

PROFILING ONTARIO'S MEAT INDUSTRY



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Industry Report

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1.0 Background and Objectives

In June 2008, the Ontario Independent Meat Processors (OIMP) commissioned Mallot Creek Strategies Inc. to conduct an inventory of Ontario's meat plants/processors. OIMP identified that a limited analysis of Ontario's meat processing capacity is currently available. Further information is important to better understand the support that OIMP can provide to this sector recognizing that there is an overall understanding that facilities are aging and long time owners are faced with succession planning challenges as they transition to the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) new meat regulations under the *Food Safety and Quality Act, 2001*. This long standing and sizable industry is facing considerable challenges as it strives to endure the economic impact of compliance.

The objectives for this study were defined as the following:

- Develop an inventory of current capacities existing Ontario Meat Processors designed to quantify processing and its importance to the value chain and related economic impact.
- Identify the production of livestock (by specie) and quantities on a regional basis and the related processing needs based on supply and producer interest in accessing capacity.
- Based on an understanding of regional animal production and an assessment of existing viable regional facilities, develop an estimate of required processing services.
- Identify capacity trending and the related impact to production and the processing industry.
- Assess the Ontario processing (slaughter) needs on a regional basis and the impact of reduced access to this base service.
- Identify the product categories that processed products represent and the related customer base.
- Estimate the current volumes that processed meat products represents in the Ontario marketplace.

2.0 Livestock Inventory

Objective:

- Identify the production of livestock (by specie) and quantities on a regional basis and the related processing needs based on supply and producer interest in accessing provincial capacity.

For the purpose of this report livestock producers and processors have been segmented into the following livestock specie categories including: Cow, Beef, Veal, Hogs, Lamb and Poultry. This section of the report will review each category and identify key findings as they relate to the inventory objectives identified above.

The livestock categories have been segmented into the 10 regions outlined in section 3.1. Each livestock production and corresponding slaughter estimate has been based on a set of assumptions provided by livestock organizations and OMAFRA.

2.1 Cow Category

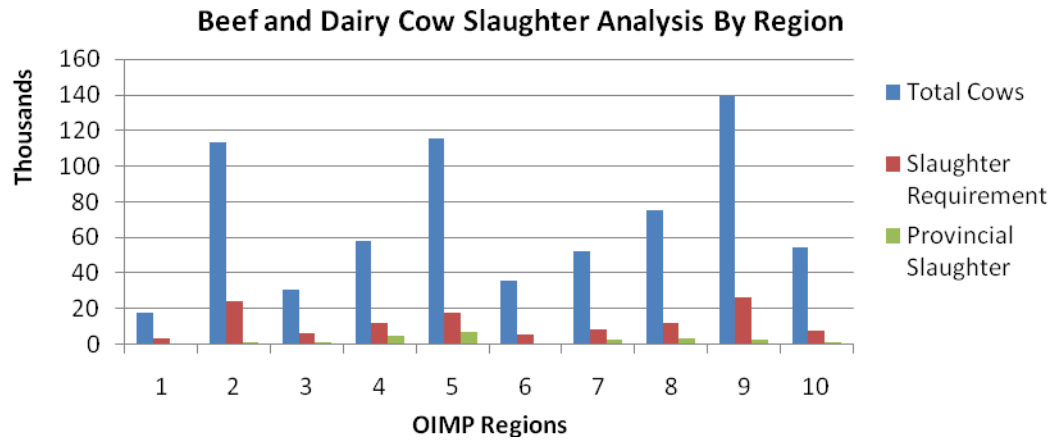
The cow inventory and slaughter requirements were forecasted based on the following criteria:

- Dairy cow 25% annual cull rate
- Beef cow 10.5% annual cull rate
- Included in the Cow category are dairy cows and beef cows

2.1.1 Cow Production vs. Provincial Slaughter by Region

Graph 1 – Beef and Dairy Cow Slaughter Analysis by Region summarizes actual slaughter vs. slaughter requirements by region, which identifies an extreme deficiency in regional provincially inspected slaughter capacity for cull cows produced on a regional basis.

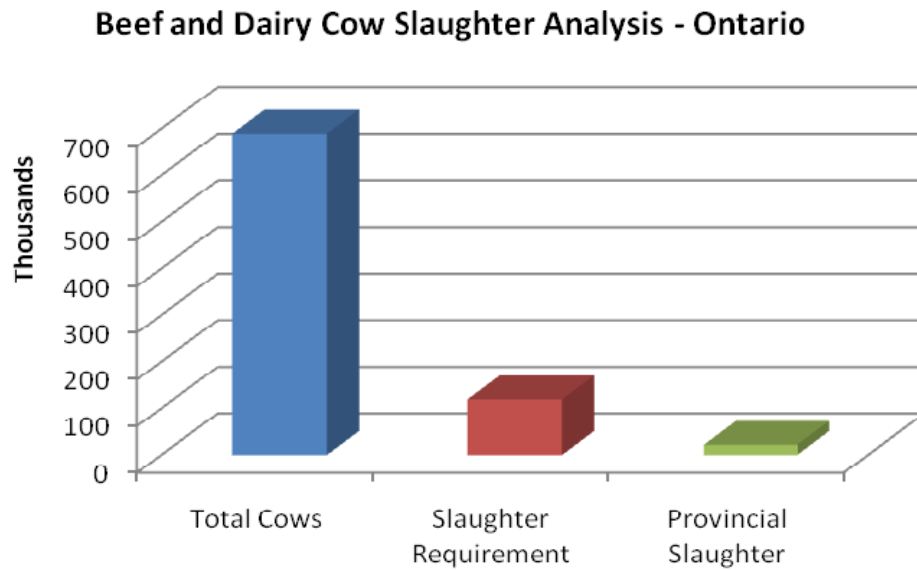
Graph 1 – Beef and Dairy Cow Slaughter Analysis by Region



2.1.2 Cow Production vs. Provincial Slaughter Total

Graph 2 – Beef and Dairy Cow Slaughter Analysis – Total Ontario, shows provincial slaughter is considerably lower than the slaughter requirement of cull cows.

Graph 2 – Beef and Dairy Cow Slaughter Analysis – Total Ontario



2.1.3 Cow Production vs. Provincial Slaughter Key Findings and Conclusion

- The vast majority of regions have a need for provincially based regional kill capacity given the nature of the cow culling cycle
- The current state of the industry is forcing the shipment of cows out of the province for slaughter as there is no significant capacity at both the provincial and federal levels within Ontario
- The steady erosion of provincial capacity over the past several years has resulted in regional discrepancies due in part from the aging of facilities and the fall of revenues associated with the kill and fabrication of cow products.

2.2 Beef Category

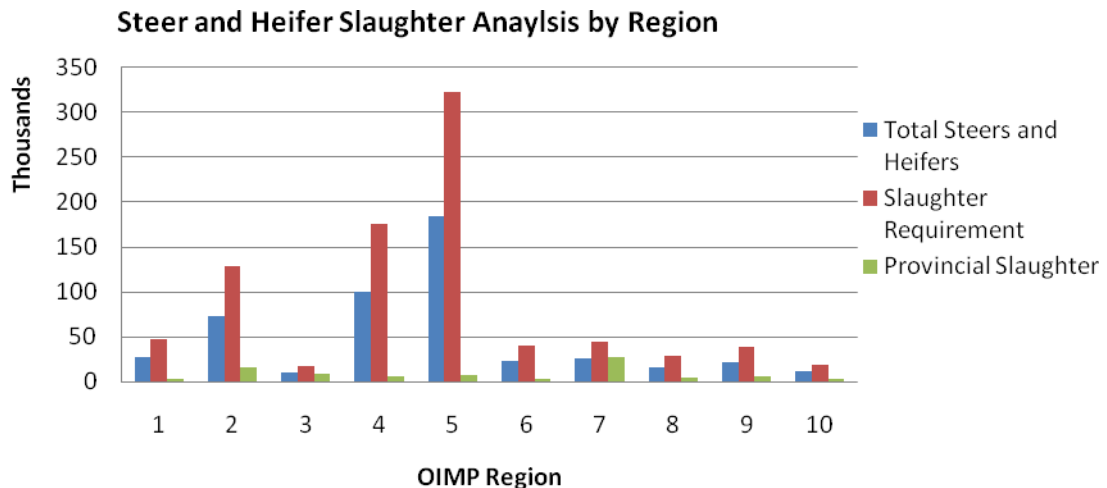
The beef inventory and slaughter requirements were forecasted using on the following criteria:

- Slaughter requirement based on annual feedlot turnover average of 1.75 times per year
- Included in the Beef category are Steers and Heifers

2.2.1 Beef Production vs. Provincial Slaughter by Region

Graph 3 –Steer and Heifers Slaughter Analysis by Region summarizes actual slaughter vs. slaughter requirements by region. The majority of these animals are generally slaughtered by federally licensed facilities or shipped out of province for processing.

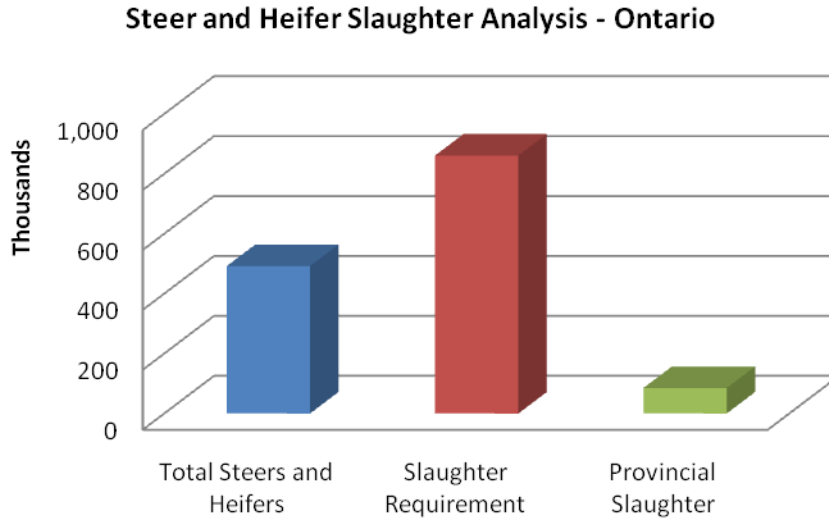
Graph 3 –Steer and Heifer Slaughter Analysis by Region



2.2.2 Beef Production vs. Provincial Slaughter Total

Graph 4 –Steer and Heifer Slaughter Analysis – Total Ontario, shows that a low percentage of the provincial production of Steers and Heifers are sent to provincially licensed facilities within Ontario.

Graph 4 –Steer and Heifer Slaughter Analysis – Total Ontario



2.2.3 Beef Production vs. Provincial Slaughter Key Findings and Conclusion

- The above graphs show relatively few beef cattle are processed in provincial facilities in Ontario in relation to the inventory. This is consistent with the current industry strategy for large, federally- based processors.
- The few remaining provincial facilities have increased capacity and marketing mix to address the need for well established programs to succeed in the marketplace.

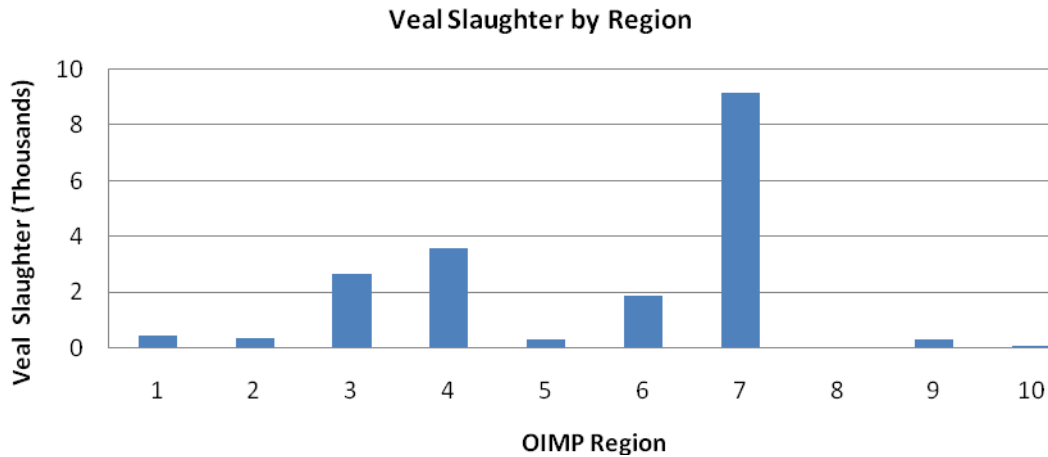
2.3 Veal Category

The veal inventory and slaughter requirements were forecasted using the following criteria:

- Calf generation of an average of 1.6 times per year
- Included in the inventory are calves from dairy and beef cows
- Include both milk and grain fed veal

Graph 5 – Veal Slaughter by Region summarizes the veal kill in each OIMP region. Veal inventory and slaughter requirement data is currently unavailable.

Graph 5 – Veal Slaughter by Region



Veal Category Conclusions:

- No data was available to the writers as to the number of veal animals available for slaughter in Ontario on a regional or aggregate basis; therefore the calculation of the required provincial slaughter could not be determined.
- The veal category remains largely underdeveloped in Ontario at a provincial level.
- The vast majority of supply is currently gained from outside the province.

2.4 Hogs Category

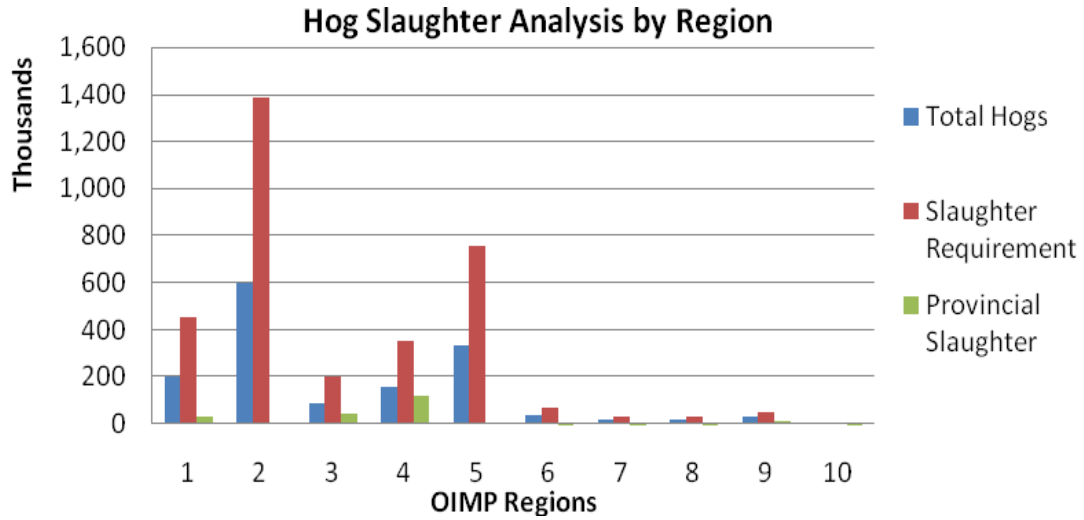
The hog inventory and slaughter requirements were forecasted using the following criteria:

- Slaughter requirement based on an annual finishing barn turnover average of 3 times per year
- Sow 45% annual cull rate
- Included in the Hog category are sows, gilts for breeding and pigs greater than 60kg

2.4.1 Hog Production vs. Provincial Slaughter

Graph 6 - Hog Slaughter Analysis by Region summarizes actual slaughter vs. slaughter requirements by region and shows an extreme deficiency in slaughter capacity for hogs produced on a regional basis. This discrepancy is being addressed by federal kill capacity; however, no real sow kill capacity is evident on a provincial or federal level.

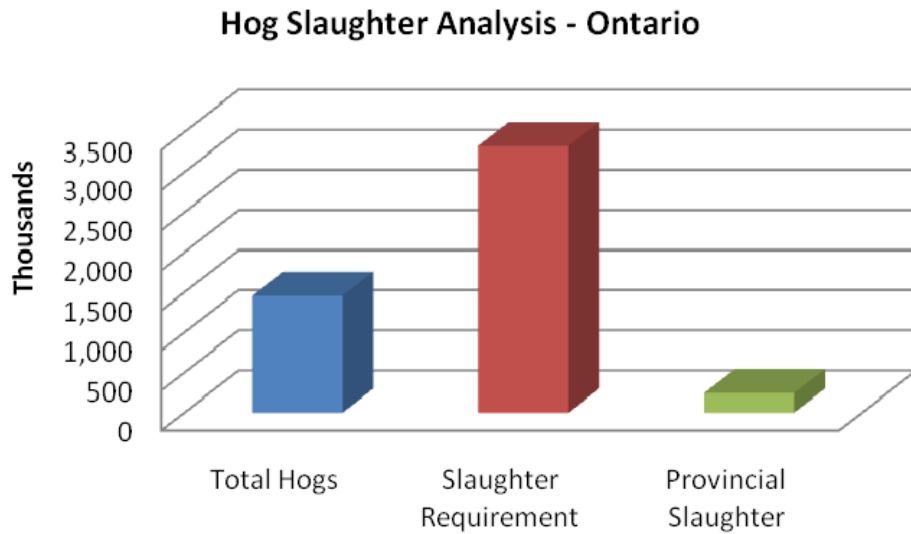
Graph 6 – Hog Slaughter Analysis by OIMP Region



2.4.2 Hog Production vs. Provincial Slaughter Total

Graph 7 - Hog Slaughter Analysis – Total Ontario identifies provincial slaughter is considerably lower than the slaughter requirement driven by total hog production. This has been strategic as the hog industry competes on an international basis and requires federal standards for the majority of the kills and fabrication to comply with export regulations.

Graph 7 – Hog Slaughter Analysis – Total Ontario



2.4.3 Hog Production vs. Slaughter Key Findings and Conclusions

- Region 2 (Elgin, Middlesex, Oxford and Perth) is the largest hog producing region in Ontario with no significant provincial kill capacity
- The industry is dominated by large federal kills marketing on a national and international level
- The ability to provincially kill is not a main component to industry health but a base provincial capacity should be established to ensure the ability to process given industry developments
- The majority of sow cull are exported to the United States for processing with no significant provincial capacity

2.5 Lamb Category

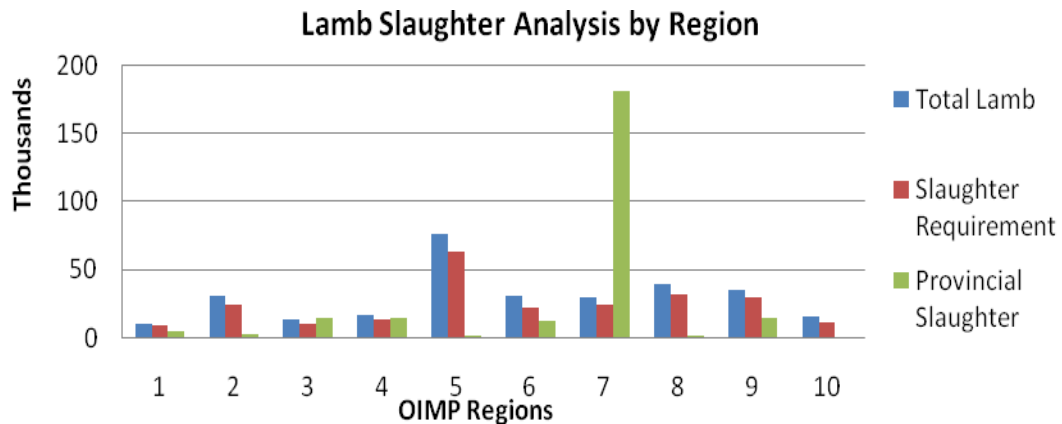
The lamb inventory and slaughter requirements were forecasted using the following criteria:

- Ewe forecasts are based on a 17% annual cull rate
- Slaughter requirement based on an annual finishing barn turnover of 1.5 times per year
- Included in the Lamb category are all ewes and lambs

2.5.1 Lamb Production vs. Provincial Slaughter

Graph 8 - Lamb Slaughter Analysis by Region summarizes actual slaughter vs. slaughter requirements by region and identifies there is the ability to address the regional slaughter capacity for lambs produced on a regional basis. This provincial capacity is related to the relatively low production of lambs in Ontario in relation to consumer and customer demand.

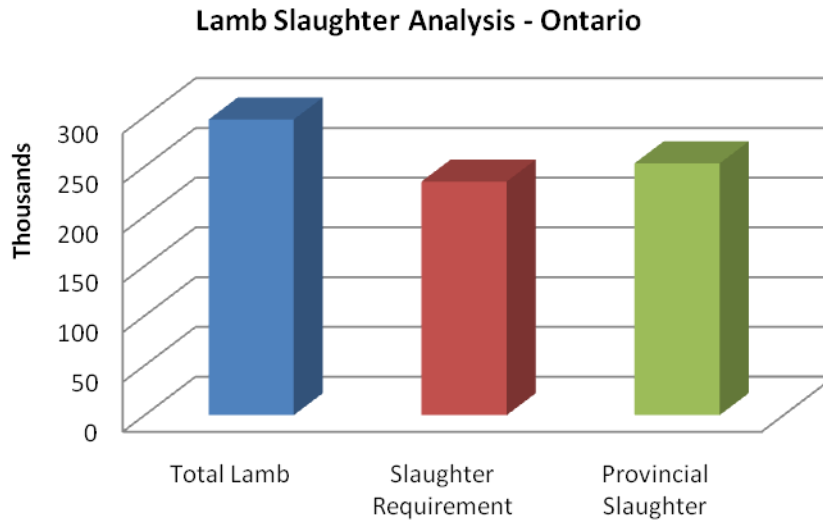
Graph 8 – Lamb Slaughter Analysis by OIMP Region



2.5.2 Lamb Production vs. Provincial Slaughter Total

Graph 9 - Lamb Slaughter Analysis - Total Ontario shows provincial slaughter is consistent with production needs. Consumer demand at the retail counter is significantly higher than production and therefore related slaughter needs.

Graph 9 – Lamb Slaughter Analysis - Total Ontario



2.5.3 Lamb Production vs. Slaughter Key Findings and Conclusions

- The current production of lamb in Ontario is small and underdeveloped in relation to the market opportunity at both the provincial and federal level
- Provincial slaughter capacity is limited but adequate to meet current production needs
- A large percentage of the Ontario provincial and federal based slaughter is supplied from the western provinces
- The lamb industry seems balanced given the current state of grow and slaughter capacity in Ontario

2.6 Poultry Category

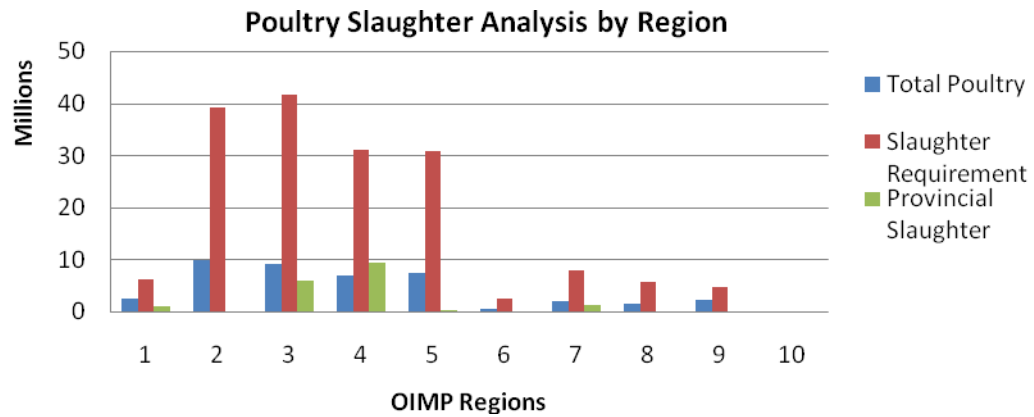
The poultry inventory and slaughter requirements were forecasted using the following criteria:

- Broilers, roasters and Cornish hens slaughter is based on an annual turnover of 5 times
- Laying hens slaughter requirement is based on an annual turnover rate of 0.722 times per year
- Turkeys slaughter requirement is based on an annual turnover of 4.87 times per year
- Included in the poultry category are all Broilers, Roasters, Cornish hens, Laying Hens and Turkeys

2.6.1 Poultry Production vs. Provincial Slaughter by Region

Graph 10 - Poultry Slaughter Analysis by Region summarizes actual slaughter vs. slaughter requirements by region and details a significant provincial downfall in relation to production on a regional basis. This is consistent with the industry which is dominated by large multinational processors. The production of poultry is controlled and dedicated to supply these processors. The provincial kill capacity is regionally based and supplies small regional customers with both poultry and specialty poultry items.

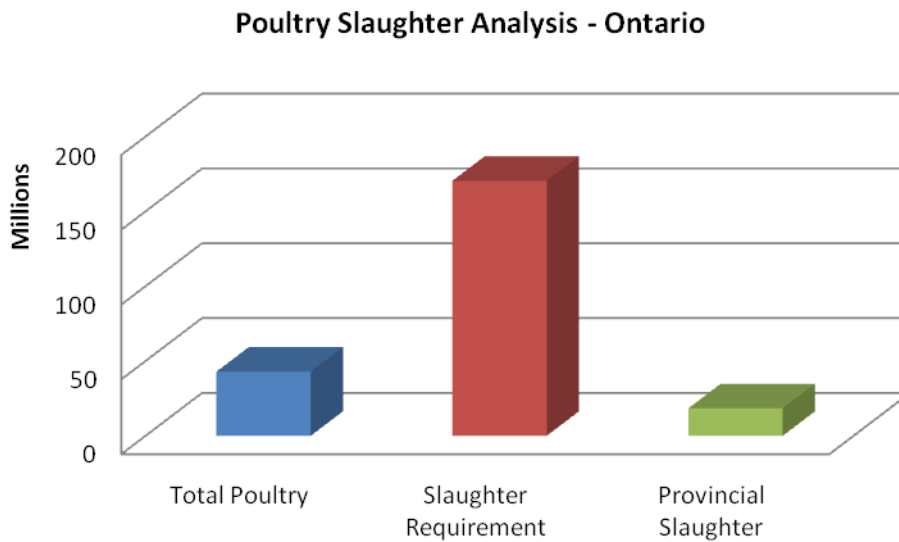
Graph 10 – Poultry Slaughter Analysis by OIMP Region



2.6.2 Poultry Production vs. Provincial Slaughter Total

Graph 11 - Poultry Slaughter Analysis – Total Ontario identifies an industry dominated by federal processing.

Graph 11 – Poultry Slaughter Analysis - Total Ontario



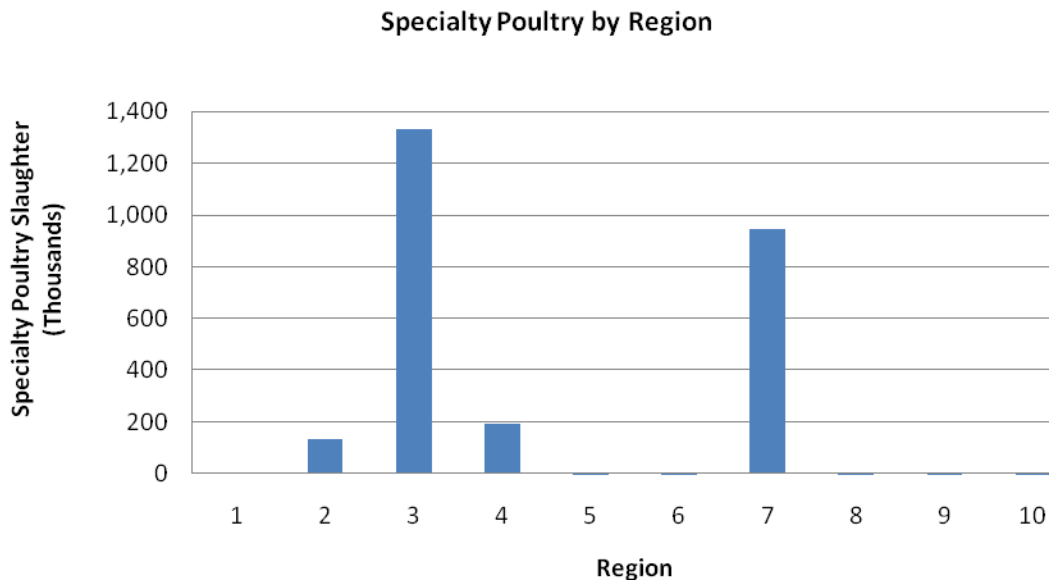
2.6.3 Specialty Poultry

Specialty poultry is an emerging market led by the demand for ducks and quail. It is also a category which is mainly serviced by provincially licensed facilities. Refer to **Table 1 – Specialty Poultry Total Slaughter** for the types of specialty poultry and associated slaughter. Refer to **Graph 12 - Specialty Poultry by Region** to identify the total slaughter for each region.

Table 1 – Specialty Poultry Total Slaughter

Specialty Poultry	Total Slaughter
Cornish Hens	124,665
Ducks	1,008,756
Fancy Poultry	156
Geese	34,144
Guinea Fowl	407
Partridges	34,592
Pheasants	1,931
Pigeons	103,006
Quail	1,301,360
Total Specialty Poultry	2,609,017

Graph 12 – Specialty Poultry by Region



2.6.4 Poultry Production vs. Slaughter Key Findings and Conclusions

- High quantities of poultry grow skew regional provincial slaughter requirements
- The industry is dominated by large Federal kills, processors and marketers
- Availability of provincial kill is not a main component for industry health
- There is a growing provincial market for specialty poultry items

2.7 Animal Production vs. Capacity Index

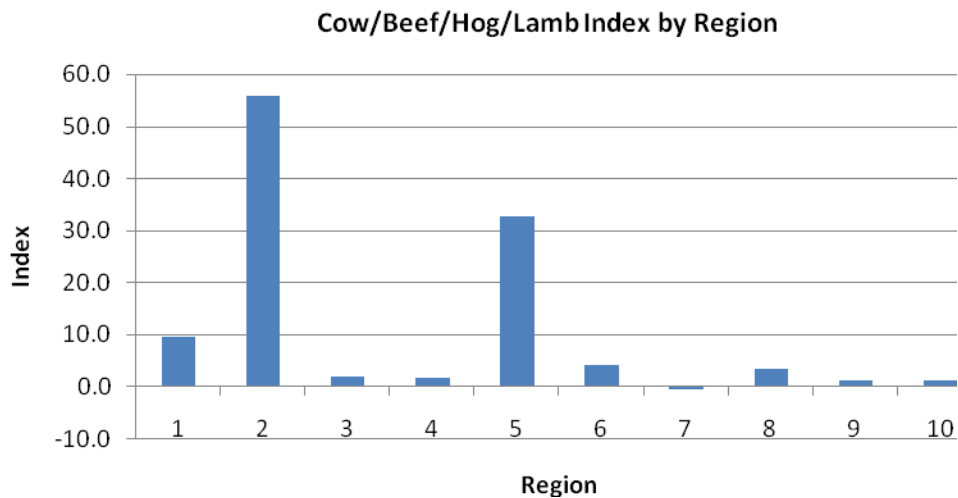
Objective:

- Assess the Ontario processing (slaughter) needs on a regional basis and the impact of reduced access to this base service.

To begin to assess Ontario slaughter needs by region given current livestock production and necessary slaughter requirements, as outlined, indices were created as a measurement tool for each animal type. The indices represent the animals available for slaughter in the region in relation to the regions ability to slaughter them in provincially registered facilities. Thus the higher the indices the less ability the region has to slaughter the animals available in provincial facilities. Furthermore, a key index that combined Cow, Cattle, Hog and Lamb was created to assess the overall need for regional slaughter. Again, the higher the index, the greater the need for slaughter.

Graph 13 – Cow/Beef/Hog/Lamb Index by Region identifies the capacity need for slaughter by region.

Graph 13 – Cow/Hog/Lamb Index by Region



As shown in **Graph 13 – Cow/Hog/Lamb Index by Region**, the greatest provincial slaughter shortages are represented in regions 1, 2, and 5. However, region 2 displays high indices because they are the largest hog producing region in Ontario and these inventories are mostly dedicated toward federal facilities; therefore this high index may not represent the true need for provincial kill and fabrication for the other species. As for regions 1, and 5, there is a high index in each category, suggesting this represents a true need for provincially based slaughter in these regions. Region 5 displays the greatest need for slaughter since they have larger overall inventories resulting in a greater index.

3.0 Inventory Definition Parameters

Objective:

- Develop an inventory of current capacities of existing Ontario Meat Processors designed to quantify processing and its importance to the value chain and related economic impact.

To begin to develop an understanding of the Ontario based meat processing industry as outlined in the above objective, it was identified that a clear set of analysis parameters is required in order for facilities to be systematically categorized for comparison and analysis.

The categorization or segmentation parameters have been based on:

- Regional location
- Facility size and employees
- Production process or processing capability breakdown

3.1 Facility Regional Breakdown

The regional category breakdown has been based on the current OIMP regional definitions. The regions may vary from production organization to organization depending on the commodity. To simplify the analysis an effort has been made to try to reflect all of the information in the regional breakdown outlined in **Table 2 - OIMP Regional Breakdown**.

Table 2 – OIMP Regional Breakdown

Region	Counties within Region
1	Essex, Chatham-Kent and Lambton
2	Elgin, Middlesex, Oxford and Perth
3	Brant, Haldimand-Norfolk, Hamilton and Niagara
4	Halton, Waterloo and Wellington
5	Bruce, Grey and Huron
6	Dufferin, Simcoe and Muskoka
7	Durham, Kawartha Lakes and Greater Toronto Area
8	Frontenac, Halliburton, Hastings, Lennox & Addington, Northumberland, Peterborough and Prince Edward
9	Sormont, Dundas & Glengarry, Lanark, Leeds & Grenville, Ottawa, Prescott & Russell, and Renfrew
10	Algoma, Cochrane, Kenora, Manitoulin, Nipissing, Parry Sound, Rainy River, Sudbury, Thunder Bay and Timiskaming

3.2 Facility Size and Employee Definitions

To gain an understanding of the capacities, resulting sales volumes and dollars generated by facilities within each region, it has been necessary to establish a definition of the facilities size category as it applies to the operating environment. The size categories are defined as small, medium and large, and then each category further separated by two size segments (1 and 2) to help further segment the production capacity within each size category. (Table 3)

The facility categories are segmented based on estimated square footage and number of employees. Table 3 - Facility Breakdown Definitions outlines the facility categories as they apply to the inventory analysis. The square footage breakdowns have been based on historical facility analysis of average capacity and productivity potential for facilities within the targeted size classes. The employee estimates are also based on historical facility averages that are dependent on the type of products produced and the business plan of the individual facilities. The writers of this report have determined the most appropriate forecasting method is to focus more heavily on the square footage of the facilities as a base for analysis.

Table 3 - Facility Breakdown Definitions

Classification	Size (Square Feet)	Employees
Small 1	1,000-2,500	4
Small 2	2,500-3,500	8
Medium 1	3,500-5,000	8
Medium 2	5,000-6,500	10
Large 1	6,500-9,000	15
Large 2	9,000-20,000	15 plus

3.3 Production Process or Category Breakdown

The basis of the capacity analysis focused is the facilities size category in association with type of product offering produced. The many formats and varieties of meat products produced by facilities operating in the Ontario system have been segmented into the following 3 categories for analysis. These production categories have been established in conjunction with production flow related disciplines such as HACCP, food processing criteria and product flow parameters that are traditionally maintained in facilities.

Category 1 - Total Meat Processing

Facilities that may perform and/or produce any or all of the initial two (bolded) product categories below and produce any or all subsequent (non-bolded) product types:

- **Fresh Meat Processing**
- **Primary Meat Production**
- Cured / Cooked - products that are pickled or cured (using phosphate and/or nitrite/nitrate salts etc.) and are cooked (in an oven or water bath) but are not smoked (e.g. fully cooked peameal bacon, various deli loaves etc.).
- Cured / Smoked / Cooked - products that are pickled or cured (using phosphate and/or nitrite/nitrate salts etc.) and are smoked and cooked (in a smokehouse) (e.g. fully cooked smoked hams, wieners etc.)
- Cured / Fermented / Smoked – products that are cured (using nitrite/nitrate salts) and fermented to the required minimum pH (via the addition of various sugars and microbial culture) and smoked to a ready to eat (and frequently shelf stable) state (e.g. summer sausage).
- Cooked – products that are cooked to a ready to eat state (typically in an oven) (e.g. meat loaves, meat pies)
- Canned – products that are hermetically sealed in cans and processed according to the prescribed regulations (e.g. salmon, meat sauces, other SPAM™-type processed meats).

Category 2 Primary Meat Processing

Facilities that may perform the initial (bolded) product category below and produce any or all subsequent (non-bolded) product types:

- **Fresh Meat Processing**
- Cold Smoked – products that are smoked but not to a temperature to fully cook the product (e.g. smoked chops)
- Cured Only – products that are pickled or cured (using phosphate and/or nitrite/nitrate salts etc.) and not cooked or smoked (e.g. peameal bacon)
- Cured / Smoked – products that are pickled or cured (using phosphate and/or nitrite/nitrate salts etc.) and are smoked but not to a temperature which fully cooks the product (e.g. bacon).

Category 3 Fresh Meat Processing

Facilities that only perform and/or produce any or all of the following product categories:

- Kill and Chill – slaughter and carcass chilling
- Fabrication – carcass breaking to portions (e.g. beef fronts), boxed primals (e.g. bone-in hams), boxed sub-primals (e.g. back ribs), boxed or combo trim etc.
- Fresh Processing – whole muscle cut products (e.g. steaks, chops etc.), grinding, fresh (uncured) sausage etc.

4.0 Processing Capacity Analysis

Objectives:

- Develop an inventory of current capacities of existing Ontario Meat Processors designed to quantify provincial processing and its importance to the value chain and related economic impact.
- Based on an understanding of regional animal production and an assessment of existing viable regional facilities, develop an estimate of required processing services.

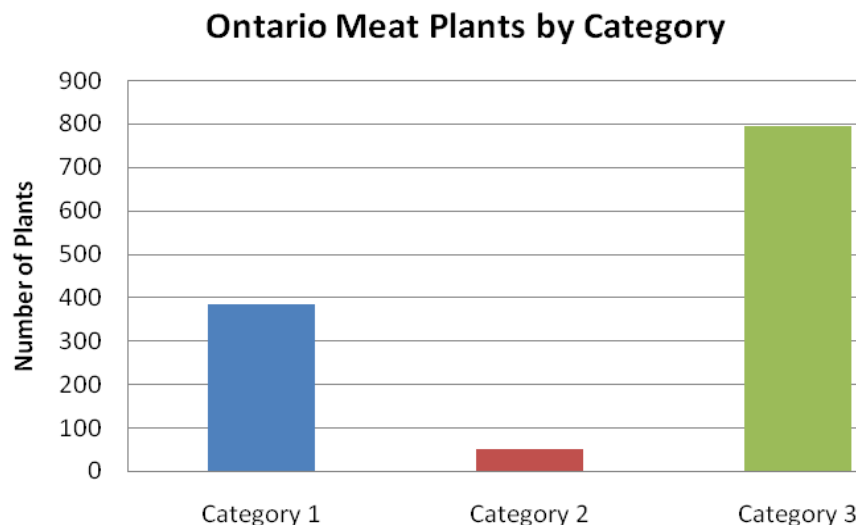
Based on the above objectives an analysis was designed to develop a forecast of facilities by regional size categories, product categories and based on kilogram and sales per year.

4.1 Processing Capacity Parameters

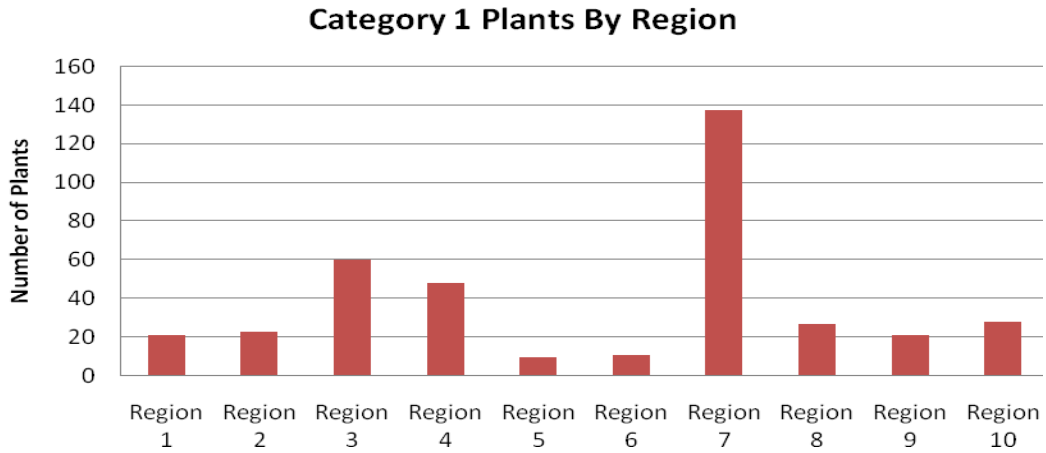
As outlined in section 3.0, the processing capacity parameters are based using the reviewed facility size and product category definitions. A review of the Ontario meat facilities was completed and each facility segmented based on definitions in section 3.0.

Refer to **Graphs 15 - 19** – for a breakdown of Ontario plants by category, region and overall. The meat plants by region breakdown is based on slaughter data collected by OIMP in 2007, and processing plant data collected by the writers from 2005 through October, 2008.

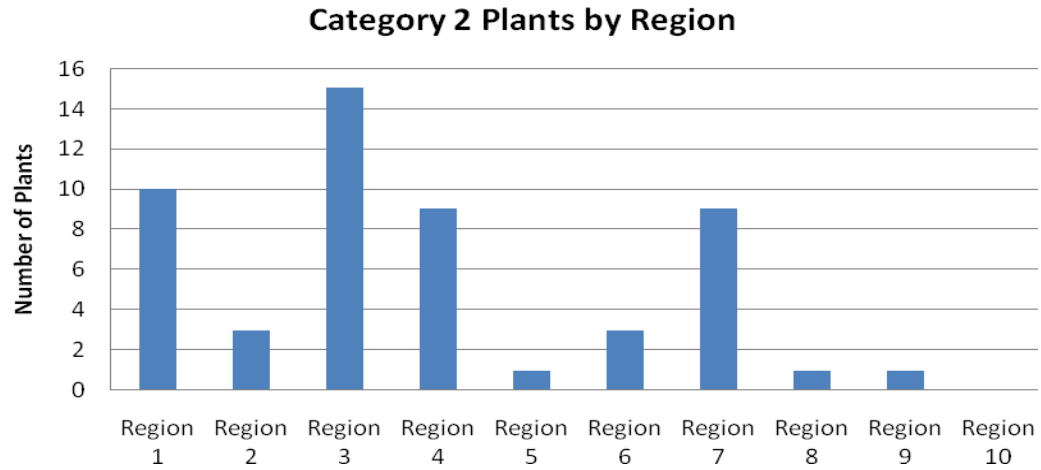
Graph 15 - Ontario Meat Plants by Category



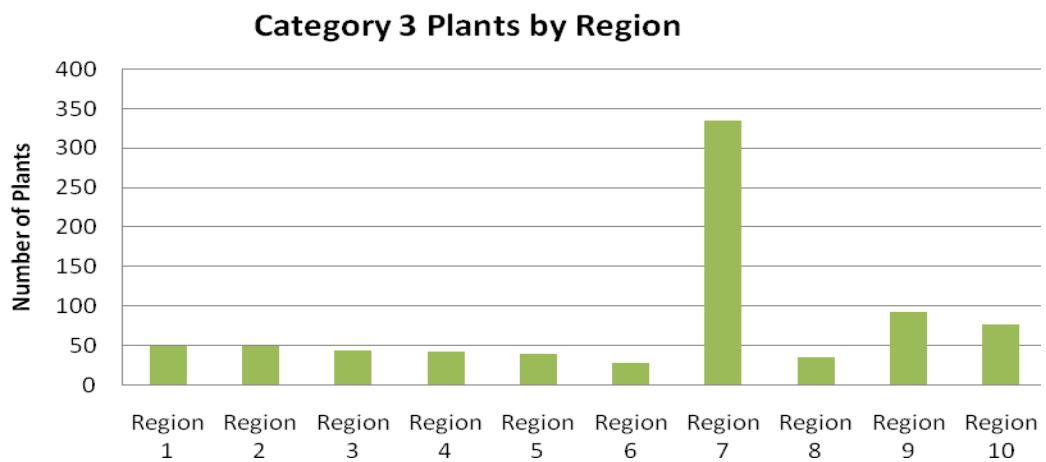
Graph 16 – Category 1 Plants by Region



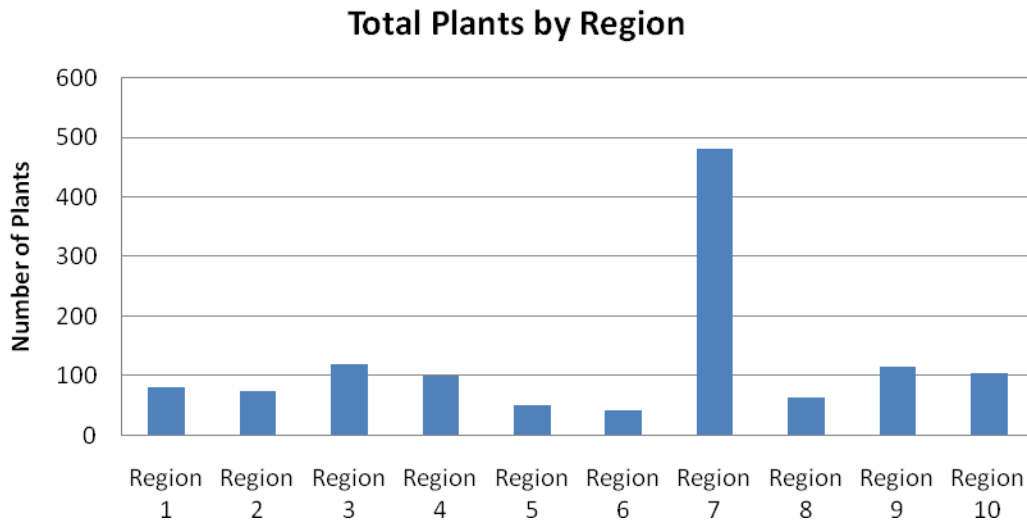
Graph 17 – Category 2 Plants by Region



Graph 18 – Category 3 Plants by Region



Graph 19 – Total Plants by Region



The findings identified in the above graphs were used to calculate the total facility inventory currently in Ontario. This inventory was then used to forecast sales dollar volumes by product category and total.

Once the facilities have been categorized by size, they were segmented into one of the following; Category 1 - Total Meat Processing, Category 2 - Primary Meat Processing or Category 3 - Fresh Meat Processing. Then a capacity analysis was completed based on business models completed for each facility size and product category.

The facility and product category business models were created from historical related facility and sales dollar financial records and reflected as sales per square foot of production space at each target facility. This method allows for a calculated forecast of total category sales based on an average square footage sales dollar estimate.

The Category Sales Capacity Estimates were based on:

- Total facility breakdown of Ontario Plants by Region
- Sales dollars and product production estimates based on sales forecasts as they relate to the average industry product pricing and related facility capacity indices created by Mallot Creek Strategies Inc. All data is based on historical financial and production records for similar facilities in Ontario and Canada

The strategic assumption for the forecast model is that similar facilities have directionally similar sales dollars and capacity per square foot of production space. This capacity estimate can then be used to forecast the total category capacity for Ontario. It is understood that variances can and will occur.

To establish an initial understanding of the facility production categories volume and sales dollar capacities, an analysis was completed of each category based on business models developed for each category through similar and representative facility historical records by Mallot Creek.

The facility production capacities have been defined based on their production category. The categories run from Category 3 that encompasses only kill and fresh fabrication product offerings to Category 1 that encompass product offerings in all 3 categories. To allow for a better understanding of the product capacity from primary processing through to further processing, we will begin with Category 3, the most basic production capacity and proceed to the most complex production capacity, Category 1.

4.2 Category 3 Fresh Meat Processing

Category 3 Fresh Meat Processing as defined in section 3.0, encompasses Ontario facilities that only kill, fabricate and fresh process meat in Ontario.

Table 5 - Category 3 Fresh Meat Processing outlines the total number of facilities, their sizes and product categories reviewed. Average dollar sales per square foot range from \$270.18 for Small (1) to \$942.21 for Large (2) facility. The sales estimates were based on historical records for facilities of a similar size as they relate to expected kill and product sales averages.

Category 3 Regional Summary shows total category sales dollars of \$1,408,887,824 or an estimated 193,347,968 kg.

Product volume and sales models were established to represent the 6 facility size breakdowns outlined in section 3.0. Each model was based on an expected carcass kill forecast as it related to the facilities size category. **Table 4** outlines the forecasted annual and weekly animal supply to each facility size category. It is understood that all facilities do not kill and fabricate all species, but to gain an understanding of an average sales dollar and volume distribution it was decided to consider all major species at each facility.

Table 4 - Animal Supply Forecast

Animal Supply	S1	S2	M1	M2	L1	L2
Lamb	110	220	440	968	2130	4685
Hogs/ Poultry	190	380	760	1672	3678	8092
Beef	75	150	300	660	1452	3194
Cull Cow	50	100	200	440	968	2130
Total / Year	425	630	1260	2772	6098	13416
Carcass / week	8	12	24	53	117	258

The forecasted kill volumes were used as base raw material feeds to calculate the fresh meat sales for each facility. **Table 5** - Category 3 Fresh Meat Processing outlines the total volumes associated with the 1,314 facilities in this category.

It is recognized that all facilities in this category do not kill, fabricate and process fresh meat products. The category is composed of representatives from all three areas, varied by region throughout the province. It is believed that the small facilities in this category represent the greatest area for error and that further detailed analysis would ensure a clearer representation. The method of forecasting provides sales per square foot estimations equivalent to historical data.

Table 5 - Category 3 Fresh Meat Processing

Classification	Sq. Ft.	Emp.	Number	Sales/sq ft	Sales Dollars
Small 1	1,750	4	480	\$ 270.18	\$ 226,953,898
Small 2	3,000	8	52	\$ 263.97	\$ 41,179,772
Medium 1	4,250	8	58	\$ 335.94	\$ 82,809,741
Medium 2	5,750	10	142	\$ 512.47	\$ 418,429,622
Large 1	7,750	15	30	\$ 805.29	\$ 187,230,572
Large 2	14,500	15 plus	33	\$ 945.21	\$ 452,284,218
Total			795		\$1,408,887,824

4.3 Category 2 Primary Meat Processing

Category 2 Primary Meat Processing, as defined in section 3.0, could encompass Category 3 product offerings in addition to cold smoked, cured and cured smoked product offerings. This category was established to include facilities that have the ability to sell fresh and cured products. The vast majority of facilities in this category produce cold smoked and cured products for local consumption.

Table 6 - Category 2 Regional Summary identifies total category sales dollars of \$42,977,122 or an estimated 8,615,742 kg.

Volume and sales models were established to represent the 6 facility size breakdowns outlined in section 3.0. Each model was based on an expected production forecast as they relate to the facilities size category. **Table 6** outlines the expected annual product sales for an aggregate average facility for each size category. It is understood that all facilities do not produce all product categories but to gain an understanding of an average distribution it was decided to consider all 4 product categories outlined in **Table 6**.

Table 6 - Category 2 Regional Sales Summaries

	Lbs	kgs	Avg. lb Price	Avg. kg Price	Dollar Sales
Cold Smoked	515,270	233,729	\$ 1.84	\$ 4.06	\$ 948,097
Cured Only	96,565	43,802	\$ 2.87	\$ 6.33	\$ 277,140
Cured/Smoke	16,224,887	7,359,694	\$ 2.10	\$ 4.63	\$ 34,072,264
Other	2,157,197	978,516	\$ 3.56	\$ 7.85	\$ 7,679,621
Total	18,993,919	8,615,742	\$ 2.26	\$ 4.99	\$ 42,977,122
Individual Facility	365,268	165,687	\$ 2.26	\$ 4.99	\$ 826,483

The forecasted volume for each facility size category is based on historical records of similar facilities and this data is also used to calculate the primary meat sales for each facility. **Table 7 - Category 2 Primary Meat Processing** outlines the total volumes associated with the 52 facilities in this category.

Table 7 - Category 2 Primary Meat Processing outlines the total number of facilities, their sizes and associated sales. Average dollar sales per square feet range from \$125.74 for Small 1 to \$300.90 for Large 2 facility. The sales estimates were based on historical records for facilities of this size as they relate to the expected product volumes and sales dollar averages.

It is recognized that all facilities in this category do not process all of the products outlined in **Table 6** Regional Sales Summaries. The method of forecasting provides sales per square foot estimations equivalent to historical data.

Table 7 - Category 2 Primary Meat Processing

Classification	Sq. Ft.	Emp.	Number	Sales/sq ft	Sales Dollars
Small 1	1,750	4	23	\$ 125.74	\$ 5,060,874
Small 2	3,000	8	16	\$ 117.35	\$ 5,632,973
Medium 1	4,250	8	3	\$ 140.82	\$ 1,795,510
Medium 2	5,750	10	3	\$ 156.13	\$ 2,693,265
Large 1	7,750	15	1	\$ 208.51	\$ 1,615,959
Large 2	14,500	15 plus	6	\$ 300.90	\$ 26,178,540
Total			52		\$42,977,122

4.4 Category 1 Total Meat Processing

Category 1 Total Meat Processing as defined above could encompass product offerings outlined in Category 3, 2 as well as product offerings the outlined **Table 8**. This category was established to include facilities that have the ability to produce and sell all types of processed and fresh meat products. The vast majority of facilities in this category produce a full line of processed and fresh meat items for sale on a regional basis.

Table 8 - Category 1 Regional Summary identifies total category sales dollars of \$782,215,840 or an estimated 142,645,666 kg.

Table 8 - Category 1 Regional Sales Summaries

Description	Lbs	kgs	lb Price	kg Price	Dollar Sales
Cooked	120,659,824	54,731,930	\$ 1.89	\$ 4.17	\$ 228,047,067
Cold Smoked	4,659,154	2,113,417	\$ 1.84	\$ 4.06	\$ 8,572,843
Cured Only	561,312	254,614	\$ 2.87	\$ 6.33	\$ 1,610,966
Cured / Smoked	4,665,511	2,116,301	\$ 2.34	\$ 5.16	\$ 10,917,297
Scured/ Smoked/Cooked	5,152,431	2,337,170	\$ 2.44	\$ 5.38	\$ 12,571,931
Fresh	44,175,440	20,038,212	\$ 3.54	\$ 7.80	\$ 156,381,059
Cured Fermented	36,523,166	16,567,100	\$ 4.18	\$ 9.22	\$ 152,666,834
Patties/ Sausage	94,312,276	42,780,544	\$ 2.10	\$ 4.63	\$ 198,055,779
Cured/ Fermented	3,761,816	1,706,380	\$ 3.56	\$ 7.85	\$ 13,392,066
Total	314,470,930	142,645,666	\$ 2.49	\$ 5.48	\$ 782,215,840
Individual Facility	814,692	369,548	\$ 2.49	\$ 5.48	\$ 2,026,466

Table 9 - Category 1 Total Meat Processing outlines the total number of facilities, their sizes and associated sales. Average dollar sales per square feet range from \$196.85 for Small 1 to \$384.45 for Large 2 facility. The sales estimates were based on historical records for facilities of this size as they relate to the expected product volumes and average sales dollars.

Volume and sales models were established to represent the 6 facility size breakdowns outlined in section 3.0. Each model was based on an expected production forecast as they relate to the facilities size category. **Table 9** outlines the expected annual product sales for an aggregate average facility for each size category. It is understood that all facilities do not produce all product categories but to gain an understanding of an average distribution it was decided to consider all 9 product categories outlined in **Table 8**.

The forecasted volume for each facility size category is based on historical records of similar facilities and this data is also used to calculate the primary meat sales for each facility. **Table 9** - Category 1 Primary Meat Processing outlines the total volume associated with the 386 facilities in this category.

It is recognized that all facilities in this category do not process all of the products outlined in **Table 9** Regional Sales Summaries. The method of forecasting provides sales per square foot estimations equivalent to historical data.

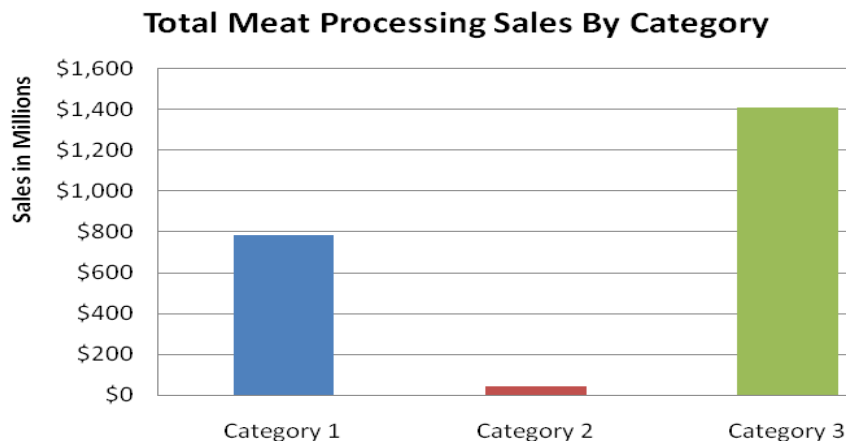
Table 9 - Category 1 Total Meat Processing

Classification	Sq. Ft.	Emp.	Number	Sales/sq ft	Sales Dollars
Small 1	1,750	4	71	\$ 196.85	\$ 24,458,444
Small 2	3,000	8	59	\$ 206.69	\$ 36,584,321
Medium 1	4,250	8	55	\$ 211.55	\$ 49,450,840
Medium 2	5,750	10	78	\$ 242.37	\$ 108,701,390
Large 1	7,750	15	44	\$ 359.64	\$ 122,638,084
Large 2	14,500	15 plus	79	\$ 384.45	\$ 440,382,212
Total			386		\$782,215,840

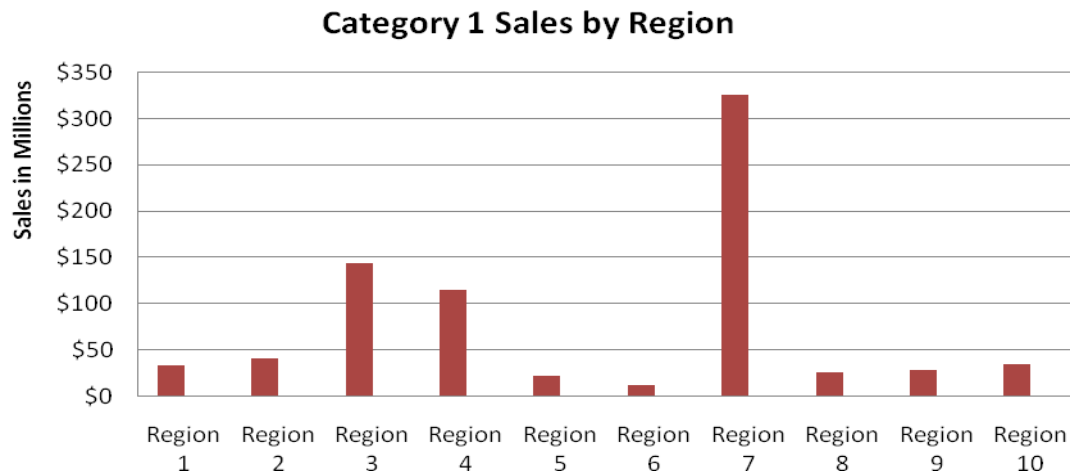
4.5 Processing Capacity Conclusion

The above analysis provides the Ontario marketplace with a forecast for Ontario facilities in Category 1 Total Processed Meat, Category 2 Primary Processed Meat and Category 3 Fresh Processed meat. This forecast totals \$2,234,080,786 in annual sales, which are broken down by category, region and overall in **Graphs 21 - 25**.

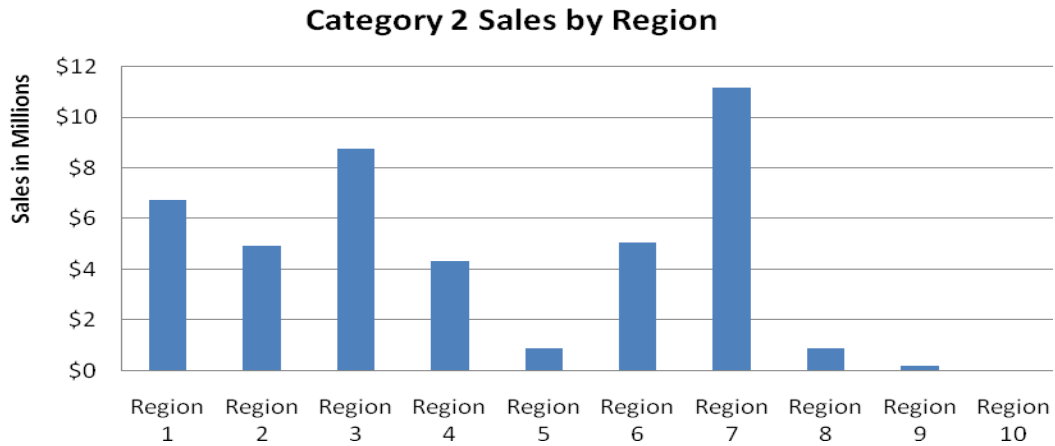
Graph 20 – Total Meat Processing Sales by Category



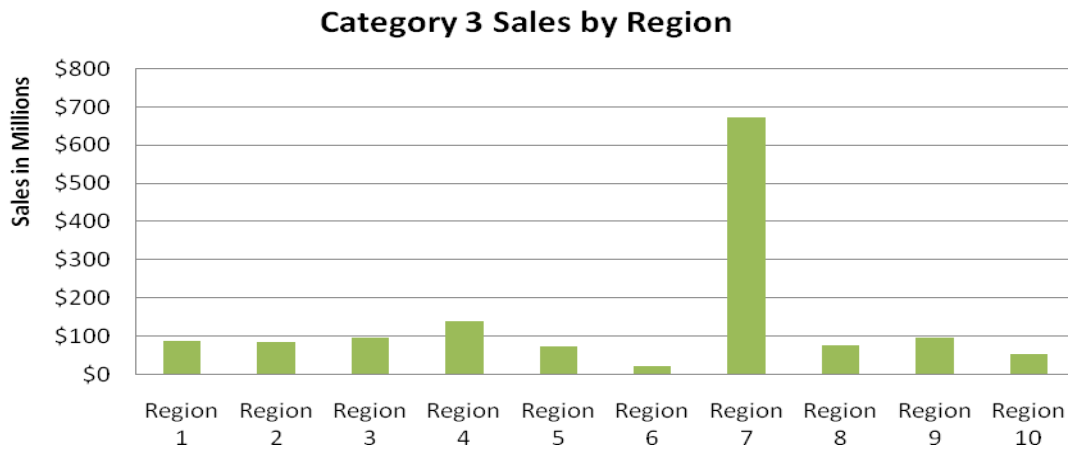
Graph 21 – Category 1 Sales by Region



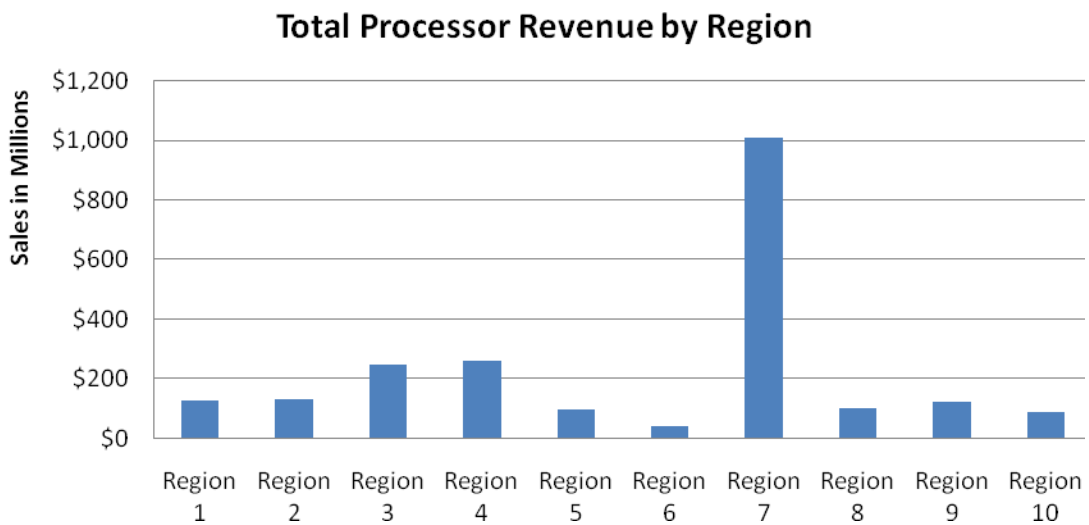
Graph 22 – Category 2 Sales by Region



Graph 23 – Category 3 Sales by Region



Graph 24 – Total Processor Revenue by Region



5.0 Capacity Trending

Objectives:

- Identify capacity trending and the related impact to production and the processing industry.
- Estimate the current volumes that processed meat products represents in the Ontario marketplace.

Without historical capacity sales numbers it is impossible to identify the true Ontario slaughter industry trend and the related impact on production and processing. However, there are directional signs that the industry is in need of increased kill and fabrication facility capacity. **Graph 14** identifies a yearly decline in the number of provincially licensed abattoirs. As well, **Table 12** identifies annual provincially slaughtered animals by type.

Graph 14 – Number of Provincial Abattoirs by Year

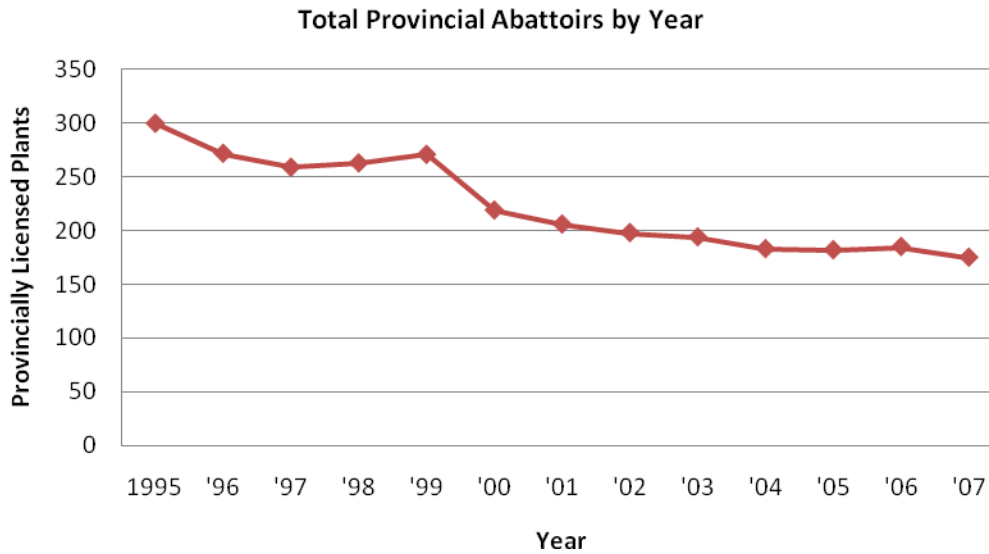


Table 12 – Provincial Slaughter by Type, by Year¹

Year	Beef	Hogs	Lamb	Poultry
2002	83,265	418,621	236,529	16,929,055
2003	91,241	371,931	262,869	16,671,540
2004	123,320	306,156	294,405	17,672,182
2005	130,100	279,901	303,571	18,426,175
2006	109,435	267,278	278,435	18,932,729
2007	106,560	244,391	253,120	18,327,617

¹ OMAFRA – Meat Slaughter in Provincially Inspected Plants, Ontario, 2002-2007

Capacity Trending Conclusions:

- Although there has been a steady decline in the number of provincially licensed abattoirs, the capacity for the existing facilities has increased on a facility basis. This is consistent with the industry as increased capacities are associated with reduced costs of production
- Hog slaughter represents the only major capacity decline for provincially licensed facilities. This seems consistent with recent industry developments where large, fully integrated federal processors dominate the industry in both Ontario and the world.
- The reduction of the number of slaughter facilities in Ontario has placed pressure on the kill and processing of cull animals. The lower revenue potential for the animals coupled with the fragile nature of the animals has place pressure on producers as they seek out other alternatives for disposal.
- No trend analysis was available for total processing.

6.0 Processing Product Categories and Markets

Objectives:

- Identify the product categories that provincially processed products represent and the related customer base.

The product categories have been identified under each of the three production categories as explained in Section 3.3 of this report:

- Category 1 – Total Meat Processing
- Category 2 – Primary Meat Processing
- Category 3 – Fresh Meat Processing

Refer to Table 13 – Product Categories by Facility Category for a summary of products for each facility category.

Table 13 – Product Categories by Facility Category

Facility Categories:	Category 1	Category 2	Category 3
Product Categories:	Cooked Cold Smoked Cured Only Cured/Smoked Cured/Smoked/Cooked Fresh Cured Fermented Patties/Sausage Cured/Fermented	Cold Smoked Cured Only Cured/Smoked Other	Branded Beef and Veal Branded Lamb Branded Pork Processed Products Frozen Boxed Entrée's Frozen Boxed Bakery Other

All categories share a similar 'local' consumer base. In addition, Category 3 – Fresh Meat Processing has a customer (buyer) relationship within the category. That is, Fabrication and Fresh Processing operations could be customers, or buy, raw materials from the Kill and Chill facilities. It is difficult to estimate the current reliance or buying potential that these customers represent to the Kill and Chill facilities within the scope of this report. However, access to provincial supply for Fabrication and Fresh Processing operations allows them to balance their risk among their supplier base which can be particularly important if the food supply system is compromised in any way.

6.1 Local Food Consumer Profile

The 'local' consumer base refers to those consumers that are interested in buying local. It is a trend that is receiving considerable attention by the food industry and government. As a result, there has been considerable research conducted to date to understand more about consumers' interest in buying local and the potential impact. This interest has initiated several popular books such as Alisa Smith and J.B. Mackinnon's, 100 mile diet, and Michael Pollan's Omnivore's Dilemma. While books and the media may have brought the local food movement into the forefront, the true drivers to purchase are consistent on a regional basis and include:

- ***Local Food Is Fresh***

For years people have gone to farmers' markets and farm gate operations to buy food that simply said, tastes better. A common belief is that locally produced food is fresher, doesn't require preservatives and hasn't lost nutritional value during transportation.

- ***Local Food represents Quality and Safety***

A number of links have been made to food bio-security and protection of food systems in the event of an emergency or food safety concern. Regionally-identified food has an innate, built-in traceability system. A smaller pool of production may also be more easily protected, mitigating the need to manage distribution, transportation and logistics if a food recall or food safety alert is issued.

- ***Local Food Supports Local Economy***

The concept of eating locally is often readily associated with the support and loyalty to a particular region or community. There have been a number of calculations made to determine the multiplier effect of a local food movement and its impact on local business, jobs and economic activity within a defined area. According to the Ontario farm gate guide \$1 spent on locally grown food translates to \$2.27 added to the community through wages and commerce.

- ***Local Food Supports the Environment***

A study conducted in Waterloo Region on environmental implications of food miles noted that 58 commonly eaten foods travel an average of 4,497 km to reach the area. These imports account for 51,709 tonnes of greenhouse gas emissions annually. All of the studied food items could be grown or raised in Waterloo Region. By sourcing the food items from southwestern Ontario, the region could reduce their emissions by 49,

485 tonnes.² As further support, a study conducted by Foodshare in Toronto found that local food items traveled an average of 101 km, versus 5,364 km for the imported items.³

▪ ***Purchase Motivation***

In terms of general purchasing patterns, OMAFRA Foodland Ontario research findings released December 2006 shed light on consumer motivations. Research results support the assumption that Ontario consumers will buy Ontario food if available. The most important considerations for purchasing food include⁴:

- Freshness ranked number one by shoppers (73%);
- Guaranteed safety ranked second (60%); and
- Price ranked third (43%).

Also, in-store research results indicated that Ontario consumers will purchase Ontario produced or processed foods for the following reasons:

- Support for Ontario farmers (63%)
- Support economy and businesses (63%)
- Freshness of the food (49%)

It has also been shown that consumers will even pay a premium for locally produced product. According to a new study led by Marvin Batte, a professor of agriculture, environmental and development economics at Ohio State University, grocery store shoppers, in general, were willing to shell out more money for locally-grown foods. Surveyed shoppers were willing to pay on average 42 cents more for locally grown strawberries at a grocery store and 92 cents more at a farmers market.⁵

While it is difficult to suggest that the price sensitivity of Ontario buyers is consistent with this US study, the OMAFRA Foodland Ontario research (sited above) ranked price as third under freshness and food safety concerns which indicates that consumers relate these attributes to an added value product.

This profile of local consumers provides an understanding of the importance and interest in buying local to a growing number of consumers. While it is challenging to quantify the market potential, the following section sites research that identifies this trend as having a positive economic impact.

² Food Miles: Environmental Implications of Food Imports to Waterloo Region

³ Fighting Global Warming at the Farmer's Market Stephen Bentley April 2005

⁴ Ontario Food Branding: Research Findings December 2006, OMAFRA

⁵ Shoppers Prefer Locally – Grown Food, Study Finds, Clara Moskowitz, Live Science Staff Writer

6.2 Local Food: Potential in the Marketplace

The concept of eating locally is often readily associated with the support and loyalty to a particular region or community. There have been a number of calculations made to determine the multiplier effect of a local food movement and its impact on local business, jobs and economic activity within a defined area. And according to a 2001 survey by the New Economics Foundation in the UK, a food dollar spent locally generates nearly twice as much income for the local economy as does a dollar spent at a multinational grocer.

Although a dated study, research done in 1992 estimated that 50,000 new jobs both in farming and food processing could be created if households in Ontario ate the same proportions of local food at that time as they did in the early 1970s.⁶

Determining market size potential for local food is difficult due to the variable nature of definitions, regions, cultural predispositions and purchasing trends. A study on local food in Northern Ireland estimated just under 10% of the total retail food market as local. With a targeted effort it is theorized that market share would double or triple in five years.⁷

In Alberta, we know residents spent an estimated \$638 million on locally grown food last in 2006; a figure that Alberta Agriculture expects will grow to \$963 million by 2010. Based on a calculation using an annual household spending amount of \$2,500 per year we can estimate that the total dollar amount spent on food in Alberta in 2006 was \$8.2 billion. Local food purchases represented 7.6% of the total food purchases in the province.

Ontario 'Local Food-Based' Programs

There are several 'local food-based' programs present in Ontario, each having its own unique selling points, market penetration, and a sales and marketing strategies. Two well-recognized provincial-wide initiatives are the Pick Ontario Strategy and the Homegrown Ontario program. Each program is developing a strong identifier for Ontario meats and will be broadly available for Ontario product promotion.

Local Consumer Base Conclusions:

- All three categories of processing plants share a common consumer base that is interested in buying local

⁶ Feed the Family, Trade the Leftovers. 1992

⁷ Local Food: The case for re-localising Northern Ireland's food economy June 2002

- The interest in buying local is a growing consumer trend based on interest in supporting local agriculture and local processors
- The Ontario government supports local food programs, helping to build awareness of locally produced foods

7.0 Summary and Conclusions

- Size of total Provincial based meat processing market has been estimated to represent \$2.234 billion in annual sales
- Cow kill and fabrication capacity has been in significant decline at the Provincial level and represents a potential stress on the grow if current processing options are eliminated due to border and market conditions
- Cattle, hogs and poultry kill and fabrication are generally processed in the federal system but at risk if a regulatory or marketing predicated border dispute develops