

**SMALL**

**LOT**



The Role  
of  
Small Lot  
Agriculture  
in the  
South Coastal  
Region

**AGRICULTURE**

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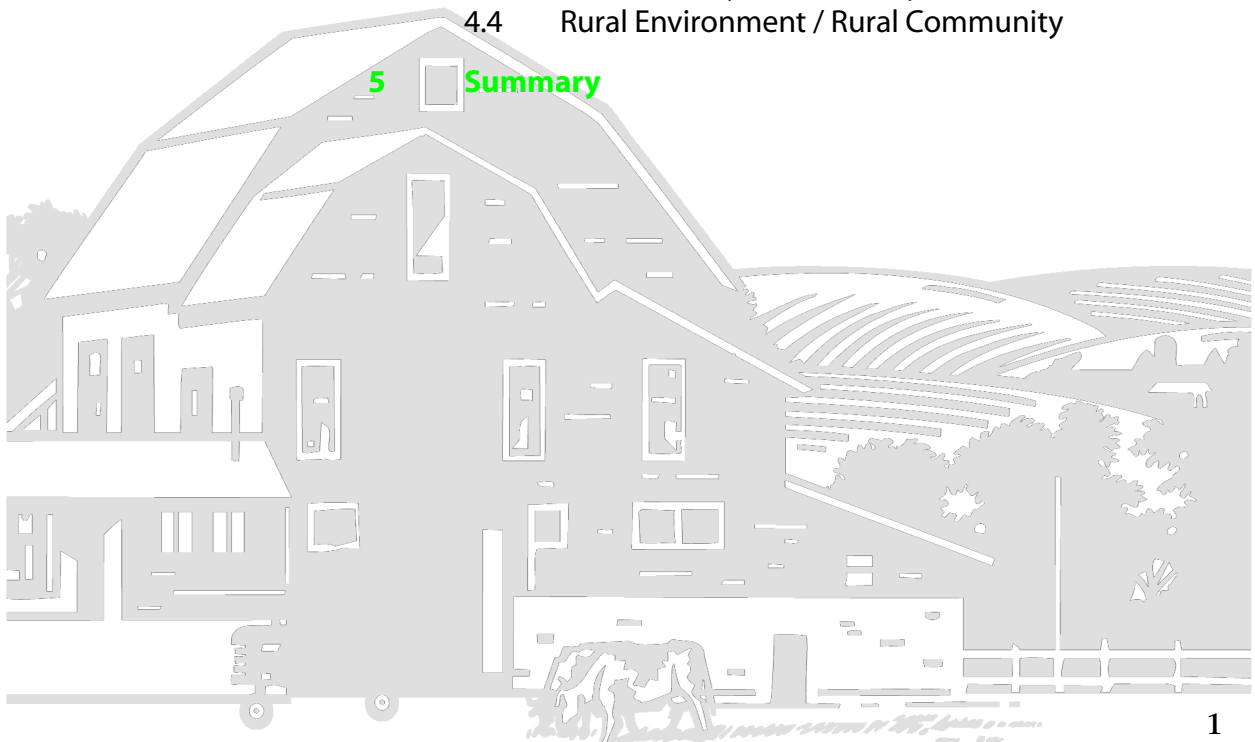
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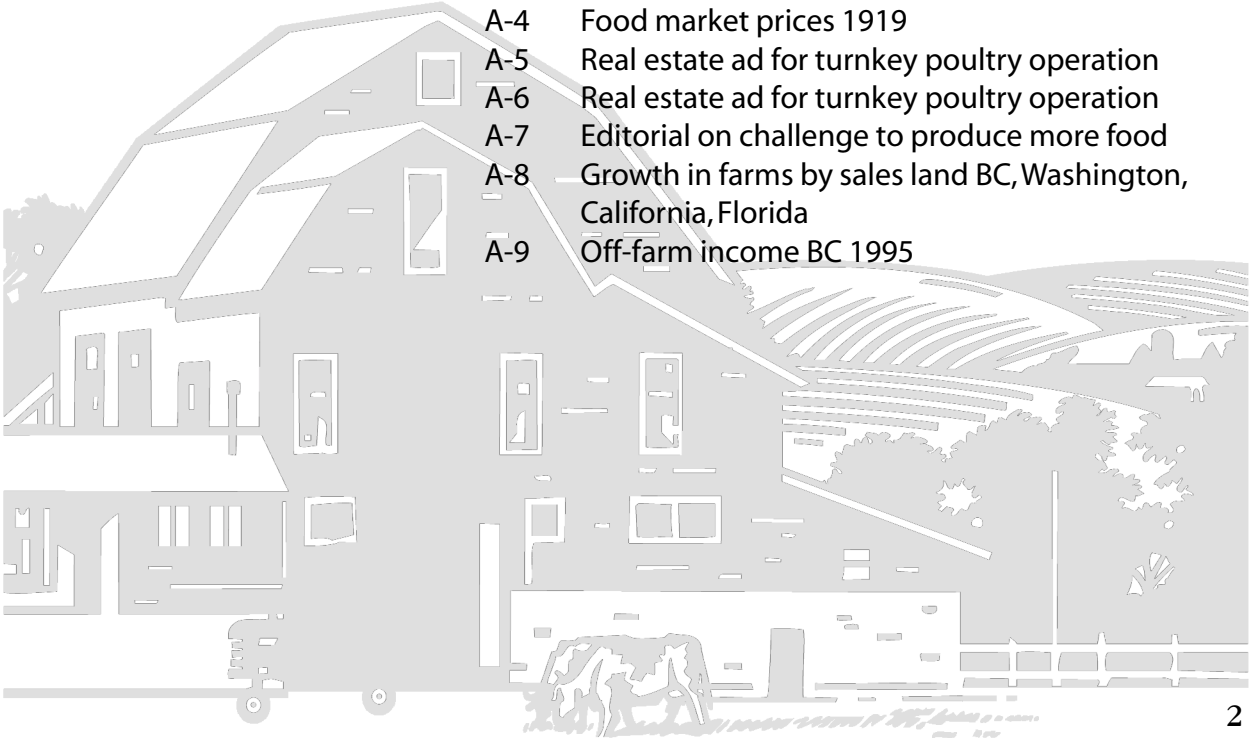
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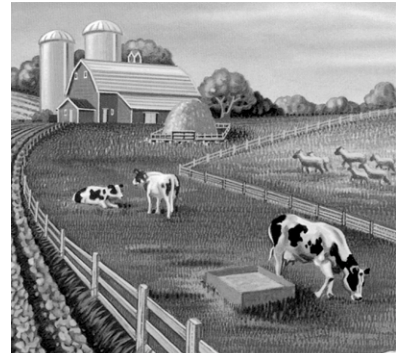
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# 1 Introduction

In the 1820's the Hudson's Bay Company set up the first commercial farm in BC, in the Milner Valley, primarily to provide the food needs of the new trading post at Fort Langley. Today the Fraser Valley produces \$1.04 billion annually in farm gate sales from 6,600 farm operations supporting approximately 7,500 FTE farm based jobs. This represents 56% of the agriculture production in the province from only 6 % of the ALR land.



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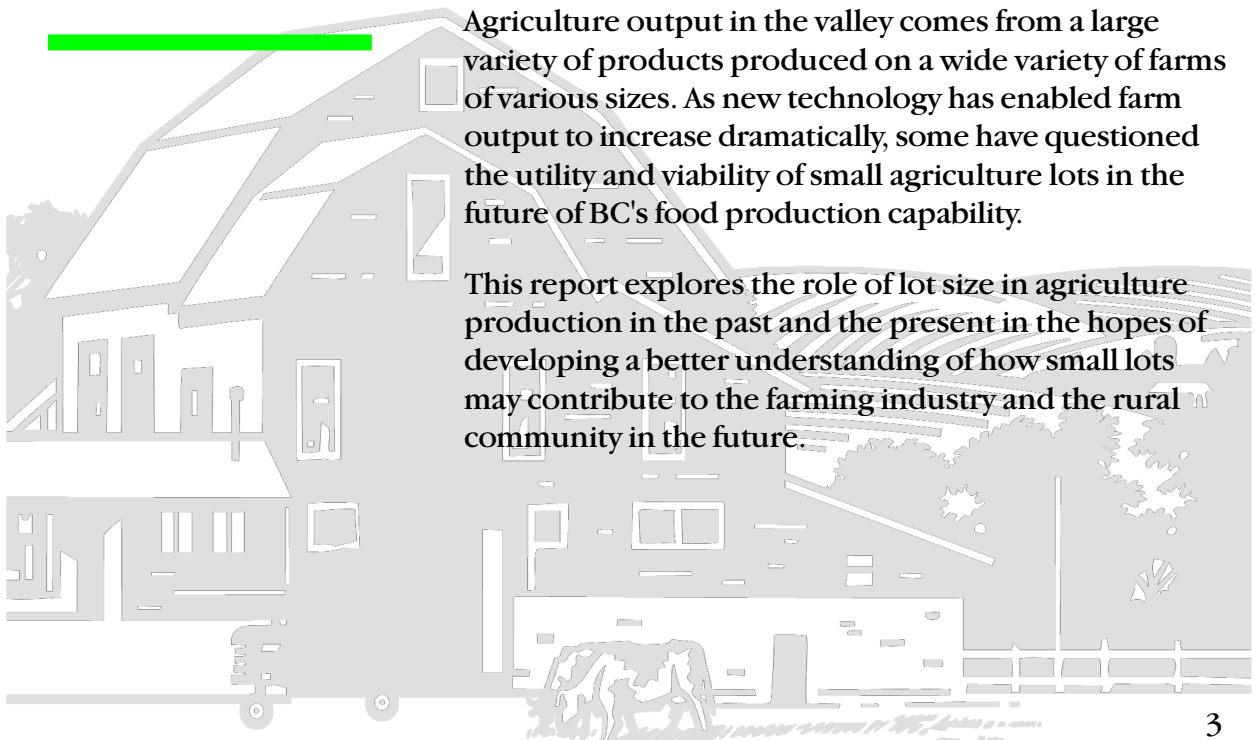
*Agriculture in the South Coastal Region developed to provide food for the growing urban population and today it continues in that role.*

Early settlement in the province was driven by resource based industries such as mining, forestry and fishing, however, it was critical to the colony's survival to have a reliable supply of nutritionally balanced food grown locally. Consequently settlements developed near the best quality farmland. With some notable exceptions (berries and greenhouse vegetables) food produced in the South Coastal region today is consumed primarily by British Columbians.

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Agriculture output in the valley comes from a large variety of products produced on a wide variety of farms of various sizes. As new technology has enabled farm output to increase dramatically, some have questioned the utility and viability of small agriculture lots in the future of BC's food production capability.

This report explores the role of lot size in agriculture production in the past and the present in the hopes of developing a better understanding of how small lots may contribute to the farming industry and the rural community in the future.



## 2 History of Agriculture in the Fraser Valley

Winston Churchill once said "the farther you look back the farther you see forward". This may be true for agriculture in the Fraser Valley. A look back at the development of farming in the Fraser Valley will provide some understanding as to how and why we have the high level of parcelization of farmland and possibly shed some light on future opportunities for the farming community.

### 2.1 From a Lot Size Perspective

As settlers moved to the Fraser Valley in the 1800's land was available through the 'Pre-Emption Act' of 1860 or through direct purchase of land from the crown.

Many of the early farms in the Fraser Valley were established through this pre-emption or homestead program where the deed of up to 160 acres was offered to homesteaders that lived on the land for 3 years and spent \$2.50 per acre on improvements. Land could also be purchased outright from the crown. Once a homesteader received title (after 3 years) s/he was required to pay local taxes on the land.

*Homestead parcels in the low lands were used more for grain and forage production while parcels in the highlands were used for higher value, more intensively managed poultry, tree fruit, berry and some field crop production.*

Farming in this period was very labour intensive and horse power meant a real horse. The only market for products was the Friday farmers market in New Westminister. Farmers south of the river would have to get up early Friday morning or even leave late Thursday night to drive their wagons to the foot of Scott Road in Surrey where a small ferry would carry them to New Westminister and the market.

The early homestead parcels were mostly 160 acre (1/4 section) parcels. The uplands in the Fraser Valley were heavily forested so converting this land to agriculture production was arduous work. A farmer was lucky to clear a single acre in one year. It is not surprising then that homestead parcels in the low lands were used more for grain and forage production while parcels in the highlands were used for higher value, more intensively managed poultry, tree fruit, berry and some field crop production.

*The completion of the BC Electric rail line in 1910 eliminated this constraint and marked a period of rapid growth in the Fraser Valley and the start of substantial parcelization of the original homesteads.*

Up to the first world war, lack of good transportation to the markets in New Westminister and Vancouver limited growth to some degree. The completion of the BC Electric rail line in 1910 eliminated this constraint and marked a period of rapid growth in the Fraser Valley and the start of substantial parcelization of the original homesteads. (Figure A-1 and A-2, composite maps of Surrey and Langley in 1923 and 1910) Homesteaders, particularly in the upland areas, that were paying tax on 160 acres, and only using a few, began subdividing their parcels.

Land speculators like the E.E.Rand company also took advantage of this demand for manageable farm lots by parceling up and selling their large holdings. In the history of Aldergrove note was made of the E.E. Rand company that owned 4,500 acres between Aldergrove and the Fraser River and advertised lots for sale from 5 acres and up for \$100/acre in 1891 (Figure A-3).

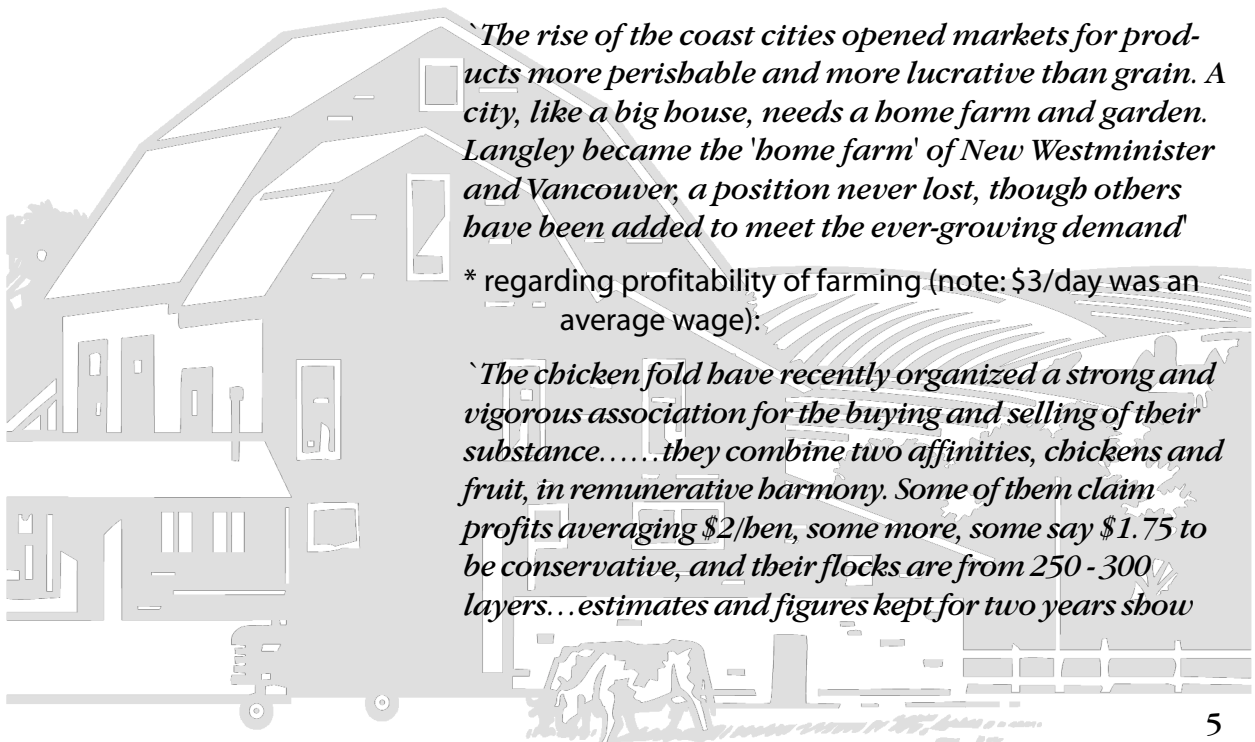
Following the first world war many returning soldiers chose to settle in the Fraser Valley. Some chose to start farming and purchased sufficient farmland that could provide a family income. Farming was still very labour intensive. A pamphlet promoting the farming opportunities in Langley (in 1917) gives some idea of the nature of farming. Some quotes are as follows:

\* regarding the type of agriculture opportunities:

*'The rise of the coast cities opened markets for products more perishable and more lucrative than grain. A city, like a big house, needs a home farm and garden. Langley became the 'home farm' of New Westminister and Vancouver, a position never lost, though others have been added to meet the ever-growing demand'*

\* regarding profitability of farming (note: \$3/day was an average wage):

*'The chicken fold have recently organized a strong and vigorous association for the buying and selling of their substance.....they combine two affinities, chickens and fruit, in remunerative harmony. Some of them claim profits averaging \$2/hen, some more, some say \$1.75 to be conservative, and their flocks are from 250 - 300 layers...estimates and figures kept for two years show*



*that a patch of strawberries at Fort Langley produced in 1917, \$1,300 per acre and \$1,200 in 1918...'*

*'...a man came from indoor-work and started without much previous experience to grow flowers and fruits. On less than 2 acres he began propagating his bush fruits, training his strawberries to runners, keeping pure bred chickens and advertising! He succeeded from the first, and his orders now amount to \$50 daily.'*

\* regarding availability of land and parcel size:

*'in Langley, of the 75,000 available acres, less than a third are in cultivation, on those acres are but 2,500 people.'*

*Many a farmer owning and paying taxes on 100 acres is only working fifty, he would have 50 taken off his hands - the man also with 10 acres needs but 5 for his chicken and fruit. By dividing his holdings he both relieves his responsibility and gains a neighbour.'*

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*A farm of 5 – 10 acres in the highlands or 40 – 50 acres in lowlands was probably the maximum amount of land that a single family could manage with the technology available.*

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Though the writer was gifted and the brochure is promotional by nature it is clear that during this period a family could make a comfortable living from a mixed farm of 5 acres. A farm of 5 – 10 acres in the highlands or 40 – 50 acres in lowlands was probably the maximum amount of land that a single family could manage with the technology available.

It is also interesting to note the drop in grain prices relative to more direct market products such as fresh fruits. The availability of rail transport, besides providing transport to the markets in Vancouver, also brought less expensive grain from the prairies. While this hurt the grain industry it was a benefit to the poultry industry as the mild climate in the Fraser Valley enabled egg producers to export eggs to the prairies in the winter months (November - June).

A comparison of food prices in 1919, inflation adjusted to 1998 and compared to a days wage helps one understand how a family could make a living from 5 acres.

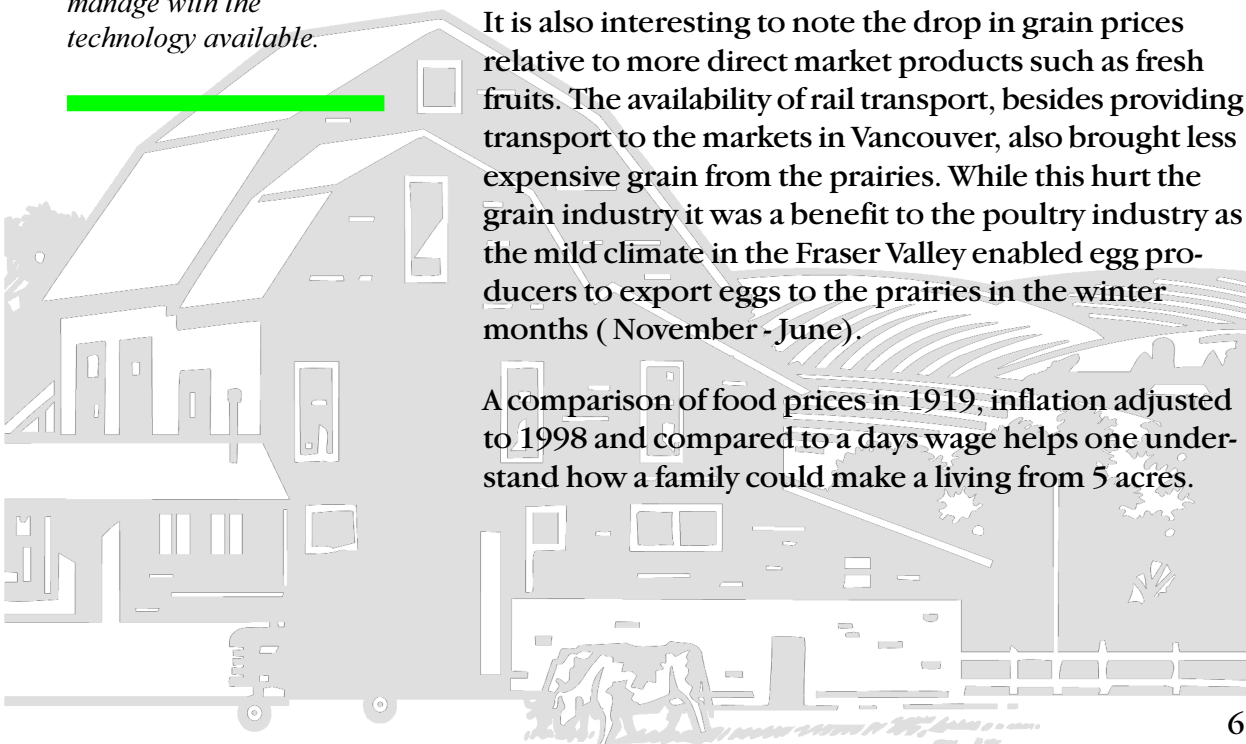


Table 1. Market prices in 1919, inflation adjusted to 1998 and compared to daily wages.

	Price in 1919	% Daily* Wage	Inflation * Adjusted to 1998	% Daily Wage
Eggs/doz - retail	.60	20%	\$ 5.07	3.4%
- wholesale	.50-.55	17%	\$ 4.23	2.8%
Butter/lb	.60	20%	\$ 5.07	3.4%
Broilers/lb	.25 - .30	8%	\$ 2.11	1.4%
Chickens Dressed/lb	.45 - .50	15%	\$ 3.80	2.5%
Pork wholesale/lb	.26 - .27	9%	\$ 2.20	1.5%
Beef wholesale/lb	.16 - .18	5%	\$ 1.34	.9%
Veal wholesale/lb	.25 - .27	8%	\$ 2.11	1.4%
Potatoes - old/sac	1.25 - 1.75	41%	\$ 10.58	7.1%
- new/sac	2.50 - 3.00	83%	\$ 21.15	14.1%
Cabbage/lb	.10	3%	\$ .85	.6%
Rhubarb/lb	.075	2%	\$ .64	.4%
Carnations/doz	.75 - 1.00	25%	\$ 6.35	4.2%
Bedding Plants/dz	.25	8%	\$ 2.12	1.4%
Strawberries/lb	.15	5%	\$ 1.27	.8%
Gooseberries/lb	.10	3%	\$ .85	.6%
Cherries/lb	.10	3%	\$ .85	.6%
*Daily Wage for roadwork	\$ 3/day		\$ 150/day	

Table 1 uses farmers market prices quoted in the July 4, 1919 edition of the Columbian (Figure A-4) to show what the inflation adjusted prices would be today and to compare the % of the daily wage required to purchase the food item in 1919 and today.

Food output per acre was lower, however, the relative price of food was much higher, particularly as a proportion of the average daily wage. An additional benefit to the farmer was that s/he was able to produce much of the family food on the farm and reduce a major portion of the cost of living.

*Food output per acre was lower, however, the relative price of food was much higher, particularly as a proportion of the average daily wage.*

The prices also relate to types of agriculture that had strength. Egg production was a lucrative farming practice in the early 1900's. The market prices indicate the sale of a mere 10 dozen eggs a day would net the average daily wage. 'Fowl Memories', a history of the poultry industry in BC, recounts how the poultry industry in BC was so strong in the late 1910's and early 1920's that land developers were offering 'turn key' poultry operations (Figure A-5 and A-6) on a 'few' acres. This strength came in part because BC's warm winters enabled them to maintain egg production year round. The demand for export eggs to the prairies helped keep the price of eggs high.



Transportation, though improving, was still expensive so fresh fruit was not readily available. This served to strengthen the markets for local fresh fruits and vegetables.

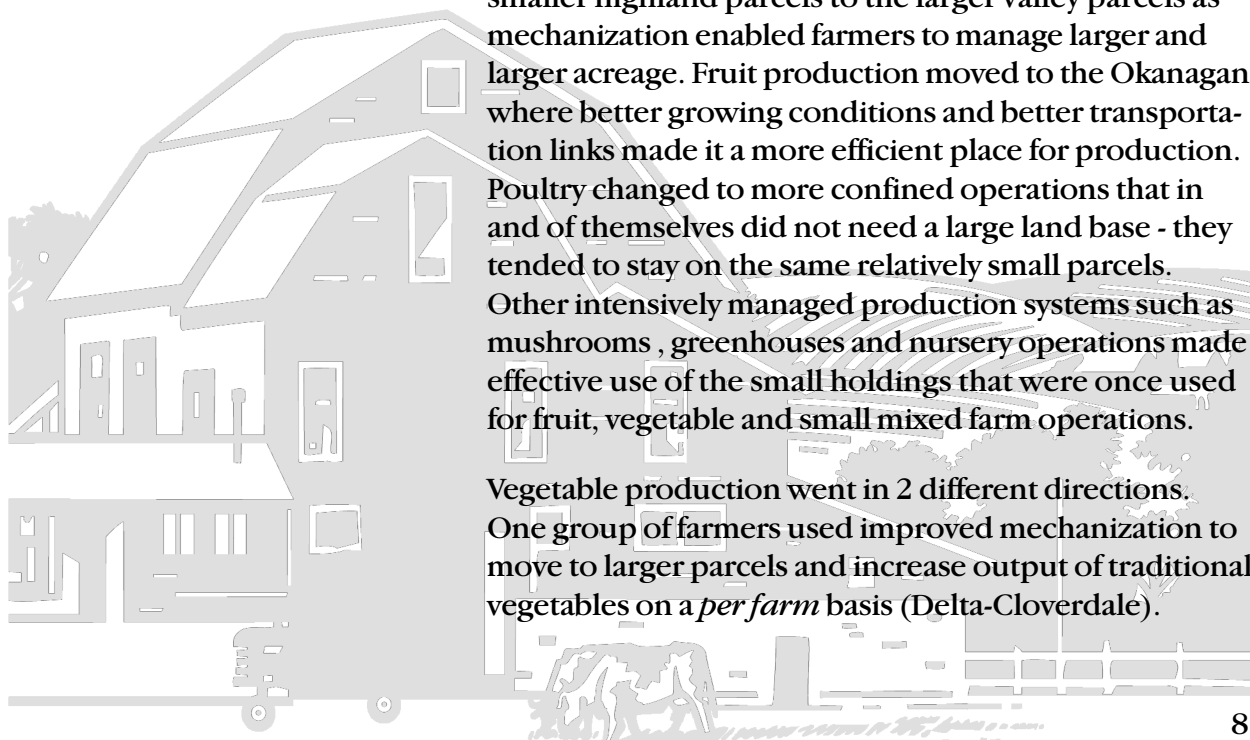
Poultry and fruit was a popular, and profitable combination on small acreages.



Farming technology did not change dramatically until after World War 2. The population of horses on farms peaked in 1941 and did not drop significantly until the early 50's - coinciding with the rapid increase in tractors and farm mechanization. Coincidentally society was deeply concerned with agriculture's capability of supplying food for the growing population. A June 6, 1946 editorial in the Vancouver Sun ( see Figure A-7) stated *...the fact is, there has now got to be a tremendous increase in agricultural production...* The agricultural community, producers, researchers and others did respond by fashioning a green revolution in the 50's and 60's. The projections of dire food shortages by 1980 never materialized and a shortage of food has not been a concern since.

The green revolution affected different size farms in the Fraser Valley in different ways. Grain farming could not compete with less expensive grain from the prairies. A portion of vegetable production moved from the smaller highland parcels to the larger valley parcels as mechanization enabled farmers to manage larger and larger acreage. Fruit production moved to the Okanagan where better growing conditions and better transportation links made it a more efficient place for production. Poultry changed to more confined operations that in and of themselves did not need a large land base - they tended to stay on the same relatively small parcels. Other intensively managed production systems such as mushrooms, greenhouses and nursery operations made effective use of the small holdings that were once used for fruit, vegetable and small mixed farm operations.

Vegetable production went in 2 different directions. One group of farmers used improved mechanization to move to larger parcels and increase output of traditional vegetables on a *per farm* basis (Delta-Cloverdale).



Another group stayed on small lots, shifted to specialty vegetables and used new technology to increase production on a *per acre* basis. (South Burnaby). Both types of vegetable farms support farm families today, one type on 150 acres, the other on 15 acres. The difference is the production method and the market focus.

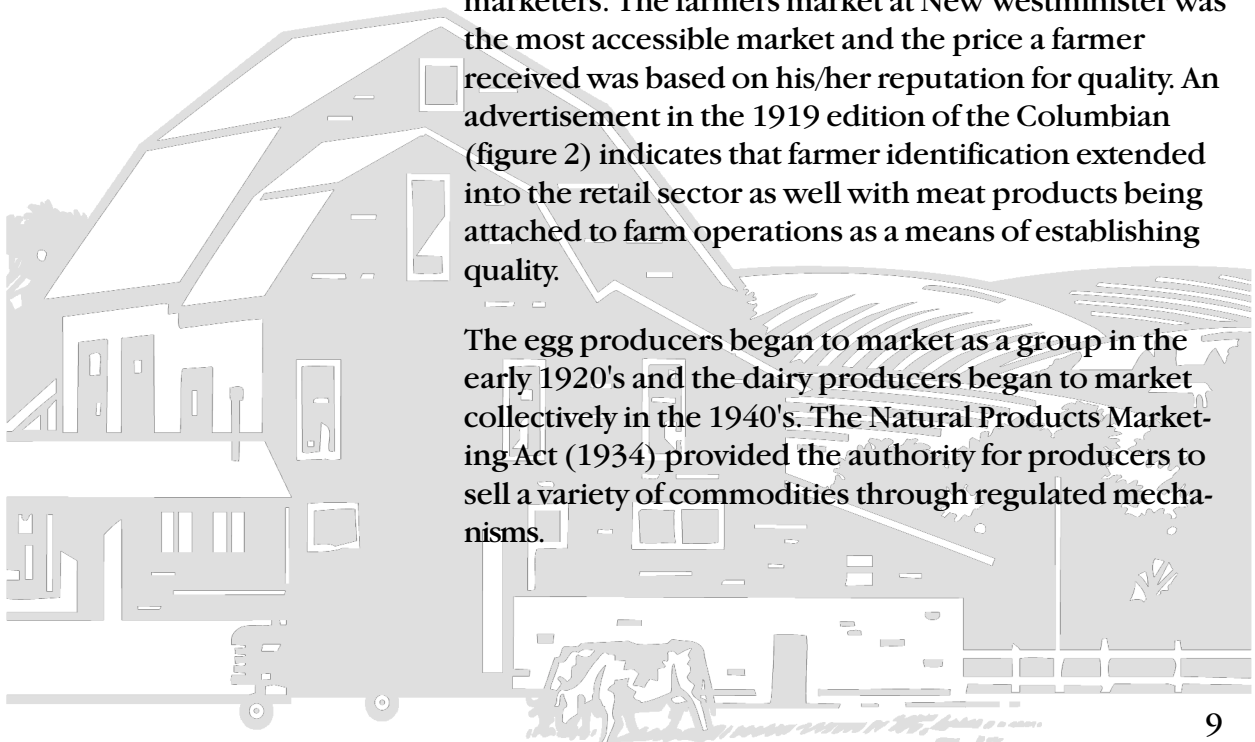
By the late 1960's the human transportation links to the Fraser Valley were improved with the construction of a new 4 lane highway from Vancouver to Chilliwack. With this came an increased interest in using small agricultural lots for residential purposes - the second wave of subdivision of traditional farmland began. In 1972 the provincial government introduced the Agriculture Land Commission to manage agriculture land in the province. Further parcelization of farmland has almost stopped.

The growth in urban population generated demand for non-food agriculture products such as nursery products for landscaping gardens and fresh cut flowers for special occasions. Farmers responded to the demand by producing these products that are well suited for intensive production on small lots near the urban markets.

## 2.2 From a Marketing Perspective

The early farmers in the Fraser Valley were all direct marketers. The farmers market at New Westminister was the most accessible market and the price a farmer received was based on his/her reputation for quality. An advertisement in the 1919 edition of the Columbian (figure 2) indicates that farmer identification extended into the retail sector as well with meat products being attached to farm operations as a means of establishing quality.

The egg producers began to market as a group in the early 1920's and the dairy producers began to market collectively in the 1940's. The Natural Products Marketing Act (1934) provided the authority for producers to sell a variety of commodities through regulated mechanisms.



The 'collective' marketing of commodities was intended to provide farmers with more stable prices and the customer with a more consistent supply. These systems were needed to handle the increase demand and supply of food that evolved through the green revolution and will continue to be needed to supply large quantities of food to the growing urban populations. While collective marketing helped distribute large quantities of food it also:

- \* removed the connection between the farmer and the consumer
- \* moved agriculture production to more of a commodity/low price focus.

In the post green revolution period (1980's and 1990's), with the concern for quantity of food addressed, the focus shifted to the quality of food we produced and the safety and sustainability of the manner in which we produced it. This fueled the growth in interest and demand for organically grown food and locally grown food. Farm direct marketing to the consumers either through farmers markets or directly from the farm gate was reborn in this period. Small lots were ideal for direct farm marketers as they were large enough for the specialized/differentiated production methods and are typically located close to the urban centers.

Direct Farm Marketing has not and cannot replace large scale commodity agriculture operations but has filled a local demand for locally grown products that complement large scale agriculture through diversity of products and diversity of production method and is a very efficient use of smaller agriculture lots around urban centers.

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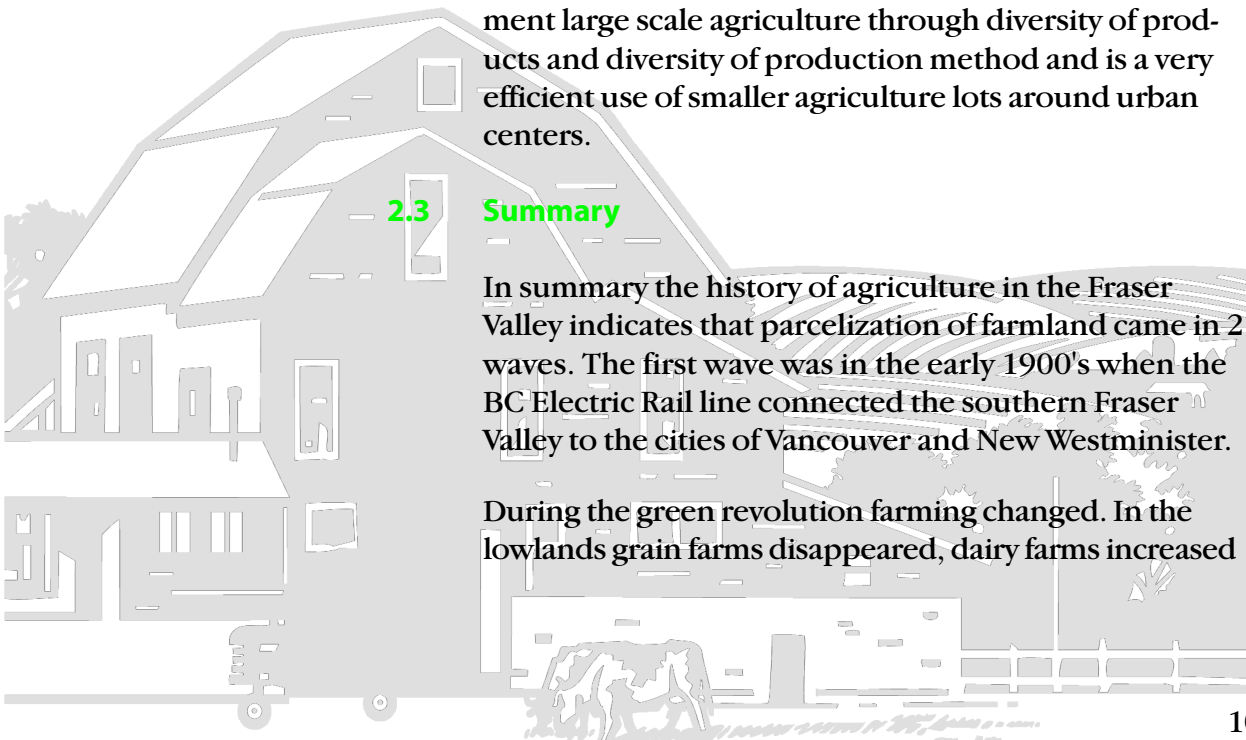
*Parcelization in the early 1900's was based on the ability of a family to make a living farming. Farming technology limited a family to farming 40 to 50 acres of flat lowland and 5 to 10 acres of forested highland.*

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### 2.3 Summary

In summary the history of agriculture in the Fraser Valley indicates that parcelization of farmland came in 2 waves. The first wave was in the early 1900's when the BC Electric Rail line connected the southern Fraser Valley to the cities of Vancouver and New Westminister.

During the green revolution farming changed. In the lowlands grain farms disappeared, dairy farms increased



in size and productivity and large scale vegetable farms, and later the large scale berry farms moved in and occupied the available land. In the highlands poultry farms moved to more intensive enclosed production systems on the same lot and other, more intensely managed production systems such as mushrooms, greenhouses and nursery operations, utilized the smaller 5 to 10 acre lots made available as small fruit, vegetable and mixed farms moved out.

This was largely stopped in 1972 with the establishment of the Agriculture Land Reserve.

In the post green revolution period consumer interest shifted from a primary concern for the quantity of food produced (can we feed ourselves?) to a concern for the quality and safety of the food produced (how are we feeding ourselves?). This shift parallels society's shift from the material focus in the middle of the century to a 'quality of life' focus in the latter part of the century.

New farm enterprises looking to respond to the market for products using different production methods, producing different products and/or marketing directly to consumers found small agriculture lots near the urban communities a viable lot size to start their new farms.

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*Small agriculture lots emerged in the early 1900's as the efficient farm size to support a family. During the century their role in farming has changed from hosting mixed farms, to being an efficient size for more intensive poultry and horticulture operations to being an ideal production unit and ideally located to respond to the growth in demand for locally grown direct marketed product.*

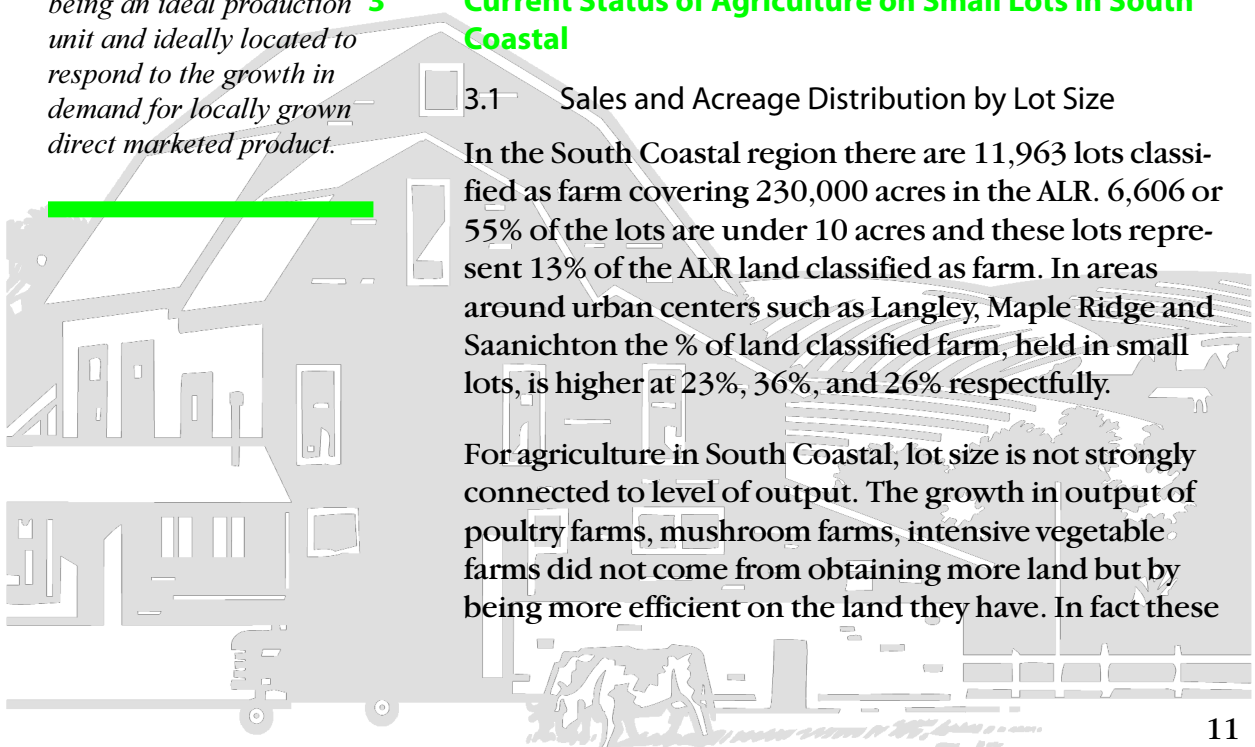
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### Current Status of Agriculture on Small Lots in South Coastal

#### 3.1 Sales and Acreage Distribution by Lot Size

In the South Coastal region there are 11,963 lots classified as farm covering 230,000 acres in the ALR. 6,606 or 55% of the lots are under 10 acres and these lots represent 13% of the ALR land classified as farm. In areas around urban centers such as Langley, Maple Ridge and Saanichton the % of land classified farm, held in small lots, is higher at 23%, 36%, and 26% respectively.

For agriculture in South Coastal, lot size is not strongly connected to level of output. The growth in output of poultry farms, mushroom farms, intensive vegetable farms did not come from obtaining more land but by being more efficient on the land they have. In fact these





*For agriculture in South Coastal, lot size is not strongly connected to level of output.*



types of operations now more frequently talk about output per square meter than output per acre.

An excellent example of efficiently using small agriculture lots is the Van Baalens in Langley. In 1995 they were awarded the Outstanding Young Farmer in Canada for their floriculture greenhouse operation on 5 acres.

Figure #1 below compares annual sales to lot size in Langley. More of the farms selling over \$500,000 annually are on small lots and for sales over \$100,000 30% of the farms are on small lots. (59 % of the lots in Langley are less than 10 acres)

Figure 1 Proportion of farms on 10 acres at various sales levels—Langley

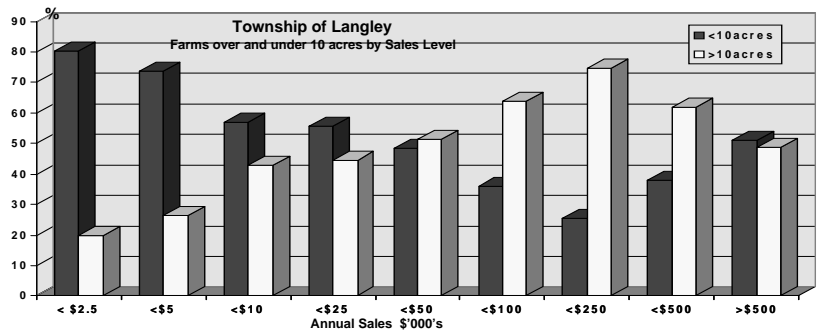


Table A-1 provides a more detailed analysis of sales and farm size in Langley and Maple Ridge.

The growth in farm numbers between 1991 and 1996 has been in the medium annual sales range and in specialty farms.

Table 2 shows the growth in farms in Langley between 1991 and 1996 based on the level of annual sales.

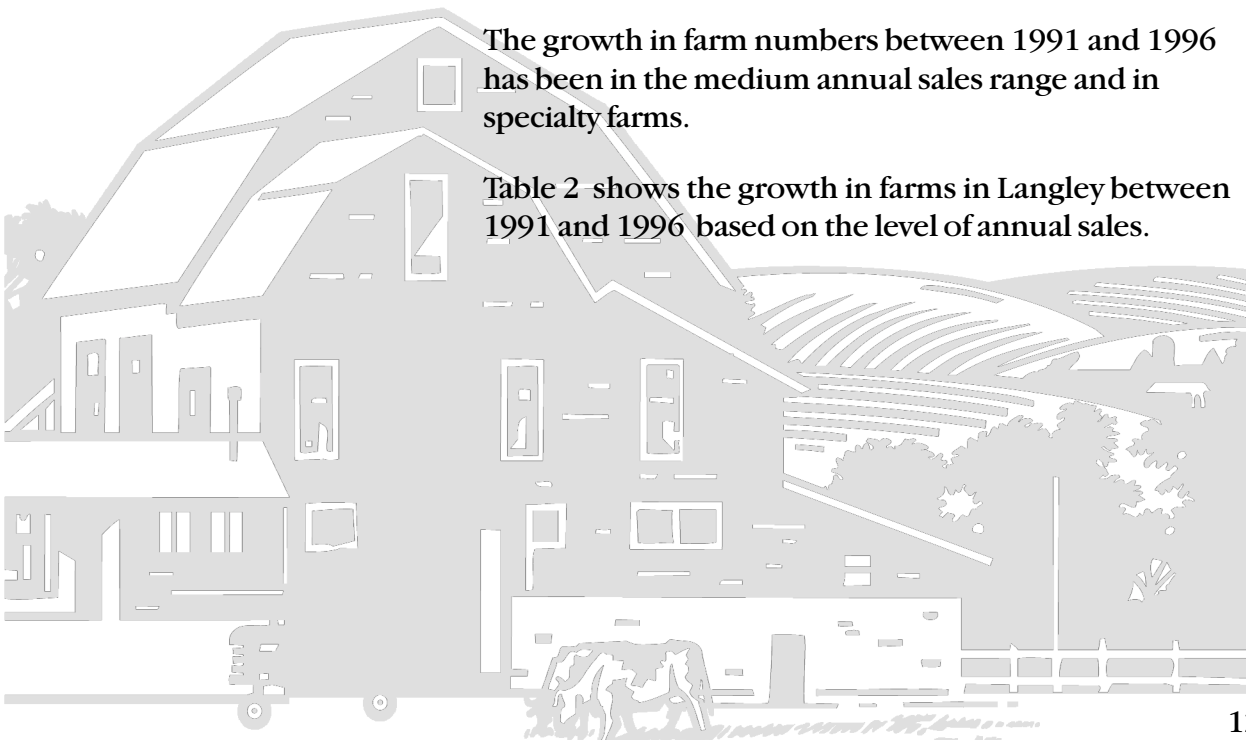


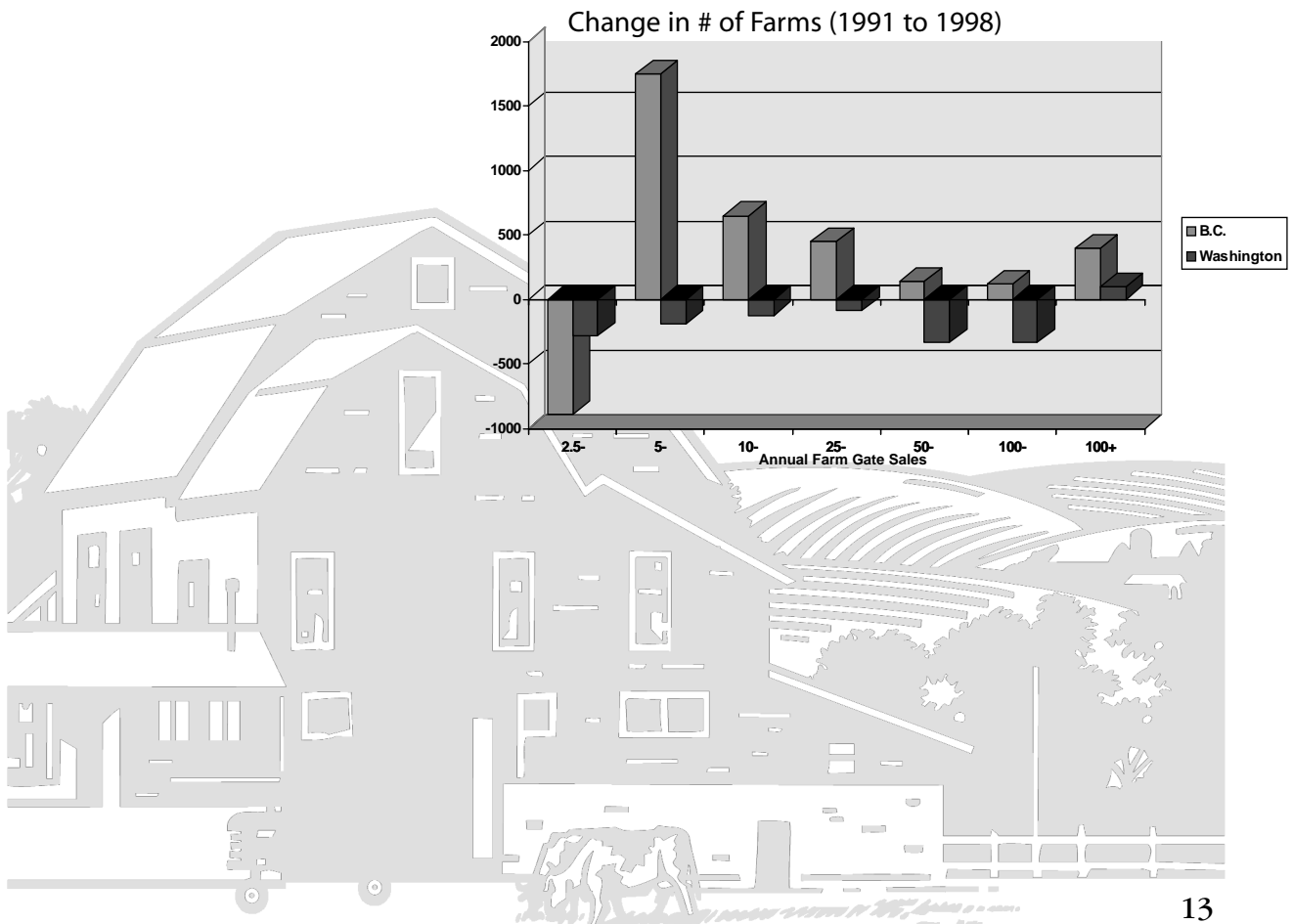
Table 2 Number of Farms by Annual Sales in Langley (1991 and 1996)

Annual Sales (\$000)	Farms 1991	Farms 1996	Change (%)
< \$2.5	411	273	-138 (-33)
\$2.5 - \$10	435	679	+244 (+56)
\$10 - \$25	176	208	+30 (+17)
\$25 - \$50	81	103	+21 (+26)
\$50 - \$100	66	83	+17 (+26)
> \$100	239	239	0

It is interesting that in the 1997 census of farms in the USA, farms with revenues between \$10,000 and \$250,000 dropped while farms above \$250,000 and below \$10,000 increased.

Figure 2 compares the growth in farms between Washington State and B.C. at various annual sales levels.

Figure 2. Growth in Farms at Different Annual Sales Levels - B.C. and Washington State



While farms in the US seem to be getting big or small South Coastal appears to have a more balanced growth in farming through all farm sizes.

Table A-2 lists the proportion of the ALR in small lots in all municipalities and regional districts in the South Coastal Region.

### 3.2 Farming Uses on Small Lots

One word describes the role of small agriculture lots - DIVERSITY. Small agriculture lots today are home to some of the most efficient high output farms such as poultry, mushroom, nursery, floriculture and greenhouses and home to small scale versions of traditional agriculture production such as beef, sheep and forage production. In between they host a full range of specialty farms serving markets in the nearby urban communities. These include horses, specialty livestock such as llamas and emu's, direct market produce and livestock, market gardens serving specific local markets such as Chinese vegetables, intensive orchards, organic produce and others.

A common question presented to agrologists, regional planners and tax assessors is 'What can I do with my 5 acres?'. The answer is really quite simple in terms of farming, just about anything. An estimate of the sales volumes that can be generated from 5 acres for different commodities are as follows:

Table 3 Potential Sales on 5 acres by Commodities

Broilers	\$ 800,000 - \$ 1,200,000
Floriculture greenhouse	\$ 300,000 - \$ 600,000
Mushrooms	\$ 250,000 - \$ 500,000
Nursery (potted plants)	\$ 100,000 - \$ 250,000
Direct market fruit or veg	\$ 3,000 - \$ 50,000
Horse breeding	\$ 2,000 - \$ 20,000
Sheep (lamb)	\$ 2,000 - \$ 5,000
Summer feeder steers	\$ 1,500 - \$ 4,000
Hay	\$ 2,000 - \$ 3,500



In the more traditional commodities such as dairy, poultry, hogs and large scale field crops increases in output have come primarily from an increase in output per farm not in an increase in the number of farms. This growth is either in more intensive use of a single site or expansion of a farm into a multiple parcel operation. Growth in the number of farms is in the medium sized specialty product area. Small lots are economically viable parcels for these operations and represent areas of growth in new farms enterprises.

Table 4 confirms this trend by showing the changes in the types of farms in Langley between 1991 and 1996

Table 4 Types of Farms (>\$2,500) in Langley (1991 - 1996)

\* Growth in farms reporting poultry is in the small direct market operations as poultry farms holding quota did not increase.

	# Farms 1991	# Farms 1996	Change
Dairy	75	62	- 13
Cattle	209	241	+ 32
Hogs	20	15	- 15
Poultry & Eggs	77	105	+ 28 *
Field Veg & Fruit	85	145	+ 60
Miscellaneous Specialty	478	689	+ 211
Combination Livestock	27	37	+ 10
Other Combinations	25	16	- 9
<b>Total</b>	<b>996</b>	<b>1310</b>	<b>+ 314</b>

### 3.3 Production Efficiency

*Production efficiency of small agriculture lots is not related to lot size, but to the production techniques and level of management used on the lot.*

From an economic perspective, production efficiency can be described as the highest value of outputs from a specific value of inputs. In agriculture, the difficulty in evaluating production efficiency is often in correctly attributing the true cost to the inputs and the true value to the outputs. In the earlier example of the 150 acre vegetable farm in Delta and the 15 acre farm in South Burnaby - intensive management ( much of it labour) on a small acreage results in a higher value of output/acre. A more detailed analysis of the value of all inputs would be required to see which is more economically efficient. The example does illustrate, however, that even in field production, lot size does not necessarily determine efficiency; in fact the highest dry matter output per acre is often associated with small intensively managed farms as compared to large highly mechanized farms.



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*As a consequence it is important in the discussion of efficiency to make the distinction between mechanization and production technology.*

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As a consequence it is important in the discussion of efficiency to make the distinction between mechanization and production technology. The ability of one family to produce vegetables on 150 acres or more in Cloverdale is in large part due to increased/improved mechanization. The ability of a family to dramatically increase production on 15 acres in South Burnaby is in large part due to development of new growing techniques and new varieties.

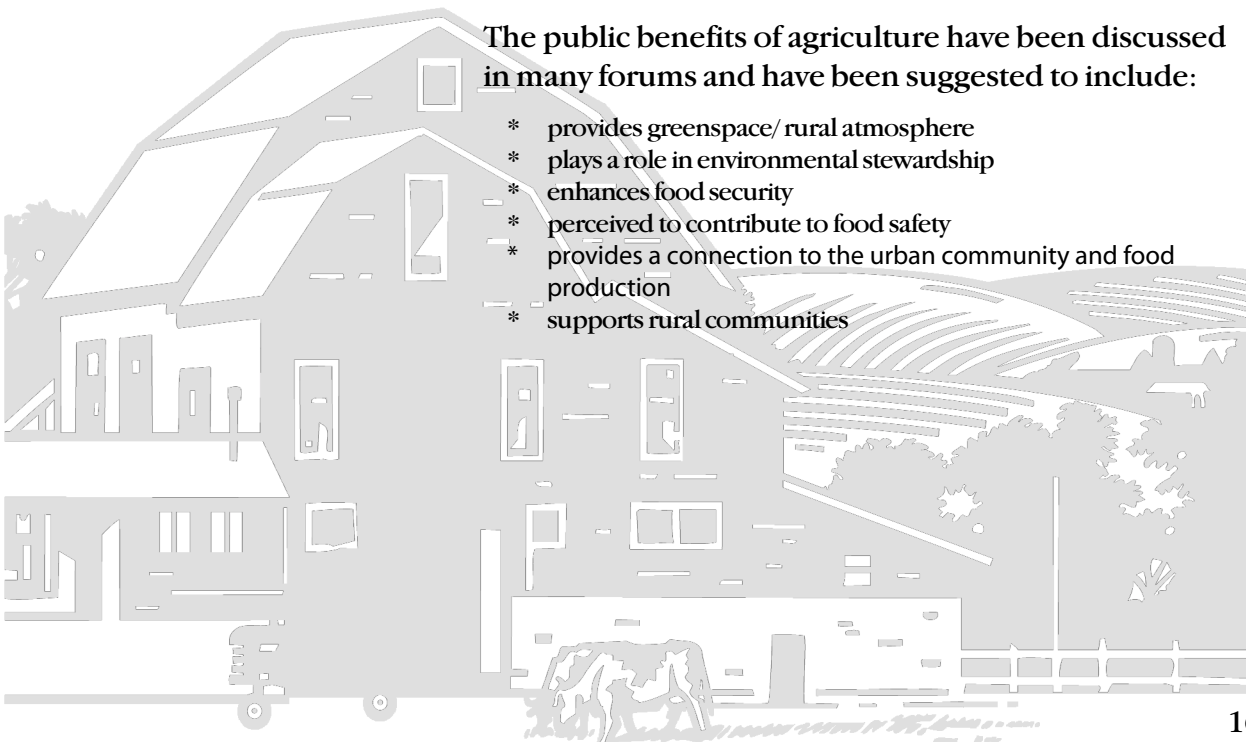
Another approach to efficiency relates to the ability of agriculture to harvest solar energy - what is the net solar energy gain of a farm? It has been suggested that large scale soil based agriculture, that relies heavily on machinery, is less efficient in energy terms as it uses large amounts of fossil fuels (energy already captured) to harvest solar energy in plants. Small intensively managed farms, using less fossil fuels, are more efficient harvesters of solar energy. A detailed analysis on a farm specific basis is needed to evaluate a farm on it's energy efficiency

### 3.4 Agriculture as a Public Good

Governments around the world have provided a variety of support programs for agriculture. This support is based on society placing some value on having a viable agriculture/ food production industry.

The public benefits of agriculture have been discussed in many forums and have been suggested to include:

- \* provides greenspace/ rural atmosphere
- \* plays a role in environmental stewardship
- \* enhances food security
- \* perceived to contribute to food safety
- \* provides a connection to the urban community and food production
- \* supports rural communities



A recent report by the USDA Committee on Small Farms titled 'A Time To Act' lists the following as some of the public benefits of smaller farms vs larger corporate farms:

- \* personal connection to food
- \* diversity of food and production techniques
- \* stronger rural communities
- \* more environmentally responsible

Many articles have been written on this subject and most of the comments can be grouped into 2 key areas of public good:

- \* food security/food safety, and
- \* maintaining greenspace/rural community/rural atmosphere

The following is a discussion of these two areas and their relationship to lot size.

### 3.4a Food Security / Food Safety

At the turn of the century, when transportation links were expensive and unreliable, food security was a key concern for families in BC. Not just food quantity but also food variety and diversity. People were prepared to pay high prices for fresh fruits and vegetables to ensure a balanced diet.

The concern for food security did not subside until close to 1980 when it was apparent that through the green revolution the world was capable of producing enough food to feed it's people.

*As the century comes to a close there is an interest and concern within some parts of society, not about whether we can produce enough food, but about how we produce our food.*

While there have been no recent incidents to question our food security there have been a number that have arisen which question our food safety, pesticides in greenhouse cucumbers, alar in Washington State apples, pesticide residues in imported fruits and vegetables, hormones and antibiotics in livestock production, mad cow disease in England and BST in milk.

Demand for food that is grown under specific production techniques or is simply grown in a place the consumer can identify with is increasing. The demand for these products is based on the products uniqueness, so consumers will pay a premium when they find the type of product they want. Organic produce is currently being imported to BC and anecdotal evidence suggests

the demand for products, differentiated on their production method, far exceeds supply.

Small agriculture lots are often efficient sizes for production of a variety of different products under different production methods. More labour intensive organic production is a common example but there are many others. Chinese vegetables to meet the demand of a growing Asian population was concentrated in the South Burnaby area but has spread to small lots throughout the valley, direct market/farm market/community supported agriculture groups, direct market of livestock and others.

Many large output farms that manage production intensively can fit comfortably on small lots and many of the smaller scale farms using different production techniques also fit comfortably on small lots.

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*Many large output farms that manage production intensively can fit comfortably on small lots*

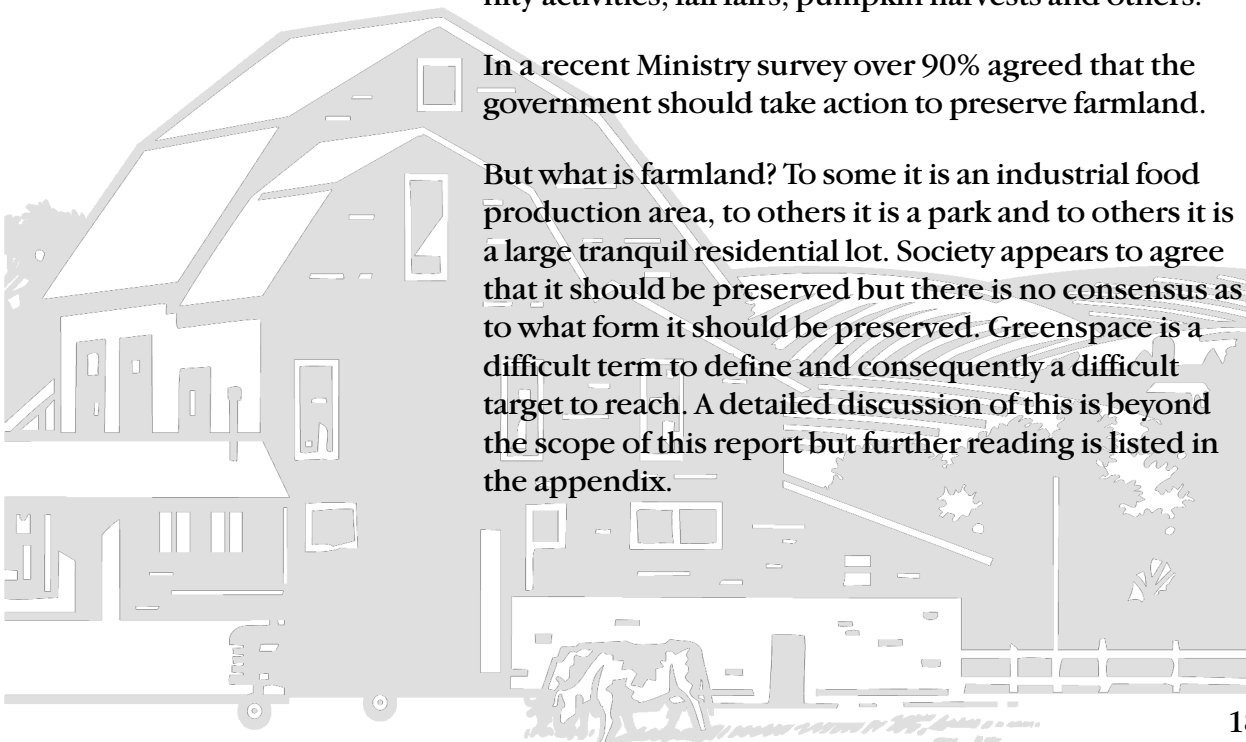
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#### 3.4b Maintaining Greenspace / Rural Community / Rural Atmosphere

Several years ago the Township of Langley did an extensive survey of it's residents, urban and rural. When asked, "*why do you live in Langley*", 70% responded - because of the rural atmosphere. Society values the contrast between the urban areas where they live and the surrounding country side. For some it may be simply the aesthetics, for others it may be the rural community activities, fall fairs, pumpkin harvests and others.

In a recent Ministry survey over 90% agreed that the government should take action to preserve farmland.

But what is farmland? To some it is an industrial food production area, to others it is a park and to others it is a large tranquil residential lot. Society appears to agree that it should be preserved but there is no consensus as to what form it should be preserved. Greenspace is a difficult term to define and consequently a difficult target to reach. A detailed discussion of this is beyond the scope of this report but further reading is listed in the appendix.



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*Urbanites in communities with farmland are already paying to support farming by picking up a larger share of local taxes than land classified as farmland.*

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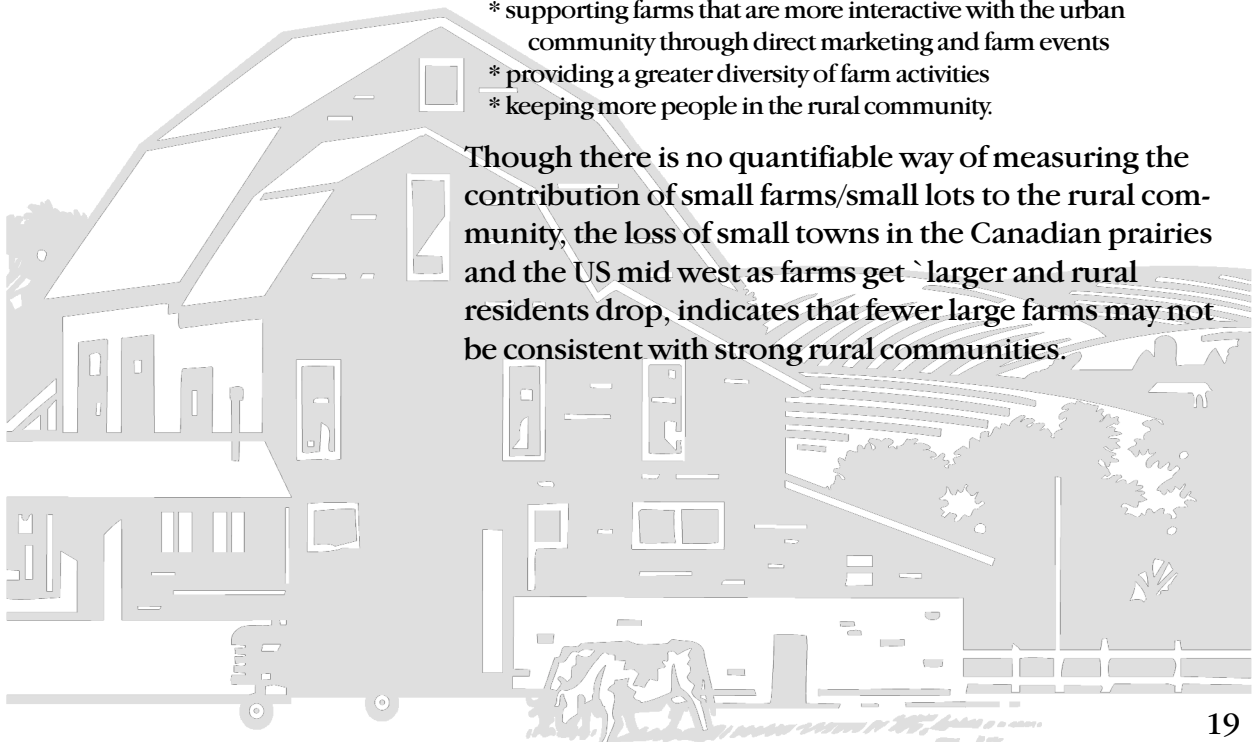
Rural community/ rural atmosphere is a little easier to define. Few would disagree that events such as the Bradner Flower Show, the Delta Harvest Ball or the Mount Lehman Fall Fair are part of rural community life. Rural community is about people, it cannot exist without people. It is about people that want to be involved in a specific way of life. Closer to the land, producing food and fiber and with a strong focus on family.

One question about greenspace and rural atmosphere remains unanswered and in some ways unasked. If society as a whole values `agriculture land', for whatever reason, how much are they prepared to pay to maintain it. Urbanites in communities with farmland are already paying to support farming by picking up a larger share of local taxes than land classified as farmland. In some communities such as Surry and Delta urban taxpayers are contributing to pay for drainage improvements on farm land. Contingency evaluation models have been used to estimate how people value non-market items such as parks and recreation facilities. Perhaps this approach would be helpful in answering this question in agriculture.

It has been suggested in the literature that small farms on small agriculture lots contribute to the rural atmosphere/rural community by:

- \* being more environmentally sensitive
- \* supporting farms that are more interactive with the urban community through direct marketing and farm events
- \* providing a greater diversity of farm activities
- \* keeping more people in the rural community.

Though there is no quantifiable way of measuring the contribution of small farms/small lots to the rural community, the loss of small towns in the Canadian prairies and the US mid west as farms get `larger and rural residents drop, indicates that fewer large farms may not be consistent with strong rural communities.



## 4 Potential Role of Small Lots in the Future of Agriculture

### 4.1 The `Culture' in Agriculture

Before exploring what role small lot agriculture may play in the future it is important to look at the current `culture' in agriculture and examine whether it is consistent with the rest of society or lagging behind current trends.



Agriculture is rich with tradition and beliefs. Society and Agriculture have gone through dramatic changes in the last century and in many ways changes in agriculture have moved closely with the changes in society.\* This is expected given that farmers in BC sell the bulk of their product within the province. There are, however, areas where elements in agriculture appear to be lagging behind changes in society. The following are some key areas:

**Big is Beautiful.** This belief was prevalent in society in the post war era and was relevant to agriculture during that period as farmers were trying to expand production to feed a rapidly growing population. Big cars, big companies and big farms. In the latter part of the century society and business moved away from this belief into a belief that specialization, differentiation and efficiency was more beautiful than just big. Technology and improved communication have enabled small, specialized, well managed and quick response firms to out compete large slow response firms.

The commodity based segment of agriculture has not followed this shift. This is in part because by nature commodities are not specialized or differentiated. The new agricultural entrepreneur, however, has responded to the changes in demand by society in establishing new farms that meet the specialized needs of the mar-

\* Expanded production as population grew; mechanization.

ket. BC has actually shown stronger growth in medium sized farms than in most other areas of North America. See Figure A-8.

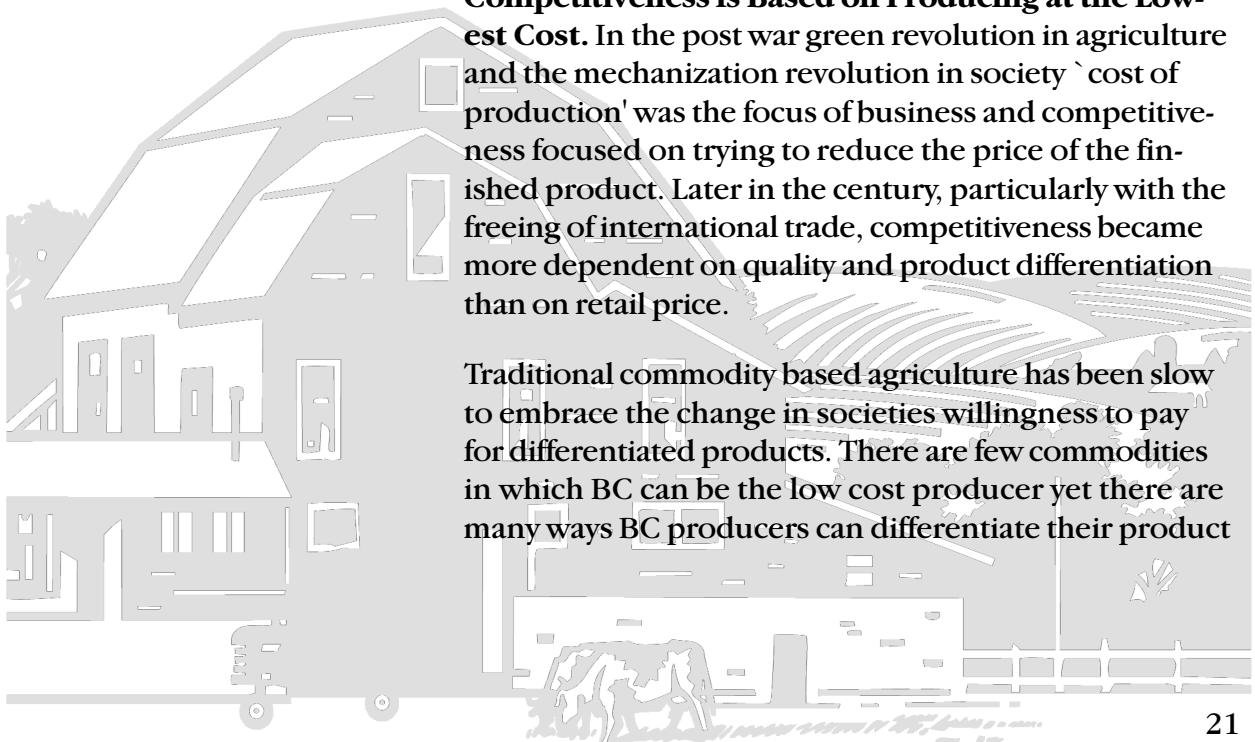
**A Real Farm Should Support a Family.** In the post war era a 'real' man was expected to support his family and a 'real' farm was expected to support a farm family. In the latter part of the decade, as beliefs in society changed, the role of earning income and raising the children became viewed as a role shared by husband and wife. Many families that started small business in the 1990's used outside income to support the business during the start up phase.



Though multiple incomes and shared family responsibility is a reality in farming life at all sizes of farm operations (see figure A-9) the established agriculture community has not been quick to embrace this change. Historically some in agriculture considered off-farm income as undesirable and farms that did not provide enough income to support a family were not valued as an important part of the farming community. The new agricultural entrepreneurs have not been burdened with this belief and have been prepared to support the farm with off-farm income or use the farm to support off-farm income. Many start modestly and built up to the scale of operation that best suits their personal situation.

**Competitiveness is Based on Producing at the Lowest Cost.** In the post war green revolution in agriculture and the mechanization revolution in society 'cost of production' was the focus of business and competitiveness focused on trying to reduce the price of the finished product. Later in the century, particularly with the freeing of international trade, competitiveness became more dependent on quality and product differentiation than on retail price.

Traditional commodity based agriculture has been slow to embrace the change in societies willingness to pay for differentiated products. There are few commodities in which BC can be the low cost producer yet there are many ways BC producers can differentiate their product



from imports; source of origin, food safety, freshness, method of production .

Given the history of agriculture in BC, the current status of farming on small agricultural lots and the current trends in society, what are the opportunities for small lot agriculture in the future? This question will be addressed from three perspectives, industry development, food security/food safety and rural community/rural environment.

## 4.2 Potential for Industry Development on Small Agriculture Lots

Table 3 clearly demonstrates that small agriculture lots can support a wide range of farming activities from large output intensively managed production to small scale more traditionally managed production.

*Small agriculture lots can support a wide range of farming activities from large output intensively managed production to small scale more traditionally managed production.*

To determine if there is potential for expansion of farming on small lots one must answer three questions; are there small lots available, is there a demand for products produced on these lots and are there the human resources ready and willing to invest in new farms or expand their farms.

### 4.2 a Availability of Small Agricultural Lots

Small agricultural lots are prevalent around the urban centers in Saanichton; the Fraser, Comox, Cowichan, and the Okanagan Valleys. Assessment information indicates that 20% - 30% of these small lots are not assessed farm. In Langley alone there are approximately 800 small lots not assessed farm in the 1997 tax year. To answer the first question there is an over supply of small agriculture lots at this time.

### 4.2b Market Opportunities for Products from Small Agriculture Lots.

BC in some respects is a leader in North America in effectively utilizing small agriculture lots and is bucking the N.A. trend to very big and very small farms. BC has seen growth in farms from all sales categories (except under \$2500). This is in comparison to the trend in the US that shows growth in number of farms only in the highest and lowest annual sales categories. Table 5 compares BC to Washington State:

Table 5 Trends in Numbers of Farms by Sales Level. BC and Washington State

<b>B.C.</b>					<b>Washington</b>			
	1991	1996	Difference	%	1992	1997	Difference	%
Sales <2500	4707	3813	-894	-19.0%	8980	8698	-282	-3.1%
Sales 2500 - 5000	2693	4443	1750	65.0%	3489	3299	-190	-5.4%
Sales 5000 - 10,000	2624	3274	650	24.8%	3078	2954	-124	-4.0%
Sales 10000 - 25000	2965	3413	448	15.1%	3327	3242	-85	-2.6%
Sales 25000 - 50000	1818	1959	141	7.8%	2305	1972	-333	-14.4%
Sales 50000 - 100000	1416	1533	117	8.3%	2426	2093	-333	-13.7%
Sales 100000-250000	1494	1589	95	6.4%	6659	6753	94	1.4%
Sales 250000-500000	978	1006	28	2.9%				
Sales >\$500000	530	805	275	51.9%				
	19225	21835	2610	13.6%	30264	29011	-1253	-4.1%

While Washington State has seen a drop in number of farms of 4.1% with all categories under \$100,000 sales per year dropping, BC has seen an increase of 13.6% in the number of farms with increases at all levels of sales above \$2,500 increasing.

In Washington 76.7% of census farms report sales of less than \$100,000 and their combined sales makes up only 6.6% of the market value of agriculture products sold. In BC farms selling under \$100,000 per year make up 84.4% of the census farms and represent 17% of the market value of agriculture products sold.

*Growth in output, that exceeds the growth in population, will likely come from highly differentiated, specialized products that meet unsatisfied local demand or replace imports.*

Farms with sales under \$100,000 are less likely to be governed by regulated marketing so growth in this type of farm is primarily a market response to the demand for differentiated and specialty products. The net number of farms in the supply managed commodities is stable or dropping so the increase in the number of high sales farms is primarily from farms outside supply management commodities expanding their operations. This includes greenhouses, nursery, cranberries and others.

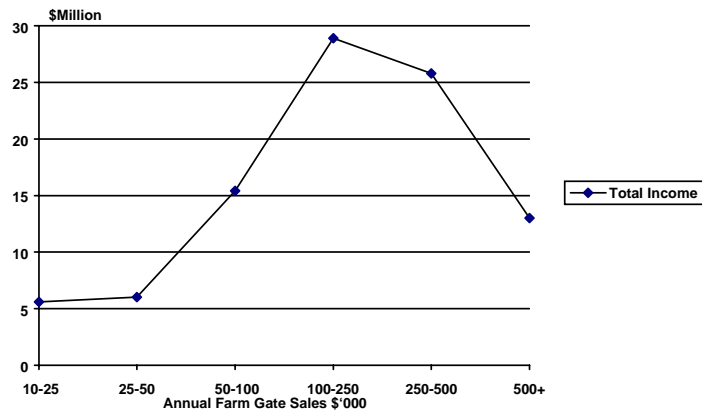
Growth in the supply managed commodities will follow the population growth and any export markets that may be established. Export market opportunities will most likely be in highly differentiated products - not a historically strong area for commodity agriculture. Growth in other agriculture products in the short to medium term



will likely be in the highly differentiated products that meet an unsatisfied local demand or replace products currently imported.

It is interesting to note in Figure 3 that farms with sales between \$50 – \$100,000 annually collectively report more annual income than those with annual sales over \$500,000.

Figure 3 Cumulative reported farm income at different sales levels



Growth in jobs will be concentrated in the intensively managed greenhouse, nursery and mushroom sectors and in new farms producing specialized differentiated products.

Traditional large scale farms such as dairy, poultry, hogs, and beef are highly mechanized and provide few jobs outside the farm family. Highly mechanized field vegetable and fruit farms provide seasonal work. Intensively managed greenhouse, nursery and new farms producing specialized and differentiated products are the major users of farm labour.

The growth opportunities in agriculture in new farms, in revenue growth that exceeds the population growth and in new jobs is not in the traditional commodities but in the intensively managed horticultural commodities and in new farms producing differentiated products

Small agriculture lots are large enough to support the intensively managed nursery, mushroom and floriculture greenhouse industry and they are small enough and

well located to meet the needs of new farms marketing differentiated and specialized products.

Though large output farms can fit on small lots they will not be the dominant use. The markets simply cannot support an unlimited number of them. If the 800 small lots in Langley suddenly came into production, and knowing that dairy operations are not suited for these lots and that the specialized farms are growing faster than the traditional commodities one might expect that as few as 40 lots (or 5%) would have intensively managed greenhouse, nursery, mushroom or poultry operations. The balance would have small to medium sized operations.

### 4.3 Food Security / Food Safety

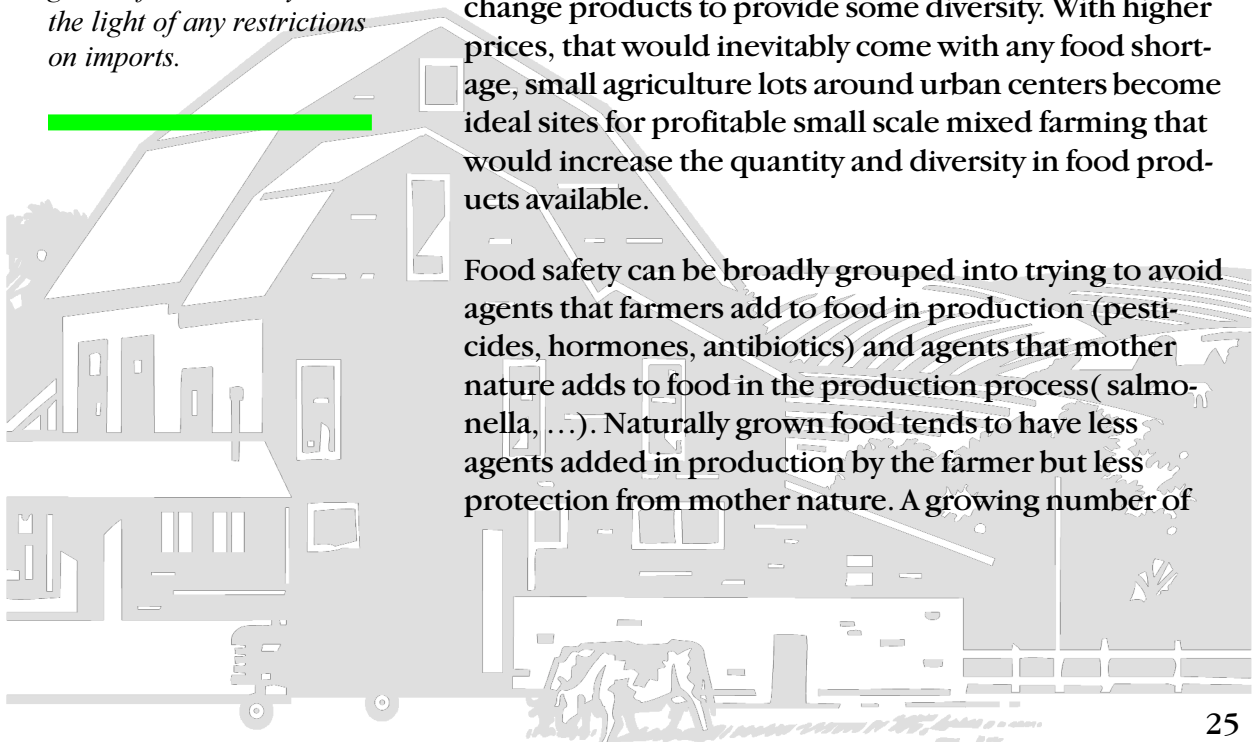
Quantity, diversity and safety. These are the issues. Quantity of food produced is really not a great concern at this time. Large scale high output farms are capable of producing large quantities of food. However, if our access to imports were restricted, BC would not have a particularly diverse food supply. After dairy, poultry, beef greenhouse vegetables, some fruit and mushrooms we do not produce large quantities of a diverse variety of food. This is particularly the case with field vegetables. If the province was faced with a food shortage some high output operations could increase their production and change products to provide some diversity. With higher prices, that would inevitably come with any food shortage, small agriculture lots around urban centers become ideal sites for profitable small scale mixed farming that would increase the quantity and diversity in food products available.

Food safety can be broadly grouped into trying to avoid agents that farmers add to food in production (pesticides, hormones, antibiotics) and agents that mother nature adds to food in the production process (salmonella, ...). Naturally grown food tends to have less agents added in production by the farmer but less protection from mother nature. A growing number of

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*Small agriculture lots are ideally suited to respond to the demand for more naturally grown products and the potential needs for greater food diversity in the light of any restrictions on imports.*

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people are willing to not only make this trade-off but pay a premium for it because they feel it is safer food. Generally food produced without any of the agents that large output farmers use are done in smaller batches on smaller farms. These types of operations are particularly suited for small agricultural lots near the direct markets - urban centers.

#### 4.4 Rural Environment / Rural Atmosphere/ Rural Community

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*Small agriculture lots provide the basis, the number of farm families, needed for a strong rural community.*

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Much of the literature on the environmental friendliness of small farms is based on the US experience where some very, very large farms, particularly livestock farms, have caused some serious environmental concerns. In BC where the Ministry of Environment and The Ministry of Agriculture have worked closely to develop a code for Agriculture Waste Management and commodity specific environmental guidelines there is no reason to believe that large scale or small scale farms have any greater likelihood to impact the environment. Small, poorly managed horse, feeder steer or sheep operations could potentially cause more pollution than a 5 acre poultry farm producing over \$1million in sales a year shipping manure directly from the barn to off-farm sites that use it as fertilizer.

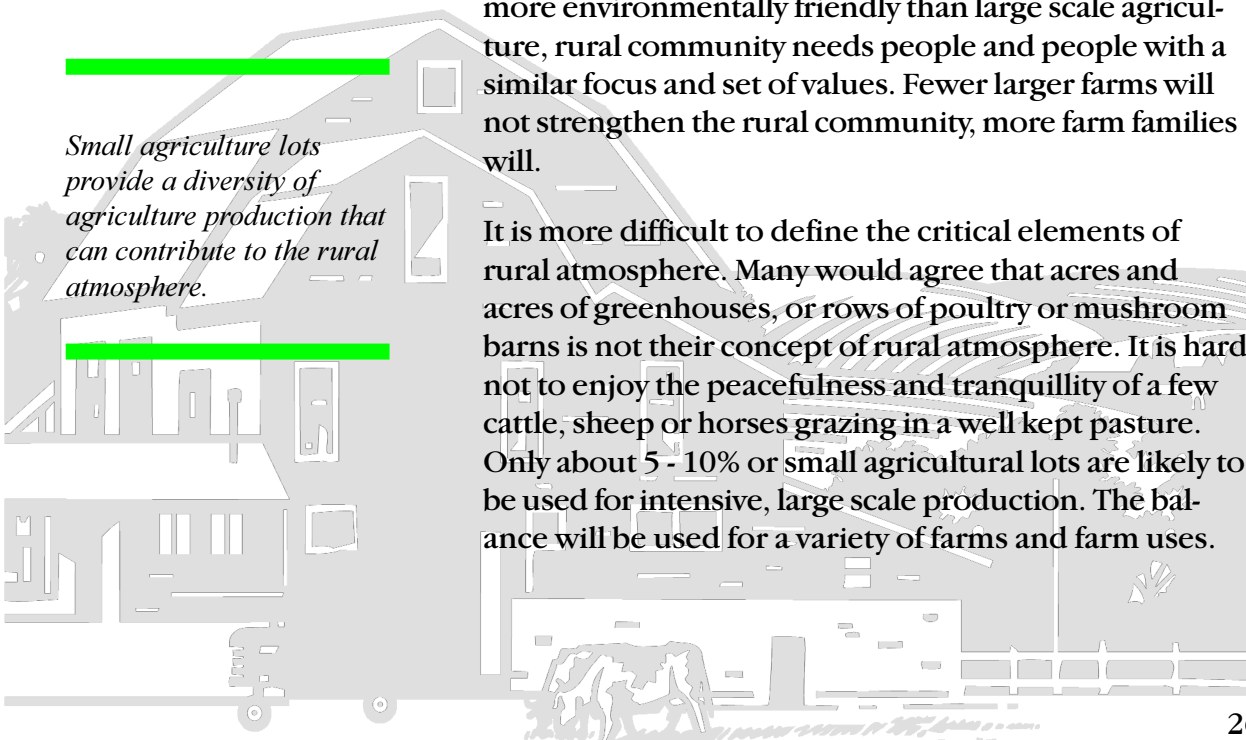
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*Small agriculture lots provide a diversity of agriculture production that can contribute to the rural atmosphere.*

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Though in BC small scale agriculture may not be any more environmentally friendly than large scale agriculture, rural community needs people and people with a similar focus and set of values. Fewer larger farms will not strengthen the rural community, more farm families will.

It is more difficult to define the critical elements of rural atmosphere. Many would agree that acres and acres of greenhouses, or rows of poultry or mushroom barns is not their concept of rural atmosphere. It is hard not to enjoy the peacefulness and tranquillity of a few cattle, sheep or horses grazing in a well kept pasture. Only about 5 - 10% of small agricultural lots are likely to be used for intensive, large scale production. The balance will be used for a variety of farms and farm uses.



## 5 Summary

Winston Churchill's quote that the past will help predict the future fits agriculture to some degree. The elements that gave rise to a strong mixed farm segment at the turn of the century appear to be returning at the turn of this century. And these trends suggest that there will be a significant role for small agriculture lots, particularly around urban centers.

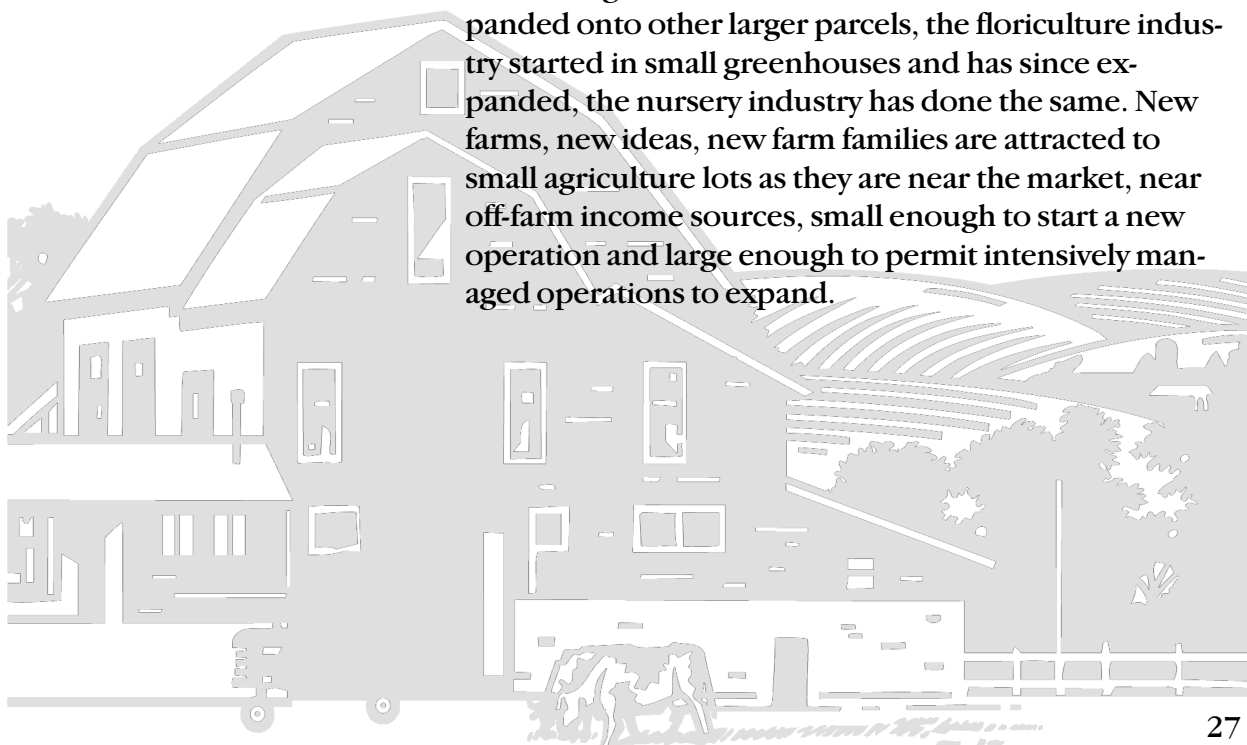
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*Though large output commodity focused agriculture is essential for food quantity, diversified, quality focused agriculture is essential for food diversity and export expansion. Both are needed, both are growing and both find homes on small agriculture lots around urban centers.*

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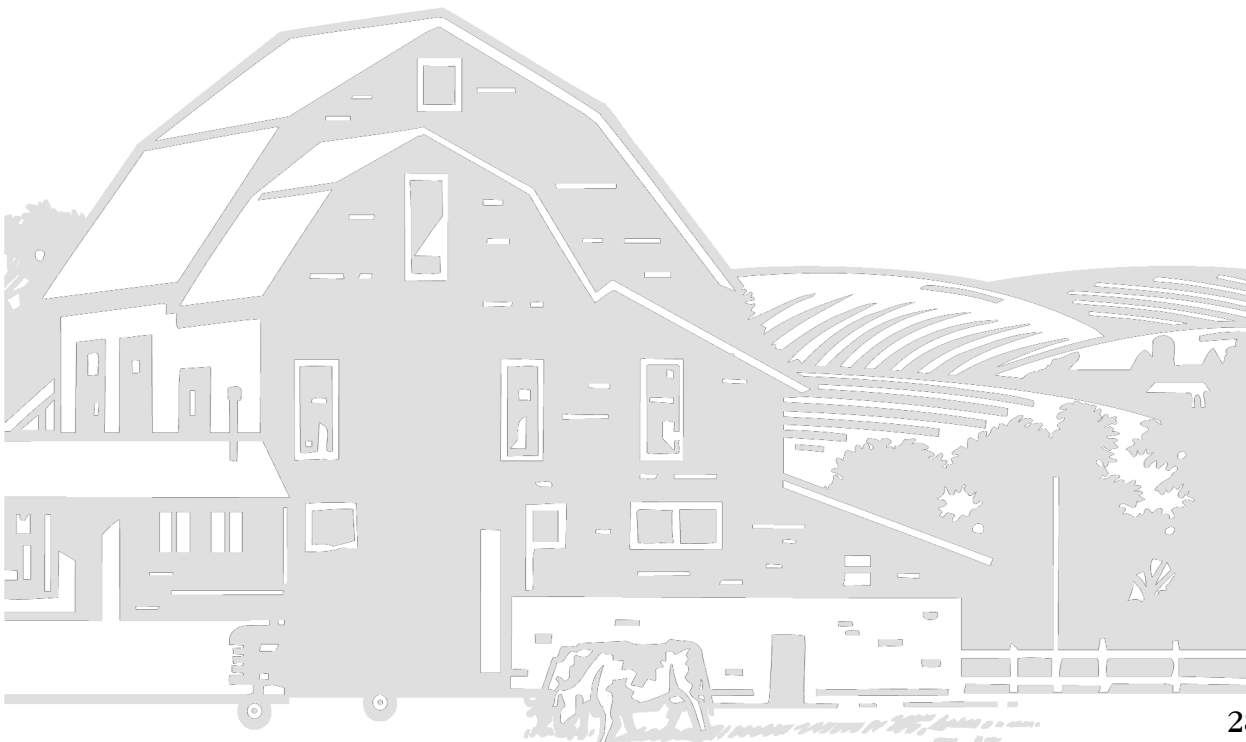
The commodity focus of the mid century and the evolution of large scale, high output farms was essential for agriculture to meet the food 'quantity' requirements of BC's growing population. Demand for local, direct market, and products produced under different production systems will be required to meet the food 'diversity' and perceived food 'quality' needs of the province. Farms responding to this market are most likely to locate on small agriculture lots around the urban areas and more often than not be operating close by, and in harmony with, large scale, large output farms.

There are no mushroom farms in Merritt, only 1 poultry farm in Delta and few greenhouses in Greendale. It has been said that the 3 most important things in small business are location, location and location. Farmers are no different. The vegetable greenhouse industry started on small agriculture lots near it's market and has expanded onto other larger parcels, the floriculture industry started in small greenhouses and has since expanded, the nursery industry has done the same. New farms, new ideas, new farm families are attracted to small agriculture lots as they are near the market, near off-farm income sources, small enough to start a new operation and large enough to permit intensively managed operations to expand.



The South Coastal region, and particularly the Fraser Valley, is unique in North America with its moderate climate, good soil and close proximity to a major market. The industry often boasts that over 200 commodities are produced commercially in BC. While some feel agriculture has no future on small lots near urban centers the evidence suggests agriculture entrepreneurs have quietly been growing and expanding in these areas.

The evidence is clear that small lots will be a major growth area for agriculture in BC and will be the home of many new farm enterprises over a wide range of output. This paper attempts to highlight the factual and anecdotal evidence to support this. If the evidence in this paper is accepted the question then becomes, how does government and industry enable agriculture to grow in these areas around urban centers? The FPPA was established to help blend the public and private interests in maintaining an agriculture capability. How do we provide a development strategy that blends the importance of large output commodity agriculture with the importance of differentiated, specialized and direct market agriculture?



# Appendix

Table A-1 Farms under 10 acres—Langley and Maple Ridge

**Langley/Maple Ridge - Farms under 10 acres**

Revenue Class	Farms<10	% Farms>10		% All Farms		% at sales level		
						<10	>10	
2500	219	22.8%	54	8.7%	273	17.2%	80.2%	19.8%
5000	300	31.2%	107	17.2%	407	25.7%	73.7%	26.3%
10000	155	16.1%	117	18.8%	272	17.2%	57.0%	43.0%
25000	115	12.0%	92	14.8%	207	13.1%	55.6%	44.4%
50000	50	5.2%	53	8.5%	103	6.5%	48.5%	51.5%
100000	30	3.1%	53	8.5%	83	5.2%	36.1%	63.9%
250000	18	1.9%	53	8.5%	71	4.5%	25.4%	74.6%
500000	32	3.3%	52	8.4%	84	5.3%	38.1%	61.9%
Over 500000	43	4.5%	41	6.6%	84	5.3%	51.2%	48.8%
total	962		622		1584		60.7%	39.3%
<b>Maple Ridge</b>								
2500	63	25.3%	10	12.2%	73	22.1%		
5000	99	39.8%	26	31.7%	125	37.8%		
10000	41	16.5%	10	12.2%	51	15.4%		
25000	25	10.0%	13	15.9%	38	11.5%		
50000	8	3.2%	6	7.3%	14	4.2%		
100000	3	1.2%	2	2.4%	5	1.5%		
250000	5	2.0%	6	7.3%	11	3.3%		
500000	2	0.8%	3	3.7%	5	1.5%		
Over 500000	3	1.2%	6	7.3%	9	2.7%		
total	249		82		331			

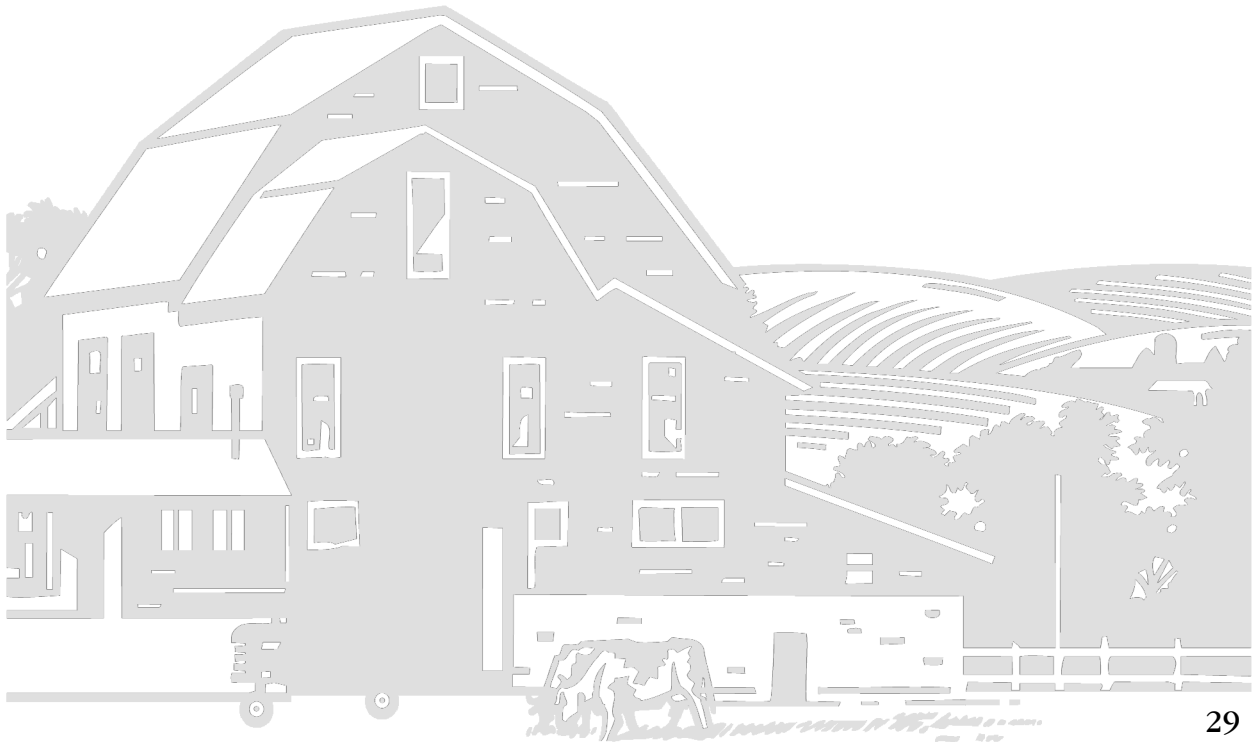


Table A-2 Proportion of ALR in smal lots in South coastal Region by District and Municipality

**B.C. Assessment Summary of Land Classified Farm Based on Lot Size (over/under 10 acres)**

District	Farms not in ALR		Farms under 10 acre		Other Farms in ALR		Other Land in ALR		ALR Lots	ALR Acres
	#	Acres	#	Acres	#	Acres	#	Acres		
Colwood	1	4	0	0	0	0	3	26	3	26
Central Saanich	102	1,001	182	1072	110	2,968	158	923	450	4963
Saanich SD 61	79	675	64	238	14	329	42	225	120	792
Saanich SD63	105	879	77	415	50	1269	150	618	277	2302
District of Langford	19	95	9	55	8	179	50	282	67	516
District of North Saanich	53	710	49	273	34	1211	217	841	300	2325
District of Metchosin	67	866	50	271	32	913	114	740	196	1924
Dist of Highlands (SD61)	2	7	0	0	0	0	0	0	0	0
Dist of Highlands(SD62)	22	346	0	0	0	0	1	21	1	21
Town of View Royal (SD61)	13	418	4	16	0	0	0	0	4	16
Town of View Royal (SD62)	0	0	0	0	0	0	1	178	1	178
Town of Sidney	1	44	0	0	0	0	0	0	0	0
Victoria Rural	68	458	28	135	29	1624	168	2815	225	4574
Gulf Islands Rural	1	9.7	0	0	1	328	10	858	11	1186
Gulf Islands Rural	216	5740	41	238	160	12134	330	6868	531	19240
City of Nanaimo	77	767	4	22	2	33	32	581	38	636
Dist of North Cowichan	322	7446	51	279	89	3455	442	4195	582	7929
Town of Ladysmith	8	61	0	0	0	0	0	0	0	0
Duncan rural	37	223	2	12	1	60	31	797	34	869
Nanaimo Rural	322	7527	68	402	102	5226	494	7297	664	12925
City of Alberni	8	34	0	0	3	226	1	40	4	266
City of Parksville	2	134	0	0	0	0	4	122	4	122
Qualicum Beach	16	90	10	54	0	0	63	323	73	377
District of Tofino	1	46	0	0	0	0	0	0	0	0
Alberni Rural	204	6773	19	136	79	3609	738	17070	836	20815
Alberni Rural	159	4090	29	107	46	2232	406	6321	481	8660
City of Courtney	4	7	0	0	0	0	0	0	0	0
Dist of Campbell River	2	13	1	9	5	93	94	5438	100	5540
Town of Comox	1	6	0	0	0	0	0	0	0	0
Cumberland	1	10	0	0	0	0	0	0	0	0
Sayward	0	0	0	0	0	0	4	107	4	107
Courtney Rural	195	2934	82	511	356	22820	978	24646	1416	47977
Campbell River rural	168	2862	6	34	33	4483	263	8190	302	12707
Courtney Rural	18	208	0	0	0	0	0	0	0	0
Port Hardy Rural	52	1134	0	0	0	0	4	82	4	82
<b><u>Vancouver Island</u></b>	<b>2346</b>	<b>45617.7</b>	<b>776</b>	<b>4279</b>	<b>1154</b>	<b>63192</b>	<b>4798</b>	<b>89604</b>	<b>6728</b>	<b>157075</b>
% of ALR	XX	XX	11.53%	2.72%	17.15%	40.23%	71.31%	57.05%		
Vancouver	2	8	8	14	0	0	88	80	96	94
New Westminster	5	11	0	0	0	0	0	0	0	0
Burnaby	31	134	34	57	1	13	7	22	42	92
Corp of Delta	74	1371	440	109	68	4428	40	4068	548	8605
City of Richmond	95	287	646	273	26	986	217	1074	889	2333
Surrey	523	729	726	264	47	1560	353	716	1126	2540
Lower Mainland Rural	0	0	16	50	19	892	9	48	44	990
Port Coquitlam	52	335	23	120	9	119	35	161	67	400
Coquitlam	13	571	3	12	0	0	22	168	25	180
Dist of Maple Ridge	169	1414	191	1102	80	1958	889	5568	1160	8628
Dist of Mission	172	1943	67	368	24	1128	106	946	197	2442
Dist of Pitt Meadows	25	789	215	1421	223	8420	128	3020	566	12861
Village of Anmore	1	5	0	0	0	0	0	0	0	0
Maple Ridge Rural	73	1522	129	825	265	11211	273	3740	667	15776
City of Langley	1	5	4	21	0	0	1	3	5	24
Township of Langley	281	5618	1264	7330	869	25460	1976	15046	4109	47836
City of Abbotsford	118	2262	967	6600	864	23961	889	7129	2720	37690
City of Abbotsford	54	1221	236	1422	556	18249	97	733	889	20404
Lower Mainland	6	117	0	0	0	0	9	341	9	341
District of Chilliwack	151	2181	737	4270	817	26728	473	3421	2027	34419
Distict of Kent	18	2127	82	504	225	7964	92	1279	399	9747
District of Hope	3	70	6	33	5	130	31	475	42	638
Harrison Hot Springs	0	0	0	0	0	0	2	210	2	210
Chilliwack Rural	16	545	11	82	15	830	64	1390	90	2302
Chilliwack Rural	19	392	25	169	90	2918	105	1955	220	5042
<b><u>Lower Mainland</u></b>	<b>1902</b>	<b>23657</b>	<b>5830</b>	<b>25046</b>	<b>4203</b>	<b>136955</b>	<b>5906</b>	<b>51593</b>	<b>15939</b>	<b>213594</b>
% ALR	xxx	xxx	36.58%	11.73%	26.37%	64.12%	37.05%	24.15%		

