

Investment Information On British Columbia Hog Industry With Special Reference To Peace River Region and North Okanagan



**BRITISH
COLUMBIA**

**Ministry of Agriculture,
Food and Fisheries**

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Introduction

This document is prepared as a reference guide for those who are thinking about investing in hog production in British Columbia.

Most of the information in this package is geared towards investment in the B.C. Peace River Region. This region produces 90% of B.C. grain and has an abundance of land which makes it economically suitable for sustainable pork production. There are other areas in B.C. suitable for this type of agricultural activity such as North Okanagan. The Merritt area and North Central Region have never been closely considered for pork expansion and may hold some potential.

The information provided is not meant to be comprehensive or exhaustive. The most effective use of this document will be achieved by following up with B.C. Ministry of Agriculture, Food and Fisheries and also relevant departments and agencies.

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Industry Profile

- ❖ About 50 commercial hog farms are registered with BC Hog Marketing Commission. Census of Agriculture Statistics (2001) shows 1,121 farms reporting pork production in BC.
- ❖ Production in 2002 was estimated at 209,000 heads which account for 15% of the province pork requirements as reported by BC Hog Marketing Commission.
- ❖ 90% of total production is from 40 farms located within Fraser Valley.
- ❖ 2% of total production is from the North Okanagan, and 6% from Vancouver Island and Peace River.
- ❖ There are five medium and small slaughtering plants in BC located throughout the province.
- ❖ BC Hog Marketing Commission (BCHMC) is a central selling desk, sales are pooled weekly, and prices are based on US markets.
- ❖ Cash receipts in hog sales marketed through BCHMC were \$27.6 million in 2002.
- ❖ BC produces high quality hogs and is in the process of implementing a Pork Quality Assurance Program.
- ❖ There is a demand for fresh pork by a large Asian population locally.
- ❖ Vancouver, the commercial capital of the province, is the gateway to the Pacific.

Challenges and Opportunities

Most of the pork produced in this province comes from the Fraser Valley where most British Columbians live. Most of the province's milk, poultry and eggs are produced here, not to mention hobby livestock and crop production. The high level of agricultural activities in this area makes environmental stewardship a high priority to protect the scarce soil and water resources. Consequently livestock producers may have to spend more money to manage manure so that it does not become a source of pollution to the environment. In addition, it is more expensive to bring grain from Alberta to feed hogs in the Fraser Valley. It makes economic sense to locate hog production closer to where grain is produced, and where there is adequate and cheap land for manure application. Consequently, the North Okanagan and the Peace River region, particularly the latter, may be suitable areas for those who are thinking about investing in pork production in BC.

It is estimated that about \$100 million have been invested in the pork production infrastructure in the Fraser Valley. These investments generate about 400 million dollars in economic activity in the province. This is an important sector of B.C.'s agricultural industry. Established hog operations in the Fraser Valley will continue to be a source of income and employment to B.C.'s economy.

The information provided in this publication is not intended to discourage investment within the Fraser Valley. It is intended to provide investors and new producers with a more profitable alternative which is documented under Competitiveness of B.C. Pork Industry – Summary and Implication on page 16.

Hog Production Attributes of the Peace River Region of British Columbia

Feed

- ❖ The region is a feed surplus area which results in low feed grain prices when compared to feed deficient areas.
- ❖ 90% of the provincial grain crop is produced in this region.
- ❖ Feed barley, wheat and peas are produced in abundance as well as canola from which a high protein meal supplement is produced.
- ❖ The average price for feed barley (2002) was \$113.00 per tonne and feed wheat prices over the same period averaged \$119.00 per tonne.

Land

- ❖ Land is surveyed into 64 hectares square blocks and can be purchased for about \$1000.00 (Canadian) per hectare.
- ❖ The region has 21.8% of the provincial land and only 1.7% of the population which allows for the establishment a hog operations away from other developments.
- ❖ Many hog producing areas in the world are running into problems because of a high population density. This region has a very low population density, large open tracts of land, and the soils in the area could benefit from the application of hog manure.
- ❖ There is a growing trend towards larger operations because of economies of scale. The BC Peace River Region has the land and feed grain to support these large operations.

Hog Production Attributes of the North Okanagan

- ❖ The Okanagan is one of the most scenic spots in Canada with lakes, rivers and forests admirably suited for boating, fishing and camping.
- ❖ This region includes some small towns such as Lumby, Vernon, Armstrong, Enderby, and Salmon Arm, which are separated by agricultural areas capable of sustaining pork production. It offers the comfort of country living with easy access to amenities offered by the urban centers.
- ❖ It is an important pork producing area in the province with production reaching over 50,000 heads annually in the late 1980's.
- ❖ There are approximately 40,000 ha of arable land in the area.
- ❖ Land costs range between \$6,000 – \$10,000/ha, and these holdings have access to potable water and electricity.
- ❖ Some feed grain is produced in the region, but most of the grain for pork production comes from the Prairies.
- ❖ Because of its proximity to Alberta, and milder climate than Alberta, it is ideally suited for the production of weaner pigs that can be finished in Alberta where there is access to cheaper grain than South Coastal B.C.

Foreign Investment with Respect to Land Ownership

- ❖ Anyone can buy land in British Columbia. You do not have to be a Canadian or a resident to do so.
- ❖ The Agricultural Land Commission is responsible for administering the Agricultural Land Commission Act and the Soil Conservation Act that govern the Agricultural Land Reserve.
- ❖ The Agricultural Land Reserve is a provincial land use zone that protects scarce soil resources and provides agriculture a place to conduct business.
- ❖ The Provincial Agricultural Land Commission adjudicates applications for the subdivision and non-farming use of land in the Agricultural Land Reserve, and conducts land use planning in partnership with local governments.
- ❖ Neither the Commission nor local government limit who can own land in the ALR, but do regulate how it can be used.

Labour Regulations, Costs and Training Availability

- ❖ As an employer in the province of B.C. there are a number of regulations which are designed to benefit both the employee and employer. Agriculture is exempt from some of the regulations but the following list identifies those that requires attention.
 - 1) Payroll deductions
 - ❖ <http://www.hrhc-drhc.gc.ca/common/home.shtml>
 - ❖ <http://www.ccra-adrc.gc.ca/menu-e.html>
 - Income tax
 - Canada Pension
 - Unemployment insurance
 - 2) Workers compensation
 - ❖ <http://www.worksafebc.com>
 - 3) Safety Guidelines
 - ❖ http://info.load-otea.hrhc-drhc.gc.ca/federal_legislation/part2/part2.htm
 - 4) Legislated employment standards
 - ❖ <http://www.labour.gov.bc.ca/esb>
 - Minimum wages
 - Annual vacation and holiday pay
 - Termination of employment
 - Child employment
 - Maternity leave
 - General holidays
 - 5) Human rights legislation
 - ❖ <http://www.mcf.gov.bc.ca/publications/diversity/diversityguide15.htm>
- ❖ The B.C. Ministry of Agriculture, Fisheries and Food have a handbook called *BC Farm Employers' Handbook* which provides all the detail required for farm employers. Copies of this series of five handbooks can be obtained by contacting:
 - Extension Systems Branch
 - BC. Ministry of Agriculture, Fisheries and Food
 - 808 Douglas Street
 - Victoria, B.C. V8W Z7
 - Phone (604) 387-3498
- ❖ At present the minimum wage is \$8.00 per hour but most hog producers are paying \$10.00 per hour for general labour. As the skill level requirements and responsibility increase so do the wage rates. The top rates are at the \$18.00 per hour level.
- ❖ There are University and College level degree and certificate programs in livestock production readily available for those who wish to pursue formalized training.

Taxation - Regulation Relating to Farming

Purchase Property Tax

- ❖ The initial purchase of farm property has a one time tax on the purchase of real property based on the property's fair market value. The tax is 1% of the first \$200,000 and 2% on the remaining value.

Provincial Income Tax Rates

- ❖ Personal rates range from 6.05% to 14.7% for 2002.
- ❖ General Corporate rate is 13.5% for 2002.

Social Services Tax

- ❖ Capital items and most supplies used for farming are exempt from the 7.5% social service tax. Specific items that are exempt may be found on bulletin 023 from the Ministry of Provincial Revenue, found online at: <http://www.rev.gov.bc.ca/ctb/publications/bulletins/023.pdf>.

Land Taxes

- ❖ The B.C. Assessment Authority sets the land and building tax rates. Land that is actively farmed receives "farm property status" for valuation purposes. Land is assessed on its productive capability rather than its fair market value.
- ❖ Farm buildings, on bona fide farms, in rural areas are exempt from general taxation. Farm buildings on bona fide farms in rural municipalities are exempted on the first \$50,000 of assessed value for school and hospital tax.

Transportation

- ❖ The Peace River Region is geographically closer to the Asian markets than any other feed surplus area in Canada. Transportation needs of the area are handled by two railroads, many trucking firms, and three airline companies.
- ❖ An efficient highway system makes slaughter facilities in Langley, Edmonton, and Red Deer easily accessible. However, the local slaughter facilities are quite capable of handling additional slaughter.
- ❖ North Okanagan is located about four hours by car from Vancouver. An efficient highway system makes the region very accessible.

Research and Development

- ❖ Research activities in B.C. hog industry are focused on meeting the needs of this sector. About 90% of B.C. hogs are produced in the Central Fraser Valley where concern for the environment has been increasing. Research over the past eight years has been focused on developing better ways of managing hog manure.
- ❖ Expanding hog production in B.C. Peace River region is more sustainable than the Fraser Valley because of the abundance of land on which manure can be spread. It is possible that the research priorities in pork production may change with the production of more hogs outside of the Fraser Valley.
- ❖ B.C. Peace River region has a somewhat similar climate and geography as the Canadian prairie. The swine research needs in the Peace River would be similar to those of Western Canada where the high hog population justifies investment in research. The Prairie Swine Centre, University of Alberta and the University of Manitoba are involved in swine research in Western Canada. There is a wide exchange of research and technical information on pork production across Canada, United States and Europe especially with the evolution of the internet. There is an adequate technical information flow that would support the development of the hog industry in B.C. Peace River.

Service Industry Infrastructure

- ❖ Some farmers have their own feed mills but commercial feed mills are present for those who prefer to use finished feeds.
- ❖ General practice veterinarian clinics are readily accessible.
- ❖ Tools, farm equipment, building supplies, fuel and all general farm supplies are readily available in the area.
- ❖ Hog breeding companies and companies that sell specialized and modern equipment for hogs, service this region of the province but are generally located outside the region.
- ❖ In the Peace River region building permits are not required for rural agricultural buildings. Permits for gas, electricity and domestic sewage still apply.

Genetic Improvement and Breeding Stock Supply

Swine Testing and Genetic Improvement

- ❖ Independent suppliers of breeding stock operate a modern swine testing and genetic improvement service in affiliation with the Canadian Center for Swine Improvement. Local service is provided by Western Swine Testing Association, a non-profit association of producers.
- ❖ Testing services and genetic indices are provided for growth, backfat, maternal productivity (total born), carcass yield and meat quality. Backfat and carcass measurements are taken by independent technicians employed by Western Swine Testing Assoc. Genetic Indexes for growth and backfat are provided on the farm on test day using portable computers carried by the technicians. These evaluations are used to update national EBV's for the above traits which are run on a quarterly basis.
- ❖ B.C. is served by several local independent suppliers of swine breeding stock, all of whom maintain a rigorous schedule of testing and genetic improvement. In addition, most of the multinational breeding companies including NPD, PIC, Monsanto, and TOPIGS are represented by local sales people, and in some cases local multipliers. Adequate supplies of high health breeding stock are available to stock new units.
- ❖ Other services such as commercial product line testing, within herd selection and testing programs and genetic advice are available through Western Swine Testing Association.

Cost of Critical Purchased Inputs (Specific for the Peace River Region)

Utilities

- ❖ Electricity and natural gas are distributed through out the region.
- ❖ The cost of these two utilities will depend upon the efficiency of the barns and the production system being used but should not exceed \$1.00 per market hog for natural gas and \$2.00 per market hog for electricity.

Water

- ❖ The predominant source of water for agricultural enterprises are large, shallow earthen reservoirs filled by surface water runoff.
- ❖ Deep impervious clay soils, large undeveloped gently sloping topography, and a quick spring thaw of an average annual snowfall of 200 cm make these “dugouts” the system of choice on many Peace River farms.
- ❖ Common capacities range from 1000 to 4000 cubic meters.
- ❖ Qualified services exist in the region to assist in the best siting and construction of dugout water systems.
- ❖ Aeration and regular chemical bulk water treatments can be expected to keep these surface water sources in a water quality range practical for most intensive operations.
- ❖ High capacity groundwater wells at less than 200' depth is less common and may often require iron treatment. Some limited groundwater availability data is available through the federal P.F.R.A. organization. In B.C. a government system of water licensing exists for surface water sources and is expected to be implemented for groundwater in key watersheds.
- ❖ Water licensing is recommended to protect the capital investment and long term access to water for intensive agricultural operations.

Main Legislations Affecting Pork Production

Two key pieces of legislation that affect hog production and manure management in B.C. are:

- 1) the *Farm Practices Protection (Right to Farm) Act*
 - ❖ http://www.agf.gov.bc.ca/resmgmt/publist/800series/820110-1Good_Neighbour.pdf
- 2) the *Waste Management Act*
 - ❖ http://www.qp.gov.bc.ca/statreg/reg/W/WasteMgmt/131_92.htm

The fundamental policy of the *Farm Practices Protection (Right to Farm) Act* is that farmers have the right to farm in B.C.'s important farming area, particularly the Agricultural Land Reserve, provided they use "normal farm practices" and follow other legislation listed in the act. This act also establishes an improved complaint resolution process for people who live near farms and have concerns about farm practices which create dust, odour, noise or other disturbances.

In addition, this act amends the *Municipal Act* and *Land Titles Act* to encourage local governments to support farming by ensuring local bylaws reflect provincial bylaw standards. Although local governments have the authority to enact and enforce a variety of land use plans and zoning bylaws, they can only do so with the approval of the Ministry of Agriculture, Fisheries and Food. Municipalities may regulate:

- ❖ areas within a region where hog production is permitted;
- ❖ setback distances from lot lines and watercourses from farm buildings;
- ❖ building requirements in flood plains;
- ❖ nuisance, such as excessive noise and odour.

If changes are made to a zoning bylaw, existing hog operations are protected under the non-conforming section of the municipal act. That is, hog operations can be considered legally non-conforming but limited to existing size unless expansion can meet the requirements of the new bylaw.

The *Waste Management Act* is designed to control pollution in the province. Under this act, the Agriculture Waste Control Regulation and Code of Agricultural Practices for Waste Management apply, specifying requirements for managing the collection, storage, handling and using manure as a fertilizer. Hog producers who conform to the Code are exempt from holding a Waste Management Permit, but not from other provisions of the act.

Competitiveness of BC Pork Industry Summary and Implications

This “Summary and Implications” to follow is taken as is from the Study
“Competitiveness of B.C. Pork Industry: done by Ken McEwan from Ridgetown College,
University of Guelph on March 1998.

5.0 SUMMARY AND IMPLICATIONS

This section of the report summarizes the main points learned from conducting this study looking at the competitiveness of the B.C. pork industry.

5.1 Study Introduction

The North American pork industry is undergoing tremendous change at both the producer and processing levels. Producer numbers are falling, resulting in fewer but larger swine operations. Within the processing sector there have been several buyouts/takeovers as plants jockey for a greater share of the North American hog supply. There have also been provincial production shifts within Canada with Manitoba pig numbers increasing (8.8% from 1994 to 1998) while Alberta hog numbers have only increased modestly (1.5%) and British Columbia numbers have decreased (3.6%).

Amidst all this change in U.S. and Canadian pork production, B.C. has been struggling to maintain a viable, sustainable pork industry. The two main regions of pork production in B.C. are the Lower Mainland and Peace River District. Each region is distinct and faces its own unique challenges. Issues facing pork production in the Lower Mainland include: higher land costs; environmental concerns; packer consolidation; and higher feed costs. The main challenges facing the development of pork production in the Peace River District include: lack of pork infrastructure; distance to processing plants; and shortage of human capital with production expertise.

The vast majority of pork needed for British Columbia is imported from the prairies. The province has a population base over 3,000,000 and raises less than 25 percent of its pork needs. B.C. is unique due to a large Chinatown market in Vancouver and the number of small meat markets which are distinct from the large retail chains. The main processing plant left in the Vancouver area is experiencing considerable cost pressure from high volume, low margin prairie plants and it was recently sold to a consortium of private investors with close linkages to the Chinatown market. B.C. producers currently find themselves in an export position and produce more hogs than required by the specialty markets of Chinatown and local butchers.

5.2 Purpose and Methodology

The purpose of this study was to analyze competitiveness factors within the pork supply chain that impact on the location and size of the B.C. pork industry. The study was to calculate the cost of production for raising hogs in the 2 main B.C. pork production areas i.e. Lower Mainland and Peace River, and compare these costs to those found in southern Alberta. The specific objectives of the study were:

- (i) determine costs of production for the traditional farrow to finish farm along with 3 site facilities in the Lower Mainland and Peace River District of B.C..
- (ii) assess competitiveness factors beyond the farm gate that might be limiting B.C. pork production. This was to include a description of the processing sector.
- (iii) assess the potential for adopting new innovative production technologies i.e. SEW.

The main step taken to conduct the study was to generate cost of production models for the 3 locations of Lower Mainland, Peace River, and Southern Alberta (Calgary). Budgets were modified to reflect local conditions for feed, transportation, taxes, and market prices. In addition comments were to be made on producer vulnerability regarding processor rationalization.

5.3 Summary of Findings and Implications

The main findings and their implications are now discussed.

5.3.1 Industry Description and Impact

B.C. slaughter numbers in 1997 accounted for 1.7 percent of the Canadian hog slaughter. For the year of 1997 British Columbia marketed and slaughtered 267,974 and 265,000 hogs respectively. These numbers are small relative to other Canadian provinces (Alberta slaughtered 2,249,800 hogs in 1997) and very small when compared to many U.S. states (typical U.S. slaughter is over 95 million hogs). Over the last few years hog marketings have been dropping from 1994 levels of 315,488. The Lower Mainland produces about 85% of B.C.'s total production and the marketings from 10 farms constitutes over 50% of B.C.'s output. The Peace River District and Vancouver Island account for 8% of B.C.'s marketings.

British Columbia is a small player in North American pork production and thus the major players in the North American market place have not located here. The main processing plant left in the Lower Mainland (Britco) simply custom slaughters for Fletcher's Fine Meats and services the Chinatown market. Increasingly, Fletcher's Fine Foods is less willing to expend much of their energy into the B.C. industry, rather it has chosen to focus more on the large fresh pork trade by expanding its' plant in Red Deer. Evidence of this dwindling interest in B.C. pork production is the sale of an 80% interest in Britco. Thus, British Columbia pork producers have little influence to encourage the

development of new products when Fletcher's strategy is to gear up for the much larger and likely more profitable commodity market (in total \$).

Porter chain theory suggests there are 4 generic strategies to achieve above average performance, namely, i) low cost of production; ii) product differentiation; iii) volume throughput; and iv) efficiency. This theory would suggest that the appropriate strategy for B.C.'s Lower Mainland would be product differentiation and efficiency. However, because Fletcher's Fine Foods strategy has been to expand its Red Deer plant and target more the fresh pork trade, resources have not been committed to searching out new markets and developing new products that can be branded using B.C. pork which would be the more appropriate strategy for the Lower Mainland.

5.3.2 Pork Production in the Lower Mainland is Viable if Land Costs Not Included

Pork production in the Lower Mainland is a viable option if the high cost of land is excluded from the cost of production calculation. The farrow to finish, finishing, and farrow to early wean budgets all showed Vancouver to be relatively comparable to Dawson Creek and Calgary in terms of profitability. The 3 year simulated average return for farrow to finish was \$20.14, \$25.06, and \$21.22 respectively for Vancouver, Dawson Creek, and Calgary. The higher feed costs associated with the Lower Mainland (typically \$5 to \$6/hog more than Calgary on a finishing operation) are partially offset by the slightly higher revenue on a per pig basis (usually \$4/hog more than Calgary) and lower transportation costs (\$.75 less than Calgary). If land costs are factored into the cost of production for a typical hog finishing unit, Vancouver is at about a \$10/hog disadvantage when compared to Dawson Creek.

The results indicate there is little advantage to farrowing in the Lower Mainland and finishing the hogs in Calgary. The difference in the 3 year average returns between Vancouver and Calgary for finishing is only \$1.13 per hog i.e. \$5.45 - \$4.32. It is interesting to note that the range in returns for the Vancouver location is less than both Calgary and Dawson Creek. Results also appear to indicate that farrow to finish production is a more profitable alternative than either simply finishing or farrow to early wean. The profitability of finishing and farrow to early wean production was quite modest with 3 year average returns of \$4.32/pig and \$.04/pig respectively at the Vancouver location. Surprisingly, round hog production is not more profitable than straight finishing. For the three study years finishing hogs and selling some as rounds netted less revenue than simply finishing.

From an environmental perspective, production in the Lower Mainland is sustainable if the proper balance between manure and fertilizer can be found. One viable solution that producers should consider is entering into long term manure spreading contracts with neighbours thus reducing manure loading rates on individually owned land.

5.3.3 Peace River District Offers a Viable Alternative For Pork Production

Cost of production results indicate that pork production in the Peace River region is economically feasible. In terms of net revenue per pig for a farrow to finish farm, Dawson Creek had the highest 3 year average at \$25.06/hog when compared to Calgary and Vancouver. On a per pig basis, Dawson Creek had about a \$4 feed advantage over Calgary for a finishing operation depending on the particular year used. The frequency of negative returns simulation showed that Dawson Creek tended to have either the highest or second highest occurrence of low returns, however, this location also had the largest 3 year maximum returns. This would indicate that Dawson Creek tends to be slightly more variable in terms of profitability, than other locations.

From a long run production perspective, the future looks bright for the Peace River Region because it will likely continue to have cheaper land, lower priced grains, less environmental pressure, and a strong market driven packer. The Peace region lends itself to the expansion of large 1,200 and 2,400 sow units which are increasingly becoming the North American industry norm. It would seem the major obstacle to overcome in the Peace is not one of poor profitability, rather simply the lack of human capital skilled at organizing and managing large, intensive swine units.

5.3.4 Opportunity For Specialty Markets in Lower Mainland not Fully Explored

As described in the industry structure summary, Fletcher's long run strategy is more geared to Alberta production than B.C.'s. Unfortunately, 50% of B.C.'s production is still geared to commodity markets with little or no value added. In the commodity market B.C. hogs are likely at a competitive disadvantage given the smaller loin size. Thus, market analysis and business case development must be performed to show how increased revenue can be earned using B.C. hogs. Performing this kind of analysis has likely not been in Fletcher's best interest given their strategy to expand into the commodity markets. The demand for pork in the PNW is strong and B.C. does have locational advantage. The evidence appears strong from previous market research reports that British Columbians are willing to pay a higher price for B.C. branded farm produce.

The opportunity for large volume exports to Japan seems impractical given B.C.'s smaller critical mass. However, there may be specific higher valued cuts that B.C. could supply that bring greater returns to producers.

5.3.5 There is a Need For Two Separate Pork Development Strategies to Suit the Lower Mainland and Peace River District

The emphasis in the Lower Mainland should be in market assessment and business case development. Perhaps an opportunity exists for partnerships to be formed to explore these higher valued pork markets. General steps that need to occur are: detailed market assessment; determine the price the consumer is willing to pay; and estimate the potential profit margin.

In the Peace River District much more time should be spent developing community based production systems so that a standard production template can be developed for entrepreneurs to use. The template should include discussion on issues such as community governance, financial accountability, and community investment strategies. There are several examples of these types of alternative production systems being built in other prairie locations. In Saskatchewan, limited partnerships have received a lot of attention because initially the investor receives a higher tax deduction. The key requirement for a limited partnership to work well is the willingness of someone to take on the responsibility of general partner. This person must have an historical track record of business success in pig production. These types of individuals are in short supply not only in the Peace Region but throughout North America.

Using Porter Value Chain theory, the Lower Mainland should concentrate on product differentiation and efficiency whereas, the Peace River District has to focus on low cost of production and volume throughput in order to be long run competitive.

APPENDIX 1

Hog Production Opportunities in British Columbia (Peace River) Canada New Producer Information Package

Major sections include:

- **Industry Profile**
- **Geographic Advantages**
- **Land Cost**
- **Climate**
- **Grain Production – Feed Prices**
- **Marketing and Finance**
- **The Ideal Candidate**
- **Contact**

INDUSTRY PROFILE

The province of British Columbia presently produces only 15 per cent of its pork requirements and is the gateway for exporting pork from Canada to the Pacific Rim and some U.S. markets.

As the world demand for pork increases and the need to protect our environment come into conflict, new hog production units must be located where the environment can be protected and the economics of hog production are competitive.

Large tracts of affordable land, low animal feed costs and efficient transportation systems make British Columbia's Peace River region an ideal location for establishing a hog production business.

GEOGRAPHIC ADVANTAGES

The Peace River region is located in the north eastern area of the province and the terrain is quite similar to the prairies of Western Canada. It is the only area in B.C. where the terrain is relatively flat with large tracts of farm land.

The region contains 443,000 hectares of high capability agricultural land which represents 46 per cent of the provincial total. It is one of the few remaining areas in Canada where there is still potential to bring new land into agricultural production.

These large land holdings are able to accommodate future growth of the hog production industry without posing a threat to the environment (e.g. manure management) or conflict with urban development.

LAND COST

Suitable land with electricity and natural gas service costs about \$1000 per hectare.

CLIMATE

The Peace River region experiences four distinct seasons throughout the year. Average temperatures are 22 degrees Celsius in summer and -10 degrees Celsius in winter. Annual frost free days for the region average between 105 and 110. Annual rainfall is 467 mm averaged over the last 30 years.

**Wheat and Canola
Production in the
Peace River,
British Columbia**



GRAIN PRODUCTION & FEED PRICES

Feed prices in the Peace River region are the lowest in the province due to the strong local grain industry. The region typically produces 95 per cent of the wheat grown in B.C., 70 per cent of its barley and oats and all of its canola and field peas. In total 154,000 hectares of land is used for the production of these crops.

Between 1990 and 1994, on average, barley was \$30.45 a tonne less in the Peace River region than in the Fraser Valley, the traditional hog producing region of the province. Over the same period of time feed wheat prices in the Peace averaged \$32.57 a tonne less. These prices translate into approximately \$8.68 in savings per market hog.

MARKETING AND FINANCING

Hogs produced in the Peace River region have a variety of marketing options. The local slaughter facilities now must bring in hogs from Alberta, the neighbouring province, to meet their

requirements. An efficient highway system makes slaughtering facilities in Vancouver, Edmonton (Alberta) and Red Deer (Alberta) easily accessible by truck.

Canadian hog production units are becoming larger and new units now coming on stream are 500 to 1,200 sow modules. New farrow to finish operations will have a capital cost of approximately \$4,200 per sow with an additional \$800 required for breeding stock, feed and facility operations up to the point where the unit will start to produce a cash flow. Financing assistance for the development of hog production units is available from several banking institutions and one federal government crown corporation. Equity requirements will vary between 20 per cent and 50 per cent depending on the lending institution, security offered, management's expertise and the total business plan presented.



**Grain Harvesting
in the
Peace River Region,
British Columbia**

THE IDEAL CANDIDATE

If you have any of the following experience, training and resources, you may be an ideal candidate to develop a hog farm in the Peace River region:

- ◆ Financial capability to start a hog farm
- ◆ Owned, managed or worked on a hog farm
- ◆ Graduated from high school, and preferably have some formal training in hog production or agriculture
- ◆ Ability to adapt and live in a different culture and social environment
- ◆ Willingness to learn new hog production management methods
- ◆ Of course, this list does not exclude investors who intend to hire experienced people to manage the hog operation

CONTACT

Coordinator

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APPENDIX 2

Hog Production Opportunities in the North Okanagan of British Columbia, Canada

New Producer Information Package



Major sections include:

- **Industry Profile**
- **Geographic Advantages**
- **Land**
- **Climate**
- **Manure Management**
- **Marketing and Finance**

INDUSTRY PROFILE:

The North Okanagan/Shuswap has been an important pork producing area in the province. An estimated 52,000 hogs were produced annually in this area in the late 1980's. This figure represented 15% of BC's total production. Production has dropped to 7.3% of the province's total production (20,000 hogs) in 1996. Although production has declined, there are still some opportunities to increase production.

GEOGRAPHIC ADVANTAGES:

The North Okanagan/Shuswap region includes the communities of Lumby, Vernon, Armstrong, Enderby, Sicamous and Salmon Arm. These urban centers are separated by agricultural areas capable of supporting a hog industry. The region offers the comfort of country living with easy access to amenities offered by urban centers.

It should be noted that hog operations may not be welcomed in areas where the population density is high. Consequently, it is important to locate hog farms in areas where the chances for potential conflict is small.

Livestock currently produced in the area include dairy, cattle, beef feedlots, chicken (broiler and egg) farms and swine (farrow to finish). Crops produced in the region include perennial forages, cereal grains, silage corn and a variety of horticultural crops.

LAND:

The largest agricultural area in the region is the Spallumcheen Valley which extends from Sicamous south to the northern end of the Okanagan Lake. The valley soils are mainly clays. These soils are well suited to the dominant dryland agricultural production of grains and forages. There are approximately 100,000 acres (40,000 ha) of arable agricultural land in the North Okanagan/Shuswap.

Land costs are substantially lower than in the Fraser Valley but can range in some locations to as much as \$5000/ac. The average farm land cost is estimated at \$3,500 per acre. Parcels of land less than 150 acres in size trade for an additional \$1,000 per acre. Generally speaking these lands will have access to potable water and electricity.

CLIMATE:

The climate of the Southern Interior of BC is characterized by relatively mild winter temperatures where soils are deeply frozen for a limited amount of

time. Although the situation differs markedly from the heavy precipitation and leaching that occurs in South Coastal BC, nitrate leaching can be an important issue in some of the more humid parts of the region.

The average annual precipitation for Armstrong is 457mm (174 mm during May – September).

Communities north and east of Armstrong within the region generally receive somewhat higher levels of precipitation. At Armstrong the 26 year average January minimum temperature is -9.6°C and average July maximum is 28.0°C.

MANURE MANAGEMENT:

The BC Waste Management Act requires that manure from hog operations be carefully managed so that it does not present a threat to the environment. It is costly to meet waste storage requirements in areas such as the Fraser Valley where average annual rainfall is about 1700 mm. In contrast, the North Okanagan/Shuswap has a significantly lower annual precipitation.

The mild climate in this region (compared to the Prairie Provinces) is admirably suited to growing pigs under low cost tarp covered (biotec) shelters. Sawdust, wood shavings and/or straw are readily available and can be used as bedding material. The mixture of bedding material and manure can be composted to provide a source of organic fertilizer for the commercial vineyard, orchard, vegetable and berry operations in the Okanagan. The relative costs at which manure can be managed using this housing system makes the North Okanagan/Shuswap an ideal location to grow and finish pigs weaned in the Fraser Valley.

MARKETING AND FINANCE:

Hogs produced in the North Okanagan can be marketed in the Lower Mainland. Hogs can be transported to Vancouver in about 4-5 hours by truck.

New farrow to finish operations need an initial capital investment of approximately \$4,500 per sow with an additional \$800 required for stock, feed and facility operation up to a point where the unit will start to produce a cash flow.

Financing assistance for development of a hog production unit is available from several banking institutions and the Farm Credit Corporation. Equity requirements will vary between 20 per cent and 50 per cent depending on the lending institution, security offered, management expertise and the total business plan presented.

MARKET HOGS

Target – 20 hogs marketed/sow

Contribution Margin Per Sow/Year 250 Sows Farrow to Finish Okanagan Valley

Income

	Yield	Price	Unit	Income
Market Hogs	1,596	\$2.01	kg	\$3,208
Cull Sows	68	1.30	kg	88
Cull Boars	6	1.19	kg	7

Total Income **\$3,308**

Direct Expenses

Quantity Price Unit Expense

Feed

Hog Feed				1,309
Sow & Boar Feed				241

Supplies and Services

Transportation				119
Vet & Medicine				32
Utilities				70
Manure Disposal				7
Repairs & maintenance				55
Stock Replacement				146

BCHMC Levy 28

Total Direct Expenses **\$2,007**

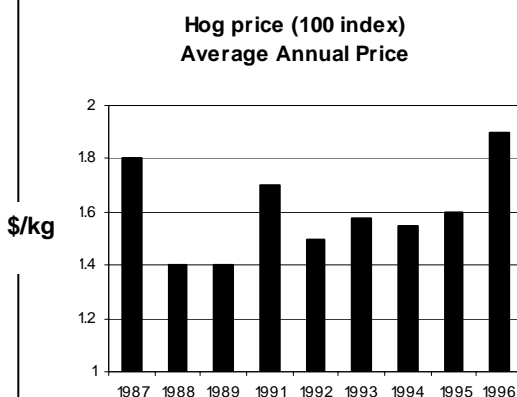
Contribution Margin/Sow **\$1,296**

Contribution Margin/Market Hog **\$65**

*Market price @ 108 index

Hog prices fluctuate significantly from year to year as do feed grain prices. Over the past 10 years the hog price has ranged from \$1.05 to \$2.15 per kg. Potential hog producers should take these market swings into account when planning.

Producers making their own feed must pay very careful attention to formulation and procedures to ensure optimum feed efficiency and herd health.



Contribution Margin Per Sow - Sensitivity Analysis

The table below lists the changes to contribution margin as the market price (index 108) and hogs per sow/year vary.

Price \$/kg	Hogs weaned per Sow			
	16	18	20	22
1.25	89	147	204	262
1.50	421	520	618	718
1.75	755	896	1,035	1,175
2.00	1,087	1,268	1,448	1,630

This information is provided as a guideline only. Target yield indicates above average production. An individual livestock plan should be developed by each producer. Planning forms may be obtained from your local office of the BC Ministry of Agriculture, Fisheries and Food.

APPENDIX 3

BRITISH COLUMBIA HOG PRICES FROM 1987 TO SEPTEMBER 2003 (\$/KG CARCASS)
 PRICE IS QUOTED AT 100 INDEX. PRICE FROM AUGUST 1998 ARE BASED ON MARKET AVERAGE
 CALCULATED BY BRITISH COLUMBIA HOG MARKET COMMISSION

wk	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Avg 87-03
1	1.66	1.32	1.24	1.39	1.45	1.09	1.38	1.41	1.41	1.54	1.88	1.32	0.92	1.46	1.55	1.51	1.27	1.40
2	1.64	1.33	1.25	1.31	1.47	1.05	1.40	1.43	1.38	1.53	1.83	1.29	1.21	1.50	1.50	1.63	1.32	1.42
3	1.63	1.42	1.26	1.31	1.53	1.07	1.42	1.55	1.55	1.55	1.84	1.36	1.29	1.53	1.50	1.62	1.33	1.46
4	1.65	1.52	1.31	1.34	1.56	1.12	1.43	1.57	1.53	1.61	1.81	1.40	1.25	1.58	1.50	1.65	1.37	1.48
5	1.69	1.52	1.33	1.39	1.59	1.12	1.42	1.65	1.53	1.70	1.87	1.42	1.17	1.65	1.54	1.78	1.46	1.52
6	1.68	1.45	1.33	1.46	1.59	1.17	1.42	1.72	1.50	1.68	1.85	1.38	1.24	1.65	1.58	1.79	1.45	1.53
7	1.64	1.47	1.26	1.47	1.58	1.25	1.47	1.69	1.52	1.70	1.82	1.33	1.16	1.65	1.60	1.76	1.45	1.52
8	1.64	1.45	1.23	1.48	1.54	1.27	1.50	1.65	1.51	1.70	1.76	1.29	1.17	1.65	1.56	1.67	1.45	1.50
9	1.60	1.45	1.28	1.51	1.52	1.24	1.53	1.57	1.44	1.74	1.74	1.21	1.14	1.71	1.67	1.70	1.41	1.50
10	1.59	1.45	1.29	1.48	1.51	1.19	1.50	1.62	1.46	1.74	1.74	1.20	1.16	1.66	1.83	1.70	1.40	1.50
11	1.58	1.41	1.17	1.50	1.54	1.21	1.53	1.61	1.47	1.75	1.68	1.26	1.09	1.70	1.98	1.68	1.38	1.50
12	1.56	1.41	1.16	1.51	1.56	1.23	1.58	1.59	1.46	1.76	1.68	1.29	1.22	1.77	2.00	1.58	1.45	1.52
13	1.56	1.38	1.15	1.52	1.52	1.22	1.55	1.58	1.43	1.74	1.78	1.32	1.22	1.83	2.08	1.49	1.44	1.52
14	1.63	1.34	1.21	1.55	1.49	1.21	1.53	1.56	1.37	1.75	1.84	1.26	1.22	1.78	2.04	1.49	1.42	1.51
15	1.65	1.33	1.26	1.53	1.48	1.23	1.53	1.57	1.36	1.77	1.91	1.29	1.26	1.89	2.05	1.48	1.35	1.53
16	1.63	1.38	1.24	1.57	1.51	1.25	1.52	1.57	1.34	1.76	1.97	1.23	1.25	2.04	2.00	1.30	1.39	1.53
17	1.67	1.50	1.30	1.61	1.54	1.25	1.52	1.57	1.32	1.82	2.09	1.31	1.29	2.06	2.03	1.26	1.35	1.56
18	1.82	1.54	1.26	1.68	1.56	1.28	1.55	1.55	1.31	1.91	2.05	1.33	1.40	2.11	2.05	1.38	1.46	1.60
19	1.91	1.47	1.40	1.78	1.59	1.37	1.55	1.55	1.33	2.05	2.14	1.39	1.53	2.13	2.05	1.33	1.53	1.65
20	1.87	1.49	1.35	1.87	1.64	1.39	1.60	1.59	1.36	2.15	2.06	1.51	1.59	2.12	2.15	1.38	1.56	1.69
21	1.94	1.56	1.35	1.90	1.64	1.40	1.64	1.59	1.44	2.01	2.02	1.52	1.58	2.08	2.23	1.51	1.69	1.71
22	1.97	1.63	1.50	1.96	1.64	1.40	1.62	1.54	1.46	2.00	2.00	1.70	1.50	2.05	2.17	1.51	1.70	1.73
23	2.03	1.71	1.53	1.98	1.62	1.41	1.62	1.55	1.48	2.00	2.05	1.60	1.44	1.99	2.15	1.36	1.64	1.71
24	2.10	1.72	1.53	1.91	1.64	1.42	1.65	1.56	1.53	1.90	2.05	1.58	1.47	1.99	2.10	1.39	1.68	1.72
25	2.14	1.57	1.44	1.84	1.70	1.45	1.68	1.63	1.69	1.98	2.14	1.60	1.43	2.07	2.16	1.49	1.77	1.75
26	2.11	1.47	1.43	1.81	1.64	1.48	1.66	1.61	1.73	2.04	2.13	1.60	1.48	2.13	2.29	1.60	1.80	1.76
27	2.04	1.48	1.58	1.88	1.59	1.48	1.60	1.56	1.70	2.05	2.09	1.48	1.34	2.15	2.27	1.71	1.72	1.75
28	2.03	1.50	1.59	1.87	1.59	1.46	1.59	1.53	1.72	2.15	2.12	1.42	1.19	2.03	2.20	1.67	1.59	1.72
29	2.12	1.41	1.58	1.89	1.59	1.40	1.55	1.54	1.77	2.15	2.06	1.32	1.34	2.04	2.20	1.65	1.69	1.72
30	2.10	1.42	1.59	1.90	1.59	1.37	1.53	1.56	1.74	2.13	2.06	1.42	1.35	1.99	2.13	1.69	1.63	1.72
31	2.07	1.37	1.57	1.86	1.63	1.36	1.57	1.55	1.76	2.12	2.01	1.44	1.40	2.01	2.18	1.73	1.67	1.72
32	2.09	1.37	1.58	1.81	1.60	1.34	1.62	1.58	1.76	1.99	1.99	1.41	1.49	2.01	2.18	1.70	1.63	1.71
33	2.08	1.38	1.56	1.75	1.52	1.36	1.70	1.60	1.78	1.83	2.00	1.41	1.61	1.94	2.17	1.54	1.61	1.70
34	2.08	1.39	1.50	1.70	1.49	1.39	1.71	1.59	1.86	1.90	1.86	1.42	1.50	1.79	2.12	1.45	1.62	1.67
35	2.06	1.40	1.40	1.62	1.43	1.41	1.73	1.52	1.88	1.85	1.76	1.36	1.59	1.76	1.98	1.29	1.53	1.62
36	1.97	1.35	1.42	1.58	1.37	1.37	1.70	1.39	1.74	1.94	1.79	1.17	1.47	1.71	1.99	1.05	1.39	1.55
37	1.95	1.35	1.42	1.58	1.37	1.37	1.70	1.34	1.76	1.99	1.83	1.14	1.46	1.73	1.90	0.85		1.55
38	1.89	1.35	1.42	1.65	1.33	1.35	1.70	1.26	1.83	1.99	1.76	1.21	1.36	1.79	1.94	1.11		1.56
39	1.92	1.32	1.44	1.76	1.40	1.36	1.68	1.30	1.78	1.90	1.75	1.20	1.42	1.79	1.97	1.22		1.57
40	1.85	1.27	1.50	1.74	1.35	1.39	1.70	1.26	1.72	1.79	1.75	1.20	1.51	1.84	1.92	1.32		1.57
41	1.80	1.19	1.51	1.70	1.31	1.45	1.71	1.25	1.69	1.80	1.73	1.22	1.49	1.75	1.91	1.38		1.56
42	1.76	1.23	1.49	1.69	1.25	1.41	1.64	1.24	1.68	1.81	1.63	1.16	1.43	1.72	1.77	1.43		1.52
43	1.66	1.19	1.48	1.69	1.20	1.38	1.58	1.21	1.61	1.86	1.66	1.20	1.45	1.59	1.64	1.41		1.49
44	1.53	1.31	1.44	1.63	1.16	1.38	1.58	1.17	1.51	1.89	1.65	1.10	1.45	1.51	1.62	1.23		1.45
45	1.44	1.30	1.43	1.58	1.13	1.37	1.53	1.17	1.42	1.94	1.64	0.98	1.35	1.55	1.61	1.12		1.41
46	1.46	1.20	1.46	1.54	1.15	1.38	1.50	1.16	1.48	1.91	1.68	0.78	1.33	1.59	1.61	1.21		1.40
47	1.49	1.20	1.51	1.55	1.14	1.43	1.46	1.12	1.45	1.88	1.65	0.92	1.51	1.65	1.43	1.22		1.41
48	1.65	1.21	1.47	1.56	1.18	1.47	1.48	1.09	1.52	1.96	1.65	0.79	1.43	1.65	1.38	1.18		1.42
49	1.61	1.21	1.50	1.56	1.20	1.46	1.44	1.10	1.56	1.92	1.63	0.74	1.58	1.70	1.46	1.27		1.43
50	1.47	1.28	1.43	1.49	1.12	1.48	1.44	1.13	1.66	1.89	1.48	0.71	1.55	1.77	1.43	1.26		1.41
51	1.38	1.33	1.27	1.45	1.10	1.49	1.39	1.24	1.66	1.89	1.40	0.53	1.53	1.74	1.37	1.31		1.38
52	1.40	1.24	1.27	1.46	1.09	1.39	1.41	1.35	1.62	1.87	1.34	0.60	1.46	1.62	1.46	1.30		1.37
Avg	1.78	1.39	1.39	1.64	1.45	1.33	1.56	1.46	1.57	1.87	1.84	1.26	1.37	1.81	1.87	1.45	1.52	1.56