 4.5%	379 23.6%	334 20.8%	177 11.0%	166 10.3%	241 15.0%	97 6.0%	141 8.8%	1,608 100%
Essex	141 7.9%	668 37.3%	360 20.1%	137 7.7%	106 5.9%	164 9.2%	75 4.2%	138 7.7%	1,789 100%
Haldimand- Norfolk	129 5.0%	621 23.9%	682 26.2%	337 13.0%	232 8.9%	312 12.0%	140 5.4%	149 5.7%	2,602 100%
Hamilton	117 11.4%	409 39.9%	215 21.0%	98 9.6%	62 6.0%	63 6.1%	22 2.1%	40 3.9%	1,026 100%
Lambton	71 2.9%	424 17.5%	575 23.7%	272 11.2%	275 11.3%	374 15.4%	215 8.9%	221 9.1%	2,427 100%
Middlesex	117 4.4%	649 24.6%	583 22.1%	248 9.4%	259 9.8%	370 14.0%	170 6.4%	244 9.2%	2,640 100%
Niagara	410 18.1%	1,081 47.7%	304 13.4%	144 6.4%	99 4.4%	130 5.7%	41 1.8%	57 2.5%	2,266 100%
Oxford	103 4.9%	443 21.1%	543 25.8%	277 13.2%	235 11.2%	277 13.2%	81 3.8%	145 6.9%	2,104 100%
Southern Ontario	1,277 6.5%	5,380 27.4%	4,327 22.0%	2,030 10.3%	1,785 9.1%	2,354 12.0%	1,080 5.5%	1,398 7.1%	19,631 100%

Source: Census of Agriculture, Statistics Canada, 2001.

### 6.5.4 Farm Type

Counties in Southern Ontario feature a variety of farm types. As shown in Table 6.6, some farm types are more strongly represented in some counties than others. For example, Field Crop type farms account for over 50% of all farms in Haldimand-Norfolk, Brant, Elgin, Chatham-Kent, Essex, Lambton and Middlesex. In Niagara, Fruit farms account for 38% of all farms and Specialty farms account for 21% of all farms. In Hamilton, Specialty farms account for 29% of all farms. Livestock farms are strongly represented in Oxford with Dairy at 21% of all farms, Beef farms at 11%, and Hog farms at 10.5%.

**Table 6.6 Total Number of Farms by Farm Type in Southern Ontario by County, 2001**

County (Census Division)	Number and Percentage of Farms by Farm Type									Total number of farms
	Dairy	Beef	Hog	Poultry and Egg	Field Crops	Fruit	Veg.	Specialty	Combi- nation	
Hamilton	55 5.9%	115 12.3%	21 2.3%	61 6.5%	229 24.6%	81 8.7%	55 5.9%	271 29.1%	44 4.7%	932 100%
Niagara	116 5.7%	124 6.1%	32 1.6%	167 8.3%	280 13.8%	767 37.9%	34 1.7%	432 21.3%	72 3.6%	2,024 100%
Haldimand-Norfolk	142 5.7%	230 9.3%	57 2.3%	108 4.3%	1,335 53.7%	69 2.8%	166 6.7%	285 11.5%	93 3.7%	2,485 100%
Brant	74 9.7%	73 9.6%	23 3.0%	24 3.1%	385 50.5%	20 2.6%	22 2.9%	115 15.1%	26 3.4%	762 100%
Oxford	435 21.5%	225 11.1%	213 10.5%	103 5.1%	718 35.4%	29 1.4%	38 1.9%	165 8.1%	101 5.0%	2,027 100%
Elgin	118 7.7%	138 8.9%	51 3.3%	26 1.7%	889 57.7%	41 2.7%	60 3.9%	141 9.1%	78 5.1%	1,542 100%
Chatham-Kent	10 0.4%	60 2.6%	122 5.3%	19 0.8%	1,763 76.7%	27 1.2%	145 6.3%	71 3.1%	82 3.6%	2,299 100%
Essex	22 1.3%	31 1.8%	26 1.5%	19 1.1%	1,126 65.6%	96 5.6%	105 6.1%	273 15.9%	19 1.1%	1,717 100%
Lambton	70 3.0%	213 9.1%	151 6.4%	72 3.1%	1,596 68.0%	24 1.0%	23 1.0%	133 5.7%	64 2.7%	2,346 100%
Middlesex	170 6.8%	328 13.0%	179 7.1%	95 3.8%	1,265 50.3%	44 1.7%	51 2.0%	261 10.4%	122 4.9%	2,515 100%
Southern Ontario	1,212 6.5%	1,537 8.2%	875 4.7%	694 3.7%	9,586 51.4%	1,198 6.4%	699 3.7%	2,147 11.5%	701 3.8%	18,649 100%

Source: Census of Agriculture, Statistics Canada, 2001.

### 6.5.5 Farm Operators

Southern Ontario reported 28,140 farm operators in 2001. As shown in Table 6.7, Haldimand-Norfolk reported the most farm operators in 2001 at 3,875 followed closely by Middlesex at 3,775. Brant County reported the fewest farm operators in 2001 at 440 followed by Hamilton at 510. Each County in Southern Ontario reported a decline in the number of farm operators between 1996 and 2001. The greatest rate of decline occurred in Brant (18%) and Essex (17%) while the lowest rate of decline occurred in Lambton (8%) and Oxford (11%). In most Counties the rate of decline among female farm operators between 1996 and 2001 was higher than males.

**Table 6.7 Total Number of Farm Operators by Age and Gender in Southern Ontario by County, 1996 to 2001**

County (Census Division)	1996				2001				Percent Change in Number of Operators 1996-2001	% change male	% change female
	Total number of operators	Average age	Male	Female	Total number of operators	Average age	Male	Female			
Hamilton	1,820	51	1,315	510	1,520	52	1,095	420	-16.5%	-16.7%	-17.6%
Niagara	3,995	51	2,810	1,185	3,335	51	2,390	935	-16.5%	-14.9%	-21.1%
Haldimand- Norfolk	4,500	49	3,120	1,380	3,875	50	2,725	1,150	-13.9%	-12.7%	-16.7%
Brant	1,510	49	1,065	440	1,240	51	870	370	-17.9%	-18.3%	-15.9%
Oxford	3,640	48	2,615	1,025	3,230	49	2,330	900	-11.3%	-10.9%	-12.2%
Elgin	2,745	50	1,935	805	2,360	51	1,710	650	-14.0%	-11.6%	-19.3%
Chatham- Kent	3,670	51	2,830	840	3,105	53	2,440	665	-15.4%	-13.8%	-20.8%
Essex	2,930	51	2,285	650	2,430	52	1,925	505	-17.1%	-15.8%	-22.3%
Lambton	3,575	49	2,725	850	3,275	51	2,495	780	-8.4%	-8.4%	-8.2%
Middlesex	4,345	49	3,185	1,160	3,775	51	2,785	990	-13.1%	-12.6%	-14.7%
Southern Ontario	32,720	50	23,885	8,835	28,140	51	20,775	7,360	-14.0%	-13.0%	-16.7%

Source: Census of Agriculture, Statistics Canada 1996, 2001.



### 6.5.6 Farm Receipts

Southern Ontario reported a total of \$3.3 billion in gross farm receipts in 2000. As shown in Table 6.8, three counties including Oxford, Haldimand-Norfolk, and Niagara reported over \$500 million in gross farm receipts in 2000. In terms of gross receipts per farm, the leading counties include Oxford (\$264,000 per farm), Essex (\$263,146), and Niagara (\$225,682). The lowest average gross receipts per farm in 2001 were reported in Lambton at \$132,547 per farm.

**Table 6.8 Total Gross Farm Receipts in Southern Ontario by County, 1995 to 2000**

County (Census Division)	1995			2000		
	Number of Farms	Total Gross Farm Receipts	Gross Farm Receipts per Farm	Number of Farms	Total Gross Farm Receipts	Gross Farm Receipts per Farm
Hamilton	1,228	\$181,941,753	\$148,161	1,026	\$222,342,429	\$216,708
Niagara	2,672	\$408,322,788	\$152,815	2,266	\$511,395,019	\$225,682
Haldimand-Norfolk	2,985	\$453,102,143	\$151,793	2,602	\$541,430,839	\$208,083
Brant County	984	\$146,952,426	\$149,342	817	\$144,282,453	\$176,600
Oxford	2,342	\$418,604,361	\$178,738	2,104	\$556,129,845	\$264,320
Elgin	1,808	\$262,483,442	\$145,179	1,608	\$262,605,470	\$163,312
Chatham-Kent	2,690	\$444,381,324	\$165,198	2,352	\$439,758,272	\$186,972
Essex	2,109	\$315,742,917	\$149,712	1,789	\$470,768,851	\$263,146
Lambton	2,622	\$301,426,481	\$114,961	2,427	\$321,690,461	\$132,547
Middlesex	2,987	\$450,396,997	\$150,786	2,640	\$494,456,195	\$187,294
Southern Ontario	22,427	\$3,383,354,632	\$150,861	19,631	\$3,964,859,834	\$201,969

Source: Census of Agriculture, Statistics Canada 1996, 2001.

Table 6.9 shows the number and percentage of farms distributed across different gross farm sales categories for Southern Ontario counties. Compared to the other counties in Southern Ontario, Hamilton (15%) and Niagara (17.5%) had a higher proportion of farms reporting less than \$5,000 in gross farm receipts in 2000. Oxford is the only County where more than 50% of the farms reported \$100,000 or more in total gross farm receipts in 2000.

Niagara has the highest number of farms with farm receipts under \$2,500 (242 farms) followed by Middlesex (125 farms). Oxford has the highest number of farms with farm receipts of \$500,000 or more (252 farms) followed by Niagara (223 farms).

**Table 6.9 Total Number of Farms by Farm Sales Category in Southern Ontario by County, 2000**

County (Census Division)	Number and Percentage of Farms by Total Gross Farm Sales Category									Total Number of Farms
	\$2,499 and Under	\$2,500 to \$4,999	\$5,000 to \$9,999	\$10,000 to \$24,999	\$25,000 to \$49,999	\$50,000 to \$99,999	\$100,000 to \$249,999	\$250,000 to \$499,999	\$500,000 and Over	
Brant	55 6.7%	43 5.3%	92 11.3%	126 15.4%	100 12.2%	96 11.8%	136 16.6%	93 11.4%	76 9.3%	817 100%
Chatham- Kent	53 2.3%	48 2.0%	127 5.4%	414 17.6%	446 19.0%	448 19.0%	462 19.6%	210 8.9%	144 6.1%	2,352 100%
Elgin	66 4.1%	53 3.3%	149 9.3%	255 15.9%	215 13.4%	235 14.6%	330 20.5%	192 11.9%	113 7.0%	1,608 100%
Essex	72 4.0%	79 4.4%	187 10.5%	362 20.2%	296 16.5%	227 12.7%	231 12.9%	139 7.8%	196 11.0%	1,789 100%
Haldimand- Norfolk	117 4.5%	97 3.7%	257 9.9%	433 16.6%	287 11.0%	264 10.1%	514 19.8%	427 16.4%	206 7.9%	2,602 100%
Hamilton	94 9.2%	62 6.0%	133 13.0%	196 19.1%	126 12.3%	105 10.2%	120 11.7%	87 8.5%	103 10.0%	1,026 100%
Lambton	81 3.3%	66 2.7%	205 8.4%	460 19.0%	476 19.6%	356 14.7%	466 19.2%	186 7.7%	131 5.4%	2,427 100%
Middlesex	125 4.7%	95 3.6%	240 9.1%	469 17.8%	380 14.4%	315 11.9%	497 18.8%	301 11.4%	218 8.3%	2,640 100%
Niagara	242 10.7%	154 6.8%	268 11.8%	351 15.5%	248 10.9%	222 9.8%	314 13.9%	244 10.8%	223 9.8%	2,266 100%
Oxford	77 3.7%	54 2.6%	125 5.9%	292 13.9%	225 10.7%	243 11.5%	492 23.4%	344 16.3%	252 12.0%	2,104 100%
Southern Ontario	982 5.0%	751 3.8%	1,783 9.1%	3,358 17.1%	2,799 14.3%	2,511 12.8%	3,562 18.1%	2,223 11.3%	1,662 8.5%	19,631 100%

Source: Census of Agriculture, Statistics Canada, 2001.

The above summarizes the situation for Southern Ontario. In the following chapter we profile Western Ontario.

## **7.0 Western Ontario – Summary of Agricultural and Rural Trends**

For the purposes of this analysis, the definition of Western Ontario includes the following counties or districts Bruce, Dufferin, Grey, Halton, Huron, Peel, Perth, Simcoe, Waterloo, and Wellington. This Region features the largest total farm area in the province.

Similar to Southern Ontario, Western Ontario is facing the issue of increased urbanization within areas traditionally focused on agricultural practices. The regions of Halton and Peel were included in the 1999 agricultural economic impact study completed for the Greater Toronto Area (Planscape, 1999). Both Halton and Peel have undergone the re-designation of agricultural land for urban purposes (Planscape: 2.10). Similar trends have also occurred in the Region of Waterloo (Cummings, 2003: 11) and Simcoe County (Cummings, 2000). However, other counties have attempted to maintain agriculture as a core component of the local economy (Cummings, 1998).

### **7.1 Soil Capability for Agriculture**

Classes 1, 2 and 3 soils are considered the most suitable for sustained production of common field crops if specified management practices are observed. Table 7.1 provides a breakdown for the acreages of soil capabilities in Western Ontario. Approximately 4.3 million acres or 66% of the total land area in Western Ontario is classified as suitable for sustained production of common field crops.

Perth has the highest percentage of Class 1 soils at 57% while Simcoe has the lowest percentage of Class 1 soils at 17%. Huron has the highest percentage of Class 2 soils at 24%, while Grey has the smallest percentage of Class 2 soils at 7%.

All of the counties in Western Ontario have over 50% of their total land area classified as Class 1 to 3 soils.

**Table 7.1 Acreages of Soil Capability for Agriculture in Western Ontario, Class 1 to 3 and Organic Soils**

County (Census Division)	Total Acres	Number of Acres by Soil Capability Classification							
		Class 1 Soil		Class 2 Soil		Class 3 Soil		Organic	
Bruce	1,000,320	300,002	30.0%	181,152	18.1%	82,660	8.3%	64,332	6.4%
Dufferin	368,000	124,331	33.8%	81,675	22.2%	34,489	9.4%	33,989	9.2%
Grey	1,112,960	303,313	27.3%	73,663	6.6%	198,389	17.8%	99,772	9.0%
Halton	236,800	85,265	36.0%	29,720	12.6%	45,665	19.3%	3,960	1.7%
Huron	840,960	421,177	50.1%	207,046	24.6%	100,347	11.9%	34,589	4.1%
Peel	302,720	145,564	48.1%	30,753	10.2%	45,528	15.0%	4,458	1.5%
Perth	541,440	307,670	56.8%	124,390	23.0%	50,485	9.3%	9,910	1.8%
Simcoe	1,196,800	204,611	17.1%	188,006	15.7%	231,949	19.4%	79,049	6.6%
Waterloo	336,000	86,950	25.9%	77,625	23.1%	48,484	14.4%	16,615	4.9%
Wellington	656,640	342,504	52.2%	74,463	11.3%	101,378	15.4%	37,891	5.8%
Western Ontario	6,592,640	2,321,387	35.2%	1,068,493	16.2%	939,374	14.2%	384,565	5.8%

Source: Hoffman and Noble, 1975.

## 7.2 Terrain Characteristics

Western Ontario is a diverse area in terms of topography, geology, vegetation and animal life. Between the 10 counties and regions that comprise western Ontario, the area extends from the Canadian Shield in the north, to Lake Simcoe and Lake Huron to the east, to Georgian Bay in the west, and Lake Ontario to the southwest.

The highest land formations in Western Ontario are the Niagara Escarpment, which cuts through the Regions of Halton and Peel in a northerly direction, and runs along the westernmost portion of Simcoe County. Another distinct land formation is the Oak Ridges Moraine. It bisects the Greater Toronto Area from east to west running through Peel.

South of the Oak Ridges Moraine, the rivers and small waterways drain south to Lake Ontario. North of the Moraine, the slope reverses and the waters flow north to Lake Simcoe, Lake Scugog, and ultimately Georgian Bay. The area south of the Oak Ridges Moraine can be divided into three regions; the Iroquois Lake Plain along the shoreline of Lake Ontario; the Peel Plain in the centre portion of the area; and the south slope of the Oak Ridges Moraine (Planscape, 1999:2.1).

In the Simcoe County area, the most dominant landform in the northern portion is the Oro or Bass Lake Moraine. This area typically receives high annual snowfall, and has served as an ideal location for the development of ski resorts, and major tourism/recreation facilities. The other characteristics of this area are the presence of granitic bedrock (Canadian Shield) in the northeast and an extensive limestone plain to the east of Lake Simcoe (Cummings, 2003:15).

Similar to the other counties and regions of Western Ontario, the physical features of Dufferin vary widely. A key feature is the Niagara Escarpment, which divides Dufferin in half. The western portion of Dufferin is comprised of till plains, and is ideally suited for agriculture (Dufferin County: [www.dufferincounty.on.ca](http://www.dufferincounty.on.ca)). The Grand River has its headwaters in the northwest corner of Melancthon Township in Dufferin. It is the dominant river system in this area. In total, the Grand drains an area of 6,734km<sup>2</sup>, which is the largest catchment basin in southwestern Ontario. The main tributaries of the Grand River are the Conestogo, Nith and Speed rivers.

Overall, this Region is an area rich in watersheds and tributaries. Some of the key ones includes the Grand River, Georgian Bay, Severn Sound, Lake Simcoe, Lake Huron, and Lake Ontario.

### **7.3 Climate and Crop Heat Units**

The crop heat units are not as high in Western Ontario as in Southern Ontario. Within this region, the CHUs range from 2900 to 2500 (Keddie and Mage, 1985:9).

Western Ontario has a moderate climate with long growing seasons. Although cooler than the south, the climate is influenced by various large bodies of water such as Nottawasaga Bay, Georgian Bay, Lake Couchiching, and Lake Simcoe in Simcoe County and Grey County. Lake Ontario affects the temperatures in Peel and Halton and Lake Huron affects the temperatures in Huron County. Northern portions of Western Ontario are located in the “snow-belt” and receive average snowfalls of 317 cm per year.

### **7.4 Population**

Western Ontario reported a total population of 2.7 million in 2001, which represents 23% of the provincial total. In 2001, Western Ontario reported approximately 24% of the total provincial urban population and 23% of the total provincial rural population. As shown in Table 7.2, close to 85% of the Western Ontario population lives in urban areas while 15% lives in rural areas.

Peel reported the largest total population in Western Ontario in 2001 with 998,948. The majority of the Peel population lives in two urban centres, Brampton and Mississauga. Dufferin reported the smallest population in 2001 with 51,013. Simcoe reported the largest rural population in 2001 with 109,300, more than double Grey County, which is the next leading County at 47,505. The rural population accounts for more than 50% of the total population in Huron, Bruce and Grey while in Peel, Halton and Waterloo the rural population only accounts for 3-7% of the total population. Most of the counties in Western Ontario experienced an increase in population between 1996 and 2001 with the exception of Bruce and Huron. While Western Ontario as a whole experienced a 7.4% decline in rural population between 1996 and 2001, several counties saw the rural population grow including Dufferin, Grey, Huron, Waterloo and Wellington. The largest rate of decline in rural population occurred in Peel where the population declined by

almost 48% between 1996 and 2001. Huron and Bruce were the only two counties that experienced a decline in their urban population between 1996 and 2001.

**Table 7.2 Rural and Urban Population in Western Ontario by County, 1996 to 2001**

County (Census Division)	1996			2001			Percent Change 1996 to 2001		
	Total population	Urban	Rural	Total population	Urban	Rural	Total	Urban	Rural
Bruce	65,680	30,652 46.7%	35,028 53.3%	63,892	30,275 47.4%	33,617 52.6%	-2.7%	-1.2%	-4.0%
Dufferin	45,657	28,936 63.4%	16,721 36.6%	51,013	33,197 65.1%	17,816 34.9%	11.7%	14.7%	6.5%
Grey	87,632	40,499 46.2%	47,183 53.8%	89,073	41,568 46.7%	47,505 53.3%	1.6%	2.6%	0.7%
Halton	339,875	315,212 92.7%	24,663 7.3%	375,229	352,117 93.8%	23,112 6.2%	10.4%	11.7%	-6.3%
Huron	60,220	24,317 40.4%	35,903 59.6%	59,701	23,635 39.6%	36,066 60.4%	-0.9%	-2.8%	0.5%
Peel	852,526	788,522 92.5%	64,004 7.5%	988,948	955,514 96.6%	33,434 3.4%	16.0%	21.2%	-47.8%
Perth	72,106	45,694 63.4%	26,412 36.6%	73,675	47,762 64.8%	25,913 35.2%	2.2%	4.5%	-1.9%
Simcoe	329,865	218,676 66.3%	111,189 33.7%	377,050	267,750 71.0%	109,300 29.0%	14.3%	22.4%	-1.7%
Waterloo	405,435	377,385 93.1%	28,050 6.9%	438,515	409,006 93.3%	29,509 6.7%	8.2%	8.4%	5.2%
Wellington	171,395	128,511 75.0%	42,884 25.0%	187,313	143,469 76.6%	43,844 23.4%	9.3%	11.6%	2.2%
Western Ontario	2,430,391	1,998,410 82.2%	432,040 17.8%	2,704,409	2,304,299 85.2%	400,119 14.8%	11.3%	15.3%	-7.4%

Source: Population Census, Statistics Canada 1996, 2001.

## 7.5 Profile of Agriculture in Western Ontario

### 7.5.1 Number of Farms

In 2001, Western Ontario reported a total of 19,191 farms. Just over half of the counties in the Region reported more than 2,000 farms in 2001. As shown in Table 7.3, the leading counties in terms of farm numbers include Huron (2,880 farms), Grey (2,834), Wellington (2,616) and Perth (2,570). Peel reported the fewest farms in 2001 at 522.

Between 1986 and 2001, the total number of farms in Western Ontario declined by 15%, from 22,561 farms to 19,191 farms. At the County level, the greatest decline occurred in Peel where farm numbers declined by 37% followed by Halton and Simcoe, which declined by 26% and 18% respectively. The lowest decline occurred in Wellington where farms numbers declined by 8% between 1986 and 2001.

**Table 7.3 Total Number of Farms in Western Ontario by County, 1986, 1991, 1996, and 2001**

County	Number of Farms by Census Year				Percentage Change in Number of Farms 1986 - 2001
	1986	1991	1996	2001	
Bruce	2,623	2,613	2,568	2,345	-10.6%
Dufferin	1,079	1,023	1,039	898	-16.8%
Grey	3,358	3,146	3,134	2,834	-15.6%
Halton	834	744	720	619	-25.8%
Huron	3,416	3,260	3,150	2,880	-15.7%
Peel	824	711	689	522	-36.7%
Perth	2,927	2,894	2,832	2,570	-12.2%
Simcoe	3,007	2,709	2,773	2,463	-18.1%
Waterloo	1,642	1,618	1,590	1,444	-12.1%
Wellington	2,851	2,849	2,810	2,616	-8.2%
Western Ontario	22,561	21,567	21,305	19,191	-14.9%

Source: Census of Agriculture, Statistics Canada 1986, 1991, 1996, 2001.

## 7.5.2 Farm Land

Huron County reported the largest area of farmland in Western Ontario in 2001 at 719,066 acres or 18% of the total farmland in the Region. As shown in Table 7.4, four other counties reported over 500,000 acres of farmland in 2001 including Bruce, Grey, Simcoe, and Perth. Halton County reported the smallest area of farmland in 2001 at 98,758 acres or 2% of the total farmland in the Region. Although Western Ontario reported a small decline in total farmland area (2.5%) between 1986 and 2001, several counties including Bruce, Huron and Perth reported increases in farmland area during this period. This in part is likely related to the revised 1996 census farm definition, which was expanded to include commercial poultry hatcheries and operations that produced only Christmas trees. All other counties in Western Ontario reported a decline in farmland area during this period with the greatest loss occurring in Peel (19%).

**Table 7.4 Total Number of Acres of Farmland in Western Ontario by County, 1986 to 2001**

County (Census Division)	Number of Acres of Farmland by Census Year				Percentage Change in Number of Acres 1986 - 2001
	1986	1991	1996	2001	
Bruce	609,242	599,528	627,799	611,461	0.4%
Dufferin	213,403	190,961	222,183	193,162	-9.5%
Grey	632,609	592,581	600,416	593,121	-6.2%
Halton	118,805	115,036	109,187	98,758	-16.9%
Huron	714,610	711,525	733,924	719,066	0.6%
Peel	129,476	115,352	120,026	104,433	-19.3%
Perth	485,212	491,465	510,327	502,926	3.7%
Simcoe	550,073	506,424	550,393	540,870	-1.7%
Waterloo	237,954	229,467	234,406	225,800	-5.1%
Wellington	472,085	468,993	484,516	471,389	-0.1%
Western Ontario	4,163,469	4,021,332	4,193,177	4,060,986	-2.5%

Source: Census of Agriculture, Statistics Canada 1986, 1991, 1996, 2001.



### 7.5.3 Farm Size

Table 7.5 presents the number and percentage of census farms by acreage categories. In most of the counties in Western Ontario, over 50% of the farms are smaller than 130 acres. Small farms that have less than 70 acres account for 43% of all farms in Halton and 40% of all farms in Peel. Large farms that have 560 acres or more account for 10% of the total farms in Bruce and 9% of the farms in both Huron and Peel. The high proportion of large farms in Peel is related to large tracts of farmland being rented to field crop type farm operations. Wellington has the highest number of farms in the 1 to 9 acre farm size category (135 farms) followed by Huron (134 farms). Huron has the highest number of farms in the 560 acres and over category (253 farms) followed by Bruce (236 farms).

**Table 7.5 Total Number of Farms by Size Category in Western Ontario by County, 2001**

County (Census Division)	Number and Percentage of Farms by Size Category (Acres)								Total Number of Farms
	1 to 9	10 to 69	70 to 129	130 to 179	180 to 239	240 to 399	400 to 559	560 and over	
Bruce	55 2.3%	253 10.8%	624 26.6%	280 11.9%	317 13.5%	404 17.2%	176 7.5%	236 10.1%	2,345 100%
Dufferin	32 3.6%	163 18.2%	274 30.5%	95 10.6%	91 10.1%	118 13.1%	59 6.6%	66 7.3%	898 100%
Grey	79 2.8%	403 14.2%	802 28.3%	380 13.4%	385 13.6%	456 16.1%	170 6.0%	159 5.6%	2,834 100%
Halton	48 7.8%	256 41.4%	136 22.0%	45 7.3%	38 6.1%	49 7.9%	15 2.4%	32 5.2%	619 100%
Huron	134 4.7%	433 15.0%	713 24.8%	342 11.9%	356 12.4%	464 16.1%	185 6.4%	253 8.8%	2,880 100%
Peel	40 7.7%	167 32.0%	114 21.8%	37 7.1%	31 5.9%	58 11.1%	28 5.4%	47 9.0%	522 100%
Perth	98 3.8%	418 16.3%	764 29.7%	358 13.9%	334 13.0%	352 13.7%	131 5.1%	115 4.5%	2,570 100%
Simcoe	119 4.8%	570 23.1%	664 27.0%	239 9.7%	235 9.5%	321 13.0%	130 5.3%	185 7.5%	2,463 100%
Waterloo	96 6.6%	278 19.3%	561 38.9%	183 12.7%	123 8.5%	118 8.2%	39 2.7%	46 3.2%	1,444 100%
Wellington	135 5.2%	570 21.8%	798 30.5%	320 12.2%	307 11.7%	288 11.0%	88 3.4%	110 4.2%	2,616 100%
Western Ontario	836 4.4%	3,511 18.3%	5,450 28.4%	2,279 11.9%	2,217 11.6%	2,628 13.7%	1,021 5.3%	1,249 6.5%	19,191 100%

Source: Census of Agriculture, Statistics Canada, 2001.

## 7.5.4 Farm Type

Counties in Western Ontario feature a variety of farm types. As shown in Table 7.6, some farm types are more strongly represented in some counties than others and the livestock and poultry sector is particularly well represented in Western Ontario. For example, Beef farms account for over 40% of all farms in Bruce and Grey and over 30% of all farms in Dufferin and Simcoe. Hog farms account for 16% of all farms in Waterloo and Perth while Dairy farms account for 20% of all farms in Waterloo and Perth and close to 18% of all farms in Peel and Wellington. Poultry farms account for 6% of all farms in Waterloo and Huron.

With respect to crops, Field Crop farms account for 37% of all farms in Huron and 31% of all farms in Perth. Vegetable farms account for just over 4% of all farms in Simcoe and just under 4% of all farms in Halton. Specialty type farms account for 30% or more of all farms in Peel and Halton and over 20% of all farms in Dufferin and Simcoe.

**Table 7.6 Total Number of Farms by Farm Type in Western Ontario by County, 2001**

County (Census Division)	Number and Percentage of Farms by Farm Type									Total number of farms
	Dairy	Beef	Hog	Poultry and Egg	Field Crops	Fruit	Veg.	Specialty	Combi- nation	
Peel	84 17.5%	101 21.0%	5 1.0%	6 1.2%	93 19.3%	18 3.7%	8 1.7%	144 29.9%	22 4.6%	481 100%
Dufferin	48 5.9%	293 35.9%	12 1.5%	10 1.2%	223 27.3%	4 0.5%	7 0.9%	172 21.1%	48 5.9%	817 100%
Wellington	435 17.7%	619 25.2%	207 8.4%	126 5.1%	494 20.1%	18 0.7%	20 0.8%	378 15.4%	163 6.6%	2,460 100%
Halton	26 4.7%	93 16.9%	4 0.7%	21 3.8%	148 26.9%	27 4.9%	20 3.6%	180 32.7%	31 5.6%	550 100%
Waterloo	296 21.4%	289 20.9%	226 16.4%	91 6.6%	216 15.6%	8 0.6%	15 1.1%	105 7.6%	136 9.8%	1,382 100%
Perth	509 20.2%	400 15.9%	407 16.1%	108 4.3%	800 31.7%	6 0.2%	16 0.6%	147 5.8%	129 5.1%	2,522 100%
Huron	282 10.0%	590 20.9%	335 11.9%	172 6.1%	1,041 37.0%	19 0.7%	30 1.1%	164 5.8%	184 6.5%	2,817 100%
Bruce	247 11.1%	1,028 46.1%	104 4.7%	37 1.7%	476 21.3%	9 0.4%	17 0.8%	171 7.7%	141 6.3%	2,230 100%
Grey	206 8.1%	1,240 48.7%	61 2.4%	36 1.4%	375 14.7%	101 4.0%	14 0.6%	328 12.9%	184 7.2%	2,545 100%
Simcoe	170 7.6%	695 31.2%	53 2.4%	35 1.6%	555 24.9%	38 1.7%	98 4.4%	454 20.4%	127 5.7%	2,225 100%
Western Ontario	2,303 12.8%	5,348 29.7%	1,414 7.8%	642 3.6%	4,421 24.5%	248 1.4%	245 1.4%	2,243 12.4%	1,165 6.5%	18,029 100%

Source: Census of Agriculture, Statistics Canada, 2001.

## 7.5.5 Farm Operators

Western Ontario reported 26,880 farm operators in 2001. As shown in Table 7.7, Grey County reported the most farm operators in 2001 at 3,965 followed closely by Huron County at 3,960. Halton County reported the fewest farm operators in 2001 at 270 followed by Perth County at 275. Each County in Western Ontario reported a decline in the number of farm operators between 1996 and 2001. The greatest rate of decline occurred in Peel (26%) while the lowest rate of decline occurred in Grey (8%). In most Counties the rate of decline among female farm operators between 1996 and 2001 was higher than males.

**Table 7.7 Total Number of Farm Operators by Age and Gender in Western Ontario by County, 1996 to 2001**

County (Census Division)	1996				2001				Percent Change in Number of Operators 1996-2001	% change male	% change female
	Total number of operators	Average age	Male	Female	Total number of operators	Average age	Male	Female			
Peel	1,010	53	735	275	745	54	555	190	-26.2%	-24.5%	-30.9%
Dufferin	1,460	51	1,050	410	1,265	52	900	365	-13.4%	-14.3%	-11.0%
Wellington	4,110	47	2,920	1,195	3,725	48	2,665	1,065	-9.4%	-8.7%	-10.9%
Halton	985	53	720	270	855	54	605	250	-13.2%	-16.0%	-7.4%
Waterloo	2,220	46	1,685	535	1,955	46	1,520	435	-11.9%	-9.8%	-18.7%
Perth	4,195	46	2,985	1,210	3,720	48	2,690	1,040	-11.3%	-9.9%	-14.0%
Huron	4,345	47	3,270	1,075	3,960	48	2,995	965	-8.9%	-8.4%	-10.2%
Bruce	3,555	48	2,660	895	3,245	49	2,405	835	-8.7%	-9.6%	-6.7%
Grey	4,330	50	3,175	1,150	3,965	51	2,850	1,115	-8.4%	-10.2%	-3.0%
Simcoe	3,960	50	2,940	1,020	3,440	52	2,535	905	-13.1%	-13.8%	-11.3%
Western Ontario	30,170	48	22,140	8,030	26,880	50	19,725	7,155	-10.9%	-10.9%	-10.9%

Source: Census of Agriculture, Statistics Canada 1996, 2001.

## 7.5.6 Farm Receipts

Western Ontario reported a total of \$3.2 billion in gross farm receipts in 2000. As shown in Table 7.8, both Huron County and Perth County reported over \$500 million in gross farm receipts in 2000. Huron was the only County in the province to report farm receipts over \$600 million in 2000. In terms of gross receipts per farm, the leading counties include Waterloo (\$262,882 per farm), Halton (\$228,551), and Huron (\$227,951). The lowest average gross receipts per farm in 2001 were reported in Grey at \$84,900 per farm.

**Table 7.8 Total Gross Farm Receipts in Western Ontario by County, 1995 to 2000**

County (Census Division)	1995			2000		
	Number of Farms	Total Gross Farm Receipts	Gross Farm Receipts per Farm	Number of Farms	Total Gross Farm Receipts	Gross Farm Receipts per Farm
Peel	689	\$77,086,032	\$111,881	522	\$116,536,793	\$223,251
Dufferin	1,039	\$79,733,210	\$76,740	898	\$78,423,348	\$87,331
Wellington	2,810	\$373,123,953	\$132,784	2,616	\$433,775,725	\$165,816
Halton	720	\$129,313,767	\$179,602	619	\$141,473,312	\$228,551
Waterloo	1,590	\$301,384,956	\$189,550	1,444	\$379,601,661	\$262,882
Perth	2,832	\$430,255,814	\$151,926	2,570	\$555,081,128	\$215,985
Huron	3,150	\$511,918,855	\$162,514	2,880	\$656,497,798	\$227,951
Bruce	2,568	\$280,182,130	\$109,105	2,345	\$309,996,102	\$132,194
Grey	3,134	\$213,375,796	\$68,084	2,834	\$240,606,873	\$84,900
Simcoe	2,773	\$264,884,681	\$95,523	2,463	\$293,933,003	\$119,339
Western Ontario	21,305	\$2,661,259,194	\$124,912	19,191	\$3,205,925,743	\$167,054

Source: Census of Agriculture, Statistics Canada 1996, 2001.

Table 7.9 shows the number and percentage of farms distributed across different gross farm sales categories for Western Ontario counties. Compared to the other counties in Western Ontario, Grey (32%) and Dufferin (31%) had a higher proportion of farms reporting less than \$5,000 in gross farm receipts in 2000. Approximately 57% of all farmers in Waterloo reported \$100,000 or more in total gross farm receipts in 2000. A high percentage of farmers in Perth (47%), Huron (43.5%), and Wellington (40%) also reported \$100,000 or more in farm receipts in 2000.

Grey has the highest number of farms with farm receipts under \$2,500 (289 farms) followed by Simcoe (238 farms). Huron County has the highest number of farms with farm receipts of \$500,000 or more (250 farms) followed by Perth (237 farms).

**Table 7.9 Total Number of Farms by Farm Sales Category in Western Ontario by County, 2000**

County	Number and Percentage of Farms by Total Gross Farm Sales Category									Total Number of Farms
	\$2,499 and Under	\$2,500 to \$4,999	\$5,000 to \$9,999	\$10,000 to \$24,999	\$25,000 to \$49,999	\$50,000 to \$99,999	\$100,000 to \$249,999	\$250,000 to \$499,999	\$500,000 and Over	
Bruce	115 4.9%	91 3.9%	233 9.9%	412 17.6%	369 15.7%	345 14.7%	474 20.2%	186 7.9%	120 5.1%	2,345 100%
Dufferin	81 9.0%	59 6.6%	133 14.8%	210 23.4%	153 17.0%	97 10.8%	88 9.8%	49 5.5%	28 3.1%	898 100%
Grey	289 10.2%	201 7.1%	428 15.1%	651 23.0%	426 15.0%	275 9.7%	357 12.6%	144 5.1%	63 2.2%	2,834 100%
Halton	69 11.1%	43 6.9%	78 12.6%	111 17.9%	87 14.1%	71 11.5%	73 11.8%	45 7.3%	42 6.8%	619 100%
Huron	63 2.2%	81 2.8%	155 5.4%	429 14.9%	422 14.7%	478 16.6%	639 22.2%	363 12.6%	250 8.7%	2,880 100%
Peel	41 7.9%	25 4.8%	61 11.7%	89 17.0%	62 11.9%	51 9.8%	105 20.1%	54 10.3%	34 6.5%	522 100%
Perth	48 1.9%	60 2.3%	138 5.4%	371 14.4%	358 13.9%	391 15.2%	619 24.1%	348 13.5%	237 9.2%	2,570 100%
Simcoe	238 9.7%	170 6.9%	395 16.0%	521 21.2%	332 13.5%	237 9.6%	288 11.7%	162 6.6%	120 4.9%	2,463 100%
Waterloo	62 4.3%	47 3.3%	96 6.6%	163 11.3%	114 7.9%	140 9.7%	435 30.1%	262 18.1%	125 8.7%	1,444 100%
Wellington	156 6.0%	91 3.5%	279 10.7%	467 17.9%	327 12.5%	257 9.8%	532 20.3%	313 12.0%	194 7.4%	2,616 100%
Western Ontario	1,162 6.1%	868 4.5%	1,996 10.4%	3,424 17.8%	2,650 13.8%	2,342 12.2%	3,610 18.8%	1,926 10.0%	1,213 6.3%	19,191 100%

Source: Census of Agriculture, Statistics Canada, 2001.

This summarizes the situation for Western Ontario. In the following Chapter we focus on Central Ontario

## 8.0 Central Ontario – Summary of Agricultural and Rural Trends

For the purposes of this analysis, the definition of Central Ontario is comprised of 10 counties or districts; these include Durham, Haliburton, Hastings, Kawartha Lakes, Muskoka, Northumberland, Parry Sound, Peterborough, Prince Edward, York, and Toronto Division. Although Hastings and Northumberland are often considered to be part of Eastern Ontario, the Agricultural Census treats these areas as part of Central Ontario.

### 8.1 Soil Capability for Agriculture

Classes 1, 2 and 3 soils are considered the most suitable for sustained production of common field crops if specified management practices are observed. Table 8.1 provides a breakdown for the acreages of soil capabilities in Central Ontario. Approximately 2.2 million acres or 24% of the total land area in Central Ontario is classified as suitable for sustained production of common field crops.

Durham has the highest percentage of Class 1 soils at 43% followed closely by York at 42%. Prince Edward has the highest percentage of Class 2 soils at 36% followed by York at 17%. Both Haliburton and Parry Sound do not feature any Class 1 or Class 2 soils.

Four of the counties in Central Ontario including Durham, Northumberland, Prince Edward, and York have over 50% of their total land area classified as Class 1 to 3 soils.

**Table 8.1 Acreages of Soil Capability for Agriculture in Central Ontario, Class 1 to 3 and Organic Soils**

County (Census Division)	Total Acres	Number of Acres by Soil Capability Classification							
		Class 1 Soil		Class 2 Soil		Class 3 Soil		Organic	
Durham	615,040	261,962	42.6%	101,224	16.5%	32,964	5.4%	44,386	7.2%
Haliburton	1,030,400	0	0.0%	0	0.0%	1,072	0.1%	21,646	2.1%
Hastings	1,474,560	73,731	5.0%	23,990	1.6%	142,728	9.7%	90,320	6.1%
Kawartha Lakes	757,760	156,880	20.7%	54,490	7.2%	17,090	2.3%	75,520	10.0%
Muskoka	997,120	0	0.0%	460	0.0%	6,256	0.6%	5,846	0.6%
Northumberland	520,960	142,673	27.4%	66,142	12.7%	131,175	25.2%	33,473	6.4%
Parry Sound	2,441,600	0	0.0%	0	0.0%	342,210	14.0%	41,610	1.7%
Peterborough	977,280	146,817	15.0%	39,406	4.0%	65,992	6.8%	148,605	15.2%
Prince Edward	259,200	49,535	19.1%	92,625	35.7%	2,115	0.8%	15,870	6.1%
York	433,920	182,563	42.1%	75,586	17.4%	37,895	8.7%	27,295	6.3%
Central Ontario	9,507,840	1,014,161	10.7%	453,923	4.8%	779,497	8.2%	504,571	5.3%

Source: Hoffman and Noble, 1975.

Although certain areas of this Region have little or no prime agricultural lands (Haliburton, Muskoka, and Parry Sound) this does not mean that agriculture does not occur in these areas, it indicates that certain types of farming are not suited to this region. The majority of high capability prime agricultural land is limited by geography to the central and southwestern parts of the province, an area that includes Northumberland, Prince Edward County, and the south portions of Hastings, Durham, York, and Peterborough Counties. The areas to the north are impacted by the Canadian Shield, and are not widely suited to crop production. The soils located in Hastings, Prince Edward, and Northumberland Counties are significantly more productive than those in many other parts of the province.

## **8.2 Terrain Characteristics**

The majority of the areas south of the Canadian Shield, in Hastings, Prince Edward, and Northumberland Counties have roots in a long, active and diverse agricultural community. In 1996, approximately 735,4438 acres of the 2,226,588 acres of land in the three counties was used for agricultural purposes. Over 22 percent of the Hastings land base consists of agricultural acreage. Much of this land base is located in the southern portion of the County, below the Canadian Shield. In Prince Edward County, 57 percent of the land base consists of agricultural acreage; and in Northumberland County, 53 percent (Planscape, 2001: 6).

The Oak Ridges Moraine is located in the eastern limits of Northumberland County. The Canadian Shield is located in the southern portion of Hastings, and the Trent-Severn waterway runs from Rice Lake to the Bay of Quinte in this area as well. The balance of the land in these three counties is relatively flat and conducive to agricultural activities.

## **8.3 Climate and Crop Heat Units**

The majority of Ontario's Class 1 to 3 soils are located with CHU 3100 to 2500 range. This range tends to decrease further away from Lake Ontario. In central Ontario, the CHUs range from 2900 to 2100. The more optimal CHUs are located in Prince Edward and Northumberland, Durham, and York Counties as well as the Toronto District. The land south of the Oak Ridges Moraine, north and west of the City of Toronto, and east of the Niagara Escarpment has crop heat units in the 2900 to 2700 range (Planscape, 2001: 10).

## 8.4 Population

Central Ontario reported a total population of 4.2 million in 2001, which represents 37% of the provincial total. In 2001, Central Ontario reported approximately 40% of the total provincial urban population and 22% of the total provincial rural population. As shown in Table 8.2, close to 91% of the Central Ontario population lives in urban areas while 9% lives in rural areas.

Toronto reported the largest total population in Central Ontario in 2001 with 2.3 million, all of which was urban based. The next largest area in Central Ontario in terms of population is York with just under 600,000 of which almost 10% is rural based. Haliburton with 15,321 and Parry Sound with 39,906 reported the smallest populations in Central Ontario in 2001. Durham reported the largest rural population in 2001 with 59,112 followed by York with 56,727. The rural population accounts for more than 70% of the total rural population in Parry Sound, Prince Edward and Haliburton, and more than 60% of the rural population in Kawartha Lakes and Muskoka. In York the rural population only accounts for 7% of the total population and only 11% in Durham. Most of the counties in Central Ontario experienced an increase in population between 1996 and 2001 with the exception of Haliburton, Northumberland, Parry Sound and Prince Edward. While Central Ontario as a whole experienced a 3% decline in rural population between 1996 and 2001, several counties saw the rural population grow including Hastings, Kawartha Lakes, and Muskoka. The largest rate of decline in rural population occurred in Northumberland where the population declined by almost 14% between 1996 and 2001. Parry Sound was the only County that experienced a decline in its urban population between 1996 and 2001.



**Table 8.2 Rural and Urban Population in Central Ontario by County, 1996 to 2001**

County Census Division)	1996			2001			Percent Change 1996 to 2001		
	Total population	Urban	Rural	Total population	Urban	Rural	Total	Urban	Rural
Durham	458,616	399,504 87.1%	59,112 12.9%	506,901	450,792 88.9%	56,109 11.1%	10.5%	12.8%	-5.1%
Haliburton	15,321	0 0%	15,321 100%	15,085	0 0%	15,085 100%	-1.5%	0%	-1.5%
Hastings	118,744	72,808 61.3%	45,936 38.7%	125,915	73,176 58.1%	52,739 41.9%	6.0%	0.5%	14.8%
Kawartha Lakes	67,926	23,702 34.9%	44,224 65.1%	69,179	23,804 34.4%	45,375 65.6%	1.8%	0.4%	2.6%
Muskoka	50,463	19,292 38.2%	31,171 61.8%	53,106	20,874 39.3%	32,232 60.7%	5.2%	8.2%	3.4%
Northumberland	81,792	39,184 47.9%	42,608 52.1%	77,497	40,691 52.5%	36,806 47.5%	-5.3%	3.8%	-13.6%
Parry Sound	39,906	9,855 24.7%	30,051 75.3%	39,665	9,769 24.6%	29,896 75.4%	-0.6%	-0.9%	-0.5%
Peterborough	123,448	79,136 64.1%	44,312 35.9%	125,856	82,764 65.8%	43,092 34.2%	2.0%	4.6%	-2.8%
Prince Edward	25,046	6,364 25.4%	18,682 74.6%	24,901	6,506 26.1%	18,395 73.9%	-0.6%	2.2%	-1.5%
York	592,445	535,718 90.4%	56,727 9.6%	729,254	679,611 93.2%	49,643 6.8%	23.1%	26.9%	-12.5%
Toronto	2,385,421	2,385,421 100%	0 0%	2,481,494	2,481,494 100%	0 0%	4.0%	4.0%	0%
Central Ontario	3,959,128	3,570,989 90.2%	388,149 9.8%	4,248,853	3,869,486 91.1%	379,377 8.9%	7.3%	8.4%	-2.3%

Source: Population Census, Statistics Canada 1996, 2001.

## 8.5 Profile of Agriculture in Central Ontario

### 8.5.1 Number of Farms

Since 1985, the number of farms in Central Ontario has continued to decline (Table 9). Between 1995 and 2000, the greatest change in farm numbers occurred with a loss of 1462 farms. In total, since 1985, the number of farms in this region has decreased by 2012. On average, 232 farms were lost per county. One district had an increase of farms between 1985 and 2000; Muskoka increased by 17 farms. However, between 1995 and 2000, there was a decrease of 59 farms in Muskoka. The largest decrease in farm numbers was in Durham Region (509); however, Durham maintains the largest number of farms in Central Ontario.

In 2001, Central Ontario reported a total of 8,938 farms. Just over half of the counties in the Region reported more than 1,000 farms in 2001. As shown in Table 8.3, the leading

counties in terms of farm numbers include Durham (1,709 farms), Kawartha Lakes (1,516), Peterborough (1,202) and Hastings (1,190). Haliburton reported the fewest farms in 2001 at 69.

Between 1986 and 2001, the total number of farms in Central Ontario declined by 18%, from 10,950 farms to 8,938 farms. At the County level, the greatest decline occurred in Haliburton where farm numbers declined by 29% followed by York and Durham, which declined by 27% and 23% respectively. The lowest decline occurred in Parry Sound where farms numbers declined by 4% between 1986 and 2001.

**Table 8.3 Total Number of Farms in Central Ontario by County, 1986, 1991, 1996, and 2001**

County (Census Division)	Number of Farms by Census Year				Percentage Change in Number of Farms 1986 - 2001
	1986	1991	1996	2001	
Durham	2,218	2,090	2,001	1,709	-22.9%
Haliburton	89	96	87	69	-22.5%
Hastings	1,351	1,244	1,353	1,190	-11.9%
Kawartha Lakes	1,726	1,668	1,710	1,516	-12.2%
Muskoka	184	210	260	201	9.2%
Northumberland	1,555	1,514	1,366	1,104	-29.0%
Parry Sound	407	407	425	392	-3.7%
Peterborough	1,400	1,430	1,369	1,202	-14.1%
Prince Edward	629	600	618	535	-14.9%
York	1,391	1,210	1,211	1,020	-26.7%
Central Ontario	10,950	10,469	10,400	8,938	-18.4%

Source: Census of Agriculture, Statistics Canada 1986, 1991, 1996, 2001.

## 8.5.2 Farm Land

Kawartha Lakes reported the largest area of farmland in Central Ontario in 2001 at 360,690 acres or 18% of the total farmland in the Region. As shown in Table 8.4, two other counties reported over 300,000 acres of farmland in 2001 including Durham and Hastings. Haliburton reported the smallest area of farmland in 2001 at 13,976 acres. Central Ontario reported a substantial decline in total farmland area (9%) between 1986 and 2001. The highest rate of decline occurred in Haliburton with 22% followed by York with 16%, and Northumberland and Parry Sound each with 15%. Muskoka was the only part of the Region, which did not experience a decline in farmland area during this period.

**Table 8.4 Total Number of Acres of Farmland in Central Ontario by County, 1986 to 2001**

County (Census Division)	Number of Acres of Farmland by Census Year				Percentage Change in Number of Acres 1986 - 2001
	1986	1991	1996	2001	
Durham	358,168	337,222	336,857	330,286	-7.8%
Haliburton	17,873	16,674	16,145	13,976	-21.8%
Hastings	333,604	298,920	312,343	306,068	-8.3%
Kawartha Lakes	371,511	353,778	378,692	360,690	-2.9%
Muskoka	34,718	38,343	41,500	34,779	0.2%
Northumberland	298,342	292,600	274,809	253,665	-15.0%
Parry Sound	112,612	105,408	95,496	95,810	-14.9%
Peterborough	272,634	270,782	261,673	258,642	-5.1%
Prince Edward	157,882	145,186	148,286	143,223	-9.3%
York	210,604	190,274	193,686	175,965	-16.4%
Central Ontario	2,167,948	2,049,187	2,059,487	1,973,104	-9.0%

Source: Census of Agriculture, Statistics Canada 1986, 1991, 1996, 2001.

### 8.5.3 Farm Size

Table 8.5 presents the number and percentage of census farms by acreage categories. In most of the counties in Central Ontario, over 50% of the farms are larger than 129 acres. Small farms that have less than 70 acres account for 49% of all farms in York, 36% of all farms in Durham, and 30% of all farms in Haliburton. Large farms that have 560 acres or more account for 10% of the total farms in Haliburton and Parry Sound. York has the highest number of farms in the 1 to 9 acre farm size category (87 farms) followed by Durham (76 farms). Kawartha Lakes has the highest number of farms in the 560 acres and over category with 135 farms followed by Durham and Hastings each with 119 farms.

**Table 8.5 Total Number of Farms by Size Category in Central Ontario by County, 2001**

County (Census Division)	Number and Percentage of Farms by Size Category (Acres)								Total Number of Farms
	1 to 9	10 to 69	70 to 129	130 to 179	180 to 239	240 to 399	400 to 559	560 and over	
Durham	76 4.4%	548 32.1%	427 25.0%	143 8.4%	138 8.1%	173 10.1%	85 5.0%	119 7.0%	1,709 100%
Haliburton	9 13.0%	12 17.4%	16 23.2%	6 8.7%	6 8.7%	11 15.9%	4 5.8%	5 7.2%	69 100%
Hastings	33 2.8%	178 15.0%	265 22.3%	128 10.8%	115 9.7%	234 19.7%	118 9.9%	119 10.0%	1,190 100%
Kawartha Lakes	35 2.3%	221 14.6%	454 29.9%	182 12.0%	195 12.9%	211 13.9%	83 5.5%	135 8.9%	1,516 100%
Muskoka	12 6.0%	49 24.4%	61 30.3%	17 8.5%	25 12.4%	17 8.5%	10 5.0%	10 5.0%	201 100%
Northumberland	41 3.7%	240 21.7%	255 23.1%	125 11.3%	107 9.7%	165 14.9%	88 8.0%	83 7.5%	1,104 100%
Parry Sound	23 5.9%	42 10.7%	84 21.4%	29 7.4%	68 17.3%	67 17.1%	41 10.5%	38 9.7%	392 100%
Peterborough	40 3.3%	194 16.1%	350 29.1%	133 11.1%	137 11.4%	173 14.4%	93 7.7%	82 6.8%	1,202 100%
Prince Edward	26 4.9%	105 19.6%	93 17.4%	53 9.9%	55 10.3%	89 16.6%	65 12.1%	49 9.2%	535 100%
York	87 8.5%	417 40.9%	214 21.0%	71 7.0%	50 4.9%	86 8.4%	37 3.6%	58 5.7%	1,020 100%
Central Ontario	382 4.3%	2,006 22.4%	2,219 24.8%	887 9.9%	896 10.0%	1,226 13.7%	624 7.0%	698 7.8%	8,938 100%

Source: Census of Agriculture, Statistics Canada, 2001.

### 8.5.4 Farm Type

Counties in Central Ontario feature a variety of farm types. As shown in Table 8.6, some farm types are more strongly represented in some counties than others. For example, Beef farms account for over 51% of all farms in Kawartha Lakes and over 40% of all farms in Peterborough and Parry Sound. Dairy farms account for 20% of all farms in Prince Edward.

With respect to crops, Fruit farms account for 7% of all farms in Prince Edward and Vegetable farms account for 11% of all farms in York. Specialty type farms are well represented in many parts of Central Ontario. Specialty farms account for 45% of all farms in Haliburton, 36% of all farms in York, 34% of all farms in Muskoka, and 23% of all farms in Durham.

**Table 8.6 Total Number of Farms by Farm Type in Central Ontario by County, 2001**

County (Census Division)	Number and Percentage of Farms by Farm Type									Total number of farms
	Dairy	Beef	Hog	Poultry and Egg	Field Crops	Fruit	Veg.	Specialty	Combi- nation	
Hastings	154	398	13	9	221	20	13	138	71	1,037
	14.9%	38.4%	1.3%	0.9%	21.3%	1.9%	1.3%	13.3%	6.8%	100%
Prince Edward	95	113	2	10	114	34	7	61	35	471
	20.2%	24.0%	0.4%	2.1%	24.2%	7.2%	1.5%	13.0%	7.4%	100%
Northumberland	142	336	17	25	221	34	13	161	65	1,014
	14.0%	33.1%	1.7%	2.5%	21.8%	3.4%	1.3%	15.9%	6.4%	100%
Peterborough	105	515	11	28	160	8	10	170	62	1,069
	9.8%	48.2%	1.0%	2.6%	15.0%	0.7%	0.9%	15.9%	5.8%	100%
Kawartha Lakes	88	705	19	17	259	4	7	184	79	1,362
	6.5%	51.8%	1.4%	1.2%	19.0%	0.3%	0.5%	13.5%	5.8%	100%
Durham	195	441	20	46	304	38	41	350	105	1,540
	12.7%	28.6%	1.3%	3.0%	19.7%	2.5%	2.7%	22.7%	6.8%	100%
York	52	148	13	26	185	19	105	331	52	931
	5.6%	15.9%	1.4%	2.8%	19.9%	2.0%	11.3%	35.6%	5.6%	100%
Muskoka	1	45	0	3	26	5	2	50	15	147
	0.7%	30.6%	0.0%	2.0%	17.7%	3.4%	1.4%	34.0%	10.2%	100%
Haliburton	2	18	0	0	7	0	0	25	3	55
	3.6%	32.7%	0.0%	0.0%	12.7%	0.0%	0.0%	45.5%	5.5%	100%
Parry Sound	11	114	3	9	60	4	4	53	22	280
	3.9%	40.7%	1.1%	3.2%	21.4%	1.4%	1.4%	18.9%	7.9%	100%
Central Ontario	845	2,833	98	173	1,557	166	202	1,523	509	7,906
	10.7%	35.8%	1.2%	2.2%	19.7%	2.1%	2.6%	19.3%	6.4%	100%

Source: Census of Agriculture, Statistics Canada, 2001.

### 8.5.5 Farm Operators

Central Ontario reported 12,665 farm operators in 2001. As shown in Table 8.7, Durham reported the most farm operators in 2001 at 2,485 followed by Kawartha Lakes at 2,100. Haliburton reported the fewest farm operators in 2001 at 90 followed by Muskoka at 280. Each County in Central Ontario reported a decline in the number of farm operators between 1996 and 2001. The greatest rate of decline occurred in Haliburton (22%) while the lowest rate of decline occurred in Peterborough (9%). In most Counties the rate of decline among male farm operators between 1996 and 2001 was higher than females. Peterborough County actually reported a slight increase in the number of female farm operators during this period.

**Table 8.7 Total Number of Farm Operators by Age and Gender in Central Ontario by County, 1996 to 2001**

County (Census Division)	1996				2001				Percent Change in Number of Operators 1996-2001	% change male	% change female
	Total number of operators	Average age	Male	Female	Total number of operators	Average age	Male	Female			
Hastings	1,860	50	1,405	450	1,680	52	1,235	445	-9.7%	-12.1%	-1.1%
Prince Edward	895	51	665	230	775	52	580	195	-13.4%	-12.8%	-15.2%
Northumb- erland	1,965	51	1,455	510	1,570	52	1,155	420	-20.1%	-20.6%	-17.6%
Peter- borough	1,865	52	1,410	450	1,700	53	1,245	455	-8.8%	-11.7%	1.1%
Kawartha Lakes	2,350	50	1,740	605	2,100	52	1,520	580	-10.6%	-12.6%	-4.1%
Durham	2,915	51	2,125	785	2,485	52	1,785	705	-14.8%	-16.0%	-10.2%
York	1,725	51	1,270	450	1,445	53	1,065	380	-16.2%	-16.1%	-15.6%
Muskoka	345	52	230	115	280	53	190	90	-18.8%	-17.4%	-21.7%
Haliburton	115	51	80	40	90	53	65	30	-21.7%	-18.8%	-25.0%
Parry Sound	605	52	425	180	540	54	380	165	-10.7%	-10.6%	-8.3%
Central Ontario	14,640	51	10,820	3,825	12,665	52	9,215	3,455	-13.5%	-14.8%	-9.7%

Source: Census of Agriculture, Statistics Canada 1996, 2001.

### 8.5.6 Farm Receipts

Central Ontario reported a total of \$850 million in gross farm receipts in 2000. As shown in Table 8.8, Durham reported close to \$234 million in gross farm receipts in 2000 followed by York with \$179 million and Northumberland with \$123 million. In terms of gross receipts per farm, the leading counties include York (\$174,454 per farm), Durham (\$136,858), and Prince Edward (\$123,898). The lowest average gross receipts per farm in 2001 were reported in Haliburton at \$10,564 per farm.

**Table 8.8 Total Gross Farm Receipts in Central Ontario by County, 1995 to 2000**

County (Census Division)	1995			2000		
	Number of Farms	Total Gross Farm Receipts	Gross Farm Receipts per Farm	Number of Farms	Total Gross Farm Receipts	Gross Farm Receipts per Farm
Hastings	1,353	\$63,512,287	\$46,942	1,190	\$72,059,492	\$60,554
Prince Edward	618	\$55,914,185	\$90,476	535	\$66,285,556	\$123,898
Northumberland	1,366	\$121,645,968	\$89,053	1,104	\$123,298,980	\$111,684
Peterborough	1,369	\$66,832,347	\$48,818	1,202	\$69,575,597	\$57,883
Kawartha Lakes	1,710	\$79,848,433	\$46,695	1,516	\$86,119,375	\$56,807
Durham	2,001	\$208,168,607	\$104,032	1,709	\$233,890,944	\$136,858
York	1,211	\$170,402,787	\$140,712	1,020	\$178,963,186	\$175,454
Muskoka	260	\$4,737,596	\$18,222	201	\$5,021,978	\$24,985
Haliburton	87	\$772,689	\$8,881	69	\$728,895	\$10,564
Parry Sound	425	\$10,237,983	\$24,089	392	\$13,785,626	\$35,167
Central Ontario	10,400	\$782,072,882	\$75,199	8,938	\$849,729,629	\$95,069

Source: Census of Agriculture, Statistics Canada 1996, 2001.

Table 8.9 shows the number and percentage of farms distributed across different gross farm sales categories for Central Ontario counties. Compared to the other counties in Central Ontario, Muskoka (41%), Haliburton (40%), and Parry Sound (38%) had a higher proportion of farms reporting less than \$5,000 in gross farm receipts in 2000. Approximately 31% of all farmers in York and 25% of all farmers in both Prince Edward and Durham reported \$100,000 or more in total gross farm receipts in 2000.

Durham has the highest number of farms with farm receipts under \$2,500 (169 farms) followed by Kawartha Lakes (154 farms). York has the highest number of farms with farm receipts of \$500,000 or more (86 farms) followed by Durham (82 farms).

**Table 8.9 Total Number of Farms by Farm Sales Category in Central Ontario by County, 2000**

County	Number and Percentage of Farms by Total Gross Farm Sales Category									Total Number of Farms
	\$2,499 and Under	\$2,500 to \$4,999	\$5,000 to \$9,999	\$10,000 to \$24,999	\$25,000 to \$49,999	\$50,000 to \$99,999	\$100,000 to \$249,999	\$250,000 to \$499,999	\$500,000 and Over	
Durham	169 9.9%	110 6.4%	276 16.1%	366 21.4%	214 12.5%	153 9.0%	203 11.9%	136 8.0%	82 4.8%	1,709 100%
Haliburton	14 20.3%	14 20.3%	21 30.4%	13 18.8%	3 4.3%	4 5.8%	0 0.0%	0 0.0%	0 0.0%	69 100%
Hastings	153 12.9%	108 9.1%	241 20.3%	298 25.0%	118 9.9%	89 7.5%	97 8.2%	69 5.8%	17 1.4%	1,190 100%
Kawartha Lakes	154 10.2%	102 6.7%	291 19.2%	423 27.9%	224 14.8%	139 9.2%	103 6.8%	57 3.8%	23 1.5%	1,516 100%
Muskoka	54 26.9%	28 13.9%	52 25.9%	38 18.9%	16 8.0%	5 2.5%	4 2.0%	2 1.0%	2 1.0%	201 100%
Northumberland	90 8.2%	96 8.7%	178 16.1%	246 22.3%	141 12.8%	113 10.2%	133 12.0%	70 6.3%	37 3.4%	1,104 100%
Parry Sound	112 28.6%	38 9.7%	95 24.2%	88 22.4%	34 8.7%	9 2.3%	9 2.3%	5 1.3%	2 0.5%	392 100%
Peterborough	133 11.1%	92 7.7%	219 18.2%	331 27.5%	151 12.6%	102 8.5%	96 8.0%	56 4.7%	22 1.8%	1,202 100%
Prince Edward	64 12.0%	48 9.0%	84 15.7%	104 19.4%	45 8.4%	55 10.3%	85 15.9%	35 6.5%	15 2.8%	535 100%
York	89 8.7%	61 6.0%	164 16.1%	164 16.1%	126 12.4%	102 10.0%	154 15.1%	74 7.3%	86 8.4%	1,020 100%
Central Ontario	1,032 11.5%	697 7.8%	1,621 18.1%	2,071 23.2%	1,072 12.0%	771 8.6%	884 9.9%	504 5.6%	286 3.2%	8,938 100%

Source: Census of Agriculture, Statistics Canada, 2001.

This provides a summary description of the situation in Central Ontario. In the following Chapter we summarize the situation in Eastern Ontario.



## **9.0 Eastern Ontario – Summary of Agricultural and Rural Trends**

For the purposes of this analysis, the definition of Eastern Ontario is comprised of eight counties or districts including Frontenac, Lanark, Leeds and Grenville, Lennox and Addington, Ottawa, Prescott and Russell, and Stormont, Dundas and Glengarry.

### **9.1 Soil Capability for Agriculture**

Classes 1, 2 and 3 soils are considered the most suitable for sustained production of common field crops if specified management practices are observed. Table 8.1 provides a breakdown for the acreages of soil capabilities in Eastern Ontario. Approximately 2 million acres or 30% of the total land area in Eastern Ontario is classified as suitable for sustained production of common field crops.

Stormont, Dundas and Glengarry has the highest percentage of Class 1 soils at 13% followed the City of Ottawa at 9.5%. Stormont, Dundas and Glengarry also has the highest percentage of Class 2 soils at 35% followed by Prescott and Russell at 23%. Renfrew is the only County in Eastern Ontario that doesn't feature any Class 1 soil.

Three of the counties in Eastern Ontario including Stormont, Dundas and Glengarry United Counties, Prescott and Russell Durham, and Ottawa have more than 50% of their total land area classified as Class 1 to 3 soils.

**Table 9.1 Acreages of Soil Capability for Agriculture in Eastern Ontario, Class 1 to 3 and Organic Soils**

County (Census Division)	Total Acres	Number of Acres by Soil Capability Classification							
		Class 1 Soil		Class 2 Soil		Class 3 Soil		Organic	
Frontenac County	944,000	13,123	1.4%	55,301	5.9%	31,733	3.4%	46,239	4.9%
Lanark County	757,120	22,497	3.0%	59,296	7.8%	22,816	3.0%	101,786	13.4%
Leeds and Grenville United Counties	837,760	68,365	8.2%	78,733	9.4%	123,340	14.7%	82,096	9.8%
Lennox and Addington County	702,080	31,062	4.4%	33,878	4.8%	86,098	12.3%	20,499	2.9%
Ottawa Division	681,600	64,624	9.5%	124,461	18.3%	162,032	23.8%	78,423	11.5%
Prescott and Russel United Counties	494,720	9,340	1.9%	113,960	23.0%	160,600	32.5%	32,680	6.6%
Renfrew County	1,889,280	0	0.0%	158,650	8.4%	75,144	4.0%	35,106	1.9%
Stormont, Dundas, and Glengarry United Counties	545,360	72,295	13.3%	191,819	35.2%	279,546	51.3%	77,762	14.3%
Eastern Ontario	6,851,920	281,306	4.1%	816,098	11.9%	941,309	13.7%	474,591	6.9%

Source: Hoffman and Noble, 1975.

## 9.2 Terrain Characteristics

Counties in Eastern Ontario share a common distinction in that the Canadian Shield extends across a large portion of their total land area. The presence of this geological feature across the local landscape places greater limitations on certain cropping practices than are found in other parts of the province. Thus, the challenges posed by local bio-physical conditions make the achievements of the agricultural industry in this Region all the more impressive.

## 9.3 Climate and Crop Heat Units

In Eastern Ontario, the CHUs range from 2900 to 2700 in Frontenac County and Lennox and Addington County. Lanark County ranges between 2500 CHU in the west and 2700 CHU in the east. Renfrew County ranges from 2100 CHU in extreme western region of the county to 2500 in the eastern region of the county. In Stormont, Dundas, and Glengarry United Counties; Prescott and Russell United Counties; Leeds and Grenville United Counties; and Ottawa Division have CHUs ranging from 2900 to 2500. The CHUs in Eastern Ontario result in limitations on the types of crops that can be grown in the Region.

## 9.4 Population

Eastern Ontario reported a total population of almost 1.4 million in 2001, which represents 12% of the provincial total. In 2001, Eastern Ontario reported approximately 20% of the total provincial urban population and 11% of the total provincial rural population. As shown in Table 9.2, close to 75% of the Eastern Ontario population lives in urban areas while 25% lives in rural areas.

Ottawa reported the largest total population in Eastern Ontario in 2001 with 774,072. The majority of the Ottawa population, 92% lives in the urban centre (City of Ottawa). Lennox and Addington reported the smallest population in 2001 with 39,461. Ottawa reported the largest rural population in 2001 with 61,753 followed by Leeds and Grenville with 58,454. The rural population accounts for more than 60% of the total population in Leeds and Grenville, and Lennox and Addington, and more than 50% of the total population in Lanark, and Prescott and Russell. Most of the counties in Eastern Ontario experienced an increase in population between 1996 and 2001 with the exception of Renfrew, and the United Counties of Stormont, Dundas and Glengarry. Eastern Ontario as a whole experienced a 2.1% increase in rural population between 1996 and 2001. the largest rate of increase occurred in Ottawa (9.6%), followed by Lanark (5%) and Frontenac (4.6%). Several counties in Eastern Ontario saw the rural population decline during this period. The largest rate of decline in rural population occurred in Lennox and Addington where the population declined by 3%. Renfrew, and the United Counties of Stormont, Dundas and Glengarry were the only two counties that experienced a decline in their urban population between 1996 and 2001.

**Table 9.2 Rural and Urban Population in Eastern Ontario by County, 1996 to 2001**

County (Census Division)	1996			2001			Percent Change 1996 to 2001		
	Total population	Urban	Rural	Total population	Urban	Rural	Total	Urban	Rural
Frontenac	136,365	100,895 74.0%	35,470 26.0%	138,606	101,514 73.2%	37,092 26.8%	1.6%	0.6%	4.6%
Lanark	59,845	28,878 48.3%	30,967 51.7%	62,495	29,996 48.0%	32,499 52.0%	4.4%	3.9%	4.9%
Leeds and Grenville	96,284	37,460 38.9%	58,824 61.1%	96,606	38,152 39.5%	58,454 60.5%	0.3%	1.8%	-0.6%
Lennox and Addington	39,203	13,321 34.0%	25,882 66.0%	39,461	14,404 36.5%	25,057 63.5%	0.7%	8.1%	-3.2%
Ottawa	721,136	664,773 92.2%	56,363 7.8%	774,072	712,319 92.0%	61,753 8.0%	7.3%	7.2%	9.6%
Prescott and Russell	74,013	34,930 47.2%	39,083 52.8%	76,446	36,701 48.0%	39,745 52.0%	3.3%	5.1%	1.7%
Renfrew	96,224	50,252 52.2%	45,972 47.8%	95,138	49,404 51.9%	45,734 48.1%	-1.1%	-1.7%	-0.5%
Stormont, Dundas and Glengarry	111,301	60,481 54.3%	50,820 45.7%	109,522	59,392 54.2%	50,130 45.8%	-1.6%	-1.8%	-1.4%
Eastern Ontario	1,334,371	990,994 74.3%	343,384 25.7%	1,392,346	1,041,886 74.8%	350,467 25.2%	4.3%	5.1%	2.1%

Source: Population Census, Statistics Canada 1996, 2001.

## 9.5 Profile of Agriculture in Eastern Ontario

### 9.5.1 Number of Farms

In 2001, Eastern Ontario reported a total of 9,333 farms. All of the counties except three reported more than 1,000 farms in 2001. As shown in Table 9.3, the leading counties in terms of farm numbers include Stormont, Dundas and Glengarry (1,939 farms), Leeds and Grenville (1,348), Renfrew (1,342) and Ottawa (1,318). Lennox and Addington reported the fewest farms in 2001 at 629.

Between 1986 and 2001, the total number of farms in Eastern Ontario declined by 16%, from 11,136 farms to 9,333 farms. The greatest decline occurred in Ottawa where farm numbers declined by 21% followed by Frontenac and Lanark, which declined by 19% and 18% respectively. The lowest decline occurred in Leeds and Grenville where farms numbers declined by 13% between 1986 and 2001.

**Table 9.3 Total Number of Farms in Eastern Ontario by County, 1986, 1991, 1996, and 2001**

County (Census Division)	Number of Farms by Census Year				Percentage Change in Number of Farms 1986 - 2001
	1986	1991	1996	2001	
Frontenac	861	733	823	699	-18.8%
Lanark	1,112	1,053	1,065	910	-18.2%
Leeds and Grenville	1,546	1,492	1,493	1,348	-12.8%
Lennox and Addington	761	726	753	629	-17.3%
Ottawa	1,674	1,606	1,455	1,318	-21.3%
Prescott and Russell	1,385	1,337	1,239	1,148	-17.1%
Renfrew	1,549	1,505	1,532	1,342	-13.4%
Stormont, Dundas and Glengarry	2,248	2,203	2,113	1,939	-13.7%
Eastern Ontario	11,136	10,655	10,473	9,333	-16.2%

Source: Census of Agriculture, Statistics Canada 1986, 1991, 1996, 2001.

## 9.5.2 Farm Land

Stormont, Dundas and Glengarry reported the largest area of farmland in Eastern Ontario in 2001 at 496,498 acres or 20% of the total farmland in the Region. As shown in Table 9.4, only one other County, Renfrew, reported over 400,000 acres of farmland in 2001. Lennox and Addington reported the smallest area of farmland in 2001 at 197,441 acres or 8% of the total farmland in the Region. Although Eastern Ontario reported a decline in total farmland area (4.6%) between 1986 and 2001, two counties including Prescott and Russell, and the United Counties of Stormont, Dundas reported increases in farmland area during this period. This in part is likely related to the revised 1996 census farm definition, which was expanded to include commercial poultry hatcheries and operations that produced only Christmas trees. All other counties in Eastern Ontario reported a decline in farmland area during this period with the greatest loss occurring in Lanark (17%).

**Table 9.4 Total Number of Acres of Farmland in Eastern Ontario by County, 1986 to 2001**

County (Census Division)	Number of Acres of Farmland by Census Year				Percentage Change in Number of Acres 1986 - 2001
	1986	1991	1996	2001	
Frontenac	229,177	203,967	216,653	205,542	-10.3%
Lanark	291,076	267,700	256,485	241,972	-16.9%
Leeds and Grenville	363,538	343,460	342,440	336,650	-7.4%
Lennox and Addington	206,920	198,449	209,434	197,441	-4.6%
Ottawa	317,365	299,093	296,807	297,644	-6.2%
Prescott and Russell	290,763	286,624	288,900	297,384	2.3%
Renfrew	423,714	409,353	412,558	402,978	-4.9%
Stormont, Dundas and Glengarry	473,982	471,354	477,522	496,498	4.8%
Eastern Ontario	2,596,535	2,480,000	2,500,799	2,476,109	-4.6%

Source: Census of Agriculture, Statistics Canada 1986, 1991, 1996, 2001.

### 9.5.3 Farm Size

Table 9.5 presents the number and percentage of census farms by acreage categories. Farms that are smaller than 10 acres make up a small percentage of the total farms in each county. The majority of farms in the Eastern Ontario counties are larger than 129 acres. Large farms that have 560 acres or more account for 10% of the total farms in most of the Eastern Ontario counties.

Ottawa has the highest number of farms in the 1 to 9 acre farm size category (54 farms) followed by Stormont, Dundas and Glengarry (48 farms). Stormont Dundas and Glengarry has the highest number of farms in the 560 acres and over category (185 farms) followed by Renfrew (184 farms).

**Table 9.5 Total Number of Farms by Size Category in Eastern Ontario by County, 2001**

County (Census Division)	Number and Percentage of Farms by Size Category (Acres)								Total Number of Farms
	1 to 9	10 to 69	70 to 129	130 to 179	180 to 239	240 to 399	400 to 559	560 and over	
Frontenac	21 3.0%	98 14.0%	116 16.6%	76 10.9%	76 10.9%	144 20.6%	78 11.2%	90 12.9%	699 100%
Lanark	26 2.9%	99 10.9%	226 24.8%	87 9.6%	115 12.6%	184 20.2%	71 7.8%	102 11.2%	910 100%
Leeds & Grenville	45 3.3%	222 16.5%	270 20.0%	158 11.7%	137 10.2%	262 19.4%	121 9.0%	133 9.9%	1,348 100%
Lennox & Addington	11 1.7%	103 16.4%	114 18.1%	64 10.2%	62 9.9%	109 17.3%	80 12.7%	86 13.7%	629 100%
Ottawa	54 4.1%	303 23.0%	314 23.8%	116 8.8%	131 9.9%	208 15.8%	92 7.0%	100 7.6%	1,318 100%
Prescott & Russell	35 3.0%	186 16.2%	231 20.1%	113 9.8%	136 11.8%	239 20.8%	97 8.4%	111 9.7%	1,148 100%
Renfrew	34 2.5%	99 7.4%	267 19.9%	122 9.1%	209 15.6%	285 21.2%	142 10.6%	184 13.7%	1,342 100%
Stormont, Dundas & Glengarry	48 2.5%	283 14.6%	391 20.2%	206 10.6%	240 12.4%	417 21.5%	169 8.7%	185 9.5%	1,939 100%
Eastern Ontario	274 2.9%	1,393 14.9%	1,929 20.7%	942 10.1%	1,106 11.9%	1,848 19.8%	850 9.1%	991 10.6%	9,333 100%

Source: Census of Agriculture, Statistics Canada, 2001.

### 9.5.4 Farm Type

Counties in Eastern Ontario feature a variety of farm types. As shown in Table 9.6, some farm types are more strongly represented in some counties than others and the livestock sector is particularly well represented in Eastern Ontario. For example, Beef farms account for 60% of all farms in Renfrew, 50% of all farms Frontenac, 47% of all farms in Lennox and Addington, and 46% of all farms in Lanark. Dairy farms account for 39% of all farms in Prescott and Russell and 33% of all farms in Stormont Dundas and Glengarry. Prescott and Russell, and Stormont, Dundas and Glengarry also have the majority of all Poultry and Egg farms in Eastern Ontario.

With respect to crops, Field Crop farms account for 29% of all farms in Stormont, Dundas and Glengarry, and 24% of all farms in Ottawa. Specialty type farms account for 19% of all farms in Ottawa and approximately 17% of all farms in Lanark, and Leeds and Grenville.

**Table 9.6 Total Number of Farms by Farm Type in Eastern Ontario by County, 2001**

County (Census Division)	Number and Percentage of Farms by Farm Type									Total number of farms
	Dairy	Beef	Hog	Poultry and Egg	Field Crops	Fruit	Veg.	Specialty	Combi- nation	
Stormont, Dundas and Glengarry	586 33.3%	362 20.6%	15 0.9%	18 1.0%	520 29.6%	16 0.9%	13 0.7%	160 9.1%	69 3.9%	1,759 100%
Prescott and Russell	413 39.4%	186 17.7%	10 1.0%	34 3.2%	237 22.6%	16 1.5%	7 0.7%	103 9.8%	42 4.0%	1,048 100%
Ottawa	209 17.7%	341 28.9%	9 0.8%	6 0.5%	284 24.1%	27 2.3%	24 2.0%	226 19.2%	54 4.6%	1,180 100%
Leeds and Grenville	215 18.6%	407 35.2%	9 0.8%	11 1.0%	239 20.7%	17 1.5%	6 0.5%	187 16.2%	66 5.7%	1,157 100%
Lanark	91 11.8%	360 46.8%	0 0.0%	2 0.3%	123 16.0%	5 0.7%	6 0.8%	130 16.9%	52 6.8%	769 100%
Frontenac	98 16.3%	303 50.2%	1 0.2%	1 0.2%	83 13.8%	6 1.0%	4 0.7%	74 12.3%	33 5.5%	603 100%
Lennox and Addington	73 13.1%	261 46.9%	2 0.4%	9 1.6%	102 18.3%	4 0.7%	5 0.9%	74 13.3%	27 4.8%	557 100%
Renfrew	130 11.2%	691 59.8%	5 0.4%	3 0.3%	177 15.3%	7 0.6%	3 0.3%	97 8.4%	43 3.7%	1,156 100%
Eastern Ontario	1,815 22.1%	2,911 35.4%	51 0.6%	84 1.0%	1,765 21.4%	98 1.2%	68 0.8%	1,051 12.8%	386 4.7%	8,229 100%

Source: Census of Agriculture, Statistics Canada, 2001.



### 9.5.5 Farm Operators

Eastern Ontario reported 13,505 farm operators in 2001. As shown in Table 9.7, Stormont, Dundas and Glengarry reported the most farm operators in 2001 at 2,885 followed by Leeds and Grenville at 1,945. Lennox and Addington reported the fewest farm operators in 2001 at 885 followed by Frontenac at 995. Each County in Eastern Ontario reported a decline in the number of farm operators between 1996 and 2001. The greatest rate of decline occurred in Lennox and Addington (19%) while the lowest rate of decline occurred in Leeds and Grenville, and Prescott and Russell (9%). In most Counties the rate of decline among male farm operators between 1996 and 2001 was higher than females.

**Table 9.7 Total Number of Farm Operators by Age and Gender in Eastern Ontario by County, 1996 to 2001**

County (Census Division)	1996				2001				Percent Change in Number of Operators 1996-2001	% change male	% change female
	Total number of operators	Average age	Male	Female	Total number of operators	Average age	Male	Female			
Stormont, Dundas, Glengarry	3,210	48	2,330	875	2,885	49	2,090	795	-10.1%	-10.3%	-9.1%
Prescott and Russell	1,955	46	1,395	555	1,775	49	1,275	500	-9.2%	-8.6%	-9.9%
Ottawa	2,105	51	1,540	570	1,855	52	1,365	485	-11.9%	-11.4%	-14.9%
Leeds and Grenville	2,140	51	1,575	565	1,945	51	1,410	540	-9.1%	-10.5%	-4.4%
Lanark	1,500	52	1,080	420	1,305	53	905	405	-13.0%	-16.2%	-3.6%
Frontenac	1,145	51	860	285	995	53	720	280	-13.1%	-16.3%	-1.8%
Lennox and Addington	1,090	51	810	280	885	52	665	220	-18.8%	-17.9%	-21.4%
Renfrew	2,085	51	1,595	490	1,850	52	1,400	445	-11.3%	-12.2%	-9.2%
Eastern Ontario	15,230	50	11,195	4,040	13,505	51	9,830	3,675	-11.3%	-12.2%	-9.0%

Source: Census of Agriculture, Statistics Canada 1996, 2001.

### 9.5.6 Farm Receipts

Eastern Ontario reported a total of almost \$933 million in gross farm receipts in 2000. As shown in Table 9.8, only Stormont, Dundas and Glengarry reported over \$250 million in gross farm receipts in 2000. Several counties including Prescott and Russell, Ottawa, and Leeds and Grenville reported farm receipts between \$140 million and \$185 million in 2000. In terms of gross receipts per farm, the leading counties include Prescott and Russell (\$159,639 per farm), Stormont, Dundas and Glengarry (\$129,988), and Ottawa (\$115,233). The lowest average gross receipts per farm in 2001 was reported in Lanark \$45,057 per farm.

**Table 9.8 Total Gross Farm Receipts in Eastern Ontario by County, 1995 to 2000**

County (Census Division)	1995			2000		
	Number of Farms	Total Gross Farm Receipts	Gross Farm Receipts per Farm	Number of Farms	Total Gross Farm Receipts	Gross Farm Receipts per Farm
Stormont, Dundas and Glengarry	2,113	\$214,424,400	\$101,479	1,939	\$252,046,737	\$129,988
Prescott and Russell	1,239	\$150,072,209	\$121,124	1,148	\$183,265,517	\$159,639
Ottawa	1,455	\$154,407,428	\$106,122	1,318	\$151,877,673	\$115,233
Leeds and Grenville	1,493	\$104,597,265	\$70,058	1,348	\$144,744,197	\$107,377
Lanark	1,065	\$37,505,719	\$35,217	910	\$41,001,440	\$45,057
Frontenac	823	\$35,259,412	\$42,843	699	\$36,193,428	\$51,779
Lennox and Addington	753	\$43,474,761	\$57,735	629	\$57,051,653	\$90,702
Renfrew	1,532	\$60,262,541	\$39,336	1,342	\$66,659,689	\$49,672
Eastern Ontario	10,473	\$800,003,735	\$76,387	9,333	\$932,840,334	\$99,951

Source: Census of Agriculture, Statistics Canada 1996, 2001.

Table 9.9 shows the number and percentage of farms distributed across different gross farm sales categories for Eastern Ontario counties. Close to 40% of all farmers in most counties in Eastern Ontario reported gross farms sales between \$5,000 and \$25,000. More farmers were concentrated in the higher sales categories in the two counties that feature substantial dairy sectors. Approximately 43% of all farmers in Prescott and Russell, and 38% of all farmers in Stormont, Dundas and Glengarry reported \$100,000 or more in total gross farm receipts in 2000.

Leeds and Grenville has the highest number of farms with farm receipts under \$2,500 (191 farms) followed by Renfrew (186 farms). Prescott and Russell has the highest number of farms with farm receipts of \$500,000 or more (79 farms) followed by Stormont, Dundas and Glengarry (73 farms).

**Table 9.9 Total Number of Farms by Farm Sales Category in Eastern Ontario by County, 2000**

County	Number and Percentage of Farms by Total Gross Farm Sales Category									Total Number of Farms
	\$2,499 and Under	\$2,500 to \$4,999	\$5,000 to \$9,999	\$10,000 to \$24,999	\$25,000 to \$49,999	\$50,000 to \$99,999	\$100,000 to \$249,999	\$250,000 to \$499,999	\$500,000 and Over	
Frontenac	96 13.7%	76 10.9%	149 21.3%	160 22.9%	75 10.7%	48 6.9%	69 9.9%	15 2.1%	11 1.6%	699 100%
Lanark	141 15.5%	99 10.9%	193 21.2%	201 22.1%	90 9.9%	73 8.0%	76 8.4%	29 3.2%	8 0.9%	910 100%
Leeds & Grenville	191 14.2%	131 9.7%	260 19.3%	292 21.7%	124 9.2%	116 8.6%	140 10.4%	69 5.1%	25 1.9%	1,348 100%
Lennox & Addington	72 11.4%	73 11.6%	102 16.2%	157 25.0%	65 10.3%	57 9.1%	55 8.7%	36 5.7%	12 1.9%	629 100%
Ottawa	138 10.5%	91 6.9%	210 15.9%	272 20.6%	176 13.4%	99 7.5%	179 13.6%	96 7.3%	57 4.3%	1,318 100%
Prescott & Russell	100 8.7%	60 5.2%	123 10.7%	182 15.9%	99 8.6%	85 7.4%	231 20.1%	189 16.5%	79 6.9%	1,148 100%
Renfrew	186 13.9%	131 9.8%	249 18.6%	335 25.0%	160 11.9%	97 7.2%	120 8.9%	45 3.4%	19 1.4%	1,342 100%
Stormont, Dundas & Glengarry	180 9.3%	123 6.3%	255 13.2%	289 14.9%	184 9.5%	167 8.6%	415 21.4%	253 13.0%	73 3.8%	1,939 100%
Eastern Ontario	1,104 11.8%	784 8.4%	1,541 16.5%	1,888 20.2%	973 10.4%	742 8.0%	1,285 13.8%	732 7.8%	284 3.0%	9,333 100%

Source: Census of Agriculture, Statistics Canada, 2001.

This Chapter has summarized the situation in Eastern Ontario. In the following section, the situation in Northern Ontario is summarized.

## **10.0 Northern Ontario – Summary of Agricultural and Rural Trends**

For the purposes of this analysis, the definition of Northern Ontario includes the following Districts Nipissing, Manitoulin, Sudbury, Greater Sudbury, Timiskaming, Cochrane, Algoma, Thunder Bay, Rainy River, and Kenora.

### **10.1 Terrain Characteristics and Soil Capability for Agriculture**

The topography of Northern Ontario is characterized by the Canadian Shield which underlies much of the area. The area features bedrock outcropping, large areas of poorly drained, swampy conditions and substantial accumulations of glacial-fluvial deposits. Economic activity in Northern Ontario is largely focused on mining and forestry related activities.

Despite the limitations on agricultural capacity, good soils are found in patches of better land in the Thunder Bay and Rainy River areas. There are also pockets of good agricultural soil in the Little and Great Clay Belts. The southern part of Temiskaming features a geological formation known as the Little Clay Belt. Soils in the Little Clay Belt are of varying capability. While there is no Canada Land Inventory (CLI) Class 1 soil in this area, there are significant portions of Classes 2 to 4 and the Class 2 soils would be considered Class 1 soils if located in Southern Ontario. However, the shorter growing season limits the types of crops that can be grown.

Just over 1 million acres of farmland were reported in Northern Ontario in 2001. While much of the farmland is used for pasture, the amount of land in crop production in the Region is increasing as more cold tolerant crop varieties are developed and farmers incorporate land improvement practices including liming and tile drainage.

### **10.2 Climate and Crop Heat Units**

The frost-free season in Northern Ontario is short and unreliable, and rain tends to occur in late summer during the harvest period. Despite these limitations a variety of field crops, vegetables and fruit can be grown in certain parts of the Region.

### 10.3 Population

Northern Ontario reported a total population of 746,778 in 2001, which represents 6.5% of the provincial total. In 2001, Northern Ontario reported approximately 5.5% of the total provincial urban population and 12% of the total provincial rural population. As shown in Table 10.1, close to 71% of the Northern Ontario population lives in urban areas while 29% lives in rural areas.

Greater Sudbury reported the largest total population in Northern Ontario in 2001 with 155,268. Manitoulin reported the smallest population in 2001 with 12,679. Kenora reported the largest rural population in 2001 with 37,410 followed by Thunder Bay with 34,393. The rural population accounts for more than 60% of the total population in Kenora, Manitoulin, and Sudbury. In Greater Sudbury, the rural population accounts for only 11% of the total population. All of the districts in Northern Ontario experienced a decline in population between 1996 and 2001 with the exception of Manitoulin, which experienced an 11% increase. While Northern Ontario as a whole experienced a 2% decline in rural population between 1996 and 2001, several counties saw the rural population grow including Algoma, Manitoulin, and Thunder Bay. The largest rate of decline in rural population occurred in Sudbury where the population declined by 12% between 1996 and 2001. All of the districts with the exception of Manitoulin experienced a decline in their urban population between 1996 and 2001.

**Table 10.1 Rural and Urban Population in Northern Ontario by District, 1996 to 2001**

County (Census Division)	1996			2001			Percent Change 1996 to 2001		
	Total population	Urban	Rural	Total population	Urban	Rural	Total	Urban	Rural
Algoma	125,455	95,065 75.8%	30,390 24.2%	118,567	88,012 74.2%	30,555 25.8%	-5.5%	-7.4%	0.5%
Cochrane	93,240	67,766 72.7%	25,474 27.3%	85,247	61,714 72.4%	23,533 27.6%	-8.6%	-8.9%	-7.6%
Kenora	63,335	25,005 39.5%	38,330 60.5%	61,802	24,392 39.5%	37,410 60.5%	-2.4%	-2.5%	-2.4%
Manitoulin	11,413	2,722 23.8%	8,691 76.2%	12,679	2,916 23.0%	9,763 77.0%	11.1%	7.1%	12.3%
Nipissing	84,832	60,559 71.4%	24,273 28.6%	82,910	58,820 70.9%	24,090 29.1%	-2.3%	-2.9%	-0.8%
Rainy River	23,163	12,721 54.9%	10,442 45.1%	22,109	11,835 53.5%	10,274 46.5%	-4.6%	-7.0%	-1.6%
Sudbury	25,457	7,659 30.1%	17,798 69.9%	22,894	7,265 31.7%	15,629 68.3%	-10.1%	-5.1%	-12.2%
Thunder Bay	157,619	125,482 79.6%	32,137 20.4%	150,860	116,467 77.2%	34,393 22.8%	-4.3%	-7.2%	7.0%
Timiskaming	37,807	22,158 58.6%	15,649 41.4%	34,442	20,508 59.5%	13,934 40.5%	-8.9%	-7.4%	-11.0%
Greater Sudbury	164,049	146,265 89.2%	17,784 10.8%	155,268	137,753 88.7%	17,515 11.3%	-5.4%	-5.8%	-1.5%
Northern Ontario	786,370	565,407 71.9%	220,972 28.1%	746,778	529,687 70.9%	217,100 29.1%	-5.0%	-6.3%	-1.8%

Source: Population Census, Statistics Canada 1996, 2001.

## 10.4 Profile of Agriculture in Northern Ontario

### 10.4.1 Number of Farms

In 2001, Northern Ontario reported a total of 2,635 farms. Most of the districts in the Region reported fewer than 300 farms in 2001. As shown in Table 10.2, the leading districts in terms of farm numbers include Timiskaming (532 farms), Algoma (337), and Sudbury (327). Kenora reported the fewest farms in 2001 at 103.

Between 1986 and 2001, the total number of farms in Northern Ontario declined by 16%, from 3,152 farms to 2,635 farms. At the District level, the greatest decline occurred in Cochrane where farm numbers declined by 32% followed by Sudbury and Kenora, which declined by 23% and 21% respectively. The lowest decline occurred in Timiskaming where farms numbers declined by approximately 7% between 1986 and 2001.

**Table 10.2 Total Number of Farms in Northern Ontario by District, 1986, 1991, 1996, and 2001**

District (Census Division)	Number of Farms by Census Year				Percentage Change in Number of Farms 1986 - 2001
	1986	1991	1996	2001	
Algoma	415	392	365	337	-18.8%
Cochrane	302	253	228	204	-32.5%
Kenora	130	124	110	103	-20.8%
Manitoulin	331	343	316	284	-14.2%
Nipissing	315	263	299	284	-9.8%
Rainy River	380	352	336	326	-14.2%
Sudbury	427	363	365	327	-23.4%
Thunder Bay	281	271	307	238	-15.3%
Timiskaming	571	547	589	532	-6.8%
Northern Ontario	3,152	2,908	2,915	2,635	-16.4%

Source: Census of Agriculture, Statistics Canada 1986, 1991, 1996, 2001.

## 10.4.2 Farm Land

Timiskaming reported the largest area of farmland in Northern Ontario in 2001 at 214,835 acres or 21% of the total farmland in the Region. As shown in Table 10.3, only two other districts reported over 100,000 acres of farmland in 2001 including Manitoulin and Rainy River. Kenora reported the smallest area of farmland in 2001 at 37,992. Although Northern Ontario reported a decline in total farmland area (7.5%) between 1986 and 2001, two districts reported increases in farmland area during this period, Timiskaming (5.5%) and Rainy River (3%). All other counties in Northern Ontario reported a decline in farmland area during this period with the greatest loss occurring in Cochrane (25%).

**Table 10.3 Total Number of Acres of Farmland in Northern Ontario by District, 1986 to 2001**

District (Census Division)	Number of Acres of Farmland by Census Year				Percentage Change in Number of Acres 1986 - 2001
	1986	1991	1996	2001	
Algoma	100,577	97,741	95,482	94,124	-6.4%
Cochrane	101,984	83,317	82,333	76,872	-24.6%
Kenora	47,172	50,856	37,052	37,992	-19.5%
Manitoulin	180,021	185,726	179,617	173,523	-3.6%
Nipissing	100,256	76,454	87,657	83,170	-17.0%
Rainy River	182,091	174,062	180,906	188,080	3.3%
Sudbury	101,151	93,988	87,467	84,047	-16.9%
Thunder Bay	77,420	63,621	64,643	59,383	-23.3%
Timiskaming	203,675	191,528	210,033	214,835	5.5%
Northern Ontario	1,094,347	1,017,293	1,025,190	1,012,026	-7.5%

Source: Census of Agriculture, Statistics Canada 1986, 1991, 1996, 2001.



### 10.4.3 Farm Size

Table 10.4 presents the number and percentage of census farms by acreage categories. Farms in each of the Northern Ontario Districts are on average larger in acreage than farms in other Regions of the province. Large farms that have 560 acres or more account for 52% of the total farms in both Rainy River and Manitoulin, 37% of the farms in Timiskaming, and 35% of the farms in Cochrane.

Algoma has the highest number of farms in the 1 to 9 acre farm size category (20 farms) followed by Thunder Bay (15 farms). Rainy River has the highest number of farms in the 560 acres and over category (119 farms) followed by Timiskaming (115 farms).

**Table 10.4 Total Number of Farms by Size Category in Northern Ontario by District, 2001**

District (Census Division)	Number and Percentage of Farms by Size Category (Acres)								Total Number of Farms
	1 to 9	10 to 69	70 to 129	130 to 179	180 to 239	240 to 399	400 to 559	560 and over	
Algoma	20 5.9%	43 12.8%	60 17.8%	48 14.2%	22 6.5%	67 19.9%	32 9.5%	45 13.4%	337 100%
Cochrane	9 4.4%	9 4.4%	15 7.4%	50 24.5%	12 5.9%	37 18.1%	28 13.7%	44 21.6%	204 100%
Kenora	9 8.7%	17 16.5%	7 6.8%	14 13.6%	5 4.9%	19 18.4%	15 14.6%	17 16.5%	103 100%
Greater Sudbury	5 3.1%	43 27.0%	47 29.6%	26 16.4%	11 6.9%	11 6.9%	11 6.9%	5 3.1%	159 100%
Manitoulin	3 1.1%	7 2.5%	40 14.1%	11 3.9%	24 8.5%	46 16.2%	45 15.8%	108 38.0%	284 100%
Nipissing	8 2.8%	24 8.5%	49 17.3%	32 11.3%	37 13.0%	62 21.8%	40 14.1%	32 11.3%	284 100%
Rainy River	8 2.5%	8 2.5%	15 4.6%	44 13.5%	16 4.9%	61 18.7%	55 16.9%	119 36.5%	326 100%
Sudbury	6 3.6%	6 3.6%	12 7.1%	41 24.4%	15 8.9%	35 20.8%	24 14.3%	29 17.3%	168 100%
Thunder Bay	15 6.3%	45 18.9%	36 15.1%	30 12.6%	12 5.0%	48 20.2%	27 11.3%	25 10.5%	238 100%
Timiskaming	8 1.5%	24 4.5%	56 10.5%	97 18.2%	34 6.4%	114 21.4%	84 15.8%	115 21.6%	532 100%
Northern Ontario	91 3.5%	226 8.6%	337 12.8%	393 14.9%	188 7.1%	500 19.0%	361 13.7%	539 20.5%	2,635 100%

Source: Census of Agriculture, Statistics Canada, 2001.

### 10.4.4 Farm Type

Despite the soil and climate limitations in Northern Ontario, Districts in this Region feature a variety of farm types. As shown in Table 10.5, some farm types are more strongly represented in some districts than others. For example, Beef farms account for over 40% of all farms in but three Districts. The Beef sector is more specialized in Manitoulin and Rainy River where Beef farms account for 74% and 66% of all farms. Dairy farms account for 24% of all farms in Thunder Bay and 17% of all farms in Timiskaming.

With respect to crops, Field Crop farms account for 37% of all farms in Kenora, 26% of all farms in Cochrane, and 24% of all farms in Timiskaming. Fruit farms account for just over 5% of all farms in Greater Sudbury. Specialty type farms account for 31% of all farms in Greater Sudbury, 28% of all farms in Thunder Bay, and 27% of all farms in Kenora.

**Table 10.5 Total Number of Farms by Farm Type in Northern Ontario by District, 2001**

District (Census Division)	Number and Percentage of Farms by Farm Type									Total number of farms
	Dairy	Beef	Hog	Poultry and Egg	Field Crops	Fruit	Veg.	Specialty	Combi- nation	
Nipissing	31 12.7%	98 40.0%	4 1.6%	0 0.0%	56 22.9%	3 1.2%	1 0.4%	39 15.9%	13 5.3%	245 100%
Manitoulin	10 3.9%	187 72.8%	0 0.0%	1 0.4%	30 11.7%	0 0.0%	1 0.4%	18 7.0%	10 3.9%	257 100%
Sudbury	17 11.7%	64 44.1%	0 0.0%	1 0.7%	25 17.2%	1 0.7%	3 2.1%	26 17.9%	8 5.5%	145 100%
Greater Sudbury	0 0.0%	36 27.7%	2 1.5%	4 3.1%	26 20.0%	7 5.4%	3 2.3%	41 31.5%	11 8.5%	130 100%
Timiskaming	83 17.3%	207 43.2%	4 0.8%	1 0.2%	117 24.4%	2 0.4%	0 0.0%	37 7.7%	28 5.8%	479 100%
Cochrane	9 5.2%	74 42.5%	0 0.0%	2 1.1%	46 26.4%	1 0.6%	3 1.7%	24 13.8%	15 8.6%	174 100%
Algoma	18 6.5%	126 45.5%	2 0.7%	4 1.4%	45 16.2%	5 1.8%	6 2.2%	53 19.1%	18 6.5%	277 100%
Thunder Bay	49 24.3%	39 19.3%	2 1.0%	1 0.5%	32 15.8%	4 2.0%	2 1.0%	57 28.2%	16 7.9%	202 100%
Rainy River	19 6.7%	189 66.3%	1 0.4%	2 0.7%	51 17.9%	0 0.0%	0 0.0%	19 6.7%	4 1.4%	285 100%
Kenora	3 3.5%	20 23.5%	1 1.2%	0 0.0%	32 37.6%	0 0.0%	0 0.0%	23 27.1%	6 7.1%	85 100%
Northern Ontario	239 10.5%	1,040 45.6%	16 0.7%	16 0.7%	460 20.2%	23 1.0%	19 0.8%	337 14.8%	129 5.7%	2,279 100%

Source: Census of Agriculture, Statistics Canada, 2001.

### 10.4.5 Farm Operators

Northern Ontario reported 3,820 farm operators in 2001. As shown in Table 10.6, Timiskaming reported the most farm operators in 2001 at 790 followed by Algoma at 490. Kenora reported the fewest farm operators in 2001 at 155 followed by Greater Sudbury at 235. Each District in Northern Ontario reported a decline in the number of farm operators between 1996 and 2001. The greatest rate of decline occurred in Thunder Bay (28%) while the lowest rate of decline occurred in Rainy River (3%). In every District the rate of decline among male farm operators between 1996 and 2001 was higher than females.

**Table 10.6 Total Number of Farm Operators by Age and Gender in Northern Ontario by District, 1996 to 2001**

District (Census Division)	1996				2001				Percent Change in Number of Operators 1996-2001	% change male	% change female
	Total number of operators	Average age	Male	Female	Total number of operators	Average age	Male	Female			
Nipissing	445	48	305	140	425	50	270	150	-4.5%	-11.5%	7.1%
Manitoulin	400	52	325	75	370	54	300	70	-7.5%	-7.7%	-6.7%
Sudbury	275	49	190	80	245	51	165	80	-10.9%	-13.2%	0.0%
Greater Sudbury	255	49	175	80	235	53	160	75	-7.8%	-8.6%	-6.3%
Timisk- aming	865	48	615	245	790	50	555	235	-8.7%	-9.8%	-4.1%
Cochrane	320	50	240	80	285	53	205	80	-10.9%	-14.6%	0.0%
Algoma	510	50	355	150	490	52	340	150	-3.9%	-4.2%	0.0%
Thunder Bay	480	47	325	150	365	48	235	130	-24.0%	-27.7%	-13.3%
Rainy River	470	50	355	115	455	51	335	120	-3.2%	-5.6%	4.3%
Kenora	165	49	115	55	155	51	100	50	-6.1%	-13.0%	-9.1%
Northern Ontario	4,180	49	3,010	1,170	3,820	51	2,670	1,150	-8.6%	-11.3%	-1.7%

Source: Census of Agriculture, Statistics Canada 1996, 2001.

### 10.4.6 Farm Receipts

Northern Ontario reported a total of \$162 million in gross farm receipts in 2000. As shown in Table 10.7, Timiskaming reported the highest level of farm receipts at \$44 million followed by Thunder Bay at \$27 million and Algoma at almost \$17 million. In terms of gross receipts per farm, the leading Districts include Thunder Bay (\$114,924 per farm), Timiskaming (\$83,014), and Sudbury (\$64,637). The lowest average gross receipts per farm in 2001 was reported in Rainy River at \$42,618 per farm.

**Table 10.7 Total Gross Farm Receipts in Northern Ontario by District, 1995 to 2000**

District (Census Division)	1995			2000		
	Number of Farms	Total Gross Farm Receipts	Gross Farm Receipts per Farm	Number of Farms	Total Gross Farm Receipts	Gross Farm Receipts per Farm
Nipissing	299	\$13,937,713	\$46,614	284	\$13,140,579	\$46,270
Manitoulin	316	\$10,631,723	\$33,645	284	\$12,270,754	\$43,207
Sudbury	193	\$7,959,858	\$41,243	168	\$10,858,996	\$64,637
Greater Sudbury	172	\$7,123,006	\$41,413	159	\$8,122,001	\$51,082
Timiskaming	589	\$36,399,900	\$61,799	532	\$44,163,495	\$83,014
Cochrane	228	\$11,452,481	\$50,230	204	\$9,644,420	\$47,277
Algoma	365	\$18,197,839	\$49,857	337	\$16,747,188	\$49,695
Thunder Bay	307	\$28,248,671	\$92,015	238	\$27,351,802	\$114,924
Rainy River	336	\$12,971,438	\$38,605	326	\$13,893,590	\$42,618
Kenora	110	\$4,863,411	\$44,213	103	\$5,906,425	\$57,344
Northern Ontario	2,915	\$151,786,040	\$52,071	2,635	\$162,099,250	\$61,518

Source: Census of Agriculture, Statistics Canada 1996, 2001.

Table 10.8 shows the number and percentage of farms distributed across different gross farm sales categories for Northern Ontario Districts. Farms with sales under \$5,000 account for 20% or more of all farms in many of the Districts. The majority of the farms in all of the Districts generated less than \$50,000 in 2000.

Algoma has the highest number of farms with farm receipts under \$2,500 (60 farms) followed by Timiskaming (53 farms). Timiskaming has the highest number of farms with farm receipts of \$500,000 or more (16 farms) followed by Thunder Bay (14 farms).

**Table 10.8 Total Number of Farms by Farm Sales Category in Northern Ontario by County, 2000**

District	Number and Percentage of Farms by Total Gross Farm Sales Category									Total Number of Farms
	\$2,499 and Under	\$2,500 to \$4,999	\$5,000 to \$9,999	\$10,000 to \$24,999	\$25,000 to \$49,999	\$50,000 to \$99,999	\$100,000 to \$249,999	\$250,000 to \$499,999	\$500,000 and Over	
Algoma	60 17.8%	39 11.6%	61 18.1%	78 23.1%	43 12.8%	23 6.8%	22 6.5%	7 2.1%	4 1.2%	337 100%
Cochrane	30 14.7%	22 10.8%	35 17.2%	61 29.9%	27 13.2%	5 2.5%	16 7.8%	5 2.5%	3 1.5%	204 100%
Greater Sudbury	29 18.2%	20 12.6%	36 22.6%	32 20.1%	22 13.8%	6 3.8%	9 5.7%	2 1.3%	3 1.9%	159 100%
Kenora	18 17.5%	9 8.7%	20 19.4%	23 22.3%	13 12.6%	7 6.8%	6 5.8%	4 3.9%	3 2.9%	103 100%
Manitoulin	27 9.5%	32 11.3%	42 14.8%	72 25.4%	42 14.8%	30 10.6%	33 11.6%	5 1.8%	1 0.4%	284 100%
Nipissing	39 13.7%	32 11.3%	62 21.8%	70 24.6%	31 10.9%	7 2.5%	29 10.2%	11 3.9%	3 1.1%	284 100%
Rainy River	41 12.6%	22 6.7%	41 12.6%	94 28.8%	55 16.9%	35 10.7%	28 8.6%	10 3.1%	0 0.0%	326 100%
Sudbury	23 13.7%	18 10.7%	35 20.8%	46 27.4%	18 10.7%	9 5.4%	12 7.1%	3 1.8%	4 2.4%	168 100%
Thunder Bay	36 15.1%	29 12.2%	36 15.1%	36 15.1%	27 11.3%	10 4.2%	30 12.6%	20 8.4%	14 5.9%	238 100%
Timiskaming	53 10.0%	37 7.0%	65 12.2%	125 23.5%	90 16.9%	44 8.3%	61 11.5%	41 7.7%	16 3.0%	532 100%
Northern Ontario	356 13.5%	260 9.9%	433 16.4%	637 24.2%	368 14.0%	176 6.7%	246 9.3%	108 4.1%	51 1.9%	2,635 100%

Source: Census of Agriculture, Statistics Canada, 2001.

## 11.0 Summary and Conclusions

Rural Ontario has experienced tremendous change in the past half century. While the rural population has become predominantly non-farm based, the labour structure of the rural economy has undergone a major shift with jobs in the service sector exceeding jobs in agriculture. This trend led some analysts to discount the importance of agriculture and diverted attention to other sectors of the economy.

However, a more detailed analysis of agriculture and its linkages to the wider economy reveals that the agriculture sector continues to play a significant role in the provincial economy. Agriculture at the production level is a 9 billion dollar industry in Ontario and employs over 100,000 people (Statistics Canada, 2001). The size and strength of the industry is tied to the availability of good quality agricultural land (i.e. Class 1, 2 and 3 soils) of which Ontario possesses approximately 16 million acres. Ontario also has the greatest concentration of urban land in Canada and is steadily losing prime growing areas due to urbanization. Between 1971 and 2001 the area of Ontario's Class 1 agricultural land being used for urban purposes increased from about 6% to over 11%.

Despite the decline in farmland area and farm numbers, agricultural production is increasing in Ontario. Through the process of farm consolidation the average farm size in the province over the last 15 years has increased by 18% from 192 acres to 226 acres. At the same time, the agriculture industry in Ontario continues to support a wide variety of farm sizes. In 2001, small farms (e.g. less than 70 acres) made up 26% of all farms while large farms (e.g. over 400 acres) made up 15% of all farms. Many of the small farms are concentrated around urban areas where the operators can take advantage of more direct marketing opportunities. Producers are particularly taking advantage of these opportunities in Southern and Western Ontario where the urban centres are most concentrated. This region of the province represents the agricultural heartland of Ontario accounting for 65% of the total farms and 80% of the total gross farm revenue.

A key feature of the agriculture industry in Ontario is the variety of farm production and operating characteristics. While beef and dairy farms are the major livestock sectors, other sectors including hogs, sheep, poultry and egg are represented to varying degrees in every region of the province. Crops are also produced extensively across Ontario for both human consumption and as inputs to the livestock and poultry industry. Grain and oilseed production is the dominant crop sector but other crop sectors including fruits and vegetables contribute significantly to the provincial economy. Another important component of the agriculture industry in Ontario is the production of specialized commodities including greenhouse flowers and plants, nursery products, sod, maple syrup, Christmas trees, mushroom houses, honey, deer, emu, bison, mink, etc.

As a broad economic sector, agriculture in Ontario is undergoing extensive and rapid change and, correspondingly, the employment and skills characteristics of the agricultural sectors are quickly evolving. For primary production activity, some of the

issues appear to be clearer than others - the rapidly aging workforce and the trend toward increasing mechanization is an example. However, there is significant variability across agricultural sub-sectors with respect to farm operator age. The census reveals that multi-generational farms and larger operations are more likely to have younger operators and younger workers. Younger farm operators are also more likely to be employed in off-farm work and in some cases may be deriving the majority of their personal and/or family income from off-farm employment.

There have been at least twenty agricultural economic impact studies conducted in Ontario since 1998, covering most of the province's counties and northern districts with significant agricultural activity. While the treatment of labour market, skills and training issues has not been entirely consistent across the studies, most have included these components in surveys of and/or focus groups with farm operators. Some of the common elements that emerged from the research are summarized as follows:

- The skills demanded of farm management personnel and labourers tend to be broadening and the diversity of skills needed within a given occupation is increasing.
- Given the low profit margins, and the increasing complexity of modern farm management, farm operators prefer workers with previous farm employment experience. This desire for experienced workers is in conflict with the reality that there is a decline in the number of workers from traditional sources.
- Farm operators require an increasingly sophisticated set of business management skills. These include skills related to financial management/accounting, applied computer skills (e.g., business financial software, production management related software, and information management applications), and human resource management/workforce development skills and knowledge.
- The so-called "soft skills" – abilities and aptitudes that include attitude, work ethic, and interpersonal communication skills, remain high on the list of desired skills among farm operators.

The main focus of the agricultural economic impact studies was to gain a better understanding of agriculture and its contribution to the wider economy. Although considerable economic growth is associated with non-agricultural activities in large urban areas of the province, a substantial portion of Ontario depends on the economic contributions made by agriculture. The research demonstrates that many agri-related businesses in Ontario have substantial linkages to the agricultural sector. Agriculture has strong linkages with a variety of wholesale and retail businesses and it supports and promotes a diverse manufacturing sector and an extensive transportation and warehousing sector. Key services are also provided to the agricultural sector through the construction sector and the finance and insurance sector.

Economic multipliers associated with the agricultural economic impact studies have shown that for every person directly employed by agriculture, between and 1 and 4 jobs are supported in the wider economy through indirect and induced effects. With respect to sales multipliers, the research has shown that for every dollar in direct agricultural

sales (farm gate sales), an additional \$2 to \$3 is generated in indirect sales related to agriculture.

The agricultural economic impact studies have provided regional and local officials with a timely reminder that agriculture continues to be a very important component of the economy. They have demonstrated agriculture's extensive linkages through the other sectors of the economy and provided planners and policymakers with a better understanding of how policy decisions can potentially ripple through the rest of the economy. Decision makers will need to be aware of these impacts as they deal with ongoing and emerging issues including farm viability, land development pressures, environmental regulations, food safety issues, and ongoing trade/border issues.



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## Appendix A: 2001 Census Agricultural Regions and Census Divisions

### Ontario

Map 1 / Carte 1

#### 2001 Census Agricultural Regions and Census Divisions

#### Régions agricoles de recensement et divisions de recensement, 2001

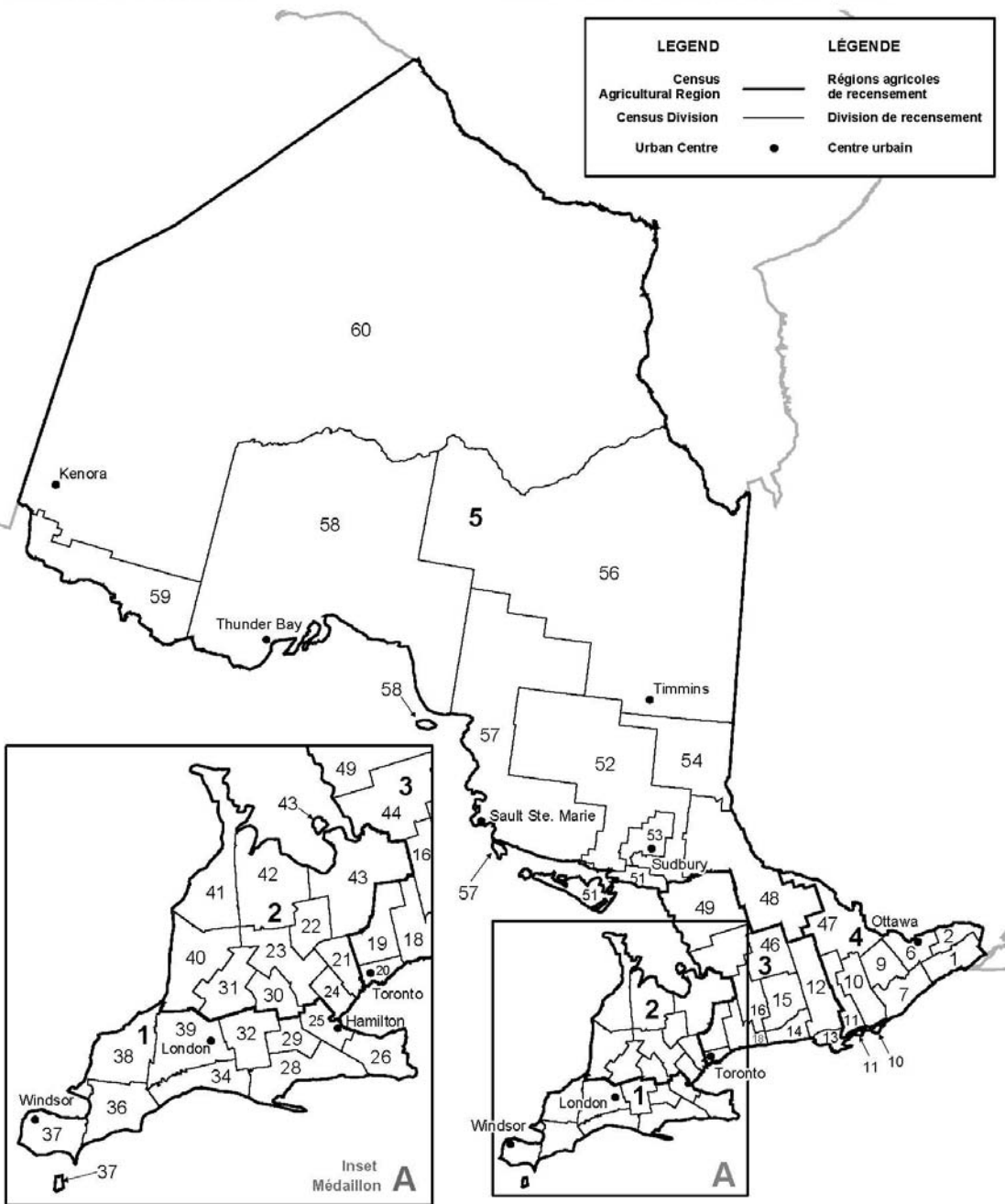
- 1 Southern Ontario Region**  
**Région du Sud de l'Ontario**
  - 25 Hamilton Division
  - 26 Niagara Regional Municipality
  - 28 Haldimand-Norfolk Regional Municipality
  - 29 Brant County
  - 32 Oxford County
  - 34 Elgin County
  - 36 Chatham-Kent Division
  - 37 Essex County
  - 38 Lambton County
  - 39 Middlesex County
- 2 Western Ontario Region**  
**Région de l'Ouest de l'Ontario**
  - 21 Peel Regional Municipality
  - 22 Dufferin County
  - 23 Wellington County
  - 24 Halton Regional Municipality
  - 30 Waterloo Regional Municipality
  - 31 Perth County
  - 40 Huron County
  - 41 Bruce County
  - 42 Grey County
  - 43 Simcoe County
- 3 Central Ontario Region**  
**Région du Centre de l'Ontario**
  - 12 Hastings County
  - 13 Prince Edward Division
  - 14 Northumberland County
  - 15 Peterborough County
  - 16 Kawartha Lakes Division
  - 18 Durham Regional Municipality
  - 19 York Regional Municipality
  - 20 Toronto Division
  - 44 Muskoka District Municipality
  - 46 Haliburton County
  - 49 Parry Sound District
- 4 Eastern Ontario Region**  
**Région de l'Est de l'Ontario**
  - 1 Stormont, Dundas and Glengarry United Counties
  - 2 Prescott and Russell United Counties
  - 6 Ottawa Division
  - 7 Leeds and Grenville United Counties
  - 9 Lanark County
  - 10 Frontenac County
  - 11 Lennox and Addington County
  - 47 Renfrew County
- 5 Northern Ontario Region**  
**Région du Nord de l'Ontario**
  - 48 Nipissing District
  - 51 Manitoulin District
  - 52 Sudbury District
  - 53 Greater Sudbury Division
  - 54 Timiskaming District
  - 56 Cochrane District
  - 57 Algoma District
  - 58 Thunder Bay District
  - 59 Rainy River District
  - 60 Kenora District



**Ontario**  
**2001 Census Agricultural Regions**  
**and Census Divisions**

**Ontario**  
**Régions agricoles de recensement**  
**et Divisions de recensement, 2001**

LEGEND	LÉGENDE
Census Agricultural Region	Régions agricoles de recensement
Census Division	Division de recensement
Urban Centre	Centre urbain



Source: 2001 Census of Agriculture, Agriculture Division, Statistics Canada  
 Map produced by Spatial Analysis and Geomatics Applications (SAGA), Agriculture Division, Statistics Canada, 2002

Source: Recensement de l'agriculture de 2001, Division de l'agriculture, Statistique Canada  
 Carte créée par Analyse spatiale et applications géomatiques (ASAG), Division de l'agriculture, Statistique Canada, 2002