

Economic Impact of Agricultural Exports on Huron County

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*This report represents the opinions of the authors and does not represent the
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Executive Summary

Recent studies have illustrated the importance of agriculture and agriculture related industries to the economy of Huron County. In 1996 the agriculture sector in Huron County generated \$512 million in direct agriculture sales and \$1.5 billion in indirect agriculture sales. Furthermore, research has shown that every job in agriculture in the county supports an estimated four jobs in the wider economy outside agriculture. As well, the earlier research gave strong indications that agriculture and agri-related businesses were deriving a considerable portion of their total sales from exports to points outside the county. These findings prompted the Huron County Federation of Agriculture to probe more deeply into the agriculture export industry to assess the importance of agriculture and agri-related exports to the economy.

The Federation was also interested in demonstrating the importance of maintaining the local infrastructure that supports the agriculture industry. This interest stems from recent actions taken by the Provincial government to download certain costs associated with road maintenance to the municipal level. By illustrating the significance of the agriculture export industry and its reliance on county roads, it is hoped that planners, policy makers and local government officials will be able to make more informed decisions with respect to ensuring that the infrastructure remains sufficient to support the industry in years to come.

The University of Guelph was approached by the Federation to undertake the exploratory research. In the process of identifying the major exporters in the county, the researchers consulted extensively with stakeholders and key informants from Huron County. Forty-one businesses agreed to participate in the study of which 37 were able to provide sales and employment data. The researchers also collected data on the quantity of products exported and the destination of exports outside of the county. In-depth interviews with the 41 business owners/representatives were conducted between October 1998 and January 1999.

Statistics Canada data along with information provided by representatives from various producer boards was utilized in constructing a profile of the agriculture sector in Huron County. The study also utilized "shift share analysis" to reveal how the various industrial sectors in the county performed against their provincial counterparts. Additionally, "location quotients" were

used to identify the level of farm type specialization in Huron County and to provide a comparative analysis with the other leading agriculture regions in Ontario.

In summary, the 37 businesses generated a total of \$475 million in gross annual sales of which \$345 million was from goods exported out of the county. Ninety-five percent (\$452 million) of the total sales were agri-related of which \$330 million were export related. When we factor in the county-wide production for several agriculture commodities (dairy, chickens, eggs, market hogs, apples etc.), the total gross annual sales value amounts to \$706 million of which \$567 million is exported out of the county.

With respect to employment, the 37 businesses support a total of 1,326 full time equivalent jobs of which 1,084 or 82% are directly involved in the export industry. In terms of agri-related employment, the 37 businesses support a total of 1,236 agri-related full-time equivalent jobs of which 1,031 are directly involved in the agri-export industry. Thus, 83% of the agri-related jobs are directly supported by the agri-export industry.

The research also indicates that there are a considerable number of jobs in the manufacturing sector that are directly related to the agri-export industry. The 16 manufacturing businesses support a total 976 full-time equivalent jobs of which 886 (90%) are agri-related. Eighty-one percent (722) of the agri-related jobs in manufacturing are directly supported by the agri-export industry. This clearly points to the importance of agriculture as an industry that generates employment opportunities across a number of industrial sectors.

Close to 75% of the total goods produced and/or handled by the 37 businesses was exported out of the county. A total of \$96.3 million in sales went directly to international markets while \$235.6 million in sales went to other regions of the province. Interestingly, only \$14.1 million or 3% of total annual sales were related to exports to other provinces in Canada.

An estimated 1.45 million tonnes of agriculture and agriculture related goods flow through the county annually of which 1.07 million tonnes are exported out of the county. The vast majority of goods are transported out of the county by truck. The agriculture industry is also well served by the elevator facilities at the Port of Goderich which presently have a storage capacity of 5,000,000 bushels.

In terms of farm gate sales, Huron County is the leading agriculture region in the province. In 1996, the county generated \$60 million more in sales than the next leading region. Compared to the other leading agriculture regions in the province, Huron County has the highest proportion

of its total work force (17%) in agriculture. Remarkably, the county experienced a gain in agriculture employment during a period when the province experienced a loss of over 8,000 jobs in agriculture (1991 - 1996). Indeed, during the period in which the performance of the provincial economy was having a negative effect on employment in general, the agriculture sector in Huron County acted as a positive force in creating jobs and limiting the impact of job losses in the region. The increase in agriculture employment is also significant in that it reverses a 50 year decline in agriculture employment.

The findings in this study also show that the manufacturing sector in Huron County has grown in recent years to share top place with agriculture as the major employer in the county. The research indicates that the manufacturing sector in Huron County has strong linkages with agriculture and further research on this matter would help to clarify to what extent the surge in manufacturing is tied to agriculture.

Agriculture continues to be a driving force in the local economy. The agriculture export industry is substantial in Huron County both in terms of primary production and agri-related manufacturing. Furthermore, it has been shown that the agriculture sector in Huron County has the capacity to help insulate the local economy from the effects of broader downturns in the provincial economy. In the process of reviewing, developing and enacting regulations and policies, planners and policymakers must take greater account of how these decisions will impact the agriculture sector and how and where the ripple effects will be experienced across the county.

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Thank you very much.
 Sincerely,

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1.0 Introduction

This research report documents the size and importance of the agricultural export industry in Huron County.

The researchers conducted in-depth interviews with over 40 major exporters who base their operations out of Huron County. The business operations represent a wide range of activities including farm production, equipment manufacturing, livestock feed processing, food processing, and material handling and storage. In addition to calculating the gross value of agricultural goods being exported from the county, the report documents the number and type of jobs that are associated with the agricultural export industry. The report also documents the quantity of goods being exported and where the goods are being exported beyond the borders of the county.

As an introduction to the research, Statistics Canada data is utilized in presenting a profile of the agriculture sector in Huron County. Additionally, census data is used to situate the county in the provincial context and to draw comparisons between Huron County and the other leading agricultural regions in the province.

1.1 Background to the Research Report

In 1996, the Huron County Federation of Agriculture initiated a study to determine the economic impact of agriculture in the region. The organization decided to investigate the full impact of agriculture out of concern that the industry was being viewed as a fading industry. The findings of the study revealed that agriculture generated \$512 million in direct agriculture sales and \$1.5 billion in indirect agriculture sales in Huron County (Cummings et al., 1996). The research also indicated that every direct job in agriculture supported

approximately 4 jobs in the wider economy outside agriculture.

With respect to export related activity, the research suggested that the agricultural sector was generating substantial sales revenue from the export market. This prompted the Huron County Federation of Agriculture to conduct a more detailed analysis of the agriculture export industry which is the subject of this report.

The research has important policy and planning implications especially in light of the ongoing provincial restructuring process and the downloading of additional financial responsibilities to the municipal level. One outcome of the restructuring process has been the transfer of responsibility for the maintenance of certain roads that were once the responsibility of the provincial government. This adjustment along with other provincial restructuring initiatives has forced many municipal governments in Ontario to re-evaluate how their budget dollars are allocated. By highlighting the significance of agriculture and the associated export industry, it is hoped that planners, policy makers and local government officials will be able to make more informed decisions with respect to ensuring that the infrastructure remains sufficient to support this important component of the economy.

2.0 Methodology

The study examines the direct economic impact of the agriculture export industry by focussing on employment and gross annual sales data. A quantitative assessment was utilized in measuring the size and importance of the agriculture export industry. The questionnaire was designed to collect information on a number of variables including the type of production or activity, gross annual sales, number and type of jobs, quantity of products exported, and destination of exports. The questionnaire was pre-tested on several agri-businesses in Wellington County. A copy of the questionnaire is presented in Appendix 1.

An initial sample frame of 80 major agriculture exporters was compiled with the assistance of the Huron County Federation of Agriculture, the Ontario Federation of Agriculture, and the Huron County Business Resource Centre. Forty-one businesses

agreed to participate in the study.

With the exception of three interviews that were conducted over the phone, the researchers conducted interviews on-site at the location of the business. The on-site approach was beneficial in allowing the researcher to gain a clearer picture of the scale of the operation. The face to face interview provided the researchers with an opportunity to establish a stronger rapport with the participants. In the event that additional information was required at a later date, the face to face approach enabled the participant to more easily identify with the researcher and the body of research.

The agri-business interviews were conducted between October 1998 and January 1999. Representatives of various provincial producer/grower boards were also interviewed in order to develop a more comprehensive analysis of the agriculture export industry. Statistics Canada data was utilized extensively in producing a profile of the agricultural sector in Huron County.

3.0 Huron County Profile

3.1 *The Regional Economy*

In 1996 the population of Huron County reached 60,220 which is an increase in population of approximately one thousand inhabitants over the 1991 figure.¹ This represents an annual growth rate of 0.4%, less than one-third of the provincial average. Close to 52% of the total workforce in 1996 was employed in three general industry sectors: agriculture, manufacturing and the combined sectors of government, health and education services.

In 1991, the agriculture sector had the greatest single industry share of the total workforce at 16.5% while manufacturing accounted for 15.9% of the workforce. By 1996, the manufacturing sector had risen to share top spot with agriculture. Each sector accounted for 16.9% of the total workforce. Although the manufacturing sector generated

¹ Statistics Canada, 1996.

more jobs between the two time periods, the increase in agriculture jobs is highly significant in that it reversed a 50 year trend of employment erosion in the agriculture sector.

When government, health and education services are combined for 1996, they account for 18.1% of the total workforce. In 1991, the combination of these three sectors accounted for 19.9% of the total workforce. The loss of employment share in this area of the economy came as a result of substantial job losses in the government sector.

Overall, Huron County experienced a loss of 255 jobs between 1991 to 1996.

Table 1 and Chart 1 provide additional details.

Table 1 Employment Changes for Huron County 1991 to 1996.

Sector		Huron County					
		1991		1996		Change	
		Number of Jobs	Percent of Total	Number of Jobs	Percent of Total	Number of Jobs	Percent Change
A	Agriculture and related services	4970	16.5%	5025	16.9%	55	1.11
B	Fishing and Trapping	25	0.1%	15	0.1%	-10	-40.00
C	Logging and Forestry	75	0.2%	25	0.1%	-50	-66.67
D	Mining	425	1.4%	215	0.7%	-210	-49.41
E	Manufacturing	4790	15.9%	5035	16.9%	245	5.11
F	Construction	2305	7.7%	2040	6.8%	-265	-11.50
G	Transportation and Storage	905	3.0%	1055	3.5%	150	16.57
H	Communication / Other Utilities	710	2.4%	485	1.6%	-225	-31.69
I	Wholesale Trade	1335	4.4%	1535	5.1%	200	14.98
J	Retail Trade	3505	11.7%	3720	12.5%	215	6.13
K	Finance and Insurance	705	2.3%	705	2.4%	0	0.00
L	Real Estate	310	1.0%	430	1.4%	120	38.71
M	Government	1620	5.4%	940	3.2%	-680	-41.98
N	Educational	1475	4.9%	1480	5.0%	5	0.34
O	Health and Social Services	2890	9.6%	2955	9.9%	65	2.25
P	Accommodation, Food & Beverage	1750	5.8%	1805	6.1%	55	3.14
Q	Other Services	1515	5.0%	1670	5.6%	155	10.23
R	Business Services	765	2.5%	685	2.3%	-80	-10.46
TOTAL		30075	100.0%	29820	100.0%	-255	-0.85

(Source: Statistics Canada, 1991, 1996)

The coding used for the sectors in Table 1 (A = Agriculture and related services, B = Fishing and trapping, C = Logging and forestry etc.) correspond with the Industry and

Sector codes used in Chart 1.

Map 1 Huron County

Source:
www.huroncap.org/hurlib/

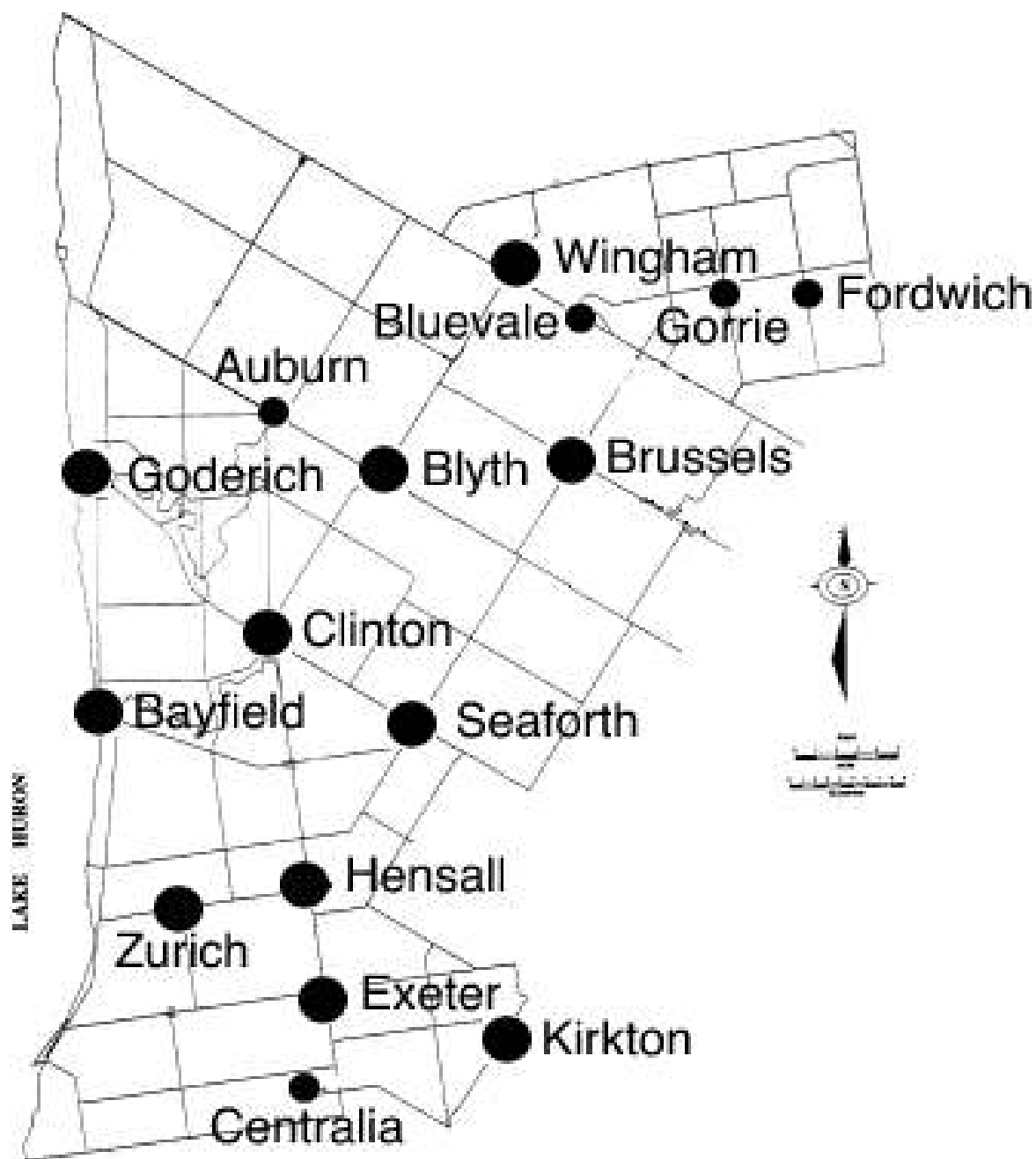
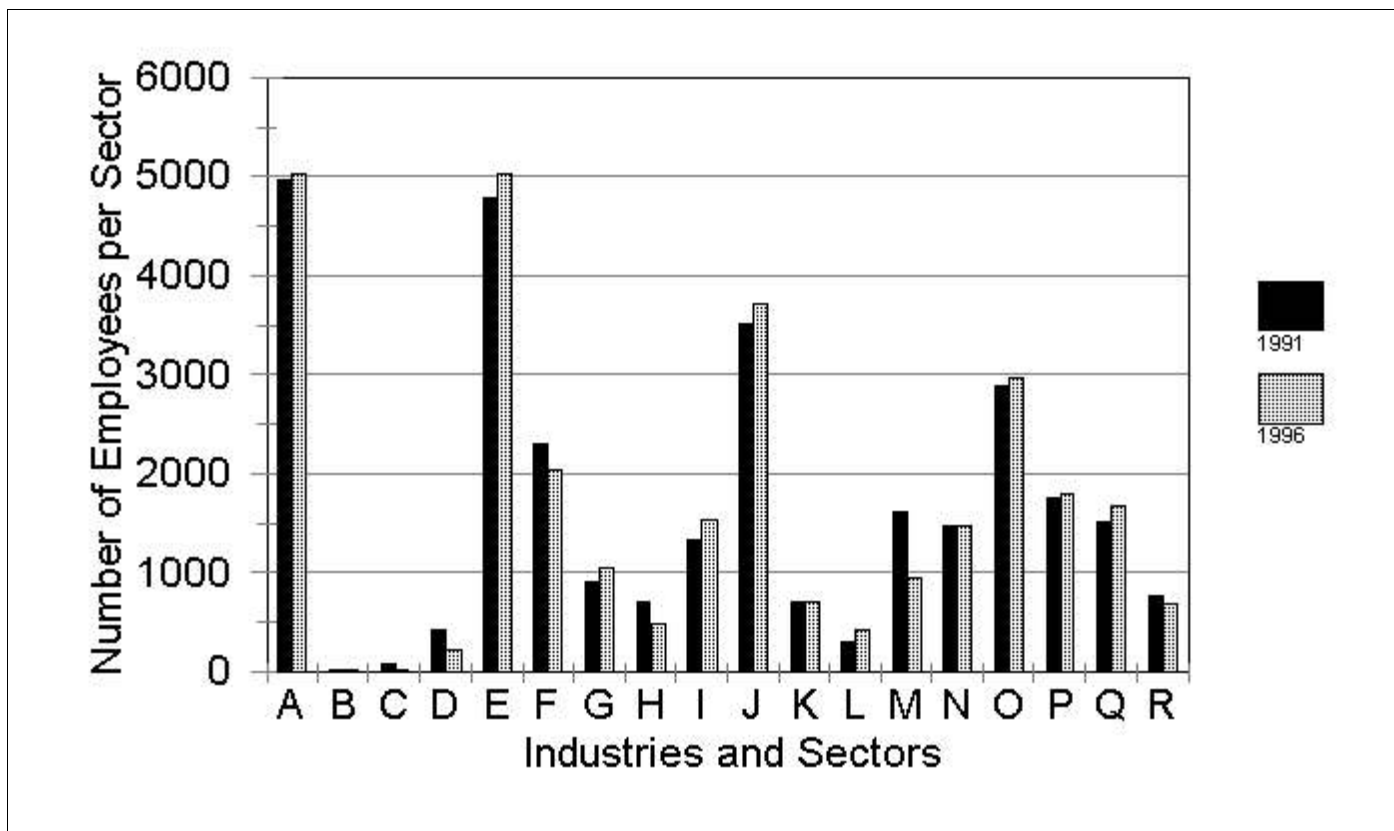


Chart 1 Employment by Industrial Sector² for Huron County, 1991 & 1996.



(Source: Statistics Canada 1991 and 1996.)

3.1.1 Comparison of the County Economy to the Provincial Economy: Shift Share Analysis

Shift share analysis provides a means for determining which sectors of the regional economy are performing well or poorly relative to the rest of the province.

The analysis attempts to account for the change in employment in a particular sector by examining the extent to which the change was brought about by the provincial growth effect (N), the industry-mix effect (M) and the regional share effect (S). The total change in employment (R) in the sector is computed using the following formula:

² The corresponding codes for each sector are presented in Table 1.

$$R = N + M + S$$

The provincial growth effect (N) is a measure of the influence of the provincial economy on the regional economy. The value for N is calculated by multiplying the total change in provincial employment between 1991 and 1996 by the amount of local employment in a particular sector in Huron County in the base year. As indicated in Table 2, the provincial change in employment between 1991 and 1996 was -0.63%. If we multiply this value by the amount of employment in the agricultural sector in Huron County in the base year (4970), we get a value of -31. This number suggests that we can attribute a loss of 31 jobs in the agriculture sector as a result of the performance of the provincial economy.

The industry-mix effect (M) is calculated by subtracting the rate of growth for a particular industrial sector at the provincial level from the total change in provincial employment between 1991 and 1996 and multiplying this figure by the amount of employment in the sector at the local level in the base year. Again, referring to Table 2 and using agriculture as an example, the equation can be visualized as follows:

$$M = ((-6.31) - (-0.63)) \times 4970$$

The calculation produces a figure of - 282 which suggests that we could expect there to be a loss of 282 jobs in the agriculture sector as a result of the industry mix effect.

The value for R , the change in local employment in the agriculture sector, amounts to 55 as there was an increase in the number of jobs from 4970 in 1991 to 5025 in 1996. Placing the above figures into the shift share equation, we generate the following equation:

$$55 = (-31) + (-282) + S$$

When we solve for S , we get a value of 368 which represents the number of agricultural jobs that are generated from economic conditions that are unique to Huron County. The shift share analysis informs us that the agriculture sector in Huron County is specialized. Between 1991 and 1996 the agriculture sector gained 368 more jobs than would have been expected had the regional economy performed at the same level of the province. Furthermore, the strength of the sector was such that it countered both a

negative provincial growth effect and a negative industry-mix effect. The analysis also indicates that there were jobs gained in both the manufacturing sector (349) and construction sector (175) that countered a negative provincial growth effect and a negative industry-mix effect. The ability of these two sectors to counter negative provincial forces may be associated with their linkages to the agricultural sector. Further research is needed to clarify the nature of the relationship that these sectors have with agriculture.

The shift share analysis also reveals that the retail trade sector gained 406 more jobs than would have been expected had the regional economy performed at the same level of the province. Again, this appears to be a significant development considering that both the provincial effect and industry mix effect were negative. Additional research could be conducted to determine why this development occurred and where the retail activity was directed.

With respect to services in the county, government, education, and health and social services all experienced a lower share of employment than would have been expected had the regional economy performed at the same level of the province. Given the strong performance of the agricultural and manufacturing sector and the tax revenues generated by these sectors, local authorities should be questioning why the region has not received its share of government jobs.

The county also appeared to have a shortfall of jobs in the business services sector and the accommodation, food and beverage sector relative to the provincial level. The lack of business services represents a potential area for business development in the region.

The shift share analysis indicates that the agricultural sector has been a positive force in the Huron County economy. Additionally, the ability of other industry sectors such as manufacturing and construction to counter negative provincial influences, may be associated with their linkages to the agricultural sector. Indeed, latter aspects of this paper will illustrate the significant links that some manufacturers have with the agricultural sector.

Table 2 Shift Share Analysis, Huron County vs Ontario, 1991 - 1996.

Sector	Huron		Ontario		Huron Change		Ontario Change		Provincial Growth Effect	Industrial Mix Effect	Regional Share
	1991	1996	1991	1996	Number of jobs	% increase	Number of jobs	% increase			
	Jobs		Jobs								
Agriculture and related	4970	5025	139880	131060	55	1.11%	-8820	-6.31%	-31	-282	368
Fishing and Trapping	25	15	1965	1915	-10	-40.00%	-50	-2.54%	-0	-0	-9
Logging and Forestry	75	25	13965	11405	-50	-66.67%	-2560	-18.33%	-0	-13	-36
Mining	425	215	34355	26050	-210	-49.41%	-8305	-24.17%	-3	-100	-107
Manufacturing	4790	5035	942995	922565	245	5.11%	-20430	-2.17%	-30	-73	349
Construction	2305	2040	358890	290430	-265	-11.50%	-68460	-19.08%	-15	-425	175
Transportation and Storage	905	1055	187830	198555	150	16.57%	10725	5.71%	-6	57	98
Comm/Other Utilities	710	485	188630	173040	-225	-31.69%	-15590	-8.26%	-4	-54	-166
Wholesale Trade	1335	1535	233915	278220	200	14.98%	44305	18.94%	-8	261	-53
Retail Trade	3505	3720	700925	662815	215	6.13%	-38110	-5.44%	-22	-168	406
Finance and Insurance	705	705	253135	228880	0	0.00%	-24255	-9.58%	-4	-63	68
Real Estate	310	430	100090	111890	120	38.71%	11800	11.79%	-2	39	83
Government	1620	940	411450	304640	-680	-41.98%	-106810	-25.96%	-10	-410	-259
Educational	1475	1480	365235	369320	5	0.34%	4085	1.12%	-9	26	-11
Health and Soc Services	2890	2955	457115	513615	65	2.25%	56500	12.36%	-18	376	-292
Accommo, Food , Bev	1750	1805	322955	350945	55	3.14%	27990	8.67%	-11	163	-97
Other Services	1515	1670	367200	414980	155	10.23%	47780	13.01%	-10	207	-42
Business Services	765	685	355310	411070	-80	-10.46%	55760	15.69%	-5	125	-200
Total	30075	29820	5435840	5401395	-255	-0.85%	-34445	-0.63%			273

(Source: Statistics Canada, 1991 and 1996)

3.2 Agriculture Sector Profile

The 1996 census indicates that Huron County has the largest value of annual farm gate sales relative to other counties in Ontario. Huron County generated approximately \$60 million more in farm gate sales than the next leading county. Table 3 provides a comparison of farm gate receipts for the leading agriculture producing counties in Ontario.

Table 3 Counties with Highest Annual Farm Gate Sales in Ontario with Percent Change, 1991 & 1996.

County/Regional Municipality	1991 (\$ millions)	1996 (\$ millions)	% Change
Huron	436.9	511.9	17.0
Haldimand-Norfolk Regional Municipality	378.3	453.1	19.8
Middlesex	417.3	450.2	7.9
Kent	295.0	444.4	51.0
Perth	366.2	430.2	17.0
Oxford	341.5	418.6	22.6
Niagara Regional Municipality	318.9	408.3	28.0
Wellington	320.1	373.1	16.5
Essex	218.5	315.7	44.5
Lambton	258.0	301.4	16.9
Waterloo Regional Municipality	257.8	301.4	17.0
Total	3,608.5	4,408.3	18.1

(Source: Statistics Canada, Catalogue No. 95-356, Table 28.1, pp. 229-230; Catalogue No. 95-177-XPB, Table 28.1, pp. 184-185)

The \$512 million worth of farm gate sales produced in Huron County represents 6.6 percent of the total farm gate sales for the province. As indicated in Table 4, this figure has remained fairly consistent since 1991.

Table 4 Farm Gate Sales for Huron County and Ontario, 1991 and 1996.

	Farm Gate Sales (\$millions)	
	1991	1996
Huron County	436.9	511.9
Ontario	6,671.4	7,778.5
Huron County Sales as % of provincial total	6.5	6.6

(Source: Statistics Canada, Catalogues No. 95-356 and 93-356-XPB)

Although Huron County maintained the highest number of census farms in the province between 1991 and 1996, the number of farms actually declined from 3,260 to 3,150. However, the amount of land under cultivation in Huron County increased between 1991 and 1996. In 1991, the amount of land under cultivation in Huron County accounted for 5.6% of the total land area under cultivation in the province. In 1996, the amount of land under cultivation in Huron County represented 6.2% of the provincial total.

Table 5 Land Area Under Cultivation, Huron County and Ontario, 1991 & 1996.

	1991 (acres)	1996 (acres)
Huron County	641,977	696,714
Ontario	11,126,196	11,310,677
Huron County/Ontario %	5.6	6.2

(Source: Statistics Canada, Catalogue No. 95-356, Table 9.1 & 9.2, pp. 116-121; Catalogue No. 95-177-XPB, Table 10.1 & 10.2, pp. 90-93)

Farmland is predominantly used for crop production in Huron County. In 1996 there were approximately 557 thousand acres of land under crop production. This is an increase of almost 23,000 acres since the 1991 census. During the same period there was a substantial decline in summer fallow use and a decline in unimproved pasture use. The census data suggests that Huron County is intensifying its use of arable land. Table 6 and Table 7 provide a comparison of Huron County land use and Ontario land use. The

province experienced an increase in land use for crop production and a decrease in summer fallow use which was similar to the Huron County experience. However, the province experienced a decline in improved pasture and an increase in unimproved pasture.

Table 6 Land Area Classified by Use, Huron County & Ontario, 1991
(in acres).

	Under Crops	Summer Fallow	Improved Pasture	Unimproved Pasture	Other ³	Total
Huron County	557,448	2,352	34,422	27,656	89,647	711,525
Ontario	8,430,414	157,301	964,235	1,574,246	2,344,457	13,470,653
Huron County / Ontario (%)	6.6	1.5	3.6	1.8	3.5	5.28

(Source: Statistics Canada, Catalogue No.95-356, Table 9.1 and 9.2, pp.116-121)

Table 7 Land Area Classified by Use, Huron County & Ontario, 1996
(in acres).

	Under Crops	Summer Fallow	Improved Pasture	Unimproved Pasture	Other ³	Total
Huron County	580,317	288	35,205	26,167	91,947	733,924
Ontario	8,759,707	48,492	860,786	1,641,692	2,568,888	13,879,526
Huron County / Ontario (%)	6.6	0.6	4.1	1.6	3.6	5.29

(Source: Statistics Canada, Catalogue No. 95-177 XPB, Table 10.1 and 10.2, pp. 90-93)

Agriculture production in Huron County is made up of a variety of farming enterprises. In 1996, fifty percent of farming enterprises in Huron County were primarily involved in livestock and poultry production while 35 percent of farming enterprises were primarily involved in field crop production. In 1991 sixty percent of farming enterprises were primarily involved in livestock and poultry production and 30 percent were in field

³ Included are all non-farm uses.

³ Included are all non-farm uses.

crop production. The decline in livestock operations in Huron County is consistent with the general decline of livestock operations across the province during the same period.

Poultry farms were the only type of livestock operation to experience an increase in farm numbers between 1991 and 1996 at both the county and the provincial level.

In comparison to the provincial profile, Huron County has a greater proportion of field crop, pig, poultry, and beef operations and a smaller proportion of dairy, fruit and vegetable, and specialty operations. These differences remained constant between 1991 and 1996 with the exception of the number of beef operations. The decline in beef operations between 1991 and 1996 was more substantial across the province than it was for the county. Whereas Huron County had proportionally fewer beef operations in 1991, the proportion of beef operations increased above the provincial figure in 1996. Additional details on the number and type of farming operations in Huron County and Ontario for 1991 and 1996 are provided in Table 8 & 9 and Charts 2 & 3.⁴

Table 8 *Huron County Farms* Classified by Major Product, 1991 & 1996.

Commodity	1991		1996	
	No. of Farms	% of total	No. of Farms	% of total
Field crops	934	29.8	1,057	34.9
Dairy	432	13.8	328	10.8
Beef	791	25.2	728	24.1
Pigs	490	15.6	296	9.8
Poultry	152	4.8	167	5.5
Fruit and Vegetable	44	1.4	41	1.3
Miscellaneous specialty & Combinations	291	9.3	408	13.5
TOTAL	3,134	100	3,025	100

(Source: Statistics Canada, Catalogue No. 95-356, Table 29.1 and 29.2, pp.231-234 ;

⁴ Farms with sales greater than \$2,500. This classification was used in Table 8 & 9 to omit small hobby farms that might have skewed the results.

Catalogue No. 93-356-XPB, Table 29.1 and 29.2, pp.16-189)

Table 9 *Ontario Farms* Classified by Major Product, 1991 & 1996.

Commodity	1991		1996	
	No. of Farms	% of total	No. of Farms	% of total
Field crops	15,497	25.2	17,681	29.6
Dairy	9,757	15.9	8,320	13.9
Beef	16,855	27.4	14,172	23.7
Pigs	3,827	6.2	2,677	4.5
Poultry	1,583	2.6	1,686	2.8
Fruit and Vegetable	3,746	6.1	3,444	5.8
Miscellaneous specialty & Combinations	10,167	16.6	11,907	19.9
TOTAL	61,432	100	59,887	100

(Source: Statistics Canada, Catalogue No. 95-356, Table 29.1 and 29.2, pp.231-234 ; Catalogue No. 93-356-XPB, Table 29.1 and 29.2, pp.16-189)

Chart 2 *Huron County Farms* Classified by Major Product, 1996.

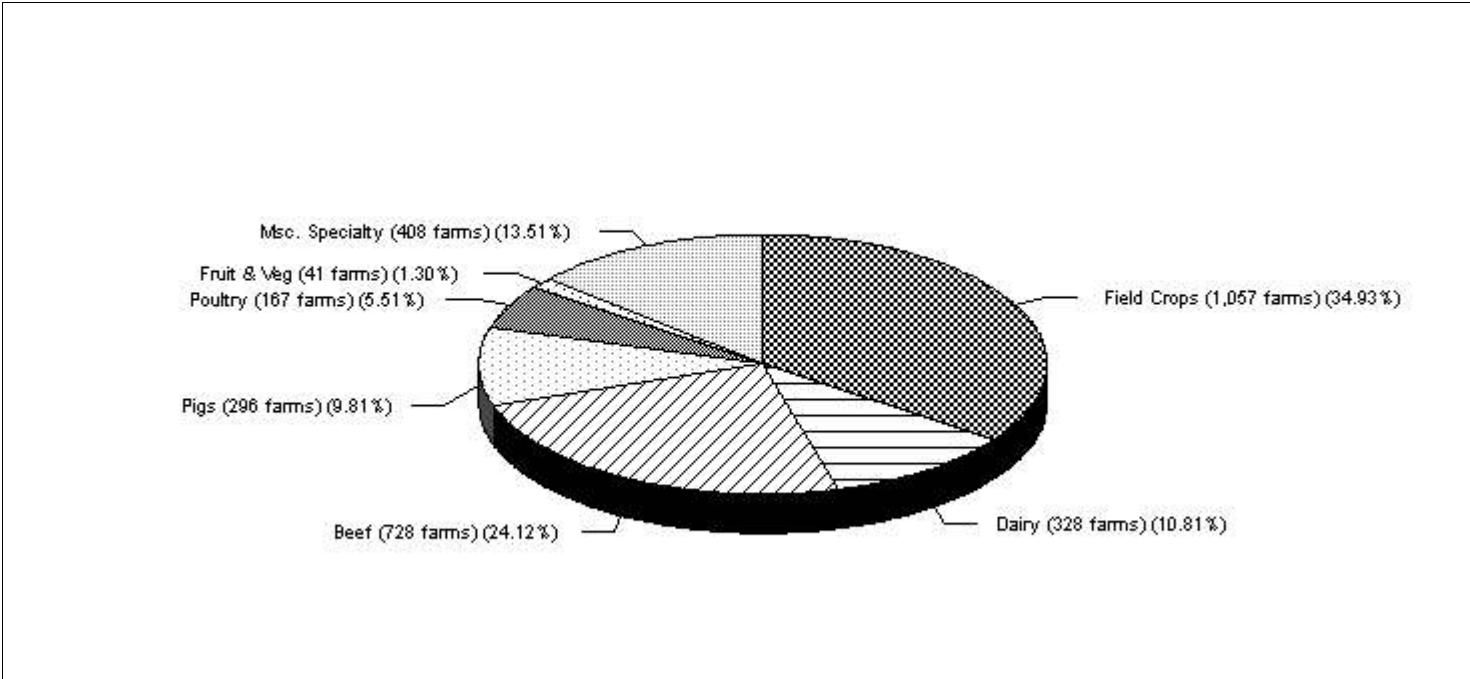
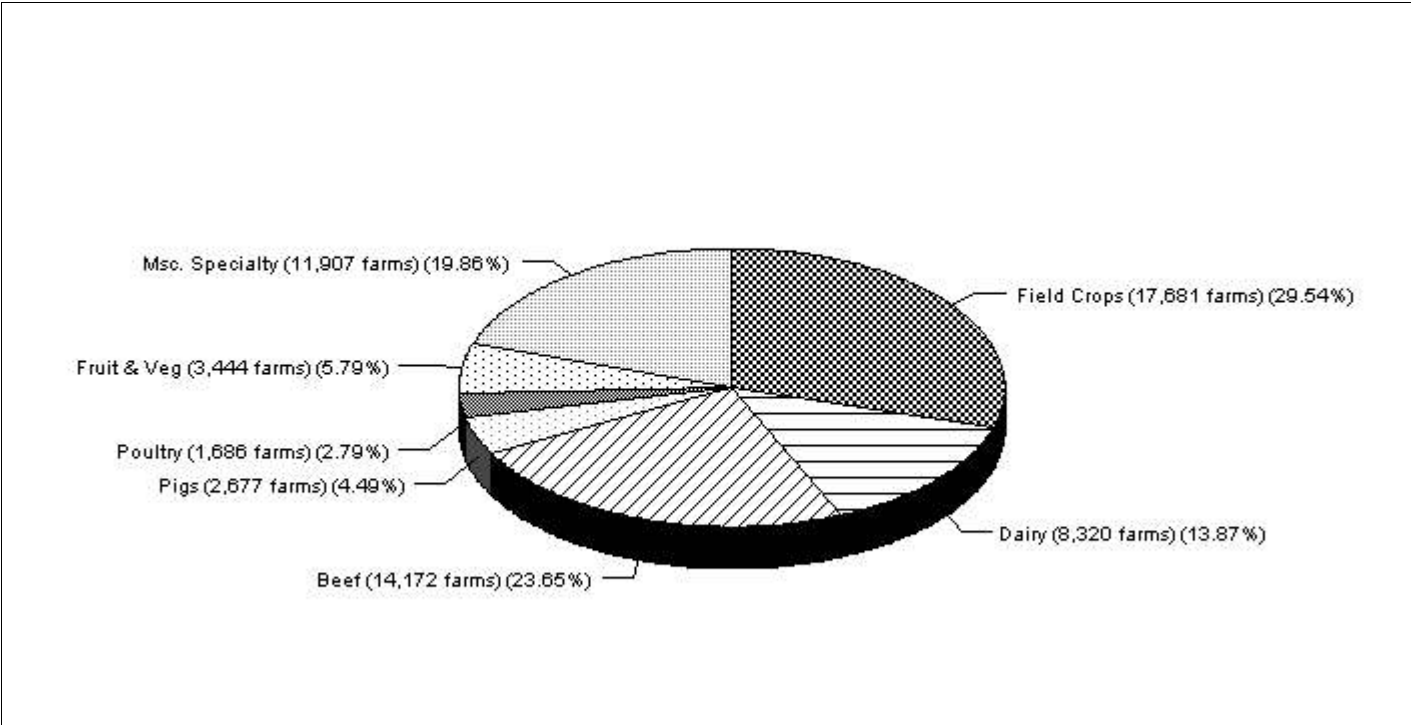


Chart 3 *Ontario Farms* Classified by Major Product, 1996.



The significance of agriculture production in Huron County is clearly illustrated when the annual farm gate sales for Huron County are compared to the annual farm gate sales of the ten provinces. Huron County ranks seventh behind British Columbia and ahead of the four Maritime provinces. As indicated in Table 10 and Chart 4, Huron County held this rank in 1991 and 1996.

Table 10 Farm Cash Receipts from Farming Operations:
Huron County Compared to Provinces 1991 and 1996.

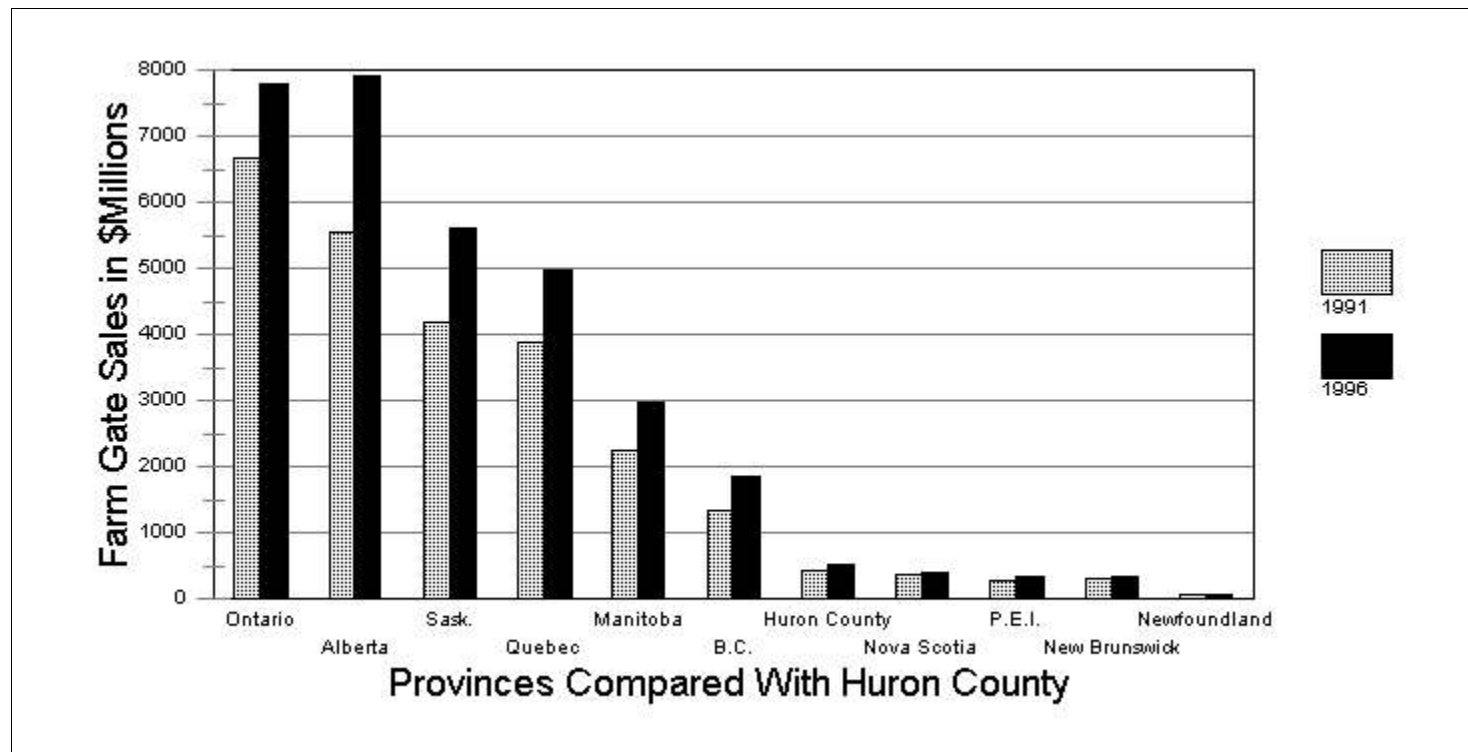
Geographic Identification	1991		1996	
	Total number of farms	Total gross farm receipts (\$millions)	Total number of farms	Total gross farm receipts (\$millions)
Ontario	68,633	6,671.4	67,520	7,778.5
Alberta	57,245	5,541.9	59,007	7,911.1
Saskatchewan	60,840	4,174.1	56,995	5,623.8
Quebec	38,076	3,889.6	35,991	4,972.5
Manitoba	25,706	2,238.5	24,383	2,970.0
British Columbia	19,225	1,321.2	21,835	1,839.2
Huron County	3,260	436.9	3,150	511.9
Nova Scotia	3,980	354.1	4,453	384.3

Prince Edward Island	2,361	270.0	2,217	349.2
New Brunswick	3,252	301.0	3,405	325.7
Newfoundland	725	67.9	742	75.8

(Source: Statistics Canada, Catalogue No. 95-356, Table 28.1, p.97, p. 229 ;
Catalogue No. 93-356-XPB, Table 28.1, p.92, p.185)

Chart 4 Farm Cash Receipts from Farming Operations:
Huron County Compared to Provinces 1991 and 1996.

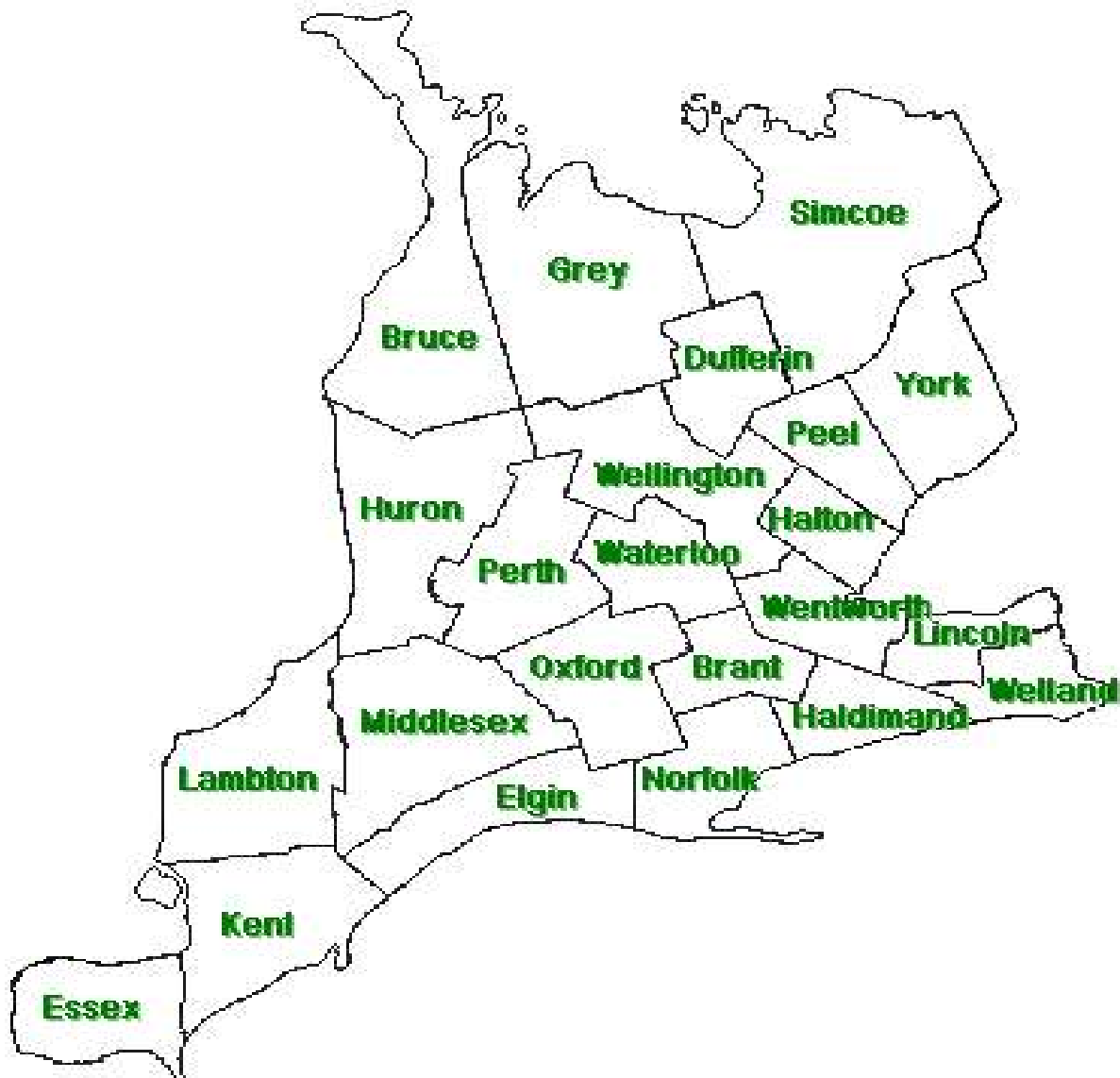
3.3 The Leading Agricultural Regions in Ontario



All of the leading counties in terms of annual farm gate sales are located in south western Ontario (Map 2, Table 11). In 1991, seven counties in south western Ontario had farm gate sales in excess of \$300 million. In 1996, eleven counties in south western Ontario surpassed the \$300 million mark and one county, Huron County, surpassed half a billion dollars in annual farm gate sales. The combined farm gate sales for the eleven leading counties amounted to \$4.4 billion dollars in 1996. This represents approximately 57 percent of the total farm gate sales for the province.

Map 2 South Western Ontario showing Counties and Regional Municipalities. *

* Lincoln County and Welland County are now represented by Niagara Regional Municipality. Haldimand County and Norfolk County are now represented by Haldimand-Norfolk Regional Municipality.



(Source: Web page - www.rootsweb.com/~canon/locator/sw_ont.html)

A quick indication of how the regions vary in their agricultural makeup is revealed by calculating the amount of farm gate sales on a per acre basis. In some instances, regions with relatively small amounts of acreage in production are producing a higher level of revenue on a per acre basis than counties with large amounts of land in production. The significant difference between regions can be partly explained by the variation in soil and climatic conditions that allow some regions to practice more intense farming practices and/or produce more specialty products (livestock vs. cash crop; tobacco, tender fruit etc.). Table 11 provides a breakdown of the acreage in production for each of the leading counties and the amount of farm gate sales generated on a per acre basis.

Table 11 Annual Farm Gate Sales per Acre of Land Under Cultivation for Selected Counties and Regional Municipalities, 1991 and 1996.

County / Regional Municipality	1991			1996		
	Annual farm gate sales (\$ millions)	Acres under cultivation	Farm gate sales / acre (\$)	Annual farm gate sales (\$ millions)	Acres under cultivation	Farm gate sales / acre (\$)
Huron	436.9	621878	702	511.9	641977	797
Haldimand-Norfolk Reg. Municipality	378.3	407364	929	453.1	432989	1046
Middlesex	417.3	555027	752	450.2	572470	786
Kent	295.0	537809	548	444.4	547175	812
Perth	366.2	446674	820	430.2	464557	926
Oxford	341.5	372119	918	418.6	389144	1076
Niagara Regional Municipality	318.9	181733	1755	408.3	185315	2203
Wellington	320.1	408180	784	373.1	417042	895
Essex	218.5	314052	696	315.7	332727	949
Lambton	258.0	510543	505	301.4	529310	569
Waterloo Regional Municipality	257.8	198050	1302	301.4	205283	1468

(Source: Statistics Canada, 1991 & 1996)

As illustrated in Table 11, some counties are involved in more intensive farming activities than others. Niagara Regional Municipality which has significantly less land under production than Huron County, generated more than twice the amount of revenue on a per acre basis in 1991 and 1996. There are also differences between counties that have equivalent areas of land under cultivation. Haldimand-Norfolk Regional Municipality and Wellington County had roughly the same amount of land under cultivation in 1991. However, Haldimand-Norfolk generated an additional \$145 million in farm gate sales. The differences in both cases are largely related to the varying types of farming and commodity specialization that occur in each region. In the Niagara region the agriculture sector is characterized by a highly intensified fruit industry. In the Haldimand-Norfolk region, tobacco farming is a specialized industry which generates a substantial amount of revenue. In 1995 Haldimand-Norfolk had 38,000 acres in tobacco which generated \$187.3 million in farm gate sales or \$4,931 per acre of land in tobacco production (1995 Agricultural Statistics for Ontario, p.69).

The agriculture sector in Huron County supports relatively fewer jobs on a per acre basis than some of the other leading counties. Using 1996 figures for Huron County, one unit of labour was required to farm 128 acres of cultivated land. In contrast, one unit of labour was required to farm 25 acres of cultivated land in the Niagara region. The type of farming occurring in Niagara Regional Municipality features fruit production which is more labour intensive than the type of field crop production (corn, soybeans, wheat etc.) in Huron County. The type of farming occurring in Huron County lends itself better to mechanization.

Interestingly, when we compare Huron County to a region that shares a similar farm-type profile such as Perth County, we find that one unit of labour in Perth was required to farm 86 acres of cultivated land. One possible explanation for the difference is that Huron County may have a greater number of large scale cash crop operations which likely have a lower labour requirement. Additional details are provided in Table 12.

Table 12 Number of Cultivated Acres per Job in the Agriculture Sector for Selected Counties and Regional Municipalities, 1991 and 1996.

County/Regional Municipality	1991			1996		
	# of jobs in Agri.	Acres under cultivation	# of acres per job	# of jobs in Agri.	Acres under cultivation	# of acres per job
Huron	4970	621878	125	5025	641977	128
Haldimand-Norfolk Reg. Municipality	8010	407364	51	7725	432989	56
Middlesex	6875	555027	81	6370	572470	90
Kent	5800	537809	93	4860	547175	113
Perth	5190	446674	86	4935	464557	94
Oxford	6035	372119	62	5945	389144	65
Niagara Regional Municipality	7430	181733	24	7380	185315	25
Wellington	5855	408180	70	5390	417042	77
Essex	5145	314052	61	5735	332727	58
Lambton	4065	510543	126	3209	529310	165
Waterloo Regional Municipality	4735	198050	42	4325	205283	47

(Source: Statistics Canada, 1991 and 1996)

3.3.1 Employment in the Agriculture Sector

Annual farm gate sales and farm gate sales per acre, are simple indicators that can be used to begin to describe the agricultural sector but a more comprehensive analysis is needed to accurately gauge the importance of the agricultural sector in the regional economy.

One method of measuring the significance of the agriculture sector is to calculate the percentage of the total workforce that derives its livelihood from the agriculture sector. These figures have been calculated for the eleven leading agriculture regions in Ontario (in terms of farm gate sales) and are presented in Table 13. As well, the percentage of the workforce in the manufacturing and retail sectors have also been calculated (these two sectors represent the leading employment sectors in the province).

As illustrated in Table 13, the manufacturing sector has the greatest share of employment in each of the leading regions except for Huron County. In most of the regions, the share of jobs held by the manufacturing sector is considerably greater than the share of jobs held in the agriculture sector. Interestingly, the two regions which have the

highest annual farm gate sales on a per acre basis, Niagara Region and Waterloo Region, have a low proportion of their total work force in the agriculture sector, 3.8% and 2.0% respectively. In Waterloo Region, the proportion of workers involved in agricultural production is less than the provincial average of 2.4 percent.

Several counties in south-western Ontario have a substantial percentage of their workforce in agriculture. In Perth and Oxford County, at least 12 percent of the total work force is active in the agriculture sector while in Huron County and Haldimand-Norfolk Region, more than 15 percent of the total workforce is active in the agriculture sector. Of the eleven leading regions, Huron County has the highest proportion of workers (17%) in the agriculture sector.

However, despite having a substantial amount of its workforce in the agriculture sector, Huron County has developed a vibrant manufacturing sector that is keeping pace with the provincial employment average. Furthermore, Huron County stands apart from the other leading agriculture regions in that the agricultural sector continues to share a prominent position alongside of the manufacturing sector. Indeed, not only is agriculture a leading employment sector in Huron County, it is an expanding employment sector. Of the eleven regions compared in this study, only Huron County and Essex County experienced increases in employment in the agricultural sector between 1991 and 1996 (Statistics Canada). This event reverses a 50 year decline in agriculture employment.

Table 13 Percentage of Workforce in Three Industrial Sectors for Selected Counties and Regional Municipalities, 1996.

Region	Agriculture		Manufacturing		Retail		Total all sectors
	# of jobs	% of total	# of jobs	% of total	# of jobs	% of total	
Huron	5025	16.9	5035	16.9	3720	12.5	29820
Haldimand-Nor	7725	15.1	10160	19.9	6005	11.7	51120
Middlesex	6370	3.2	30040	15.1	25285	12.7	199325
Kent	4860	8.9	13405	24.6	6555	12.0	54495
Perth	4935	12.8	9580	24.8	4640	12.0	38555
Oxford	5945	12.0	12120	24.5	5815	11.8	49455
Niagara	7380	3.8	38360	19.8	26340	13.6	193625
Wellington	5390	5.9	22185	24.2	9785	10.7	91770
Essex	5735	3.3	48765	28.0	20405	11.7	174160
Lambton	3209	5.3	10945	17.7	7765	12.5	61910
Waterloo	4325	2.0	56870	26.5	25565	11.9	214715
ONTARIO	131060	2.4	922565	17.1	662815	12.3	5401395

(Source: Statistics Canada, 1996)

It should be noted that the impact of the agriculture sector extends well beyond the number of direct jobs it supports to include those activities that function in support of agriculture. This was clearly demonstrated in the preceding economic study (Cummings et al., 1998) that was conducted in Huron County and the second part of this report provides additional evidence that supports that finding (Section 4).

3.3.2 Specialization in the Agriculture Sector

Economic analysts have found the Location Quotient (LQ) to be a useful tool in determining which sectors of the economy are more specialized than others. The term 'specialized' in this instance refers to the relative size or presence of an industrial activity.

The LQ is a ratio of the regional share of employment in an industry as compared to provincial employment in the industry. The LQ can be used to gauge the relative specialization of a region in various industrial sectors such as agriculture, manufacturing, and retail trade (Bendavid-Val, 1991, p.73). The LQ is essentially a ratio of ratios. The following equation is used for determining the LQ:

$$\text{LQ} = \frac{\text{sector employment for the region}}{\text{total employment for the region}} \div \frac{\text{sector employment for the province}}{\text{total employment for the province}}$$

The LQ has a base value of one. An LQ of one suggests that the region and the province are specialized to an equal degree in the chosen industry sector. If the LQ is greater than one, it indicates that the region has a higher degree of specialization in the industry sector than the province. An LQ of less than one indicates that the industry sector is less specialized in the region than it is for the province. When the LQ exceeds a value of one, it suggests that the region is producing more than is required to meet the local needs. The amount of excess production and the employment associated with producing the excess production is often assumed to be export related. When the LQ value is less than one, it suggests that local production is not sufficiently meeting the needs of the local population.

Table 14 presents the LQ's for each of the leading regions, again comparing the agriculture, manufacturing and retail sectors (see Appendix 2 for a complete 18 industrial sector table for each leading region). With the exception of Waterloo Regional Municipality, all of the leading regions have agricultural sectors that are specialized to a certain degree. Five of the regions, Huron, Haldimand-Norfolk, Kent, Perth, and Oxford, registered LQ's of 4 or more which indicates that their agricultural sectors are highly specialized. Huron County registered the highest LQ values in both 1991 and 1996 at 6.4 and 6.9 respectively. Furthermore, Huron County registered the largest increase in its LQ value between the two periods which indicates the agricultural sector in Huron County is increasingly specializing at a greater pace than any other region in the study area. During the same period, Haldimand-Norfolk Regional Municipality registered the second highest

LQ's at 6.1 and 6.2 respectively. Perth County and Oxford County registered LQ's between 5 and 4.8 in 1991 and 1996. Kent County is notable for its level of specialization in all three sectors but its level of specialization in agriculture actually declined from 4.0 in 1991 to 3.7 in 1996. Huron County by contrast registered gains in agriculture, manufacturing and retail.

Table 14 Location Quotient for Three Industrial Sectors for Selected Counties and Regional Municipalities, 1991 & 1996.

Region	Agriculture		Manufacturing		Retail	
	1991	1996	1991	1996	1991	1996
Huron	6.4	6.9	0.9	1.0	0.9	1.0
Haldimand-Nor.	6.1	6.2	1.0	0.8	1.0	1.0
Middlesex	1.3	1.3	0.9	0.9	1.1	1.0
Kent	4.0	3.7	1.4	1.4	2.4	2.2
Perth	5.4	5.3	1.4	1.5	1.0	1.0
Oxford	4.8	5.0	1.4	1.4	1.0	1.0
Niagara	1.4	1.6	1.2	1.2	1.1	1.1
Wellington	2.6	2.4	1.3	1.4	0.9	0.9
Essex	1.2	1.4	1.6	1.6	1.0	1.0
Lambton	2.4	2.2	1.1	1.0	1.0	1.0
Waterloo	0.9	0.8	1.5	1.6	1.0	1.0

(Source: Statistics Canada, 1996)

Indeed, of the eleven regions examined in this study, only Huron County experienced an increase in its degree of specialization for all three of the top ranking employment sectors. Furthermore, although the LQ value for the manufacturing sector in Huron County indicates that the sector is self-sustaining (1.0), the region has a relatively small population of 60,000 (see Appendix 3) and it is likely that a substantial amount of the

production from manufacturing is being exported out of the region.

3.3.3 Farm Type Specialization

As mentioned earlier, south western Ontario features a range of soil and climatic conditions that significantly influence the type of farming that occurs. In some instances, the conditions have enabled regions to specialize in particular types of farming activities (the term 'specialized' in this instance refers to the relative presence of certain farm types). The Niagara region for example features growing conditions that are well suited for fruit production and the intensity of fruit production in the area is quite visible. However, a more in-depth analysis would help to identify how specialized the various farming activities are at the county level in relation to the province. This type of information is useful in identifying which farming activities are strongly or poorly represented in the region.

An attractive feature of the Location Quotient is that it can be used with a variety of reference variables. Indeed, it can be used to gauge the level of specialization of specific farm types. Using dairy farms as an example, the modified LQ formula appears as follows:

$$LQ = \frac{\text{number of dairy farms in the county}}{\text{total number of farms in the county}} \div \frac{\text{number of dairy farms in the province}}{\text{total number of farms in the province}}$$

The LQ's for farm types in the leading regions are presented in Table 15. The farm type categories are those used by Statistics Canada which classifies farms according to the farm activity which generates the largest share of annual income. The complete tables for each region are presented in Appendix 4.

Table 15 Location Quotient for Farm Types for Selected Counties and Regional Municipalities, 1991 & 1996.

Farm Type																								
Region	Dairy		Beef Cattle		Hog		Poultry & Egg		Wheat		Grain & Oilseed		Field Crop		Fruit		Vegetable		Misc. Specialty		Livestock Combine		Other Combine	
	'91	'96	'91	'96	'91	'96	'91	'96	'91	'96	'91	'96	'91	'96	'91	'96	'91	'96	'91	'96	'91	'96	'91	'96
Huron	0.9	0.8	0.9	1.0	2.5	2.2	1.9	2.0	1.1	1.1	1.5	1.5	0.3	0.3	0.2	0.2	0.3	0.2	0.3	0.4	1.2	1.7	1.0	0.7
Haldimand.N	0.6	0.6	0.4	0.3	0.5	0.4	1.3	1.3	2.3	1.0	1.1	1.1	5.1	3.7	1.0	0.9	2.0	2.3	0.7	0.8	0.5	0.5	1.5	1.5
Middlesex	0.6	0.6	0.7	0.5	1.5	1.6	1.2	1.3	1.4	2.0	1.9	2.0	0.6	0.5	0.4	0.5	0.9	0.8	1.0	0.9	1.0	1.0	1.0	0.8
Kent	0.0	0.0	0.0	0.0	1.1	1.2	0.3	0.2	1.0	1.6	3.6	3.5	0.3	0.2	0.3	0.4	3.2	3.0	0.3	0.3	0.4	0.4	1.3	0.8
Perth	1.5	1.6	0.7	0.6	3.4	3.8	1.2	1.4	0.7	1.3	1.1	1.2	0.2	0.2	0.0	0.1	0.2	0.2	0.3	0.4	1.9	1.8	0.5	0.9
Oxford	1.7	1.7	0.4	0.6	2.0	2.2	1.3	1.4	0.9	1.4	1.2	1.1	1.3	1.0	0.5	0.4	0.7	0.6	0.6	0.6	1.0	1.1	1.0	0.9
Niagara	0.5	0.6	0.2	0.2	0.4	0.4	3.3	3.0	1.3	1.1	0.3	0.3	0.5	0.4	12.0	11.7	0.6	0.8	1.5	1.5	0.4	0.3	1.4	1.1
Wellington	1.3	1.3	1.1	1.0	1.8	2.1	1.4	1.8	0.8	0.8	0.5	0.6	0.7	0.6	0.2	0.2	0.4	0.4	1.1	1.1	1.5	1.8	0.7	1.0
Essex	0.1	0.1	0.1	0.1	0.3	0.3	0.5	0.4	1.8	3.1	3.2	3.0	0.4	0.2	1.6	1.8	4.1	3.0	1.0	1.0	0.2	0.1	1.1	0.8
Lambton	0.3	0.3	0.4	0.3	1.5	1.5	0.9	0.8	3.8	3.5	3.0	3.0	0.3	0.2	0.3	0.3	0.6	0.6	0.4	0.4	0.9	0.9	0.7	0.6
Waterloo	1.1	1.2	0.8	0.8	3.1	3.9	1.8	2.1	0.6	0.3	0.5	0.4	0.3	0.3	0.3	0.2	0.4	0.4	0.6	0.6	4.5	4.7	0.6	0.9

As indicated by the LQ values in Table 15, each of the leading regions in south western Ontario have two or more types of farm operations with a relatively stronger presence in the region than in the province as a whole. In Niagara Regional Municipality, the LQ values of 12 and 11.7 for 1991 and 1996 respectively, clearly illustrate the high level of specialization that exists in the fruit production industry. However, one of the advantages of the LQ in this application is that it can be calculated for every category of farming activity. As such, it can help to identify specialized categories in a region that may go unnoticed, particularly in regions where one category of farming dominates the landscape as is the case in the Niagara region with fruit production. Indeed, the LQ informs us that the Niagara region is also specialized in farms producing poultry as well as farms producing specialty miscellaneous goods (nursery and greenhouse products).

The regions which are highly specialized in fruit and vegetable farms include Kent, Essex, and Haldimand-Norfolk. Kent County and Essex County are also specialized in grain and oilseed farms and wheat farms. Haldimand-Norfolk is specialized in the number of farms producing field crops which ties in with its leading status in tobacco production. However, the LQ indicates that all of these regions are less specialized in livestock and poultry farms.

Regions which are highly specialized in livestock and poultry farm types include Huron, Perth, Oxford, Waterloo and Wellington. Perth County and Oxford County are particularly more specialized in dairy and hog farm types while Waterloo and Wellington are more specialized in hog and poultry. Livestock and poultry production in Huron County is notable for the strong representation that exists among all of the livestock farm categories. Huron County is highly specialized in hog and poultry farm types while it is at or near the provincial level of specialization in beef farms and dairy farms. Additionally, Huron County is highly specialized in grain and oilseed farms and it is at the provincial level for wheat farms. The only farm type categories that Huron County appears to be relatively weak in are fruit and vegetable, field crops and specialty farms. However, these types of farms *are* present to a certain degree in some parts of the county. Again, it needs to be emphasized that soil and climatic conditions in certain regions of south western

Ontario are more favourable for specific types of commodity production. As a consequence, some regions have greater restrictions on the range of production opportunities that can be pursued.

Having noted this limitation, it is important not to lose sight of the fact that some regions in Ontario produce a remarkable range of commodities. Indeed, the LQ figures clearly illustrate that Huron County is involved in an impressive range of farming activities. This may be a contributing factor that has enabled Huron County to consistently generate the highest level of farm gate sales in the province.

4.0 Huron County Agriculture Export Study

The exploratory research focussed on measuring the size and importance of the agriculture export industry in Huron County. This was achieved by collecting sales and employment data from major agri-exporters in the county. Information was also obtained on the quantity of goods exported and the destination of exports beyond the border of the county.

4.1 Study Participants

The businesses that participated in the study were chosen from a list that was drafted with the assistance of a number of organizations in Huron County including the Huron County Federation of Agriculture, the Ontario Federation of Agriculture, and the Huron County Business Resource Centre. The initial list contained eighty businesses.

A letter of introduction outlining the purpose of the study was sent to each of the businesses. While conducting follow-up calls, the researchers were able to make an early assessment of each business with respect to its export activity. A number of business owners indicated that their export activity was minimal. Forty-one businesses agreed to participate in the study. Thirty-seven of the businesses were able to provide sales and employment figures.

As classified by the Standard Industrial Classification (SIC) scheme, the businesses represent a broad range of activities. A breakdown by SIC codes is presented in Table 16.

Table 16 Survey Participants Classified According to Standard Industrial Classification Codes.

Code	Industrial Sector	Number of Businesses
Division A	Agriculture and Related Service Industries	
Group 1 011-017	Agricultural Industries Agricultural Industries	12
Division E	Manufacturing Sector	
Group 10	Food Industries	
101	Meat and Poultry Products Industries	1
103	Fruit and Vegetable Industries	2
105	Flour, Prepared Cereal Food and Feed Industries	6
Group 15	Rubber Products Industries	
159	Other Rubber Products Industries	1
Group 30	Fabricated Metal Products Industries	
304	Stamped, Pressed and Coated Metal Products Industries	1
303	Ornamental and Architectural Metal Products Industries	1
Group 31	Machinery Industries	
311	Agricultural Implement Industry	3
Group 35	Non-metallic Mineral Products Industries	
354	Concrete Products Industries	1
355	Ready-mix Concrete Industries	1
Division G	Transportation and Storage Industries	
Group 45	Transportation Industries	
456	Truck Transport Industries	1
Group 47	Storage and Warehousing Industries	
471	Grain Elevator Industry	7

Division I	Wholesale Trade Industries	
Group 50 501	Farm Products Industries, Wholesale Farm Products	2
Group 57 571	Machinery, Equipment and Supplies Industries, Wholesale Farm Machinery, Equipment and Supplies	1
Group 59 593	Other Products Industries, Wholesale Agricultural Supplies	1
Total		41

In order to facilitate a more detailed statistical analysis, the 37 businesses that provided annual sales and employment data were divided into three categories as outlined in Table 17.

Table 17 Classification Scheme for Research Analysis

Category	Number of Businesses
I. Farm Production Agriculture Production Storage and Warehousing Industries Wholesale Trade Industries	21
II. Equipment Manufacturing Machinery Industries Fabricated Metal Products Industries Non-metallic Mineral Products Industries	7
III. Feed & Food Manufacturing Food Industries	9

For the purpose of this research, the storage and wholesale trade businesses have been treated as production enterprises. These businesses are primarily involved in storing and/or handling agriculture commodities such as grain or beef cattle. The quantity of goods that pass through these enterprises provides an indication of the value of agriculture production in Huron County. Unless otherwise stated, the term 'export' refers to the goods that leave Huron County.

5.0 Results

5.1 Introduction to the Huron County Results

As noted earlier, Huron County is the provincial leader in annual farm gate sales and the agriculture sector features a diversity of crop and livestock production. Closely associated with the production of agricultural goods is the utilization and movement of agricultural goods. All three of these activities occur in Huron County on a large scale.

Beyond its own agriculture production, Huron County also handles a considerable quantity of agricultural goods that are produced outside of the county. For example, commodities from western Canada such as Durham wheat and cattle travel through Huron County while making their way to final markets outside the county. In some instances, these commodities are further processed or finished in Huron County before being exported.

Neighbouring counties also generate a considerable inflow of agriculture production. Producers in the surrounding counties have come to rely on the extensive range of agriculture services that are available in Huron County. Grain elevators are the most visible of the agricultural enterprises that have expanded their capacity over the years to accommodate the additional inflow of production.

In the process of examining the size and importance of the agriculture export industry in Huron County, the researchers gained an awareness of the complexity of the agriculture economy. Tracking the movement of goods through the county was a particularly challenging component of the study.

5.2 Sales

5.2.1 Farm Production

The 21 businesses in this category generated a total of \$251.9 million in gross annual sales.⁵ Huron County production accounted for \$136.5 million or 54% of the total amount of goods handled.

⁵ Sales data represent a combination of gross annual sales for 1997 and 1998.

The total value of exports amounted to \$181.1 million or 72% of the total product handled. Huron County agricultural production accounted for \$104.5 million of the total exports or 58%. Seventy-six percent of the Huron County production was exported.

The difference in value between the total amount of goods handled and the total amount of goods produced, \$115.4 million, provides an indication of the amount of agriculture production that flows into the county. However, only a portion of this production is being utilized internally. This suggests that the agriculture sector is sufficiently specialized in its capacity to store and/or redistribute agriculture commodities. The combined gross annual sales of the 21 businesses are presented in Table 18.

Table 18 Combined Gross Annual Sales: Farm Production
(21 survey participants).

Total Gross Value of Products Handled	Total Gross Value of Products Exported	Total Gross Value of Huron County Production	Total Gross Value of Huron County Production Exported
\$ 251,961,606	181,066,033	136,467,441	104,476,300

A different perspective on farm production exports is achieved by examining the total farm gate value of selected commodities produced in Huron County and adjusting for local consumption. The production and export figures for several commodities are presented in Table 19.

Table 19 Total Gross Annual Sales and Total Export Sales for Selected Agriculture Commodities, Huron County (1998).

Commodity	Total Farm Gate Value of Product (\$)	Total Gross Value of Product Exported (\$) ⁶	Total Weight of Exports (tonnes)
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⁶ The values have been calculated by deducting local consumption figures. Per capita consumption figures were obtained through Statistics Canada: Catalogues No. 23-603, 23-202, and 32-230, 1996, and through personal communication with commodity representatives.

Milk Production	88,500,000	84,495,370	117,000
Chicken Production	48,920,400	47,033,856	40,805
Egg Production	17,315,320	16,263,638	8,667
Market Hog Production	88,593,902	86,362,147	61,410
Apple Production	942,000	468,607	2,141
TOTAL	244,271,622	234,623,618	230,023

(Source: Dairy Farmers of Ontario, Ontario Chicken Producers' Marketing Board, Ontario Egg Producers' Marketing Board, Ontario Pork Producers' Marketing Board, Ontario Apple Marketing Commission.)

Adjusting for local consumption and assuming that the remaining production is export related, we find that exports of the selected commodities in Table 19 account for approximately 96% of total production.

When the selected commodity values are combined with the production values provided by the 21 respondents, the total gross annual value of agricultural products handled amounts to \$483.6 million. The gross annual value of commodities exported amounts to \$403.1 million which represents 83% of the total. Huron County agricultural production represents 76% of the total exports or \$368.1 million. The estimated value of Huron County exports is \$326.5 million which represents eighty-nine percent of the total county agriculture production. The combined gross annual sales for the selected commodities and the 21 participants are presented in Table 20.

Table 20 Combined Total Annual Sales for Selected Commodities and the Agriculture Production of Survey Participants.

	Total Farm Gate Value of Product	Total Gross Value of Products Exported	Total Gross Value of Huron County Production	Total Gross Value of Huron County Production Exported
Selected Commodities ⁷	244,271,622	234,623,618	244,271,622	234,623,618

⁷ The values are taken from Table 19.

Survey Participants ⁸	239,380,606	168,498,583	123,886,441	91,908,850
TOTAL	\$ 483,652,228	403,122,201	368,158,063	326,532,468

5.2.2 Equipment Manufacturing

The products produced by the seven equipment manufacturers include farm implements, livestock equipment, and building materials.

The combined total gross annual sales of the seven businesses was \$72 million.⁹ Several of the businesses produce goods for both agricultural and non-agricultural industries. The total value of *agricultural related* production accounted for \$49.2 million or 68% of the total value of goods produced. The equipment manufacturers clearly rely on the agriculture sector for the bulk of their business. However, the additional \$22.8 million in production for non-agriculture industries illustrates the level of product diversity that goes toward supplying alternative industries.

The total gross value of products exported by the seven businesses amounted to \$56.9 million or almost 80% of the total production. The total value of *agricultural related* production exported amounted to \$41.5 million or 57% percent of the total export value. Eighty-four percent of the total *agriculture related* production was exported. The results clearly indicate that the businesses have developed a solid market area outside of Huron County and that agricultural related products are the *dominant* export product. The combined total gross annual sales for the seven businesses are presented in Table 21.

Table 21 Combined Total Gross Annual Sales for Equipment Manufacturing (survey participants).

⁸ The sales figures for the survey participants have been adjusted to avoid double counting for hog, chicken and egg production.

⁹ Sales data represents a combination of gross annual sales figures for 1997 and 1998.

Total Gross Value of Products Handled	Total Gross Value of Products Exported	Total Gross Value of Agri-related Production	Total Gross Value of Agri-related Exports
\$ 72,060,000	56,905,000	49,260,000	41,525,000

5.2.3 Livestock Feed and Food Manufacturing

Three of the businesses interviewed were in the food processing industry and six were in the livestock feed industry. All nine of the businesses provided employment data and all but one of the businesses provided annual sales data. The researchers computed a gross annual sales figure for the one business, by estimating approximate wage rates for the employees.

The livestock feed businesses produce a variety of feeds for dairy, beef, poultry, swine, and horses. Several businesses specialize in specialty feeds and premixes. Two of the food processing businesses handle vegetables and one processes turkeys. Several of the businesses in this category were involved in both production and processing.

The combined total gross annual sales of the nine businesses was \$150.9 million.¹⁰ Huron County agriculture production accounted for \$94.3 million or 62% of the total annual sales. The difference of \$56.6 million, reveals the value of agricultural production that is entering the county to be utilized locally or redistributed for utilization outside of the county.

The combined total gross annual sales of exports by the nine businesses amounted to \$107.5 million or 71% of the total product handled. Huron County agriculture production accounted for \$58.1 million or 54% of the total exports. Sixty-one percent of Huron County production was exported. The combined total gross annual sales for the nine businesses are presented in Table 22.

Table 22 Combined Total Gross Annual Sales for Livestock Feed and Food Processing (survey participants).

¹⁰ Sales data represents a combination of gross annual sales figures for 1997 and 1998.

Total Gross Value of Products Handled	Total Gross Value of Products Exported	Total Gross Value of Huron County Production	Total Gross Value of Huron County Production Exported
\$ 150,917,570	107,512,570	94,338,576	58,159,076

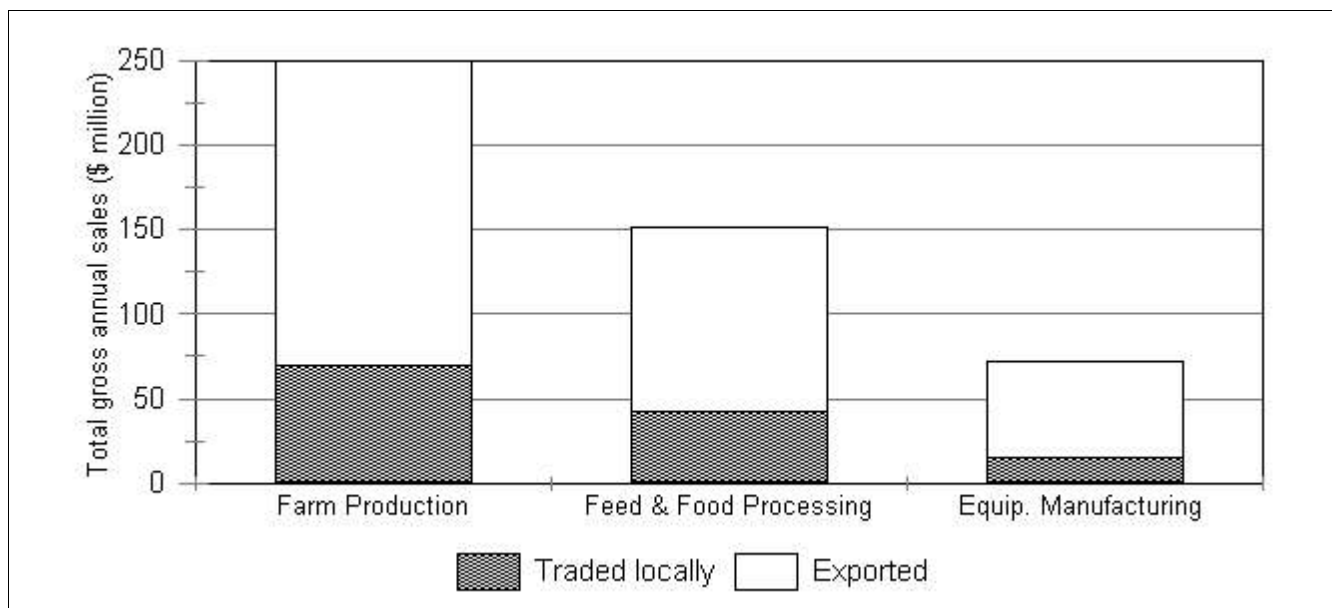
5.2.4 Total Value of Manufacturing

The 16 manufacturing businesses generated a total of \$222.9 million in gross annual sales of which \$164.4 million (74%) was export related.

5.2.5 Total Value of Agriculture Exports: Farm Production & Manufacturing

In total, the 37 businesses generated \$474.9 million in gross annual sales of which \$345.4 million (73%) was export related. Chart 5 graphically depicts the portion of sales that are export related in each of the three groups.

Chart 5 Level of Gross Annual Sales Related to Export Activity and Local Trade.



When the total value of dairy, egg, chicken, hog and apple production is combined with the sales generated by the 37 businesses, the total value of agriculture production and manufacturing amounts to \$706.6 million of which \$567.5 million (80%) is export related.

5.3 Employment

As noted earlier, the most recent census period (1991-1996) saw the agriculture sector in Huron County experience a gain in employment for the first time in 50 years. The manufacturing sector has also recorded impressive employment gains in recent years. Had the economy of the county performed in a similar manner to the provincial economy, job losses would have been experienced in both of these sectors. The ability of the local economy to expand employment in two industrial sectors that have been shedding jobs elsewhere across the province attests to the unique circumstances that exist in Huron County. Agriculture and the agri-export industry play a very significant

role in providing local employment opportunities as indicated in the following analysis.

5.3.1 Farm Production

The 21 businesses in this category directly support a total of 254 full-time jobs, 97 part-time jobs (32 weeks) and 118 seasonal jobs (16 weeks). The number of full time equivalent jobs associated with the 21 businesses is 350. The number of full time equivalent jobs associated with the *total export* activity is 309 or 88% of the total employment. The number of full time equivalent jobs associated with *Huron County production* is 268 or 77%. The number of full time equivalent jobs associated with the *export of Huron County production* is 249 or 71% of the total employment.

5.3.2 Equipment Manufacturing

The seven businesses in this category directly support a total of 268 full-time jobs, 65 part-time jobs (32 weeks) and 38 seasonal jobs (16 weeks). The number of full time equivalent jobs associated with the seven businesses is 318. The number of full time equivalent jobs associated with the *total export* activity is 239 or 75% of the total employment. The number of full time equivalent jobs associated with *agriculture related production* is 228 or 72%. The number of full time equivalent jobs associated with the *exported agriculture related production* is 186 or 58% of the total employment.

The figures suggest that the employment derived from agriculture related equipment production is very significant and that the strong majority of jobs are supported by export activities. The number of jobs associated purely with the export of agriculture related products accounts for close to 60% of the total workforce.

5.3.3 Livestock Feed and Food Manufacturing

The nine businesses in this category directly support a total of 495 full-time jobs, 168 part-time jobs (32 weeks) and 202 seasonal jobs (16 weeks). The number of full time equivalent jobs associated with the nine businesses is 658. The number of full time equivalent jobs associated with the *total export* activity is 536 or 81% of the total employment. The number of full time equivalent jobs associated with *Huron County*

production is 421 or 72%. The number of full time equivalent jobs associated with the *export of Huron County production* is 310 or 47% of the total workforce.

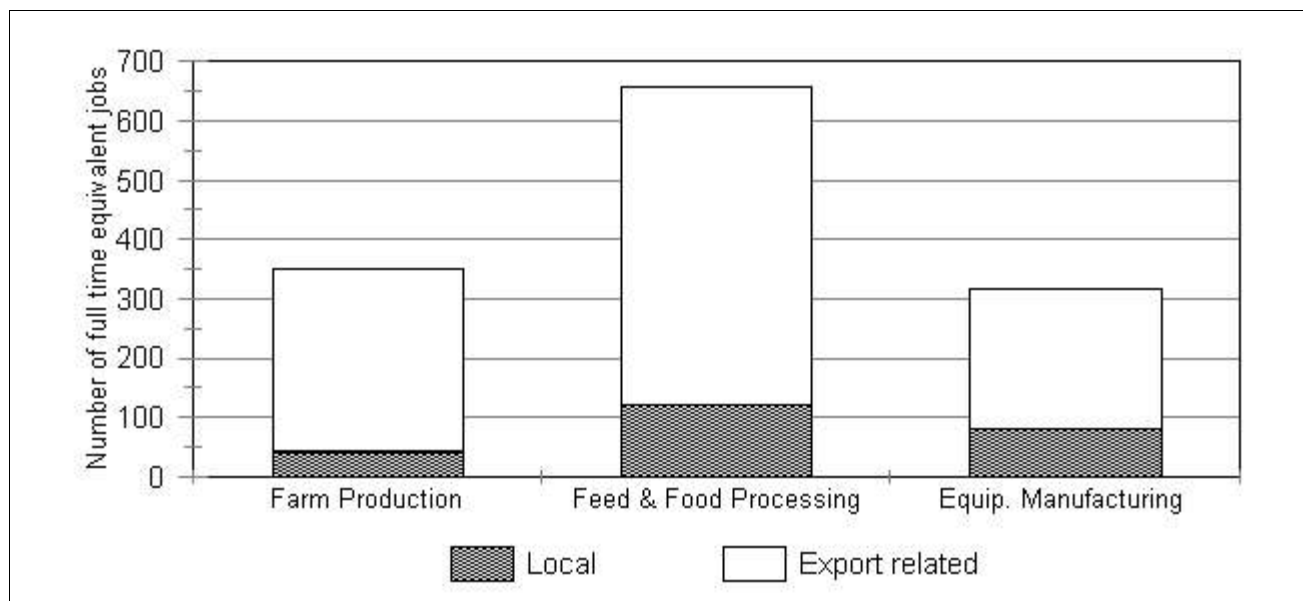
5.3.4 Total Employment in Manufacturing

The 16 manufacturing businesses directly support a total of 763 full-time jobs, 233 part-time jobs (32 weeks) and 240 seasonal jobs (16 weeks). The number of full time equivalent jobs associated with the 16 businesses is 976 of which 886 are agri-related. The number of full time equivalent jobs associated with the *total export* activity is 775 or 79% of the total employment. The number of full time equivalent jobs associated with *agri-related exports* is 722 or 74% of the total workforce.

5.3.5 Total Employment: Farm Production & Manufacturing

The thirty-seven businesses directly support a total of 1,017 full-time jobs, 330 part-time jobs (32 weeks) and 364 seasonal jobs (16 weeks). The number of full time equivalent jobs associated with the 37 businesses is 1,326. The number of full time equivalent jobs associated with the *total export* activity is 1,084 or 82% of the total employment. The number of full time equivalent jobs associated with *agri-related exports* is 1,031 or 78% of the total workforce. It should be noted that a portion of these jobs are likely held by people who reside outside the county. Chart 6 graphically depicts the portion of jobs that are export related in each of the three groups.

Chart 6 Number of Full Time Equivalent Jobs Related to Export Activity and Local Trade.



5.4 Destination of Exports

The export activity associated with Huron County agricultural and agri-related production is local, national and international. All of the participating businesses exported products to other parts of Ontario and ten of the businesses exported products outside of the province to other parts of Canada. Twenty-two businesses exported products outside of Canada.

5.4.1 Farm Production

Following the movement of goods was a particularly challenging component of the study. In attempting to categorize where the goods were being exported to, the researchers treated the first destination outside of Huron County as the export destination. As indicated by the respondents, there is a limited number of small scale food processing facilities in Huron County and as such, a considerable amount of agricultural production

leaves the county to be processed elsewhere, primarily to other parts of the province but also to the United States.

Of the \$251.9 million worth of goods produced and/or handled by the 21 businesses, \$70 million or 28%, was traded within Huron County. In total, \$181.1 million or 72% of sales were exported out of the county of which \$126.1 million (50%) were exported to other locations in Ontario, \$3.1 million (1%) were exported to other provinces and \$51.9 million (21%) were exported outside of Canada.

Chart 7 Destination of Farm Production

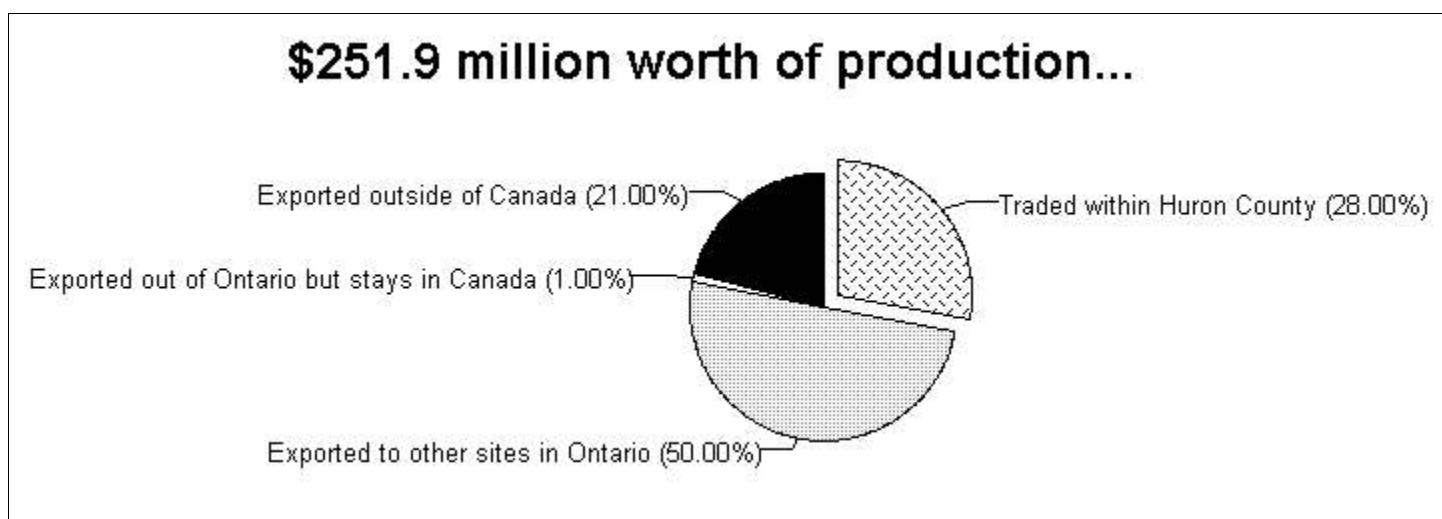
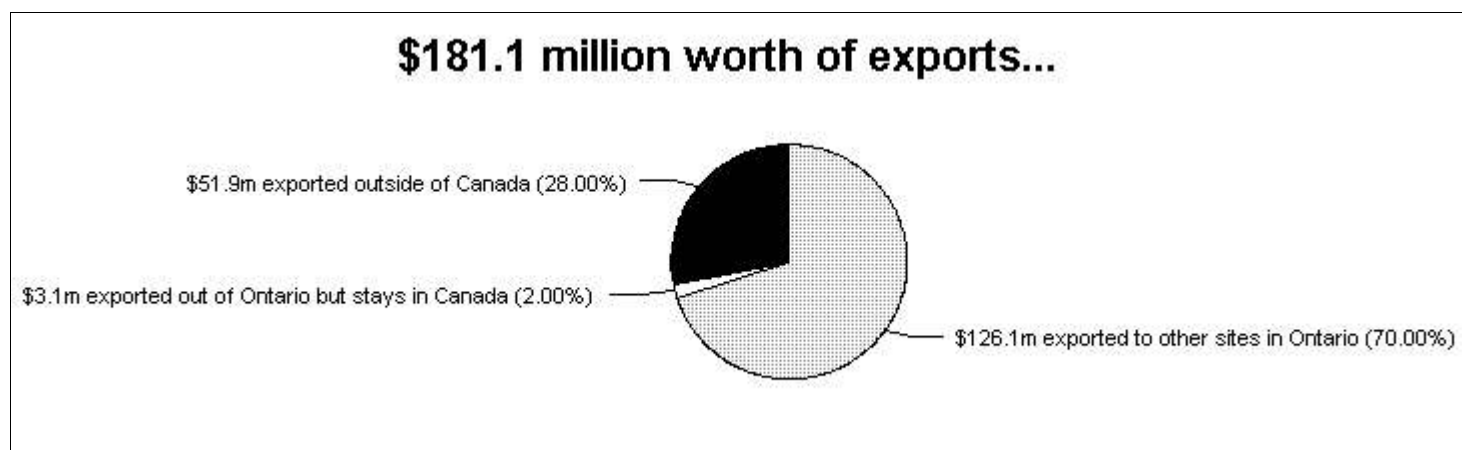


Chart 8 Destination of Farm Production Exports



Grain producers and grain elevator operators noted that the most significant change in grain growing patterns in the past 15 years was the transition from corn to soybeans. As detailed by one respondent, corn was once grown in surplus and exported but it is now largely used by the local market for livestock feed. The respondent estimated that the region only produces a surplus of corn every 4th or 5th year and only at that time is corn exported out of the area. Many of the respondents expressed similar comments and pointed to soybeans as the dominant crop in the county. They also suggested that wheat production in the county has remained fairly consistent over the years due its value as a rotational crop.

Although there is some soybean processing occurring in Huron County, much of the production is being sent to processors in Hamilton and Windsor. There is also some bulk commodity trading occurring with the United Kingdom and Belgium. With respect to wheat, the majority of exports go to the Toronto area and a small percentage goes directly into the US. The wheat that enters the county from western Canada is largely exported to other parts of the province. One respondent noted that he trucks all of his rye, oats and barley production to the US.

The operator of an elevator located in the northern part of the county indicated that he serves a radius of 20 km or more and he suggested that his presence in the area has made crop production a more attractive farming option because farmers in the area now have easy access to an elevator. He also noted that a significant portion of his business comes from a neighbouring county and he suggested that the presence of the elevator has stimulated additional crop production in that area as well.

Beef producers identified several areas in the province where their cattle are trucked to be processed including Toronto, Guelph, Kitchener and Hamilton. In the past, Huron County handled a considerable amount of beef cattle that originated in the western provinces. Although the county continues to receive livestock from western Canada, the expansion of the meat processing industry in the west has reduced the quantity of livestock being shipped east to Ontario for finishing. However, it appears as though south western Ontario is now receiving cattle from another region of the country. As noted by one

respondent in the livestock trade industry, in recent years there has been an annual increase in the quantity of cattle coming from eastern Ontario and Quebec to be finished in south western Ontario.

Hog producers indicated that most of their product goes as far as Toronto or Burlington to be processed. One producer is presently shipping weaners to the US. Although no dairy farmers were interviewed for the study, a minimal amount of milk processing appears to be occurring in Huron County (the new cheese factory in Seaforth being one example), thus the bulk of milk production is likely being transported to processing plants outside the county.

With respect to the poultry sector, almost all of the production is sent to other regions of the province for further processing. Broiler producers identified several areas in Ontario where the bulk of production is processed including Toronto, London, Georgetown, Barrie, and St. Marys. Egg producers noted that the bulk of their production is sent directly to Mississauga or Elmira. Pullets are being shipped to St. Marys and parts of eastern Ontario.

One of the respondents operates a tree and shrub nursery and has developed a wide market area that extends west to Saskatchewan and east to New Brunswick and Nova Scotia. Within the past 5 years, the operator has been actively expanding his market into the US (Michigan, Ohio, Illinois, Tennessee) and is now looking at the European market.

Several of the businesses in the study were involved in both food production and food processing (vegetables, turkeys). These operations and the nature of their export activity will be revisited in the section on livestock feed and food exports, section 5.4.3.

5.4.2 Equipment Manufacturing

The seven businesses included in this category are very active in the export market with a substantial amount of sales being directed to international markets. Of the \$72 million worth of goods produced by the seven businesses, \$15.1 million or 21%, was traded within Huron County. In total, \$56.9 million or 79% of sales were exported outside of the county of which \$24.6 million (34%) were exported to other locations in Ontario, \$10.6 million (15%) were exported to other provinces and \$21.6 million (30%) were exported outside of Canada.

Chart 9 Destination of Combined Agri and Non-Agri Related Production

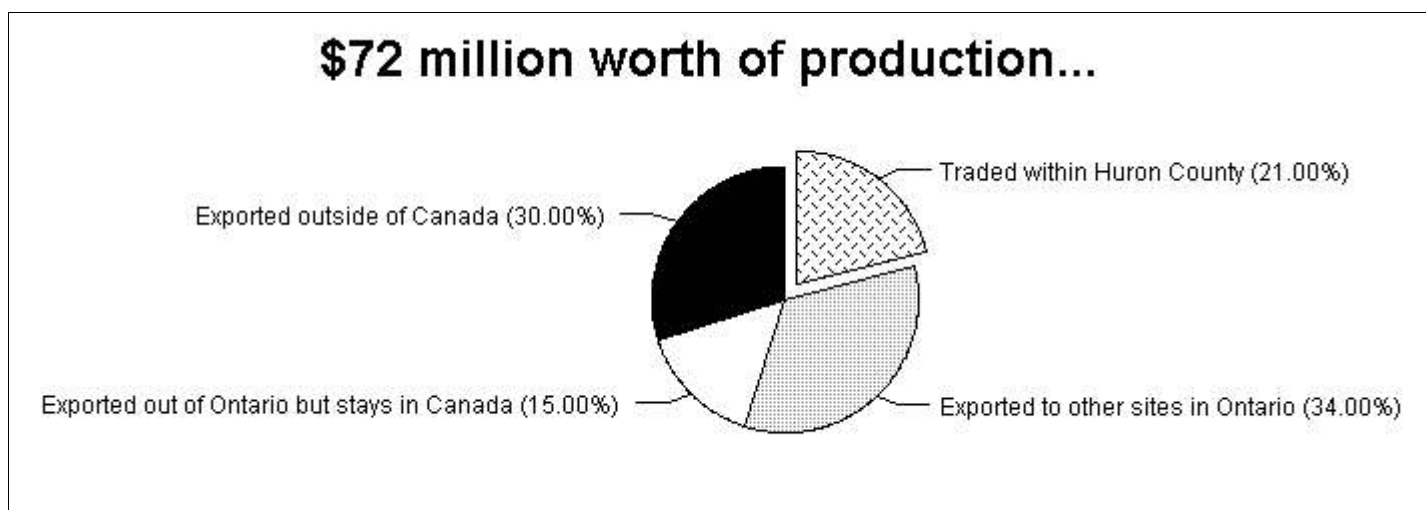
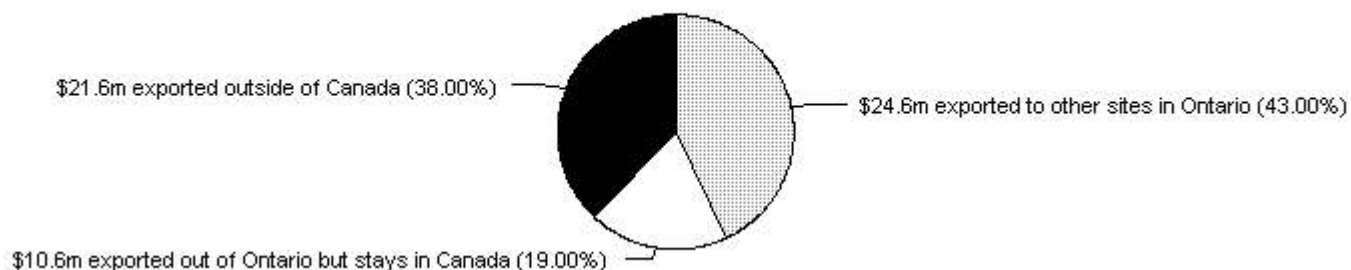


Chart 10 Destination of Combined Agri and Non-Agri Related Exports

\$56.9 million worth of exports...



If we focus on the export activity associated only with the agri-related production, the numbers suggest that the businesses are excelling at marketing their agri-products beyond the county borders. Of the \$49 million worth of agri-related goods produced by the seven businesses, \$7.7 million or 16%, was traded within Huron County. In total, \$41.5 million or 84% of sales were exported outside of the county of which \$16.5 million (33%) were exported to other locations in Ontario, \$8.3 million (17%) were exported to other provinces and \$16.6 million (34%) were exported outside of Canada.

Chart 11 Destination of Agri-Related Production

\$49.2 million worth of production...

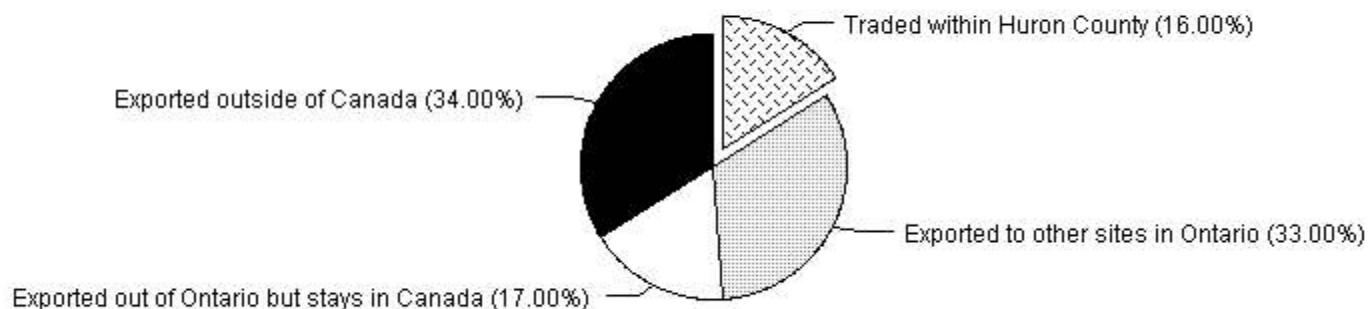
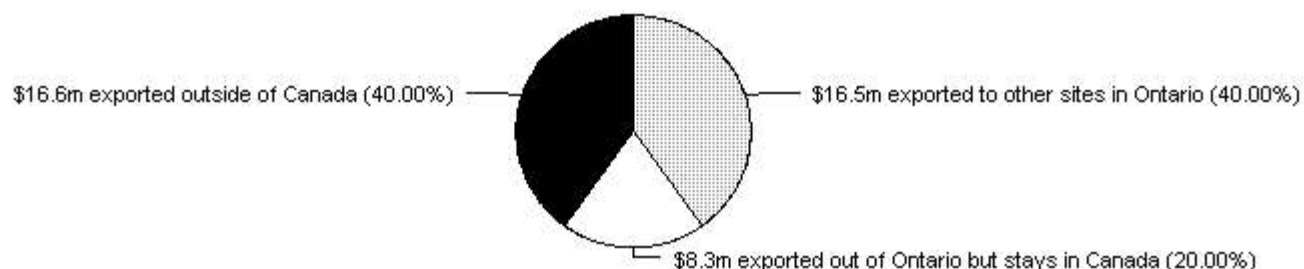


Chart 12 Destination of Agri-Related Exports

\$41.5 million worth of exports...



Three of the businesses are farm implement manufacturers. Together, these businesses produce a variety of items including grain and fertilizer augers, grain buggies, feeder wagons, mixer wagons, and seeding and tillage implements. All three companies market their products throughout Ontario and across Canada. With respect to international sales, the companies are primarily marketing in the US. However, two of the companies export to a number of off-shore markets including Argentina, Japan, China, South Africa, the Ukraine, Poland and Scandinavia.

The four other businesses in this group are involved in manufacturing products related to farm buildings and livestock (rubber stall mats, hog and dairy slatted flooring, roofing/siding steel, ventilation equipment, manure pit domes and concrete).

Three of these companies market their products throughout Ontario and across Canada. One company markets its product as far north as the Yukon. Although the bulk of their international trade is with the US, they also export to a number of off-shore markets including the United Kingdom, Germany, France, Spain, the Czech Republic, Japan, China, the Caribbean, and Mexico.

The remaining company produces concrete and it does not market its product outside of Ontario. This company also provides forming services and it sells aggregates from local quarries as well from quarries located outside of the county. The concrete is used for the construction of farm building foundations and yards. Recently the company

upgraded its fleet of trucks with the purchase of two concrete pump trucks. According to a company spokesperson, this investment has expanded the market area of the business considerably. The company now services an area that includes London and Stratford.

Although many of the businesses are becoming more active in pursuing international markets, they still attach importance to producing products that meet the needs of the local market.

5.4.3 Livestock Feed and Food Manufacturing

The nine businesses included in this category generate the majority of their sales through exports to other regions in Ontario outside of Huron County. Of the \$150.9 million worth of goods produced and/or handled by the nine businesses, \$43.4 million or 29%, was traded within Huron County. In total, \$107.5 million or 71% of sales were exported outside of the county of which \$84.3 million (56%) were exported to other locations in Ontario, \$387 thousand (<1%) were exported to other provinces and \$22.7 million (15%) were exported outside of Canada.

Chart 13 Destination of Livestock Feed and Food Production

\$150.9 million worth of production...

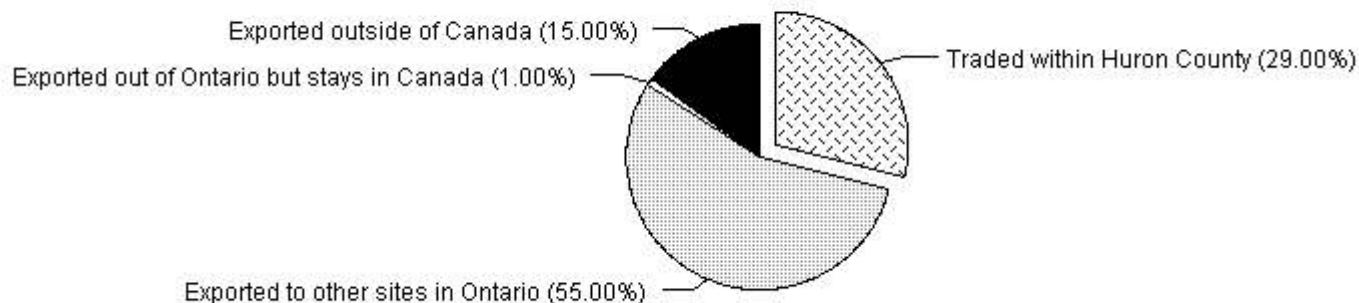
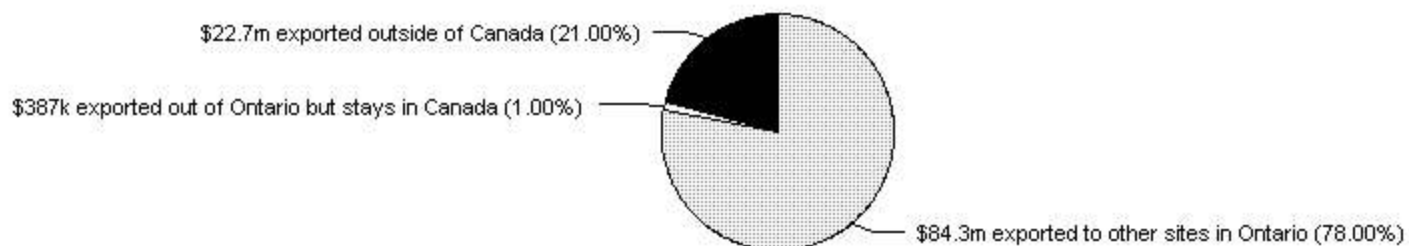


Chart 14 Destination of Livestock Feed and Food Exports

\$107.5 million worth of exports...



Six of the nine companies in this group produce livestock feeds and/or feed supplements. All six of these companies market their products in other regions of the province. Most of the companies have sales as far east as Guelph and/or Toronto and as far south as Windsor and/or the Niagara region. One company markets its product as far north as North Bay and as far east as the Ottawa valley. With respect to sales outside the province, two of the feed companies export to other provinces including Prince Edward Island, British Columbia and Quebec. Four of the companies export to the US and only one company exports products to offshore markets.

All six of the livestock feed companies produce products for niche markets. The

operator/owner of a soybean crushing plant produces soybean meal for feed additives and soybean oil which is used for margarine production. According to the owner, the plant produces a product with a slightly different nutritional profile which sets it apart from the soya-products offered from the crushing plant in Hamilton. As such, the owner is able to charge a premium for the product.

A number of the feed companies are marketing specialty feeds. One company is marketing specialty feeds for exotic animals in Ontario while another company is supplying a custom feed mix for horses in the US.

Beyond livestock feeds, one company is also marketing specialty beans. According to a company spokesperson, the company once processed coloured beans that were produced locally but with the increase of local land prices and soybeans offering a higher return, white bean production has tapered off in the region. However, coloured beans are still an attractive commodity for growers in regions like Manitoba where land values are lower. The company brings in coloured beans from Manitoba by rail for processing and exports the product to off-shore markets.

One of the nine processing companies processes turkeys and pheasants. The company is also involved in growing the product. The bulk of the turkey production is marketed across Ontario but a portion also goes into the US. Pheasant production is marketed almost exclusively to the US.

The vegetable processing industries market most of their goods outside of Canada. One processing plant is fairly active in off-shore marketing (United Kingdom, Germany, Sweden and Japan). A spokesperson for the plant indicated that the plant would not be operating today were it not for the export market. Indeed, the plant was recently modified with a commitment to specialize production and focus on international markets.

Several of the businesses in this group made a point of emphasizing that the quality network of roads in the county is a key feature of the region that enhances trade activity.

5.4.4 Destination of Total Manufacturing

Combining the 16 manufacturing businesses together, we find that just under half of the total export sales are generated through sales to other regions in Ontario outside of Huron County. Of the \$222.9 million worth of goods produced and/or handled by the 16 manufacturing businesses, \$58.5 million or 26%, was traded within Huron County. In total, \$164.4 million or 74% of sales were exported outside of the county of which \$108.9 million (49%) were exported to other locations in Ontario, \$10.9 million (5%) were exported to other provinces and \$44.4 million (20%) were exported outside of Canada.

Chart 15 Destination of Total Manufacturing

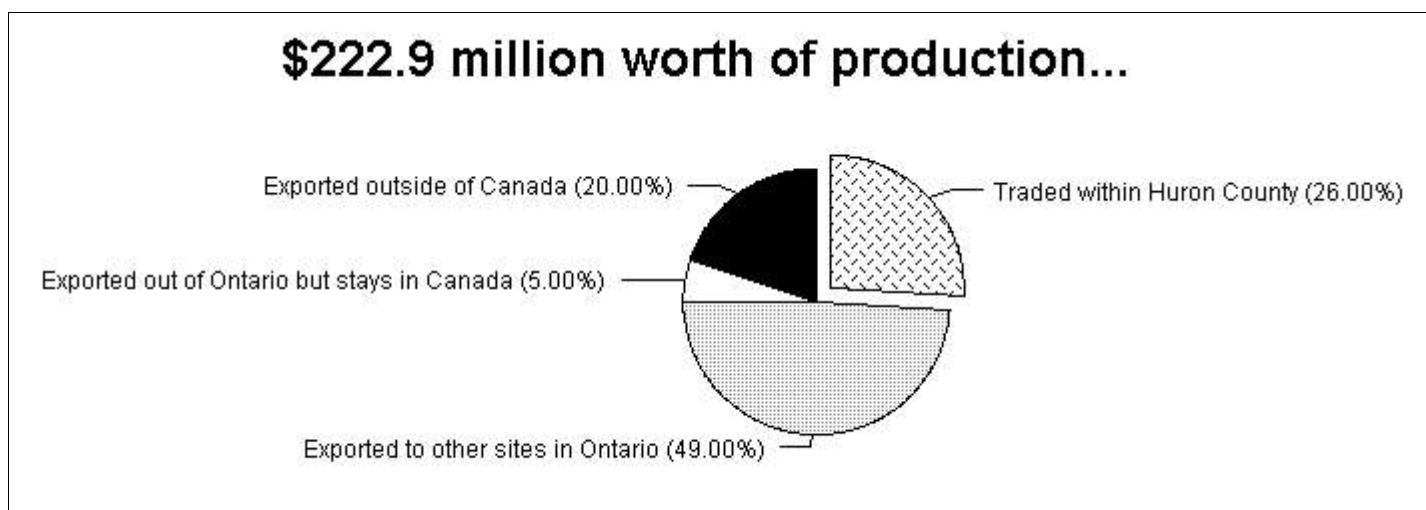
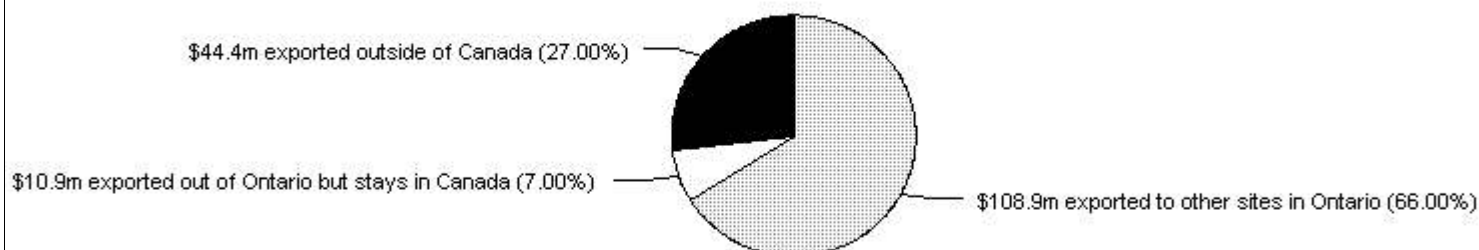


Chart 16 Destination of Total Manufacturing Exports

\$164.4 million worth of exports...



5.4.5 Destination of Total Farm & Manufacturing Production

In total, the 37 businesses exported almost 75% of the total amount of goods they produced and/or handled. Of the \$474.9 million worth of goods produced and/or handled by the 37 manufacturing businesses, \$128.7 million or 27%, was traded within Huron County. In total, \$346.1 million or 73% of sales were exported outside of the county of which \$235.6 million (50%) were exported to other locations in Ontario, \$14.1 million (3%) were exported to other provinces and \$96.3 million (20%) were exported outside of Canada.

Chart 17 Destination of Total Production (survey participants)

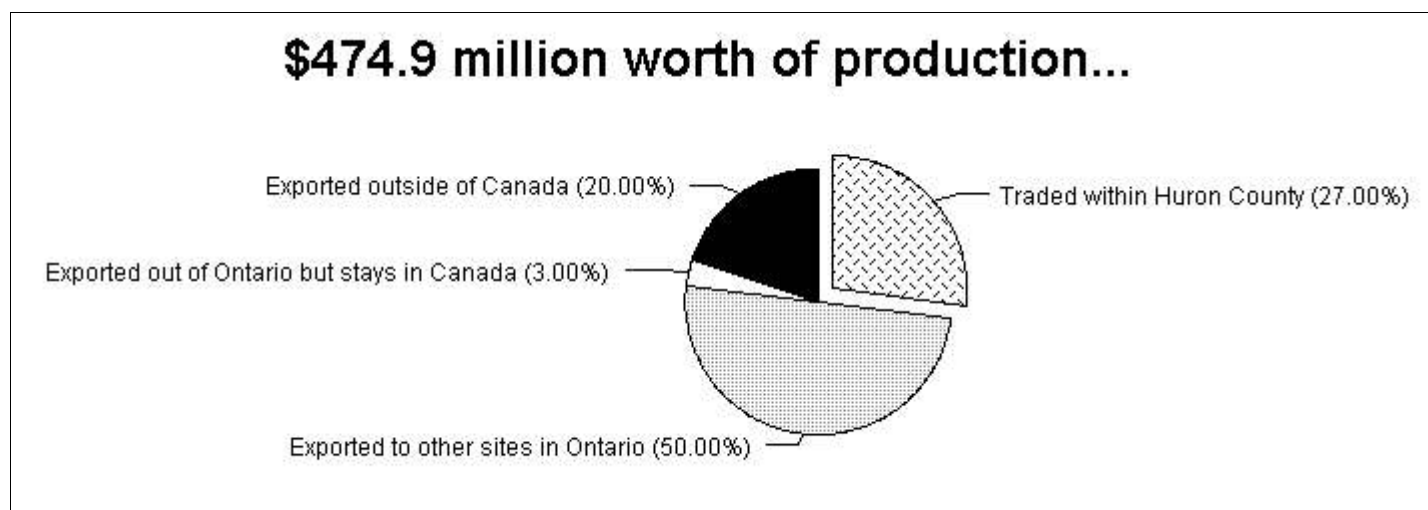
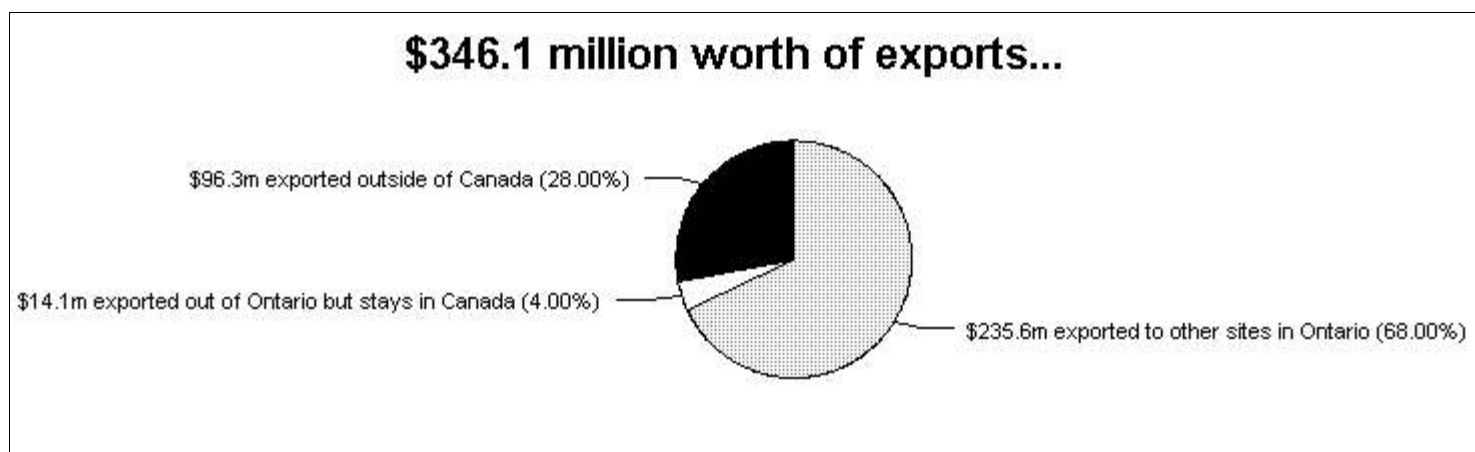
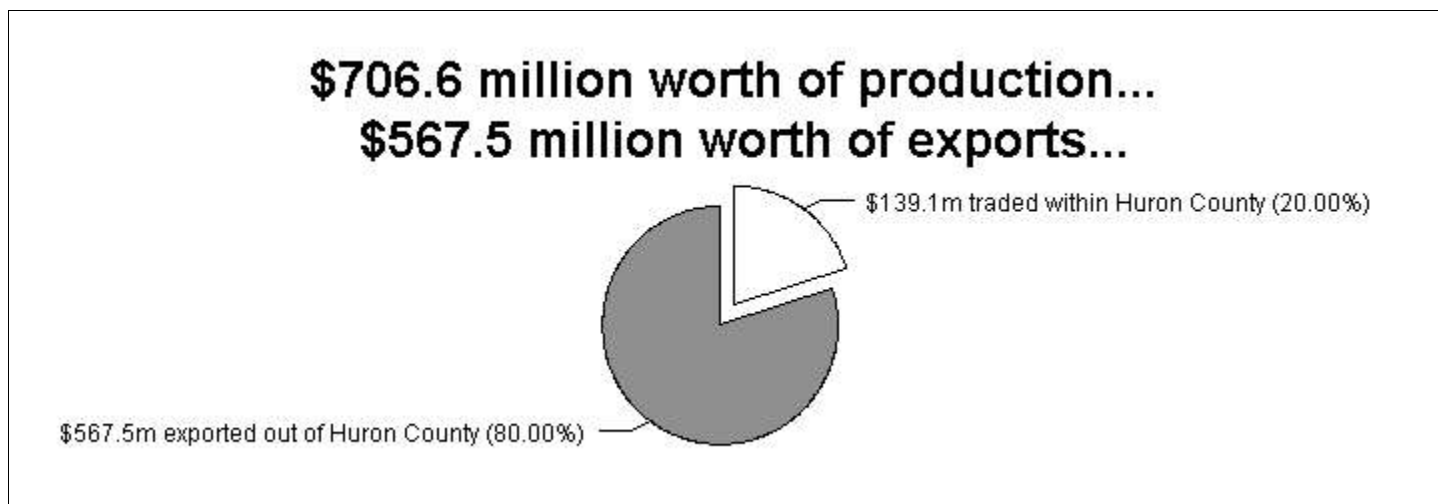


Chart 18 Destination of Total Exports (survey participants)



When we combine the export amounts associated with dairy, egg, chicken, hog and apple production together with the export figures of the 37 businesses, we find that 80% of the total value of agriculture production and manufacturing is exported. This amounts to \$567.5 million in exports. As noted earlier, the total value of production amounts to \$706.6 million, of which \$139.1 million is traded within Huron County.

Chart 19 Destination of Total Production
(survey participants and selected commodities)



The \$706.6 million in total annual production represents the combined value of locally produced goods *and* goods that have been brought into the county for redistribution. The total value of Huron County production amounts to \$511.7 million of which \$426 million (83%) is exported out of the county.

5.5 Quantity of Production and Exports

The quantity of agriculture and manufacturing products being exported annually from Huron County is quite substantial. Additionally, there is a considerable quantity of agriculture products from neighbouring counties or other parts of the country that enter into Huron County for utilization and/or redistribution. A significant portion of the total quantity of agriculture and manufacturing production is exported. Thirty-five of the businesses were able to provide details on the quantity of products they handle annually.¹¹ The bulk of transporting both for internal use and for export is done by truck. Although several

¹¹ Tonnage data presented in this section represents a combination of figures for 1997 and 1998.

businesses handle their own trucking or have trucking arrangements with processors, many businesses rely on independent trucking firms to transport their goods.

5.5.1 Farm Production

Nineteen of the 21 businesses in this category were able to provide total annual tonnage figures. The total weight of agriculture products handled by the nineteen businesses amounted to 606.3 thousand tonnes. The total weight exported amounted to 429.7 thousand tonnes. The total weight of Huron County production amounted to 206.6 thousand tonnes. The total weight of Huron County goods exported amounted to 171.4 thousand tonnes. Huron County receives a considerable quantity of grain from western Canada most of which is redistributed to other sites in Ontario rather than being used locally. Additionally, beef cattle from western Canada pass through Huron County for redistribution to other regions of the province.

5.5.2 Equipment Manufacturing

The total weight of equipment production by the seven businesses amounted to 154.5 thousand tonnes. The total weight exported amounted to 87.9 thousand tonnes. The total weight of agriculture related production amounted to 98 thousand tonnes. The total weight of agriculture related exports amounted to 58.5 thousand tonnes.

5.5.3 Livestock Feed and Food Manufacturing

The total weight of livestock feed and food production handled by the nine businesses in this category amounted to 520.3 thousand tonnes. The total weight exported amounted to 348.6 thousand tonnes. The total weight of Huron County production amounted to 352.3 thousand tonnes. The total weight of Huron County production exported amounted to 212.1 thousand tonnes.

5.5.4 Total Quantity of Manufacturing

The 16 manufacturing businesses handled a total of 674.8 thousand tonnes. The total weight exported amounted to 436.5 thousand tonnes. The total weight of agri-related production amounted to 618 thousand tonnes of which 407 thousand tonnes were

exported.

5.5.5 Total Quantity of Farm Production & Manufacturing

The thirty-five businesses handled a total of 1.28 million tonnes of production annually. The total weight of exports amounted to 866 thousand tonnes. The total weight of *agri-related* production handled amounted to 1.22 million tonnes of which 837 thousand tonnes were exported.

When the total quantity of dairy, egg, chicken, hog and apple production (see Table 19) is combined with the quantity of goods handled by the 35 businesses, the total annual tonnage of agriculture and manufacturing production amounts to 1.51 million tonnes of which 1.10 million tonnes were exported. The total weight of *agri-related* production handled amounts to 1.45 million tonnes of which 1.07 million tonnes were exported.

As indicated by the responses provided by the interviewees, most of the production is transported by truck on county roads. Throughout the course of the study, businesses often commented on how their trade depended on a properly maintained road network. The research clearly illustrates the extent to which agriculture and agri-related industries rely on the local road system. As local businesses move to increase their export activity, the need to maintain a quality road network will become even more critical in ensuring the future prosperity of the agriculture sector and the local economy.

6.0 In-Depth Interviews

During the interview process, the participants were asked to comment on any significant changes that occurred over the past 10 years with respect to their business operation and related export activities. As well, the participants were asked to speculate on what changes they anticipated in the export industry in the years to come. This section of the paper presents an overview of the issues and concerns that were raised by the respondents.

6.1 Farm Production

Many of the producers commented on how the scale of farming in Huron County has increased in the past ten years. Producers were not so much concerned about the size of farms as they were with the makeup of farms. There was concern that livestock operations were being displaced by cash crop operations and that this shift in production could have an adverse impact on the diversity of production in the region. Several respondents suggested that the strength of the economy was closely associated with the diversity of agricultural commodities produced in the region. Furthermore, it was suggested that the combination of various farming activities in the region served to insulate the regional economy from the effects of a severe price collapse of any one commodity.

Several respondents mentioned that the diverse agricultural base in Huron County is coming under threat from increasing land values which have made certain commodities unprofitable. Producers expressed their concern that if land prices continue to rise, the range of commodities being produced in the county will shrink and the regional economy will become increasingly vulnerable to market fluctuations.

The respondents also noted that agriculture in Ontario is coming under greater pressure in the form of competition from western Canada. Western Canada has traditionally been a large grain and beef producing region. However, depressed grain commodity prices have shifted the attention of western growers to other value added commodities such as hogs, chickens and dairy.

Some of the respondents suggested that the movement into livestock production

represents a temporary adjustment in western Canada. In the event that world grain prices rebound, they suspect that western grain growers will lose interest in putting their grain into livestock. However, some industry analysts are predicting that the livestock production and processing industry in western Canada will continue to expand (Farm & County, October 1998, p.29). Adding value to grain through livestock production is helping western farmers offset transportation costs that have more than tripled for some producers since the elimination of the Crow rate subsidy. A number of producers in Huron County feel that western Canada will become increasingly more competitive with Ontario.

Livestock and poultry producers are also facing challenges in keeping up with advances in the processing industry. Processors are introducing new methods for handling and transporting livestock that are not necessarily compatible with production facilities at the farm. In some instances, renovations have to be made to farm facilities in order to utilize the new technology and this cost is incurred by the producer. Producers would like the processing industry to consult more frequently and more openly with producers before implementing changes.

Elevator businesses have also expanded substantially within the last ten years. However, as noted by several respondents, the cost associated with maintaining and replacing equipment has become a burdening expense for small scale operators and this has resulted in the loss of some businesses and the consolidation of others. According to one respondent, small elevator operators have also been inhibited by costly regulatory charges as prescribed by the government. Despite the reduction in elevator numbers, the respondents indicated that the elevator industry remains very competitive.

All of the respondents mentioned the importance of adopting new technology and one respondent indicated that establishing and maintaining a connection with the University of Guelph was beneficial in staying on top of new developments in the industry. As well, businesses at all levels of production are looking to draw upon the special skills of employees. As noted by one pork producer, he now makes a greater effort to employ better educated and more experienced people than in previous years.

A number of respondents voiced their concern that producers were not active

enough in questioning where the agriculture industry was going and what type of industry was right for Huron County. Respondents warned against continued consolidation in the industry for the sake of greater efficiency. They expressed their concern that farming would increasingly become a wage labour activity guided by corporate managers.

With respect to exports, one respondent suggested that perhaps too much attention was being placed on international markets. He called for a greater examination of local market opportunities and a stronger effort to promote the quality of Canadian products to Canadian consumers.

6.2 *Equipment Manufacturing*

Each of the participating manufacturers is involved in producing a range of products and in some instances, they produce items for other industrial sectors. Indeed, most of the businesses in this group produce items that have applications beyond agriculture. One company recently diversified its production line to include industrial vacuums. According to the spokesperson for the company, agri-equipment sales may eventually account for 65% of all sales while 35% of sales will come from other industrial equipment.

Although many of the manufacturers are interested in examining non-agri applications for their products, they attributed the unique agri-business climate in Huron County as a feature that has solidified their presence in the marketplace. Several of the respondents suggested that the concentration of various agricultural interests in the region offers a unique business environment that constantly challenges the industry to improve and develop products and services. This in turn, aides in the capacity of the region to remain competitive.

Manufacturers emphasized the importance of adopting new technology as a means of staying competitive and pointed out that local investment in research and product development serves to promote the region as an industry leader. The spokesperson with the dairy stall mat company made the observation that manufacturers are placing a greater emphasis on “total design” in developing products for the agriculture industry. She used the example of integrating the design of the stall mat with the design of the stall and the design of the barn.

In some instances the adoption of new technology has resulted in a reduction of jobs while in others it has created jobs. Interestingly, one manufacturer noted that the most expensive cost associated with the manufacturing process is the raw material not labour.

One respondent felt that government officials should take a greater interest in helping farmers and agri-related industries adopt new technologies. It was also suggested that the federal government could play a larger role in helping manufacturers in some capacity as they attempt to enter the eastern European marketplace. Although manufacturers perceive that the region offers long term trade opportunities, the economic conditions in the region still present a risk to investment and manufacturers would like the Canadian government to play a partnership role in exploring and developing export opportunities in the region.

Manufacturers have been successful in marketing their products locally and around the globe. The interviewees acknowledged that the low dollar has helped boost sales to the United States. However, they also asserted that buyers were attracted by the quality of products being produced in Huron County and this has been a key factor behind the amount of off-shore export activity. Although a large amount of production is exported to the United States, the manufacturers are aggressive in seeking out other global markets. Some of the manufacturers credited the strength and stability of the local economy for enabling their company to expand into global markets.

A number of businesses in the study have branched out to other regions of Ontario and even into other provinces. One manufacturer has established production facilities in Nova Scotia and British Columbia for one of its products which it exports internationally. The Huron site now acts as a distribution centre for the product while the company continues to produce another product locally which it also markets internationally. Another business specializing in custom feed mixes and supplements, recently established a pre-mix plant in neighbouring Perth County in order to enhance access to a large client base. Given the occurrence of these developments, more research into the nature of these businesses would be helpful in understanding how the local economy acts as an 'incubator' in allowing companies to mature and expand into other regions.

The interviewees stressed the importance of a well maintained road network. Manufacturers depend on a reliable road system to transport their products and several respondents commented on the high quality of the roads in the county.

Several respondents expressed their concern for farmers who are exposed to price fluctuations on the world market and encouraged by overly optimistic market analysts and financial institutions in Canada. They would like to see a more formal relationship between farmers, Marketing boards, lending agencies and government officials in order to develop strategies for reducing the market risks farmers are exposed to.

6.3 Livestock Feed and Food Manufacturing

Most of the feed and food processing businesses have expanded their operations substantially in recent years. According to the respondents, the processing industry is very competitive and the increasing costs associated with purchasing and maintaining equipment have driven many small scale processors out of business or brought about consolidation in the industry. In the livestock feed industry, depressed grain prices have made off-farm feed processing a more cost effective alternative to processing feed on the farm. As farmers move away from processing their own livestock feed on site and increase their off-farm feed purchases, the existing network of roads will become even more essential in supporting the agricultural sector.

Although the expansion and consolidation process in the feed processing industry has reduced the total number of businesses, several respondents suggested that this occurrence has produced a more modernized industry. According to the respondents, the industry is still extremely competitive and the level of expansion and modernization has enabled the region to remain competitive with other regions.

As described by one respondent, the feed industry is very price sensitive and processors who can operate efficiently in or near the local market have a cost advantage over processing plants located in central or eastern Ontario that have to incur additional expenses related to transportation. In Huron County we find a considerable quantity of feed being transported out of the region which attests to the competitiveness of the industry in the region. Processors acknowledge that the low value of the dollar has helped

to promote sales in the United States. However, processors in Huron County are also expanding sales in the US through the development of specialty products.

Indeed, businesses are actively searching out niche markets both abroad and here in Canada. The business representatives noted that the agriculture sector in Huron County has become increasingly diversified and the processing industry has responded by offering more specialty products and personalized service. Despite the intensity of sales activity beyond the county boundary, local feed processors remain committed to addressing local needs. Although some businesses have attempted to reduce costs by limiting the inventory of goods they handle, they still often carry a small inventory of essential farm supplies that are routinely asked for by local customers.

Several respondents recognized the need for processors, farmers and marketing boards and producer associations to work more closely in ensuring that the region does not “price itself out of business.” Processors believe that Huron County offers a number of advantages over other regions in the province in addition to the variety of goods that are grown locally. As indicated by one respondent, Huron County is ideally situated as a base for agri-business. The region offers agri-business a strong and diverse local market and it is close the US border.

One respondent raised the issue of increasing land prices in Huron County and the threat this poses to the diverse commodity base. As land prices increase, producers may be compelled to produce a more narrowly defined range of products that offer greater returns. This could ultimately reduce the range of business opportunities in the region that agri-businesses presently enjoy.

7.0 Conclusions and Recommendations

Agriculture plays a significant role in the economy of Huron County. In 1996, the agriculture sector generated \$512 million in farm gate sales and employed 17% of the total workforce in the region. The period between 1991 and 1996 was also significant in that the number of people employed in agriculture increased for the first time in 50 years. Remarkably, the county achieved this at a time when the province experienced a loss of over 8,000 jobs in the agriculture sector. Indeed, during the period in which the performance of the provincial economy was having a negative effect on employment in general, the agriculture sector in Huron County acted as a positive force in creating jobs and limiting the impact of job losses in the region.

Compared to the other leading agriculture regions in the province, Huron County has the highest proportion of its workforce in agriculture. Employment in manufacturing also grew between 1991 and 1996 and it now shares top spot with agriculture as the major employer in the region. As revealed in this report, some industries in the manufacturing sector are extensively involved in agri-related production. The 16 manufacturers in this study generated \$222.9 million in annual sales of which 90% was agri-related and supported 886 full-time equivalent agri-related jobs. This indicates that agriculture plays a much more substantial role in the economy than farm production indicators alone would suggest.

Huron County has a commanding lead in annual farm gate sales compared to the other leading regions in the province. In 1991 the county generated \$20 million more in farm gate sales than the next leading region and in 1996, the county generated \$60 million more in sales than the next leading region. As was the case in 1991, the level of farm gate sales in Huron County in 1996 exceeded farm gate sales in each of the four Atlantic provinces.

Farmland in Huron County is predominantly used for crop production and the number of farms involved in crop production is increasing. In contrast, livestock farming operations *appear* to be declining in Huron County. Fifty percent of farming enterprises in the county in 1996, were primarily involved in livestock production as compared to 60% in

1991. However, when we examine the total amount of production for a given commodity such as milk production, we find that the output has actually increased despite a smaller number of livestock farms. Between 1991 and 1996 there were approximately 100 fewer dairy operations and 1,300 fewer dairy cows in Huron County. During the same period, the amount farm shipments of milk from Huron County to processing plants actually increased (Statistics Canada).

Huron County is one of the most diverse agriculture regions in the province. The county is highly specialized in hog and poultry farms as well as grain and oil seed farms. Additionally, the county is at or near the provincial level of specialization in beef and dairy farms. Indeed, with the exception of a few special commodities, Huron County has a moderate to high level of specialization across a wide range of farming activities. This is likely one of the contributing and critical factors that has enabled the county to consistently lead the province in farm gate sales.

Agriculture exports and agri-related exports contribute significantly to the economy of Huron County. From the 37 businesses that provided sales data, it was calculated that \$475 million was generated in gross annual sales of which \$345 million was from goods exported out of the county. Ninety-five percent (\$452 million) of the total sales were agri-related of which \$330 million were export related. When we incorporate the total annual sales value for dairy, chicken, egg, hog and apple production, the total value of agriculture and manufacturing production amounts to \$706 million of which \$567 million is from goods exported out of the county.

With respect to employment, the 37 businesses support a total of 1,017 full-time jobs, 330 part-time jobs and 240 seasonal jobs. This represents 1,326 full time equivalent jobs of which 1,084 are directly related to the export industry. In terms of agri-related jobs, the 37 businesses support a total of 1,236 agri-related full-time equivalent jobs of which 1,031 are directly involved in the agri-export industry. Thus, 83% of the agri-related jobs are directly supported by the agri-export industry.

Focusing on the 16 manufacturing businesses, 81% (722) of the 886 agri-related full-time equivalent jobs are directly supported by the agri-export industry. This clearly points to the importance of agriculture as an industry that generates employment

opportunities across numerous industrial sectors.

The 37 businesses export their agriculture products and agri-related products locally to other regions in the province, nationally in every province across Canada, and internationally in at least thirteen different countries. The 37 businesses are considerably more active in exporting to international markets than to other provinces in Canada. Much of the international export activity is directed towards the United States where a strong US economy and a weak Canadian dollar makes Canadian exports attractive to US importers.

Indeed, Ontario exported \$5.6 billion worth of agri-food products to the US in 1997 which represents 79% of the total agri-food products exported from the province (Farm & County, April 1998, p.8). Interestingly, there was a shrinkage in exports of bulk commodities such as wheat and barley and semi-processed products and a growth in exports of value-added products such as bread and cut beef.

Many of the respondents commented on the minimal amount of food processing that occurs in Huron County. Although there is some indication of an expansion into this industry with enterprises like the newly established cheese processing plant in Seaforth, the respondents noted that a substantial amount of agri-production continues to leave the county to be processed in other parts of the province or in the US. Several respondents suggested that the county needs to be more aggressive in supporting the development of value-added agriculture companion industries. These types of industries would reinforce the status of the county as a leader in agriculture while creating local employment opportunities and generating additional tax revenue for the region.

Almost 75% of the total goods produced and/or handled by the 37 businesses is exported out of the county. A total of \$96.3 million in sales went directly to international markets while \$235.6 million in sales were exported to other regions of the province. Only \$14.1 million or three percent of sales went directly to other provinces in Canada. It is important to recognize that the actual amount of Huron County production leaving the province is likely more substantial than indicated by these results. The researchers did not trace the movement of food commodities beyond the first destination point outside of the county which in many instances is to processing plants located in other regions of the

province.

The 16 manufacturing enterprises exported 49% of their total production to other parts of the province, 5% to other provinces and 20% to markets outside of Canada. However, what is particularly striking, is the degree to which the seven equipment manufacturers have established a presence in the international marketplace. The seven manufacturers generated a total of \$56.9 million in export sales outside of the county. This represents 79% of the combined annual sales of which \$21.6 million, 30%, were international. When we focus on agri-related equipment production only, the level of export sales is even more intensive. Indeed, 84% of the annual sales from agri-related production are export related and 34% of agri-related production goes directly to the international market. Furthermore, these agri-related exports are truly global in nature reaching 13 countries on five different continents.

Agriculture and the agriculture export industry make extensive use of the road system in Huron County. The vast majority of agriculture commodities and agri-related products are transported by truck to destinations across the province, across Canada and across international borders. However, the agriculture industry is also well served by the elevator facilities at the Port of Goderich which presently have a storage capacity of 5,000,000 bushels. An estimated 1.45 million tonnes of agriculture and agri-related goods flow through the county annually of which 1.07 million tonnes are exported out of the county. It should be noted that these values represent a single count of weight. As indicated by many of the respondents, a large quantity of agri-products, raw materials etc. are transported *into* the county for further processing and then transported back *out* on county roads.

It is also important to note that many of the businesses in both production and manufacturing, rely on independent trucking firms for all or part of their transport needs. Again, this reveals the significant role that agriculture plays in generating and supporting employment opportunities beyond primary production.

In recent years the county has had to take on additional fiscal responsibilities for maintaining roads as a result of provincial restructuring. As illustrated in this report, agriculture and agriculture related businesses contribute significantly to the regional

economy in terms of generating wealth and creating local employment opportunities. Policymakers and planners need to work to ensure that the industry continues to have access to a reliable road network which contributes to the ability of the region to maintain a comparative advantage in trade.

Some of the leading agricultural regions in Ontario such as Huron County, Perth County, Oxford County and Haldimand-Norfolk Regional Municipality appear to have agricultural sectors that are significantly more specialized than other regions of the province. However, these regions have also managed to develop strong manufacturing sectors. The evidence presented here and in other bodies of research (Cummings et al, 1999), suggests that a significant amount of manufacturing activity in Huron County is related to the agricultural sector.

As detailed by Bradfield (1998, p.29), many of the economic policies developed in Canada were founded on the assumption that regions could only prosper if they became industrialized. In some provinces, the intense effort to stimulate manufacturing has diverted the attention of planners and policymakers away from the resource bases which were the main source of growth in the past. As a consequence, some regions have neglected or ignored opportunities for developing manufacturing spin-offs from base industries such as agriculture and extending their comparative advantage.

The agriculture sector in Huron County has been and continues to be a driving force in the local economy in terms of its ability to generate wealth and create employment opportunities. The findings presented in this report and in that of the preceding economic report (Cummings et al, 1998), have clearly identified agriculture and agri-related industries as positive influences in the region. Furthermore, it has been shown that the agriculture sector in Huron County has the capacity to help insulate the local economy from the effects of broader downturns in the provincial economy.

The agriculture export industry is substantial in Huron County both in terms of primary production and agri-related manufacturing. The research indicates that the manufacturing sector in Huron County has strong linkages with agriculture and further research on this matter would help to clarify to what extent the surge in manufacturing is tied to agriculture. There are also indications that the agriculture sector offers new

employment and economic opportunities and these should be investigated more fully. In the process of reviewing, developing and enacting regulations and policies, planners and policymakers must take greater account of how these decisions will impact the agriculture sector and how and where the ripple effects will be experienced across the county.

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Appendices

Appendix 1: Agriculture Business Questionnaire

Appendix 2: Percentage of Employment in 18 Industrial Sectors for Selected Counties and Regional Municipalities and Ontario with Location Quotients, 1991 & 1996.

Appendix 3: Population for Selected Counties and Regional Municipalities in South Western Ontario with Percent Change, 1991 to 1996.

Appendix 4: Percentage of Farm Type in the Agricultural Sector for Selected Counties and Regional Municipalities and Ontario with Location Quotients, 1991 & 1996.

Appendix 1:

Agriculture Business Questionnaire

4. Could you please identify the types of agricultural commodities that the business produced and/or handled at this location (#1) for export from Huron County during its most recent business year. Please be as specific as possible (e.g. breed of livestock, type of grain commodity, animal products such as eggs, agricultural inputs such as processed livestock feed or farm equipment etc.). As well, could you estimate what percentage of each commodity exported from this location was produced locally (Huron County).

Location #1 _____

	Crops (A)	% local	Livestock (B)	% local	Other ©	% local
1						
2						
3						
4						
5						

5. Does the business have other outlets in Huron County? (Yes / No)

If yes, continue on to question number 6 / if no, go to question number 7.

6. Could you identify the other business sites in Huron County and indicate the types of agricultural commodities that the business produced and/or handled for export in its most recent business year.

As well, could you please estimate the percentage of each commodity exported from each location that was produced locally (Huron County).

Location #2 _____

	Crops (A)	% local	Livestock (B)	% local	Other ©	% local
1						
2						
3						
4						

Location #3 _____

	Crops (A)	% local	Livestock (B)	% local	Other ©	% local
1						
2						

3						
4						

Section II.

7. Using figures from your most recent business year, could you please indicate the total gross sales value for each commodity *and* the value exported out of Huron County from **this location**.

	Total \$ Value	Total Export \$ Value
The total value of commodity #1. _____	\$	\$
The total value of commodity #2. _____	\$	\$
The total value of commodity #3. _____	\$	\$
The total value of commodity #4. _____	\$	\$
The total value of commodity #5. _____	\$	\$

Continue onto question #7.1. if there is more than one business location, otherwise go to question #8.

7.1. Using figures from your most recent business year, could you please indicate the total gross sales value for each commodity *and* the value exported out of Huron County from **location #2**.

	Total \$ Value	Total Export \$ Value
The total value of commodity #1. _____	\$	\$
The total value of commodity #2. _____	\$	\$
The total value of commodity #3. _____	\$	\$
The total value of commodity #4. _____	\$	\$
The total value of commodity #5. _____	\$	\$

7.2. Using figures from your most recent business year, could you please indicate the total gross sales value for each commodity *and* the value exported out of Huron County from **location #3**.

	Total \$ Value	Total Export \$ Value
The total value of commodity #1. _____	\$	\$
The total value of commodity #2. _____	\$	\$
The total value of commodity #3. _____	\$	\$
The total value of commodity #4. _____	\$	\$
The total value of commodity #5. _____	\$	\$

8. For each commodity, at each location, could you please indicate the total weight in tonnes handled annually, the type of transportation used in delivering the product, and the general area where the product is delivered to. (When indicating the area where the product is delivered to, please provide place names if possible.)

	Type of transportation	Destination
Location #1	What % is transported by...	What % is...

	Type of transportation	Destination
Location # 3	What % is transported by...	What % is...

Commodity.	Total Weight (tonnes)	truck	train	ship	plane	Sold within Huron County.	Exported outside of H.C. but remaining in Ontario (township, town, city).	Exported outside of Ontario but remaining Canada (province).

Section III.

9. Could you please provide an estimate of the number of jobs and the type of jobs that are associated with the export activity at each location.

	Full-time employees	Part-time employees		Seasonal employees	
		# employees	# wks/yr	# employees	# wks/yr
Location #1					
Location #2					
Location #3					

Section IV.

10. Reflecting on the past 5 years, what notable changes have occurred with respect to the agricultural export industry in Huron County. What impact have these changes had on the business?

Issues to consider...

A greater diversity of commodities?

Method of transporting commodities?

More processing / less processing?

More inventory - storage /

less inventory - storage?

Expansion of business capacity?

Diversification of business operations

(processing, storage, trucking etc.)?

Level of competition?

New markets?

Employment opportunities?

Ability to support/service/supply
the local market.

11. How do you see your export related activities changing over the next 5 to 10 years?

Issues to consider...

A greater diversity of commodities?

Method of transporting commodities?

More processing / less processing?

More inventory - storage /

less inventory - storage?

Expansion of business capacity?

Diversification of business operations

(processing, storage, trucking etc.)?

Level of competition?

New markets?

Employment opportunities?

Ability to support/service/supply
the local market.

12. Would you be interested in obtaining information or assistance on the following topics:

(please indicate ✓)

New markets

Export financing

Trade shows

Other (please specify):

13. Do you have any additional comments that you'd like to make about your business and its export activities or the study in general?

Thank you for participating in our study. In the final report we will be acknowledging the businesses that participated in the study, with your permission we would like to include the name of this business on the list.

Thank you.

Appendix 2:

Percentage of Employment in 18 Industrial Sectors for Selected Counties and Regional
Municipalities and Ontario with Location Quotients,
1991 & 1996.

Percentage of employment base in each sector for Huron County and Ontario with Location Quotient, 1991 & 1996.

Sector	Huron				Ontario				Location Quotient	
	1991		1996		1991		1996		1991	1996
	Jobs	Percent	Jobs	Percent	Jobs	Percent	Jobs	Percent		
Agriculture and related	4970	16.5%	5025	16.9%	139880	2.6%	131060	2.4%	6.4	6.9
Fishing and Trapping	25	0.1%	15	0.1%	1965	0.0%	1915	0.0%	2.3	1.4
Logging and Forestry	75	0.2%	25	0.1%	13965	0.3%	11405	0.2%	1.0	0.4
Mining	425	1.4%	215	0.7%	34355	0.6%	26050	0.5%	2.2	1.5
Manufacturing	4790	15.9%	5035	16.9%	942995	17.3%	922565	17.1%	0.9	1.0
Construction	2305	7.7%	2040	6.8%	358890	6.6%	290430	5.4%	1.2	1.3
Transportation and Storage	905	3.0%	1055	3.5%	187830	3.5%	198555	3.7%	0.9	1.0
Comm/Other Utilities	710	2.4%	485	1.6%	188630	3.5%	173040	3.2%	0.7	0.5
Wholesale Trade	1335	4.4%	1535	5.1%	233915	4.3%	278220	5.2%	1.0	1.0
Retail Trade	3505	11.7%	3720	12.5%	700925	12.9%	662815	12.3%	0.9	1.0
Finance and Insurance	705	2.3%	705	2.4%	253135	4.7%	228880	4.2%	0.5	0.6
Real Estate	310	1.0%	430	1.4%	100090	1.8%	111890	2.1%	0.6	0.7
Government	1620	5.4%	940	3.2%	411450	7.6%	304640	5.6%	0.7	0.6
Educational	1475	4.9%	1480	5.0%	365235	6.7%	369320	6.8%	0.7	0.7
Health and Soc Services	2890	9.6%	2955	9.9%	457115	8.4%	513615	9.5%	1.1	1.0
Accomm od., Food, Bev.	1750	5.8%	1805	6.1%	322955	5.9%	350945	6.5%	1.0	0.9
Other Services	1515	5.0%	1670	5.6%	367200	6.8%	414980	7.7%	0.7	0.7
Business Services	765	2.5%	685	2.3%	355310	6.5%	411070	7.6%	0.4	0.3
Total	30075	100.0%	29820	100.0%	5435840	100.0%	5401395	100.0%		

(Source: Statistics Canada 1991, 1996.)

Percentage of employment base in each sector for Haldimand-Norfolk Regional Municipality and Ontario with Location Quotient, 1991 & 1996.

Sector	Haldimand-Norfolk				Ontario				Location Quotient	
	1991		1996		1991		1996		1991	1996
	Jobs	Percent	Jobs	Percent	Jobs	Percent	Jobs	Percent		
Agriculture and related	8010	15.6%	7725	15.1%	139880	2.6%	131060	2.4%	6.1	6.2
Fishing and Trapping	115	0.2%	100	0.2%	1965	0.0%	1915	0.0%	6.2	5.5
Logging and Forestry	100	0.2%	185	0.4%	13965	0.3%	11405	0.2%	0.8	1.7
Mining	330	0.6%	190	0.4%	34355	0.6%	26050	0.5%	1.0	0.8
Manufacturing	8510	16.6%	10160	19.9%	942995	17.3%	922565	17.1%	1.0	1.2
Construction	3620	7.1%	2720	5.3%	358890	6.6%	290430	5.4%	1.1	1.0
Transportation and Storage	1910	3.7%	2235	4.4%	187830	3.5%	198555	3.7%	1.1	1.2
Comm/Other Utilities	1850	3.6%	1545	3.0%	188630	3.5%	173040	3.2%	1.0	0.9
Wholesale Trade	2205	4.3%	2050	4.0%	233915	4.3%	278220	5.2%	1.0	0.8
Retail Trade	6520	12.7%	6005	11.7%	700925	12.9%	662815	12.3%	1.0	1.0
Finance and Insurance	1220	2.4%	935	1.8%	253135	4.7%	228880	4.2%	0.5	0.4
Real Estate	615	1.2%	660	1.3%	100090	1.8%	111890	2.1%	0.7	0.6
Government	2540	5.0%	1680	3.3%	411450	7.6%	304640	5.6%	0.7	0.6
Educational	2695	5.3%	2880	5.6%	365235	6.7%	369320	6.8%	0.8	0.8
Health and Soc Services	4145	8.1%	4660	9.1%	457115	8.4%	513615	9.5%	1.0	1.0
Accomm od., Food, Bev.	2495	4.9%	2805	5.5%	322955	5.9%	350945	6.5%	0.8	0.8
Other Services	2725	5.3%	3090	6.0%	367200	6.8%	414980	7.7%	0.8	0.8
Business Services	1620	3.2%	1495	2.9%	355310	6.5%	411070	7.6%	0.5	0.4
Total	51225	100.0%	51120	100.0%	5435840	100.0%	5401395	100.0%		

(Source: Statistics Canada 1991, 1996.)

Percentage of employment base in each sector for Middlesex County and Ontario with Location Quotient, 1991 & 1996.

Sector	Middlesex				Ontario				Location Quotient	
	1991		1996		1991		1996		1991	1996
	Jobs	Percent	Jobs	Percent	Jobs	Percent	Jobs	Percent		
Agriculture and related	6875	3.4%	6370	3.2%	139880	2.6%	131060	2.4%	1.3	1.3
Fishing and Trapping	40	0.0%	0	0.0%	1965	0.0%	1915	0.0%	0.5	0.0
Logging and Forestry	150	0.1%	120	0.1%	13965	0.3%	11405	0.2%	0.3	0.3
Mining	275	0.1%	210	0.1%	34355	0.6%	26050	0.5%	0.2	0.2
Manufacturing	30350	14.8%	30040	15.1%	942995	17.3%	922565	17.1%	0.9	0.9
Construction	13525	6.6%	11060	5.5%	358890	6.6%	290430	5.4%	1.0	1.0
Transportation and Storage	5575	2.7%	5970	3.0%	187830	3.5%	198555	3.7%	0.8	0.8
Comm/Other Utilities	6725	3.3%	6115	3.1%	188630	3.5%	173040	3.2%	0.9	1.0
Wholesale Trade	9180	4.5%	10140	5.1%	233915	4.3%	278220	5.2%	1.0	1.0
Retail Trade	28025	13.7%	25285	12.7%	700925	12.9%	662815	12.3%	1.1	1.0
Finance and Insurance	10980	5.4%	9720	4.9%	253135	4.7%	228880	4.2%	1.2	1.2
Real Estate	3900	1.9%	4175	2.1%	100090	1.8%	111890	2.1%	1.0	1.0
Government	10380	5.1%	7665	3.8%	411450	7.6%	304640	5.6%	0.7	0.7
Educational	17215	8.4%	17175	8.6%	365235	6.7%	369320	6.8%	1.3	1.3
Health and Soc Services	24290	11.9%	25510	12.8%	457115	8.4%	513615	9.5%	1.4	1.3
Accomm od., Food, Bev.	13440	6.6%	12760	6.4%	322955	5.9%	350945	6.5%	1.1	1.0
Other Services	13330	6.5%	15480	7.8%	367200	6.8%	414980	7.7%	1.0	1.0
Business Services	10470	5.1%	11530	5.8%	355310	6.5%	411070	7.6%	0.8	0.8
Total	204725	100.0%	199325	100.0%	5435840	100.0%	5401395	100.0%		

(Source: Statistics Canada 1991, 1996.)

Percentage of employment base in each sector for Kent County and Ontario with Location Quotient, 1991 & 1996.

Sector	Kent				Ontario				Location Quotient	
	1991		1996		1991		1996		1991	1996
	Jobs	Percent	Jobs	Percent	Jobs	Percent	Jobs	Percent		
Agriculture and related	5800	10.2%	4860	8.9%	139880	2.6%	131060	2.4%	4.0	3.7
Fishing and Trapping	200	0.4%	160	0.3%	1965	0.0%	1915	0.0%	9.7	8.3
Logging and Forestry	10	0.0%	20	0.0%	13965	0.3%	11405	0.2%	0.1	0.2
Mining	305	0.5%	105	0.2%	34355	0.6%	26050	0.5%	0.8	0.4
Manufacturing	13395	23.6%	13405	24.6%	942995	17.3%	922565	17.1%	1.4	1.4
Construction	2955	5.2%	2465	4.5%	358890	6.6%	290430	5.4%	0.8	0.8
Transportation and Storage	1705	3.0%	1840	3.4%	187830	3.5%	198555	3.7%	0.9	0.9
Comm/Other Utilities	1715	3.0%	1570	2.9%	188630	3.5%	173040	3.2%	0.9	0.9
Wholesale Trade	2055	3.6%	2655	4.9%	233915	4.3%	278220	5.2%	0.8	0.9
Retail Trade	7765	13.7%	6555	12.0%	700925	12.9%	662815	12.3%	1.1	1.0
Finance and Insurance	1165	2.0%	1130	2.1%	253135	4.7%	228880	4.2%	0.4	0.5
Real Estate	525	0.9%	730	1.3%	100090	1.8%	111890	2.1%	0.5	0.6
Government	3040	5.3%	1975	3.6%	411450	7.6%	304640	5.6%	0.7	0.6
Educational	2770	4.9%	2845	5.2%	365235	6.7%	369320	6.8%	0.7	0.8
Health and Soc Services	5190	9.1%	5565	10.2%	457115	8.4%	513615	9.5%	1.1	1.1
Accomm od., Food , Bev.	3595	6.3%	3445	6.3%	322955	5.9%	350945	6.5%	1.1	1.0
Other Services	3280	5.8%	3760	6.9%	367200	6.8%	414980	7.7%	0.9	0.9
Business Services	1400	2.5%	1410	2.6%	355310	6.5%	411070	7.6%	0.4	0.3
Total	56870	100.0%	54495	100.0%	5435840	100.0%	5401395	100.0%		

(Source: Statistics Canada 1991, 1996.)

Percentage of employment base in each sector for Perth County and Ontario with Location Quotient, 1991 & 1996.

Sector	Perth				Ontario				Location Quotient	
	1991		1996		1991		1996		1991	1996
	Jobs	Percent	Jobs	Percent	Jobs	Percent	Jobs	Percent		
Agriculture and related	5190	13.8%	4935	12.8%	139880	2.6%	131060	2.4%	5.4	5.3
Fishing and Trapping	10	0.0%	0	0.0%	1965	0.0%	1915	0.0%	0.7	0.0
Logging and Forestry	40	0.1%	10	0.0%	13965	0.3%	11405	0.2%	0.4	0.1
Mining	30	0.1%	105	0.3%	34355	0.6%	26050	0.5%	0.1	0.6
Manufacturing	8975	23.8%	9580	24.8%	942995	17.3%	922565	17.1%	1.4	1.5
Construction	2485	6.6%	2290	5.9%	358890	6.6%	290430	5.4%	1.0	1.1
Transportation and Storage	980	2.6%	1445	3.7%	187830	3.5%	198555	3.7%	0.8	1.0
Comm/Other Utilities	635	1.7%	565	1.5%	188630	3.5%	173040	3.2%	0.5	0.5
Wholesale Trade	1430	3.8%	1445	3.7%	233915	4.3%	278220	5.2%	0.9	0.7
Retail Trade	4730	12.6%	4640	12.0%	700925	12.9%	662815	12.3%	1.0	1.0
Finance and Insurance	1255	3.3%	1040	2.7%	253135	4.7%	228880	4.2%	0.7	0.6
Real Estate	365	1.0%	470	1.2%	100090	1.8%	111890	2.1%	0.5	0.6
Government	1395	3.7%	920	2.4%	411450	7.6%	304640	5.6%	0.5	0.4
Educational	1870	5.0%	1655	4.3%	365235	6.7%	369320	6.8%	0.7	0.6
Health and Soc Services	3150	8.4%	3550	9.2%	457115	8.4%	513615	9.5%	1.0	1.0
Accommod., Food, Bev.	1865	5.0%	2330	6.0%	322955	5.9%	350945	6.5%	0.8	0.9
Other Services	2525	6.7%	2440	6.3%	367200	6.8%	414980	7.7%	1.0	0.8
Business Services	735	2.0%	1135	2.9%	355310	6.5%	411070	7.6%	0.3	0.4
Total	37665	100.0%	38555	100.0%	5435840	100.0%	5401395	100.0%		

(Source: Statistics Canada 1991, 1996.)

Percentage of employment base in each sector for Oxford County and Ontario with Location Quotient, 1991 & 1996.

Sector	Oxford				Ontario				Location Quotient	
	1991		1996		1991		1996		1991	1996
	Jobs	Percent	Jobs	Percent	Jobs	Percent	Jobs	Percent		
Agriculture and related	6035	12.4%	5945	12.0%	139880	2.6%	131060	2.4%	4.8	5.0
Fishing and Trapping	10	0.0%	0	0.0%	1965	0.0%	1915	0.0%	0.6	0.0
Logging and Forestry	40	0.1%	15	0.0%	13965	0.3%	11405	0.2%	0.3	0.1
Mining	115	0.2%	190	0.4%	34355	0.6%	26050	0.5%	0.4	0.8
Manufacturing	12085	24.8%	12120	24.5%	942995	17.3%	922565	17.1%	1.4	1.4
Construction	2495	5.1%	2320	4.7%	358890	6.6%	290430	5.4%	0.8	0.9
Transportation and Storage	1875	3.8%	2275	4.6%	187830	3.5%	198555	3.7%	1.1	1.3
Comm/Other Utilities	870	1.8%	845	1.7%	188630	3.5%	173040	3.2%	0.5	0.5
Wholesale Trade	2290	4.7%	2745	5.6%	233915	4.3%	278220	5.2%	1.1	1.1
Retail Trade	6310	13.0%	5815	11.8%	700925	12.9%	662815	12.3%	1.0	1.0
Finance and Insurance	1395	2.9%	1075	2.2%	253135	4.7%	228880	4.2%	0.6	0.5
Real Estate	630	1.3%	785	1.6%	100090	1.8%	111890	2.1%	0.7	0.8
Government	1980	4.1%	1395	2.8%	411450	7.6%	304640	5.6%	0.5	0.5
Educational	2350	4.8%	2495	5.0%	365235	6.7%	369320	6.8%	0.7	0.7
Health and Soc Services	3975	8.2%	4280	8.7%	457115	8.4%	513615	9.5%	1.0	0.9
Accommod., Food, Bev.	2400	4.9%	2835	5.7%	322955	5.9%	350945	6.5%	0.8	0.9
Other Services	2530	5.2%	2705	5.5%	367200	6.8%	414980	7.7%	0.8	0.7
Business Services	1340	2.8%	1615	3.3%	355310	6.5%	411070	7.6%	0.4	0.4
Total	48725	100.0%	49455	100.0%	5435840	100.0%	5401395	100.0%		

(Source: Statistics Canada 1991, 1996.)

Percentage of employment base in each sector for Niagara Regional Municipality and Ontario with Location Quotient, 1991 & 1996.

Sector	Niagara				Ontario				Location Quotient	
	1991		1996		1991		1996		1991	1996
	Jobs	Percent	Jobs	Percent	Jobs	Percent	Jobs	Percent		
Agriculture and related	7430	3.7%	7380	3.8%	139880	2.6%	131060	2.4%	1.4	1.6
Fishing and Trapping	20	0.0%	50	0.0%	1965	0.0%	1915	0.0%	0.3	0.7
Logging and Forestry	475	0.2%	45	0.0%	13965	0.3%	11405	0.2%	0.9	0.1
Mining	505	0.3%	340	0.2%	34355	0.6%	26050	0.5%	0.4	0.4
Manufacturing	42085	21.1%	38360	19.8%	942995	17.3%	922565	17.1%	1.2	1.2
Construction	14265	7.1%	10795	5.6%	358890	6.6%	290430	5.4%	1.1	1.0
Transportation and Storage	6580	3.3%	6665	3.4%	187830	3.5%	198555	3.7%	1.0	0.9
Comm/Other Utilities	4955	2.5%	4280	2.2%	188630	3.5%	173040	3.2%	0.7	0.7
Wholesale Trade	7345	3.7%	8315	4.3%	233915	4.3%	278220	5.2%	0.9	0.8
Retail Trade	27280	13.7%	26340	13.6%	700925	12.9%	662815	12.3%	1.1	1.1
Finance and Insurance	5870	2.9%	5125	2.6%	253135	4.7%	228880	4.2%	0.6	0.6
Real Estate	2965	1.5%	2670	1.4%	100090	1.8%	111890	2.1%	0.8	0.7
Government	11160	5.6%	8145	4.2%	411450	7.6%	304640	5.6%	0.7	0.7
Educational	12185	6.1%	13190	6.8%	365235	6.7%	369320	6.8%	0.9	1.0
Health and Soc Services	16950	8.5%	19400	10.0%	457115	8.4%	513615	9.5%	1.0	1.1
Accomm od., Food, Bev.	17085	8.6%	17805	9.2%	322955	5.9%	350945	6.5%	1.4	1.4
Other Services	13295	6.7%	15235	7.9%	367200	6.8%	414980	7.7%	1.0	1.0
Business Services	9120	4.6%	9485	4.9%	355310	6.5%	411070	7.6%	0.7	0.6
Total	199570	100.0%	193625	100.0%	5435840	100.0%	5401395	100.0%		

(Source: Statistics Canada 1991, 1996.)

Percentage of employment base in each sector for Wellington County and Ontario with Location Quotient, 1991 & 1996.

Sector	Wellington				Ontario				Location Quotient	
	1991		1996		1991		1996		1991	1996
	Jobs	Percent	Jobs	Percent	Jobs	Percent	Jobs	Percent		
Agriculture and related	5855	6.6%	5390	5.9%	139880	2.6%	131060	2.4%	2.6	2.4
Fishing and Trapping	40	0.0%	10	0.0%	1965	0.0%	1915	0.0%	1.3	0.3
Logging and Forestry	80	0.1%	90	0.1%	13965	0.3%	11405	0.2%	0.4	0.5
Mining	200	0.2%	160	0.2%	34355	0.6%	26050	0.5%	0.4	0.4
Manufacturing	19380	22.0%	22185	24.2%	942995	17.3%	922565	17.1%	1.3	1.4
Construction	6025	6.8%	4480	4.9%	358890	6.6%	290430	5.4%	1.0	0.9
Transportation and Storage	2470	2.8%	3290	3.6%	187830	3.5%	198555	3.7%	0.8	1.0
Comm/Other Utilities	1885	2.1%	1595	1.7%	188630	3.5%	173040	3.2%	0.6	0.5
Wholesale Trade	3485	4.0%	4660	5.1%	233915	4.3%	278220	5.2%	0.9	1.0
Retail Trade	10355	11.8%	9785	10.7%	700925	12.9%	662815	12.3%	0.9	0.9
Finance and Insurance	2850	3.2%	2305	2.5%	253135	4.7%	228880	4.2%	0.7	0.6
Real Estate	1315	1.5%	1685	1.8%	100090	1.8%	111890	2.1%	0.8	0.9
Government	4800	5.4%	3585	3.9%	411450	7.6%	304640	5.6%	0.7	0.7
Educational	8620	9.8%	8710	9.5%	365235	6.7%	369320	6.8%	1.5	1.4
Health and Soc Services	7365	8.4%	7665	8.4%	457115	8.4%	513615	9.5%	1.0	0.9
Accomm od., Food, Bev.	4400	5.0%	5585	6.1%	322955	5.9%	350945	6.5%	0.8	0.9
Other Services	4860	5.5%	5930	6.5%	367200	6.8%	414980	7.7%	0.8	0.8
Business Services	4125	4.7%	4660	5.1%	355310	6.5%	411070	7.6%	0.7	0.7
Total	88110	100.0%	91770	100.0%	5435840	100.0%	5401395	100.0%		

(Source: Statistics Canada 1991, 1996.)

Percentage of employment base in each sector for Essex County and Ontario with Location Quotient, 1991 & 1996.

Sector	Essex				Ontario				Location Quotient	
	1991		1996		1991		1996		1991	1996
	Jobs	Percent	Jobs	Percent	Jobs	Percent	Jobs	Percent		
Agriculture and related	5145	3.1%	5735	3.3%	139880	2.6%	131060	2.4%	1.2	1.4
Fishing and Trapping	210	0.1%	240	0.1%	1965	0.0%	1915	0.0%	3.6	3.9
Logging and Forestry	60	0.0%	30	0.0%	13965	0.3%	11405	0.2%	0.1	0.1
Mining	425	0.3%	470	0.3%	34355	0.6%	26050	0.5%	0.4	0.6
Manufacturing	45450	27.8%	48765	28.0%	942995	17.3%	922565	17.1%	1.6	1.6
Construction	8405	5.1%	9095	5.2%	358890	6.6%	290430	5.4%	0.8	1.0
Transportation and Storage	5000	3.1%	4975	2.9%	187830	3.5%	198555	3.7%	0.9	0.8
Comm/Other Utilities	3570	2.2%	3450	2.0%	188630	3.5%	173040	3.2%	0.6	0.6
Wholesale Trade	5065	3.1%	5590	3.2%	233915	4.3%	278220	5.2%	0.7	0.6
Retail Trade	21670	13.2%	20405	11.7%	700925	12.9%	662815	12.3%	1.0	1.0
Finance and Insurance	4805	2.9%	3750	2.2%	253135	4.7%	228880	4.2%	0.6	0.5
Real Estate	2065	1.3%	2640	1.5%	100090	1.8%	111890	2.1%	0.7	0.7
Government	7440	4.5%	5690	3.3%	411450	7.6%	304640	5.6%	0.6	0.6
Educational	10995	6.7%	10865	6.2%	365235	6.7%	369320	6.8%	1.0	0.9
Health and Soc Services	14900	9.1%	16940	9.7%	457115	8.4%	513615	9.5%	1.1	1.0
Accommod., Food, Bev.	11500	7.0%	12770	7.3%	322955	5.9%	350945	6.5%	1.2	1.1
Other Services	10225	6.3%	14565	8.4%	367200	6.8%	414980	7.7%	0.9	1.1
Business Services	6655	4.1%	8185	4.7%	355310	6.5%	411070	7.6%	0.6	0.6
Total	163585	100.0%	174160	100.0%	5435840	100.0%	5401395	100.0%		

(Source: Statistics Canada, 1991, 1996.)

Percentage of employment base in each sector for Lambton County and Ontario with Location Quotient, 1991 & 1996.

Sector	Lambton				Ontario				Location Q	
	1991		1996		1991		1996		1991	1996
	Jobs	Percent	Jobs	Percent	Jobs	Percent	Jobs	Percent		
Agriculture and related	4065	6.2%	3290	5.3%	139880	2.6%	131060	2.4%	2.4	2.2
Fishing and Trapping	30	0.0%	45	0.1%	1965	0.0%	1915	0.0%	1.3	2.1
Logging and Forestry	50	0.1%	10	0.0%	13965	0.3%	11405	0.2%	0.3	0.1
Mining	860	1.3%	390	0.6%	34355	0.6%	26050	0.5%	2.1	1.3
Manufacturing	12795	19.4%	10945	17.7%	942995	17.3%	922565	17.1%	1.1	1.0
Construction	5865	8.9%	4655	7.5%	358890	6.6%	290430	5.4%	1.3	1.4
Transportation and Storage	2375	3.6%	2605	4.2%	187830	3.5%	198555	3.7%	1.0	1.1
Comm/Other Utilities	2180	3.3%	1890	3.1%	188630	3.5%	173040	3.2%	1.0	1.0
Wholesale Trade	2760	4.2%	2370	3.8%	233915	4.3%	278220	5.2%	1.0	0.7
Retail Trade	8250	12.5%	7765	12.5%	700925	12.9%	662815	12.3%	1.0	1.0
Finance and Insurance	1335	2.0%	1260	2.0%	253135	4.7%	228880	4.2%	0.4	0.5
Real Estate	775	1.2%	815	1.3%	100090	1.8%	111890	2.1%	0.6	0.6
Government	2940	4.4%	2435	3.9%	411450	7.6%	304640	5.6%	0.6	0.7
Educational	4010	6.1%	3875	6.3%	365235	6.7%	369320	6.8%	0.9	0.9
Health and Soc Services	5715	8.6%	6765	10.9%	457115	8.4%	513615	9.5%	1.0	1.1
Accommod., Food, Bev.	4385	6.6%	4370	7.1%	322955	5.9%	350945	6.5%	1.1	1.1
Other Services	5085	7.7%	5825	9.4%	367200	6.8%	414980	7.7%	1.1	1.2
Business Services	2615	4.0%	2600	4.2%	355310	6.5%	411070	7.6%	0.6	0.6
Total	66090	100.0%	61910	100.0%	5435840	100.0%	5401395	100.0%		

(Source: Statistics Canada 1991, 1996.)

Percentage of employment base in each sector for Waterloo Regional Municipality and Ontario with Location Quotient, 1991 & 1996.

Sector	Waterloo Region				Ontario				Location Quotient	
	1991		1996		1991		1996		1991	1996
	Jobs	Percent	Jobs	Percent	Jobs	Percent	Jobs	Percent		
Agriculture and related	4735	2.3%	4325	2.0%	139880	2.6%	131060	2.4%	0.9	0.8
Fishing and Trapping	45	0.0%	45	0.0%	1965	0.0%	1915	0.0%	0.6	0.6
Logging and Forestry	150	0.1%	55	0.0%	13965	0.3%	11405	0.2%	0.3	0.1
Mining	255	0.1%	155	0.1%	34355	0.6%	26050	0.5%	0.2	0.1
Manufacturing	54095	25.8%	56870	26.5%	942995	17.3%	922565	17.1%	1.5	1.6
Construction	14270	6.8%	11185	5.2%	358890	6.6%	290430	5.4%	1.0	1.0
Transportation and Storage	5550	2.6%	6790	3.2%	187830	3.5%	198555	3.7%	0.8	0.9
Comm/Other Utilities	4815	2.3%	4305	2.0%	188630	3.5%	173040	3.2%	0.7	0.6
Wholesale Trade	10575	5.0%	11015	5.1%	233915	4.3%	278220	5.2%	1.2	1.0
Retail Trade	27090	12.9%	25565	11.9%	700925	12.9%	662815	12.3%	1.0	1.0
Finance and Insurance	9955	4.7%	8895	4.1%	253135	4.7%	228880	4.2%	1.0	1.0
Real Estate	3555	1.7%	4660	2.2%	100090	1.8%	111890	2.1%	0.9	1.0
Government	8860	4.2%	6960	3.2%	411450	7.6%	304640	5.6%	0.6	0.6
Educational	16880	8.0%	16410	7.6%	365235	6.7%	369320	6.8%	1.2	1.1
Health and Soc Services	14215	6.8%	17135	8.0%	457115	8.4%	513615	9.5%	0.8	0.8
Accomm od., Food, Bev.	11695	5.6%	12540	5.8%	322955	5.9%	350945	6.5%	0.9	0.9
Other Services	12575	6.0%	14455	6.7%	367200	6.8%	414980	7.7%	0.9	0.9
Business Services	10445	5.0%	13350	6.2%	355310	6.5%	411070	7.6%	0.8	0.8
Total	209760	100.0%	214715	100.0%	5435840	100.0%	5401395	100.0%		

(Source: Statistics Canada 1991, 1996.)

Appendix 3:

Population for Selected Counties and Regional Municipalities in South Western Ontario with Percent Change, 1991 to 1996.

Population for Selected Counties and Regional Municipalities in South Western Ontario with Percent Change, 1991 to 1996.

Region	1991	1996	Percent change
Huron	59060	60220	2
Haldimand-Norfolk Regional Municipality	98707	102575	3.9
Middlesex	372234	389616	4.7
Kent	109943	109650	-0.3
Perth	69976	72106	3
Oxford	92888	97142	4.6
Niagara Regional Municipality	393936	403504	2.4
Wellington	159609	171395	7.4
Essex	327365	350329	7
Lambton	128948	128975	0.02
Waterloo Regional Municipality	377762	405435	7.3

(Source: Statistics Canada. 1996. National Overview: Population and Dwelling Count.)

Appendix 4:

Percentage of Farm Type in the Agricultural Sector for Selected Counties and Regional
Municipalities and Ontario with Location Quotients,
1991 & 1996.

Percentage of farm type in the agriculture sector for Huron County and Ontario with Location Quotient, 1991 & 1996.

Farm Type	Huron				Ontario				Location Quotient	
	1991		1996		1991		1996		1991	1996
	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent		
Dairy	432	13.8%	328	10.84%	9757	15.88%	8320	13.89%	0.9	0.8
Beef Cattle	791	25.2%	728	24.07%	16855	27.44%	14172	23.66%	0.9	1.0
Hog	490	15.6%	296	9.79%	3827	6.23%	2677	4.47%	2.5	2.2
Poultry & Egg	152	4.9%	167	5.52%	1583	2.58%	1686	2.82%	1.9	2.0
Wheat	27	0.9%	25	0.83%	529	0.86%	466	0.78%	1.0	1.1
Grain & Oilseed	857	27.3%	954	31.54%	11433	18.61%	12250	20.46%	1.5	1.5
Field Crop	50	1.6%	78	2.58%	3535	5.75%	4965	8.29%	0.3	0.3
Fruit	21	0.7%	23	0.76%	2107	3.43%	2016	3.37%	0.2	0.2
Vegetable	23	0.7%	18	0.60%	1639	2.67%	1428	2.38%	0.3	0.2
Miscellaneous Specialty	125	4.0%	184	6.08%	7312	11.90%	8547	14.27%	0.3	0.4
Livestock Combination	120	3.8%	177	5.85%	1921	3.13%	2030	3.39%	1.2	1.7
Other Combination	46	1.5%	47	1.55%	934	1.52%	1330	2.22%	1.0	0.7
Total	3134	100.00%	3025	100.00%	61432	100.00%	59887	100.00%		

(Source: Statistics Canada 1991, 1996.)

Percentage of farm type in the agriculture sector for Haldimand-Norfolk Regional Municipality and Ontario with Location Quotient, 1991 & 1996.

Farm Type	Haldimand-Norfolk				Ontario				Location Quotient	
	1991		1996		1991		1996		1991	1996
	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent		
Dairy	261	9.16%	219	7.92%	9757	15.88%	8320	13.89%	0.6	0.6
Beef Cattle	295	10.35%	210	7.60%	16855	27.44%	14172	23.66%	0.4	0.3
Hog	96	3.37%	50	1.81%	3827	6.23%	2677	4.47%	0.5	0.4
Poultry & Egg	93	3.26%	101	3.65%	1583	2.58%	1686	2.82%	1.3	1.3
Wheat	56	1.97%	22	0.80%	529	0.86%	466	0.78%	2.3	1.0
Grain & Oilseed	604	21.20%	628	22.72%	11433	18.61%	12250	20.46%	1.1	1.1
Field Crop	834	29.27%	852	30.82%	3535	5.75%	4965	8.29%	5.1	3.7
Fruit	94	3.30%	83	3.00%	2107	3.43%	2016	3.37%	1.0	0.9
Vegetable	151	5.30%	149	5.39%	1639	2.67%	1428	2.38%	2.0	2.3
Miscellaneous Specialty	254	8.92%	306	11.07%	7312	11.90%	8547	14.27%	0.7	0.8
Livestock Combination	46	1.61%	50	1.81%	1921	3.13%	2030	3.39%	0.5	0.5
Other Combination	65	2.28%	94	3.40%	934	1.52%	1330	2.22%	1.5	1.5
Total	2849	100.00%	2764	100.00%	61432	100.00%	59887	100.00%		

(Source: Statistics Canada 1991, 1996.)

Percentage of farm type in the agriculture sector for Middlesex County and Ontario with Location Quotient, 1991 & 1996.

Farm Type	Middlesex				Ontario				Location Quotient	
	1991		1996		1991		1996		1991	1996
	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent		
Dairy	296	10.04%	252	9.01%	9757	15.88%	8320	13.89%	0.6	0.6
Beef Cattle	531	18.01%	343	12.26%	16855	27.44%	14172	23.66%	0.7	0.5
Hog	279	9.46%	206	7.37%	3827	6.23%	2677	4.47%	1.5	1.6
Poultry & Egg	88	2.99%	100	3.58%	1583	2.58%	1686	2.82%	1.2	1.3
Wheat	35	1.19%	44	1.57%	529	0.86%	466	0.78%	1.4	2.0
Grain & Oilseed	1025	34.77%	1148	41.04%	11433	18.61%	12250	20.46%	1.9	2.0
Field Crop	103	3.49%	116	4.15%	3535	5.75%	4965	8.29%	0.6	0.5
Fruit	43	1.46%	45	1.61%	2107	3.43%	2016	3.37%	0.4	0.5
Vegetable	71	2.41%	55	1.97%	1639	2.67%	1428	2.38%	0.9	0.8
Miscellaneous Specialty	343	11.64%	349	12.48%	7312	11.90%	8547	14.27%	1.0	0.9
Livestock Combination	91	3.09%	92	3.29%	1921	3.13%	2030	3.39%	1.0	1.0
Other Combination	43	1.46%	47	1.68%	934	1.52%	1330	2.22%	1.0	0.8
Total	2948	100.00%	2797	100.00%	61432	100.00%	59887	100.00%		

(Source: Statistics Canada 1991, 1996.)

Percentage of farm type in the agriculture sector for Oxford County and Ontario with Location Quotient, 1991 & 1996.

Farm Type	Oxford				Ontario				Location Quotient	
	1991		1996		1991		1996		1991	1996
	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent		
Dairy	618	27.16%	538	24.29%	9757	15.88%	8320	13.89%	1.7	1.7
Beef Cattle	264	11.60%	305	13.77%	16855	27.44%	14172	23.66%	0.4	0.6
Hog	289	12.70%	218	9.84%	3827	6.23%	2677	4.47%	2.0	2.2
Poultry & Egg	79	3.47%	86	3.88%	1583	2.58%	1686	2.82%	1.3	1.4
Wheat	17	0.75%	24	1.08%	529	0.86%	466	0.78%	0.9	1.4
Grain & Oilseed	501	22.02%	492	22.21%	11433	18.61%	12250	20.46%	1.2	1.1
Field Crop	165	7.25%	179	8.08%	3535	5.75%	4965	8.29%	1.3	1.0
Fruit	38	1.67%	31	1.40%	2107	3.43%	2016	3.37%	0.5	0.4
Vegetable	44	1.93%	33	1.49%	1639	2.67%	1428	2.38%	0.7	0.6
Miscellaneous Specialty	154	6.77%	178	8.04%	7312	11.90%	8547	14.27%	0.6	0.6
Livestock Combination	73	3.21%	85	3.84%	1921	3.13%	2030	3.39%	1.0	1.1
Other Combination	33	1.45%	46	2.08%	934	1.52%	1330	2.22%	1.0	0.9
Total	2275	100.00%	2215	100.00%	61432	100.00%	59887	100.00%		

(Source: Statistics Canada 1991, 1996.)

Percentage of farm type in the agriculture sector for Perth County and Ontario with Location Quotient, 1991 & 1996.

Farm Type	Perth				Ontario				Location Quotient	
	1991		1996		1991		1996		1991	1996
	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent		
Dairy	676	24.13%	608	22.38%	9757	15.88%	8320	13.89%	1.5	1.6
Beef Cattle	523	18.67%	397	14.61%	16855	27.44%	14172	23.66%	0.7	0.6
Hog	589	21.03%	464	17.08%	3827	6.23%	2677	4.47%	3.4	3.8
Poultry & Egg	90	3.21%	108	3.97%	1583	2.58%	1686	2.82%	1.2	1.4
Wheat	17	0.61%	28	1.03%	529	0.86%	466	0.78%	0.7	1.3
Grain & Oilseed	556	19.85%	656	24.14%	11433	18.61%	12250	20.46%	1.1	1.2
Field Crop	39	1.39%	46	1.69%	3535	5.75%	4965	8.29%	0.2	0.2
Fruit	4	0.14%	9	0.33%	2107	3.43%	2016	3.37%	0.0	0.1
Vegetable	17	0.61%	14	0.52%	1639	2.67%	1428	2.38%	0.2	0.2
Miscellaneous Specialty	103	3.68%	166	6.11%	7312	11.90%	8547	14.27%	0.3	0.4
Livestock Combination	164	5.86%	167	6.15%	1921	3.13%	2030	3.39%	1.9	1.8
Other Combination	23	0.82%	54	1.99%	934	1.52%	1330	2.22%	0.5	0.9
Total	2801	100.00%	2717	100.00%	61432	100.00%	59887	100.00%		

(Source: Statistics Canada 1991, 1996.)

Percentage of farm type in the agriculture sector for Waterloo Regional Municipality and Ontario with Location Quotient, 1991 & 1996.

Farm Type	Waterloo				Ontario				Location Quotient	
	1991		1996		1991		1996		1991	1996
	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent		
Dairy	269	17.79%	256	17.14%	9757	15.88%	8320	13.89%	1.1	1.2
Beef Cattle	351	23.21%	289	19.34%	16855	27.44%	14172	23.66%	0.8	0.8
Hog	295	19.51%	259	17.34%	3827	6.23%	2677	4.47%	3.1	3.9
Poultry & Egg	69	4.56%	88	5.89%	1583	2.58%	1686	2.82%	1.8	2.1
Wheat	8	0.53%	3	0.20%	529	0.86%	466	0.78%	0.6	0.3
Grain & Oilseed	128	8.47%	137	9.17%	11433	18.61%	12250	20.46%	0.5	0.4
Field Crop	23	1.52%	36	2.41%	3535	5.75%	4965	8.29%	0.3	0.3
Fruit	13	0.86%	11	0.74%	2107	3.43%	2016	3.37%	0.3	0.2
Vegetable	16	1.06%	13	0.87%	1639	2.67%	1428	2.38%	0.4	0.4
Miscellaneous Specialty	112	7.41%	133	8.90%	7312	11.90%	8547	14.27%	0.6	0.6
Livestock Combination	215	14.22%	240	16.06%	1921	3.13%	2030	3.39%	4.5	4.7
Other Combination	13	0.86%	29	1.94%	934	1.52%	1330	2.22%	0.6	0.9
Total	1512	100.00%	1494	100.00%	61432	100.00%	59887	100.00%		

(Source: Statistics Canada 1991, 1996.)

Percentage of farm type in the agriculture sector for Wellington County and Ontario with Location Quotient, 1991 & 1996.

Farm Type	Wellington				Ontario				Location Quotient	
	1991		1996		1991		1996		1991	1996
	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent		
Dairy	547	20.98%	471	18.33%	9757	15.88%	8320	13.89%	1.3	1.3
Beef Cattle	766	29.38%	629	24.48%	16855	27.44%	14172	23.66%	1.1	1.0
Hog	295	11.32%	241	9.38%	3827	6.23%	2677	4.47%	1.8	2.1
Poultry & Egg	95	3.64%	133	5.18%	1583	2.58%	1686	2.82%	1.4	1.8
Wheat	18	0.69%	15	0.58%	529	0.86%	466	0.78%	0.8	0.8
Grain & Oilseed	241	9.24%	295	11.48%	11433	18.61%	12250	20.46%	0.5	0.6
Field Crop	109	4.18%	133	5.18%	3535	5.75%	4965	8.29%	0.7	0.6
Fruit	21	0.81%	20	0.78%	2107	3.43%	2016	3.37%	0.2	0.2
Vegetable	25	0.96%	26	1.01%	1639	2.67%	1428	2.38%	0.4	0.4
Miscellaneous Specialty	335	12.85%	388	15.10%	7312	11.90%	8547	14.27%	1.1	1.1
Livestock Combination	126	4.83%	160	6.23%	1921	3.13%	2030	3.39%	1.5	1.8
Other Combination	29	1.11%	58	2.26%	934	1.52%	1330	2.22%	0.7	1.0
Total	2607	100.00%	2569	100.00%	61432	100.00%	59887	100.00%		

(Source: Statistics Canada 1991, 1996.)

Percentage of farm type in the agriculture sector for Kent County and Ontario with Location Quotient, 1991 & 1996.

Farm Type	Kent				Ontario				Location Quotient	
	1991		1996		1991		1996		1991	1996
	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent		
Dairy	11	0.40%	9	0.35%	9757	15.88%	8320	13.89%	0.0	0.0
Beef Cattle	160	5.88%	70	2.69%	16855	27.44%	14172	23.66%	0.2	0.1
Hog	179	6.57%	142	5.45%	3827	6.23%	2677	4.47%	1.1	1.2
Poultry & Egg	22	0.81%	15	0.58%	1583	2.58%	1686	2.82%	0.3	0.2
Wheat	24	0.88%	33	1.27%	529	0.86%	466	0.78%	1.0	1.6
Grain & Oilseed	1841	67.61%	1880	72.20%	11433	18.61%	12250	20.46%	3.6	3.5
Field Crop	42	1.54%	52	2.00%	3535	5.75%	4965	8.29%	0.3	0.2
Fruit	32	1.18%	31	1.19%	2107	3.43%	2016	3.37%	0.3	0.4
Vegetable	236	8.67%	184	7.07%	1639	2.67%	1428	2.38%	3.2	3.0
Miscellaneous Specialty	88	3.23%	106	4.07%	7312	11.90%	8547	14.27%	0.3	0.3
Livestock Combination	33	1.21%	33	1.27%	1921	3.13%	2030	3.39%	0.4	0.4
Other Combination	55	2.02%	49	1.88%	934	1.52%	1330	2.22%	1.3	0.8
Total	2723	100.00%	2604	100.00%	61432	100.00%	59887	100.00%		

(Source: Statistics Canada 1991, 1996.)

Percentage of farm type in the agriculture sector for Niagara Regional Municipality and Ontario with Location Quotient, 1991 & 1996.

Farm Type	Niagara Region				Ontario				Location Quotient	
	1991		1996		1991		1996		1991	1996
	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent		
Dairy	203	8.65%	174	7.67%	9757	15.88%	8320	13.89%	0.5	0.6
Beef Cattle	149	6.35%	120	5.29%	16855	27.44%	14172	23.66%	0.2	0.2
Hog	65	2.77%	43	1.90%	3827	6.23%	2677	4.47%	0.4	0.4
Poultry & Egg	201	8.57%	193	8.51%	1583	2.58%	1686	2.82%	3.3	3.0
Wheat	27	1.15%	19	0.84%	529	0.86%	466	0.78%	1.3	1.1
Grain & Oilseed	127	5.41%	140	6.17%	11433	18.61%	12250	20.46%	0.3	0.3
Field Crop	69	2.94%	79	3.48%	3535	5.75%	4965	8.29%	0.5	0.4
Fruit	964	41.09%	895	39.44%	2107	3.43%	2016	3.37%	12.0	11.7
Vegetable	39	1.66%	45	1.98%	1639	2.67%	1428	2.38%	0.6	0.8
Miscellaneous Specialty	418	17.82%	483	21.29%	7312	11.90%	8547	14.27%	1.5	1.5
Livestock Combination	33	1.41%	21	0.93%	1921	3.13%	2030	3.39%	0.4	0.3
Other Combination	51	2.17%	57	2.51%	934	1.52%	1330	2.22%	1.4	1.1
Total	2346	100.00%	2269	100.00%	61432	100.00%	59887	100.00%		

(Source: Statistics Canada 1991, 1996.)

Percentage of farm type in the agriculture sector for Essex County and Ontario with Location Quotient, 1991 & 1996.

Farm Type	Essex				Ontario				Location Quotient	
	1991		1996		1991		1996		1991	1996
	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent		
Dairy	41	2.00%	29	1.47%	9757	15.88%	8320	13.89%	0.1	0.1
Beef Cattle	29	1.42%	25	1.27%	16855	27.44%	14172	23.66%	0.1	0.1
Hog	36	1.76%	24	1.22%	3827	6.23%	2677	4.47%	0.3	0.3
Poultry & Egg	27	1.32%	21	1.06%	1583	2.58%	1686	2.82%	0.5	0.4
Wheat	31	1.51%	47	2.38%	529	0.86%	466	0.78%	1.8	3.1
Grain & Oilseed	1203	58.74%	1208	61.23%	11433	18.61%	12250	20.46%	3.2	3.0
Field Crop	53	2.59%	36	1.82%	3535	5.75%	4965	8.29%	0.4	0.2
Fruit	112	5.47%	122	6.18%	2107	3.43%	2016	3.37%	1.6	1.8
Vegetable	222	10.84%	139	7.05%	1639	2.67%	1428	2.38%	4.1	3.0
Miscellaneous Specialty	247	12.06%	282	14.29%	7312	11.90%	8547	14.27%	1.0	1.0
Livestock Combination	12	0.59%	7	0.35%	1921	3.13%	2030	3.39%	0.2	0.1
Other Combination	35	1.71%	33	1.67%	934	1.52%	1330	2.22%	1.1	0.8
Total	2048	100.00%	1973	100.00%	61432	100.00%	59887	100.00%		

(Source: Statistics Canada 1991, 1996.)

Percentage of farm type in the agriculture sector for Lambton County and Ontario with Location Quotient, 1991 & 1996.

Farm Type	Lambton				Ontario				Location Quotient	
	1991		1996		1991		1996		1991	1996
	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent	# of Farms	Percent		
Dairy	117	4.55%	117	4.67%	9757	15.88%	8320	13.89%	0.3	0.3
Beef Cattle	278	10.82%	172	6.86%	16855	27.44%	14172	23.66%	0.4	0.3
Hog	239	9.30%	164	6.54%	3827	6.23%	2677	4.47%	1.5	1.5
Poultry & Egg	61	2.37%	58	2.31%	1583	2.58%	1686	2.82%	0.9	0.8
Wheat	83	3.23%	69	2.75%	529	0.86%	466	0.78%	3.8	3.5
Grain & Oilseed	1441	56.09%	1551	61.87%	11433	18.61%	12250	20.46%	3.0	3.0
Field Crop	49	1.91%	47	1.87%	3535	5.75%	4965	8.29%	0.3	0.2
Fruit	28	1.09%	27	1.08%	2107	3.43%	2016	3.37%	0.3	0.3
Vegetable	42	1.63%	33	1.32%	1639	2.67%	1428	2.38%	0.6	0.6
Miscellaneous Specialty	134	5.22%	160	6.38%	7312	11.90%	8547	14.27%	0.4	0.4
Livestock Combination	70	2.72%	74	2.95%	1921	3.13%	2030	3.39%	0.9	0.9
Other Combination	27	1.05%	35	1.40%	934	1.52%	1330	2.22%	0.7	0.6
Total	2569	100.00%	2507	100.00%	61432	100.00%	59887	100.00%		

(Source: Statistics Canada 1991 , 1996.)

