

COUNTY OF MIDDLESEX

Agri-Food Economic Impact Report

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Report commissioned by:

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Executive Summary

Synthesis Agri-Food Network was contracted by the County of Middlesex to develop an Agriculture Sector Strategy for the County of Middlesex. As part of the development of this strategy an economic impact assessment of the Agri-food sector in the County of Middlesex was required. The following report provides an in-depth economic impact assessment of the contribution the Agri-food sector makes to the County of Middlesex’s overall economic condition.

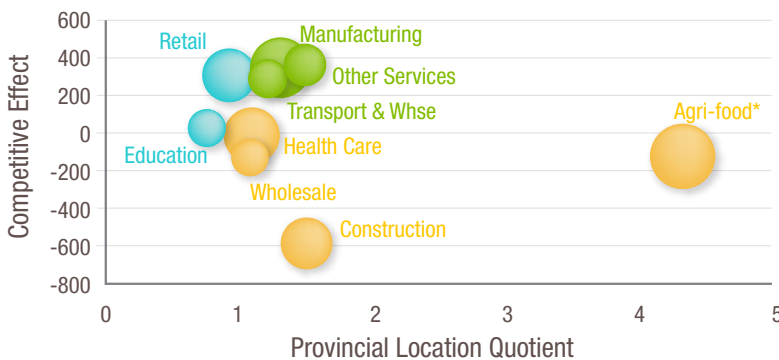
The agri-food sector in the County of Middlesex generates \$1.2 billion in economic impact

Agriculture is a cornerstone of the economy of the County of Middlesex with over \$1.2 billion in total economic impact. This extends to \$547 million in Gross Domestic Product, 7,822 total jobs and \$290 million in wages and salaries.

The Agri-food industry—primary production through to food processing—is the largest employer in the County of Middlesex and accounts for 15.2% of total employment. The County is very primary production focused with farm employment accounting for 71% of the total Agri-food jobs.

The Agri-food industry is a clear “sweet spot” for Middlesex with a Provincial Location Quotient (PLQ) rating of over 4, while all other major industry groups have a PLQ less than 1.5 as shown in the figure below. Provincial Location Quotient compares the relative concentration in the local region to the concentration in the provincial economy.

Figure 1
Competitive Effect versus Provincial Location Quotient Middlesex County 2001-2014



All Industries 2 Digit NAIC >1,400 jobs

However, according to the analysis, the industry is Moderating (as opposed to Thriving). Employment in the industry is declining, including in the processing sector, and its PLQ has declined since 2001. These trends are not unique to the County of Middlesex as similar trends are seen in bordering counties as well.

What is unique for the County of Middlesex is proximity to the City of London. The employment profile of London complements the County of Middlesex. Middlesex is strong at the primary production end of the scale whereas London is strong in the Agri-food processing sectors. Together, the region offers a solid base of business across many aspects of the Agri-food industry.

*“Agriculture is a
cornerstone of the
economy in the
County of Middlesex”*





Introduction

This Agri-food Economic Impact Assessment is the first phase within a project to develop an Agri-food Sector Strategy for the County of Middlesex. The overall goals of the project are to:

- Gain an understanding of the economic impact of the agriculture sector in the County of Middlesex;
- Identify agricultural sub-sectors with the greatest potential for creating and sustaining employment and investment in the County of Middlesex;
- Identify key strategic priorities to support and grow the agricultural sector in the County of Middlesex; and
- Identify potential partners and opportunities to work collaboratively on common issues around agriculture.

This Agri-food Economic Impact Assessment report is focused on the first project goal: gaining an understanding of the economic impact of the Agri-food sector in the County of Middlesex. It should be noted that this initial report does not include those manufacturing, retail, and service related businesses with a strong agriculture focus. The influence that agriculture has on many of the other businesses in the County of Middlesex will be included anecdotally in the second, and final, Agriculture Sector Strategy Report.

The County of Middlesex is an upper-tier municipality comprised of eight local municipalities covering an area of 285,000 hectares, with a population of approximately 73,000 people. The County is situated in the heart of southwestern Ontario and is bisected by two major transportation routes, Highways 401 and 402. Figure 2, on the following page, shows the location of the County of Middlesex in relation to southern Ontario. Middlesex has some of the richest agricultural lands in Southwestern Ontario and has direct access to two major border crossings to the United States: Windsor/Detroit and Sarnia/Port Huron; and good access to Fort Erie/Buffalo.

Agriculture in the County of Middlesex is currently based predominantly on cash crops, hogs and poultry. The first section of the report describes the major crops grown in the County and their distribution across the lower tier municipalities. There is also significant production of fruit and vegetables in the County. Livestock production in the County is a key economic contributor; the pattern of livestock production differs depending on the species examined.

While output measures such as acres of crops and head of livestock are good indicators of the level of agricultural activity, from an economic impact perspective, farm cash receipts is the more important measure. In 2013, Middlesex County had farm cash receipts of \$659.1 million, with corn, soybeans, pork, dairy and poultry making the largest contributions. Interestingly, fruits and vegetables are the sixth largest contributor – ahead of beef, and wheat.



Figure 2
MIDDLESEX ON THE MAP





Land Base

The table below shows a breakdown, by municipality, of the land base in the County of Middlesex by total area in square kilometers and acres. As is indicated in the table, the largest municipalities based on total land area are Middlesex Centre and North Middlesex, representing 42% of the County's land base.

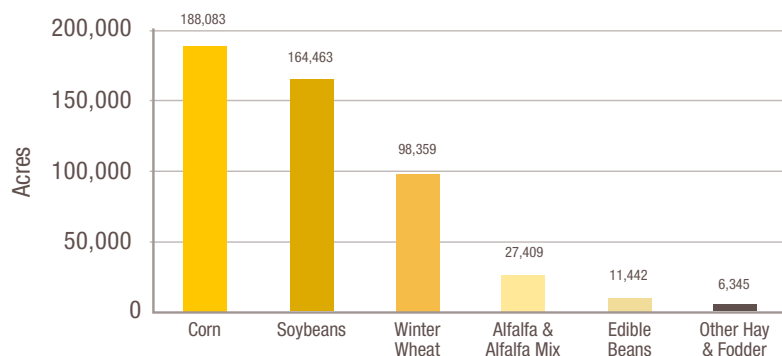
Municipality	Total Area (km2)	Total Area (acres)	Percent of Total (%)
Adelaide-Metcalfe	331.38	81,885.65	11.7%
Lucan Biddulph	169.15	41,797.81	6.0%
Middlesex Centre, TP	588.15	145,334.80	20.8%
North Middlesex	597.90	147,744.10	21.2%
Southwest Middlesex	429.82	106,210.70	15.2%
Strathroy-Caradoc	274.12	67,736.42	9.7%
Thames Centre	433.95	107,231.20	15.4%
County of Middlesex	2,824.47	697,940.68	100.0%
London	420.57	103,924.94	

Table 1: Statistics Canada, 2011 Census of Population. Acreages are in total acres, not total farm acres.

Crop Production¹

The County of Middlesex crop agriculture is dominated by three major crops: corn, soybeans, and wheat. Other crops with significant acreage include edible beans, alfalfa hay, and other hay and fodder crops. The distribution of crops across the County is relatively even with the same three major crops dominating the landscape.

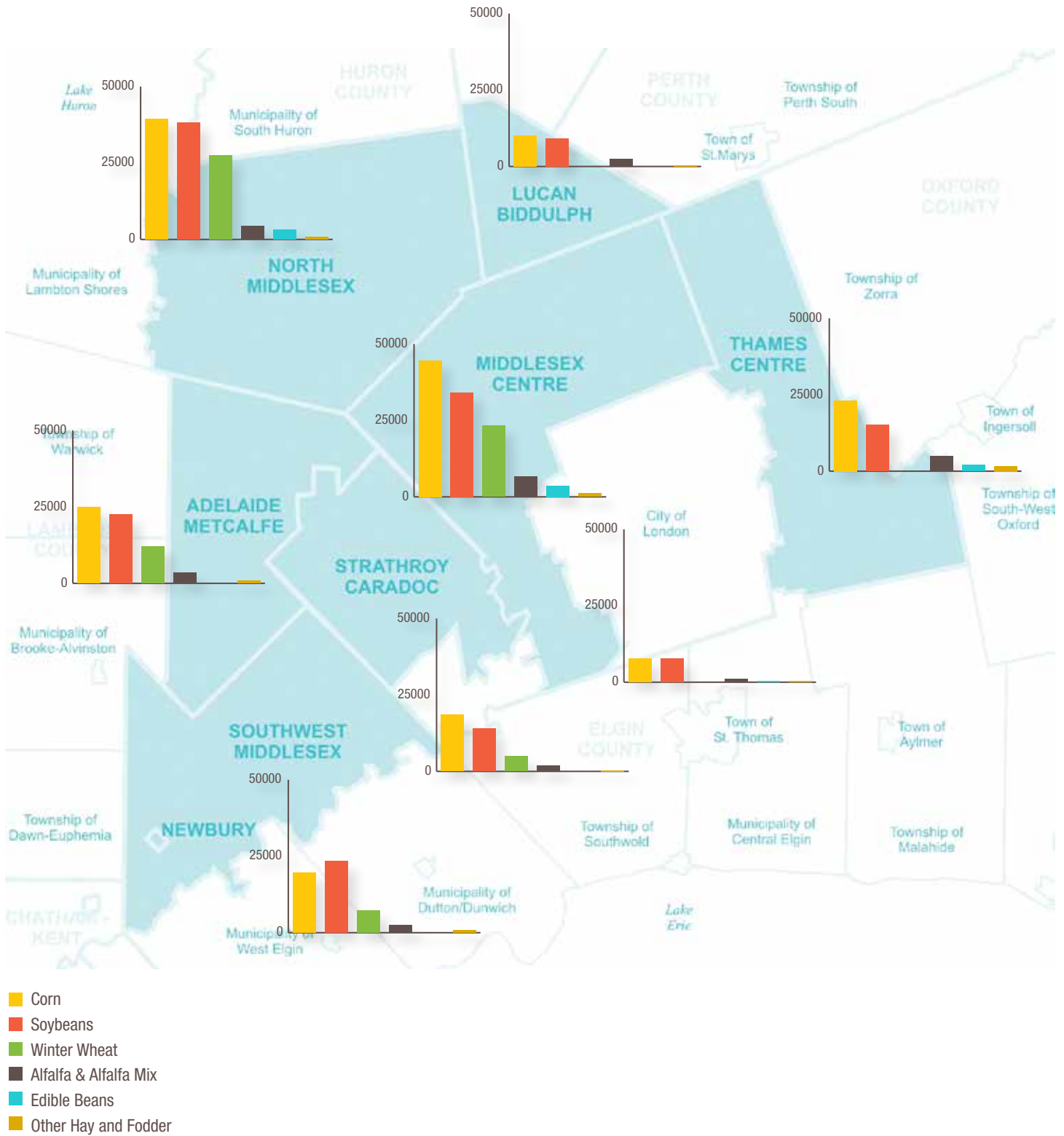
Figure 3
Crop Acres, Middlesex County, 2011



¹ While London is not part of the County of Middlesex, it should be noted that there is a small amount of crop and livestock production in the City of London. Farmers located in the City of London would likely consider themselves part of the County of Middlesex for all intents and purposes related to agriculture. For the purpose of this report, the Village of Newbury is included in the Municipality of Southwest Middlesex



Figure 3
Crop Production by Township
Data source: Statistics Canada, Census of Agriculture 2011





The following graphs illustrate a ten year trend in crop production in the County of Middlesex. From 2003 to 2013, the trends in production for these major crops have differed significantly. The general trend in corn acreage has been up, with significant upward spikes in years of relatively high corn prices (2007, 2012). However, soybean acreage has risen slightly over the same time period but without the dramatic swings in acreage seen in corn.

Figure 5
Grain Corn Production and Acreage Middlesex County, 2003-2013, Statistics Canada

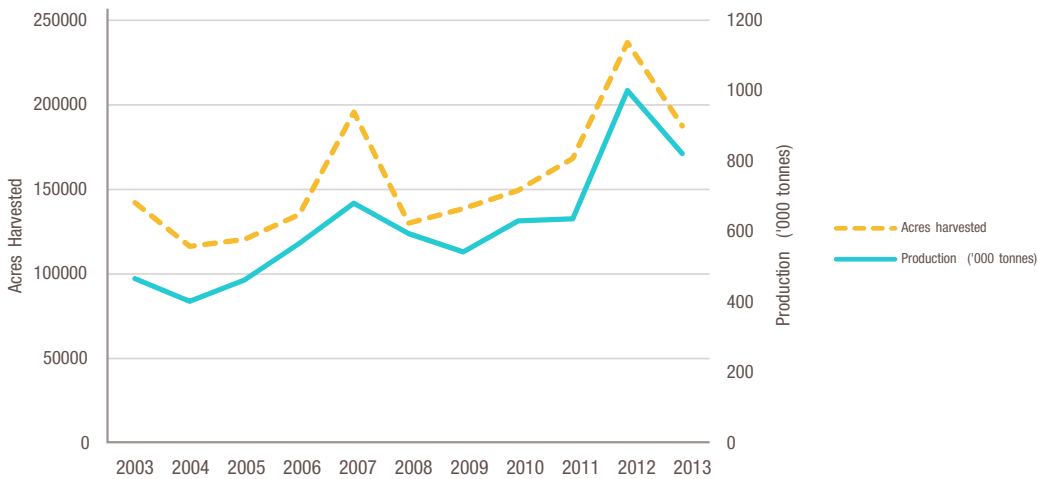
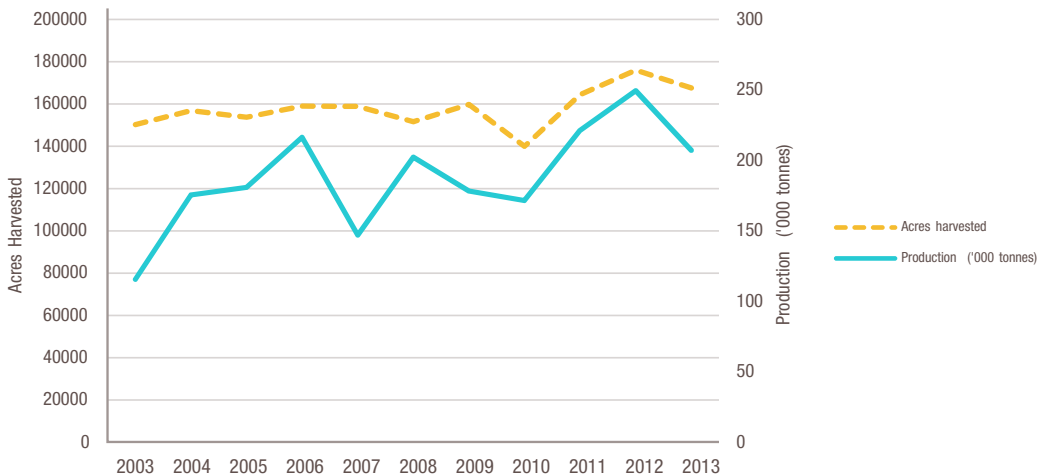
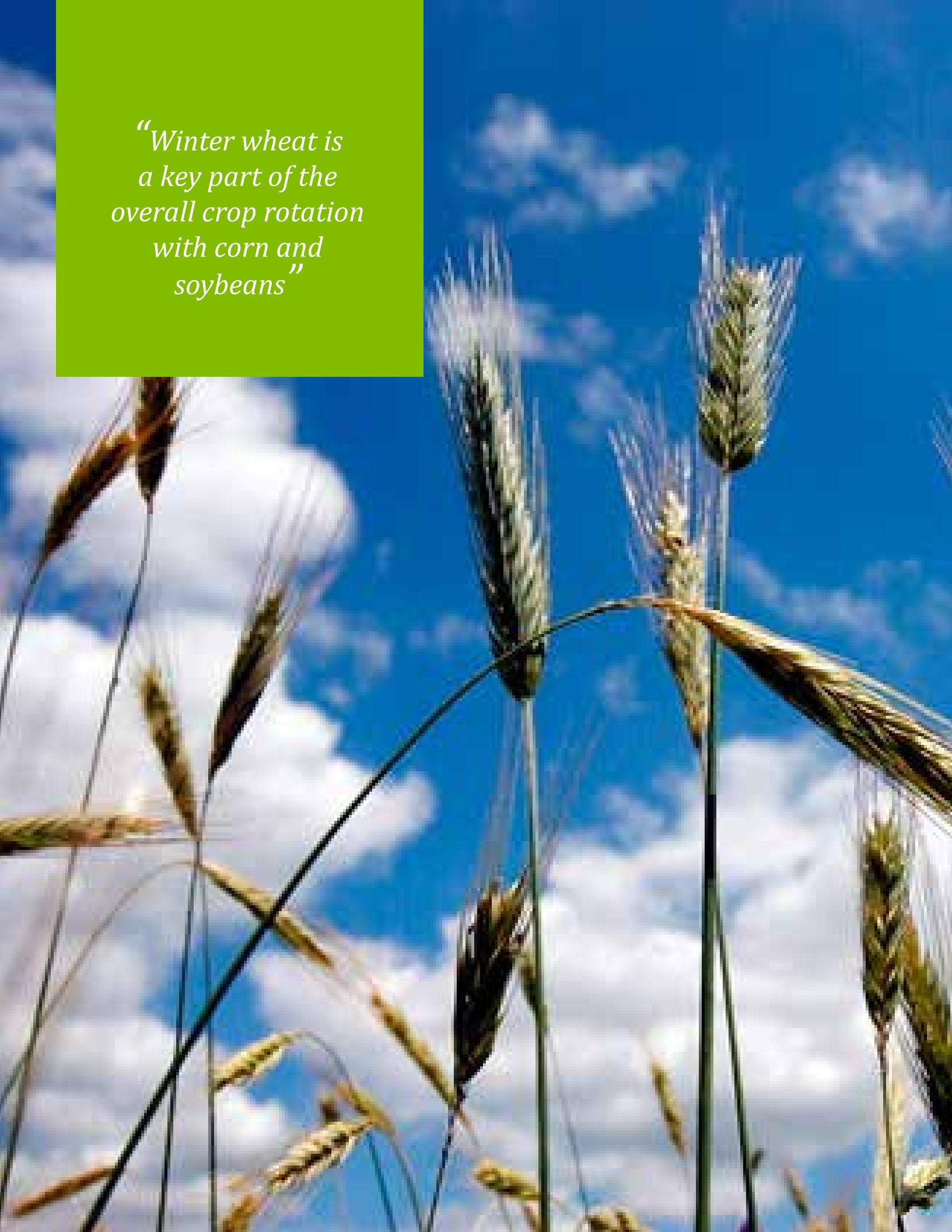


Figure 6
Soybeans Production and Acreage Middlesex County, 2003-2013, Statistics Canada



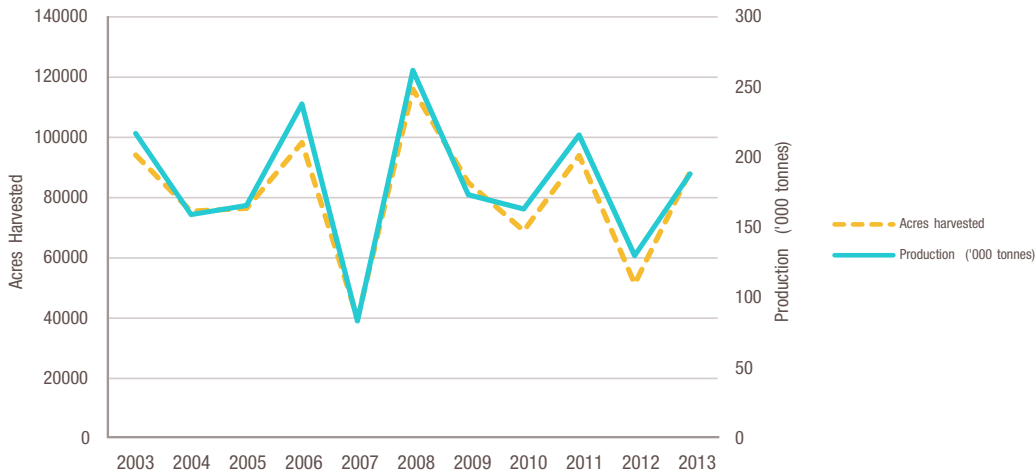
*“Winter wheat is
a key part of the
overall crop rotation
with corn and
soybeans”*





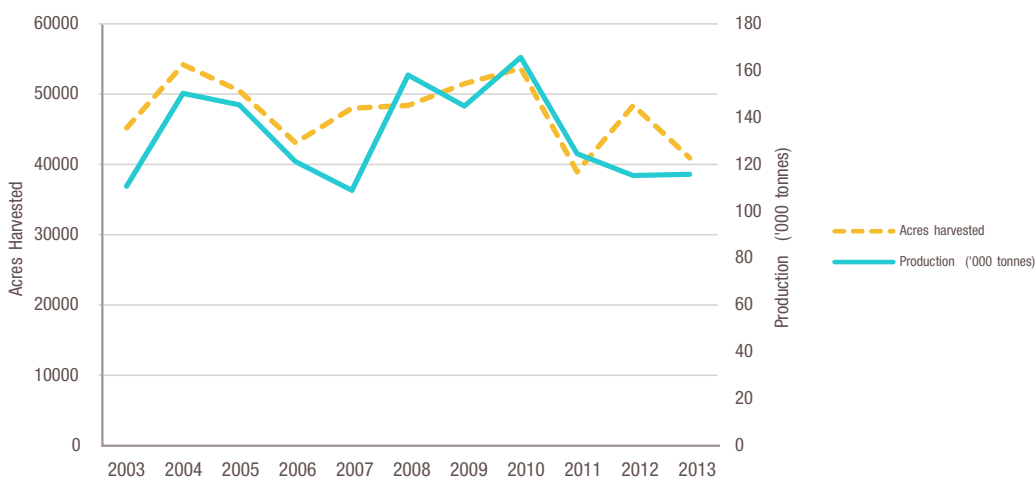
Wheat acreage has oscillated around approximately 90,000 acres with significant spikes down in years when corn acreage spiked up (2007, 2012). While winter wheat has lower total production than corn or soybeans, it remains a key part of the overall crop rotation and allows farmers to spread out their workload throughout the year given it is planted in the fall and harvested in July.

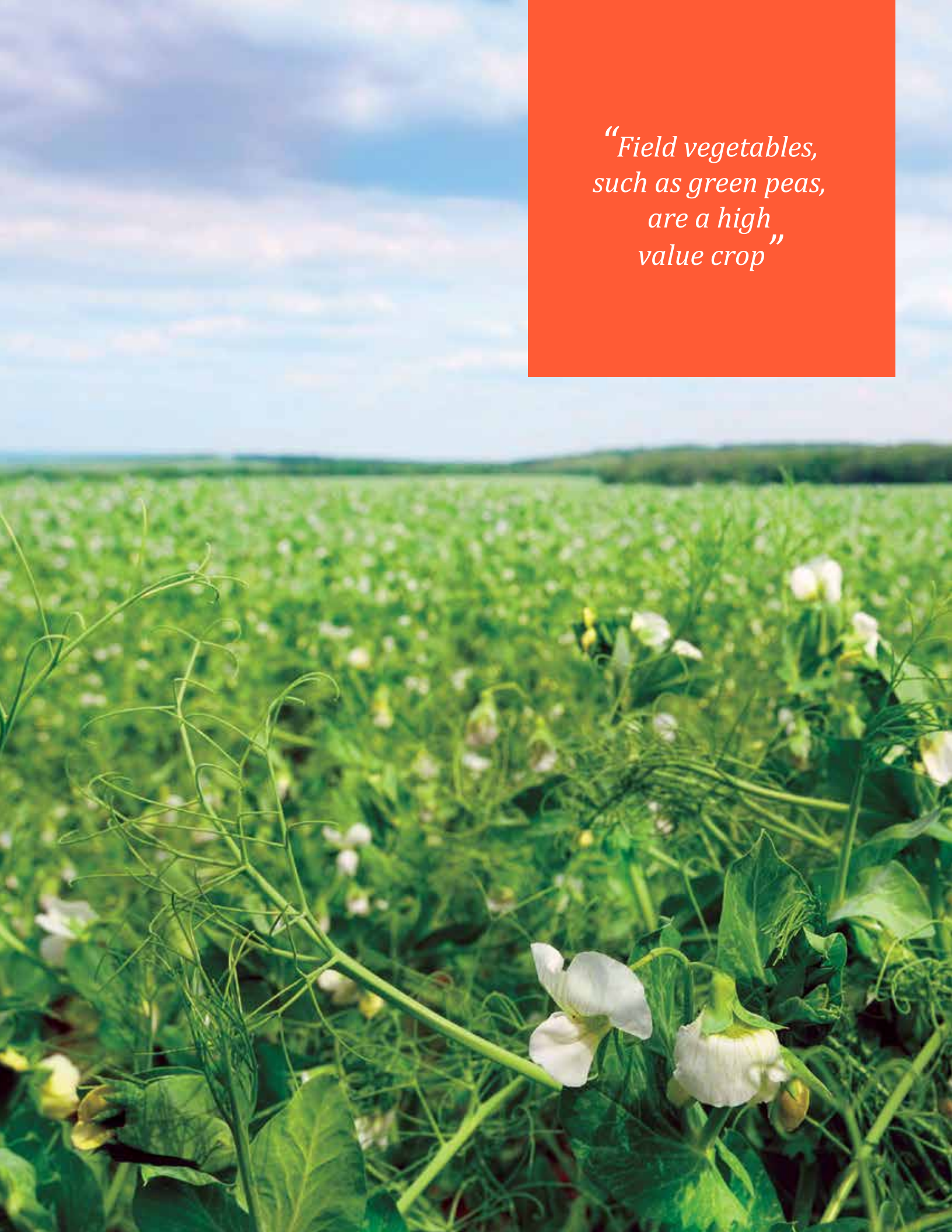
Figure 7
Winter Wheat Production and Acreage Middlesex County, 2003-2013, Statistics Canada



Hay acreage has fluctuated between 40,000 and 55,000 acres with a slightly downward trend.

Figure 8
Hay Production and Acreage Middlesex County, 2003-2013, Statistics Canada





*“Field vegetables,
such as green peas,
are a high
value crop”*



Vegetable and Fruit Production

The County of Middlesex produces significant amounts of several vegetable and fruit crops. While the acreages planted to these crops are minor compared to the acreages of the major field crops, their higher per acre values result in a significant contribution to the Agri-food economy in the County. In addition, the majority of the vegetable production is processing vegetables which adds additional positive economic impact to the region.

Figure 9
Vegetable Acres, Middlesex County, 2011
Data source: Statistics Canada, Census of Agriculture 2011

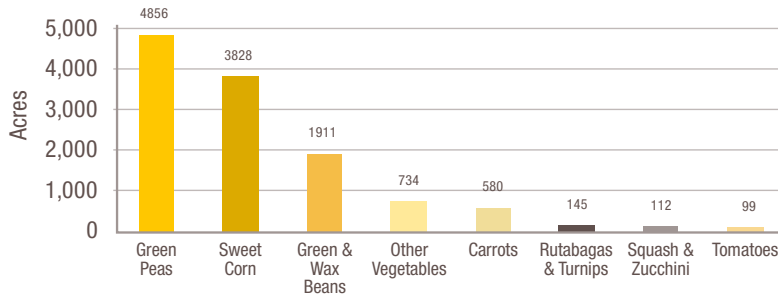
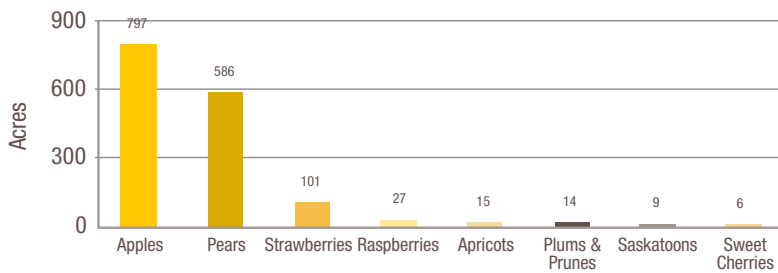


Figure 10
Total Fruit Acres, Middlesex County, 2011
Data source: Statistics Canada, Census of Agriculture 2011



“Swine, dairy and poultry are the largest livestock sectors and are also very complementary to the County’s production of corn and soybeans”





Livestock Production

The County of Middlesex has significant production of each of the major livestock species, namely swine (pigs), poultry, beef cattle and dairy cattle. In this report, the species are presented in the order of their total farm cash receipts in 2013. The following tables show livestock inventories (number of head) according to the 2011 Census of Agriculture.

The distribution of the species across the municipalities varies considerably. Each municipality is represented by the same colour in each of the following pie charts to enable easy comparison of the patterns.

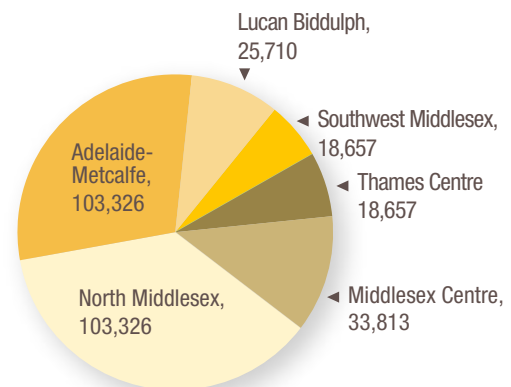
Swine and dairy production are the largest contributors and are also very complementary to the County's production of corn and soybeans. The diet for these two species generally uses a higher percentage of corn and/or soybeans (soybean meal) which are the leading crops in the County.

Swine (Pigs)

Pigs	
Class	# of Head
Boars	604
Sows and gilts for breeding	29,824
Nursing and weaner pigs	105,251
Grower and finishing pigs	160,655
TOTAL	296,334

Table 2: Data source: Statistics Canada, Census of Agriculture 2011

Figure 11
Total Pigs Middlesex County, 2011, Statistics Canada

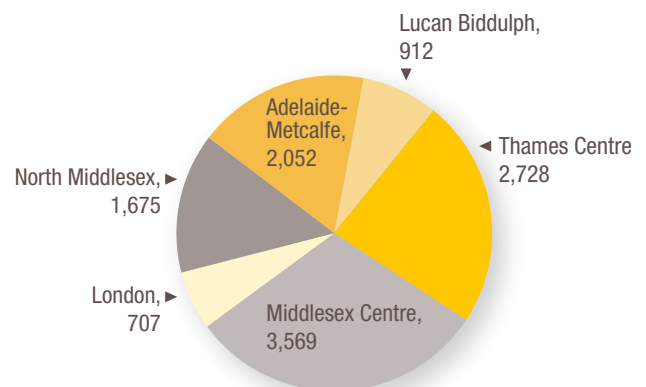


Dairy Cattle

Dairy	
Dairy Cows	Number of Cows
Dairy Cows	12,009

Table 3: Data source: Statistics Canada, Census of Agriculture 2011

Figure 12
Dairy Cows Middlesex County, 2011, Statistics Canada



Dairy production in certain municipalities appears to have a relatively small number of large or very large farms which influences the distribution within the County.



Poultry (Chickens)

Poultry	
Class	# of Head
Pullets under 19 weeks, intended for laying	747,708
Laying hens, 19 weeks and over	543,557
Layer and broiler breeders (pullets and hens)	47,329
Broilers, roasters and Cornish	1,473,234
TOTAL	2,811,828

Table 4: Data source: Statistics Canada, Census of Agriculture 2011

Figure 13
Laying Hens, 19 Weeks and Over
Middlesex County, 2011, Statistics Canada

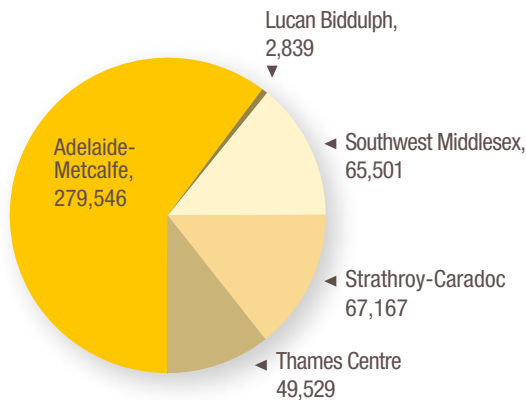
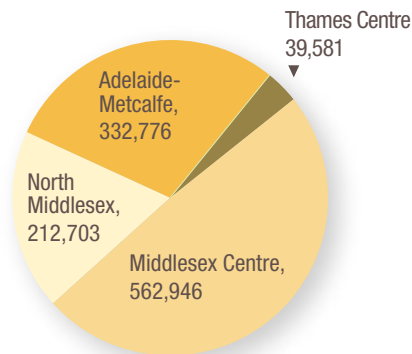


Figure 14
Broilers, Roasters and Cornish
Middlesex County, 2011, Statistics Canada



Similar to dairy, poultry production in certain municipalities is made up of a small number of large or very large farms. This concentration influences the distribution within the County as shown in the previous charts where Middlesex Centre has a large portion of the boiler production and Adelaide-Metcalf has the majority of the egg production.

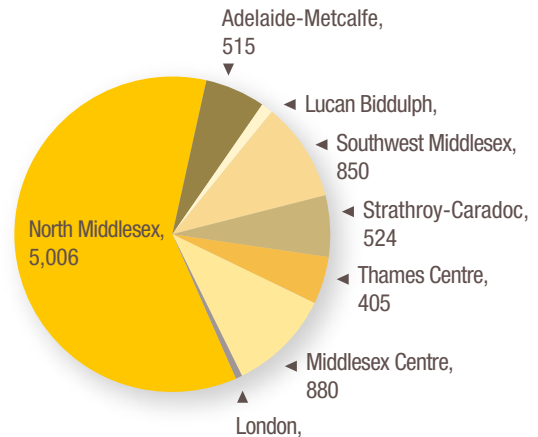


Beef Cattle

Cattle and Calves	
Class	# of Head
Calves (including veal)	21,993
Steers	8,337
Heifers	11,887
Beef Cows	8,431
Bulls	630
TOTAL	51,278

Table 5: Data source: Statistics Canada, Census of Agriculture 2011

Figure 15
Steers, 1 Year and Over
Middlesex County, 2011, Statistics Canada



Note: The Census of Agriculture data does not separate veal calves from other calves so the information shown above is the total population of all calves (dairy, beef, veal) at the time of the census in 2011.

Other Livestock

In addition to the four main species, there are many other types of livestock produced in the County. The following tables show the production level for the other species tracked by Statistics Canada.

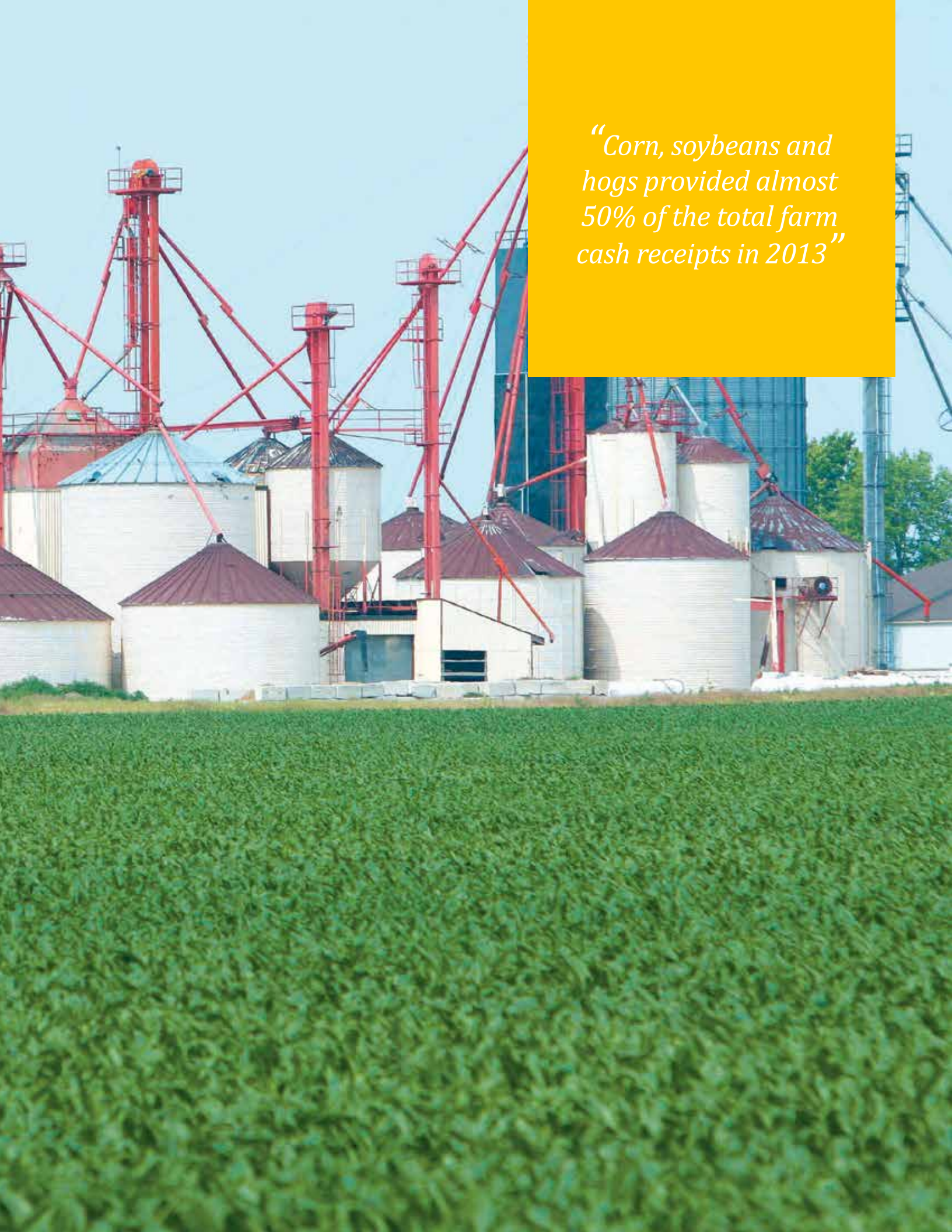
Sheep & Lambs	
Class	# of Head
Rams	286
Ewes	6,281
Lambs	4,638
TOTAL	11,205

Table 6: Data source: Statistics Canada, Census of Agriculture 2011

Other Livestock	
Class	# of Head
Horses and ponies	3,766
Goats	2,432
Llamas and alpacas	173
Rabbits	3,045
Deer (excluding wild deer)	49

Table 7: Data source: Statistics Canada, Census of Agriculture 2011

Horses and ponies (equine) numbers above are calculated from census farms only and is a relatively low number compared to the other types of livestock, however equine contributes significantly to the local economy. Equine in the County of Middlesex encompasses a range of activities such as racing, non-racing competition, pleasure riding, breeding stock, riding school or riding lessons and other tourist activities.



“Corn, soybeans and hogs provided almost 50% of the total farm cash receipts in 2013”



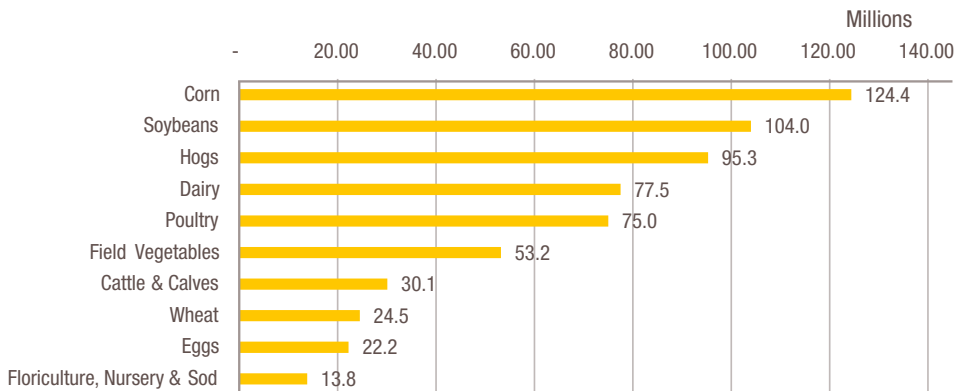
Farm Cash Receipts

Total farm cash receipts for the County of Middlesex in 2013 were \$659.1 million. The greatest contributor was corn production at \$124.4 million representing 21% of the total cash receipts. Soybeans rank second, ahead of hogs, dairy and poultry. Interestingly, despite the small acreage numbers, vegetables rank sixth, well ahead of beef cattle in seventh place. These numbers show that the County is centered on cash crop production of corn and soybeans and production of hogs and poultry. The total cash receipts for these four main commodities represents almost 60% of the value of agricultural production in the County of Middlesex. Including the strong dairy sector raises the percentage to 72% for the top 5 commodities produced.

Figure 16

Farm Cash Receipts for Main Commodities, Middlesex, 2013 (Total = \$659.1 million)

Data source: Strategic Policy Branch, OMAFRA

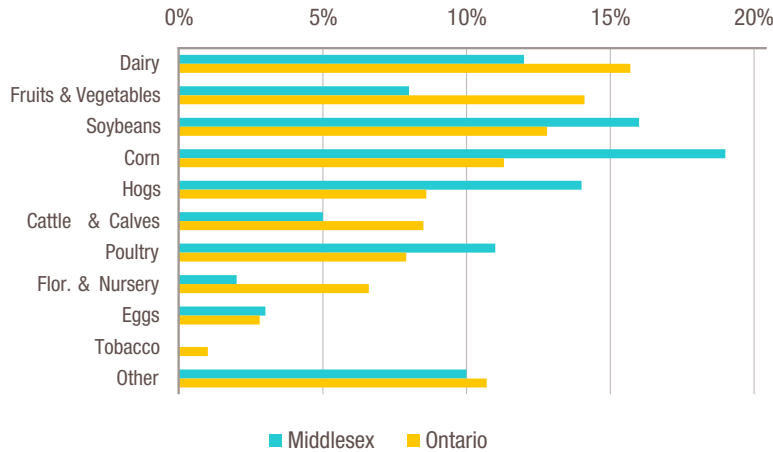


When compared to the agricultural production in Ontario, there are several differences in the profile of the County of Middlesex and the province. Dairy and Fruits & Vegetables are the top two commodity groups provincially, representing 30% of farm cash receipts combined. Whereas, in Middlesex they represent 20%. The next three largest commodities – soybeans, corn and hogs – are 32% of provincial farm cash receipts when combined versus 49% in Middlesex.

The following chart shows a breakdown of the share of farm receipts for various commodities for the County of Middlesex and for Ontario. It should be noted that while corn, soybeans and wheat are listed as three separate commodities, they are all considered grain farming and are generally produced in conjunction with each other in a multi-year crop rotation. As such, when the farm cash receipts for the three major commodities are combined, grain farming has the highest share of farm cash receipts in both the County of Middlesex and Ontario in 2013.

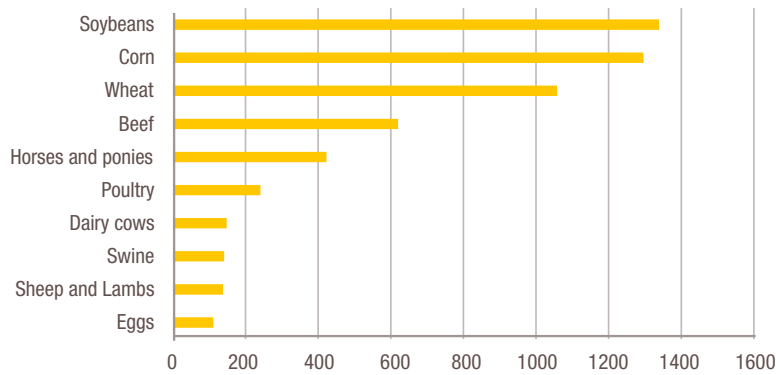


Figure 17
Comparison of Commodity Share of Farm Receipts, Middlesex and Ontario, 2013
Data source: Strategic Policy Branch, OMAFRA



When comparing the number of farms producing each commodity, the following table shows that soybeans, corn and wheat are produced by the largest number of farms. It should be noted, that over 1,000 farms produce beef and horse and ponies. This indicates there are a large number of small operations with beef or horses in the County. Conversely, swine, dairy and poultry have a much smaller number of farms, yet produce the majority of the farm cash receipts.

Figure 18
Commodities by Number of Farms Reporting,
County of Middlesex – Statistics Canada 2011





Farm Size and Number

The County of Middlesex is a microcosm of the overall provincial trends in the number and size of farms. The number of farms is declining and the average size is increasing. Farm size in the County of Middlesex is increasing slightly faster than the provincial average. In 1991 the average farm size in both Ontario and the County of Middlesex was 196 acres. By 2011, the average farm size in the County of Middlesex had grown to 259 acres as compared to 244 acres for the province as a whole.

Figure 19
Trend in Total Area of Farms
1991-2011, Census of Agriculture



Note: The increase in total farm area in 1996 reflects a change in the definition of farms to include Christmas tree production and commercial egg hatcheries.

Figure 20
Trend in Number of Farms
1991-2011, Census of Agriculture

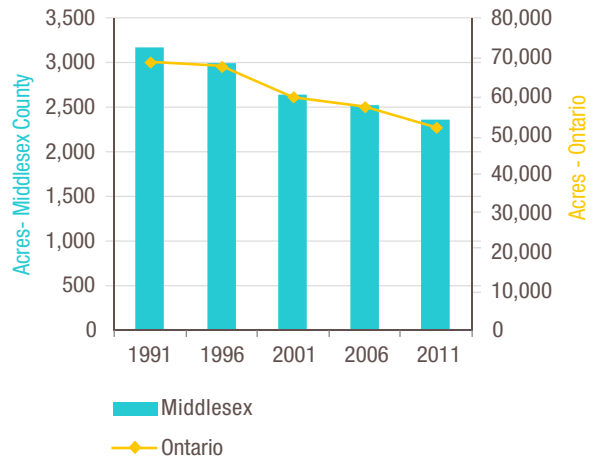
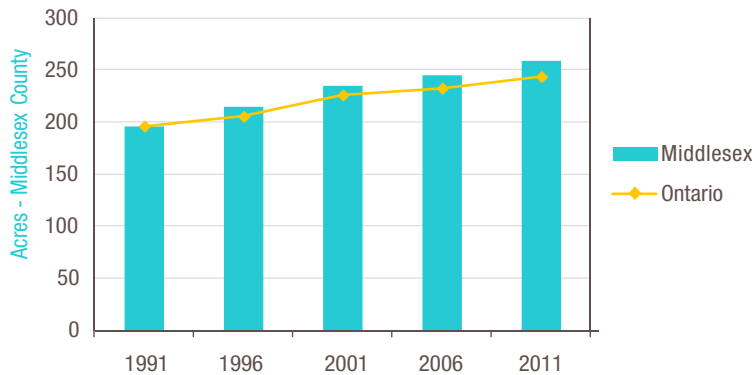


Figure 21
Trend in Average Area of Farms
1991-2011, Census of Agriculture



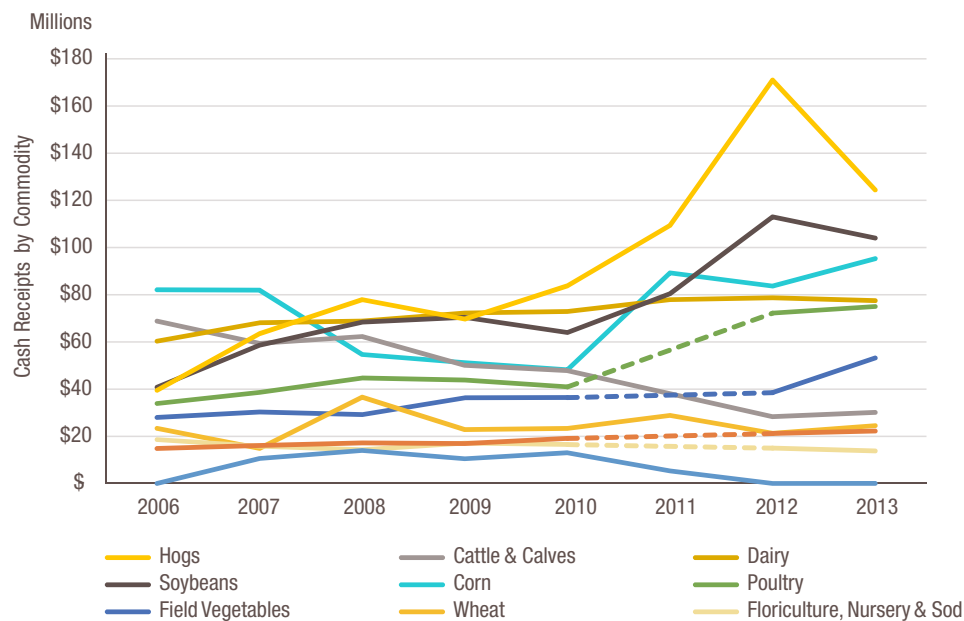


Production Summary

The complexion of agriculture in the County of Middlesex has changed somewhat in the last decade. The five main commodities: corn, soybeans, swine, dairy and poultry, represent a consistently large share of total farm cash receipts for the county. Any year to year changes in their relative positions have been driven primarily by changing commodity prices. For example, the two upward spikes in total farm cash receipts are directly related to cash crop (corn and soybean) price peaks in the same timeframes. Farm cash receipts for supply managed commodities, such as poultry and dairy, have been on a steady gradual increase since 2006. The one sector that has been in decline over the period is the beef industry, which is consistent with the provincial total. Farm cash receipts for beef production in Middlesex have declined by over 50% since 2006.

Agricultural production and farm receipts fluctuate from year to year based mainly on commodity prices (demand). The following chart illustrates the changes in farm cash receipts for the major commodities produced in the County of Middlesex from 2006 to 2013.

Figure 22
Farm Cash Receipts for Main Commodities
County of Middlesex, OMAFRA





Economic Overview

Primary production is only one part of the contribution of the Agri-food sector to the economy of the County of Middlesex. This section examines the contribution of both primary production and processing in the context of the other major industries in the County of Middlesex economy.

For this study, a composite “Agri-food” sector was created by combining the employment in 16 industries at the four digit North American Industry Classification System (NAICS) level. The following table lists the NAICS codes included in the “Agri-food” sector for this analysis. For detailed descriptions of the activities classified in each NAIC, please see the Appendix.

NAICS	Name
1110	Farms (includes both 1110 - Crops and 1120 - Livestock)
1150	Support activities for farms
3111	Animal food manufacturing
3112	Grain and oilseed milling
3113	Sugar and confectionery product manufacturing
3114	Fruit and vegetable preserving and specialty food manufacturing
3115	Dairy product manufacturing
3116	Meat product manufacturing
3118	Bakeries and tortilla manufacturing
3119	Other food manufacturing
3121	Beverage manufacturing
3122	Tobacco manufacturing
4111	Farm product merchant wholesalers
4131	Food merchant wholesalers
4171	Farm, lawn and garden machinery and equipment merchant wholesalers
4183	Agricultural supplies merchant wholesalers

Table 8
NAIC Codes Included in “Agri-food” for County of Middlesex

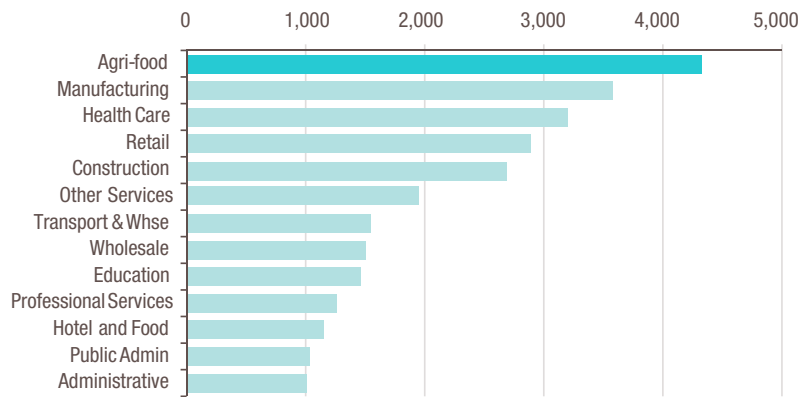
*“Agri-food is the
largest source of
employment”*





The following chart shows the distribution of employment² in the County of Middlesex across the major industries in the economy. Agri-food is the largest source of employment by a significant margin, ahead of manufacturing, health care, and retail.³

Figure 23
2014 Jobs, Middlesex County by 2 Digit NAIC, >1000 jobs



Employment levels as indicated above provide a static picture of the industries at a single point in time. They do not give a good picture of the health of particular industry or how it is changing over time. Two metrics used in this report that do provide a window into the industry’s performance over time are Location Quotient and Competitive Effect.

Location Quotient is a measure of the local concentration of an industry relative to the economy as a whole. In this case, Provincial Location Quotient (PLQ) compares the relative concentration in the local region to the concentration in the provincial economy.

$$\text{Provincial Location Quotient} = \frac{(\% \text{ of local economy in industry})}{(\% \text{ of provincial economy in industry})}$$

When the Provincial Location Quotient is greater than one, the industry is more prevalent in the local economy than in the provincial economy as a whole. Inversely, when the Provincial Location Quotient is less than one, the industry is less prevalent in the local economy than in the provincial economy as a whole. Location Quotient is measured at a point in time. In the case of this report, the Provincial Location Quotient for 2014 is being used.

The Competitive Effect is being used as a relative measure of performance of an industry over a period of time. If the Competitive Effect is positive, then there are more jobs in the industry at the end of the period than would have been expected based on the change in the economy as a whole and the performance of the industry in the economy as a whole. A positive Competitive Effect can either mean the industry gained more jobs than expected or it lost fewer jobs than expected. If the Competitive Effect is negative, then there are fewer jobs in the industry at the end of the period than would have been expected based on the change in the economy as a whole and the performance of the industry in the economy as a whole. A negative Competitive Effect can either mean the industry gained fewer jobs than expected or it lost more jobs than expected.

² The employment numbers include both employees and self-employed as defined by Statistics Canada

³ The 16 sectors have been combined to create the “Agri-food” sector for the analysis, however the 16 sectors were not subtracted from their respective two digit level NAIC industries. For example “Manufacturing” includes all the manufacturing jobs including the manufacturing related to agriculture and food products.



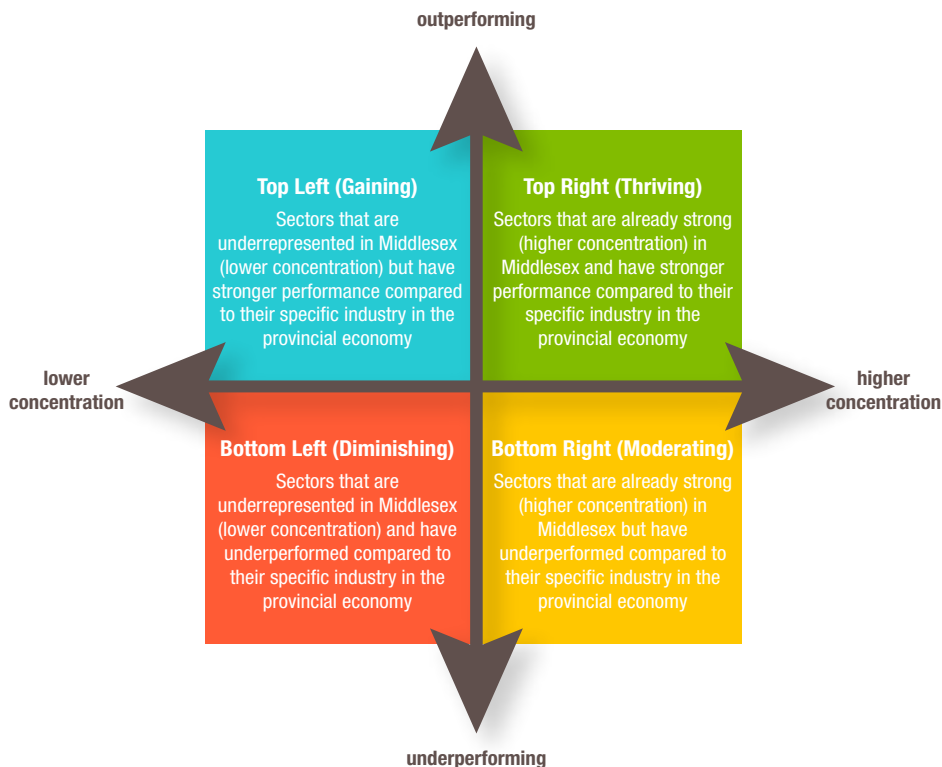
Using these two indicators, sectors can be divided into four general categories:

	THRIVING	Sectors that are already strong (higher concentration) in Middlesex and have stronger performance compared to their specific industry in the provincial economy
	MODERATING	Sectors that are already strong (higher concentration) in Middlesex but have underperformed compared to their specific industry in the provincial economy
	GAINING	Sectors that are underrepresented in Middlesex (lower concentration) but have stronger performance compared to their specific industry in the provincial economy
	DIMINISHING	Sectors that are underrepresented in Middlesex (lower concentration) and have underperformed compared to their specific industry in the provincial economy

From an economic development perspective, the strategies for a particular industry differ depending on the classification.

- Thriving industries - the focus is on sustaining the competitive advantages the region provides.
- Moderating industries - the focus is on understanding what factors are reducing the competitive advantage of the region and trying to ameliorate the reduction, if possible.
- Gaining industries - the focus is on identifying the factors that are creating the competitive advantage for the industry in the region and attempting to accelerate the growth of the industry.
- Diminishing industries - generally are not the focus of economic development programs.

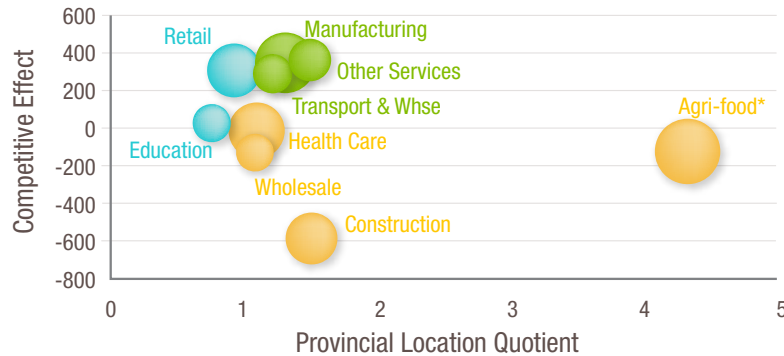
Figure 24





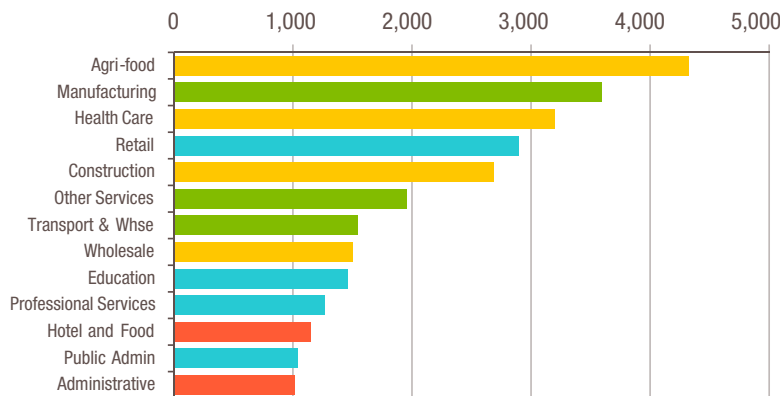
The following chart shows the Provincial Location Quotient and Competitive Effect for major industries in the County of Middlesex. The size of the bubbles indicates the number of jobs within the industry; Figure 26 illustrates the exact number of jobs per industry.

Figure 25
Competitive Effect versus Provincial Location Quotient, Middlesex County 2001-2014, All Industries 2 Digit NAIC >1,400 jobs



Agri-food has an exceptional Provincial Location Quotient (PLQ) and it is a Moderating industry. Given the size and PLQ, the County of Middlesex has a competitive advantage in Agri-food relative to the provincial economy as a whole.

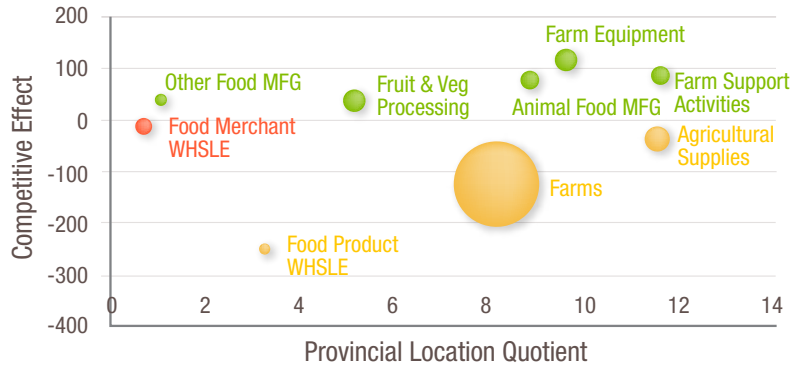
Figure 26
2014 jobs, Middlesex County by 2 Digit NAIC, >1000 jobs



The following chart breaks down the Agri-food industry to the sector (four digit NAIC) level. There are three main points to take away from this chart. First, the employment at the farm level dominates the Agri-food industry. Second, the Competitive Effect in the Farms sector is slightly negative given its small percentage of the overall employment in the sector. Third, despite the overall classification of Agri-food as Moderating, there are a number of sectors within the industry which are Thriving.

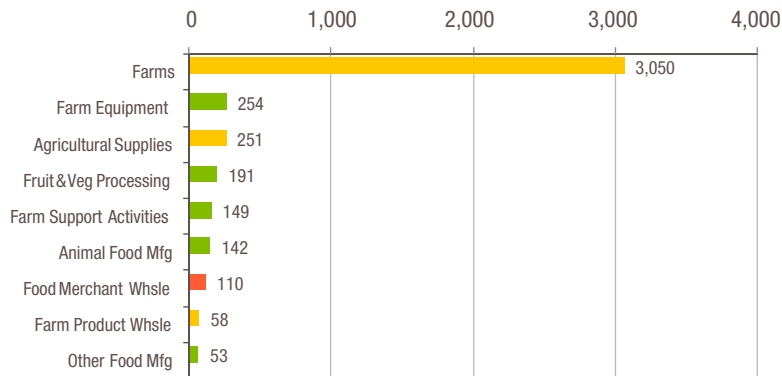


Figure 27
Competitive Effect versus Provincial Location Quotient Middlesex County 2001-2014
Agri-Food Industry Sectors > 50 jobs



The following chart shows the employment within each sector, colour-coded by the classification. As the chart indicates the number of jobs held in the primary agriculture (farms) sector within the County of Middlesex vastly exceeds those in other sectors and is classified as Moderating. Although the number of jobs held in other sectors are much lower compared to farm jobs, many sectors are classified as Thriving; this includes Farm Equipment, Fruit and Vegetable Processing, Farm Support Activities, Animal Food Manufacturing, and Other Food Manufacturing.

Figure 28
2014 Jobs, Middlesex County 2001-2014
Agri-Food Industry Sectors > 50 jobs



A young man with dark hair and a bright smile is looking directly at the camera. He is wearing a dark green t-shirt and is holding a large, green plastic crate filled with fresh, ripe strawberries. The strawberries are vibrant red with green stems and are packed closely together. The background is a blurred brick wall.

“The Agri-food industry is a clear ‘sweet spot’ for Middlesex”



Middlesex Agri-food Industry in the Context of Neighbouring Counties

When considering the relative strength of the Agri-food industry in the County of Middlesex, important context can be provided by comparing the industry’s performance to its performance in neighbouring counties⁴. By most measures, Agri-food within the County of Middlesex is performing near the median of neighbouring counties. Its absolute size, Competitive Effect, PLQ, and size relative to the county’s overall employment are within the bounds of the values for the neighbouring counties.

Even the degree of change in the Agri-food industry in the County of Middlesex over the period 2001-2014 is neither the least nor the most amongst the counties.

Figure 29
Competitive Effect versus Provincial Location Quotient Middlesex County 2001-2014

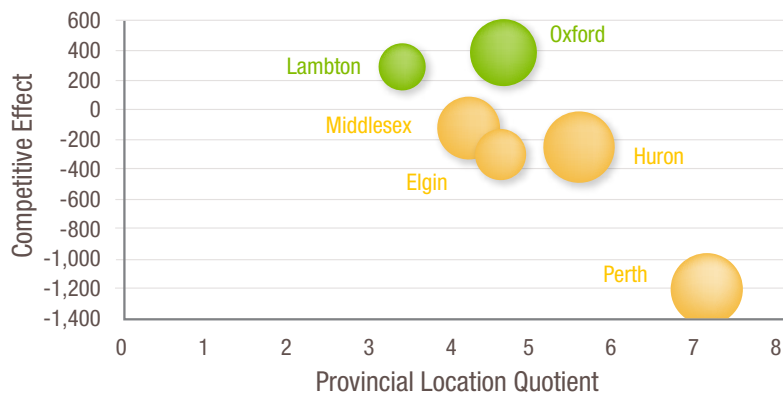
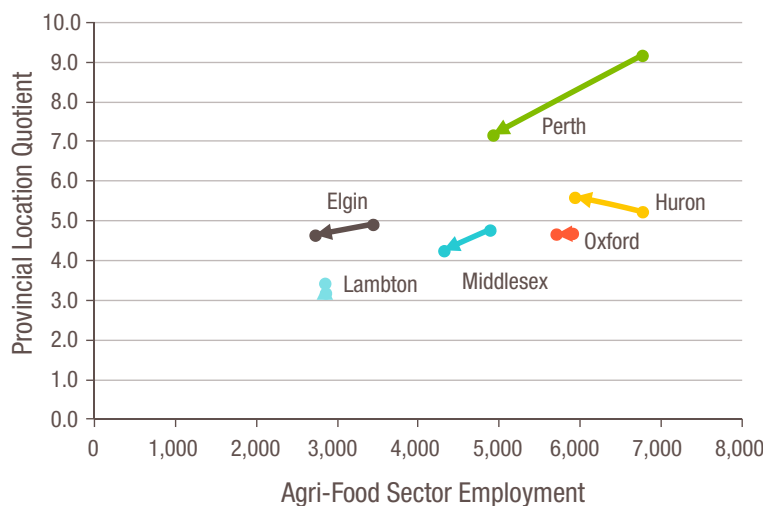


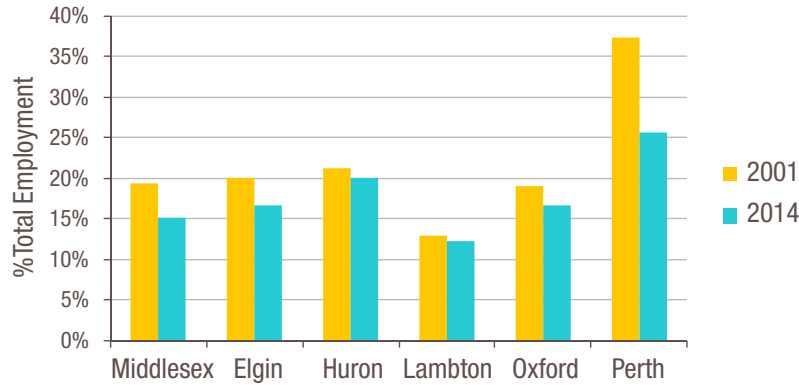
Figure 30
Provincial LQ versus Agri-Food Employment, Change 2001-2014



⁴ In all cases, major urban centres have not been included in the county’s indicators.

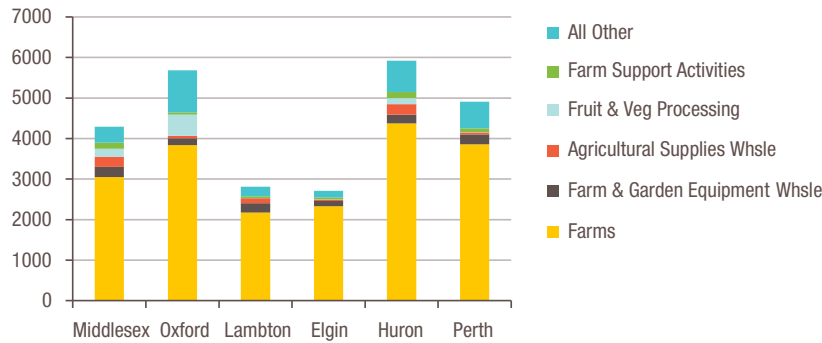


Figure 31
**% of Total Employment Employed by Agri-Food Sector
Region Counties, 2001, 2014**



The mix of sectors within the Agri-food industry is quite similar between the counties. This indicates that the County of Middlesex does not have unique features which either gives advantage or disadvantage to its Agri-food sectors compared to neighbouring counties.

Figure 32
Employment Mix, Agri-Food Sectors, 2014 by County



The Agri-food industry in the County of Middlesex has a similar structure to neighbouring counties and the industry's performance is comparable. As is indicated in the chart above, on-farm employment in the County of Middlesex dominates the employment mix; similar to neighbouring counties. It is important to note the significant difference in Fruit and Vegetable processing employment between the County of Middlesex and Oxford County.

Foreign temporary workers involved in the Agri-food sector are included in the data for farm labour numbers shown above, however, the number may be inaccurate or underestimated due to employment data being retrieved from Labour Force telephone surveys

*“Agri-food accounts
for 15.2% of total
employment in the
County of Middlesex”*

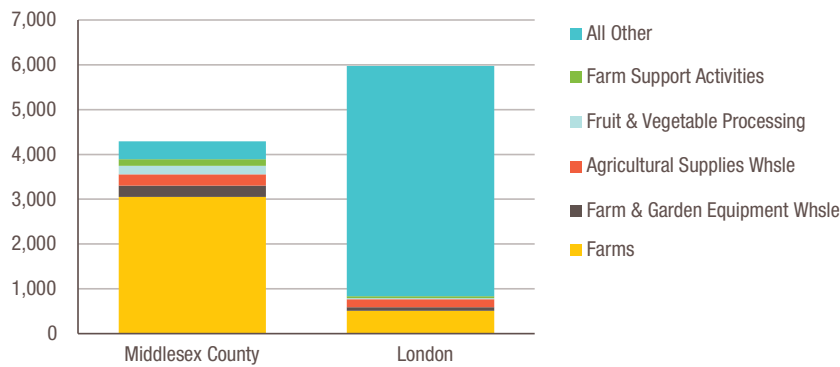




Complementarity of the County of Middlesex's and London's Agri-food Sectors

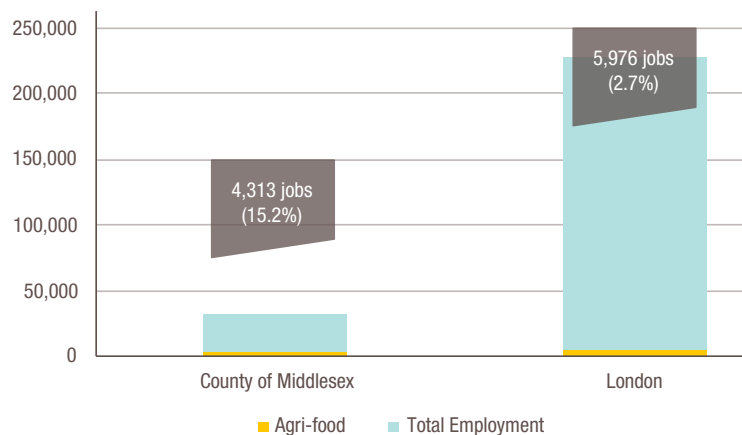
While the City of London is distinct from the County of Middlesex, there are important dependencies and complementarities between the two municipalities. The following chart shows the total jobs in the Agri-food sector. The comparison shows a distinct difference between the primary production emphasis in the County of Middlesex versus the processing/manufacturing emphasis of the Agri-food industry in the City of London.

Figure 33
2014 Jobs by Agri-Food Sector
Middlesex County versus London



To put it into context, the following table shows both the Agri-food sector and total employment for the City of London and County of Middlesex. The Agri-food industry is the largest employer in the County of Middlesex, but it is a much smaller part of employment in the City of London. Agri-food accounts for 15.2% of total employment in the County of Middlesex but just 2.7% in the City of London.

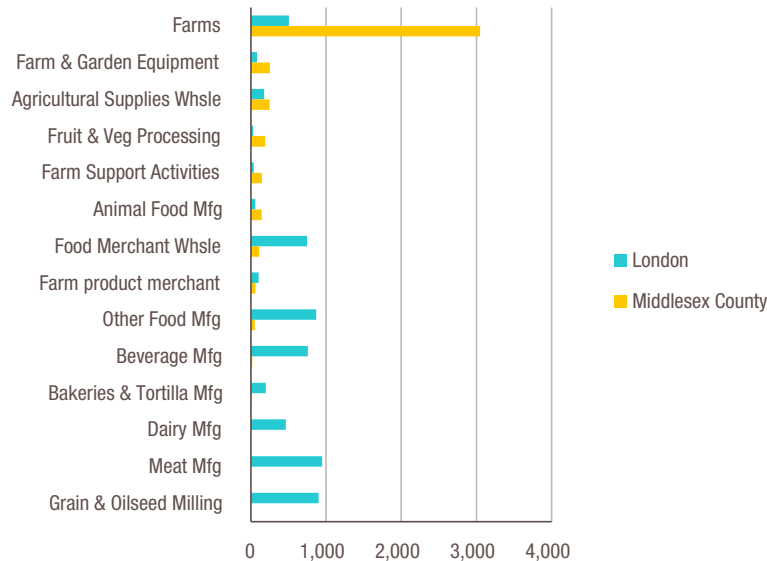
Figure 34
2014 Agri-Food Jobs and Percentage of Total Employment
Middlesex County versus London





The following table shows job distribution both areas. It shows clearly that primary agriculture and farm jobs tend to be located in the County of Middlesex whereas food and beverage manufacturing jobs are largely occurring within the City of London.

Figure 35
Comparison of Job Distribution
Across Agri-Food Sectors
Middlesex County & London, 2014



The table below shows the populations of the various municipalities within the County of Middlesex as well as the total populations for the County and the City of London. As is indicated in the table, the municipalities of Strathroy-Caradoc and Middlesex Centre together represent over 50% of the population of the County of Middlesex.

Municipality	Population	Percent of Total (%)
Adelaide-Metcalf	3028	4.3%
Lucan Biddulph	4338	6.1%
Middlesex Centre, TP	16487	23.3%
North Middlesex	6658	9.4%
Southwest Middlesex	6307	8.9%
Strathroy-Caradoc	20978	29.6%
Thames Centre	13000	18.4%
County of Middlesex	70796	100.0%
London	366151	

Table 9
Statistics Canada, 2011 Census of Population.

The agriculture sector strategy that will be developed as a follow-up to this report will need to consider the resources present in the City of London that can be utilized in conjunction with the County of Middlesex to bolster the entire region.

*“Farmers produce
over 29,000
truck-loads of grain
each year.”*

new-life mills
limited

new-life mills
Feeding Your Future



Agriculture Support Services

There are various industry classifications within the County of Middlesex who do not solely operate within the Agri-food sector. Due to the inability to distinguish the share of economic contribution these industries generate solely from agricultural or food production related activities, they have not been included in this assessment's definition of the Agri-food sector. Although unable to be explicitly quantified in this assessment, the economic contribution of the industries detailed below need to be recognized as they are responsible for various services that support agricultural production and Agri-food businesses in the County of Middlesex.

Farm machinery and equipment manufacturing (Agricultural, construction and mining machinery manufacturing):

The County of Middlesex is home to several businesses who specialize in the fabrication of equipment for use in agricultural activities. Increasing agricultural production potential in the County of Middlesex requires the use of specialized machinery such as trenchers for the drainage and tiling of agricultural lands, tillage equipment for the preparation of agricultural lands for planting, and feed mixers for the proper care of livestock.

Specialized freight trucking:

Agricultural commodities (e.g. grains and oilseeds, field vegetables, livestock, etc.) produced in the County of Middlesex require specialized freight trucking to be delivered to their respective market (e.g. grain handling/milling, meat processing, field vegetable processing, etc.); for either further processing or consumption. There are several businesses in the County who specialize in agriculture commodity trucking. To put this in perspective, nearly 29,000 truck-loads were required to transport the estimated 1.2 million metric tonnes of grain corn, soybeans, and winter wheat produced in the County of Middlesex in 2013.

Finance and insurance:

Farm and Agri-food businesses rely on the financial and insurance service providers within the County of Middlesex for both decision making, financial and risk management purposes. These services help farm and agri-businesses reach their business goals and improve the overall viability of the Agri-food industry in the County. For example, there are 4 Mutual Insurance businesses within the County of Middlesex.

Auctioneering (Business-to-business electronic markets, and agents and brokers):

Auctioneering businesses specializing in the exchange of new and used machinery and equipment used for both agricultural production and food processing are an important component of the Agri-food sector in the County of Middlesex. On-site and on-line transactions of machinery and equipment enable producers and business owners, easy access to necessary capital for operational purposes.

Veterinarians (Other professional, scientific, and technical services):

Veterinarians and veterinary services (e.g. labs, research, etc.) provide an essential service to the Agri-food sector in the County of Middlesex. Primarily, veterinarians are relied on to provide livestock (incl. equine) producers and processors with services related to animal health, safety, and performance.

A man with short dark hair, wearing a light blue button-down shirt, is smiling and looking at the camera. He is holding a black laptop with both hands, and his right hand is on the keyboard. He is standing in a field of dry, golden-brown crops, possibly soybeans. In the background, a red tractor is visible in a field under a clear sky.

“Farm and Agri-food businesses rely on the financial and insurance service providers within the County of Middlesex for both decision making, financial and risk management purposes”



Total Economic Impact of the Agri-food Industry

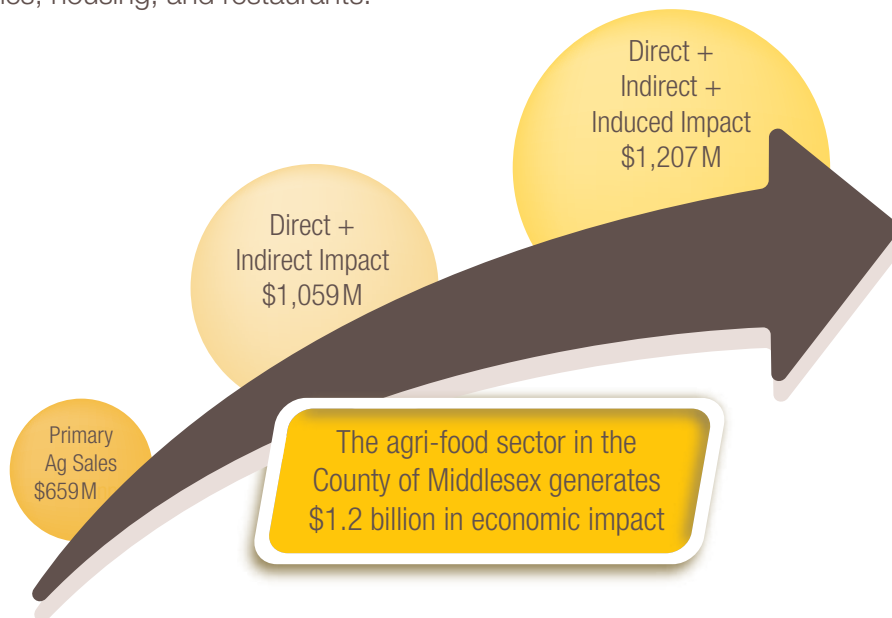
The economic impact of primary production agriculture in the County of Middlesex extends well beyond the \$659 million of direct farm cash receipts in 2013. When the indirect and induced economic activity are included the total economic impact is over \$1.2 billion.

The following are definitions of the three levels of economic impact used in this analysis:

Direct economic impact is the value of the primary agricultural sales.

Indirect economic impact is the economic activity created by the businesses that interact directly with farms such as farm supply businesses, grain elevators, veterinarians, accountants, insurance companies and vegetable processors.

Induced economic impact is the economic activity generated by the household spending of people in the direct and indirect industries. Examples would include household utilities, groceries, housing, and restaurants.



	Output	GDP	Labour Income	Jobs
Direct Effect	\$659.1 M	\$271.5 M	\$132.8 M	4,874
Direct + Indirect	\$1,059.3 M	\$459.3 M	\$248.1 M	7,013
Direct + Indirect + Induced	\$1,206.6 M	\$546.5 M	\$290.0 M	7,822

Table 9



- In 2013, estimated primary agriculture sales \$659 million
- Generated \$1.2 billion in economic impact
- This extends to:
 - \$547 million in Gross Domestic Product (GDP)
 - 7,822 jobs
 - \$290 million in wages and salaries

The indirect and induced multipliers used to calculate the total economic impact were established empirically by Statistics Canada. The national multipliers show the direct, indirect, and induced effects on gross output, GDP and jobs. They are derived from the Statistics Canada input-output tables and are used to assess the effects on the economy of a given industry. They provide a measure of the interdependence between an industry and the rest of the economy.



Conclusion

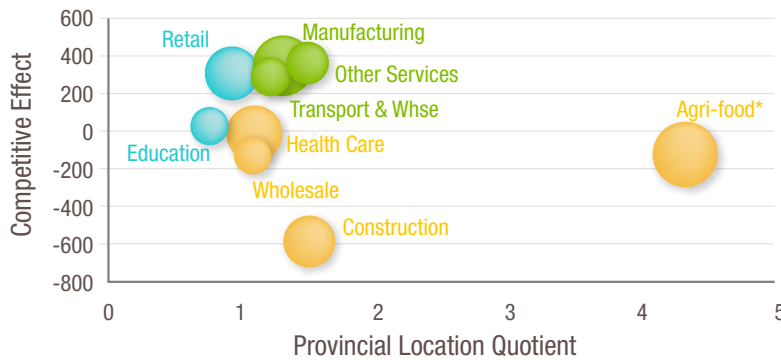
Agriculture is a cornerstone of the economy of the County of Middlesex with over \$1.2 billion in total economic impact. This extends to \$547 million in Gross Domestic Product, 7,822 total jobs and \$290 million in wages and salaries.

The Agri-food industry—primary production through to food processing—is the largest employer in the County of Middlesex and accounts for 15.2% of total employment. The County is very primary production focused with farm employment accounting for 71% of the total Agri-food jobs.

The agri-food sector in the County of Middlesex generates \$1.2 billion in economic impact

The Agri-food industry is a clear “sweet spot” for Middlesex with a Provincial Location Quotient (PLQ) rating of over 4, while all other major industry groups have a PLQ less than 1.5 as shown in the figure below. Provincial Location Quotient compares the relative concentration in the local region to the concentration in the provincial economy.

Figure 37
Competitive Effect versus Provincial Location Quotient
Middlesex County 2001-2014
All Industries 2 Digit NAIC >1,400 jobs



However, according to the analysis, the industry is Moderating (as opposed to Thriving). Employment in the industry is declining, including in the processing sector, and its PLQ has declined since 2001. These trends are not unique to the County of Middlesex as similar trends are seen in bordering counties as well.

What is unique for the County of Middlesex is proximity to the City of London. The employment profile of London complements the County of Middlesex. Middlesex is strong at the primary production end of the scale whereas London is strong in the Agri-food processing sectors. Together, the region offers a solid base of business across many aspects of the Agri-food industry.



Appendices

NAIC Definitions – included in definition of Agri-food industry

NAICS Code Description – Purdue Ag Cluster (EMSI Analyst Tool)

1110 (includes 111 and 112) – Farms

- 111 – Crop production
 - This subsector comprises establishments, such as farms, orchards, groves, greenhouses and nurseries, primarily engaged in growing crops, plants, vines, trees and their seeds (excluding those engaged in forestry operations). Industries have been created taking into account input factors, such as suitable land, climatic conditions, type of equipment, and the amount and type of labour required. The production process is typically completed when the raw product or commodity grown reaches the farm gate for market, that is, at the point of first sale or price determination. Establishments in these industries may use traditional crop production methods, employ modified or improved crop inputs, or engage in organic crop production.
 - An establishment is classified within this subsector provided that fifty percent or more of the establishment's agricultural production consists of crops. Establishments with fifty percent or more crop production and with no one product or family of products accounting for fifty percent of the production are treated as combination crop farms and classified to 11199 All other crop farming, except if fifty percent or more of the production is a combination of oilseeds and grains, in which case they are classified to 11119 Other grain farming.
- 112 – Animal production and aquaculture
 - This subsector comprises establishments, such as ranches, farms and feedlots, primarily engaged in raising animals, producing animal products and fattening animals. Industries have been created taking into account input factors such as suitable grazing or pasture land, specialized buildings, type of equipment, and the amount and type of labour required.
 - An establishment is classified within this subsector provided that fifty percent or more of the establishment's agricultural production consists of animal production or aquaculture. Establishments with fifty percent or more animal production or aquaculture and with no one product or family of products accounting for fifty percent of the production are treated as combination animal farms and classified to 11299 All other animal production.

1150 (includes 1151 and 1152) – Support activities for farms

- 1151 – Support activities for crop production
 - This industry group comprises establishments primarily engaged in providing support activities for growing crops.
- 1152 – Support activities for animal production
 - This industry group comprises establishments primarily engaged in providing support activities related to raising livestock, including companion animals

3111 – Animal food manufacturing - Animal food manufacturing

- This industry group comprises establishments primarily engaged in manufacturing food and feed for animals, including pets.

3112 – Grain and oilseed milling - Grain and oilseed milling

- This industry group comprises establishments primarily engaged in milling grains and oilseeds; refining and blending fats and oils; and making breakfast cereal products.
 - Exclusion(s)
 - Milling grain to make animal feed (See 3111 Animal food manufacturing)



3113 – Sugar and confectionery product manufacturing - Sugar and confectionery product manufacturing

- This industry group comprises establishments primarily engaged in manufacturing sugar and confectionery products.

3114 – Fruit and vegetable preserving and specialty food manufacturing - Fruit and vegetable preserving and specialty food manufacturing

- This industry group comprises establishments primarily engaged in manufacturing frozen fruits and vegetables; frozen entrées and side dishes of several ingredients, except seafood; and fruits and vegetables preserved by pickling, canning, dehydrating and similar processes.

3115 – Dairy product manufacturing - Dairy product manufacturing

- This industry group comprises establishments primarily engaged in manufacturing dairy products. Establishments primarily engaged in manufacturing substitute products are included.

3116 – Meat product manufacturing - Meat product manufacturing

- This industry group comprises establishments primarily engaged in manufacturing meat products.

3117 – Seafood product preparation and packaging - Seafood product preparation and packaging

- This industry group comprises establishments primarily engaged in canning seafood, including soup; smoking, salting and drying seafood; preparing fresh fish by removing heads, fins, scales, bones and entrails; shucking and packing fresh shellfish; processing marine fats and oils; and freezing seafood. Establishments known as floating factory ships that are engaged in shipboard processing of seafood are included.

3118 – Bakeries and tortilla manufacturing - Bakeries and tortilla manufacturing

- This industry group comprises establishments primarily engaged in manufacturing baked goods. Establishments primarily engaged in manufacturing bakery products, for retail sale, but not for immediate consumption, are included.

3119 – Other food manufacturing - Other food manufacturing

- This industry group comprises establishments, not classified to any other industry group, primarily engaged in manufacturing food.

3121 – Beverage manufacturing - Beverage manufacturing

- This industry group comprises establishments primarily engaged in manufacturing beverages.
- Exclusion(s)
 - Canning fruit and vegetable juices; freezing juices and drinks (See 3114 Fruit and vegetable preserving and specialty food manufacturing)
 - Manufacturing milk-based drinks (See 311511 Fluid milk manufacturing)
 - Manufacturing soft drink bases or fruit syrups for flavouring; coffee and tea, except ready-to-drink; powdered drink mixes; and non-alcoholic cider (See 3119 Other food manufacturing)

3122 – Tobacco manufacturing - Tobacco manufacturing

- This industry group comprises establishments primarily engaged in manufacturing tobacco products.

4111 – Farm product merchant wholesalers

- This industry group comprises establishments primarily engaged in wholesaling livestock, grain and other farm products.

4131 – Food merchant wholesalers

- This industry group comprises establishments primarily engaged in wholesaling processed milk and other dairy products, poultry and eggs, fish and seafood products, fresh fruit and vegetables, red meat and meat products, bread and other bakery products, processed rice, flour, flour mixes, prepared cereal foods and spices.



4171 – Farm, lawn and garden machinery and equipment merchant wholesalers - Farm, lawn and garden machinery and equipment merchant wholesalers.

- This industry group comprises establishments primarily engaged in wholesaling new or used farm, lawn and garden machinery, equipment and parts

4183 – Agriculture supplies merchant wholesalers

- This industry group comprises establishments primarily engaged in wholesaling agricultural feeds, seeds and processed seeds, agricultural chemicals and other farm supplies.

NAIC Definitions – Agriculture Support Services (not included in definition of Agri-food industry)

333110 – Agricultural implement manufacturing

- This industry comprises establishments primarily engaged in manufacturing machinery for use in performing farm operations, such as the preparation and maintenance of soil; planting, harvesting or threshing; field spraying; and preparing crops for market; or for use in horticultural and residential lawn care. Establishments primarily engaged in manufacturing snowblowers are included.

4191 – Business-to-business electronic markets, and agents and brokers

- This industry group comprises establishments primarily engaged in buying and/or selling products, owned by others, and generally receiving a fee or a commission for the service. These establishments may be known as business-to-business electronic markets, commission merchants, import agents or brokers, export agents or brokers, manufacturers' agents, purchasing agents, selling agents, and they may deal in any type of product. These establishments bring together sellers and buyers or undertake commercial transactions on behalf of a principal, without taking title of the goods bought or sold.

4842 – Specialized freight trucking

- This industry group comprises establishments primarily engaged in specialized freight trucking. These establishments transport articles that, because of size, weight, shape or other inherent characteristics, require specialized equipment for transportation. Some important types of specialized equipment are bulk tankers, dump trucks and trailers, refrigerated vans, and motor vehicle haulers. Establishments that transport used household and office goods are included.

54194 – Veterinary services

- This industry comprises establishments of licensed veterinary practitioners primarily engaged in the practice of veterinary medicine, dentistry, or surgery for animals. This industry also includes veterinary laboratories.

52 – Finance and insurance

- This sector comprises establishments primarily engaged in financial transactions (that is, transactions involving the creation, liquidation, or change in ownership of financial assets) or in facilitating financial transactions. Included are:
 - Establishments that are primarily engaged in financial intermediation. They raise funds by taking deposits and/or issuing securities, and, in the process, incur liabilities, which they use to acquire financial assets by making loans and/or purchasing securities. Putting themselves at risk, they channel funds from lenders to borrowers and transform or repackage the funds with respect to maturity, scale and risk.
 - Establishments that are primarily engaged in the pooling of risk by underwriting annuities and insurance. They collect fees (insurance premiums or annuity considerations), build up reserves, invest those reserves and make contractual payments. Fees are based on the expected incidence of the insured risk and the expected return on investment.



Data Source Descriptions

The employment, NAIC coded industry data, Competitive Effect and Location Quotient data series were either used directly from Economic Modeling Systems Inc. (EMSI) through OMAFRA's licensing of EMSI's "Analyst" web tool or were created through calculations based on the EMSI dataset.

EMSI describes the sources for their data set as follows:

In order to capture a complete picture of industry employment, EMSI combines employment data from Survey of Employment, Payrolls and Hours (SEPH) with data from the Labour Force Survey (LFS), Census, and Canadian Business Patterns (CBP) to form detailed geographic estimates of employment. Projections are based on the latest available EMSI industry data, 10-year past local trends in each industry and growth rates from national industry projections from the Canadian Occupational Projection System (COPS) produced by Human Resources and Skills Development Canada.

Data relating to the quantity of production of the various agricultural commodities was sourced from Statistics Canada through their web tool.

Data relating to the dollar value of commodity production was sourced from OMAFRA by personal correspondence. The most recent year's data (2013) is available on OMAFRA's website in the county profile section.