Agriculture and Agri-Food Canada | Agriculture et Agroalimentaire Canada

Canada

AGRI-FOOD TRADE SERVICE
SERVICE D'EXPORTATION AGROALIMENTAIRE

CEREALS SECTOR PROFILE

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1. INTRODUCTION

For the purpose of this profile the Canadian cereal grain[(1)] sector has been divided into five components/sections:

- Production: covering production areas and trends
- Marketing Systems and Organizations: covering marketing boards, the private cereal grain trade, and industry organizations
- Domestic Markets: covering the primary domestic uses of cereal grains
- Export Markets: covering the primary export markets
- Storage, Transportation and Handling: covering the elevator system, transportation system, grain grading and regulations

2. PRODUCTION

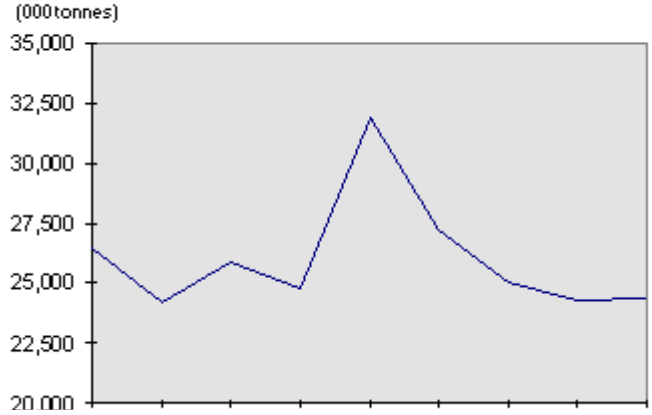
Cereal grain production in Canada is regionalised. The Prairie provinces of Alberta, Saskatchewan and Manitoba produce most of Canada's red spring wheat, durum wheat, barley, oats and rye. Corn is grown mainly in Ontario and Quebec and the majority of winter wheat is grown in Ontario.

From year to year, producers in Canada shift their crops between a wide range of cereal grains, oilseeds and special crops. Factors taken into account in making such decisions are agronomic needs (i.e. rotation), relative market prices, carry-in stocks and demand in both export and domestic markets. In 1997 and 1998, lower seeded acres occurred because of lower cereal grain prices while a decrease in yield resulted in a substantial decrease in 1997 cereal production. In 1998, the Canadian cereal grain production reached a level of 48.9 million tonnes (Mt) or about the same as in 1997. In 1997 there was a significant decrease of 16% from the 58.3 Mt produced in 1996. For provincial production statistics, please see Appendix A.

2.1 WHEAT

Wheat was first produced in Canada in 1605 in Nova Scotia and later introduced into Western Canada in 1812. Canadian wheat production has not varied much in the last 15 years, with the exception of a few years (see Figure 1). In 1998, wheat was Canada's largest crop with about 11.4 million hectares harvested and production of just over 24 Mt.

Figure 1
TREND - WHEAT PRODUCTION



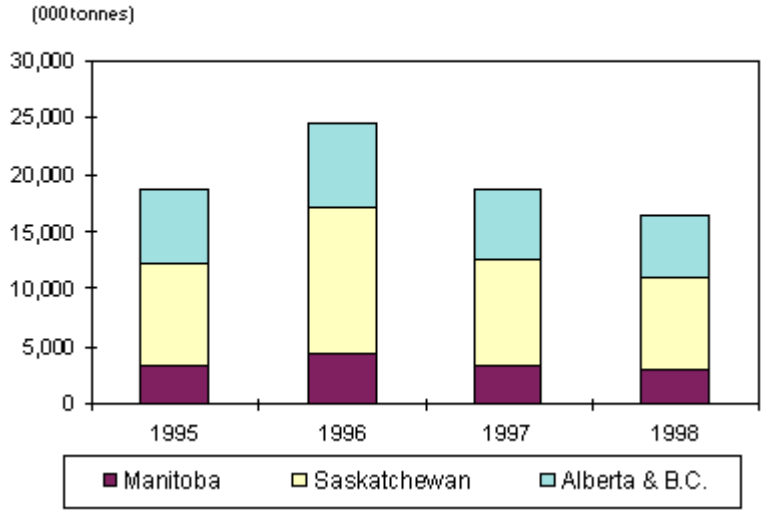
1983 1985 1987 1989 1991 1993 1995 1997 1998

Both spring wheat and winter wheat are grown in Canada. Spring planted wheat is grown throughout Canada, but the majority of production is in the Prairie region. Winter wheat (fall planted) is primarily grown in the warm southwestern region of Ontario and in certain areas throughout the remaining regions.

2.1.1 SPRING WHEAT

Spring wheat is the principal crop grown in the southern portion of the Prairies. In fact, 99% of Canada's hard red spring wheat supply comes from this area, as well as all of the country's durum wheat. In the more northern Prairie regions, where moisture levels are higher, other crops are in strong competition with wheat. Total spring wheat production in 1997 was about 18.6 Mt. (see Figure 2).

Figure 2
SPRING WHEAT PRODUCTION



Currently, there are six classes of spring wheat grown in Canada:

2.1.1.1 Hard Red Spring Wheat

Western Canada Hard Red Spring (HRS) wheat is marketed as Canada Western Red Spring (CWRS) wheat. CWRS wheat is the most common wheat grown on the Prairies, accounting for almost 70% of the area seeded to wheat. CWRS wheat is graded based on physical characteristics such as test weight, kernel soundness, the percentage of hard vitreous kernels, foreign material and the presence of other classes of wheat within the sample. This class of wheat is marketed into three separate milling grades. The top two grades are further segregated into three protein levels (14.5%, 13.5% and 12.5%) offering guaranteed minimum protein levels. The most common levels are 13.5% and 12.5%. The segregation for each crop year will vary depending on crop conditions and consumer demand. HRS wheat is now grown to a limited extent in Ontario.

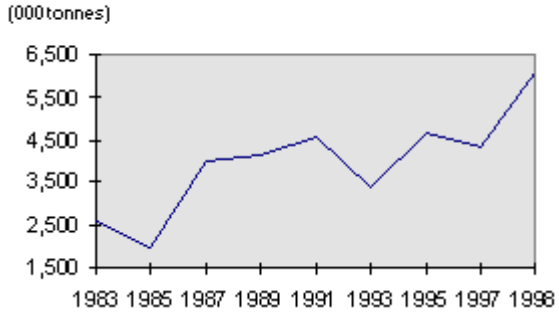
Usage/Main Products: All varieties of CWRS have excellent milling and baking properties. The flours are characterized by high water absorption (63% to 66%) and well balanced gluten strength. Because of its high gluten strength, it is used either alone or in blends with weaker or lower-protein wheat for the production of a diverse range of products such as hearth breads, noodles, flat breads and steamed breads.

2.1.1.2 Canada Western Amber Durum

Canadian plant breeders have worked for many years to develop superior varieties of Canadian Western Amber Durum (CWAD) that are well adapted to the warmer, drier climate of the southern Prairie region. Significant efforts in plant breeding have resulted in varieties that have specific applications for use in pasta

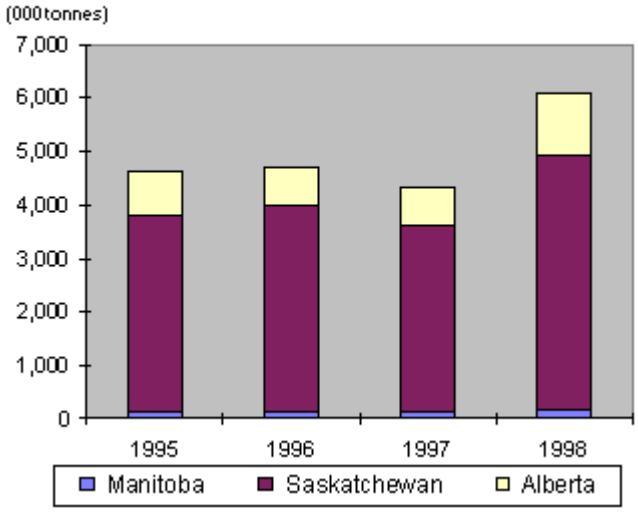
products, such as yellow pigment and strong gluten. CWAD wheat averages 13.5% protein. For about the last ten years, the production of durum wheat has remained steady at about 4 million tonnes (Figure 3). However, due to relatively better prices for this class of wheat, there was a significant increase in production.

Figure 3
TREND -DURUM PRODUCTION



In 1998, production of CWAD was 6.0 Mt, slightly a record production (see Figure 4). CWAD wheat production usually accounts for about 18% of total wheat production, but in 1998 it accounted for over 24%.

Figure 4
DURUM PRODUCTION



Usage/Main Products: The majority of durum is milled to produce semolina, which is used in the production of pasta products and couscous.

2.1.1.3 Canada Prairie Spring Red

Canada Prairie Spring Red (CPSR) wheat is a semi-hard wheat with medium-strong dough properties and protein content between 11.0% and 12.0% (basis 13.5% moisture).

Usage/Main Products: Commercial milling experience indicates that CPSR has very good milling quality and is particularly suitable for the production of French-type hearth breads. It can also be used alone or in blends to produce various types of flat breads, steamed breads, crackers and related products.

2.1.1.4 Canada Prairie Spring White

Canadian Prairie Spring White (CPSW) wheat is a relatively new class of Canadian wheat which was introduced in 1989. It evolved through breeding programs and many years of research, development and

commercial evaluation.

Usage/Main Products: Straight grade flours from CPSW have medium-strength dough properties and can be used alone or in blends for the production of many types of flat breads, noodles, and some household flours. High extraction flours produced from this white skinned wheat are well suited for various types of flat breads, noodles, crackers, chapattis and similar products. The pale colour of the bran coat is especially desirable in noodle manufacturing where red wheat bran specks are to be avoided.

2.1.1.5 Canada Western Extra Strong Red Spring Wheat

Canada Western Extra Strong (CWES) wheat is a premium quality red wheat used as a blending wheat where strong dough properties are required. CWES wheat has a somewhat harder kernel than wheat in the Canada Western Red Spring class.

Usage/Main Products: CWES wheat, in blends with other wheats, can be used to produce pan breads, hearth breads, buns and similar products. It has shown promising applications in whole wheat and specialty breads. Tests have shown that the use of white flour or whole wheat flour containing flour from CWES can allow a bakery to reduce, or even eliminate, the addition of vital wheat gluten in the manufacture of these breads.

Flour blends including CWES wheat flour have demonstrated improved product quality in tests on pilot-scale and commercial frozen bread-type dough. Addition of CWES flours has yielded two-to-threefold increases of shelf-life expectancy of dough, with excellent results when the product is thawed, raised and baked.

2.1.1.6 Canada Western Soft White Spring Wheat

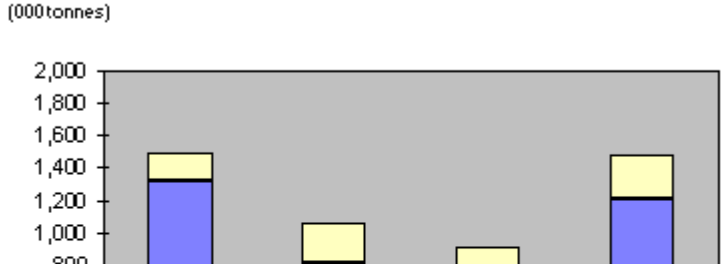
Canada Western Soft White Spring (CWSWS) wheat is grown under irrigation in the southern regions of the Prairies.

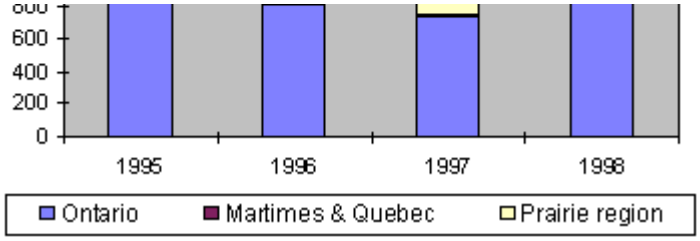
Usage/Main Products: Three milling grades of CWSWS wheat are available. The top two grades have very good milling quality compared to other soft wheat types and are segregated by protein. The protein content of flours milled from the top grades normally ranges from 9.0 % to 10.0 % (14.0 % moisture basis). The weaker gluten properties of these flours make them suitable for the production of cookies, pastries, biscuits and crackers. This wheat is also suitable either alone or in blends for the production of certain types of flat breads, noodles, steamed breads, chapattis, cookies, cakes and pastry.

2.1.2 WINTER WHEAT

White winter wheat thrives in the milder climate of southwestern Ontario, where it was introduced in the 1780's by the United Empire Loyalists from upstate New York. The soft white winter wheats grown in Ontario are used for pastry and biscuit trade and export; in Alberta and Saskatchewan soft red winters are grown for the pastry trade and export. Hard, red, winter varieties, usually from Alberta, are used to make crackers.

Figure 5
WINTER WHEAT PRODUCTION





Total winter wheat production in 1998 was 1.5 million tonnes (see Figure 5). Ontario, the largest producer of winter wheat, produces about 85% of Canadian winter wheat. The highest winter wheat production on record was just under two Mt. in 1986. Currently, there are two classes of winter wheat grown in Canada.

2.1.2.1 Canada Western Red Winter Wheat

Canada Western Red Winter (CWRW) wheat is grown mainly in Alberta, although an increasing amount is now grown in Saskatchewan. About 600, 000 to one million tonnes are harvested annually in Alberta and Saskatchewan. CWRW wheat can be classified as a medium-protein, strong wheat with hard kernel characteristics. Hard Red Winter wheat produced in Ontario are currently blended with Canadian Western Red Spring and used in the production of bread, pizza dough, crackers and doughnuts.

Usage/Main Products: The strong gluten properties of CWRW wheat flour are ideally suited for the production of French-style hearth breads and certain types of noodles. It can also be used for the production of flat breads, steamed breads and related products.

2.1.2.2 Canada Eastern Red Winter

Canada's soft red winter wheat, classed as Canada Eastern Red (CER) has lower protein content. CER is grown mainly in the southern Ontario.

Usage/Main Products: Soft red winter wheat is milled into cake and pastry flour and subsequently is used in cookie and biscuit manufacturing. This type of wheat is used both domestically and exported to the United States.

2.1.2.3 Canada Eastern White Winter

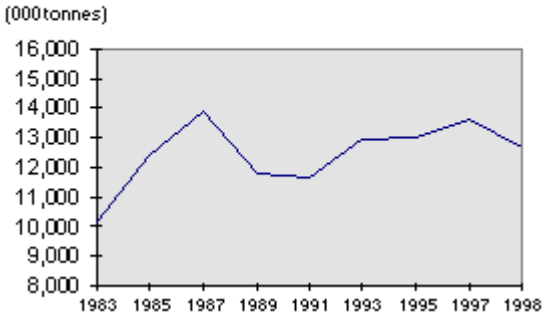
Canada's soft white winter wheat, classed as Canada Eastern White Winter (CEWW) wheat for marketing purposes, is grown in southern Ontario. CEWW is a soft wheat of low protein content with good milling characteristics. This wheat is sold in the domestic and export markets.

Usage/Main Products: Domestically and in the United States, soft white winter wheat is milled into cake and pastry flour, which is used in the production of cakes, cookies, crackers and cereals. Canada Eastern Red is largely substitutable with CEWW, except that the breakfast cereal trade in North America prefers the bran from soft white winter wheat in the manufacturing breakfast cereals. Soft white winter wheat that is exported off-shore is used in certain types of unleavened breads in Africa and the mid-east countries.

2.2 BARLEY

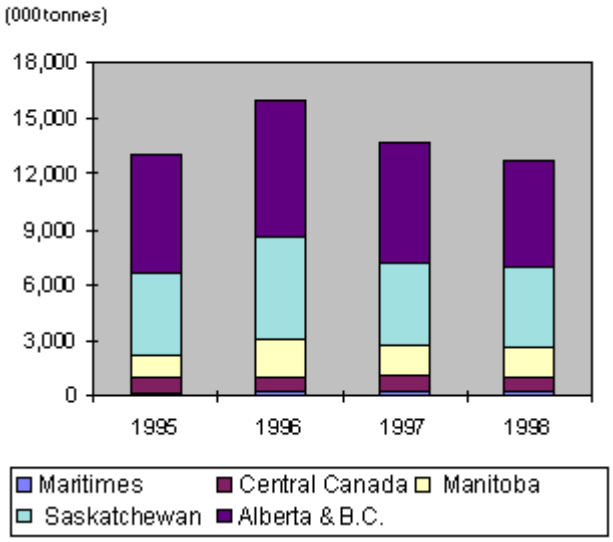
Barley was introduced into Canada in 1605 to meet the needs of brewers. Barley is high-yielding, matures earlier and is a good rotation crop for wheat. Barley production in Canada tends to be quite stable (see Figure 6).

Figure 6
TREND - BARLEY PRODUCTION



In 1998, barley production in Canada was 12.7 Mt just under the13.9 Mt produced in the previous year. Barley accounts for about 28% of grains (see Figure 7). In Canada, barley is well-suited to the growing conditions in the Prairies where about 90% of Canadian barley is grown.

Figure 7
BARLEY PRODUCTION



2.2.2 MALTING BARLEY

In 1910, the Canada Malting Company was incorporated to encourage the production of malting barley. Inherent quality bred into our six-row and two-row malting barley varieties, a favourable, clean environment and climate allows our industry to deliver high quality malt and malting barley to customers.

Malting barley varieties are specifically bred to produce certain malting characteristics, to give maximum malt extract or to give desired beer characteristics. The number of registered varieties in Canada has increased in recent years as breeders have developed varieties with increased disease resistance and better field performance for the various regions of the Canadian prairies, while preserving malting quality.

There is a great incentive for producers to meet the malting barley grade specifications because malting barley commands a large premium over feed barley . In Canada almost 70% of barley production consists of malting barley varieties. Maltsters can be very selective in the samples they accept for malting purposes, mainly because the demand for malting barley in relation to production is quite low. In fact only about 15 % of the total Canadian barley harvest is selected for use in the malting process.

Canada's 1998 production of malting barley varieties amounted to an estimated 10.0 Mt of which approximately two-thirds consisted of two-row varieties and one-third of six-row varieties.

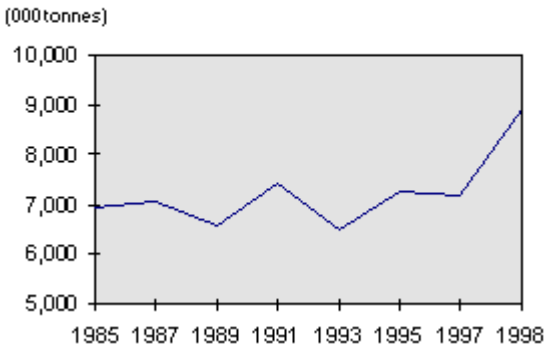
In 1997, the Canadian Grain Commission (CGC), responding to requests from marketers and end-users, reduced the maximum moisture level for straight grades of select barley from 14% to 13.5%. Storing and shipping barley at a moisture level of 13.5% increases the chances of the barley retaining germination vigour. This measure brings Canada's moisture standard for malting barley in line with world market requirements, where the 13.5% moisture standard is common.

The malting and brewing industries work together, through the Brewing and Malting Barley Research Institute (BMBRI) which is currently being reorganized, in identifying and encouraging the development of new malting varieties with better malting, brewing and agronomical characteristics. The development of Harrington, a two row malting barley variety, which came into commercial prominence in 1987, has been particularly instrumental in the success achieved by both the malting industry and the barley producers in meeting the shift in preference for two-row barley malt. The extremely high malt quality and brewing attributes associated with Harrington, enabled Canadian maltsters to gain an increasing market share of the export market. New Canadian varieties of two-row malting barley (Manley, A.C Oxbow, Stein , and B1215) have been recently introduced. These varieties show great promise and appear to have improved hull adherence and malting quality as well as enhanced agronomical characteristics.

2.3 CORN

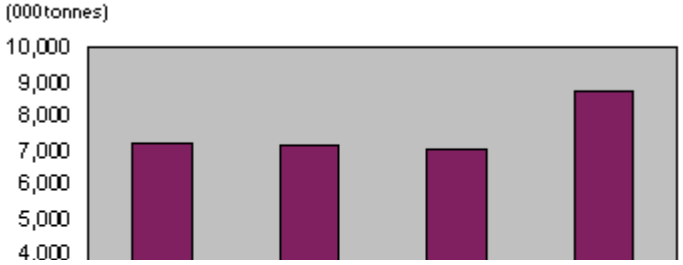
Corn was one of the main staples of the diet of the pre-Columbian inhabitants of the Americas. They prepared corn in a variety of forms, for example porridge, soup, unleavened bread and beer. Dent corn, also called field corn, dominates production in North America and most of the rest of the world. It is a high yielding corn variety with kernels that become indented at maturity. Yellow dent corn is the major crop used to make food, animal feed, and industrial products through wet and dry milling. The phenomenal increase in corn production since 1940 has resulted largely from the efforts of breeders but also from the work of soil chemists, plant pathologists, entomologists, agronomists, weed scientists and economists who have assembled strong corn production systems for each major corn-growing area of Canada.

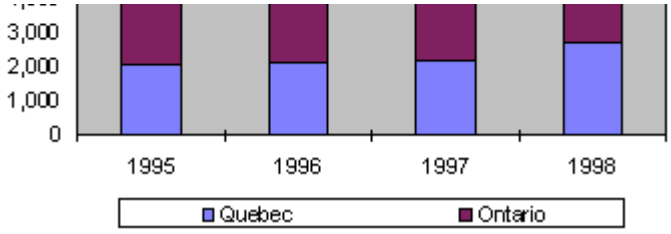
Figure 8
TREND - CORN PRODUCTION



Up until 1998, corn production in Canada in the previous 15 years has not varied substantially (see Figure 8). However, in 1998 corn production increased by 24% to 8.9 Mt. (see Figure 9). Corn is the third largest cereal grain crop (after wheat and barley) in Canada. About 96% of corn is grown in Ontario and Quebec.

Figure 9
CORN PRODUCTION

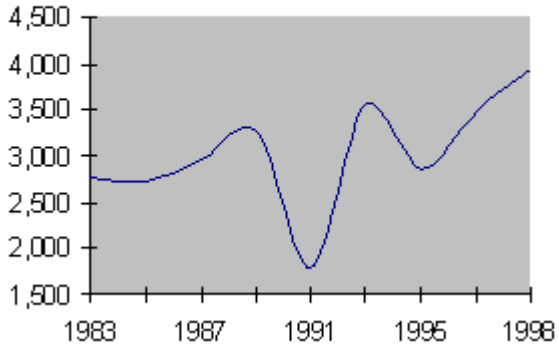




2.4 OATS

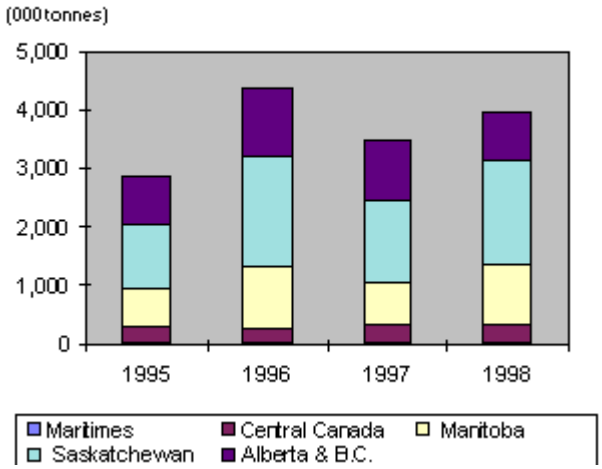
Settlers, in the 1600s, brought oats with them to North America as food for themselves and feed for their livestock. Just prior to the widespread adoption of tractor technology, production of oats was second only to wheat in economic importance and reached a record production of 9.9 Mt in 1942. However, oat production has decreased substantially since 1942 and has varied quite substantially in the last 15 years (see Figure 10).

Figure 10
TREND - OAT PRODUCTION



In 1998, oat production of about 4 Mt. accounted for about 7% of total grain production (see Figure 11). In1998, almost 2 million hectares were seeded to oats in Canada with a harvested area of about 1.2 million hectares, reflecting the considerable acreage of oats that continues to be planted for pasture, forage, or as a cover crop.

Figure 11
OAT PRODUCTION



There are many different colours (white, tan, yellow, red, gray and black) of oats that can be grown. However, in Canada the most common oat grown is white oats, mainly because it is in higher demand by the feed and food processors.

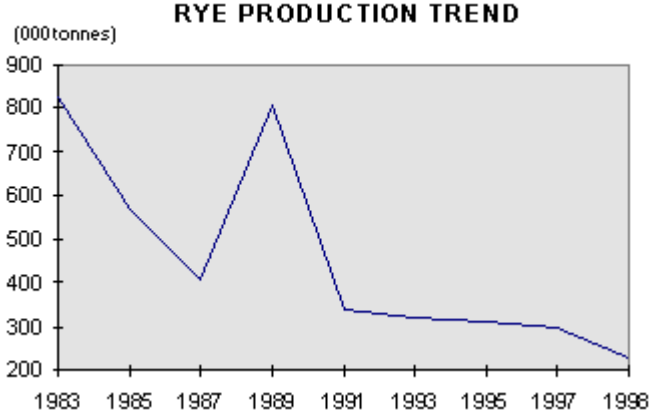
In hulless oats, unlike covered oats, the hull is weakly attached to the seed kernel and is easily removed during harvesting. Removing the hull decreases the crude fibre content and increases the concentration of nutritive components. Consequently, the energy value increases to that of corn and there is enough high quality protein so that the hulless oat can be fed to swine, poultry, sheep, racehorses and dairy cattle. Hulless oats are not widely grown in Canada, however there is a potential market in the cooler regions of Canada that do not have access to sufficient amounts of soybean meal and corn. Most of the agronomic constraints previously associated with hulless oats including seed hairiness, have been solved through breeding.

Oats are graded without reference to variety. For samples containing 95% or more of a hulless variety, hulless forms part of the grade name, and tolerances for dehulled and hulless kernels are disregarded.

2.5 RYE

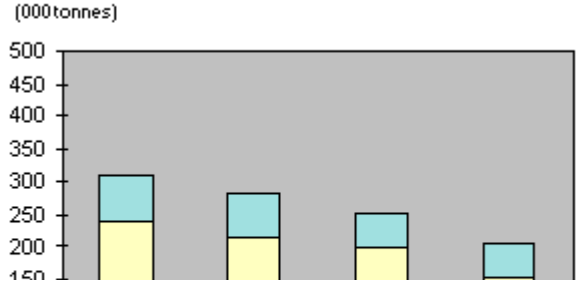
Because of the extreme hardiness of the rye plant and its ability to grow in sandy soils of low fertility, rye can be grown in areas that are generally not suitable for growing other cereal grains. Rye is a multiple use crop that is used as either a cereal grain, forage, or annual pasture for livestock. Rye, the cereal grain, is used primarily by the milling and distilling industries.

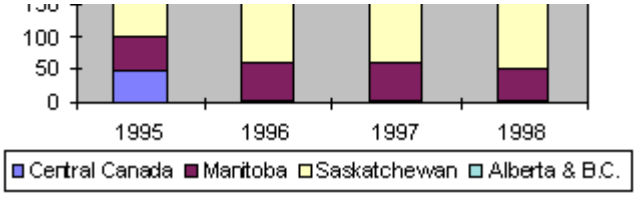
Figure 12
RYE PRODUCTION TREND



Rye production has decreased quite substantially since 1983, with the exception of an increase in production between 1987 and 1989 (see Figure 12). Both fall rye and spring rye are grown in Canada. In 1998, Canadian rye production was about 229,000 tonnes, or about 1% of total grain production (see Figure 13). Fall rye is grown mainly in Saskatchewan and to a lesser extent in Alberta and Manitoba. Fall rye, with its high level of cold tolerance, is the only winter cereal that can be produced in western Canada with a low risk of winter injury.

Figure 13
RYE PRODUCTION





2.6 ORGANIC GRAINS

The term "organic" typically refers to grain that has been grown with limitations on the use of synthetically-produced fertilizers, pesticides and growth hormones. The specific regulations defining organic are determined by each private or non-government organic certification body. Due to the numerous private certification agencies and the confidentiality restrictions in regards to their membership lists, exact figures on organic production are not readily available.

Organic grain production is concentrated in the Prairie provinces. The dominant organic grain grown is wheat but oats, durum and barley are also produced. Organic grains in Canada fill a small niche market and as such, organic grains do not typically flow through conventional marketing channels. As with conventional grains, the majority of Canadian organic grain production is exported, primarily to the USA and Europe.

2.7 OTHER GRAINS

Triticale is the first truly "man-made" cereal crop resulting from the hybridization of wheat and rye. Work on triticale was initiated in North America at the University of Manitoba during the early 1950s and at CIMMYT in Mexico during the 1960s. In the 1970s vast improvements in the fertility, seed development, and end-use potential has resulted in a significant input into winter and spring triticale development by both the private and public sector. Triticale uses in Canada are limited to animal feed and forage, and food processing, mainly in the form of flakes and flour used in baked products.

Millet, as a grain, is used primarily for bird seed in North America. In other areas it is also used as a forage crop for livestock and human food.

3.0 MARKETING SYSTEMS AND ORGANIZATIONS

3.1 MARKETING BOARDS

3.1.1 THE CANADIAN WHEAT BOARD

The Canadian Wheat Board (CWB) is a Crown agency created by the passage of the Canadian Wheat Board Act in 1935. The CWB is the sole marketing agency of wheat and barley grown in the Prairies and the Peace River Region of British Columbia destined for export or domestic food consumption. The CWB is not involved in the marketing of corn, oats or rye nor does the CWB have marketing jurisdiction in central and eastern Canada. The CWB is responsible for issuing export licences for wheat and barley exported from any region of Canada.

The major objectives of the CWB are:

- to maximize producers returns,
- to provide producers with guaranteed initial payments,
- to pool returns, distributing any surplus funds after payment of Board expenses so that all producers realize the same return for the same grade of grain, net of primary elevator and cleaning costs and transportation to the nearest designated base point,
- to equalize producer delivery opportunities by regulating the flow of grain from the farm to export position.

The CWB achieves its objectives by marketing wheat and barley on behalf of more than 110,000 western Canadian producers to domestic, US and offshore customers. The CWB monitors international and domestic market conditions and thus sends market signals to producers through initial pricing, pool return outlooks and other detailed market information.

The CWB directs movement of board grains through delivery quotas and contracts and allocates shipping orders for rail cars to companies handling CWB grains. The CWB can either deal directly with the buyer or with grain companies which act on its behalf. There are 24 accredited exporters (AEs) and two international exporters (IEs) which purchase grains from the Board for resale to customers. The customer decides whether to deal directly with the CWB or to use an AE . One of the key elements of the CWB marketing system is the partnership between western Canadian grain farmers and the federal government. The partnership with the federal government is related to three activities. First, the government guarantees the CWB's initial payments. If returns from sales are not sufficient to cover the initial payments, the federal government offsets the deficit. Secondly, the federal government guarantees the borrowings of the CWB to finance its business. This allows the CWB to borrow money at lower interest rates. Finally, the federal government guarantees payment on authorized credit grain sales thereby ensuring that farmers are not exposed to the risk of buyers' defaulting on payments.

Bill C-4, An Act to amend the Canadian Wheat Board Act, was passed by Parliament on June 11, 1998. This new legislation will provide western producers with a direct role in shaping the operations and direction of the CWB by electing 10 of the 15 members of the Board of Directors. The changes will also allow the CWB to offer farmers more options in terms of the pricing and the timing of payment for their grain, and to provide greater flexibility in the way it acquires grain.

3.1.2 THE ONTARIO WHEAT PRODUCERS' MARKETING BOARD

The Ontario Wheat Producers' Marketing Board (OWPMB) is a provincial marketing agency established under the Ontario Farm Products Marketing Act. OWPMB was established in 1958 and became a single desk marketing agency as a result of a producer vote in 1973. Currently, the OWPMB represents about 18,000 wheat producers. In Ontario, all wheat sold by producers must be sold through the OWPMB with the exception of wheat sold farm to farm for feed or seed use. Until 1997/98, all OWPMB wheat sales were pooled. An initial payment, guaranteed by the Government of Canada, is paid to farmers at time of delivery, and final payments are made after the grain is marketed and the pool is closed.

Starting in 1997/98, the OWPMB began offering forward contracting with cash sales as an option for producers. For the 1998 crop year, a system of cash feed wheat pricing has been proposed and for the 1999 crop year producers may have the opportunity to market their wheat off-board, to the United States only.

3.2 PRIVATE CEREAL GRAIN TRADE

The transactions involving grains not marketed by the CWB or the OWPMB are normally referred to as "open market" transactions and the most common scenario is for the farmer to sell his grain directly to an elevator company for a flat price, that is, a final price. The elevator company buys the grain at the primary elevator and then resells it, normally in a terminal elevator position. The farmer gets full payment for the grain when it is delivered to the primary elevator. The price is set by the elevator company. In establishing its price, the elevator company takes into account the relevant futures price, handling, cleaning, storage, financing, and transportation costs. The elevator company must compute the length of time it expects this

will take, including the time to obtain, load and ship the rail car to the export position, unloading and cleaning the grain before it is ready for reselling. This normally takes a minimum of six weeks and often as long as three months. For non-CWB grains, there is no government guaranteed floor price and each elevator company may offer a different final price based on their individual needs. For non-CWB grains, elevator companies have a variety of producer contracts but the direct sale is the most common scenario.

3.3 PRODUCER ORGANIZATIONS

The interests of the grain industry in Canada are represented by various national, regional and provincial organizations. Nationally, the Canadian grain industry is represented by the Canada Grains Council. Its 36 member organizations represent the thousands of individuals in every sector of the grains community: farmers, feed manufacturers, seed growers, shippers and exporters, researchers, grain companies, railways, agricultural organizations and the seed trade. The Council is a major link between government and non-government organizations in the grain industry and provides a forum for the grain community to meet to discuss problems and exchange information and ideas.

Regionally, cereal grain producers are represented by various associations, commissions and councils. The Western Canadian Wheat Growers Association (WCWGA) is Western Canada's largest voluntary farm organization with thousands of members from across the region. It represents the interests of its members to government and other agricultural sectors to advance the development of a profitable and sustainable agricultural industry. Its lobby efforts encompass all issues affecting the prosperity of grain and oilseed producers. The Western Barley Growers Association membership includes farmers, industry and end- users. It provides a leadership role in supporting the value-added industry in Canada and abroad. Grain producers in New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland are represented by the Atlantic Grains Council which provides a forum of exchange for ideas, information and research findings amongst producers, councils members, the public and the government. The Canadian Wheat Board (CWB) is the marketing agency for Western Canadian wheat and barley growers. For a complete discussion of the CWB, please see section 3.1.1.

Provincial associations, such as the Alberta Grain Commission, British Columbia Grain Producers Association, Saskatchewan Winter Cereal Growers Association, Alberta Soft Wheat Producers Commission, the Alberta Winter Wheat Producers Commission and Manitoba's Keystone Agricultural Producers promote the interests of cereal grain producers by acting as a liaison between producers, the government and other commodity organizations. These groups also provide leadership to producers and the industry through research and market development. The Alberta Barley Commission coordinates and sponsors research and market development on behalf of Alberta barley producers. The Ontario Corn Producers' Association (OCPA) represents Ontario commercial corn producers in matters that affect the uses, markets and profitability of corn production. The OCPA helps producers by monitoring grain marketing and transportation needs, providing market information and statistics and promoting Ontario corn domestically and internationally. The OCPA also supports and monitors research that encourages developments in handling, management and value-added processing and marketing. The Oat Producers Association of Alberta (OPAA), was established to develop and support partnerships in the agriculture industry that will enhance the profitability of oats for the producer and increase its value to the consumer. The organization supports research into the development of high quality, high yielding oat varieties, promotes the activities and accomplishments of the OPAA to local national and international producers, processors, and policy makers and provides detailed and comprehensive market information to producers and acts as a link between producers and industry players.

3.4 PROCESSOR ORGANIZATIONS

The Canadian National Millers Association (CNMA) is Canada's national body representing the public policy and business climate interests of the Canadian wheat flour milling industry. The CNMA's 14 member companies operate 23 milling operations across Canada, representing over 95 % of Canadian wheat flour milling capacity. CNMA members include large, multinational firms, publicly-traded Canadian corporations and small, independently-owned companies.

The Malting Industry Association of Canada is a not-for-profit coalition of Canadian malting companies. The association is involved in production, domestic marketing and export issues for barley malt as well as

research and development.

The American Oat Association, an affiliation of United States and Canadian millers, is a trade association with a Board of Directors representing many of the U.S. and Canadian oat milling firms. Associate members represent international companies and individuals involved in the growing, marketing, processing and transporting of oats. The purpose of the association is to provide a voice for the North American oat milling industry.

The Canadian Feed Industry Association promotes and develops the livestock, poultry, aquatic and specialty feed industry. It represents the interests of the member companies and the feed industry and cooperates with other related organizations with similar objectives for the benefit of the Canadian Agri-Food industry and the public. There are an estimated 520 commercial feed manufacturing establishments in Canada.

3.5 GOVERNMENT ORGANIZATIONS

Federal government assistance, usually coordinated through Agriculture and Agri-Food Canada (AAFC), supports the cereal grains sector's research and marketing efforts. Firstly, the research efforts made in the departments of the federal government are in addition to those made by universities, provincial governments and the private sector. Secondly, officials of the Department of Foreign Affairs and International Trade, Canadian Embassies abroad and other departments are engaged in market research, in monitoring market developments and in keeping abreast of potential opportunities for products. This information is disseminated to industry. Incoming missions are used to bring potential buyers to Canada while outgoing missions visit potential markets. Federal officials are involved in negotiating access and reducing tariff and non-tariff barriers in foreign markets. Examples of such activities are the federal role in continuing negotiations in implementing the World Trade Organization and monitoring the North American Free Trade Agreement as well as other regional agreements. Lastly, the federal government is involved in extensive data gathering and publishing of statistical information to assist the industry in their policy and marketing decisions.

3.5.1 GRAINS AND OILSEEDS DIVISION

The Grains and Oilseeds Division of Agriculture and Agri-Food Canada's Market and Industry Services Branch provides the Canadian grains industry with the intelligence, information and assistance needed to succeed in markets at home and abroad. The Division also acts in an advocacy role for industry within the federal government, as well as with foreign governments and international organizations.

3.5.2 RESEARCH BRANCH OF AGRICULTURE AND AGRI-FOOD CANADA

The Research Branch of AAFC carries out basic research in its own establishments. These facilities are involved in extensive plant breeding efforts to develop new cereal varieties which are more adaptable to Canadian growing conditions. In addition, the Research Branch collaborates with industry in conducting jointly funded projects. The Branch has facilities dedicated to the development of new and improved food products.

3.5.3 NATIONAL RESEARCH COUNCIL

At the national level, the National Research Council (NRC) of Canada is the principal science and technology agency of the Canadian federal government. With 16 research institutes located in eleven major centres across the country, NRC works to foster regional economic innovation in all industrial sectors, including agriculture.

One of NRC institutes, the Plant Biotechnology Institute (PBI), located in Saskatoon, is involved in biotechnology. PBI's biotechnology research benefits agricultural and industrial processing by diversifying crops and crop products, with increasing concern and care for the environment. In partnership with

industry, PBI produces new, exploitable biotechnology for Canada, to advance knowledge and broaden markets for tomorrow. Their mission is to perform, assist and promote strategic research in plant biotechnology, to improve and diversify Canadian industry, and to strengthen Canada's competitive position in the global economy.

3.5.4 CANADIAN GRAIN COMMISSION

The Grain Research Laboratory of the Canadian Grain Commission (CGC) monitors the quality of the grain, conducts basic and applied research and provides technical assistance to grain marketers. The Grain Research Laboratory is the major Canadian centre for applied and basic research grain quality. The laboratory also conducts studies on commercial processing of grains, using its pilot scale malting plant, flour mill and bakery, noodle processor and small-scale pasta press.

The CGC is responsible for establishing grain standards and setting minimum quality standards regarding varietal licensing. The CGC's careful regulation of the grain system has been a critical component to Canada's reputation for quality grain. The primary focus of the CGC is on the quality control of grain from the farm to the customer. The legislation and regulations ensure fair grades and dockage assessment, together with accurate weights for buyer and seller.

The CGC regulates elevators and grain dealers, requiring a bond against possible financial failure and also regulates grain inspection and movement including all sampling, grading, dockage assessment, weighing, storing and shipping. The CGC issues the "certificate final" for the buyer guaranteeing the grain's weight and grade. The Industry Services Division of the CGC maintains quality control of the grain as it moves through the system and supervises weighing of grain at licensed terminal and transfer elevators, audits stocks, and investigates overages or shortages. The Corporate Services Division provides documentation to terminal and transfer elevators, conducts economic studies and publishes statistics, and provides general and financial services including the library and public relations services.

3.5.5 GRAIN APPEAL TRIBUNAL

The Grain Appeal Tribunal examines and rules upon appeals of grades assigned by an inspector on the official inspection of a sample of grain. The Canada Grain Act also requires Eastern and Western Standards Committees to review and recommend new grades and grade changes as well as examine and recommend new primary and export standard samples.

3.5.6 CANADIAN FOOD INSPECTION AGENCY

The Canadian Food Inspection Agency (CFIA) monitors the health, safety and quality of Canada's agricultural, fish and food products, and oversees the arrival of plants, animals and food products from around the world. The goal at the CFIA is to help build a thriving and competitive agri-food and seafood industry.

3.5.7 HEALTH CANADA

Health Canada's mission is to help Canadians maintain and improve their health. The emphasis is on fostering healthy individuals, healthy families and a healthy society, with a focus on disease prevention and health promotion. One area of importance is to ensure that Canadians have access to healthy foods. The Pest Management Regulatory Agency, within the Health Canada, protects human health and the environment by minimizing risks associated with pesticides while enabling access to pest management tools, namely, pest control products and pest management strategies.

3.5.8 CANADIAN INTERNATIONAL DEVELOPMENT AGENCY

The Canadian International Development Agency (CIDA) is the lead player in delivering Canada's official

development assistance program. CIDA directly benefits the Canadian cereal grains sector by purchasing cereal grains for Canada's Food Aid program and indirectly by creating markets for Canadian cereal grains.

3.5.9 EXPORT DEVELOPMENT CORPORATION

The Export Development Corporation (EDC) is Canada's official export credit agency. The EDC helps Canadian exporters compete in world markets by providing a wide range of financial and risk management services, including export credit insurance and financing to foreign buyers of Canadian goods and services on a case-by-case basis. This Crown corporation operates on a cost recovery basis and helps Canadian exporters match the export credit programs offered by foreign competitors.

3.6 OTHER ORGANIZATIONS

3.6.1 CANADIAN INTERNATIONAL GRAINS INSTITUTE

The Canadian International Grains Institute (CIGI) is the market development initiative of the Canadian Wheat Board (CWB) and the Canadian Grain Commission (CGC). The CWB supplies 40% of the Institute's funds, while Agriculture and Agri-Food Canada pays the remainder. The Canadian Grain Commission contributes services and human resources in the form of technical instruction and consultation. CIGI was created in 1972 as a non-profit, educational facility.

With an average of 25 programs per year, CIGI has welcomed 13,000 participants representing the grain importing and processing industries of over 100 countries since 1972. Many are already familiar with Canada's reputation as a reliable source of high-quality grains. As program participants, they gain a deeper perspective of the system that makes it possible for Canadians to supply and service world markets. By tapping the resources of the industry it serves, CIGI provides relevant, current information about the many facets of Canadian agriculture, from the production of grains, through handling, shipping, processing and marketing.

CIGI's role is to help strengthen and enlarge markets for Canadian grains and their products by offering courses in grain production, handling, transportation, marketing and technology. Applying commercial rather than theoretical emphasis, CIGI's programs offer the most up-to-date information, instruction and technical assistance available to existing and potential customers. Program objectives reflect the marketing priorities of Canada's major export organizations, which also determine who is invited to participate. CIGI's educational mandate also extends to Canadians with agriculture-related careers. Courses designed to broaden their knowledge and perspective ultimately benefit the industry as a whole by making Canada a better trading partner.

CIGI also evaluates new processing technologies. Of particular interest are the pilot mill, bakery and noodle plant used to test the suitability of various grains for processing. The Institute's work is done in cooperation with the Grain Research Laboratory of the CGC and focuses on uses of Canadian grains in products consumed throughout the world. Its activities are directed by a Board of Directors which has representatives from the CGC, the CWB and Agriculture and Agri-Food Canada.

3.6.2 CANADIAN GRAIN AND OILSEED EXPORTERS ASSOCIATION

The Canadian Grain and Oilseed Exporters Association promotes the grain shipping and export trades in any or all matters of general concern.

Please note, the contact list for the industry organizations is located in Appendix D.

4.0 DOMESTIC MARKETS

Domestically, Canadian cereal grains are used mainly in livestock feed and processing. The primary processing of cereal grains involves the transformation of the cereal grain into an intermediate product. An example of primary processing is the flour milling industry which comprises firms that primarily mill wheat and other cereal grains into flour, mill feeds (used for animal feed) and other products (rolled, flaked or de-hulled). Some firms also blend flour into bakery mixes. The primary processing industry, normally has a close association with the further processors. For example, the milling industry is closely linked with the baking, biscuit and breakfast cereal manufacturing industries, which collectively use more than 50% of all milled cereal products consumed in Canada. This close association is also demonstrated between maltsters and brewers, and livestock feed manufacturers and livestock producers.

The primary processing industry in Canada has seen some noticeable changes in the last decade, mostly increased concentration of foreign ownership, especially U.S.. Also, there has been a gradual increase in the capacity of cereal grains processing on the prairies, in addition to the increased capacity located in the traditional processing areas of Ontario and Quebec. Historically, Canada has not been a major exporter of value-added cereal grain products. However, with the increased capacity of the primary processing industry, the trend seems to indicate that exports of value-added products will continue to increase.

Please note, the supply and disposition of cereal grains is provided in more detail in Appendix C. The contact list of Canadian cereal grain processors is located in Appendix B.

4.1 FEED

Feed wheat is mainly made up of wheat which falls short of meeting the strict quality specifications and characteristics required for human consumption. Canadian feed wheat usually supplies high levels of both energy and protein relative to other feed grains and is suitable for use in all animal rations. However, there may be a wide range in protein content depending on the growing conditions because the wetter the season the lower the protein content of the wheat. Wheat is the basic grain used in poultry rations and it is also used in starter rations for pig feeds and in combination with barley or other grains in grower, finisher and sow rations. In 1996/97, the flour milling industry produced about 600,000 tonnes of mill feeds.

In Western Canada, barley is the most widely used cereal grain for feeding swine, beef and dairy cattle. The feed market accounts for about 90% of total domestic use. Barley is a palatable, high-energy feed that has traditionally been the Canadian standard in beef-finishing rations. Swine fed barley rations tend to have leaner carcasses than swine fed corn rations. Since it retains its hull, some processing is required to increase nutrient digestibility. Barley should be ground for swine and poultry feeds and coarsely ground or rolled for cattle feeds.

Interest in hulless barley as a feed for poultry and swine has continued to increase. In hulless barley, unlike covered barley, the hull is weakly attached to the seed kernel and is easily removed during harvesting. Removing the hull decreases the crude fibre content and increases the concentration of nutritive components. Consequently, the protein increases from an average of 11.5% to 13.0%, which is similar to the protein level in wheat. The energy content of hulless barley is equal to or slightly higher than wheat or corn. At least 134,000 hectares of hulless barley were planted in 1997.

In the corn producing areas of Quebec and Ontario, corn is the most commonly used grain in poultry and pig rations. The high energy content of corn promotes fast growth in simple digestive systems of poultry and turkeys. The pigments which give corn its yellow colour also colours the skin of broilers, egg yolks and carcass fat. Corn should be ground before feeding to poultry and swine and flaked or rolled before feeding to cattle.

The feed market is the largest domestic market for oats, accounting for about 87% of total domestic use. Of all the cereal grains, oats have the highest fibre content and the lowest energy level. Oats have more protein than corn and therefore make an excellent starting feedlot rations and horse feeds. The hull, which protects the groat and keeps it clean, is often used as a high-fibre animal feed ingredient. When the hull is removed to produce an oat groat, the energy value increases to a level similar to that of corn.

Rye is consumed primarily by the Western Canadian feeding industry, accounting for about 50% of

domestic use.

4.2 PROCESSING

The flour milling industry is comprised of firms that primarily mill wheat and other cereal grains into flour, mill feeds (used for animal feed) and other products (rolled, flaked or de-hulled). Flour and mill feeds are produced primarily for the Canadian market. The milling industry is closely linked with the baking, biscuit and breakfast cereal manufacturing industries, which collectively use more than 50% of all milled cereal products consumed in Canada.

Wheat flour milling is the largest primary processing industry of Canadian grains in terms of volume. The total volume of wheat milled in 1996/97 was about 2.9 Mt. which produced about 2.1 Mt. of wheat flour. Of this total flour production, 1.6 Mt. was milled from Canada Red Spring wheats and 230,000 tonnes from soft wheats. Foreign ownership is especially noted in the wheat milling industry, where approximately 70% of the milling capacity is owned by two companies from the U.S..

In Canada, there are currently four plants which fractionate wheat using the dry milling process. The most common products are fuel ethanol and beverage alcohol but flour, gluten and a feed by-product can also be obtained.

There are five grades of CWAD but only the top four are suitable for milling. The better grades of CWAD wheats have higher levels of vitreous kernels that typically yield excellent quality semolina. Semolina is a relatively coarse, granular material which is the intermediate product of the traditional flour milling process. Semolina is the preferred product for high quality pasta and couscous production. The main advantage of using semolina over flour in the production of high-quality pasta is that less water is required to form a dough resulting in a simpler drying operation. Pasta products made from durum wheat have greater stability when cooked, thus less tendency to disintegrate when boiled than those made from common wheats. It also has the strong, elastic gluten necessary to ensure good cooking characteristics. In 1996/97, about 210, 000 tonnes of durum wheat was milled in Canada producing about 167,000 tonnes of durum semolina.

Malting is a controlled, natural process by which barley kernels are sprouted under precise conditions, then heated and cured to bring about the physical and chemical characteristics desirable for its further processing. Barley malt has several uses in food manufacturing and distilling; however, the primary use is in the brewing industry. The domestic brewing and distilling industry uses about 350, 000 tonnes of malting barley annually or about 14% of the supply.

Quality requirements for malting barley are quite strict and directly related to processing efficiency and product quality in the malting and brewing industries. Many of the characteristics required are under the control of the producer, others are determined by weather and growing conditions throughout the year. High quality malting barley will have the following characteristics:

- varietal purity,
- high percentage of germination and vigorous growth,
- plump kernels of uniform size,
- low to moderate protein content.

The annual malting capacity of the Canadian malting industry has roughly doubled over the last ten years from about 600, 000 tonnes of barley (yielding about 449, 400 tonnes of malt) to about 1.2 Mt of barley (yielding about 898,800 tonnes of malt) in 1997, making the Canadian barley malt industry the largest collective consumer of western malting barley. There are currently six malting facilities in Canada owned by four companies. The majority of the malting industry capacity in Canada is foreign owned.

Both industrial and food processing are important uses of Canadian corn and have shown strong growth in recent years. There are two methods used to process corn in Canada: dry milling and wet milling. In dry milling the separation of components is achieved by mechanical grinding and sizing, enzymatic starch conversion and chemical refinement. The dry milling process produces crude oil, germ cake, corn flour, brewer's grits, flaking grits, hominy feed, and corn meal depending on the size of screening and intensity of

grind. Dry milling is also used for the production of beverage alcohol and fuel ethanol. Wet milling is used for the production of corn starch, corn sweeteners and major feed ingredients such as condensed fermented corn extractives (steep water), corn germ meal, gluten feed and gluten meal. There are eight dry mills and four wet mills in operation in Canada.

Research continues to find new uses for corn. Environmentally friendly products is one such area. Corn is a renewable resource and can be used to make products such as ethanol fuel, ethanol windshield washer fluid, calcium magnesium acetate road de-icer and other degradable products made from corn starch. The Canadian market for ethanol continues to expand because of the movement toward using renewable raw materials. Ethanol-blended gasoline is now sold at over 600 retail stations across Canada. There are currently a number of fuel ethanol plants either in the planning stage or in the construction stage.

Although the food processing sector is not a large market for oats and only accounts for about 6% of domestic use, human consumption of oats has increased substantially from about 67,000 tonnes in the mid-1980s to almost 164,000 tonnes in 1996/97. Part of this increase can be attributed to the health claim that consuming fibre from whole oat products (oat bran, rolled oats and whole oat flour), as part of a low saturated fat, low cholesterol diet, may reduce the risk of heart disease.

The capacity of the domestic oat processing industry continues to increase, mainly due to the production of groats. Before oats are milled, the hulls are removed, leaving the oat groat. Whole oat groats are often marketed to be used as a raw material for further processing into flakes, flour, bran, and crushed oat products. There is a potential for use in snack foods, noodles, oat yogurt and oat milk. Removing the hull from oats increases the density or bushel weight and thus makes oats more economical to transport.

Research by a group of Agriculture and Agri-Food Canada (AAFC) scientists to investigate value-added processing has led to the finding of many important sugars, organic acids and pharmaceuticals in grains, primarily oats. Included in this list are antibacterial compounds, antihistamines, antioxidants, steroids, vitamin E and anticancer agents, food and feed ingredients such as surfactants, sugars, sweeteners and emulsifying agents, and cosmetic co-products such as ultra-violet light barriers, cleansing agents and waxes.

Domestic processing is a relatively small market for rye, averaging about 14,000 tonnes a year. Rye is second to wheat as the grain used most commonly for the production of bread in the world. High quality rye grain is required by the mills processing rye flour. There are no standard rye flour grades in Canada and the mills usually establish their own specifications. Their grades are often dependent on the clients needs. The flours produced are principally used in the production of bread, crackers, snack foods and in the preparation of flour mixes. Sometimes meat packers and processors use flour as fillers and binders in sausage. Rye meals are utilized in specialty products such as pumpernickel, whole grain breads, crackers, snack foods and rye crisps. The milling by-products are generally utilized in the animal feed industry.

The domestic distilling market provides another premium market for Western Canadian rye. This Canadian product enjoys a worldwide reputation either as "Rye Whiskey" or as "Canadian Whiskey". However, what is normally called rye whiskey in Canada often does not have a rye grain base. Most Canadian distillers use corn as the starch base for the production of alcohol and only use rye in small amounts as a flavouring agent. A distiller can obtain the "rye whiskey" flavour by using as little as 5 percent rye grain in the starch base.

Until 1995 rye was marketed and priced in an open market system comprised of a cash and futures market, however in 1995, the rye futures market was eliminated due to lack of demand. Now rye is sold under contract price or spot market price to private buyers.

5.0 EXPORT MARKETS

The cereal grain industry in Canada has developed a reputation for consistently supplying high quality cereal grains and meeting the needs of a variety of customers around the world. This is the result of extensive research and development efforts, innovative and efficient production methods, and stringent quality assurance and varietal control programs. Thus, Canada is the world's largest exporter of durum

wheat and oats and the second largest exporter of wheat, barley and malting barley.

Please note, the primary export markets are listed in more detail in Appendix C. The contact list of Canadian cereal grain trading companies is located in Appendix D.

5.1 WHEAT

Canada is able to supply a wide range of top-grade wheat varieties and for this reason it has long been a major supplier to the world market. Canada is the second largest exporter of wheat in the world, accounting for 20% of total world exports in 1997. Of the total wheat production in Canada, over two-thirds is normally exported. Preliminary milling wheat exports in 1998 were almost 9.6 Mt.

Primary Export Markets: Iran, United States, China

5.1.1 DURUM WHEAT

Canada is the largest exporter of durum wheat in the world. Durum exports account for about 80% of total domestic production. Preliminary Canadian exports of durum wheat in 1998 were about 3.3 Mt. Algeria mainly uses Canadian durum for making couscous, whereas the U.S. is buying durum for pasta production and Belgium is buying durum to export to other European Union (EU) countries.

Primary Export Markets: Algeria, United States, Italy

5.2 BARLEY

Preliminary barley, mostly malting types, exports in 1998 were just over 1.1 Mt. or about 10% of production.

Primary Export Markets: United States, Saudi Arabia and Japan

5.2.1 MALTING BARLEY

Canada is generally recognized for producing the best malting barley in the world and as such Canada is the leading supplier of malting barley to the world market, exporting about 1.5 Mt in recent years. Canada's share of the world market has grown substantially in recent years from 19% in 1992/93 to almost 50% in 1996/97.

Primary Export Markets: USA, China and Japan

5.3 CORN

Canada is normally a net importer of corn, normally exporting a relatively small proportion of corn during the beginning of the crop year and importing towards the end of the crop year.

Primary Export Markets: United States and Cuba

5.4 OATS

Canadian exports of oats have increased substantially over the last few years from 722,000 tonnes to almost 1.6 Mt in 1997. Preliminary figures for 1998 suggest a reduction in exports to 1.1 Mt. Exports of oat products have also increase during the last few years. The most common oat products exported are oat groats and oat meal. Other products, although less significant, include rolled oats or flaked grains, hulled oats, and pearled or sliced oats.

Primary Export Markets: United States, Japan and South Korea

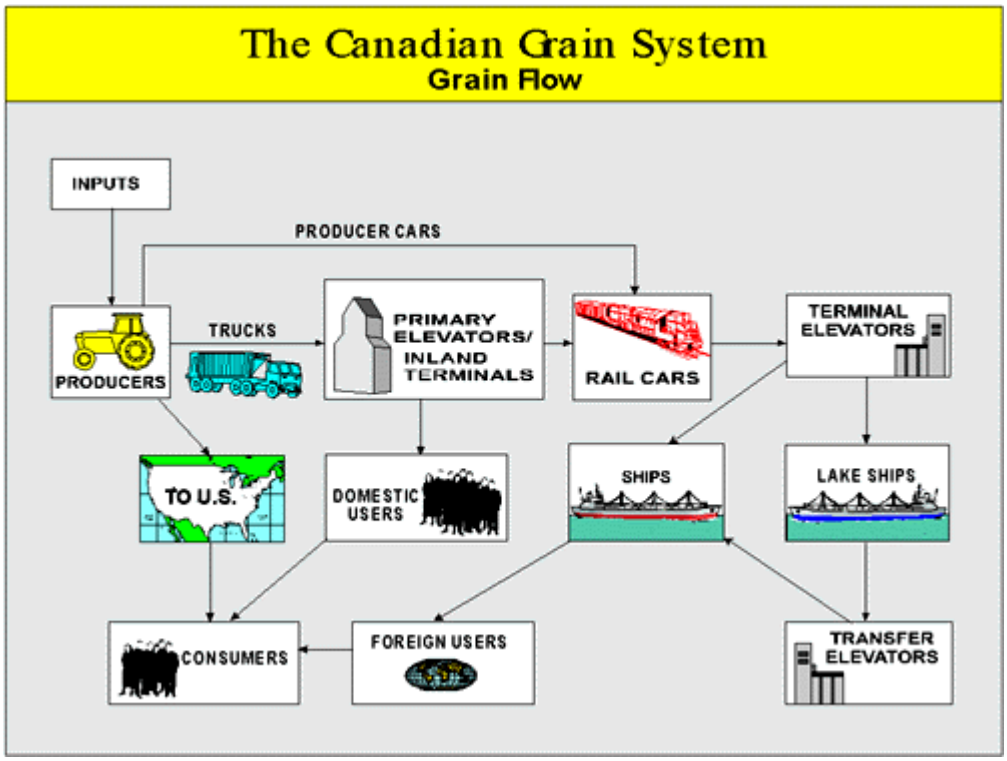
5.5 RYE

Traditionally, the highest percentage of the Canadian rye crop has been sold on the export market.

Primary Export Markets: United States and Japan

6.0 STORAGE, TRANSPORTATION AND GRADING

Generally, cereal grains flow to the final customer as shown in Figure 13. Normally, Canadian grain destined for export is moved from the farm, via trucks to a primary elevator, where the grain is graded. The grain is then moved by rail to a terminal elevator where it is cleaned, weighed and stored in readiness for shipment to the export market.



6.1 ELEVATOR SYSTEM

The Canadian elevator system consists of four types of elevators: primary, terminal, process and transfer.

6.1.1 PRIMARY ELEVATORS

Canada's primary elevator system provides an important link between producers and world grain markets. Primary elevators establish the grade of grain, give financial settlement to producers, store and blend grain grades, load rail cars and sell agriculture supplies. As of January 1, 1998 there were 1,110 primary licensed elevators in Canada with a total storage capacity of 6.5 Mt. All of the primary elevators licensed by the Canadian Grain Commission (CGC) are located in Western Canada. Most of the primary elevators are owned by one of the eight companies, which are either producer cooperatives or private/shareholder companies. While the number of primary elevators in Western Canada has shrunk by more than 4,000 in the past 60 years, total storage capacity increased steadily until 1971, when it peaked at 11.2 Mt. Average elevator capacity is about 4,400 tonnes but many elevators can store in excess of 5,500 tonnes. For all agricultural commodities, except wheat and barley destined for export or domestic human consumption, elevator companies are free to buy and sell in the marketplace. In the case of CWB grains, primary elevators act as handling agents for the Board, and do not assume ownership of the grain.

The quota contract delivery system for wheat and barley is required in Canada because total Canadian primary elevator storage capacity is only 6.5 Mt., while the annual production of wheat and barley often exceeds 40 Mt. Western Canadian farmers are encouraged to store grain on their farms and most farmers have sufficient storage capacity to store one year's total production. On farm storage tends to be the least expensive method of storage and is economically feasible in Canada because cold winters prevent losses due to insects.

6.1.2 TERMINAL ELEVATORS

Grains are shipped to export position where they are received by one of 14 terminal elevators. The terminal elevators are located as follows: six on the West Coast, one at the Port of Churchill on the Hudson's Bay in Manitoba and seven at Thunder Bay. The terminal elevators have a combined capacity of about 2.6 Mt.

Terminal elevators receive, weigh, process and store grain in readiness for shipment to domestic and export markets. One of the most distinct features of the Canadian terminal elevators is their cleaning capacity. Terminal elevators have the ability to clean large quantities of grain to meet Canada's "Certificate Final". This is a guarantee that the grain meets the CGC grade standard or the buyer's specifications. Terminal elevators have always served as the interface between rail and ocean transportation of grain.

6.1.3 PROCESS ELEVATORS

Process elevators are principally used for receiving and storing grain for direct manufacturing or processing into other products. There are 24 process elevators, 22 of which are located in the prairie provinces, one in British Columbia and one in Ontario, with a total capacity of approximately 600, 000 tonnes.

6.1.4 TRANSFER ELEVATORS

Transfer elevators provide the link between the Great Lakes and ocean movement and in some years between rail and ocean movement. There are 14 transfer elevators containing 2.4 Mt of storage capacity. They are located along the Great Lakes-St. Lawrence Seaway with seven in Ontario, six in Quebec, and one in Nova Scotia. Bay. In the mid-1990s, the transfer elevator at Quebec City was upgraded so that it can now clean grain to export standards. Transfer elevators receive, weigh and store grain in readiness for shipment to market. These elevators are owned or operated by international firms.

6.2 TRANSPORTATION SYSTEM

6.2.1 THE RAILWAYS

Grain is the most important agri-food commodity transported by Canadian railways. Due to the long distances involved, grain is primarily transported to port via two trans-continental railways: Canadian Pacific (CP Rail) and Canadian National (CN Rail). CP rail lines generally dominate the southern Prairies and traditionally moves about 49% of the grain. CN dominates the northern portion of the Prairies and moves 51% of the grain. Small quantities of grain are also moved by three regional railways, the British Columbia Railway, Central Western Railway and Southern Rails Cooperative. The movement of grain from the 840 shipping points to market accounts for roughly 25% of Canada's total rail transportation effort. Export grains travel by rail an average of 1,370 km to one of the four major ports of Prince Rupert, Vancouver, Thunder Bay and Churchill.

In the Prairie region, there are approximately 25,000 km of rail line, and rail movement is the dominant mode of transportation from the primary elevator to export position. Movement by truck past the primary elevator system accounts for a minimal share, and only in close proximity to domestic users. The average distance from the primary elevator to the West Coast or Thunder Bay, Ontario is approximately 1,500 km and cycle times for railcars averages about 18 days to all ports. CN Rail operates approximately 55% of the total rail line and CP Rail the bulk of the remainder.

Rail rates are set by the railroad companies based on distance, per tonne or by block allocation, and are subject to federal regulation by the National Transportation Agency (NTA). The NTA sets the maximum rail rates for prairie grain destined for Thunder Bay, Vancouver, Prince Rupert and Churchill. Producers/shippers pay the full cost of the established rail transportation rates to domestic and export markets.

Total rail cars designated for grain service ranges between 24,000 and 29,000, depending on demand. Of the total, 12,945 are owned by the federal government. Other cars are owned as follows: 2,000 by the CWB, 1,000 by the Alberta Government, 1,000 by the Saskatchewan Government, and 2,000 leased by the federal government and administered by the CWB. The remainder is supplied by the rail companies.

Rail cars are spotted at primary elevators to meet the needs of exporters and domestic processors. The elevator manager loads each car, completes the shipping order document, and advises the railway of the details. Information on the status of each car is entered into computers so that inventory and grain movement can be tracked.

Before the grain is shipped at multi-terminal ports, the clearance association receives "shipping orders" from exporters. These orders are matched with the "charter slips" received by vessel agents for incoming ships to minimize the number of terminals at which a ship will have to berth to complete loading.

Grain is drawn from the terminal elevators under the supervision of the CGC, which issues a "Certificate Final" stating the weight and grade on which the transaction is based. These documents are among those required by the exporter to claim payment.

6.2.2 THE GREAT LAKES

The Great Lakes-St. Lawrence Seaway System is one of the main transportation networks and as such, plays an important role in the movement of Canadian grain. This vast inland waterway enables grain to move from Thunder Bay to the grain markets of the world.

The St. Lawrence Seaway begins at Thunder Bay, with a storage capacity of approximately 1.5 Mt., is one of the world's largest concentrations of bulk grain storage. Thunder Bay acts as a funnel for Prairie grain, making it Canada's largest grain port. From Thunder Bay, grain moves through the Seaway System via a system of natural passageways and man-made canals and locks. Most grain moving through Thunder Bay is moved by lake freight carriers which are vessels specifically designed to operate on the Great Lakes. Although lake freight is by far the most common means of transporting grain east of Thunder Bay, grain can also be moved by rail from Thunder Bay to eastern ports or from the Prairies to eastern ports. Grain can also be transported by ocean vessel from Thunder Bay. Grain for export is moved from Thunder Bay to one of 14 transfer elevators where it is weighed and stored in readiness for shipment to market.

6.3 CEREAL GRAIN GRADING AND REGULATIONS

The production of grain to a large extent is at the mercy of climatic conditions. In Canada, there are varying levels of technology used on the farm. This, coupled with the uncontrollable growing conditions, inevitably creates variations in the crop, not only in quality, but in the amount produced. The grading system permits the collection of grain of like kind and quality that facilitates marketing.

6.3.1 NATIONAL INSPECTION SYSTEM

The Canadian grain grading and quality system, which is self-financed through user fees, encourages the production and delivery of grain readily identifiable as to its quality characteristics. A major goal of the quality assurance system in Canada is to offer consistency from cargo to cargo and at the same time maintaining uniformity within a shipment. This is achieved through the bulk-handling system which contributes to the homogeneity within each quality division, through the ongoing monitoring of export cargoes according to a strict loading protocol, and also by assuring adherence to established commercial cleanliness specifications.

The Canadian system is based on varietal control and kernel visual distinguishability. It encourages the production of easily segregated quality and end-use characteristics determined by visual appearance and a quality assurance system.

The CGC is responsible for administering the Canada Grain Act and, as such, has exclusive responsibility for official grain inspection and weighing in Canada. All grain destined for off-shore markets is officially inspected and weighed by CGC personnel. Unless previously inspected, all grain is officially inspected and weighed upon receipt at terminal elevators. In many cases, quality segregations are made concurrently by elevator personnel for binning purposes and internal stock management.

Added flexibility was introduced in 1988 with changes to the Canada Grain Act that permitted marketing on the basis of contract specifications as well as on the basis of established statutory standards. As a result, grain marketers have actively engaged in contract sales of malting barley and other cereal grains. This option has also facilitated sales of Canadian grain affected by various environmental factors and in some cases provides a more readily understood quality profile for certain buyers unfamiliar with the Canadian grades.

No matter the destination, the quality assurance system and grain sanitation programs allow Canadian exporters to state with a large degree of certainty that Canadian grains are free from specific diseases and pests. Canada's climate contributes by controlling insect infestation, thus limiting the need for pesticides. Some buyers request, or their country's laws oblige them to obtain, certificates or letters of assurance stating that the product is within certain residue limits. These documents are provided by the Canadian Food Inspection Agency.

6.3.2 VARIETAL CONTROL

Varietal control is protected in western Canada under the Canada Grain Act and the Canada Seeds Act. To be registered, a new variety must be field tested and then be subject to laboratory tests for end-use characteristics. The new variety must be as good as, or better than, existing varieties in order to be registered. Approval of a new variety is recommended by an industry-government committee with subsequent registration under the Canada Seeds Act.

In western Canada, a registered variety of any class of wheat (and malting barley) must be visually distinguishable from registered varieties of any other class of wheat (or barley type). Each of the classes of wheat grown in Canada has its own kernel characteristic requirements. There are three basic kernel characteristics that facilitate rapid recognition of varieties, namely, color, texture and shape. Several other minor characteristics (i.e., cheeks, crease, germ, brush and kernel size) also assist in rapid visual identification. As a result, the unique properties of each Canadian wheat class can be segregated within the handling system. Each of the various Canadian common classes of wheat and durum wheat has unique hardness, protein, and milling and baking properties that allow it to meet specific end-use requirements. Contamination of one class of wheat with wheat of another class, or with unregistered varieties of wheat,

would adversely affect the distinct functional properties of the pure class of wheat.

6.3.3 GRAIN GRADING

The Canadian Grading System is structured to provide quality profiles for most cereal grains, oilseeds and specialty crops grown and marketed in Canada. With specific reference to wheat, there are eight main classes that are visually segregated as they pass through the marketing channels: Canada Western Red Spring, Canada Western Red Winter, Canada Western Amber Durum, Canada Prairie Spring Red, Canada Prairie Spring White, Canada Western Extra Strong, Canada Western Soft White Spring, and Canada Eastern White Winter. The number of grades within each class can vary from two to five and has been historically dependent upon production volumes, handling efficiencies and market strategies. The grading system is also flexible enough to accommodate special segregations as operationally required.

6.3.4 GRAIN STANDARDS

As quality is subjectively interpreted to some degree within the Canadian grading system, consistency is achieved by using annually prepared standard samples which visually interpret grade definitions and reflect the growing conditions of the year for which they were prepared. Although minor visual differences may occur, the intrinsic quality remains intact and therefore performance standards for end-users are consistent from year to year. The annual standards are approved by Western and Eastern Standards Committees which are comprised of producer and industry representatives and chaired by the CGC's Chief Commissioner. CGC personnel provide the necessary resources for research and data collection as required by the Committees. Additionally, potential changes to the Canadian grade specifications to support marketing needs are tabled for review and action by this industry forum.

6.3.5 CLEANING

Grain that is exported at terminal position from Canada must be cleaned to export standards unless the buyer has contracted for not commercially cleaned (NCC) grain and the CGC has been advised of the contract. The Canada Grain Act specifies that dockage which has been officially assessed, must be removed from the grain to meet export standards and cannot be re-introduced prior to or during the shipment. The CGC must officially grant permission before NCC grain can be discharged from a licenced terminal or transfer elevator. It is partly because of these stringent quality and consistency standards that Canada has such an excellent reputation with importing countries.

6.3.6 BLENDING AND BULK HANDLING

Primary elevator operators are not restricted by legislation with respect to blending or mixing grains of different qualities and grades in their facilities. Their blending efforts are balanced by a responsibility to ship the quality that is needed at the export position or face car allocation penalties for missed grades. Terminal elevator operators are legislatively restricted from blending the top two grades of red spring wheat other than by order of the CGC. For all grains, CGC regulations prohibit blending of adulterated grain with other grain.

For some grains, the system uses different export and primary standards. The higher standard for export grains can be achieved by the blending and averaging of different qualities within the primary grade and at the same time it allows the farmer to receive maximum return for his or her production.

6.3.7 GRAIN SAFETY AND SANITATION

An important element of a total quality assurance system is the grain sanitation program in Canada. CGC laboratories, in collaboration with on-site inspection, monitor terminal elevator receipts, shipments and stocks for insect infestation. At terminal and transfer elevators, inspectors are responsible for intercepting any infested grain and for supervising the fumigation process. Under the auspices of the Canadian Food

Inspection Agency, the CGC staff conduct regular physical inspections of terminal and transfer elevator facilities and advise on remedial action as required. If infested grain is detected upon delivery to a terminal, the primary elevator operator is required to eradicate the infestation before further shipments are permitted. This action is seldom necessary because of the existence of the sanitation program, the elevator operators' commitment to protect their investments, and because of the natural control inherent in the extremely cold winters typical of the grain growing region of the Canadian Prairies. These factors result in limited use of pesticides.

Continued...

APPENDIX A: Principal Cereal Grains Production
APPENDIX B: Supply and Disposition of Cereal Grains
APPENDIX C: Primary Export Markets
APPENDIX D: Cereals Industy Directory

Publication Date: 1999-04-30

Agriculture and Agri-Food

CEREALS SECTOR PROFILE

April 1999

Grains and Oilseeds Division
International Markets Bureau
Market and Industries Services Branch
Agriculture and Agri-Food Canada
Sir John Carling Building
Ottawa, Ontario K1A 0C5

APPENDIX A

Table 1
PROVINCIAL CEREAL GRAINS PRODUCTION

	production ('000 tonnes)			
SPRING WHEAT	1995	1996	1997	1998
Prince Edward Island	39	45	26	24
Nova Scotia	5	6	4	4
New Brunswick	6	15	10	10
Quebec	95	88	70	67
Ontario	48	46	82	101
Manitoba	3,266	4,190	3,198	2,920
Saskatchewan	8,924	13,014	9,497	8,088
Alberta	6,341	7,261	6,056	5,544
British Columbia	160	79	62	66
Canada	**18,883**	**24,744**	**19,003**	**16,835**
WINTER WHEAT				
Prince Edward Island	3	1	3	6
Nova Scotia	5	6	2	4
New Brunswick	4	3	3	2
Quebec	4	5	2	2
Ontario	1,316	817	748	1,211
Manitoba	8	25	46	109
Saskatchewan	65	106	63	76
Alberta	82	87	49	65
Canada	**1,487**	**1,048**	**915**	**1,476**
DURUM WHEAT				
Manitoba	131	163	106	191
Saskatchewan	3,674	3,827	3,511	4,749
Alberta	844	713	735	1,143
Canada	**4,648**	**4,703**	**4,352**	**6,083**
BARLEY				

Prince Edward Island	94	118	136	136
Nova Scotia	17	24	17	20
New Brunswick	44	59	53	41
Quebec	350	343	415	415
Ontario	418	372	435	381
Manitoba	1,328	2,179	1,685	1,631
Saskatchewan	4,355	5,443	4,431	4,311
Alberta	6,336	7,294	6,390	5,661
British Columbia	94	80	85	103
Canada	**13,035**	**15,912**	**13,647**	**12,699**
CORN				
Nova Scotia	13	14	11	15
Quebec	2,020	2,130	2,180	2,650
Ontario	5,131	4,953	4,826	6,020
Manitoba	94	142	152	216
Alberta	13	-	10	11
Canada	**7,271**	**7,239**	**7,180**	**8,912**
OATS				
Prince Edward Island	12	12	14	10
Nova Scotia	6	5	8	8
New Brunswick	18	17	20	23
Quebec	173	168	195	197
Ontario	86	62	96	94
Manitoba	625	1,056	736	1,030
Saskatchewan	1,110	1,882	1,403	1,758
Alberta	771	1,141	979	771
British Columbia	56	32	34	66
Canada	**2,858**	**4,374**	**3,485**	**3,958**
RYE				
Quebec	2	2	2	2
Ontario	46	41	48	24
Manitoba	53	57	58	49
Saskatchewan	140	156	139	101
Alberta	66	64	50	51
British Columbia	3	2	3	2
Canada	**310**	**322**	**300**	**229**

SOURCE: Statistics Canada, CANSIM

Table 1
PROVINCIAL CEREAL GRAINS PRODUCTION

	area seeded ('000 acres)			
SPRING WHEAT	1995	1996	1997	1998
Prince Edward Island	30	20	21	18
Nova Scotia	4	3	4	4
New Brunswick	6	7	7	6
Quebec	85	80	57	58
Ontario	40	60	65	90
Manitoba	3,860	4,050	3,700	2,955
Saskatchewan	11,780	13,900	12,550	9,725
Alberta	5,900	6,450	5,800	5,690
British Columbia	125	100	55	68
Canada	**21,830**	**24,670**	**22,259**	**18,614**
WINTER WHEAT				
Prince Edward Island	2	4	2	5
Nova Scotia	3	4	3	3

New Brunswick	3	2	3	2
Quebec	4	6	3	2
Ontario	730	850	560	710
Manitoba	10	25	50	85
Saskatchewan	80	120	90	90
Alberta	80	100	100	60
Canada	**912**	**1,110**	**810**	**957**
DURUM WHEAT				
Manitoba	250	150	150	140
Saskatchewan	4,750	4,500	4,150	4,550
Alberta	800	750	800	825
Canada	**5,800**	**5,400**	**5,100**	**5,515**
BARLEY				
Prince Edward Island	80	91	101	11
Nova Scotia	14	12	16	17
New Brunswick	41	41	40	37
Quebec	321	309	311	314
Ontario	330	330	340	325
Manitoba	1,200	1,550	1,400	1,300
Saskatchewan	4,300	4,700	4,500	4,050
Alberta	5,150	5,800	5,600	5,200
British Columbia	70	110	95	100
Canada	**11,506**	**12,943**	**12,404**	**11,439**
CORN				
Nova Scotia	5	7	6	6
Quebec	699	820	815	828
Ontario	1,730	1,895	1,700	1,850
Manitoba	45	70	75	95
Alberta	5	3	4	5
Canada	**2,485**	**2,794**	**2,601**	**2,784**
OATS				
Prince Edward Island	14	15	13	11
Nova Scotia	6	7	11	12
New Brunswick	23	24	22	21
Quebec	215	210	210	210
Ontario	100	100	115	110
Manitoba	750	1,050	800	1,000
Saskatchewan	1,500	2,200	2,000	2,300
Alberta	1,200	1,400	1,400	1,350
British Columbia	75	85	60	83
Canada	**3,883**	**5,091**	**4,631**	**5,097**
RYE				
Quebec	6	9	8	5
Ontario	75	80	70	60
Manitoba	80	80	100	120
Saskatchewan	250	250	215	250
Alberta	115	110	115	125
British Columbia	5	10	6	4
Canada	**531**	**539**	**514**	**564**

SOURCE: Statistics Canada, CANSIM

Table 1
PROVINCIAL CEREAL GRAINS PRODUCTION

	average yield (bushels/acre)			
SPRING WHEAT	1995	1996	1997	1998
Prince Edward Island	47	50	46	49
Nova Scotia	44	45	36	28
New Brunswick	37	55	50	60
Quebec	41	41	46	43
Ontario	44	42	48	41
Manitoba	31	38	32	36
Saskatchewan	29	34	28	31
Alberta	40	41	39	37
British Columbia	47	48	46	42
Canada	**32**	**37**	**32**	**34**
WINTER WHEAT				
Prince Edward Island	49	49	49	49
Nova Scotia	55	60	51	45
New Brunswick	45	52	47	41
Quebec	46	45	39	37
Ontario	70	41	61	63
Manitoba	30	48	43	47
Saskatchewan	32	35	31	31
Alberta	43	36	36	40
Canada	**63**	**40**	**54**	**57**
DURUM WHEAT				
Manitoba	35	32	39	28
Saskatchewan	30	31	33	29
Alberta	32	41	33	33
Canada	**30**	**33**	**33**	**29**
BARLEY				
Prince Edward Island	54	60	62	61
Nova Scotia	59	64	52	48
New Brunswick	50	63	62	52
Quebec	51	54	62	62
Ontario	60	56	61	57
Manitoba	53	63	57	60
Saskatchewan	49	56	47	51
Alberta	62	61	58	57
British Columbia	66	61	56	51
Canada	**56**	**59**	**54**	**54**
CORN				
Nova Scotia	96	79	80	103
Quebec	114	111	106	127
Ontario	117	111	112	129
Manitoba	82	80	80	94
Alberta	100	96	100	90
Canada	**116**	**110**	**110**	**127**
OATS				
Prince Edward Island	57	75	72	61
Nova Scotia	66	67	52	39
New Brunswick	54	75	66	73
Quebec	60	67	70	72
Ontario	59	54	62	61
Manitoba	62	71	68	74
Saskatchewan	60	68	55	62
Alberta	67	67	64	63
British Columbia	73	59	72	66

Canada	62	68	61	65
RYE				
Quebec	32	35	33	30
Ontario	36	32	38	39
Manitoba	30	35	29	35
Saskatchewan	28	28	29	27
Alberta	35	32	33	32
British Columbia	37	33	37	40
Canada	**30**	**31**	**31**	**31**

SOURCE: Statistics Canada, CANSIM

continued...

APPENDIX B
APPENDIX C
APPENDIC D

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Agriculture and Agri-Food Canada Agriculture et Agroalimentaire Canada

Canada

CEREALS SECTOR PROFILE

April 1999

Grains and Oilseeds Division
International Markets Bureau
Market and Industries Services Branch
Agriculture and Agri-Food Canada
Sir John Carling Building
Ottawa, Ontario K1A 0C5

APPENDIX B
Supply and Disposition of Cereal Grains

Table 2
SUPPLY AND DISPOSTION OF WHEAT (EXCLUDING DURUM)

('000 tonnes)

	Average 1989-90 to 1993-94	1994/95	1995/96	1996/97	1997/98
Begining Stocks	7,201.0	9,414.6	4,216.5	4,755.5	7,544.0
Production	25,664.7	18,298.2	20,388.1	25,174.8	19,928.0
Imports	11.2	2.3	15.1	118.4	52.0
Total Supplies	**32,143.3**	**27,715.1**	**24,619.7**	**30,048.7**	**27,523.0**
Ending Stocks	7,948.5	4,216.5	4,610.3	7,564.0	5,213.0
Exports of Seed	18,265.1	16,452.7	12,806.6	15,106.0	15,768.0
Exports of Products (Flour)	187.9	290.3	169.7	165.6	-
DOMESTIC USE					
Human Consumption	2,000.5	2,294.6	2,231.5	2,317.0	2,429.0
Seed	1,150.8	875.8	1,038.4	878.2	739.0
Industrial Use	37.1	39.5	39.0	39.5	40.0
Loss	4.7	1.0	-	1.1	2.0
Feed, Waste & Dockage	2,548.8	3,544.6	3,724.2	3,977.4	3,332.0
Total Domestic Use	5,741.8	6,755.6	7,033.1	7,213.1	6,542.0
Total Dispostion	**32,143.3**	**27,715.1**	**24,619.7**	**30,048.7**	**27,523.0**

SOURCE: Statistics Canada, CANSIM

Table 3
SUPPLY AND DISPOSTION OF DURUM WHEAT

(000 tonnes)

	Average 1989-90 to 1993-94	1994/95	1995/96	1996/97	1997/98
Begining Stocks	1,607.7	1,702.5	1,462.9	1,972.7	1,503.0
Production	3,883.6	4,634.8	4,648.4	4,626.5	4,352.0
TOTAL SUPPLIES	**5,492.9**	**6,337.3**	**6,116.0**	**6,599.4**	**5,855.0**
Human Consumption	183.9	153.7	179.0	185.0	185.0
Seed	180.5	208.9	198.0	213.0	279.0
Feed, Waste & Dockage.	478.5	484.2	545.0	603.0	388.0
Total Domestic Use	**843.4**	**846.8**	**922.0**	**1,002.0**	**852.0**
Ending Stocks	1,779.0	1,462.9	1,973.0	1,503.0	776.0
Exports of durum seed	2,856.8	3,996.3	3,194.0	4,067.3	-
TOTAL DISPOSITION	**5,492.9**	**6,337.3**	**6,116.3**	**6,599.2**	**5,855.0**

SOURCE: Statistics Canada, CANSIM

Table4
SUPPLY AND DISPOSTION OF BARLEY

(000 tonnes)

	Average 1989-90 to 1993-94	1994/95	1995/96	1996/97	1997/98
Begining Stocks	2,675.2	3,375.9	1,820.4	1,740.0	2,919.0
Production	12,169.3	11,690.0	13,033.0	15,562.0	13,647.0
TOTAL SUPPLIES	**14,847.1**	**15,073.5**	**14,863.4**	**17,320.7**	**16,594.0**
Human Consumption	5.3	7.3	8.0	7.0	7.0
Seed	386.1	401.4	452.0	433.0	400.0
Industrial Use	386.8	328.8	433.0	376.0	321.0
Feed, Waste & Dockage	7,268.3	9,005.7	9,396.0	9,564.0	10,631.0
Total Domestic Use	**8,007.6**	**9,747.2**	**10,297.4**	**10,397.7**	**11,372.0**
Ending Stocks	2,792.3	1,820.4	1,740.0	2,919.0	2,457.0
Exports of barley seed	3,729.4	3,009.4	2,336.0	3,439.0	2,127.0
Exports of Products (malt)	317.7	496.5	490.0	566.0	638.0
TOTAL DISPOSTION	**14,847.1**	**15,073.5**	**14,863.4**	**17,321.7**	**16,594.0**

SOURCE: Statistics Canada, CANSIM

Table 5
SUPPLY AND DISPOSTION OF CORN

(000tonnes)

	1994/95	1995/96	1996/97	1997/98
Begining Stocks	579.8	704.0	450.0	970.0
Production	7,190.0	7,281.0	7,542.0	7,180.0
Imports	1,090.0	819.0	795.0	1,472.0
TOTAL SUPPLIES	**8,859.8**	**8,804.0**	**8,787.0**	**9,622.0**
Human & Industrial Use	1,494.0	1,490.0	1,584.0	1,750.0
Seed	27.0	30.0	29.0	30.0
Feed, Waste & Dockage	6,277.0	6,269.0	5,888.0	6,829.0
Total Domestic Use	**7,798.0**	**7,789.0**	**7,501.0**	**8,609.0**
Ending Stocks	703.2	450.0	970.0	894.0
Exports	358.6	565.0	316.0	118.0
TOTAL DISPOSITION	**8,859.8**	**8,804.0**	**8,787.0**	**9,621.0**

Note: the five year average data is not available.

SOURCE: Statistics Canada, CANSIM

Table 6
SUPPLY AND DISPOSTION OF OATS

(000 tonnes)

	Average 1989-90 to 1993-94	1994/95	1995/96	1996/97	1997/98
Begining Stocks	761.1	907.6	739.4	411.0	812.0
Production	2,825.7	3,637.6	2,873.0	4,361.0	3,485.0
TOTAL SUPPLIES	**3,588.8**	**4,549.1**	**3,618.2**	**4,778.0**	**4,303.0**
Human Consumption	90.7	133.3	113.0	239.0	206.0
Seed	133.3	131.1	171.0	155.0	171.0
Feed, Waste & Dockage	1,873.3	2,071.7	1,659.0	1,829.0	1,685.0
Total Domestic Use	**2,098.0**	**2,337.2**	**1,943.0**	**2,227.0**	**2,064.0**
Ending Stocks	803.9	739.4	411.0	812.0	865.0
Exports of oats	648.2	1,351.5	1,100.0	1,589.0	1,204.0
Exports of oats products	38.7	121.0	164.0	150.0	170.0
TOTAL DISPOSITION	**3,588.8**	**4,549.1**	**3,618.0**	**4,778.0**	**4,303.0**

SOURCE: Statistics Canada, CANSIM

Table 7
SUPPLY AND DISPOSTION OF RYE

(000 tonnes)

	Average 1989-90 to 1993-94	1994/95	1995/96	1996/97	1997/98
Begining Stocks	239.3	112.0	85.1	43.0	52.0
Production	468.3	399.2	309.8	309.0	300.0
TOTAL SUPPLIES	**707.7**	**511.3**	**395.0**	**353.0**	**352.0**
Human Consumption	14.2	12.7	12.5	14.8	12.0
Seed	23.5	17.1	18.1	16.9	20.0
Industrial Use	60.3	45.9	60.0	45.0	34.0
Loss	9.1	5.6	3.0	3.3	3.0
Feed, Waste & Dockage	136.8	157.6	88.0	68.0	37.0
Total Domestic Use	**243.8**	**238.8**	**181.6**	**148.0**	**107.0**
Ending Stocks	217.5	85.1	43.0	52.0	62.0
Exports of Rye Seed	246.2	187.0	170.4	153.0	183.0
TOTAL DISPOSITION	**707.7**	**511.3**	**395.0**	**353.0**	**352.0**

SOURCE: Statistics Canada, CANSIM

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CEREALS SECTOR PROFILE

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Grains and Oilseeds Division
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Sir John Carling Building
Ottawa, Ontario K1A 0C5

APPENDIX C
Primary Export Markets

Table 8
CANADIAN WHEAT EXPORTS
(excluding durum)

(tonnes)

	1994	1995	1996	1997	Preliminary 1998
United States	2,086,652	1,209,081	1,047,894	1,751,265	1,540,273
China, P. Rep.	3,849,706	5,100,948	3,326,641	1,346,566	947,988
Indonesia	778,405	440,404	1,177,866	1,500,817	925,127
Iran, Isla. Rep.	1,966,501	1,641,375	1,157,042	2,851,537	709,371
Mexico	829,027	429,451	409,990	691,396	698,076
Japan	1,364,381	1,241,108	1,462,674	1,416,310	649,082
Italy	108,313	143,884	218,541	255,783	376,386
Brazil	1,589,903	704,073	984,329	795,744	364,160
Venezuela	107,195	154,001	429,730	462,995	356,298
United Kingdom	184,071	169,401	212,648	277,790	352,820
Other Countries	5,471,157	1,835,584	2,911,628	7,363,889	2,659,533
TOTAL	**18,335,311**	**13,069,310**	**13,338,983**	**18,714,092**	**9,579,114**

SOURCE: Statistics Canada, TIERS

Table 9
CANADIAN DURUM EXPORTS

(tonnes)

	1994	1995	1996	1997	Preliminary 1998
Algeria	1,393,468	1,575,144	1,014,484	1,602,204	1,588,047
United States	366,509	310,709	247,719	431,077	424,691
Italy	255,010	210,186	118,017	366,814	336,427
Morocco	-	111,314	266,747	237,411	276,673
Venezuela	158,129	142,080	228,853	233,951	207,443
Peru	34,182	53,901	66,502	188,404	97,821
Japan	14,747	109,492	87,540	198,762	93,722
Chile	139,418	104,617	71,043	56,998	78,835
Belgium	215,269	460,913	179,105	408,273	63,389
Poland	17,679	47,074	23,858	35,673	47,470
Other Countries	295,506	575,386	882,437	682,864	114,380
TOTAL	**2,889,917**	**3,700,816**	**3,186,305**	**4,442,431**	**3,328,898**

SOURCE: Statistics Canada, TIERS

Table 10
CANADIAN BARLEY EXPORTS

(tonnes)

	1994	1995	1996	1997	Preliminary 1998
United States	1,916,780	1,035,167	783,288	846,661	680,835
China, P. Rep.	173,897	377,698	612,320	619,742	179,142
Japan	922,693	552,947	445,598	454,901	149,736
Hong Kong	-	58	57	-	48,244
Saudi Arabia	394,361	82,498	949,343	1,020,120	47,499
Mexico	16,962	-	60,297	18,827	25,828
Argentina	-	-	-	36,744	5,985
Netherlands	18	389	279	123	40
Belgium	-	10,293	54	-	19
Iran, Isla. Rep.	-	-	157,462	105,837	-
Other Countries	129,705	258,391	388,702	125,332	-
TOTAL	**3,554,416**	**2,317,441**	**3,397,400**	**3,228,287**	**1,137,328**

SOURCE: Statistics Canada, TIERS

Table 11
CANADIAN MALTING BARLEY EXPORTS

('000 tonnes)

	1992/93	1993/94	1994/95	1995/96	1996/97
United States	84	546	721	692	768
China	166	252	384	379	509

Japan	11	12	59	83	50
Argentina	-	-	-	-	37
Colombia	67	25	88	146	20
Ecuador	7	5	10	28	6
Uruguay	-	-	-	-	2
Brazil	-	-	30	56	-
South Korea	-	17	35	20	-
Australia	-	-	25	18	-
Other Countries	1	-	36	4	3
TOTAL	336	857	1,388	1,426	1,395

SOURCE: Canadian Wheat Board

Table 12
CANADIAN CORN EXPORTS

(tonnes)

	1994	1995	1996	1997	Preliminary 1998
United States	370,163,707	270,801,880	347,512,459	219,934,470	228,055,343
Jordan	-	-	-	-	23,674,284
France	1,900,815	3,664,444	3,938,496	4,147,409	5,354,308
Angola	293,550	524,950	414,000	-	575,000
Honduras	-	-	-	-	555,000
Hong Kong	-	-	-	-	232,770
Denmark	-	-	4,430	-	61,594
Israel	-	-	-	-	59,750
Cuba	-	155,043,000	73,439,912	25,595,167	20,473
Italy	9,250	343,452	23,100,000	44,157	14,769
Other Countries	9,751,560	12,867,246	64,071,333	13,908,984	34,898
TOTAL	**382,118,882**	**443,244,972**	**512,480,630**	**263,630,187**	**258,637,989**

SOURCE: Statistics Canada. TIERS

Table 13
CANADIAN OAT EXPORTS

(tonne)

	1994	1995	1996	1997	Preliminary 1998
United States	1,065,343	1,361,931	1,271,605	1,526,188	1,102,671
Japan	23,448	45,403	34,052	28,328	14,861
Korea, South	27,496	34,752	18,203	25,452	10,727
Colombia	4,402	2,048	2,658	5,740	5,880
Peru	-	1,083	-	1,543	1,759
Mexico	3,000	2,291	760	672	1,230
United Kingdom	1,511	1,469	1,129	522	700
Saudi Arabia	-	-	19	442	390
Panama	-	1,591	225	231	214
Venezuela	557	283	78	309	72
Other Countries	6,003	12,820	2,824	824	65
TOTAL					

TOTAL	1,131,761	1,463,672	1,331,554	1,590,251	1,136,569

SOURCE: Statistics Canada, TIERS

Table 14
CANADIAN RYE EXPORTS

(tonnes)

	1994	1995	1996	1997	Preliminary 1998
United States	104,466	102,510	90,936	113,427	81,727
Australia	-	4,398	-	8,468	3,092
Ireland	18	-	-	-	110
Korea, South	543	1,421	509	456	44
Japan	40,428	103,748	82,244	36,250	19
Poland	-	-	-	217	-
Netherlands	1,158	153	191	154	-
Norway	32	-	56	9	-
Argentina	-	201	266	-	-
Brazil	-	976	83	-	-
Other Countries	3,252	193	19	-	-
TOTAL	149,897	213,600	174,304	158,981	84,992

SOURCE: Statistics Canada, TIERS

continued...

APPENDIX D

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Agriculture and Agri-Food Canada | Agriculture et Agroalimentaire Canada

Canada

CEREALS SECTOR PROFILE

April 1999

Grains and Oilseeds Division
International Markets Bureau
Market and Industry Services Branch
Agriculture and Agri-Food Canada
Sir John Carling Building
Ottawa, Ontario K1A 0C5

APPENDIX D
Cereals Industry Directory

Producer Organizations

Alberta Barley Commission
237, 2116-27 Ave NE
Calgary, Alberta
T2E 7A6
Tel:(403) 291-9111
Fax:(403) 291-0190
Email: abbarley@albertabarley.com
Internet: www.albertabarley.com

Alberta Grain Commission
#305, 7000-113th St.
Edmonton, Alberta
T6H 5T6
Tel: (403) 427-7329
Fax: (403) 422-9690
Email: loveset@agric.gov.ab.ca
Internet:
www.agric.gov.ab.ca/ministry/agc/agcar96.html#admin

Alberta Corn Committee
Box 822
Lethbridge, Alberta
T1J 3Z8
Tel:(403) 327-4561
Fax:(403) 382-3156
Email: beasleyb@em.agr.ca

Alberta Soft Wheat Producers Commission
Box 875
Lethbridge, Alberta
T1J 3Z8
Tel: (403) 380-4189
Fax: (403) 328-6880

Alberta Winter Wheat Producers Commission
1205 Michigan Place
Lethbridge, Alberta
T1K 3P4
Tel: (403) 328-0059
Fax: (403) 328-0969

Atlantic Grains Council
Box 308
Kentville, Nova Scotia
B4N 3X1
Tel: (902) 678-1215
Fax: (902) 678-1215

Canadian Feed Industry Association
625-325 Dalhousie St.
Ottawa ON
K1N 7G2
Tel: (613) 241-6421
Fax: (613) 241-7970
Email: cfia@magmacom.com
Internet: www.cfia-aciaa.ca

Canadian Grain & Oilseed Exporters Association
500-360 Main St.
Winnipeg, Manitoba
R3C 3Z4
Tel: (204) 925-5000
Fax: (204) 943-5448
Email: wce@wce.mb.ca
Internet: www.wce.mb.ca

Canadian Seed Growers' Association
Box 8455
Suite 202, 240 Catherine St.
Ottawa, Ontario
K1G 3T1
Tel: (613) 236-0497
Fax: (613) 563-7855
Email: seeds@seedgrowers.ca
Internet: www.seedgrowers.ca

Keystone Agricultural Producers
1-1313 Border Street
Winnipeg, Manitoba
R3H 0X4
Tel: (204) 697-1140
Fax: (204) 697-1109
Email: kap@mb.sympatico.ca

American Oat Association
Ste. 101, 415 Shelard Parkway
Minneapolis, Minnesota
55426
Tel: (612) 542-9817
Fax: (612) 397-7451

British Columbia Grain Producers Association
Box 161
Dawson Creek, British Columbia
V1G 4H3
Tel: (250) 782-8212

Canada Grains Council
Suite 330-360 Main Street
Winnipeg, Manitoba R3C 3Z3
Tel: (204) 942-2254
Fax: (204) 947-0992
Email: office@canadagrainscouncil.ca
Internet: www.canadagrainscouncil.ca

Canadian National Millers Association
Suite 1127-90 Sparks St.
Ottawa, Ontario
K1P 5B4
Tel: (613) 238-2293
Fax: (613) 235-5866
Email: intersect.alliance@sympatico.ca

Canadian Seed Trade Association
39 Robertson Rd.
Suite 302
Nepean, Ontario
K2H 8R2
Tel: (613) 829-9527
Fax: (613) 829-3530
Email: csta@cdnseed.org

Malting Industry Association of Canada
Suite 1127- 90 Sparks Street
Ottawa, Ontario
K1P 5B4
Tel: (613) 235-7336
Fax: (613) 235-5866
Email: intersect.alliance@sympatico.ca

Manitoba Corn Growers' Association
Box 188
Carman, Manitoba
R0G 0J0
Tel: (204) 745-6661
Fax: (204) 745-6122
Email: mbcorn@mb.sympatico.ca

Ontario Corn Producers' Association
90 Woodlawn Road, West
Guelph, Ontario
N1H 1B2
Tel: (519) 837-1660
Fax: (519) 837-1674
Email: ontcorn@ontariocorn.org
Internet: www.ontariocorn.org

Western Canadian Wheat Growers Association
1836 Victoria Ave. East
Regina, Saskatchewan
S4N 7K3
Tel: (306) 586-5866
Fax: (306) 586-2707
Email: wcwga@sympatico.ca
Internet: www.wcwga.ca

Prairie Oat Grower's Association
Box 3024
Leduc, Alberta
T9E 6L8
Tel: (403) 985-3644
Fax: (403) 985-3644
Email: bpearson@compusmart.ab.ca
Internet:
www.agfood-alliance.ab.ca/member/opaa

Western Barley Growers Association
232-2116-27th Ave. NE
Calgary, Alberta
T2E 7A6
Tel: (403) 291-3630
Fax: (403) 291-9841

Research/Educational Institutions

Brewing and Malting Barley Research Institute
206-167 Lombard Ave
Winnipeg, Manitoba
R3B 0T6
Tel: (204) 942-1407

Canadian International Grains Institute
1000 - 303 Main Street
Winnipeg, Manitoba
R3C 3G7
Tel: (204) 983-5344
Fax: (204) 983-2642

Canada Grains Council
330 - 360 Main Street
Winnipeg, Manitoba
R3C 3Z3
Tel: (204) 942-2254
Fax: (204) 947-0992

National Research Council Canada
Tel: (613) 993-9010
Email: r&d@nrc.ca
Internet: www.nrc.ca/corpserv/nrc.html

POS Pilot Plant Corporation
118 Veterinary Road
Saskatoon, Saskatchewan
S7N 2R4
Tel: (306) 975-7066
Fax: (306) 975-3766

University of Saskatchewan
Department of Crop Science and Plant Ecology
51 Campus Drive
Saskatoon, Saskatchewan
S7N 5A8
Tel: (306) 966-5006
Fax: (306) 966-5015
E-mail:HOLM@SASK.USASK.CA

University of Toronto
Department of Nutritional Sciences
Room 316, 150 College Street
Toronto, Ontario
M5S 3E2
Tel: (416) 978-2747
Fax: (416) 978-5882

University of Alberta
Department of Agricultural, Food & Nutritional Science
Room 410, Agriculture and Forestry Centre
Edmonton, Alberta
T6G 2E1
Tel: (403) 492-3239
Fax: (403) 492-4265

University of Manitoba
Department of Plant Science
Winnipeg, Manitoba
R3T 2N2
Tel: (204) 474-8221
Fax: (204) 261-5732

Government/Others

Alberta Department of Agriculture
7000 - 113 Street
Edmonton Albera
T6H 5T6
Tel: (403) 427-4241
Fax: (403) 422-9746
E-mail: dunke@agric.ab.ca

Canadian Grain Commission
600-303 Main Stree
Winnipeg, Manitoba
R3C 3G8
Tel: (204) 983-2770
Fax: (204) 983-2751
Email: contact@cgc.ca
Internet: www.cgc.ca

Canadian Food Inspection Agency
59 Camelot Drive
Nepean, Ontario
K1A 0Y9
Tel: (613) 225-2342
Fax: (613) 228-6653
Internet: www.cfia-acia.agr.ca

Canadian International Development Agency
200 Promenade du Portage
Hull, Quebec
K1A 0G4
Tel: (819) 997-5006
Toll free: 1-800-230-6349
Fax: (819) 953-6088
For the hearing and speech impaired (TDD/TTY): (819) 953-5023
Email: info@acdi-cida.gc.ca
Internet: www.acdi-cida.gc.ca

Canadian Wheat Board
423 Main Street
P.O. Box 816, Stn. Main
Winnipeg, MB
R3C 2P5
Tel: (204) 983-0239
Fax: (204) 983-3841
Email: cwb@cwb.ca
Internet: www.cwb.ca

Export Development Corporation
51 O'Connor Street
Ottawa, Ontario
K1A 1K3
Tel: (613) 598-2700
Fax: (613) 598 2705

Manitoba Department of Agriculture
903 - 401 York Avenue
Winnipeg, Manitoba
R3C 0P8
Tel: (204) 945-4491
Fax: (204) 945-6134
E-mail:bward@agric.gov.mb.ca

Grains and Oilseeds Division
International Markets Bureau
Market and Industry Services Branch
Agriculture and Agri-Food Canada
930 Carling Avenue
Ottawa, Ontario
K1A 0C5
Tel: (613) 759-7703
Fax: (613) 759-7476
E-mail: umbachg@em.agr.ca

Health Canada
A.L. 0913A
Ottawa, Ontario
K1A 0K9
Tel: (613) 957-2991
Fax: (613) 941-5366
Email: info@www.hc-sc.gc.ca
Internet: www.hc-sc.gc.ca

Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec
Direction du développenent des marchés
201 boul. Crémazie est.
Montréal, Québec
H2M 1L4
Tel: (514) 873-4410
Fax: (514) 873-2364

Ontario Ministry of Agriculture, Food and Rural Affairs
1 Stone Road West
Guelph, Ontario
N1G 4Y2
Tel: 1-888-466-2372
Tel: (519) 826-4246
Fax: (519) 826-3460

Ontario Wheat Producers' Marketing Board
Box 66
Chatham, Ontario
N7M 5K8
Tel: (519) 354-4430
Fax: (519) 354-0675
Email: ontwheat@ciaccess.com
Internet: www.farmshow.net/wheat

Pest Management Regulatory Agency
2250 Riverside Drive
Ottawa, Ontario
A.L. 6606D2
K1A 0K9
Tel: (613) 736-3799
Toll Free: 1-800-267-6315
Fax: (613) 736-3798
Email: pminfoserv@pmra.hwc.ca
Internet: www.hc-sc.gc.ca/pmra-arla/

Saskatchewan Department of Agriculture
Walter Scott Building
3085 Albert Street
Regina, Saskatchewan
S4S 0B1
Tel: (306) 787-4664
Fax: (306) 787-0428
E-mail: denglan1@mailer.agr.gov.sk.ca

Cereal Grain Processors

Abenakis Milling
114 St. Jean North
Saint-Claire, Quebec
G0R 2V0
Tel: (418) 883-3688
Fax: (418) 883-2662
Products: organic wheat flour

ADM Milling Company
7585 Danbro Crescent
Mississauga, Ontario
L5N 6P9
Tel: (905) 819-7015
Fax: (905) 819-9768
Internet: http://www.admworld.com
Products: hard and soft wheat flour, durum products, and oat products

Alberta Oats Ltd.
Box 228
Edmonton, Alberta
T5B 4K3
Tel: (403) 973-9101
Fax: (403) 973-5000
Products: oat groats

API Grain Processors
8040 Edgar Industrial Cr.
Red Deer, Alberta
T4P 3R3
Tel: (403) 347-7557
Fax: (403) 346-2662
Email: info@apigrainprocessors.com
Internet: www.telusplanet.net/public/apigp/
Products: wheat flour, gluten, fuel ethanol

Arva Flour Mills Ltd.
20-60 Richmond St. North
Arva, Ontario
N0M 1C0
Tel: (519) 660-0199
Fax: (519) 660-0200
Products: soft and hard wheat flour

Blair Mills
Rte. 33
Cambridge, Ontario
N3H 4R8
Tel: (519) 653-6731
Products: corn products (meal and flour)

Brant Flour Mills Ltd.
R.R. #4
Scotland, Ontario
N0E 1R0
Tel: (519) 484-2921
Fax: (519) 484-2555
Products: corn products (meal and flour) and rye flour

Canada Malting Co. Ltd.
Ste.1000-555 West Hastings St.
\Vancouver, British Columbia
V6B 4N4
Tel: (604) 602-7050
Fax: (604) 602-7051
Products: malt

Can-Oat Milling
Box 520
Portage La Prairie, Manitoba
R1N 3B9
Tel: (204) 857-9700
Fax: (204) 857-9500
Email: info@can-oat.com
Internet: http://www.can-oat.com
Products: oat products (groats, bran, flour, steel cut and rolled)

CASCO
401 The West Mall
Etobicoke, Ontario
M9C 5P7
Tel: (416) 620-2300
Fax: (416) 620-4488
Products: corn products (starch and sweeteners)

Commercial Alcohols Inc.
#2 Chelsea Lane
Brampton, Ontario
L6T 3Y4
Tel: (905) 790-7500
Fax: (905) 790-7700
Email: cainfo@comalc.com
Internet: http://www.comalc.com
products: industrial grade alcohol and fuel ethanol

Dominion Malting Limited
953-167 Lombard Way
Winnipeg, Manitoba
R3B 0V3
Tel: (204) 943-0741
Fax: (204) 947-6791
Products: malt

Dover Mills Ltd.
Box 2185
Halifax, Nova Scotia
B3J 3C4
Tel: (902) 429-0622
Fax: (902) 423-9075
Products: hard wheat flour

Emerson Milling
Box 424
Emerson, Manitoba
R0A 0L0
Tel: (204) 373-2328
Fax: (204) 373-2537
Email: info@emersonmilling.com
Products: oat products (flour, flakes and groats)

Halton Flour Milling Inc.
62 Mill Street West
Acton, Ontario
L7J 1G4
Tel: (519) 853-2850
Fax: (519) 853-0446
Products: hard and soft wheat flour

Howson & Howson Ltd.
390 Mill St.
Blyth, Ontario
N0M 1H0
Tel: (519) 523-4241
Fax: (519) 523-4920
Products: durum flour

CSP Foods
Bay 1-2175 Airport Road
Saskatoon, Saskatchewan
S7L 7E1
Tel: (306) 978-3400
Fax: (306) 978-3409
Email: csp@cspfoods.com
Internet: http://www.cspfoods.com
Products: hard and whole wheat flour

Dover Flour Mills Ltd.
140 King Street West
Box 3368
Cambridge Ontario
N3H 1B6
Tel: (519) 653-6267
Fax: (519) 653-2125
Products: hard and soft wheat flour

Ellison Milling Company
1301-2nd Ave. South
Lethbridge, Alberta
T1J 3Z1
Tel:(403) 328-6622
Fax: (403) 327-3772
Products: hard and whole wheat flour and durum semolina

Grain Process Enterprises Ltd.
39 Golden Gate
Scarborough, Ontario
M1P 3A4
Tel: (416) 291-3226
Fax: (416) 291-2159
Products: whole wheat flour, organic whole wheat flour, rye flour and corn flour

Hayhoe Mills Ltd.
201 Pinegrove
Woodbridge, Ontario
L4L 2H7
Tel: (905) 851-1194
Fax: (905) 851-8385
Products: soft and whole wheat flour

Humbolt Flour Mills
Box 400
Humbolt, Saskatchewan
S0K 2A0
Tel: (306) 682-2577
Fax: (306) 682-4486
Products: organic wheat flour

J.R. Short Canadian Mills
70 Wicksteed Ave.
Toronto, Ontario
M4G 2B5
Tel: (416) 421-3463
Fax: (416) 421-2876
Products: corn products (flour and meal)

Mohawk Oil Company
6400 Roberts Street
Burnaby, British Columbia
V5G 4B2
Tel: (604) 293-4114
Fax: (604) 293-4181
Products: fuel ethanol

Nacan Products Ltd.
60 West Drive
Brampton, Ontario
L6T 4W7
Tel: (905) 454-4466
Fax: (905) 454-5207
Internet: http://www.nacan.com
Products: corn starch

Popowich Milling
120 Myrtle Avenue
Yorkton, Saskatchewan
S3N 1R1
Tel: (306) 783-2931
Fax: (306) 786-6733
Products: oat products (flour and oat)

Pound-maker Agventures
Box 591
Lanigan, Saskatchewan
S0K 2M0
Tel: (306) 365-4281
Fax: (306) 365-4283
Email:
pound.maker.agventures@sk.sympatico.ca
Products: fuel ethanol

Prairie Malt Limited
Box 1150
Biggar, Saskatchewan
S0K 0M0
Tel: (306) 948-3305
Fax: (306) 948-3969
Email: pml@prairiemaltltd.com
Internet: www.prairiemaltltd.com
Products: malt

King Milling of Canada
701 Richmond
Chatham, Ontario
N7M 5K6
Tel: (519) 351-1060
Fax: (519) 351-7103
Products: corn products (meal and flour)

Nabisco Milling Company
A Division of Nabisco Ltd.
27 Reid Drive
Mississauga Ontario
L5M 2B1
Tel: (905) 826-1240
Fax: (905) 826-4852
Products: soft wheat flour

New Life Mills Ltd.
Box 219
Hanover, Ontario
N4N 3C5
Tel: (519) 364-3260
Fax: (519) 364-6951
Products: hard and soft wheat flour

Port Royal Mills
240 Industrial Parkway South
Aurora, Ontario
L4J 3V6
Tel: (905) 713-1712
Fax: (905) 713-0074
Products: hard wheat flour

Prairie Flour Mills Ltd.
Box 301
Elie, Manitoba
R0H 0H0
Tel: (204) 353-2895
Fax:(204) 353-2943
Products: hard wheat flour

Prairie Sun Grains Ltd.
c/o Alberta Wheat Pool
Box 2700, 505 2nd St. SW
Calgary, Alberta
T2P 2P5
Tel: (403) 672-2431
Fax: (403) 672-3598
Products: hard wheat flour

Primo Foods Ltd.
(a division of Nabisco Limited)
10 Parklawn Road
Etobicoke, Ontario
M8Y 3H8
Tel: (416) 253-3200
Fax: (416) 253-3210
Products: durum products

The Quaker Oats Company of Canada Ltd.
Quaker Park
Peterborough, Ontario
K9J 7B2
Tel: (705) 743-6330
Fax: (705) 876-4152
Email: canada@quakeroats.ca
Internet: http://www.quakeroats.ca
Products: oat products (flakes, meal and flour)

Robin Hood Multifoods Inc.
60 Columbia Way
Markham, Ontario
L3R 0C9
Tel: (905) 940-9600
Fax: (905) 940-6859
Internet: www.robinhood.ca/bread
Products: hard, soft and whole wheat flour and durum flour

Rogers Foods Ltd.
4420 Larkin Crossroad
Armstrong, British Columbia
V0E 1B0
Tel: (250) 546-8744
Fax: (250) 546-8228
Internet: www.rogersfoods.com
Products: hard and whole wheat flour

Rice & Spice Canada Inc.
697 Amaretto Avenue
Pickering, Ontario
Canada
L1X 1L7
Tel: 905-420-9939
Fax: 905-831-2388
Products: canola seed, oil and meal; sunflower seed, oil and meal; flaxseed; soybean oil and meal; and corn oil.

Westglen Milling
Box 4615
Barrhead, Alberta
T7N 1A5
Tel: (403) 674-3960
Fax: (403) 674-2024
Products: oat products (flour, bran and flakes)

Westcan Malting Limited
Box 113
Alix, Alberta
T0C 0B0
Tel: (403) 747-2777
Fax: (403) 747-2660
Products: malt

Cereal Grain Trading Companies

ADM Milling Company
7 Higgins Avenue
Winnipeg, Manitoba
R3B 0A1
Tel: (204) 925-2100
Fax: (204) 947-1788
Internet: www.admworld.com

Agricore
220 Portage Avenue
Winnipeg, Manitoba
R3C 3K7
Tel: (204) 947-1171
Fax: (204) 934-0451
Products: wheat, barley, oats, rye

Products: wheat, barley, oats

AgPro Grain Inc.
1504-201 Portage Avenue
Winnipeg, Manitoba
R3B 3K6
Tel: (204) 942-2470
Fax: (204) 949-0936
Email:
jbrassier@headoffice.agrpro.swp.com
Products: wheat, barley, oats, rye

Agro-Hall Ltd
4999 Ouest Rue Ste-Catherine West
Suite 455
Westmount, Quebec
H3Z 1T3
Tel: (514) 369-2476
Fax:: (514) 369-5793
Products: wheat, barley

Alfred C. Toepfer (Canada) Ltd.
709-167 Lombard Avenue
Winnipeg, Manitoba
R3B OV3
Tel: (204) 925-0468
Fax: (204) 956-0282
Products: wheat, barley, oats, rye

Benson-Quinn Company
970-360 Main Street
Winnipeg, Manitoba
R3C 3Z3
Tel: (204) 982-7942
Fax: (204) 942-8077
Internet: www.bqci.com
Email: kevinc@solutions.net
Products: wheat, barley, oats, rye

Bunge of Canada Limited
812-167 Lombard Avenue
Winnipeg, Manitoba
R3B 0V3
Tel: (204) 949-0066
Fax: (204) 949-0068
Products: wheat, barley,

Canada Malting Co. Ltd
Box 728, Station M
Calgary, Alberta
T2P 2J3
Tel: (403) 571-7000
Fax: (403) 571-7070
Products: malt, barley

Cargill Limited
300-240 Graham Avenue
Winnipeg, Manitoba
R3C 4C5
Tel: (204) 947-0141
Fax: (204) 956-0995
Internet: www.cargill.com
Products: wheat, barley, corn, oats, rye

ConAgra Limited
2100-360 Main Street
Winnipeg, Manitoba
R3C 3Z3
Tel: (204) 942-5550
Fax: (204) 943-4012
Internet: www.conagra-canada.com
Products: wheat, barley, oats, rye

Continental Grain Co. (Canada) Ltd.
2500-200 Granville Street
Vancouver, British Columbia
V6C 1S4
Tel: (604) 684-7292
Fax: (604) 684-8031
Products: wheat, barley, oats, rye

GrainCo
(A Division of ADM Agri-Industries Ltd.)
5550 Maplewood drive
Windsor, Ontario
N9C 3Z1
Tel: (519) 972-2302
Fax: (519) 966-7135
Products: corn

James Richardson International Limited
2500 - One Lombard Place
Winnipeg, Manitoba
R3B 0X8
Tel: (204) 934-5627
Fax: (204) 956-0287
Internet: www.jri.com
Products: wheat, barley, corn, oats, rye

Hensall District Co-operative
Box 219
Hensall, Ontario
N0M 1X0
Tel: (519) 262-3002
Fax: (519) 262-2317
Products: corn

London Agricultural Commodities
1112 Hyde Park Road
Hyde Park, Ontario
N0M 1Z0
Tel: (519) 473-9333
Fax: (519) 473-5781
Products: corn

Malchy Grain Company, Ltd
975-167 Lombard Avenue
Winnipeg, Manitoba
R3B 0V3
Tel: (204) 944-9328/9
Fax: (204) 947-2271
Products: wheat, barley

Mitsubishi International Corporation
1211 SW 5TH Avenue, Suite 2800
Portland, Oregon
97204 U.S.A.
Tel: (503) 227-3271
Fax: (503) 241-8109
Products: wheat, barley

N.M. Paterson & Sons Limited
609-167 Lombard Avenue
Winnipeg, Manitoba
R3B 0V5
Tel: (204) 956-2090
Fax: (204) 947-2386
Products: wheat, barley, oats, rye

Northern Sales Co. Ltd.
135 Lombard Avenue
Winnipeg, Manitoba
R3B 0T4
Tel: (204) 949-1456
Fax: (204) 957-0350
Email: jmiddagh@northernsales.ca
Products: wheat, barley

Parrish & Heimbecker Limited
661-167 Lombard Ave.
Winnipeg, Manitoba
R3B 0V6
Tel: (204) 956-2030
Fax: (204) 956-8233
Products: wheat, corn, corn, rye, oats

Louis Dreyfus Canada Limited
Suite 1400, 333-11 Ave SW
Calgary, Alberta
T2R 1L9
Tel: (403) 205-3322
Fax: (403) 205-4408
Products: wheat, barley, corn, oats

Maple Leaf Food International
3080 Yonge Street
Toronto, Ontario
Tel: (416) 480-8900
Fax: (416) 480-8950
Email: info@mlfi.com
Internet: www.mapleleaffoods.com
Products: wheat, barley, oats

Nissho Iwai American Corporation
1211 SW 5TH Avenue, Suite 2200
Portland, Oregon
97204 U.S.A
Tel: (503) 220-2217
Fax:(503) 241-0302
Products: wheat, barley

Norfolk Co-operative Co. Ltd.
Box 368
Simcoe, Ontario
N3Y 4L3
Tel: (519) 426-2740
Fax: (519) 426-7203
Products: corn

Pacific Elevators Limited
4th Floor,-1111 West Hastings Street,
Vancouver, British Columbia
V6E 2J5
Tel: (604) 684-5161
Fax: (604) 684-7106
Products: wheat, barley, oats, rye

Range Grain Company Limited
960-360 Main Street
Winnipeg, Manitoba
R3C 3Z3
Tel: (204) 943-6407
Fax: (204) 947-0677
Products: wheat, barley,

Saskatchewan Wheat Pool
2625 Victoria Ave
Regina, Saskatchewan
S4T 7T9
Tel: (306) 569-4411
Fax: (306) 569-4708
Internet: www.swp.com
Products: wheat, barley, oats, rye

United Grain Growers Limited
T.D. Center, Box 6600,
201 Portage Avenue,
Winnipeg, Manitoba
R3C 3A7
Tel: (204) 944-5406
Fax: (204) 947-1779
Internet: www.agcanada.com.ugg
Products: wheat, barley

XCAN Grain Pool Limited
1200-201 Portage Avenue
Winnipeg, Manitoba
R3B 3K6
Tel: (204) 949-4500
Fax: (204) 949-1057
Products: wheat, barley, oats, rye

W.G. Thompson & Sons Ltd.
367 Woodlawn Rd. West Block B
Guelph, Ontario
N1H 7K9
Tel: (519) 763-3270
Fax: (519) 763-8913
Products: wheat, corn

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