Information Bulletin

NUMBER 102 · MAY 2007

CHINA:

EXPORT MARKET PROSPECTS AND ALBERTA'S AGRICULTURAL SECTOR

By Cheryl Davie and Michele Veeman
Western Centre for Economic Research
University of Alberta

The Western Centre for Economic Research gratefully acknowledges the financial support of Alberta Agriculture and Food

Western Centre for Economic Research
University of Alberta
Edmonton, Alberta
www.bus.ualberta.ca/wcer

with support from: The George M. Cormie Endowment

Davie, Cheryl, 1969-

China : export market prospects and Alberta's agricultural sector / by Cheryl Davie and Michele Veeman.

(Information bulletin ; no. 102)
Includes bibliographical references.
ISBN 978-1-55195-950-4

1. Farm produce--Alberta--Marketing. 2. Produce trade--Alberta. 3. Alberta--Commerce--China. 4. China--Commerce--Alberta. I. Veeman, Michele, 1941- II. University of Alberta. Western Centre for Economic Research III. Title. IV. Series: Information bulletin (University of Alberta. Western Centre for Economic Research) ; no. 102.

HC117.A4D38 2007 382'.41097123 C2007-902709-1

Contents

Executive Summary

The emergence of China as one of the world's largest potential markets has led to this nation becoming the focus of increasing attention for economists, marketers and politicians. Reflecting anticipations of China's expected role as the world's future largest market for food, this paper focuses on the identification of opportunities and constraints to Alberta's expansion of agricultural-based exports to China. The analysis is based on: collection and assessment of data relating to China's importation of these agri-food products during the five year period from 2001 to 2005; analysis based on export values and market shares of Alberta and major competitors; overviews of some relevant literature; and insights from interviews with a small number of selected, knowledgeable North American exporters.

Despite volatility in the values of individual products exported from Alberta to China, Alberta's total agriculture exports to China reached $291.71 million in 2005, representing an increase of 198.75% in the five year period from 2001. (All values are US current dollars unless otherwise stated.) During this period, China's aggregate imports of these products increased by 49.81% to $4,196.946 million and Alberta's market share in the aggregate of agricultural and food products it exports to China grew from 3.49% to 6.95%. Thus Alberta's agricultural export performance can be broadly assessed to have improved during the five-year period under consideration.

Alberta's (average) market shares of China's imports approached or exceeded 5% for cereals in aggregate (6.7% market share on average for 2001-2005) and all hides and skins (4.0% during this study period). Despite longstanding dominance of these traditional commodities in Alberta's exports to China, Alberta's market shares of major commodity exports tended to be very variable (wheat) or have declined (hides). However, export values and market shares for canola seed (intended for processing) and barley have tended to increase and this is also the case for several semi-processed agricultural products (malt; canola oil) and processed food exports (frozen prepared potatoes). Exports of these particular semi-processed products are growing appreciably, although from small bases, and had achieved appreciable market shares by 2005. Successful market access, growth in market share, and potential for increased exports also applies for pork, some bovine products and related animal byproducts. Natural health products, like antler velvet, have varied but appear to have considerable potential.

A number of potential 'import gaps' are identified. These are products for which China's imports have grown significantly, but appreciable Alberta exports have not been achieved, although growth appears to be feasible. Identified import gaps include bovine tongues which, together with other bovine products, are currently adversely affected by incidents of BSE in Alberta/Canada. Other products for which there are potential 'import gaps' that should be accessible to Alberta exporters are potato starch, fescue seed, live swine for breeding, and animal fats.

Upon China's accession to membership in the World Trade Organization (WTO) there were considerable changes in the levels and structure of tariffs for many agricultural imports. Tariff levels were considerably reduced and the practice of staggered (i.e. increased) levels of tariffs along value chains, which had appreciably

increased the effective rate of protection of China's domestic food processing industries to the considerable disadvantage of exporters, was reduced. Nonetheless there are several concerns about China's tariffs for agricultural products of interest to Alberta/Canada. China's 2006 tariffs are observed to be as high as 65% for an important category of commodity exports from Alberta (wheat); to be appreciably higher for the processed forms, rather than the commodity form, for another significant commodity export (malt with a tariff rate of 10%, relative to barley at 3%); and to be higher for an important Alberta export than for substitute products from competitors (canola imported for processing at 9% compared to soybeans, which is a major oil seed competitor, at 3%). A potential disadvantage to Alberta exporters arises from the slow pace and discouraging results of WTO trade negotiations for agricultural products. This has, moreover, encouraged a number of competing exporting nations (including Australia, Brazil, Argentina and New Zealand) to seek trade alliances with China, raising concern regarding potential trade displacement for others, including Alberta/Canada. Other disadvantages to Alberta exports arise from the ways in which food standards are applied in China and a lack of protection of product identity that is associated with fraudulent claims of branded high quality product in instances where lower quality or domestic product has been fraudulently substituted. Encouragement of China's effective participation in the Codex Alimentarius system of food standards could assist with some issues of standards anomalies. Exporters' efforts to develop and maintain close associations in supply value chains are also necessary in the China market if quality maintenance and accurate identification of products and their origins are to be achieved and defended.

While appreciating the contributions of government facilitators and the commodity trade associations to promote exports to China, industry spokesmen indicate that the sheer size of the resources applied to these activities by the United States in particular provides American exporters with a relative advantage. This suggests that export promotion assistance may well be an issue that should be raised in multilateral trade negotiations. Industry informants should be helpful in future delineation of the scope of this issue.

Overall, trends in consumption and the tendency for westernization of Chinese diets suggest a potential in the China import market in processed and convenience-focused food and beverage products, health foods and snacks, organic foods, and meat, fish and seafood. As indicated by the rapid increase in Alberta's exports of frozen processed potatoes, this potential can be achieved by Alberta producers and exporters.

1. Introduction

The emergence of China as one of the world's largest potential markets has led to this nation becoming the focus of increasing attention for economists, marketers and politicians. Yet, intensive research and other forms of engagement are necessary if policy makers and businesses intend to take full and lasting advantage of the potential growing market opportunities available in China. Opportunities for Western Canada producers and exporters to avail themselves of export market opportunities offered by China have a strong basis. Alberta's exports of key agricultural products have grown faster than Canada's overall exports to China and Canada's agricultural exports have a long tradition and strong reputation in China. Expanding agricultural-based markets in the Far East is a prudent strategy for Alberta due to the projected income and population growth in these regions. Since China's recent accession to membership in the World Trade Organization (WTO), this potential market is becoming more accessible to exporters, raising interest in prospects for both commodity-grade exports and more value-added products. The efficiencies gained by extending twin rail tracks and the expansion and deepening of the Prince Rupert 'New World' Port are two examples of the logistical opportunities available to Western Canadian exporters.

This paper focuses on the identification of opportunities and constraints to Alberta's expansion of agricultural-based exports to China. The analysis is based on: collection and assessment of data relating to China's importation of these products during the five year period from 2001 to 2005; analysis based on export values and market shares of Alberta and major competitors; selected literature; and insights from interviews with a number of selected, knowledgeable North American exporters. Based on this information, the nature of the prospects for Alberta's agricultural exports to China and how these may be improved is assessed.

This report is organized in seven parts. Following this introduction (Part 1), Parts 2 through 4 provide an overview and analysis of China's importation of identified agricultural products from Alberta and from major competitors, based on the U.N. Comtrade and the Trademap databases, together with other selected information sources. An initial overview of market shares of Alberta in the China market for broad categories of agricultural imports is given in Part 2. This is followed by a more disaggregated picture of export values, market shares and tariff rates for significant Alberta exports to China, given in Part 3. In turn, in Part 4, an examination of those export products for which Alberta's market shares (and/or values) have fallen during 2001 to 2005 is summarized; some potential reasons for these declines are noted. Those agricultural exports to China for which Alberta's competitive position has improved, as indicated by Alberta's increased market shares during the period 2001 to 2005, are also identified in Part 3. In Part 4, various products identified to this point are considered individually. Based on data relating to China's imports and the national origin of these imports, major national competitors to Alberta are identified on a product-by-product basis, the nature of Alberta's role in exportation to China is identified, and a number of factors that impinge on competitive advantage are noted. Two appendix tables, which give total Canadian/Alberta agricultural/food exports

(to all destinations) and total Chinese agricultural/food imports (from all sources) provide contextual background for the data and discussions of Parts 2, 3 and 4. All values are US current dollars unless otherwise stated.

In Part 5 of the paper, an overview is given of Hong Kong's imports of agri-food products from Alberta. Subsequently in Part 6, summaries based on interviews with selected individuals who are highly knowledgeable about agricultural exports to China are presented. Concerns about constraints that apply to exportation to China are noted, as are suggestions that might increase market penetration. In Part 7, a number of issues that impinge on China's production and importation of agricultural products are briefly examined and conclusions from the preceding analyses are indicated or summarized.

2. Market Share Overview

Scrutiny of records on Alberta's agricultural exports to China during the period from 2001 to 2005 (World Trade Atlas) indicates approximately 70 agri-food products, specified at the level of 6-level digit HS (harmonized system) codes, that are identified as Alberta-based agricultural and food products exported to China in the last five years. Data on current values of these Alberta exports are compared to current values of China's aggregate imports for these same products (U.N.) in order to calculate market shares for Alberta. In each case, the data refer to calendar periods from January through December. Because of volatility in the values of individual products exported from Alberta to China, annual export levels are generally given, as well as market shares, in the tables that follow.

Despite variability in the values of individual products exported from Alberta to China, Alberta's total agriculture exports to China reached $291.72 million in 2005, representing an increase of 198.75% in the five year period from 2001. During this period, China's aggregate imports of these products increased by 49.81% to $4,196.95 million and Alberta's market share in the aggregate of agricultural and food products it exports to China grew from 3.49% to 6.95%. Thus Alberta agricultural export performance in China can be broadly assessed to have improved during the five-year period under assessment.

The broad product categories for which Alberta's export shares to the China market are largest are given in Table 1. Some important component products within these broad categories are indicated in brackets. Because some of these products represent a relatively small export value segment (as with fats and oils, malt) and because of the general pattern of volatility, year-by-year export values for the category as a whole are also included in this and subsequent tables. Alberta's (average) market shares of China's imports for the broad product categories indicated in Table 1 only exceed or approach 5% for cereals (6.7% market share on average for 2001-2005) and all hides and skins (4.0% during the study period). Despite the long-standing dominance of these traditional commodities in Alberta's exports to China, it is of interest that some semi-processed product categories (delineated later as malt; vegetable oil) and processed food exports to China (frozen potatoes) are growing appreciably, from initial very small bases. Frozen prepared potato imports from Alberta accounted for 25% of China's imports of this product category in 2005.

Table 1: Alberta's Major China Agricultural Export Categories: Export Values and Average Market Shares, 2001 to 2005. Values in current US$ millions.

HS Chapter	Product Category	2001	2002	2003	2004	2005	Average Market Share
10	Cereals (e.g. wheat and barley)	62.45	16.12	14.52	194.02	107.54	6.67%
41	Animal Hides & Skins	27.49	17.19	14.81	19.20	54.07	4.03%
20	Preserved food (e.g. frozen potatoes)	0.04	0.33	0.58	5.33	10.61	2.26%
15	Fats and oils (e.g. canola oil)	0.07	1.22	13.35	95.66	67.49	0.97%
05	Other Animal Products (e.g. bovine semen, guts, bladders, elk velvet antlers)	1.36	2.37	2.46	0.50	2.59	0.91%
11	Milling Products (e.g. malt and flour)	0.13	0.20	0.83	3.23	2.39	0.89%
07	Vegetables	3.99	0.15	0.007	0.56	0.65	0.45%
01	Live Animals	0.08	1.00	0.05	0	0	0.43%
02	Meat	1.43	3.11	1.39	1.94	4.40	0.42%
03	Fish Livers & Roe (Frozen)	0	0	0	0.70	1.30	0.31%
21	Miscellaneous Edible Preparations (e.g. extracts, sauces, condiments, seasonings)	0	0.02	0.25	0.54	1.46	0.30%
12	Miscellaneous grains and seed (e.g. canola seed)	0	6.81	22.45	27.40	39.01	0.30%
23	Food Waste & Animal Feed	0.39	0.99	0.23	0	0	0.05%

More detailed information on major Alberta agricultural export products destined for China is given in Table 2. Table 2 lists annual export values, annual import market shares and 2006 *ad valorem* tariff rates for the more finely defined agricultural product categories for which Alberta's export market share of the China market has approached or exceeded 5% in the period considered. From Table 2 it is seen that Alberta has accounted for an appreciable but variable proportion—1% to 5% -- of China's importation of whole bovine hides and skins and somewhat lower values, but higher market shares, of partial bovine hides (butts, bends and bellies hides). Alberta has accounted for a large proportion of China's importation of horns/velvet antler, and an appreciable proportion of China's relatively small importation of malt—two-fifths of total imports in 2005. For barley, a much larger value and an appreciable proportion (6.5% averaged over the five year period), of China's imports are from Alberta and these Alberta exports, mainly destined for brewing, tended to increase during the period from 2001 to 2005. Appreciable market

shares apply for Alberta's exports of canola oil and canola seed (for processing) to China (these accounted, on average, for somewhat more than one-fifth of China's canola seed imports during the five years considered); the value of Alberta's canola seed exports to China has tended to increase in recent years. It is noteworthy, however, that as implied by the information for fats and oils imports in Table 1, Alberta's (and Canada's) exportation of canola seed to China faces major competition from other oilseeds, particularly from soybeans. Significant variability in China's importation of Alberta wheat is seen in Table 2, reflecting in part the impacts of weather on wheat crop yields in both China and in Western Canada. (There is appreciable variability in China's total importation of cereals, as indicated in Appendix Table 1, particularly in wheat imports).

Alberta has periodically been the source of China's total imports of bovine semen but these exports declined to zero in 2003 and 2004, reflecting sanitary and phyto-sanitary concerns of importers stemming from Canadian incidents of BSE since 2003. China's importation from Canada of bovine cuts (bone in frozen and boneless) has also been affected by these concerns. Although variable, an appreciable market share (one-fifth) of China's imports of frozen bovine offal (not livers or tongues) was reported for Alberta in 2005, as also shown in Table 2. Similarly importation of frozen fish livers and roes was reported for 2004 and 2005, although these represented relatively small values. (China purchases significant amounts of fish products and sea-food from Canada [AAFC, 2006a] but Alberta is not an appreciable source of these.)

A most striking growth in exports from Alberta, from a very small initial base to appreciable levels, is seen for frozen prepared potatoes, which grew consistently and appreciably in value between 2001 and 2005. Average market share was 7.6% during the entire five year period, reaching 25% of China's imports of this product category in 2005.

The 2006 (*ad valorem*) tariff rates applied by China for the noted products are also indicated in Table 2. (These and subsequent tariff rate information are derived data base searches of the MacMap and WorldTariff$_{SM}$ Online Database conducted with the assistance of the Western Centre for Economic Research.) Upon China's accession to membership in the WTO there were very considerable changes in the levels and structure of tariffs for many agricultural imports. Tariff levels were considerably reduced and the tendency for staggered (i.e. increased) levels of tariffs along value chains, which had previously appreciably increased the effective rate of protection of China's domestic food processing industries to the considerable disadvantage of exporters of processed food products to China, was reduced (see the tariff schedule commitments noted by Janzen (2002) and subsequent rates indicated by Kim (2006)). Nonetheless there are several concerns about China's tariffs for agricultural products of interest to Alberta/Canada. China's 2006 tariffs are observed to be as high as 65% for an important category of commodity exports from Alberta (wheat); to be appreciably higher for the processed forms, rather than the commodity form, of another significant commodity export (malt with a tariff rate of 10%, relative to barley at 3%); and to be higher for an important export crop than for a major substitute product from competitors (canola seed imported for processing at 9% compared to soybeans, China's largest oilseed import, at 3%).

Table 2: Export Values, Annual Market Shares, and 2005 Tariff Rates for Alberta's Major Agricultural Products Exported to China. Values in current US$ millions.

Product	HS code	Values of Exports Annual Import Market Shares (in brackets)					Tariff Rates
		2001	2002	2003	2004	2005	2006
Whole Bovine Hides & Skins	410120 (<16kg) & 410150 (>16kg)	27.42 (4.95%)	13.32 (3.23%)	10.52 (1.94%)	8.00 (0.93%)	44.75 (4.64%)	5-8.4%
Butts/Bends/Bellies Hides of Bovines	410190	0	3.74 (2.45%)	3.78 (2.23%)	8.39 (8.19%)	7.27 (12.59%)	6.13% av.
*Horns/ Velvet Antlers	05079010 & 05079090	1.17 (86.31%)	1.26 (86.31%)	1.18 (86.31%)	0.39 (7.05%)	0.57 (20.57%)	3-11%
Malt	110710	0.13 (54.58%)	0.20 (6.41%)	0.83 (30.14%)	3.23 (45.64%)	2.39 (40.66%)	10.0%
**Canola Oil	151411 151419 151499	0	1.04 (2.70%)	10.45 (12.50%)	95.48 (44.56%)	67.35 (65.63%)	9.0%
***Canola Seed (for processing)	120510 120590	0	6.81 (4.64%)	22.45 (48.07%)	27.40 (20.38%)	39.01 (46.39%)	9.0%
Bovine Semen	051110	.09 (52.01%)	.16 (23.35%)	0	0	0.29 (30.06%)	Free
Bovine Cuts Frozen (two categories)	020220 (bone in) 020230 (boneless)	0.12 (2.29%) 0.10 (1.94%)	0 0.50 (4.32%)	.0370 (1.40%) 0.22 (2.03%)	0 0	0 0	12.0% 12.0%
Meslin & Durum Wheat	100110 & 100190	28.23 (15.31%)	8.41 (5.28%)	8.84 (5.25%)	162.45 (17.87%)	68.28 (13.46%)	65.0%
Frozen Prepared Potatoes	200410	0.04 (0.11%)	0.33 (0.87%)	0.57 (1.44%)	5.33 (10.33%)	10.46 (25.21%)	13.0%
****Barley	100300	34.23 (8.96%)	7.69 (2.64%)	5.68 (2.12%)	31.58 (9.85%)	39.25 (9.14%)	3.0%
Frozen Bovine Offal (excluding liver & tongues)	020629	0.41 (1.46%)	1.91 (6.49%)	0.64 (1.32%)	0.17 (0.55%)	2.44 (20.32%)	12.0%
Fish Livers & Roe	030380	0	0	0	0.70 (10.20%)	0.53 (8.52%)	10.0%

**Note: Market shares calculated on annual data are inconsistent for horns/velvet antlers, showing as >100% in this category for 2001 (presumably due to differences in the departure and arrival of some shipments in adjacent calendar years). Consequently the average market share for the years 2001-2003 is cited for each of these three years in this table.*

******* These include both refined and crude canola oil, as well as very small amounts of mustard, rapeseed, and colza oil.*

**** The tariff rate for Canola seed for sowing is 0%.**** The tariff rate for Barley seed for sowing is 0%.*

3. Major Changes in Market Shares

The information outlined above indicates that there are some product categories for which Alberta agricultural exports to China have declined, while other product categories show increases in exports. Similarly there are associated instances of gains and losses in Alberta's shares of the Chinese import market during the last five years. These are delineated in Tables 3 and 4 which list, respectively, those commodities for which Alberta's shares of China's import market have demonstrated the largest declines or most significant variability (Table 3) and those for which market share gains have been largest (Table 4).

Table 3: Agri-Food Categories Showing Declines or Significant Variability in Alberta's Share of the Chinese Market. Values in current US$ millions.

Product	HS code	Value of Exports Annual Import Market Shares (in brackets)					Tariff Rates
		2001	2002	2003	2004	2005	2006
Hides & Skins of Bovine Animals <16kg	410120	7.12 (89.19%)	3.42 (28.91%)	0	0.16 (0.84%)	3.00 (8.46%)	5-8.4%
*Horns/ Velvet Antlers	05079010 & 05079090	1.17 (86.31%)	1.26 (86.31%)	1.18 (86.31%)	0.39 (7.05%)	0.57 (20.57%)	3-11%
Bovine Cuts Frozen	020220 (bone in)	0.115 (2.294%)	0	.03698 (1.404%)	0	0	12.0%
	020230 (boneless)	0.096 (1.94%)	0.503 (4.32%)	0.215 (2.03%)	0	0	12.0%
Bovine Semen	051110	0.09 (52.01%)	0.16 (23.35%)	0	0	0.29 (30.06%)	Free
Peas, Dried, Shelled (not for seed)	071310	3.99 (14.24%)	0.15 (0.66%)	0.07 (0.55%)	0.56 (3.70%)	0.65 (1.33%)	5.0%
**Meslin Wheat	100190	28.22 (15.31%)	8.41 (15.31%)	8.84 (5.25%)	161.33 (7.87%)	68.28 (13.46%)	65.0%
Other Fodder & Forage Products (roots)	121490	0.04 (7.93%)	0	0.03 (21.18%)	0.01 (46.07%)	0	9.0%

** Note: Market shares calculated on annual data are inconsistent for horns/velvet antlers, showing as >100% in this category for 2001 (presumably due to differences in the departure and arrival of some shipments in adjacent calendar years). Consequently the average market share for the years 2001-2003 is cited for each of these three years.*

*** Most Alberta wheat exports are classified as meslin wheat (i.e. rather than durum wheat).*

Despite the previously noted increase in hide exports overall from Alberta to China, exports from other national sources increased even more (see Appendix Table 1), leading to a decline in Alberta's share of China's import market for hides, especially for the category of hides indicated in Table 3 (this is subsequently discussed in section 4.14 of this paper). Phyto-sanitary and sanitary concerns arising from BSE incidents affected Alberta's exports of beef products, animals and related

byproducts to major markets, including China, as noted in preceding discussions and indicated in Table 3. (However, this did not apply to all categories of reported bovine offal/byproducts, as will be noted subsequently.) A degree of variability is observed in the exportation to China of antler velvet (possibly reflecting Sanitary and Phyto-Sanitary [SPS] concerns relating to instances of chronic wasting disease in deer which have occurred in North America in the last few years). The extent of variability in Alberta's total wheat exports to China (and associated import market shares) is the reason that this product is listed in Table 3. There is extensive variation in Albertan and Canadian exports of wheat to China, reflecting variations in domestic wheat production both in Canada and China, amongst other features. (In the period considered in this study, wheat exports to all markets from Alberta/Canada were adversely affected by drought in Western Canada in 2001/02, as reflected in Appendix Table 2 which shows total Canadian and Alberta exports to all markets.)

The other category of product for which Alberta's share of China's import market has shown an appreciable decline is peas (dried, shelled). The rest of Canada appears to have taken significant market share of this product category from Alberta. However, China has not been a major market for Alberta/Canadian peas and an increasing proportion of dried peas is currently expected to be sold into higher priced food uses in other markets (AAFC, 2006b). Other fodder and forage products (roots) are included in Table 3 because of the extensive pattern of variability and the tendency for the value of exports in this category to decline during the period considered.

Table 4: Agri-Food Categories Showing Increases in Alberta's Share of the Chinese Market. Values in current US$ millions.

Product	HS code	Value of Exports Annual Import Market Shares (in brackets)					Tariff Rate
		2001	2002	2003	2004	2005	2006
*Canola Oil	151411 151419 151499	0	1.04 (2.69%)	10.45 (12.50%)	95.48 (44.56%)	67.35 (65.63%)	9.0%
Canola Seed (includes low erucic acid, whole or broken) for crushing	120510 120590	0	6,81 (4.64%)0	22.45 (48.07%)	27.40 (20.38%)	39.01 (46.39%)	9.0%
Potatoes, Prepared, Frozen	200410	0.04 (0.11%)	0.34 (0.87%)	0.57 (1.44%)	5.33 (10.33%)	10.46 (25.21%)	13.0%
Bovine Offal (excluding tongues & livers)	020629	0.41 (1.46%)	1.91 (6.49%)	0.64 (1.32%)	0.17 (0.55%)	2.44 (20.32%)	12.0%
Malt	110710	0.13 (54.58%)	0.21 (6.41%)	0.83 (30.14%)	3.23 (45.64%)	2.39 (40.66%)	10.0%
Dried Blood, Meat waste for animal feed Cattle embryos	0511992 0511991 0511994	0.02 (0.22%)	0.65 (4.82%)	0.24 (1.41%)	0	1.40 (17.86%)	0-12.0%
Fish Livers & Roe, frozen	030380	0	0	0	0.70 (10.20%)	0.53 (8.52%)	10.0%
Butts/Bends/Bellies Hides of Bovine	410190	0	3.74 (2.45%)	3.78 (2.23%)	8.39 (8.19%)	7.27 (12.59%)	6.7%
Meat of Swine (fresh & frozen, bone in & boneless)	020312 020319 020322 020329	0.09 (0.22%)	0.16 (0.20%)	0.38 (0.41%)	0.78 (1.39%).	1.74 (6.04%)	12-20.0%

***** *These include both refined and crude canola oil, as well as very small amounts of mustard, rapeseed, and colza oil.*

Alberta's products that are exported to China for which appreciable and relatively consistent market share growth is demonstrated in the period from 2001 to 2005 are canola oil and seed (from very small initial bases), frozen prepared potatoes, and pork (meat of swine). Substantial but relatively variable growth is seen in canola oil exports. (The components of this are discussed later in section 4.9.) Canola seed and frozen prepared potatoes show a consistent and very appreciable pattern of growth during the five years. Relatively smaller export levels, but a very consistent pattern of growth, is seen for Alberta's pork meat exports and import market shares for China during this period. Despite consistent increases in malt exports from Alberta to China (from a small base) since 2002, there have been periods in which Alberta lost market share to competitors (i.e. particularly in 2002). However, in the subsequent three years, Alberta's market share grew and largely recovered with growth of Alberta's malt exports to China. Bovine offal and other animal byproduct

exports to China grew overall during the time assessed but showed much year by year variability, apparently reflecting reactions to Canadian BSE incidents.

4. Alberta's Position Relative to Major Exporters

In this section, we consider the position of Alberta relative to its major competitors for the variety of products it exports to China. The order in which these are considered follows the consecutive chapters of the tariff code. Thus this section commences with consideration of Alberta exports of live animals to China. As was the case for the figures reported in the preceding sections, the data for these comparisons are from the World Trade Atlas and the United Nations Comtrade database.

4.1 Live Animals (HS Chapter 1)

Live animals are currently one of Alberta's smallest categories of agricultural exports to China; Alberta accounts for a relatively small proportion of live animals exported to this market compared to the rest of Canada (Table 5). Overall, as indicated in Table 5, in the last few years Canada's largest competitors in the live animal category are Australia, New Zealand and the United States. Australia accounted for an average (2001 to 2005) share of 41.02% of China's import market for live animals. Australia holds a location advantage relative to North American competitors in China's import market. Like New Zealand, a smaller but livestock-intensive agricultural exporting economy, major emphasis is placed by Australia on SPS issues. Even so, the U.S. has been a major source of live animal imports by China, holding an average 17.18% market share from 2001 to 2005 despite being affected by North American incidents of BSE.

The major categories of China's live animal imports are cattle, swine and poultry. Importation of bovine animals accounted for 68.22% of the value of total live animal imports by China in 2005.

Table 5: China's Imports of Live Animals, Import Values and Average Market Shares. Values in current US$ millions.

Live Animals	Chinese Import Values					Average Market Share
	2001	2002	2003	2004	2005	
Australia	4.763	16.75	68.40	108.17	57.04	41.02%
U.S.	10.91	12.26	17.21	2.56	16.73	17.18%
New Zealand	0.61	0.81	10.30	86.30	19.62	13.87%
Canada (total)	1.43	7.75	1.24	0.69	1.28	4.24%
Germany	1.40	1.28	0.57	4.01	2.56	2.23%
France	0.08	1.51	1.80	0.95	1.63	1.71%
Alberta	**0.08**	**1.00**	**0.05**	**0**	**0**	**0.43%**

4.1.1 Live Cattle

Live pure-bred bovine animals for breeding (HS 010210) are the only type of live animal Alberta has exported to China during the last five years. The export values of

Alberta live cattle shipped to China were small in 2001 (accounting for 1.49% of China's imports of this product), exceeded $1 million in 2002 (reaching 5.56% of imports), but fell to zero in 2004 and 2005 as a result of the BSE issue. China's total imports of live pure-bred bovine animals increased by 217% from the 2001 levels to over $108.9 million in 2005. Currently, China's largest supplier of live bovine cattle is Australia which held a 50.31% share of this market in 2005. Location and lack of animal disease incidents underlie Australia's observed competitive advantage. Australia and New Zealand have long pursued entry to major Asian import markets.

4.1.2 Live Swine

Alberta has not exported swine to China during the last five years. However, China's imports of live swine doubled over this period to reach $4.23 million in 2005. The main suppliers of live swine to China are the U.S. (with an average market share of 36.62%) and the rest of Canada (Canada held an average market share of 24.49%).

4.1.3 Live Poultry

There are no records of Alberta exporting live poultry to China. However, China's imports of live poultry grew by nearly 50% over 2001 levels to reach $18.36 million in 2005. The largest exporter of live poultry to China is the U.S. with a 57.55% market share in 2005.

4.2 Meat and Edible Meat Offal (HS Chapter 2)

Alberta's meat sales have been one of its top three agricultural exports to China. While reactions to the discovery of incidents of BSE in Alberta caused disruption and interruption of cattle and beef exports, overall, Alberta's meat exports to China increased by 208% during the period from 2001 to 2005 due to steady increases in pork exports. The value of all Alberta meat exports to China reached $4.3 million in 2005. The largest competitors in this product category are the U.S., Brazil, Australia and Argentina. The major meat exports by the U.S. to China are beef, pork and poultry. Australia's major meat export to China is beef. Poultry products are major meat exports from Brazil and Argentina to China.

Table 6: China's Meat Imports, Import Values and Average Market Shares. Values in current US$ millions.

Meat & Meat Offal	Chinese import values					Average Market Share
	2001	2002	2003	2004	2005	
U.S.	412.42	526.48	593.55	180.86	246.78	62.27%
Brazil	0.02	0.38	7.92	55.73	133.26	15.58%
Canada (total)	36.10	34.95	52.29	62.57	46.76	7.93%
Australia	19.37	12.60	15.94	38.14	32.32	4.18%
Argentina	7.94	2.99	2.92	36.90	19.66	6.60%
Alberta	**1.44**	**3.11**	**1.39**	**1.94**	**4.40**	**0.47%**

4.2.1 Beef (HS 0201 and HS 0202)

China's imports of fresh and frozen beef (tariff codes beginning with 0201 and 0202) increased by 51% from 2001 to 2005, reaching $8.77 million that year, reflecting the increased meat consumption that has accompanied rapid economic growth in

major regions of China. Australia is the largest exporter of beef products to China, with a market share of approximately 99.6% in 2005. Incidents of BSE have affected Alberta's sales to this market.

4.2.2 Pork (HS 0203)

China's imports of pork declined overall from 2001 to 2005 due to increased domestic production as considerable productivity improvements have been made by this nation in pork production in recent years. Consequently, China's imports of pork declined by some 31% from 2001 to 2005 when these amounted to $28.79 million. Overall, China is a net exporter of pork, exporting mostly live hogs, but importing fresh and frozen pork meat and pork offal (Wang, 2005). Nonetheless, increases in pork consumption (the most popular and traditionally preferred meat) are expected as economic growth continues and influences food consumption patterns, since a large number of lower income consumers in China still face relatively low quality diets. Thus there are positive prospects for increased exportation of pork from Alberta to China. Alberta's largest competitor in pork exports to China is the U.S. which held an average market share of 43.95% from 2001 to 2005. Frozen boneless pork (HS 020329) made up 31.9% of Alberta's meat exports to China in 2005. The products with the most significant growth in exports to China in the study period were bone-in frozen cuts of pork, which increased very substantially (by 1,104%) over very low levels in 2001 to reach $0.17 million in 2005, and frozen boneless cuts of pork (which grew by 1,718% over 2001 levels to reach $ 1.40 million in 2005). Alberta's market share of pork importation by China increased from 0.22% in 2001 to account for 6.04% of China's pork imports in 2005 (see Table 4). As subsequently discussed, U.S. exporters have a relative advantage from major assistance to export promotion of pork in China.

4.2.3 Edible Animal Offal (HS 0206)

Alberta's exports to China of animal offal have normally included bovine tongues, frozen offal of bovine animals, frozen swine liver and other edible swine offal. Alberta's total exports of offal to China increased by 270% relative to 2001 levels, to reach $2.66 million in 2005. Despite the influence of BSE incidents which drastically affected much bovine product exportation, products classified as frozen bovine offal (HS 020629) made up 91.75% of Alberta's exports in this sub-category in 2005, having increased by 496% from the 2001 level to $2.44 million in 2005. Alberta's market share is relatively small, averaging 1.16% of Chinese imports of these products from 2001 to 2005. The largest competitors to Alberta are the U.S, Australia and Brazil with average market shares of 54.34%, 3.88% and 0.90%, respectively.

Imports by China of bovine offal (HS 020629) declined by 57% from 2001 to 2005, to reach $12.00 million in the latter year, while imports of swine offal (HS 020649) increased by 158% over 2001 levels to reach $145.62 million in 2005. Even so, China's imports of frozen bovine tongues showed the greatest growth of all meat imports, increasing almost 67 times during the five year period from 2001 to 2005 to reach $1.07 million in 2005. Because of BSE restrictions, Canada cannot currently export bovine tongues to China.

4.2. 4 Chicken Cuts & Edible Offal (HS 0207)

By 2005, relative to 2001, China's imports of chicken cuts and offal had declined by some 21% to $323.38 million, reflecting increasing domestic production, as was noted also for pork. The major export competitors in this product category are the U.S. (holding an average 72.87% import market share), Brazil (15.00%) and Argentina (6.52%). Alberta's market share of China's imports of chicken cuts and edible offal reflects the lack of export market orientation of this supply-managed sector and showed a decline from $0.39 million (0.10% share of imports) in 2001 to 0 in 2005.

4.3 Fish and Seafood (HS Chapter 3)

Alberta's total exports of fish and seafood to China were valued at $1.3 million in 2005, an increase of 283% over 2001 levels. Frozen herring roe (with a value of $0.55 million) is reported to have made up almost half of these 2005 exports; much of Alberta's seafood exportation to China in 2005 appears to involve one-off shipments, in that zero values are shown for these product categories in the prior years considered here.

China's imports of frozen fish livers and roes (HS 030380) increased by 180% over 2001 levels to reach a level of $149.23 million in 2005. The major export competitor to this market is the U.S. with an average market share of 22.61% over the last five years. Alberta's market share of frozen fish livers and roe imported by China was 10.20% in 2004 and 8.52% in 2005.

4.4 Dairy, Eggs, Honey etc. (HS Chapter 4)

China's imports of skim milk powder (HS 040210) increased by 157% over the five year period studied, to reach $94.5 million in 2005. Dairy product consumption in China is anticipated to grow in future years but access by Alberta/Canada to this market is constrained by Canada's supply management policy. In 2003 and 2004, Alberta exported relatively small amounts of dried milk powder to China, shipments that amounted to an average $0.4 million in each of those two years and represented an import market share of 0.36% in 2003 and 0.51% in 2004. Canada's exportation of dairy products was effectively challenged through the WTO dispute process by the U.S. and New Zealand and no further exports to China are seen for 2005.

The major competitors of export HS Chapter 4 products to China are Australia and the U.S., which held average market shares of 17.79 and 3.35% respectively over the five year period from 2001 to 2005.

4.5 Other products of Animal Origin (HS Chapter 5)

This category of tariff-code products includes animal guts, velvet antlers, bones, shells, semen, and other non-edible animal products. China's imports of products grouped in this category rose by 28% over 2001 levels, to reach $221.49 million in 2005. At first glance, Alberta's exports and market share in this category appear to be relatively minor, overall, as indicated in Table 7 which notes that the Alberta share averaged 1.48% during the period from 2001 to 2005. Nonetheless, as noted in further discussion below, there are two significant categories of Alberta exports to China within this tariff code chapter.

The major competitor to Alberta in this product category overall is the U.S. In contrast, New Zealand, the rest of Canada and Australia are significant exporters to

China of 'Chapter 5' products, but relatively more minor exporters than the U.S. Product sub-categories are further discussed below.

Table 7: China's Other Animal Origin Product Imports, Import Values and Average Market Shares by Source. Values in current US$ millions.

Other Animal Products	2001	2002	2003	2004	2005	Average Market Share
U.S.	64.54	92.41	96.98	65.52	63.37	62.27%
New Zealand	10.76	12.95	15.25	21.89	17.22	8.10%
Canada (total)	8.74	20.42	20.58	16.43	6.55	6.95%
Australia	12.09	0.74	11.71	38.63	12.47	4.18%
Alberta	**1.36**	**2.37**	**2.46**	**0.50**	**2.59**	**1.48%**

4.5.1 Animal guts, bladders, stomachs and parts, not fish (HS 050400)

Alberta exports of animal guts to China increased by 320% over 2001 levels to reach $0.33 million in 2005. However, Alberta's market share in this sub-category is small, averaging 0.31% from 2001 to 2005. The major competitors in this category (and their average market shares from 2001 to 2005) are the U.S. (47.27%), Australia (11.94%), New Zealand (11.82%) and the rest of Canada (9.36%.) China's imports of the products in this category have been relatively constant in recent years, at an average level of $119.61 Million during the period from 2001 to 2005.

4.5.2 Tortoise-shell, whalebone nails etc, powder, waste (HS 050790)

Based on the U.N. data, China's imports of antler velvet increased appreciably, by 322% from 2001, reaching $2.77 million in 2005. The major competitor in this category is New Zealand with an average market share of 46.75% from 2001 to 2005, while Alberta's average market share averaged 57.15% during this period. However, this average masks the tendency for decline in Alberta's exports and market share in 2004 and 2005 (shown earlier in Tables 2 and 3, which are based on the Global Trade Information Services data source). The product category included both velvet antlers and horns (un-worked, simply prepared) until 2004, when these tariff code categories were redefined, creating the separate product category of velvet antlers that year. This complicates assessment. Further, there appear to be inconsistencies in the data available for this product category because the data accessed for Canadian velvet antler exports to China (from the Global Trade Information Services) is reported to be at levels above the value of imports reported by China (from U.N. Comtrade), at least in 2001 and 2002.

4.5.3 Bovine semen (HS 051110)

China's imports of bovine semen increased substantially (by 458% during the time considered) to reach $0.96 million in 2005. However Alberta's exports to China of bovine semen were disrupted by BSE concerns in 2003 and 2004, then reached a level of $0.29 million in 2005 when Alberta accounted for some 30% of China's imports (Table 2). Canada has typically accounted for all China's imports of bovine semen, thus the rest of Canada is generally Alberta's competitor in this market.

4.5.4 Dead Horses, Swine etc (inedible) & Products NESOI (HS 05119.)

Products included in this tariff code category include meat waste and scrap for animal feed, dried blood, products unfit for human consumption and cattle embryos. Alberta's exports in this category increased from $0.02 million to $1.40 million from 2001 to 2005 respectively. Alberta's market share averaged 4.86% from 2001 to 2005 while China's imports in this category declined by 29%, to $7.83 million during the same period. Alberta's major competitor in this category is the U.S. which held 30.54% of the market share on average during 2001 to 2005.

4.5. Vegetables (HS Chapter 7)

China's importation of vegetables increased by some 150% from 2001 to a level of $523.58 million in 2005 (Appendix Table 1). The total value of China's frozen vegetable imports was $18.11 million in 2005. Alberta's vegetable exports to China include frozen peas, frozen corn and dried peas. The largest competitor in the frozen vegetable category is the U.S. which held an average 54.40% share of this import market.

4.5.1 Frozen Vegetables (HS 0710)

Peas: Overall, China's imports of frozen peas increased by 102% to reach $2.96 million in 2005. Alberta exported a relatively small amount of frozen peas to China in 2001, valued at $0.03 million.

Corn: China's imports of frozen sweet corn increased by 128% to reach $13.93 million in 2005.Alberta exported a small amount of frozen sweet corn to China in 2003, valued at $0.01 million.

4.5.2 Dried Peas, Shelled (HS 071310)

China's total imports of dried peas increased by 93% from 2001 to reach $65.9 million in 2005. However, Alberta's exports of dried peas to this market declined significantly, from $4.00 million in 2001 to $0.65 million in 2005, resulting in a market share decline. The rest of Canada appears to have taken up the loss in Alberta's market share in the period that is considered. Alberta's largest competitor in dried peas during this time period was the rest of Canada, with an average 54.69% market share.

4.6. Cereals (HS Chapter 10)

Alberta's exports of cereals to China include wheat, barley, buckwheat and canary seed. Alberta's total cereal exports to China have varied considerably, as indicated in Table 8, and have been influenced by weather and crop production in both Alberta/Canada and China. For example, wheat exports from Alberta/Canada were adversely influenced by Western Canadian drought in 2001/02. Overall, cereal exports to China from Alberta increased by 72% during the period from 2001 to 2005, reaching a total of $107.54 million in 2005, which was, however, an appreciable decline from the high level of China's cereal imports in 2004 (Table 8 and Appendix Table 1). Even so, China's total cereal imports increased by 137% in the period from 2001 to 2005 and stood at a level of $1,191.82 million in 2005. Alberta's share of China's cereal import market was 12.41% in 2001, fell to 3.29% in 2005, and averaged 4.61% for the period from 2001 to 2005. Individual categories are discussed below.

Table 8: China's Imports of Cereals, Import Values and Market Shares by Source. Values in current US$ millions.

Cereals (Millions $)	2001	2002	2003	2004	2005	Average Market Share
Australia	218.52	241.04	137.11	606.51	430.90	36.03%
U.S.	491.29	28.23	39.22	648.5	104.03	26.46%
Canada total	177.03	101.22	48.09	687.14	478.11	25.25%
Alberta	**62.45**	**16.12**	**14.52**	**194.02**	**107.54**	**6.67%**

4.6.1 Wheat (HS 1001)

China's total importation of wheat increased by 528% over 2001 levels to reach $762.14 million in 2005. Alberta held, on average, a 10.22% share of China's wheat imports. Canada is the largest exporter of wheat to China, with an average 46.17% share of the import market. Major competitors are the U.S. with a 33.26% market share and Australia with an average 12.07% market share.

4.6.2 Durum Wheat (HS 100110)

China's total imports of durum wheat increased by 311% from 2001 to reach $392.55 million in 2005. (As reflected in the figures indicating total Chinese cereal imports in Appendix Table 1, China's total imports of durum wheat and barley have been larger than her total imports of non-durum (meslin) wheat in each year considered here.) Alberta exported virtually no durum wheat to China in the period considered, except in 2004, when these exports were valued at $1.12 million.

4.6.3 Meslin Wheat (HS 100190)

China's total imports of (meslin) wheat have varied considerably in the period considered but increased substantially from 2001 (when imports were $25.91 million), to reach $369.59 million in 2005. During this period, Alberta's exports of meslin wheat to China also varied and amounted to $68.28 million in 2005. Consequently Alberta's market share varied during the period considered here, reflecting influences of weather and yield variations among other features. The major export competitors to Alberta/Canada for this market tend to produce and export relatively more white wheat (in contrast to Canada's dominant red wheat varieties). White wheat is favored in many consumer products in China, as in other Asian countries.

4.6.4 Barley (HS 1003.

China's total imports of barley from all sources are less variable than her wheat imports. Total barely imports averaged $338.27 million annually between 2001 and 2005 and reached a level of $429 million in 2005. Alberta's exports of barley to China varied, with an average annual value of $23.68 million during the five-year period, when Alberta's market share of China's barley imports averaged 6.54%. Alberta's exports to China fell in 2002 and 2003, but recovered in 2004 and 2005, when the share of the barley import market held by Alberta was 9% (Table 2). The major competitors to Alberta in barley are Australia with an average market share of

62.18% and the rest of Canada with 19.9% market share. Most barley imports move into beer production. The average tariff applied to Canadian barley exports to China in 2005 was a relatively low 3.0%, compared with the higher rate of 10% on malt imports.

4.6.5 Buckwheat, Millet & Canary Seed (HS 1008)

China's imports of buckwheat, millet and canary seed, while relatively small, increased by 591% from 2001 to reach $0.25 million in 2005. Alberta's exports to China of buckwheat and canary seed have been sporadic, with small amounts under $0.5 million shipped in 2002 and 2005. No consistent major import competitor is evident: the rest of Canada, Australia and the U.S. made few or no exports to China in this category.

4.7. Milling, Malt, Starches (HS Chapter 11)

The HS Chapter 11 tariff code applies to milling products which include malt, starch, inulin and wheat gluten. When the products in this category are considered in aggregate, the major competitor is Thailand with a (relatively consistent) market share of approximately 34.79%; these exports consist mainly of cassava starch. Most (99.3%) of Alberta's Chapter 11 exports to China are un-roasted malt and wheat/meslin flour. Alberta's exports in this category grew by 879% from 2001 to reach $2.48 million in 2005, reflecting increased exportation of malt.

While some exports to China of Chapter 11 products are recorded from the U.S., Australia, Alberta and the rest of Canada, these aggregate market shares are very small, as indicated in Table 9. China's imports of HS 1108, which consists of starches and inulin, increased by 233% over the five years to 2005, suggesting some opportunities for importers. Alberta lacks major location and product advantages in China's market for starch imports, relative to areas where cassava is grown. Even so, as noted later, there may be an accessible niche market for potato starch.

Table 9: China's Imports of Chapter 11 Products (Including Milling Malt and Starch), Import Values and Shares by Source. Values in current US$ millions.

Milling Malt & Starch	2001	2002	2003	2004	2005	Average Market Share
Thailand	26.991	33.138	47.210	69.350	63.421	34.79%
U.S.	5.600	3.544	2.371	2.894	3.593	3.18%
Australia	4.653	3.696	4.084	2.515	2.817	3.10%
Canada total	1.127	1.371	1.963	4.352	4.198	1.77%
Alberta	**0.254**	**0.248**	**0.919**	**3.517**	**2.484**	**0.89%**

4.7.1 Wheat/Meslin Flour (HS 110100)

China's imports of wheat flour fell appreciably from $95.44 million in 2001 to a level of $10.71 million in 2005 (Table 10), reflecting increases in domestic milling that have led to reductions in flour imports. Alberta's exports of wheat flour to China also declined, to a level of $0.07 million in 2005, but the year-by-year values have tended

to be volatile. As indicated in Table 10, Alberta's market share averaged 0.97% from 2001 to 2005; the major competitors are Australia, U.S. and the rest of Canada.

Table 10: China's Imports of Wheat/Meslin Flour, Import Values and Shares by Source. Values in current US$ millions.

Wheat Flour	2001	2002	2003	2004	2005	Average Market Share
Australia	3.12	1.72	1.01	0.84	1.27	13.53%
U.S.	1.91	1.19	1.18	0.64	0.74	10.02%
Canada total	0.66	1.15	0.93	0.95	0.71	8.55%
Alberta	**0.12**	**0.03**	**0.09**	**0.26**	**0.07**	**0.97%**

4.7.2 Malt, Not Roasted (HS 110710)

China's imports of malt varied but tended to grow during the period considered (Table 11). During this time, Alberta's exports of malt to China grew consistently from $0.13 million in 2001 to $2.39 million in 2005. Alberta's market share of malt averaged 35.49% from 2001 to 2005. The major export competitors to Alberta in this market are the United Kingdom and Belgium (Table 11). Belgium has increased its presence in China's import market for malt in recent years, appreciably increasing its exports to this market from 2003 to 2005. This is not a significant export product for the rest of Canada, Australia or the U.S.

Table 11: China's Imports of Malt (Not Roasted) by Source, 2001 to 2005 and Average Market Share. Values in current US$ millions.

Malt	2001	2002	2003	2004	2005	Average Market Share
United Kingdom	1.00	1.34	1.63	1.37	0.81	13.79%
Belgium	0	0	0.05	1.09	1.11	7.32%
Alberta	**0.13**	**0.20**	**0.83**	**3.23**	**2.39**	**35.49**

4.8. Miscellaneous Grain, Seed, Fruit (HS Chapter 12)

Chapter 12 products include oilseeds, miscellaneous grain seed, fruit and plants. When all the products in this category are considered, the largest competitors are the U.S., Brazil and Argentina because this category of imports includes soybeans, amongst other oilseeds, and soybean exports to China are major and growing. China has recently announced plans to increase investment in soybean plant breeding in order to stimulate domestic production of soybeans and reduce the extent of its dependence on imports.

Table 12: China's Imports of Miscellaneous Grain, Seed Fruit, Import Values and Average Market Shares by Source. Values in current US$ millions.

Oilseeds & Misc. Grain	2001	2002	2003	2004	2005	Average Market Share
U.S.	1,225.68	988.23	2,248.91	3,392.19	3,199.19	39.44%
Brazil	619.61	905.46	1,683.53	2,077.12	2,381.03	27.65%
Argentina	987.48	612.66	1,513.46	1,548.71	2,179.94	25.21%
Canada (total)	302.03	82.17	74.15	165.34	85.95	3.32%
Alberta	**0.09**	**6.88**	**22.49**	**27.41**	**39.12**	**0.204**

China's total imports of canola seed (HS 120510 and HS 120590) have varied, declining substantially since 2001 to a level of $84.09 million in 2005. Alberta's most significant Chapter 12 export to China is low erucic acid canola seed destined for processing (HS 120590). A tariff rate of 9% applies to canola seed imports for processing. As indicated in TablCe 13, the major competitors to Alberta's exports to China of canola seed for processing are the rest of Canada and Australia. Australia does not yet allow the cultivation of genetically modified canola, despite arguments by the Australian Bureau of Agricultural Economics that this would be advantageous in terms of reduced costs and increased yields. The competitive pressures facing Alberta/Canada could increase if Australia makes such a policy change.

Table 13: China's Imports of Canola Seed, Import Values and Average Market Shares by Source. Values in current US$ millions.

Canola Seed	2001	2002	2003	2004	2005	Average Market Share
Canada (total)	259.05	42.65	46.53	133.33	72.51	76.70%
Australia	65.15	91.46	0	0.86	11.42	18.81%
Alberta	**0**	**6.81**	**22.45**	**27.40**	**39.01**	**12.18%**

Alberta's exports to China of flaxseed (HS 120400), while small, grew by 75% to $0.02 million in 2005. During this time period, China's imports of flaxseed declined by 99% to a level of just $0.003 million in 2005. In 2004, Alberta also exported small amounts (<$0.05 million) of mustard, clover, fescue and timothy seeds to China. Overall, during the period from 2001 to 2005, China's imports of mustard, clover and fescue seed increased by 127% to $14.32 million, with clover and fescue seed making up 99.8% of this total. Alberta's exports have lagged behind those of competitors for these seed products.

4.9 Fats and Oils (HS Chapter 15)

Products of HS Chapter 15 include animal or vegetable fats, oils, and waxes. When all the products in this category are considered the largest exporters are Malaysia and Argentina, as indicated in Table 14. Malaysia exports large volumes of

palm and coconut oil to China, while the fat and oil exports to China from Argentina, Brazil and the U.S. consist mainly of soybean oil. Australia's major export in the fats and oils category is animal fat. Reflecting increases in consumer income, China's total imports of fats and oils increased by 327% between 2001 and 2005, reaching $3,310.80 million dollars in 2005 (Appendix Table 1).

Table 14: China's Imports of Fats and Oils, Import Values and Market Shares by Source. Values in current US$ millions.

Fats & Oils	2001	2002	2003	2004	2005	Average Market Share
Malaysia	375.62	681.33	1,110.252	1,384.69	1,271.08	40.16%
Argentina	21.82	246.52	718.87	1,020.21	733.14	17.88%
Brazil	2.84	155.05	267.83	543.42	173.81	7.50%
Australia	59.07	54.45	66.83	116.35	89.90	3.77%
Canada	32.07	40.58	94.50	210.78	104.68	3.62%
U.S.	24.75	37.88	31.99	15.12	11.30	1.82%
Alberta	**0.07**	**1.22**	**13.35**	**95.66**	**67.49**	**0.09%**

Alberta's exports in the fats and oils category are canola oil, margarine and animal fat. Overall, exports to China of canola oil (which includes both refined and crude canola oil, as well as relatively minor amounts of mustard, rapeseed, and colza oil) grew very substantially from 2002 to reach $67.34 million in 2005. However, there have been major changes in the composition of China's canola oil imports with markedly more unprocessed canola oil replacing refined oil imports.

Overall, Alberta's share of China's total imports of canola oil averaged 36.85% during the period from 2002 to 2005. In 2005 Canada as a whole accounted for an 80.00% import share of canola oil. The coding for canola oil has changed several times in recent years, complicating assessment of these series.

4.9.1 Crude Canola Oil (HS 151411 and HS 151491)

China's total imports of crude canola oil grew by 483% from 2002 to reach $102.55 million in 2005. Alberta's exports of crude canola oil grew appreciably to $67.35 million in 2005. Alberta's share of China's import market for crude canola oil grew from 0.12% in 2002 to 65.67% in 2005.

4.9.2 Refined Canola Oil (HS 151499 and HS 151419)

China's imports of refined canola oil declined (by 31%) from 2002 to a level of $1.65 million in 2005. Alberta did not export any refined canola oil to China after 2002, when it exported some $1.07 million, which at that time represented a 56.04% market share.

4.9.3 Margarine, not liquid (HS 151710)

China's importation of margarine has remained relatively constant, averaging $6.45 million from 2001 to 2005. During this time period, Alberta's exports of margarine to China increased by 100% to reach $0.15 million in 2005. Alberta's market share in margarine averaged 2.09% from 2001 to 2005.

4.9.4 Bovine, Sheep and Goat Fats, Raw or Rendered (HS 150200)

China's importation of animal fat increased by 45% to a level of $124.95 million in 2005. In 2002, Alberta exported $2.80 million of animal fat to China. This included tallow and fats of bovine, sheep or goats. Australia is the major export competitor. There may be potential for Canada to increase these exports.

4.10. Baking Related Products (HS Chapter 19)

Products within HS Chapter 19 include prepared cereal, flour, starch or milk and bakers' wares. In 2005, Alberta exported $0.01 million of sweet biscuit cookies (HS 190531) to China. China's imports of sweet biscuits increased 174% to $14.00 million from 2002 to 2005.

4.11. Preserved Food (HS Chapter 20)

Products of HS Chapter 20 include prepared vegetables, fruit, nuts or other plant parts. Alberta's exports in this category include prepared frozen potatoes and homogenized vegetables (baby food).

4.11.1. Prepared Frozen Potatoes (HS 2004)

The rapid and major increase in Alberta exportation of prepared frozen potatoes to China is one of Alberta's striking success stories in this market. China's imports in this category have remained relatively constant, averaging $41.70 million from 2001 to 2005. The consistent large increases in Alberta's exports, to the level of $10.46 million in 2005, gave an increase in market share from 0.11% in 2001 to 25.21% in 2005, as indicated in Table 2. The tariff applicable to Canadian exports of frozen prepared potatoes to China is 13.0%. The largest competitor in this category is the U.S. with an average 80.17% market share during the period considered.

4.11.2. Homogenized Vegetables prepared or preserved on the vine (HS 200510)

China's imports in this category (representing baby food) doubled to reach $1.99 million in 2005. The largest import competitor is the U.S., with an average market share of 25.89%. In 2005, Alberta's exports to China of homogenized vegetables were valued at $0.11 million.

4.12. Miscellaneous Food (HS Chapter 21)

Products of HS Chapter 21 include tea/mate extract, mustard flour, sauces and seasonings, protein concentrates, syrups. China's imports of these products increased by 103% from 2001, to reach a level of $261.06 million in 2005. Alberta's aggregate exports to China of these products grew from 2002, reaching $1.45 million in 2005, a relatively insignificant market share. Most of Alberta's exports to China in this category are classified as 'not elsewhere specified,' even at the eight and ten digit classification levels.

4.13. Food Waste, Animal Feed (HS Chapter 22)

Products of HS Chapter 22 include flour, meal, pellets, offal for animal feed, dog or cat food, and other animal feed preparations. The largest exporter in this category is the U.S. Smaller shares are held by Argentina and Australia (Table 15).

China's overall imports in this category of products have been constant at about $132.44 million, but the product shares within the category have changed. Imports of

flour, meal and pellets used in animal feed declined by 47% from 2001, to a level of $14.25 million in 2005, while imports of retail dog or cat food increased by 134% to $4.37 million. As indicated in Table 15, from 2001 to 2003, Alberta's exports in this category averaged $ 0.53 million; however, no exports were reported in 2004 or 2005. Alberta's exports to China for these products have fallen and are currently not significant.

Table 15: China's Imports of Food Waste and Animal Feed, Import Values and Market Shares by Source. Values in current US$ millions.

Food Waste & Animal Feed	2001	2002	2003	2004	2005	Average Market Share
U.S.	109.85	120.65	123.62	110.53	96.98	14.14%
Argentina	5.16	5.41	6.48	24.01	22.04	1.34%
Australia	6.82	4.69	6.88	10.21	15.72	1.00%
Germany	7.39	6.75	4.28	1.68	1.46	0.59%
Canada	5.59	5.53	7.65	1.46	4.37	0.33%
Alberta	**0.39**	**0.99**	**0.23**	**0**	**0**	**0.04%**

4.14. Hides and Skins (HS Chapter 41)

Products of Chapter 41 include hides and skins of bovine, equine, swine and other animals. Major competitors to Alberta are the U.S., Australia, Brazil and the rest of Canada (see Table 16).

Table 16: China's Imports of Hides and Skins, Import Values and Average Shares by Source. Values in current US$ millions.

Hides & Skins	2001	2002	2003	2004	2005	Average Market Share
U.S.	486.69	485.77	618.16	774.64	843.10	16.20%
Australia	191.59	186.72	250.12	365.07	339.54	6.68%
Brazil	76.73	107.74	178.22	303.73	377.24	4.98%
Canada	109.09	89.68	112.82	128.71	154.70	3.04%
Argentina	71.87	96.77	90.69	105.54	129.94	2.56%
New Zealand	48.75	47.13	82.71	88.58	79.91	1.75%
Germany	22.87	22.96	18.06	40.85	33.80	0.70%
Alberta	*27.49*	*17.19*	*14.81*	*19.20*	*54.07*	*0.67%*

China's imports of raw hides increased by 93% from 2001 to 2005, reaching $1,138.28 million in 2005, with the majority of the increase applying to whole hides and skins of bovine/equine animals, 16kg or less, although imports of raw hides and skins of swine by China (HS 410330) also increased appreciably. However, the majority (77%) of Alberta's exports of hides and skins to China were categorized as "whole hides and skins of bovine animals – untanned, preserved and weighing more

than 16kg" (HS 410150). Although Alberta's total exports to China of hides and skins increased from 2001 (See Table 2), Alberta's share of this market fell. (It should be noted that code definitions changed in 2002, leading to some inconsistencies in the 2001 trade data for Alberta and China. In most cases this was resolved by using older codes and/or adjusting other categories. Where the data were still inconsistent, 2002 rather than 2001 data are used in making comparisons.)

5. Interviews with Selected Key Informants

In this section of the paper, brief reports are given of findings from interviews undertaken with representatives of selected firms that are or have been exporters of agricultural products to China. Publicly available information on the firms in question is also provided.

5.1 Olymel

5.1.1 Introduction

Olymel is Canada's largest slaughterer, butcher, processor and marketer of pork and poultry products. Owned by the Coopérative fédérée du Québec, and with headquarters in Saint-Hyacinthe QC, Olymel operates 16 breeding facilities and 18 slaughtering, processing and distribution facilities. At Olymel's recently upgraded pork facility in Red Deer, Alberta processes over four million pigs each year (Olymel, 2005). Approximately 30% of Olymel's sales are to foreign markets. Olymel's annual operating revenue is in excess of CDN$2 billion (Financial Post, 2007).

Olymel has been exporting pork products to China and Hong Kong for more than 25 years. Customarily, products to these markets have been low value offal products used for food and in traditional Chinese medicine. Offal products include internal organs of animals such as tongue, brain, and intestines. While Mr. Jeffrey Clarke, Olymel's Vice President of Export and Industrial Sales, predicts an increase in the market for higher value pork products in China, he is cautious of the effect of a number of non-tariff barriers that threaten an increase in market share of Alberta's pork in China. Additionally, other pork exporters to China, such as the U.S., benefit from large government supported marketing campaigns (personal communication).

5.1.2 Domestic Production Limitations

While China is the world's single largest producer of pork, low quality standards restrict the export of Chinese pork to most international markets. There are attempts to improve the standards of Chinese pork, but Mr. Clarke predicts the possibility of reaching international levels in the near future is low because of low current standards. Furthermore, many members of the new generation of Chinese farmers are not interested in remaining on farms. China's goal to have an 80% urban population by 2020 will reduce the numbers of pig farmers.

5.1.3 Changing Trends in Chinese Consumption

Urbanization in China is expected to increase the market for pork as many consumers begin to purchase pork products rather than continuing to raise pigs in their rural households. Increased food production facilities in China are also expected to increase the demand for higher quality pork products. In particular, a large number of Japanese food processors have moved into China producing value-added food products such as gyoza, a Japanese dumpling filled with pork. Such Chinese processed pork products will also have greater access to international markets, contributing to potential increased demand for quality meat from Canada to be used in such high end processed food products.

5.1.4 Non-Tariff Barriers

The biggest challenges cited by Mr. Clarke facing Canadian pork exporters involve non-tariff barriers, such as smuggling/pirating and overly strict phyto-sanitary standards. The pervasive underground economy that smuggles/pirates counterfeit consumer goods in China also affects meat products. Mr. Clarke indicated that pork disguised as Olymel product is being smuggled into/sold in China, apparently under Canadian import permits. This product is of lower quality than Olymel and is sold at cheaper prices. In response to this problem, the Chinese government introduced regulations to increase the required packaging labels on pork products. Additional labels must now be added to the items inside the box, with the product name (in both English and Chinese) displayed on the liner (personal communication). Mr. Clarke advises that these additional labelling requirements have not solved the property rights violations because the smugglers/pirates merely copy the interior labeling. Mr. Clarke considers this policy to be a non-tariff barrier because its major impact is the additional cost to exporters. Long waits and much bureaucracy in obtaining Canadian import permits are another non-tariff barrier noted by Mr. Clarke.

Mr. Clarke advised that some of China's phyto-sanitary specifications for pork imports are excessive. Canada has some of the highest health standards for pork in the world and the high standards imposed by China are believed to be unwarranted. Some examples of cited phyto-sanitary non-tariff barriers include:

- cotton gloves must not be used in direct contact with meat products
- a limit on nitrate levels in the finished cured meat of 30 parts per million
- a ban on any pork products containing Paylean®, also known as ractopamine (personal communication). (Paylean® is a feed ingredient that increases lean meat and reduces fat in live hogs and is approved in more than 23 countries [Alberta Pork, 2005]).

Sometimes Canadian shipments of pork products are rejected due to noncompliance with the restrictions noted above. When this occurs the consignee must either pay a disposal fee or arrange for the product to be shipped to another country. Both options are very costly to the exporter. However, it is understood that occasionally customs clearance can be 'negotiated' with Chinese officials.

5.1.5 Marketing Resources

An additional barrier cited as threatening an increase in market share of Alberta pork in China is the aggressive marketing campaign of competitors, particularly the U.S. The U.S. Meat Export Federation (MEF) is very aggressive in promoting American pork in China. On the other hand, while its work is appreciated, Canadian Pork International (CPI) has only a fraction of the resources of its U.S. counterpart. Mr. Clarke concludes that to increase Canada's (and Alberta's) market share of pork products in China, more resources for marketing Canadian pork are necessary.

5.1.6 Conclusion

In conclusion, there are opportunities to increase Alberta exports of pork to China due to increasing incomes. The increased urbanization of China not only threatens domestic production, but also increases demand for pork products. The increase in food processing capacity in China is also expected to increase the demand

for pork. However, non-tariff barriers such as the cited property rights violations and overly strict phyto-sanitary regulations threaten Alberta's exports to China. In addition, Canadian pork exports do not enjoy the same level of government marketing support as those from the U.S. which limits Canada's ability to penetrate the Chinese market on a large scale.

5.2 Rahr Malting

Rahr Malting Canada (formerly Westcan Malting) is a family owned company with headquarters in Shakopee, Minnesota. The company produces and distributes malt and industry brewing supplies. Rahr Malting has malt production plants in Shakopee, Minnesota and Alix, Alberta as well as a raw material distribution centre in Taft, North Dakota (Rahr Malting Co. website). The plant located in Alberta was constructed in 1993 and has an annual capacity of 9 million bushels (140,000 metric tonnes) (Rahr Malting Co. website).

Mr. Bob Sutton, Director of Trade Operations and Logistics at Rahr Malting Canada, indicates that the company does not currently export malt to China (personal communication). They did so a few years ago when they had a contract to sell malt to Anheuser-Busch, which has a brewery in Wuhan, China. However, the high tariff barrier on malt, relative to lower tariffs on barley imports, prevents Rahr Malting Canada from increasing their malt exports to China. Currently Rahr Malting Canada's largest export markets are Japan, Korea, Chile, Thailand, Vietnam, U.S., and Mexico. Mr. Sutton indicates that equalization of barley and malt tariffs would significantly improve his organization's ability to compete in the Chinese market.

5.3 Cargill

Lachlan Coburn is the West Coast Manager of Cargill's Commodity Marketing Division in Vancouver, B.C. He is responsible for Cargill's export program of Canadian grains, oilseeds and non-grain feed ingredients from the west coast to overseas destinations. Mr. Coburn is President of the Vancouver Grain Exporters Association and a past chairman of the Canola Council of Canada. Mr. Coburn advises that the greatest barrier for Alberta's canola exports to China is the relatively high tariff on canola seed. Mr. Coburn indicates that China's tariff rate on canola seed for crushing of 9% is discriminatory against directly competing products such as soybeans which face a 3% tariff. Mr. Coburn estimates that if China equalized the tariff rates for soy and canola, Alberta's farmers could easily increase their exports of canola seed by one million tones, or approximately CDN$400 million dollars (personal communication).

5.4 Peak Swine Genetics Inc.

5.1.3 Introduction

With its head office in Leduc, Alberta, Peak Swine Genetics Inc. is a supplier of purebred and cross breeding swine animals and boar semen. An amalgamation of the resources of five successful purebred swine breeders, Peak Swine was incorporated in 1995 (Peak Swine, 2007). All of Peak Swine's export sales are handled by its export arm, Polar Genetics Inc. Polar Genetics, based in Edmonton, Alberta, markets high quality Canadian swine breeding stock and semen to countries such as the U.S., Mexico, Guatemala, Honduras, Ecuador, Chile, Hong Kong, Taiwan,

Malaysia and China. Polar Genetics' last shipment of live pigs to China, which were sourced from Manitoba, occurred in 2006 (personal interview.)

5.1.3 Freight Costs

Mr. Alfred Wahl is the General Manager of Peak Swine Genetics. He says the largest barrier to expanding exports to China is the cost. Live pigs are shipped via air freight to China and the freight costs are double the cost of the pig. Additionally, the minimum order is one container, containing 55 pigs. Therefore, successful export sales transactions require a substantial financial commitment from the buyer.

5.1.3 Canadian Quality and Health Standards

Mr. Wahl advises that the strong pedigrees of Canadian swine help differentiate Canadian pigs in the international marketplace. Both the Canadian Centre for Swine Improvement's Swine Improvement Program and the Canadian Food Inspection Agency's health standards are highly regarded by overseas buyers.

5.1.3 Chinese Market

Mr. Wahl noted that services provided by Alberta Economic Development, Alberta's office in China, and Alberta's local trade directors have been very valuable resources for his organization, particularly because such government relationships help Peak Swine obtain credibility recognition in countries with strong central governments, such as China. To be matched with buyers, Peak Swine uses a reliable Chinese agent who also acts in Peak Swine's interest locally.

In Mr. Wahl's experience, China has some of the strictest regulations surrounding the exports of live swine. Exports to China must be quarantined both before and after shipment. This gives new farms or producers with new barns an advantage in the Chinese market.

5.1.3 Competition

Mr. Wahl indicates that that Alberta's biggest competitor in export sales of swine to China is the rest of Canada. However, the U.S., the United Kingdom, Denmark and France also have active export programs.

5.1.3 Market Growth

Mr. Wahl sees potential to expand sales to China because its government wants China to modernize pig production which requires modernizing the health aspects of their live swine and eliminating foot and mouth disease. Importing live swine from countries with high health standards will help China achieve this, facilitating its own exportation of pork, particularly to South East Asian countries that are currently buying pork products from North America and Europe.

5.5 Maple Leaf Potatoes

With a 2005 market share of approximately 25% of imports, Alberta's exports of frozen french fries to China is one of its biggest success stories. There are three potato processing plants in Alberta that export to China: Lamb Weston, McCain Foods (Canada), and Maple Leaf Potatoes Inc. Lamb Weston is a division of Con Agra Foods of Omaha, Nebraska and has a potato processing plant in Taber, Alberta. Another potato processing plant is located in Coaldale, Alberta. This is owned by McCain Foods, a division of the global McCain Foods Ltd, based in Florenceville,

New Brunswick. Maple Leaf Potatoes is a division of Maple Leaf Foods of Toronto, Ontario which has annual operating revenue of over CDN$6.5 billion (Financial Post, 2007).

Maple Leaf Potatoes of Lethbridge, Alberta, processes french fries, hash browns, potato patties, potato puffs and other specialty potato products for both domestic and international markets. The firm exports products to the U.S., Mexico, Saudi Arabia, Venezuela, Costa Rica and Taiwan, Japan, the Philippines, Singapore and China. Mr. Mark Shmygol is Maple Leaf's local Export Director, located in Calgary, Alberta. Mr. Shmygol emphasizes that the ability to compete on costs is essential to increasing Alberta's market share in China. Like most other agriculture and food products, the price for frozen french fries is determined by the global price structure and it is very important that Alberta products be competitive. The transportation cost for frozen french fries from Alberta to China is approximately CDN$0.10 per pound, so a low cost supply, combined with efficient processing, is essential to be competitive in this market.

Maple Leaf Foods has an office in Hong Kong which provides Maple Leaf Potatoes with most of the necessary market information, food safety information and labelling requirements. However, Mr. Shmygol notes that there are sometimes struggles to acquire information about China's health restrictions and requirements for food imports.

Mr. Shmygol feels that Maple Leaf's trademark in China helps protect his organization's property rights. Furthermore, the use of 'Free Sales Certificates' helps obtain credibility in the Chinese market. A Certificate of Free Sale from the Government of Canada assures the foreign buyer that the products offered are of Canadian origin and comply with guidelines for its sale to the Canadian market.

Lastly while China has traditionally been a market for lower grade potato products, chain restaurants such as McDonalds are increasingly raising the bar for higher quality food products in the Chinese market. As multinational food service providers strive to achieve the same food quality standards in China as in the western world, this presents a great opportunity for Alberta food products (personal communication).

6. Considerations Relative to Hong Kong

Researchers have often found inconsistencies in compiled bilateral trade data for China and its trading partners (Huang & Broadbent, 1998). The role of Hong Kong as an entrepôt for the Chinese mainland has been noted as one of the major causes of such discrepancies. An entrepôt is defined as "an intermediary storage facility where goods are kept temporarily for distribution within a country or for re-export" (TradePort, 2007). Accordingly, it is important to consider trade data reported for Hong Kong when evaluating Chinese trade data. As reflected in Hong Kong's merchandise trade statistics, over 37% of Hong Kong's re-exports are destined for the Chinese mainland (Tdctrade, 2007). Relative to China, Hong Kong's volume of agricultural imports is small, since its population is only approaching seven million while China's latest population figure is approximately 1.314 billion (Countryreports.org, 2007).

As in the earlier-discussed Table 2 based on data for China, Table 17 lists annual export values, annual import market shares and 2006 tariff rates for several agricultural product categories for which Alberta's export market share of the Hong Kong market has either approached or exceeded 5% or has shown signs of significant growth from 2001 to 2005. From Table 17 it is observed that Alberta has accounted for an appreciable portion of Hong Kong's importation of partial bovine hides (butts, bends and bellies hides) and a somewhat higher value, but lower market share, of whole bovine hides and skins. An examination of Alberta's exports of these products shows little or no such exportation to Hong Kong by Alberta prior to 2002. The growth observed in Table 1 may be explained by the possible signing of a new long term agreement with a hide importer in Hong Kong or by these items being re-exported for use in the clothing industry, a rapidly growing area of China's export trade.

Despite a ban on the importation of Canadian beef for a period in 2003 (Foreign Affairs and International Trade Canada, 2004), Hong Kong continued to import beef from Alberta through much of the period considered in this report, with market shares for fresh bovine cuts averaging in excess of 8% in 2004 and 2005. Alberta's exports of wheat flour to Hong Kong are also appreciable, exceeding $2 million in 2004 and 2005. It should be noted that Alberta's exports of wheat flour to China are a small fraction of this (less than 10%).

Alberta's exports of horns/velvet antlers to Hong Kong do not appear to have enjoyed the same success as in China, as the Hong Kong market share reached 5% in 2001 only. A possible explanation for this could be that products based on these ingredients are manufactured in China and re-exported to Hong Kong. Alberta exported canola oil to Hong Kong in the period from 2002 to 2005, but these declined to very low levels. While Alberta's exports of frozen processed potatoes to China showed much success, exports to Hong Kong, while growing, involve small volumes and insignificant market shares.

Although Hong Kong reverted back to China in 1997, both regions are considered separate entities for export control purposes (U.S. Department of Commerce, 2007). Accordingly, Hong Kong and China have separate tariff

structures. A brief survey of Hong Kong's import regulations shows zero tariffs on most agricultural products (Kim, 2006). This may provide an incentive for importers to use Hong Kong as an entrepôt, especially for products that would normally be subject to high tariffs in China.

Table 17: Export Values, Annual Market Shares, and 2005 Tariff Rates for Alberta's Major Agricultural Products Exported to Hong Kong. Values in current US$ millions.

Product	HS code	Values of Exports Annual Import Market Shares (in brackets)					Tariff Rates
		2001	2002	2003	2004	2005	2005
Butts/Bends/Bellies Hides of Bovines	410190	0	0.68 (1.87%)	4.90 (10.66%)	17.86 (34.49%)	19.53 (45.41%)	Free
Bovine Cuts Boneless, Fresh or Chilled	020130	0.13 (0.30%)	0.20 (0.06%)	0.83 (0.72%)	3.23 (8.10%)	2.39 (8.32%)	Free
Wheat or Meslin Flour	110100	1.36 (2.38%)	1.34 (2.35%)	1.86 (3.34%)	2.97 (4.97%)	2.54 (4.03%)	Free
Horns/ Velvet Antlers	05079010 & 05079090	0.10 (5.16%)	0.06 (2.84%)	0.01 (2.91%)	0.17 (4.25%)	2.45 (3.52%)	Free
*Canola Oils	151419 151499	0	1.68 (12.30%)	1.04 (21.91%)	0.70 (6.23%)	0 (0.26%)	Free
Whole Bovine Hides & Skins (>16kg)	410150	0	6.82 (5.45%)	5.20 (3.61%)	6.04 (3.32%)	3.66 (2.56%)	Free
Frozen Prepared Potatoes	200410	0.13 (0.72%)	0.25 (1.08%)	0.23 (1.12%)	0.29 (1.44%)	0.46 (2.40%)	Free

***** *These include both refined and crude canola oil, as well as very small amounts of mustard, rapeseed, and colza oil.*

7. Considering Prospects for Alberta's Agricultural Exports to China and Ways These Might Be Improved

In this part of the report three major issues are initially identified as factors that are likely to impinge on China's domestic food production and imports for agricultural and food products. These are the rapid changes in consumption and diet accompanying increased income and urbanization in China; China's longstanding policy to achieve self-sufficiency in basic foods; and the long-standing and now intensified focus on high levels of investment in agricultural technology, including agricultural biotechnology.

7.1 Changing Patterns of Consumption and Related Issues of Policy in China

7.1.1. Increased Income and Urbanization.

Increased income and urbanization have long been associated with transition in diets in China. Initially this was associated with shifts from coarse grains to fine grains consumption (Dong et al. 1995). Subsequently there were changes involving consumption of higher quality fats and oils and, most recently, increased consumption of meat products and a wider diversity in foods purchased and consumed, including increased consumption of vegetables. The observed pattern of consumption in which there were shifts to higher quality grains as incomes began to rise seems likely to occur in the future for meat consumption. This suggests, for example, a move from the very extensive use of animal by-products as ingredients in dumplings and other prepared food products, to the replacement of these products by higher quality meat products. The sheer size of China's market for food and the strong preference for pork, which is the most popular meat in China, is of interest in this context. (Average per capita consumption of pork was 86 lbs in 2005, as reported by AAFC (2006a).)

Overall many Chinese consumers are changing their diets towards foods that represent higher quality, convenience and food safety. For the growing middle-class, urban component of the population, moves toward more western patterns of food consumption have been noted, although overall, food consumption at home is still dominant. For the highest income groups, income elasticity estimates of demand for basic foods have fallen to near-Western levels and segmentation of demand is being observed (Gale and Huang). Grain consumption per capita is falling and per capita consumption is increasing for meat, eggs and fish products (CARD).

Overall, as noted by AAFC (2006a), trends in consumption and the tendency for westernization of Chinese diets suggest potentials for processed food and beverage exports that are convenient, as well as for health foods and snacks, organic foods, and fish and seafood. In view of the prospects of continuing diet improvements by the large numbers of the Chinese population for whom income levels are still relatively low, meat and related byproducts should be added to this list. As indicated by the rapid increase in Alberta's exports of frozen processed potatoes, the potential for exports of processed convenience foods can be achieved by Alberta producers and exporters.

7.1.2. China's Food Policies

China has long pursued policies to reduce dependence on foreign imports of food. Commitment to economic reform, coupled with more open policies that led to China's accession to WTO membership, has reformed many aspects of policy for agriculture and food in China. Even so, a desire to foster a degree of self-sufficiency in basic foodstuffs is strongly grounded in China (Dong et al., 2000). Tariff and other policies have fostered the tendency for China's importation of low value commodities, while concomitantly exporting higher valued versions of these products. It is worth noting that for the last two decades, agricultural economists and others (including Lester Brown, who postulated that China would 'starve the world') have persistently and over-optimistically forecasted major increases by China in importation of cereals and other agricultural and food products.

The changes in China's economic policies, the extent of its economic growth, the sheer size of China's projected population (despite relatively low rates of natural increase) and the limitations of resource constraints as land and water are being diverted to housing and industrial uses, now more clearly indicate prospects of increased market access for exporters of agricultural and food products. Nonetheless, as noted in preceding discussions, there will be continuing emphasis in China to improve productive efficiency in agriculture and food, due to deep-rooted fears of high dependency on imports. For example, recent major increases in soybean importation are seen by high-level Chinese politicians to involve risks of dependency (see Bowden). Thus reports of China's latest 5-year plan indicates goals to boost grain production to 500 million tonnes per year by 2010, compared to 484 million currently, despite reductions in area cropped, through potential increases in yield. Increased production goals also apply for oilseeds, among other crops, including cotton and sugar (Agriweek). The major way by which these goals are being pursued is by emphasis on high levels of investment in agricultural technology, including agricultural biotechnology; China's investment in agricultural biotechnology (currently assessed as 20% of the world total) is planned to more than quadruple by 2010 (Bowden).

7.2 Current and Potential Winners

Based on the major influences underlying changing food consumption patterns in China and the evidence of current success by Alberta producers and exporters in expanding export sales and market shares in China, an initial list of current 'winners' can be identified. These were listed earlier in Table 4 and include canola seed and oil, frozen prepared potatoes, pork and related meat products, including bovine products and related byproducts, malt and barley. Natural health products like antler velvet have varied but appear to have considerable potential. Wheat and hides are traditional and important commodity products exports to China for Alberta/Canada which have faced variable and declining market shares; the reasons for this merit future more detailed assessment.

In considering areas that have potential for export growth it is necessary to note also another group of products for which Alberta/Canada has not as yet been successful in expanding exports, but where there may be potential for this to be achieved. These products are indicated in Table 18, which includes products for which China's import growth has been appreciable during the period assessed and

where there are at least some indications of potential Alberta capacity for exportation. These products, including potato starch, fescue seed, live swine for breeding, and bovine and other animal fats, certainly merit future consideration. A further import gap can be identified for bovine tongues, since China's imports of these have grown rapidly. However, this item and some other bovine products are currently adversely affected by reactions to incidents of BSE in Alberta/Canada.

Table 18: Products for Which China Has Increased Imports in Recent Years, for Consideration as Potential Alberta Exports. Values in current US$ millions.

Product	HS code	Value of Chinese Imports					Tariff Rates
		2001	2002	2003	2004	2005	2005
Potato Starch	110813	7.56	8.08	9.80	9.31	29.58	15%
Fescue Seed	120923	0	5.16	6.21	8.84	8.20	Free
Swine, live, breeding	010310	1.92	2.01	2.00	2.76	4.30	Free
Bovine Fats	150200	86.12	112.48	128.53	153.18	124.95	8%

7.3 Constraints to Market Penetration: Tariff and Nontariff Barriers

7.3.1 Tariffs

Various constraints to market penetration have been identified and briefly noted in the preceding assessments of this paper. These include both tariff and non-tariff barriers. Some tariff rates of concern are noted in Table 19. These require attention through multilateral and/or bilateral negotiations. A number of non-tariff barriers have also been noted in the summaries of discussions with informants.

Table 19: Products of Interest to Alberta with Relatively High Chinese Tariff Rates. Values in current US$ millions.

Product	HS code	Value of Exports					Tariff 2005
		2001	2002	2003	2004	2005	
Meslin & Durum Wheat	1001110 & 1001990	28.225	8.406	8.840	162.447	68.282	65.0%
Canola Oil	151411	0	.996	0	95.422	67.045	9.9%
Meat of Swine (fresh & frozen, bone in & boneless)	020312 020319 020322 020329	0.09	0.16	0.38	0.78	1.74	12-20.0%
Malt	110710	0.132	0.201	0.826	3.234	2.394	10.0%
Horns/Velvet Antlers	05079010 & 05079090	1.167	1.262	1.183	.385	.569	3-11.0%
Bovine, Sheep and Goat Fats	150200	0	4.161	0	0	0	8.0%
Potatoes, Prepared, Frozen	200410	.040	.329	.578	5.333	10.462	13.0%
Bovine Cuts Frozen (two categories)	020220 (bone in)	0.12	0	.0370	0	0	12.0%
	020230 (boneless)	0.10	0.50	0.22	0	0	12.0%
Bovine Offal (excluding tongues & livers)	020629	0.41	1.91	0.64	0.17	2.44	12.0%

7.3.2 Bilateral Trade Agreements

Associated issues regarding tariff and non-tariff barriers arise from the disturbing lack of progress in multilateral trade negotiations through the World Trade Organization. This situation and related strategic trade considerations have stimulated increasing interest by many nations in regional or bi-national trade agreements with China, raising concerns about potential trade diversion for third-party exporters, like Alberta/Canada. Our scan of the environment relating to China's involvement in bi-national trade agreements reveals much interest in many nations to pursue trade agreements with China. Currently cited trade agreements apply with ASEAN nations, Chile, Hong Kong, Macao, Pakistan and Thailand, counties which account for some 21% of China's total trade (Hufbauer). Negotiations directed at free trade arrangements with China are currently and actively being pursued with Australia, Brazil, and the Gulf Cooperation Council (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates), as well as Iceland, India, Mexico, New Zealand, Peru, Singapore, and South Africa, a group which accounts in total for a further 31% of trade with China (Hufbauer). Although many of the bilateral trade agreements which involve China have been described as being of "low quality" (Bergsten), disadvantages to Canada do apply from preferential access to trade agreement partners (for example a preferential tariff rate is applied by China for hide imports from India, Pakistan and ASEAN nations, but not to such imports from Canada).

7.3.3 Product Standards and Fraudulent Use of Labelling

Considerable attention is paid to Sanitary and Phyto-Sanitary (SPS) standards by major competitors and importers and the implications of SPS incidents can have very adverse consequences, as seen in the reactions by importing countries, including China and other importers of bovine products, to incidents of BSE in Canada and the U.S. Bovine tongues are a growing category of imports for China; Alberta/Canada exports of this product were lost subsequent to BSE incidents. Regaining access to lost markets and rebuilding reputation as suppliers of the highest quality products requires continuing effort for the affected bovine products.

Concern about some anomalies in the application of quality and SPS standards within China was expressed by key informants, citing problems in standards applications for pork and other food products. In China, such standards, which apply to imports, are often not based on scientifically specified tolerance levels but relate to any discernible content of a foreign body or potential contaminant, irrespective of whether this is effectively benign in terms of food safety. Encouragement of China's effective participation in the Codex Alimentarius system for food standards could assist with this issue.

Another issue of concern regarding standards relates to fraud involving product descriptions/claims and labels in which there are instances whereby lower quality imports and/or domestic substitutes are erroneously claimed as imported high quality product by use of fraudulently labelled product boxes and liners, as has been observed by a knowledgeable key informant relative to meat in China. Exporters' efforts to develop and maintain close associations within the supply value chains for their products are necessary in the China market if quality maintenance and accurate identification of products and their origins are to be achieved and defended.

7.3.4 Export Promotion Assistance to Competitors

Key informants indicate that, while appreciating the contributions of government facilitators and the commodity trade associations, the sheer size of the resources applied to these activities by the United States in particular provides American exporters with a relative advantage. This may be difficult if not impossible for Alberta/Canada to overcome but does suggest that export promotion assistance may well be an issue that should be raised in multilateral trade negotiations. Industry informants may be helpful in future delineation of the scope of this issue.

7.3.5 Summary and Conclusions

Reflecting anticipations of China's expected role as the world's future largest market for food, this paper focuses on identification of opportunities and constraints to Alberta's expansion of agricultural-based exports to China. The analysis is based on: collection and assessment of data relating to China's importation of these products during the five year period from 2001 to 2005; analysis based on export values and market shares of Alberta and major competitors; a scan of selected relevant literature; and insights from interviews with a number of selected knowledgeable North American exporters.

Despite volatility in the values of individual products exported from Alberta to China, Alberta's total agriculture exports to China reached $291.71 million in 2005, representing an increase of 198.75% in the five year period from 2001. During this period, China's aggregate imports of these products increased by 49.81% to $4,196.95

million and Alberta's market share in the aggregate of agricultural and food products it exports to China grew from 3.49% to 6.95%. Thus Alberta's agricultural export performance can be broadly assessed to have improved during the five-year period under assessment.

Alberta's (average) market shares of China's imports approached or exceeded 5% for cereals in aggregate (6.7% market share on average for 2001 to 2005) and all hides and skins (4.0% during the study period). Despite the traditional dominance of these traditional commodities in Alberta's exports to China, Alberta's market shares of these are variable and have not tended to increase. However, export values and market shares for several semi-processed agricultural products (malt; canola oil) and processed food exports to China (frozen prepared potatoes) are growing very appreciably, although from small bases, and had achieved appreciable market shares by 2005. Successful market access, growth in market share, and potential for increased exports also apply for pork, some bovine products and some related animal byproducts. Natural health products like antler velvet have varied but appear to have considerable potential.

A number of potential 'import gaps' are identified. These are products for which China's imports have grown significantly, but appreciable Alberta exports have not been achieved, although these appear to be feasible. Identified import gaps include bovine tongues, which, together with other bovine products, are currently adversely affected by incidents of BSE in Alberta/Canada. Other products for which there are potential 'import gaps' which should be accessible to Alberta exporters are potato starch, fescue seed, live swine for breeding, and bovine and other animal fats.

Upon China's accession to membership in the World Trade Organization there were very considerable changes in the levels and structure of tariffs for many agricultural imports. Tariff levels were considerably reduced and the tendency for staggered (i.e. increased) levels of tariffs along value chains, which had appreciably increased the effective rate of protection of the domestic food processing industries within China, disadvantaging exportation of processed food products to China, was considerably reduced. Nonetheless there are several concerns about China's tariffs for agricultural products of interest to Alberta/Canada. China's 2006 tariffs are observed to be as high as 65% for an important category of commodity exports from Alberta (wheat); to be appreciably higher for the processed forms, rather than the commodity form, of another significant commodity export (malt with a tariff rate of 10%, relative to barley at 3%); and to be higher for an important export crop from Alberta than for a major substitute product from competitors (canola imported for processing at 9% compared to soybeans, China's most significant oilseed imported for processing with a tariff rate of 3%). Relative to U.S. exportation of soybeans, this is a significant disadvantage for Alberta canola exporters.

A potential disadvantage to Alberta's exporters arises from the slow pace and discouraging results to date of WTO trade negotiations for agricultural products. This has, moreover, encouraged a number of major competing exporting nations (including Australia, Brazil, Argentina and New Zealand) to seek trade alliances with China, raising concern regarding potential trade displacement for others, including Alberta/Canada. Other current disadvantages to Alberta's exports arise from the ways in which food standards are applied and a lack of protection of product identity that is associated with fraudulent claims of branded high quality product in

instances where lower quality imports or domestic product has been substituted for the Alberta/Canadian product. Encouragement of China's effective participation in the Codex Alimentarius system of food standards could assist with some issues of standards anomalies. Exporters' efforts to develop and maintain close associations in supply value chains are also necessary in China's import market if quality maintenance and accurate identification of products and their origins are to be achieved and defended.

While appreciating the contributions of government facilitators and the commodity trade associations to promote exports to China, some industry spokesmen indicate that the sheer size of the resources applied to these activities by the U.S. in particular provides American exporters with a relative advantage. This suggests that export promotion assistance may well be an issue that should be raised in multilateral trade negotiations. Industry informants should be helpful in future delineation of the scope of this issue.

Overall, trends in consumption and the tendency for westernization of Chinese diets suggest considerable potential for continuing growth in China's import market for convenience in processed food and beverage products, health foods and snacks, organic foods, fish and seafood and meats. As indicated by the rapid increase in Alberta's exports of frozen processed potatoes, this potential can be achieved by Alberta producers and exporters.

References

AAFC [Agriculture and Agri-Food Canada]. (2006a, December). Agri-Food Past, Present and Future Report: China. 17 pp.

AAFC [Agriculture and Agri-Food Canada]. (2006b, December 13). .Canada: Pulse and Special Crops Outlook. 4pp.

Agriweek. (2006, August 14). News Items: China's communist government has issued a new five year plan.

Alberta Agriculture & Food. Agricultural Processing Industry Directory. http://www.agric.gov.ab.ca/app68/foodindustry?section=category&cat1=Vegetables

Alberta Pork (2005). "Paylean® Approved for Use in Canada". *Industry Review*. 7, *Issue 7*. http://www.albertapork.com/Uploads/Objects/IR_July_2005/July2005_ForWeb.pdf

Bergsten, C. F. (2007). China and Economic Integration in East Asia: Implications for the United States. Petersen Institute Policy Briefs in International Economics, Number PB0 7 - 3M.

Bowden, R. (2007, March 15). China to Increase Spending on Agricultural Biotechnology. *AHN Media*.

CARD. Changing Diets in China's Cities: Empirical Fact or Urban Legend? *CARD working Paper 06-WP 437*. Available at www.card.iastate.deu/publications

Clarke, J.. (2007). Olymel Vice President of Export & Industrial Sales. Personal communication.

Coburn, L. (2007). West Coast Manager, Commodity Marketing Division, Cargill Ltd. Personal communication.

CountryReports.org (2007) China and Hong Kong. http://www.countryreports.org/country.aspx?countryid=51&countryName=China

Dong, X.Y., Veeman, T.S. and Veeman, M.M.. 1995. "China's Grain Imports: An Empirical Study," *Food Policy* 20(4) August: pp. 323-338.

Dong, X.Y., Veeman, M. M. and Veeman, T.S. (2000). The Chinese Enigma: Impacts of WTO Accession Upon Canadian and U.S. Exports and Imports. *Canadian Journal of Agricultural Economics* 48, 4 pp. 493-504.

EIU ViewsWire (2006, November 27). Hong Kong economy: Quick View - Chinese demand boosts exports. New York. http://proquest.umi.com/pqdweb?did=1174340081&Fmt=3&clientId=12301&RQT=309&VName=PQD

Foreign Affairs and International Trade Canada (2004). Opening Doors to the World: Canada's International Market Access Priorities 2004. Chapter Six – Opening Doors to Asia Pacific. Asia-Pacific Economic Cooperation Forum. http://www.dfait-maeci.gc.ca/tna-nac/cimap2004/7_04-en.asp?format=print

Financial Post Informart. (2007). FP Corporate Survey. Olymel SEC.

Janzen, Stephen. (2002, September). China WTO Accession and Alberta's Opportunities. *Centre for International Business Studies, Joint Series on Competitiveness No. 25.* 14 pp.

Gale, F. and Huang. K. (2007, January). Demand for Food Quantity and Quality in China. *USDA, ERS Report No. 32*. 34pp.

Huang, C.-D., and Broadbent, S. (1998). Trade with China: do the figures add up?. *International Review of Applied Economics, Vol. 12, No. 1,*.

Hufbauer, G. 2007(March 29). "Notes for Address at University of Alberta. 2 pp.

Invest Quebec. (2007). Company Information. Olymel: http://www.investquebec.com/en/index.aspx?page=1869

Kim, H.-B. (2006, October). Tariff Priorities for Alberta. *Western Centre for Economic Research Bulletin #94*. 44pp.

MacMap Online tariff data base.

Olymel/High Tek/Big Sky news release (2005, November 14). 1,100 Jobs Created with Winnipeg $200 million OlyWest Pork Processing Plant Investment. Big Sky Farms. Inc. http://www.bigsky.sk.ca/Consolidated.pdf .

Peak Swine website. http://www.peakswine.com

Polar Genetics website: http://www.polargenetics.com

Rahr Malting Co. website. (2007). http://www.rahr.com/index.geni?mode=content&id=171

Shmygol, M. (2007). Maple Leaf Potatoes Director of Exports. Personal Communication.

Sutton, R. (2007). Director of Trade Operations and Logistics at Rahr Malting Canada. Personal communication.

TradePort (2007). International Trade Dictionary, Glossary and Terms directory. http://www.tradeport.org/library/e.html

Tdctrade.Com. (2007). Economic and Trade Information on Hong Kong. http://www.tdctrade.com/main/200010s5.htm

U.N. [United Nations] "Comtrade Database". http://comtrade.un.org/db "Imports to China from World."

U.S. Department of Commerce. (2007). Bureau of Industry and Security. Licensing. FAQ's. Hong Kong. http://www.bis.doc.gov/Licensing/HKongFAQs.htm

Wahl, A. (2007). Peak Swine General Manager. Personal Communication

Wang, R. (2005). China – Pork Powerhouse of the World. Paper presented at Banff Pork Conference 2005.

WorldTariffSM - © 2007 Online Database

World Trade Atlas.Trade Information System. (2006) Exports. Total to China via Alberta. Global Trade Information Services Inc. Canada Edition in cooperation with Statistics Canada.

Appendix

Appendix Table 1: Total Chinese Agricultural and Food Imports. Values in current US$ millions.

HS Chapter	Product Category	2001	2002	2003	2004	2005
10	Cereals	607.39	481.76	444.36	2217.95	1393.78
44	Animal Hides & Skins	3168.5	3260.9	3765.9	4600.53	4826.64
20	Preserved food	85.19	109.69	134.48	141.98	156.72
15	Fats and oils	775.75	1580.23	2924.93	4208.54	3310.80
05	Other Animal Products	172.83	191.64	215.63	251.25	221.49
10	Milling Products	80.70	95.24	135.64	188.70	185.64
07	Vegetables	209.711	194.194	241.768	404.843	523.581
01	Live Animals	34.38	53.41	117.25	219.91	109.94
02	Meat	598.013	626.94	757.55	475.79	586.73
03	Fish and Seafood	1330.93	1564.55	1864.90	2339.94	2879.07
21	Miscellaneous Edible Preparations	181.59	179.59	659.18	946.48	1305.46
12	Miscellaneous grains and seed	3343.99	2777.08	5659.94	7371.41	8158.74
23	Food Waste & Animal Feed	638.87	771.59	659.18	946.48	1305.46

Source: Extracted from United Nations "Comtrade Database". http://comtrade.un.org/db "Imports to China from World."

Appendix Table 2: Total Canadian (and Alberta) Agricultural and Food Exports.
Values in current US$ millions.

HS Chapter	Product Category	2001	2002	2003	2004	2005
10	Cereals (e.g. wheat and barley)	3007.21 (835.66)	2342.18 (550.87)	2468.69 (592.59)	3235.50 (922.40)	2837.19 (819.12)
44	Animal Hides & Skins	223.949 (81.74)	227.195 (81.194)	222.046 (93.05)	261.64 (101.98)	330.81 (162.66)
20	Preserved food (e.g. frozen potatoes)	708.047 (108.23)	722.655 (113.76)	887.007 (112.22)	1027.91 (186.38)	1009.23 (179.31)
15	Fats and oils	453.34 (110.26)	452.67 (83.39)	643.73 (144.29)	1024.21 (266.76)	846.51 (257.37)
05	Other Animal Products	128.20 (27.40)	123.68 (30.46)	114.52 (21.72)	117.23 (21.53)	153.31 (31.36)
11	Milling Products	335.93 (110.63)	366.73 (107.80)	373.19 (107.63)	410.73 (113.31)	417.51 (111.34)
07	Vegetables	1186.23 (99.45)	1095.49 (60.78)	1271.18 (59.60)	1477.92 (70.51)	1717.01 (64.86)
01	Live Animals	1544.63 (557.41)	1590.08 (471.08)	910.90 (185.41)	662.26 (73.23)	1279.18 (313.45)
02	Meat	2874.01 (1229.22)	2790.89 (1211.38	2691.33 (995.39)	3545.68 (1507.92)	3927.69 (1618.15)
03	Fish and Seafood	2414.18 (0.21)	2727.20 (0.38)	2907.83 (0.51)	3024.49 (1.16)	3113.09 (3.41)
21	Miscellaneous Edible Preparations	631.338 (7.71)	685.52 (8.93)	747.89 (14.43)	982.95 (13.65)	1136.14 (16.54)
12	Miscellaneous grains and seed	1438.59 (400.57)	1257.55 (359.49)	1718.07 (330.98)	1948.93 (484.56)	2010.32 (558.33)
23	Food Waste & Animal Feed	510.70 (90.67)	524.02 (78.61)	551.62 (116.19)	630.59 (142.18)	569.46 (123.18)

Source: Extracted from World Trade Atlas. Trade Information System. 2006 Global Trade Information Services Inc. Canada Edition in cooperation with Statistics Canada.