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GEORGE MORRIS CENTRE

Canada's Independent Agri-Food Think Tank

The Benefits for Canada from Pork Exports

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Purpose and Objectives

The purpose of this project is to illustrate and describe the benefits to Canada from pork exports. The results of this research project will be used by the industry, including the Canadian Pork Council (CPC), Canada Pork International (CPI) and the Canadian Meat Council (CMC), for public relations and communications with government.

Specific Objectives of this report are the following:

1. Describe the performance of Canadian pork exports since 1990
2. Describe the impact of Canadian pork exports on the Canadian economy and on producer revenues
3. Describe the role and function of Canadian pork exports

Methodology

This project was completed utilizing George Morris Centre pork industry databases, as well as data from Statistics Canada, Agriculture and Agri-Food Canada (Red Meat Section), the US Meat Export Federation and the USDA. In addition, staff from CPI and leading pork processors were interviewed.

The following is both an outline of the report and a table of contents:

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Canadian Pork Export Statistical Overview

Canadian Pork Annual Export Performance

The following graph shows the annual performance of Canadian pork exports from 1990 through 2005.¹

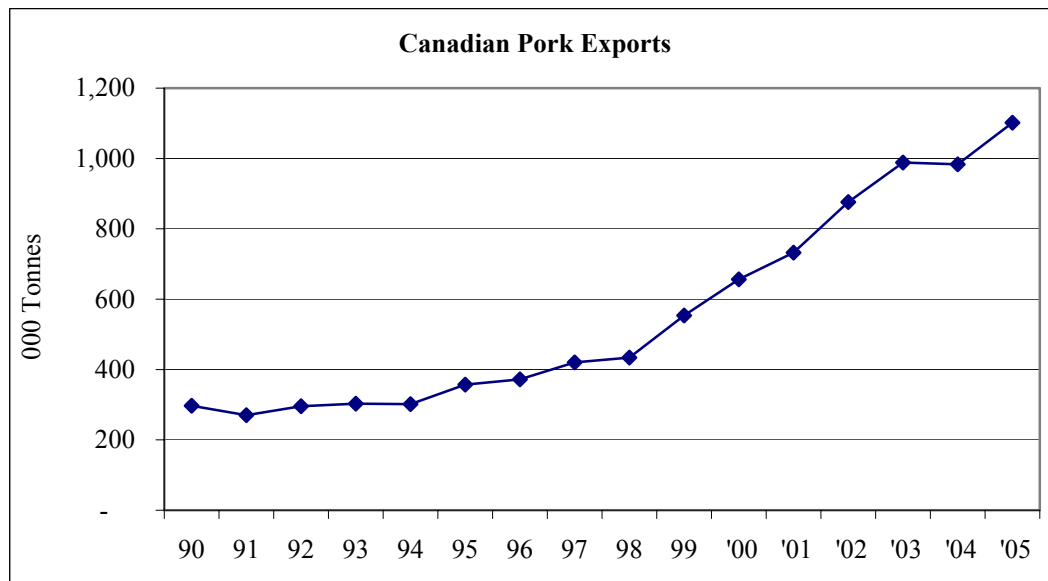


Figure 1 Source: Statistics Canada

The following are some of the key statistical points demonstrated by the graph and the data:

- Pork exports were relatively stable during the early 1990's at around 300,000 tonnes per year. In fact exports varied very little from the mid 1980's through the mid 1990's at around the 250-300,000 tonne per year range
- Growth in pork exports began in 1995, while material growth patterns began in 1999. From 1995 through 2005, average annual growth amounted to 13%, and from 1999 through 2005, growth averaged 15%. However, if 2004 is excluded, which was a period of no growth, the annual increase from 1999 amounted to 17%.
- Revenues generated from pork exports have kept pace with total volumes. According to data compiled by Statistics Canada and reported by Agriculture and Agri-food Canada's Red Meat Section, revenues from pork exports have grown by 13% from 1995 through 2005. Revenues from 1999 through 2005 increased by 15%, which is again the same rate of growth of total volumes.

¹ Statistics Canada, Cansim D226826 PORK PRODUCTION,SUPPLY AND DISAPPEARANCE / PORK EXPORTS Matrix 1178. The data is tabulated on a carcass weight basis and differs from other Statistics Canada reports which are listed on an actual weight basis.

Another indication of Canada's export success relates to the expansion and diversification of export destination markets. The number of countries to which Canada exports pork has climbed from about 50 in 1990, to 52 in 1995, 88 in 2000 and 103 in 2005. Also, contrary to the trend for many other Canadian economic sectors, the industry has become less dependent upon the United States for export sales. For example in 1990, the U.S. accounted for 74.9% of Canadian pork exports; in 1995, 58.6%; in 2000, 54.7%; in 2005, 37.7%

Canadian Pork Supply and Demand Performance

The following graph shows the performance of Canadian pork exports relative to consumption and production.

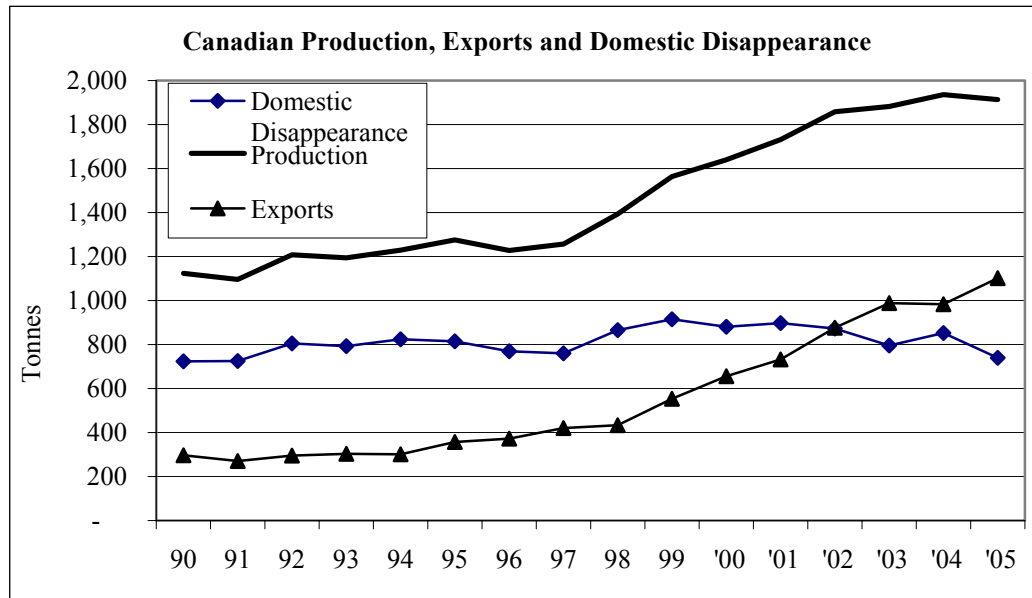


Figure 2 Source: Statistics Canada

The following are some of the key points that can be discerned from the performance of Canadian pork exports, consumption and production since 1990:

- Export volumes became larger than domestic disappearance (consumption) beginning in 2002. Since that time, exports have consistently grown at a greater rate than domestic disappearance.
- Exports now represent 55-60% of total Canadian pork production (this does not include live hog exports to the United States)

Export Revenue Compared to Total Revenue

The following graph shows performance measures of total pork revenue at the packer/processor level in Canada in comparison to the total revenue generated from exports in Canada.²

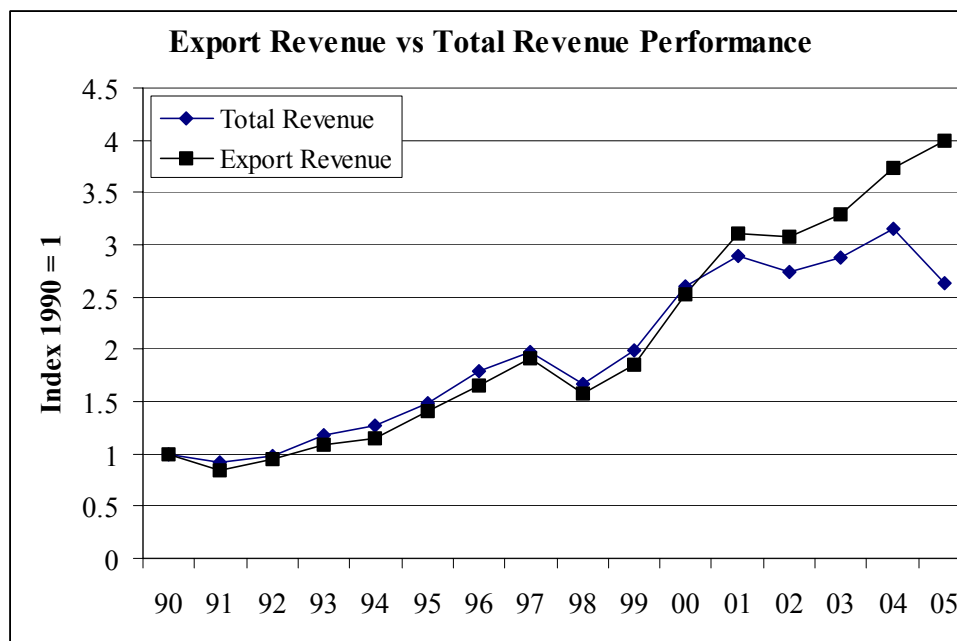


Figure 3 Source: Statistics Canada

- The graph of total revenue performance relative to export revenue performance shows that the two measures moved hand in hand for much of the 1990's. From 2000 through 2005, pork export revenues grew by an average of 10% per year. Total revenue grew by just 1% per year.
- The above noted performance of revenues is consistent and reflective of the fact that overall domestic consumption has been stable and exports have been the driver of both production and revenues. Furthermore, the big divergence between total and export revenue trend lines in 2005 is consistent with the large decrease in apparent domestic disappearance of pork while exports grew.

² There is no compilation of pork sales or revenues at the packer level in Canada. As such, a proxy estimation of total revenue performance was tabulated using total production in Canada multiplied by the annual performance of the total pork Industry Price Index as reported by Statistics Canada. The total Pork Industry IPI provides a direction indicator of price movement. As such, this multiple says nothing about total revenues other than the direction in which those revenues are moving. The multiples of revenue estimation are referenced to 1990 = 1. This is then compared to actual total export revenues, as tabulated by Statistics Canada and reported by AAFC, Red Meat Section. As with the total pork revenue proxy, the actual pork export revenues are referenced to 1990 = 1. Again, as with the total revenues proxy, the indicator says nothing about total revenues, (even though in this case it is based on actual revenues) it just shows the direction and magnitude in which they are moving. By definition, total revenue performance includes export revenue performance and domestic revenue performance.

Domestic Pork Demand Compared to Export Pork Demand

Demand is the combination of price and consumption. At any given point in time, depending on the price, consumers will purchase a given amount of a product. Typically, the higher the price, the lower the volume consumed and vice versa. Beyond that basic concept, changes in the basic relationship can be caused by changes in incomes, prices of substitutes, and preferences. These changes cause changes in demand. For example, changes in the price of a substitute product for pork (ie. chicken) could cause higher or lower consumption of pork. It is these changes in the basic demand relationship, higher or lower, that are of particular interest.

The following graph shows the demand curve for pork in Canada from 1983 through 2005. The vertical axis shows the deflated consumer price of pork while the horizontal axis shows per capita consumption³. The consumer price index for pork is deflated by the CPI for all items in order to remove all non-pork pricing influences. The numbers on the graph are the years in which the combination of consumption and price (ie. Demand) occurred. The graph is the performance of demand from 1983 through 2005.

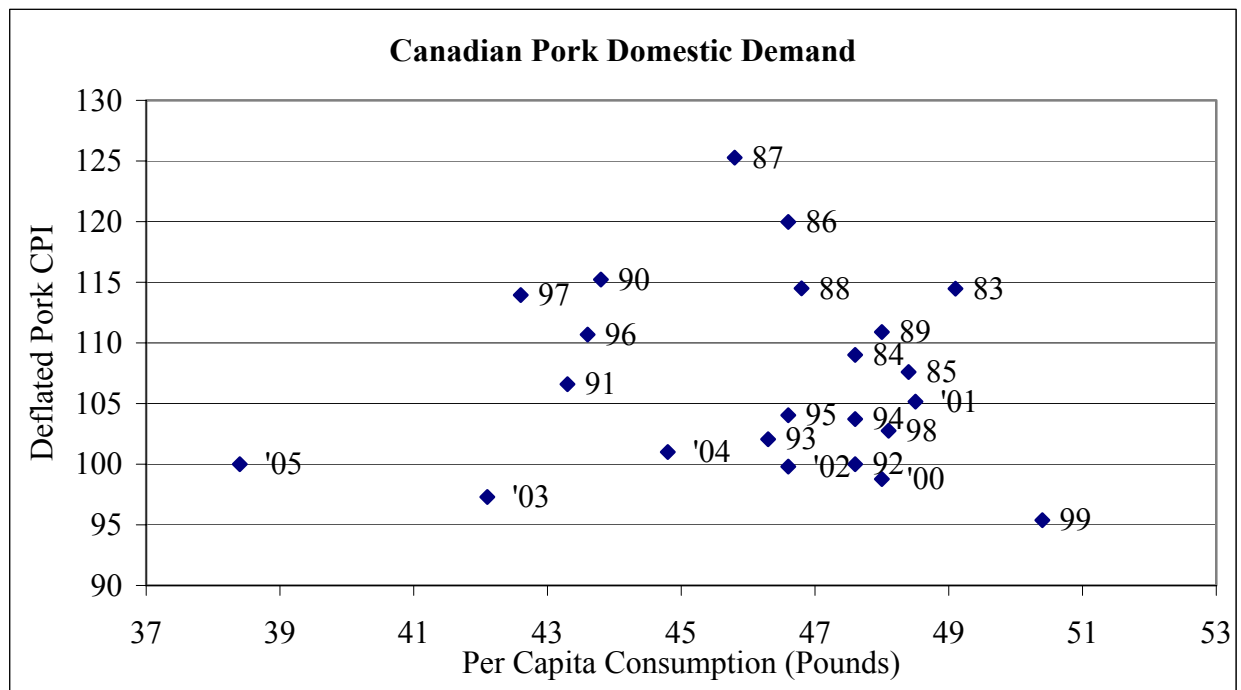


Figure 4 Source: Statistics Canada

- The graph shows a long term clustering of domestic pork demand in Canada. Consumption tended to fluctuate between 45-50 pounds retail basis while being relatively unresponsive to pricing changes.
- Cause for concern exists, given the poor demand performance in 2005, as consumption declined materially despite relatively low pricing.

³ Per Capita Consumption is domestic disappearance which is production, plus imports, less exports and changes in storage stocks divided by the population.

The following graph shows Canadian pork export demand. The concepts are the same as discussed for the domestic demand. The vertical axis shows the Statistics Canada Industry Price Index for pork export pricing which is deflated by the index for all manufacturing items. The horizontal axis shows annual total export tonnage.

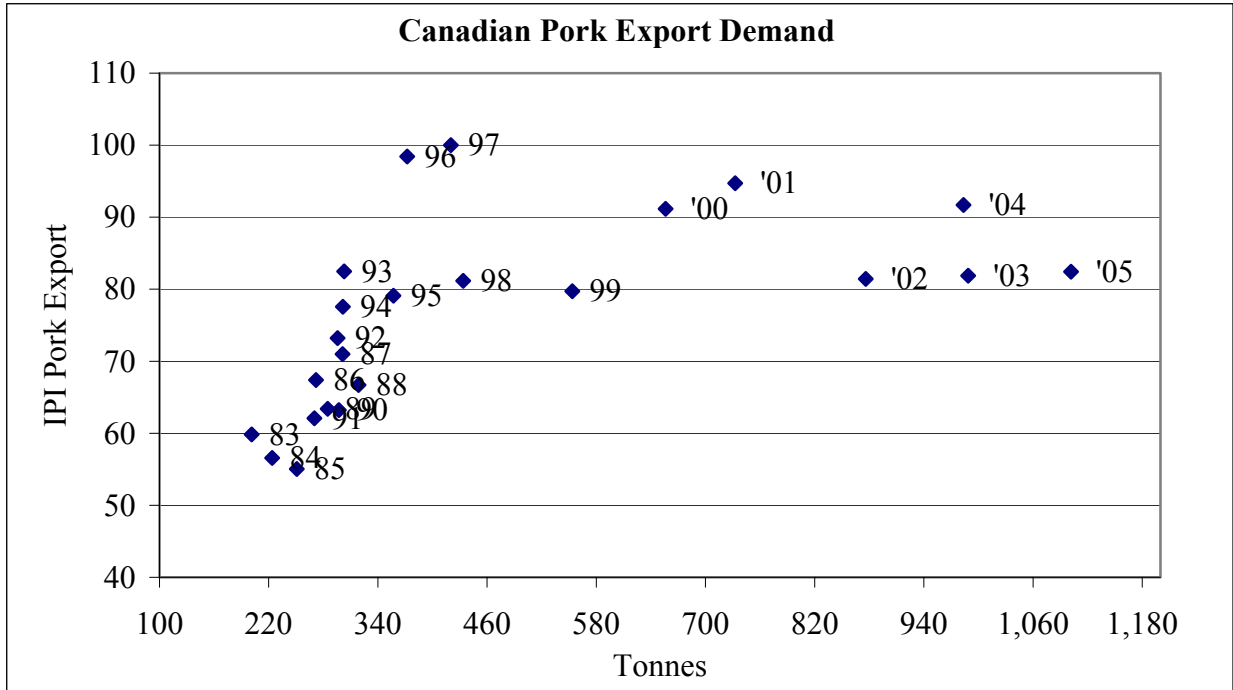


Figure 5 Source: Statistics Canada

- The export demand graph shows the rapid growth in export demand. The graph shows that even with relatively steady deflated export pricing performance, export tonnage has grown consistently. This is a clear definition or example of increasing demand.
- Export demand stands in sharp contrast to the performance of domestic demand, which has been stable at best.

Comparison of Canadian Exports Relative to Other Nations

The following graph shows the performance of the leading pork exporting nations since 1996 including the estimate for 2006.

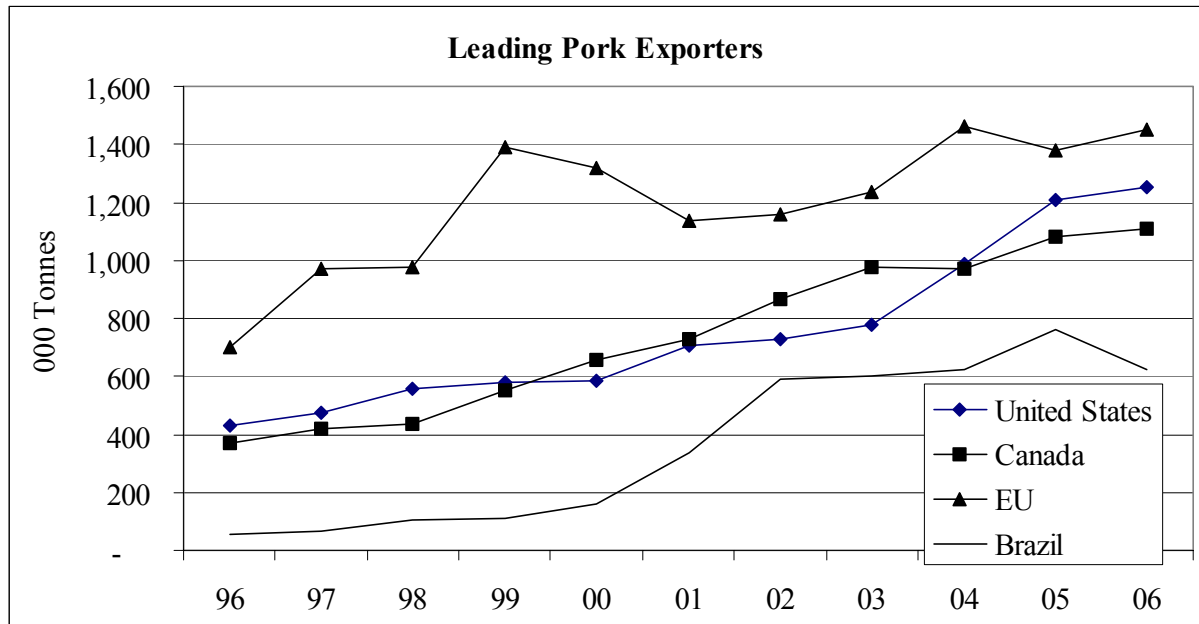


Figure 6 Source: USDA Foreign Agricultural Service

The following are some of the pertinent points regarding Canada in relation to other world exporters:⁴

- On an individual country basis (i.e., disaggregating the EU), Canada had been the leading pork exporter in the world until the US took over that spot in 2005.
- Canada and the US have enjoyed consistent and steady growth in world exports.
- Since 2000, Canada has consistently held about 21-23% of world pork exports.
- World exports comprise or account for just 5% of total pork production while Canadian pork exports comprise over 50% of Canadian production. US export share of total production has increased to the 10-13% range during recent years while Brazilian exports amount to just over 25% of production. The EU's exports amount to 7% of production.

⁴ USDA Foreign Agricultural Service, Production, Supply and Distribution Online
http://www.fas.usda.gov/psd/complete_tables/LP-table2-28.htm

Canadian Pork Export Impact

This section of the report seeks to quantify the impact of Canadian pork exports on the overall economy and on the farm sector in general.

General Economic Activity

The first part of this section gages the impact of pork exports on the whole Canadian economy by utilizing the Statistics Canada Industry Input-Output Model⁵. The model evaluates the impact of pork exports at the processor level on Canadian economic activity including taxes, jobs, payroll and overall GDP. The results reflect all processor input activity including hog farms, and other industry suppliers. The model provides a description of the overall contribution of the particular economic shock; in this case, pork exports.

The economic shock or starting point for evaluation is the fact that, in 2005, Canadian exported pork products were valued at approximately \$2.8 billion. The Statistics Canada model utilizes this figure to determine overall economic activity that results at the packer level and for all upstream suppliers. The following are the summary points of the impact on the Canadian economy resulting from \$2.8 billion dollars in pork exports:

Total Economic Activity:	\$7.7 billion
Wages, Salaries, Benefits and Self employed income:	\$2.1 billion
Total Employment:	42,000 jobs

The above figures show that pork exports are responsible for generating \$7.7 billion dollars in economic activity in Canada. That is, in addition to the \$2.8 billion in export sales, those sales generated activity at the supplier sector including farms, veterinarians, packaging etc, amounting to another \$5 billion. Overall employment, including farm owners and farm labour due to those exports, amounts to 42,000 with incomes of over \$2.1 billion.

Farm Impact

This section of the report seeks to estimate total hog equivalent volumes of pork exports and determine total farm gate revenues and number of operations in existence due to pork exports.

As noted above, over 55% of Canadian pork production is now exported (again recall that this does not include live exports to the US). For the purposes of this exercise, and in the interest of being conservative, it is assumed that approximately half of all Canadian hogs ultimately are produced and processed in Canada for the pork export market. By volume therefore, about one half of all Canadian hogs slaughtered in Canada are exported as

⁵ System of National Accounts, Industry Accounts Division, Canadian Open Input-Output Model, 2002. The model was administered by Industry Accounts Division personnel.

pork. Hog farm cash receipts in Canada amount to about \$4 billion. Of that total about \$3.3 billion was generated through the domestic slaughter of hogs in Canada. It can be inferred that if by volume, pork exports account for half of pork production, then pork exports are responsible for over \$1.5 billion in farm cash receipts. That is, if half the volume of hog slaughter in Canada is exported, that implies that half the hog farm income generated from domestic slaughter is a result of pork exports.

Furthermore, in Canada as of 2006, there were nearly 13,000 farm operations reporting an inventory of hogs⁶. Of those farms, the domestic slaughter industry supports about 9-10,000 operations. Again, by inference based on the volume of pork exports, that implies that the export market creates production potential for nearly 5,000 farm operations in Canada.

If Canadian packers and processors were not exporting pork, there would simply be a massive reduction in production capacity from farm through to packing/processing. This reduction in capacity would jeopardize the livelihoods of 5,000 hog farming operations and would reduce farm incomes by up to \$1.5 billion.

Pork Export Premium Impact

This section of the report evaluates the impact of exports on hog and pork pricing in Canada.

Perspectives on Export Marketing

The ability to export specific pork cuts is of great value to the Canadian pork industry. In effect, it allows pork marketers to discriminate between markets in which a specific cut is more or less preferred. This prevents burdensome supplies of relatively unwanted cuts from driving down domestic prices for all pork cuts. Thus, the total tonnage of product sold in Canada and in other markets can be “sorted” so that only the most demanded products are sold at their respective price points, with other cuts exported elsewhere to countries where they are preferred. Alternatively, the distribution of pork products in the domestic Canadian market would be essentially fixed according to the yield of cuts from the carcass, absent pork exports.

Another way to think of it is that a hog carcass yields a portfolio of cuts. By maximizing the value of individual pork cuts sold, processors maximize the value of the carcass portfolio. By maximizing the value of the carcass, revenue is generated that forms the budget for hog procurement. In addition, as a portfolio, the overall carcass value is not subject to the risk associated with volatility in the value of any one cut. Variances in value due to any particular pork cut can be buffered by the value in other cuts. In order to maximize the value of cuts, they must be sold in the markets that value them most. In the case of some pork cuts, the strongest demand exists in offshore markets for a variety of reasons including income, cultural preferences, cooking styles, etc. By differentiating between export markets for some cuts and selling in the domestic market for others,

⁶ Statistics Canada - Catalogue number 23-010-XIE

processors maximize the value of the carcass and can reduce the risk associated with carcass value, which leads to higher and more stable budgets for hog procurement.

Finally, another equally important way to look at the issue of exports is to note that each firm in Canada needs to export because of how much Canada produces and consumes. As such, exports primarily serve to diversify the sales base that, in turn, enables the individual firm or industry to leverage its bargaining position. This assists in improving all price levels, domestic and export.

As noted above, the pork marketer or sales team will sell product to the market in which it is most highly valued. This is a process that varies by cut and by market. Marketers assess the pricing being offered in various export markets and determine the incremental costs of producing to those specifications as well as the logistics and transport costs of delivery. Marketers then evaluate whether the net returns are in excess of those available in the domestic market for bone-in, boneless, untrimmed, or trimmed items. Again, based on the assessment of the net returns, the product will be sold to the market with the highest return.

Export Markets and Producer Incomes

The value of the hog is determined by the value of the pork. Adding value to the carcass cutout value through export marketing adds value to the hog. The higher the pork value is, the more packers can pay for hogs.

A very simple and obvious example of the impact of export sales is the market for offal and other slaughter credits. Essentially, without export markets for these items, packers believe that there would be little or no return and most would be rendered.⁷ The ability to export and therefore attain value for these items brings back a return of up to \$8/hog. Hog packing is a margin business operating in an open competitive market. As such, this \$8/hog is ultimately accrued back to producers in the form of higher formula hog prices. That is, hog prices would likely be \$8/hog lower if there were no export markets for offal or kill credits.

Last year, in Canada, there were over 22 million hogs slaughtered in federal and provincially inspected plants. That means that offal exports are responsible for improving producer incomes by over \$170 million (\$8 x 22 million hogs).

Another example is the export of fresh pork loins to Japan. Sales marketers will constantly assess the values attainable in Japan and “bring back” those possible returns to the domestic market for comparison. It is very difficult to generalize about the incremental returns generated by the Japanese market due to the constant changes in market conditions. With that said, marketers believe that it is reasonable to assert that, over the last few years, fresh chilled product resulted in about 50 cents/kilogram in incremental benefits or returns to the value of the loin.

⁷ Estimates of incremental values are based on discussions with two leading packing firms and one major independent export marketer in Canada.

Further to that point, it is noted that all chilled items, which are exported to Japan, and a few other Pacific Rim countries, are sold based on combination pricing. As such, there is a premium of \$.40-.50/kg based on all chilled primal cuts exported to those countries.

That 40-50 cent per kilogram estimate is consistent with research conducted for the US Meat Export Federation (USMEF) which stated that loin exports received a premium of US\$0.17 cents per pound or just under US\$0.40 cents per kilogram.⁸ In fact, that research, which was based on surveys of US exporters, found that export premiums exist for all major cuts such as bellies, loins, butts, tenderloins and picnics as well as credit items, feet, lips, diaphragms and brains. The average premium for the top ten exported items amounted to nearly US\$0.19/pound or .42 cents per kilogram.

During 2005, exports of fresh chilled product to Japan, Korea and Singapore totalled about 53,000 tonnes. The C\$0.40 cent per kilogram estimated premium could be applied to 53,000 chilled tonnes to those countries. Based on that application it can be asserted that the Canadian industry enjoyed incremental returns of up to \$21 million on chilled pork exports. That amounts to about \$1/head for every hog slaughtered in Canada.

Another way to look at the impact of exports is to assess what would happen to pricing if exports markets were not available for certain cuts. A good example is hams. The ham is one of the most problematic items from the hog. It would have a significant effect on the ham complex and subsequently the hog price if packers were not stabilizing the ham market by exporting. The opportunity to export frozen hams to buyers around the world helps packers leverage returns for all ham product sales, both domestic and export. The same could be said, but to a lesser extent for loins, picnics and butts.

As such, it is clear that not all exports offer incremental value in the sense that the chilled loin to Japan does. Nevertheless without that frozen export market for hams and other cuts, the domestic market price would be significantly lower. It is impossible to assess how much lower the domestic market for hams or other cuts would fall, but the decline would be reflected eventually in hog pricing.

Exports therefore are seen to have value to producers in two ways:

1. Exports reduce domestic supplies resulting in higher prices overall
2. Export premiums can result from the value in exports exceeding the domestic value

Combining the incremental values from offal and chilled cuts, it can be argued that exports add up to \$9/head in value to the hog. In a competitive marketplace, this incremental value is eventually reflected in hog prices either through bids or through formulas.

⁸ 1st Quarter US Pork Exports and Added-Value of Pork Exports, Pork and Allied Industries and NPB Trade Committee, Brett Stuart, May 25, 2006. http://www.usmef.org/TradeLibrary/Speech06_0531g.asp

Summary and Conclusions

The following are the key conclusions to be drawn that, in turn, demonstrate the importance and benefits to Canada from pork exports:

- Pork exports have been the driver of the exceptional growth of pork production in Canada
- Canada is a world leader in pork exports.
- Canada has diversified its export markets to over 100 countries and is increasingly less dependent upon the US market.
- Pork export demand has been rapidly growing while domestic demand has been stable.
- Pork exports of \$2.8 billion in 2005 are responsible for economic activity amounting to \$7.7 billion and 42,000 jobs.
- Pork exports support the incomes of about 6,000 farmers and about \$2 billion in farm cash receipts.
- Premiums derived from the export market due to value differences in those markets could result in enhanced producer income of up to \$9/hog.

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