

In this issue:

Business Establishments in Agriculture and Number of Farms in Sarnia Lambton2

Agriculture Workforce in Sarnia Lambton4

Workforce Requirements6

Workforce Challenges and Opportunities6

Other Challenges and Opportunities Impacting Agriculture.....7

Closing Remarks.....7

Authors:

Catherine Gordon, Ph.D.
Research Associate

Julie Allen
Research Associate

For more information, contact Catherine at
catherine.gordon@slwdb.org
519.332.0000

We're on LinkedIn & Twitter @slwdb

September, 2014

Executive Summary:

This Sarnia Lambton Labour Market Review focuses on agriculture. Sarnia Lambton Workforce Development Board staff interviewed 14 stakeholders in the local agriculture industry to discuss trends and patterns in statistical data surrounding agriculture. We thank them for their time and input.

Highlights:

- The number of local farms is in steady decline. Similarly, employment on farms has been declining and there are fewer farm operators.
- The majority of stakeholders in agriculture believe future industry growth is possible, particularly in support services.
 - as farms get larger, they may rely greater on consultants for advice and services
- There was a sense of caution about the direct opportunities to agriculture from recent bioindustrial developments.
- In 2010, average salaries of those working on farms or in support services for farms were \$21,225 and \$51,498, respectively.
- Identified workforce challenges and opportunities include:
 - greater demand than supply for general and skilled farming positions
 - training unconventional farmers who didn't grow up on a farm
 - the changing skill sets required to stay up-to-date with technological advancements in the industry

The agriculture sector in Sarnia Lambton significantly contributes to the local economy. Cropland of 513,043 acres spans across 69% of the land in Sarnia Lambton. One out of five local business establishments operates directly in the agriculture sector – a proportion that is five times the Ontario percentage (4%).

Sub-sectors of the agriculture sector include:

- Crop production
- Animal production (livestock)
- Forestry and logging
- Fishing, hunting, and trapping
- Support activities for agriculture and forestry

In Sarnia Lambton, 97% of businesses in this sector operate in crop or animal production.

This Sarnia Lambton Labour Market Review focuses on agriculture and aims to identify developing areas, skill requirements, and emerging challenges and opportunities.

Business Establishments in Agriculture and Number of Farms in Sarnia Lambton

The number of business establishments by industry shown in this section is based on business and personal income tax reports

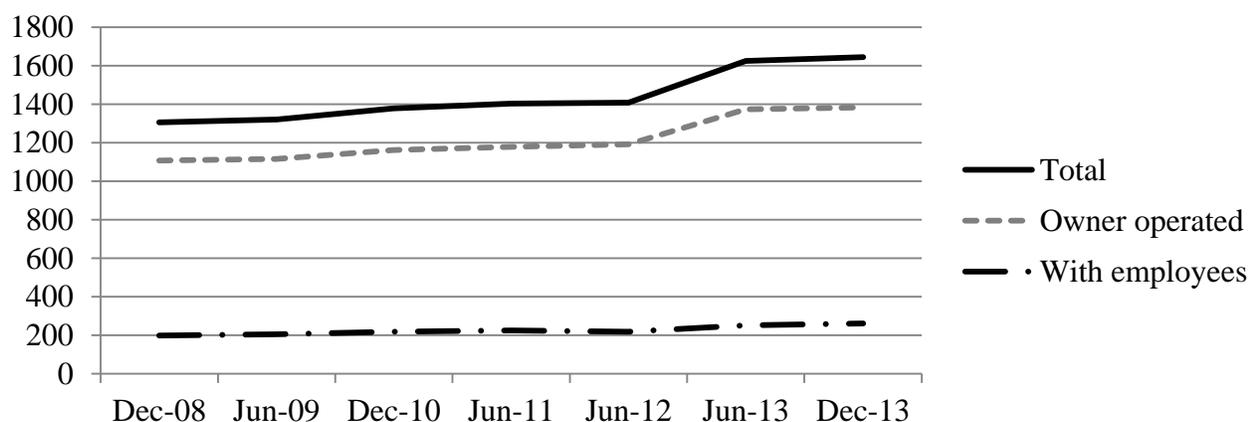
through the *Canadian Business Patterns*. In Sarnia Lambton, the number of establishments in the agriculture sector has slowly grown over time. In the figure below, the solid line shows this increase from 2008 to 2013. The numbers of establishments that are owner operated and that have employees are also plotted in the figure. The increasing number of owner operated establishments accounts for most of the total growth.

Meanwhile, the number of local farms is in steady decline. The number of farms dropped from 2,427 in 2001, to 2,281 in 2006 to 2,153 in 2011.

Why the disagreement?

The answer may lie in how the business data are collected. Owner operated establishments are sometimes counted through personal income taxes. Reporting is influenced by other jobs a farm operator may hold. When income from farming is higher than income from jobs outside of agriculture, then a farming business is counted; if non-farming employment income is higher, then a farming business is not counted. The rising number of establishments shown in the figure below may occur because of greater personal income from farming in recent years.

Number of business establishments in agriculture sector, 2008-2013, Sarnia Lambton



Source: Statistics Canada. *Canadian Business Patterns, 2008-2013*.

Areas of growth

There are fewer farms. Surviving farms have grown in size from the consolidation of farms. The overall farmland in Sarnia Lambton hasn't expanded.

What are the potential areas of growth for this industry? Local stakeholders were asked this question, as well as specific questions about food processing and the bioindustry. The majority believe growth is possible, particularly in support services.

Support services

As farms get larger, they may rely to a greater extent on agriculture consultants and specialists for advice on and services for:

- how to grow a thriving yield (nutrients, fertilizers, etc.)
- what technologies to use
- maintaining and fixing technologies and machinery

The number of businesses that provide support activities has grown from 26 in 2008 to 46 in 2011. A business in this field tends to be a consultant working for oneself.

Food processing

In Sarnia Lambton, the number of food, beverage and tobacco companies has declined from 32 in 2008 to 23 in 2013. Overall, local stakeholders didn't consider food processing as a viable growth opportunity for the local agriculture industry. According to stakeholders, it hasn't been a traditional industry in the area and so growth would be challenging.

Bioindustry

The growth of a bioindustrial sector in Sarnia Lambton suggests potential opportunity for local agriculture. Bioindustrial operations convert sustainable feedstock, such as agricultural and forestry by-products and wastes, into fuels, chemicals, products and materials (see bicsarnia.ca). The use of corn has

established Suncor Energy as a major producer of ethanol in Canada. The Ontario Sugarbeet Growers' Association is introducing the use of sugar beets to enhance the production of corn ethanol and as an ingredient in the production of polyethylene (Epp, 2014). The Grain Farmers of Ontario (2014) expect growth in the use of soybeans in the biodiesel market due to the Government of Ontario Greener Diesel Mandate.

A bio-succinic acid plant, BioAmber, is under construction and expected to be completed in 2015. The plant will use sugar from corn to produce bio-succinic acid, a building-block chemical that can be used in plastics, cosmetics and other products (Morden, 2014).

Sarnia Lambton Economic Partnership (2014) reports recent developments in the bioindustrial sector in Sarnia Lambton include:

- GreenCore Composites (manufacturing of NCell (TM) fiber reinforced thermoplastics)
- KmX Corporation - pilot biobutanol plant
- Woodland Biofuels - cellulosic ethanol demonstration plant
- Methes Energies Canada - biodiesel production at Sombra facility

Overall, there is a sense of caution among local stakeholders in agriculture about the opportunities from recent developments in the bioindustrial sector. Most stakeholders interviewed do not perceive gains in the near future for the agriculture industry. There was uncertainty in the sustainability of recent developments on whether they could be commercialized. The general consensus seemed to suggest that we have to "wait and see" how things will develop. Some stakeholders mentioned that another biofuel facility producing ethanol could benefit local farmers in Sarnia Lambton; the increased demand could potentially raise crop prices. A couple of stakeholders thought opportunities for

agriculture would follow the establishment of BioAmber.

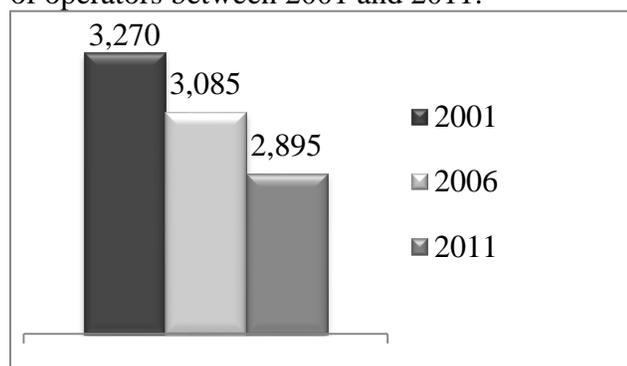
Agriculture Workforce in Sarnia Lambton

The agriculture workforce is made up of farm operators and their employees.

Farm operators

Information on farm operators comes from two different sources: the Census of Agriculture and the National Household Survey (NHS). Both define farm operators as people who manage the overall operations of a farm, ranch, or orchard. Farm operators can be owners, tenants, or hired managers. A difference between these two data sources is how information is collected. Consequently, different numbers are reported.

The **Census of Agriculture** was delivered by mail along with the Census of Population to households and farm operations in 2011. The Census of Agriculture is to be completed by anyone responsible for operating a farm or any operation that grows or produces agricultural products with the intention of selling – including hobby farms. According to this source, there were 2,895 farm operators in 2011. The figure below shows the decline in number of operators between 2001 and 2011.



Sources: Statistics Canada. *Census of Agriculture, 2001, 2006, & 2011.**

The **NHS** was delivered by mail to a sample of households in 2011. This survey asked

individuals to name their occupation but only the job held from May 1 to 7, 2011. For people with more than one job, the survey wanted the job at which someone worked the most hours. Farm operators who have a second job may not report farming as their main activity. Therefore, the number of operators is underestimated in the NHS. According to this source, 1,830 employed farm operators/managers worked in Sarnia Lambton in 2011. There is a difference of 1,065 between the two sources.

Other jobs in agriculture

Jobs in agriculture other than farm operators are acknowledged through the NHS but not the Census of Agriculture. The table below lists common occupations held by employed people working in agriculture in 2011. Four of five employed people were either managers or general farm workers.

| Occupation | # employed |
|--|------------|
| Managers including operators (agriculture & horticultural) | 1,830 |
| Workers (agriculture & horticultural) | 440 |
| Finance & insurance | 75 |
| Fishing vessel masters & fishermen /women | 45 |
| Harvesting, landscaping & natural resources labourers | 35 |
| Administrative & regulatory | 25 |
| Motor vehicle & transit drivers | 25 |

Source: Statistics Canada. *NHS, 2011.*

Employment in the sub-sectors of agriculture was examined from 2001 to 2011. Employment on farms is in decline but is steady in the support activities sub-sector, which employs about 50 persons.

Future job demand will likely be from growth in support activities and to replace older operators/managers who retire. According to stakeholders, operators may not retire until later

ages – up to 80s and 90s. Farming activities have become less labour intensive thanks to technological developments. Succession planning is talked about at length in farming organizations. Some younger farmers are waiting for older owners to exit. A real barrier for younger farmers, however, is the great capital required to buy farms and quotas.

Income

In Sarnia Lambton, the average full-time salary of someone working in the agriculture industry was \$24,332 in 2010.¹ Average salaries of those working on farms or in support services for farms were \$21,225 and \$51,498, respectively.

Income in the agriculture industry is affected by the number of weeks worked. Many farm operators and workers earn employment income from other sources during the winter months.

Temporary Foreign Workers

According to the Government of Canada, “Temporary Foreign Workers (TFWs) can help employers meet their labour needs when Canadian citizens and permanent residents are not available.” (ESDC.gc.ca). TFWs for the agriculture sector can be hired through the Seasonal Agricultural Worker Program (SAWP), agricultural stream, lower-skilled stream, or high-skilled stream.

The TFW program has recently been reformed. Please see ESDC.gc.ca for details.

Number of employees from the TFW Program weren’t included in the employment numbers shown earlier. The Local Immigration

¹ The median is an average measurement that takes the middle number of a group of ranked numbers; it is less influenced by really high or low numbers compared to the mean. Income reported is before taxes. Full-time employment income doesn’t include income from part-time employment. Source: Statistics Canada. *NHS, 2011, custom tabulation.*

Partnership (2014) reports there were 315 TFWs in Sarnia Lambton in 2012 (gathered from the Citizenship and Immigration of Canada). This number combines the total number for each municipality; if a municipality has less than 20 TFWs, a zero is reported (a standard practice to protect privacy). Possibly, there are more than 315 TFWs in Sarnia Lambton.

SAWP is the most common stream used for agricultural workers. According to a Service Canada representative, there were 224 SAWP workers in Sarnia Lambton in 2013.

Local stakeholders brought up the need for TFWs, who they referred to as offshore workers. According to stakeholders, TFWs are hired because there aren’t enough local people available and willing to work in general labour positions on farms and greenhouses. These jobs involve long days and relatively low pay (not much higher than minimum wage).

The use of TFWs is a controversial topic. Critics often point to the pool of unemployed Canadians and ask why they aren’t employed instead of offshore workers. The fact that there are unemployed people in Sarnia Lambton was acknowledged and discussed by some stakeholders. These stakeholders mentioned how they or farmers in their associations can’t seem to connect with job seekers through employment agencies or the government job bank; job seekers either aren’t interested in agriculture work or don’t have the required skills.

An increased awareness about the job opportunities and the skills and education needed may help raise the profile of jobs in agriculture. SLWDB aims to inform the community through this report, as well as the simpler SLWDB employment guide *Working in Agriculture*.

Workforce Requirements

The Government of Canada [Job Bank](#) lists the education, experience, and skills required for all jobs (see [ESDC.gc.ca](#)). Requirements for common jobs in agriculture were discussed with local stakeholders. Findings from both sources are combined and shown below. The position “Farm Workers” is separated into two types because stakeholders distinguished between general and skilled positions.

General Farm Workers

- ❑ High school education
- ❑ Essential skills (reading, document use, writing, numeracy, thinking, oral communication, thinking, & digital technology)
- ❑ Basic farm knowledge from experience

Skilled Farm Workers

- ❑ Post-secondary education
- ❑ Essential skills (see general workers)
- ❑ Basic farm knowledge from experience
- ❑ Math
- ❑ Computer programs & technology: spreadsheets, Geography Information System (GIS)
- ❑ Working knowledge of trades to fix things: mechanic, welder, plumber
- ❑ Team player
- ❑ Problem-solving of complex issues

Farm Managers and Supervisors

- ❑ College diploma in agriculture
 - courses in management, business, marketing, chemistry are also needed
- ❑ Essential skills (see general workers)
- ❑ Advanced farm knowledge from experience
- ❑ Computer programs & technology: spreadsheets, Geography Information System (GIS)
- ❑ Management skills

Agricultural support: consultants and specialists

- ❑ Bachelor’s or Master’s degree in Agriculture or related science (i.e., chemistry, biology)
- ❑ Essential skills (see general workers)
- ❑ Team player
- ❑ Continuous learner

Nursery & greenhouse workers

- ❑ High school education
- ❑ May need courses in horticulture
- ❑ May need license if using chemicals
- ❑ Essential skills (see general workers)

Workforce Challenges & Opportunities

Stakeholders were asked whether there is concern in the organization they are a part of to find the right people for the job. Three themes emerged from their comments:

1. Demand is greater than supply for general and skilled positions. For some stakeholders, but not all, it’s a wage-related problem. Some possible explanations were provided:
 - job seekers have high expectations to be paid similar as workers in the local plants
 - postsecondary graduates don’t want to be general labourers

2. Training unconventional farmers is a challenge when basic farm knowledge is required. These individuals:
 - didn't grow up on a farm
 - don't have the basic knowledge and skills that current farmers may take-for-granted that they know, such as distinguishing crops and knowing crops' growth stages, etc.

If conventional farming students aren't learning the basics at school, perhaps this group could start internships before or during schooling.
3. Agriculture is technology-driven.
 - operators and workers need to be up-to-date with changes and know how to use technologies and fix small problems
 - advanced technology is attributed to a growing interest in support services

Other Challenges and Opportunities Impacting Agriculture

A number of additional factors can potentially impact the scope of agriculture in Sarnia Lambton. Issues listed below may contribute to a change in workforce size, work structure, and skill requirements within the industry.

- **International competition:** Increased global markets can drive local crop prices down and impact the return on acreage equation for farmers. For example, how much does it cost for land, labour, machinery versus realized profit (Miner, 2014).
- **Climate change:** The Ontario Federation of Agriculture recognizes that an increase in extreme weather events and new drought and flood cycles necessitates research to identify the technologies and practices that will improve agricultural productivity in such changing environments (Wales, 2013).

- **Disease, insects and pesticides:** Diseases like fungal growth on crops, Porcine Epidemic Diarrhea in the swine population, insect inhabitation (e.g. the cereal wheat beetle) and pesticide use, are risk factors that pose challenges to agriculture.
- **Legislative Requirements:** Rules and regulations (e.g. Nutrient Management Act) may increase the cost and complexity of farming (Walton, 2003). A few stakeholders indicate that worker health and safety regulations are cumbersome and can be cost prohibitive for smaller operators. Also, the closing of abattoir (slaughterhouse) businesses in recent years was connected to regulatory challenges by one stakeholder.
- **Global dietary changes:** The OECD (2014) reports that growing incomes, urbanization, and changes in eating habits have resulted in a shift in diet toward foods that are higher in proteins, fats, and sugars. Increased demand for dairy, meat, and fish may pose both opportunity and challenge for local agriculture.

Closing Remarks

Agriculture plays a significant role in the economy of Sarnia Lambton. One out of five local businesses operates directly in this sector. The number of local farms may be declining, but stakeholders in the industry think future growth is possible.

Opportunities appear to be in the area of support services. As farming methodology and farm equipment is becoming more technologically advanced, the number of businesses offering support services has grown.

Additionally, recent developments in the bioindustrial sector offers potential for growth to the agriculture sector; however, the relative newness of the bioindustry has local

stakeholders approaching the potential for growth from this area with guarded optimism.

Local stakeholders indicate that challenges they face in the agriculture sector include a demand for general and skilled farm workers that is greater than the supply, training of unconventional farm workers, and the changing skill sets required to stay up-to-date with technological advancements in the industry.

Experience working on farms is particularly pertinent for general/skilled workers or managers on farms. Skilled farm workers and managers need to have math, computer, and technology skills. Working knowledge of trades to fix things is beneficial for skilled farm

workers. Agricultural support consultants typically need higher education in agriculture or related sciences.

It is also important to note that a number of external factors can impact the agriculture industry. Factors such as international competition, climate change, disease/insects/pesticides, legislative requirements and global dietary changes have the potential to affect positive or negative results on sector growth.

References

Data sources

Local Immigration Partnership (LIP). *Immigration Statistics for Sarnia-Lambton*. Sarnia Lambton Workforce Development Board (SLWDB).

- Interviewed 14 stakeholders in the local agriculture industry.
- Consulted with representatives from Service Canada and Ontario Ministry of Agriculture, Food and Rural Affairs.

Statistics Canada. *Canadian Business Patterns, 2008-2013*.

Statistics Canada. *Census of Agriculture, 2001, 2006, & 2011*.

Statistics Canada. *National Household Survey, 2011, custom tabulation*.

Other sources of information

Employment and Social Development Canada (ESDC). *Temporary Foreign Workers*. Government of Canada. www.esdc.gc.ca

Epp, P. (2014, March 6). Sugar beet growers want to expand into industrial market. *The London Free Press*. Retrieved July 17, 2014, from <http://www.lfpress.com/2014/03/06/sugar-beet-growers-want-to-expand-into-industrial-market>

Grain Farmers of Ontario. (2014, April 3). Ontario's greener diesel mandate cleans the air and creates a market for soy biodiesel. Retrieved July 14, 2014, from <http://www.gfo.ca/LinkClick.aspx?fileticket=yKDj3z8bI2s%3d&tabid=829&mid=504>

Miner, J. (2014, July 10). Cash croppers face crunch while meat producers look forward to cheaper feed. *The Sarnia Observer*. Retrieved July 10, 2014, from <http://www.theobserver.ca/2014/07/10/cash-croppers-face-crunch-while-meat-producers-look-forward-to-cheaper-feed>

Morden, P. (2014, June 23). Sarnia plant expected to be completed in early 2015. *The Sarnia Observer*. Retrieved July 15, 2014, from <http://www.theobserver.ca/2014/06/23/sarnia-plant-expected-to-be-completed-in-early-2015>

Organization for Economic Co-operation and Development. (OECD). (2014). *Agricultural outlook 2014-2023: Overview of 2014*. Retrieved August 6, 2014, from <http://www.oecd.org/site/oecd-faoagriculturaloutlook/overview.htm>

Sarnia Lambton Economic Partnership. (2014). *Sarnia-Lambton biohybrid chemistry cluster*. Retrieved July 15, 2014 from <http://www.sarnialambton.on.ca/main/ns/121/doc/248/lang/EN>

Wales, M. (2013). Climate change will challenge Ontario agriculture. *Ontario Federation of Agriculture*. Retrieved on July 15, 2014, from <http://www.ofa.on.ca/about/county-federation-sites/manitoulin-north-shore-sudbury-west/news/Climate-change-will-challenge-Ontario-agriculture>

Walton, M. (2003). What trends will affect agriculture in the next three decades? *Agriculture in the Central Ontario Zone, issue paper no. 1* (pp. 27-29). Toronto, ON: Neptis Foundation. Retrieved August 1, 2014, from http://www.neptis.org/sites/default/files/smart_growth_issue_papers_agriculture/agriculture_nip1.pdf

This *Employment Ontario* project is funded by the Ontario government. *The views expressed in this document do not necessarily reflect those of Employment Ontario.*

**EMPLOYMENT
ONTARIO**