

**GULF ISLANDS
LIVESTOCK PROCESSING
FEASIBILITY STUDY**



FINAL REPORT

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EXECUTIVE SUMMARY

The Gulf Islands have a relatively small farm sector, which has a primary focus on lamb production, most of which is sold directly to end users. This study examines the feasibility of establishing a provincially licensed abattoir and processing facility in the Gulf Islands, in order to assure compliance with the British Columbia Meat Inspection regulations.

The permanent population of the study area is 15,000 people. Most meat and poultry consumed within the study areas comes from elsewhere. Gulf Islands consumption, based on Canadian averages, would be 1,545 beef cattle, 5,064 hogs, 201,600 chickens, 17,437 turkeys and 540 lambs. Tourist consumption could increase these numbers substantially. Less than 5% overall is produced on the islands.

The livestock inventory survey provided information from 139 respondents. Highlights are as follows:

Total Animals By Island (Inventory)							
	Galiano	Mayne	Pender	Prevost	Salt Spring Island	Saturna	Sidney
Cattle	-	55	78	51	219	37	-
Sheep	173	44	443	122	2,342	126	-
Swine	10	7	12	-	26	7	-
Goats	-	4	22	-	8	-	-
Total	183	110	555	173	2,595	170	-

Marketings for 2005 are expected to remain constant. An increase of 11% was indicated for 2006 and beyond if a local processing plant was developed.

Based on a 100% capture, and assuming a 10% increase in marketings, the red meat sector could provide \$248,684.00 in processing revenue to a new abattoir and processing plant.

Poultry marketings include about 5,390 birds per year (2004). Increases will depend on the availability of processing. The dollar volume, with a 20% increase would be \$17,236.00.

Waste disposal is a major issue for the project. Solid waste costs could be as high as \$52.00/AU*. Liquid waste disposal costs are still under review.

Average farm size is generally small as per the following farm size breakdown table. There were 1,072 animal units in total, and 78% would be located on Salt Spring and Pender.

AU Range	Galiano	Mayne	Pender	Prevost	SSI	Saturna	Sidney	Total
0-5	8	3	7	-	42	3	-	63
6-10	1	1	3	-	20	1	-	26
11-20	-	1	4	-	9	-	-	14
21-50	-	1	2	-	6	1	-	10
51-75	-	-	-	1	-	-	-	1
76-100	-	-	-	-	-	-	-	-
100+	-	-	-	-	-	-	-	-

Total market animals sold in 2004 were the following:

Sheep	1,881
Cattle	207
Swine	86
Goats	23

An additional 137 cull animals of various types were sold. AU marketings, including culls, in total were 536 in 2004. Close to 85% of the animals sold were direct marketed by producers.

- * An animal unit (AU) is a weight based definition. One AU is the equivalent of a 1,000 lb steer. A 100 lb lamb is 0.1 AUs.

For poultry, the most appropriate solution, given the small size of the industry, would be to ship to the proposed Cowichan Bay facility. This may not be conducive to poultry production on islands beyond Salt Spring due to logistical issues.

For red meat, the analysis indicated that the portable abattoir has the following advantages:

- Lower capital costs than a stationary plant (\$300,000 versus \$500,000 including processing)
- Flexibility to serve more locations
- No need to go through a potentially difficult process of selecting and developing an industrial site (NIMBY)
- Waste disposal would fall under agricultural guidelines.
- Potential to serve farmers' markets if a portable cooler/freezer cut and wrap facility was included.
- Lower stress on animals due to reduced transportation.

It is recommended that the proponents consult with major producers to see if there is commitment to support the proposed plant. If there is support, a business plan would be required.

1.0 INTRODUCTION

The Canadian Southern Gulf Islands are located in the Strait of Georgia to the east of Vancouver Island. Major islands in the group include Salt Spring, Pender, Galiano, Mayne and Saturna, as well as Prevost and Sidney. The islands noted above have an approximate permanent population of some 15,000 people.

During the tourist season, the overall population increases dramatically, with visitors drawn to the scenic settings and the diverse arts and cultural opportunities. Gulf Island agriculture is an integral part of the regular and tourist economy with most farmers selling directly to consumers (local residents and tourists). Products include meat, cheese, vegetables, wine and fruit.

The farms are small in size and many are operated to supplement other incomes. Due to the nature of the land base, livestock operations tend to be small in size. Livestock product marketing is virtually all done directly to consumers via farm gate sales, so producers size their operations to what they can sell and to their land's carrying capacity.

Historically, farm gate sales have been allowed to proceed with little scrutiny by government. However, recent changes (July, 2004) to the Food Safety Act in British Columbia will require all meat and meat products to be treated in a uniform manner as follows:

- all food animals must undergo mandatory ante and post-mortem inspection
- consistent standards for the construction and operation of all slaughterhouses

Industry has been given a two-year grace period to become compliant.

For the Gulf Islands, coming up with a practical option to meet the new requirements is of critical importance since virtually all locally raised meat is sold “farm gate”. There are no local plants which have licensing, and the nearest facilities are located on Vancouver Island.

In order to see if the new requirement can be met in the Gulf Islands, the Island Farmers Institute in cooperation with the Pender Island Farmers Institute, Mayne Island Agricultural Society and the Island Natural Growers have commissioned a feasibility study. The study contract was awarded to P.M. Associated Ltd. of Winnipeg, Manitoba in December of 2004. This final report is provided in fulfillment of the study requirements.

“This project is partly (50%) funded by the Islands Agri-Food Initiative, which is administered by the Island Farmers’ Alliance. The Islands Agri-Food Initiative is one of several programs funded by the Agri-Food Futures Fund; a joint initiative of Agriculture and Agri-Food Canada and the B.C. Ministry of Agriculture, Food and Fisheries. The Investment Agriculture Foundation of British Columbia is the trustee of the Agri-Food Futures Fund.”

2.0 TERMS OF REFERENCE

The consultants' terms of reference were provided in the RFP as follows:

- Assist the Island Farmers Institute in developing a survey methodology for livestock inventory and for formulating a reliable estimate of livestock processing and meat product marketing on the Southern Gulf Islands;
- Determine the amount of processed livestock required to meet annual farm gate, private and commercial meat food consumption requirements within the Southern Gulf Islands;
- By completing a preparatory assessment of the proposed regulations (for example: structural requirement), of abattoir(s) capital investments, potential locations and on-going operational budgets;
- Evaluate the feasibility of:
 - 1) Establishing Southern Gulf Island based abattoir(s), including an analysis of the intricacies and costs of inter-island livestock transportation;
 - 2) Setting up the organization and infrastructure required to establish a mobile abattoir for large livestock and poultry among the various Southern Gulf Islands;
 - 3) Utilizing the option of Vancouver Island based inspected and licensed abattoirs.

- Recommend solutions/options to consequential issues such as impacts of animal health/welfare regulations and waste/offal disposal.
- Prepare a summary report and all research and evaluation products of the project and present the report for the Island Farmers Institute and the Island Agri-Food Initiative Board.

3.0 MARKET FOR MEAT

The consumption of meat in Canada is tracked by Statistics Canada, and reports are provided through CANFAX Research Services. The most recent data (2003) indicated the following:

- Per capita beef consumption in 2003 was 51.5 lbs, which was a slight increase (5%) over 2001 and 2002. Some analysts attribute the increase to support for farmers over the BSE crisis, but other factors include the various low carb diet fads and some retail price reductions. The above figure is on a retail weight basis (RWB).
- Pork consumption in 2003 was 42.2 lbs per person, which was a 10% decline over 2002. Chicken and turkey consumption has remained stable at 67.2 lbs and 9.3 lbs respectively.
- Lamb consumption is relatively low at 1.8 lbs per person. Some attribute this low number to a lack of availability.

The permanent population of the study area is roughly 15,000 people, implying an overall market for meat as follows:

	No. of People	Per Capita (lbs)	Total	No. of Animals
Beef*	15,000	51.5	772,500	1,545 ⁽¹⁾
Pork*	15,000	42.2	633,000	5,064 ⁽²⁾
Chicken**	15,000	67.2	1,008,000	201,600 ⁽³⁾
Turkey**	15,000	9.3	139,500	17,437 ⁽⁴⁾
Lamb*	15,000	1.8	27,000	540 ⁽⁵⁾

* The weights calculated above for beef, pork and lamb represent the “Retail Weight Basis (RWB)” numbers. Animals are typically sold on a live weight basis. After slaughter, they are weighed on a “Carcass Weight Basis (CWB)”.

** Poultry is weighed live, then eviscerated and sold whole or in pieces.

- (1) Assumed 500 lbs of saleable meat per animal
- (2) Average hog at 50% of live weight using a live weight of 250 lbs
- (3) A 5 lb average eviscerated weight was used for chickens
- (4) An 8 lb average eviscerated weight was used for turkeys
- (5) 50 lbs of saleable meat per lamb

Table A would represent total production needed to meet the needs of permanent residents, assuming per capita consumption is at the Canadian average. It does not take into account meat consumption by visitors to the island. The tourist trade on the Gulf Island is substantial and probably increases overall consumption by a significant amount.

See Appendix C for a discussion paper on carcass yields.

4.0 SURVEY OF LIVESTOCK INVENTORY AND MARKETINGS

4.1 RESULTS

The consultants, in cooperation with the steering committee, prepared a comprehensive producer survey. The steering committee and other volunteers collected 139 surveys from producers throughout the study area. This is believed to represent close to 95% of all livestock production. Survey results are as follows:

1a. Location of Respondents

Saltspring Island	99	71.2%
Galiano Island	9	6.5%
Mayne	6	4.3%
Pender Island	18	13.0%
Prevost Island	1	0.7%
Saturna Island	5	3.6%
Sidney	<u>1</u>	<u>0.7%</u>
	139	100.0%

1b. Types of Red Meat Animal Enterprises

Sheep	71	50.7%
Sheep Organic	<u>5</u>	<u>3.6%</u>
	76	54.3%
Cattle	37	26.4%
Cattle Organic	<u>6</u>	<u>4.3%</u>
	43	30.7%
Swine	9	6.4%
Swine Organic	<u>4</u>	<u>2.9%</u>
	13	9.3%
Goat	5	3.6%
Goat Organic	<u>2</u>	<u>1.4%</u>
	7	5.0%

Other**	1	0.7%
Total	140	100.0%

* Some producers have more than one species; some are only in poultry.

** Deer on Sidney Island

1c. Inventory

* Other typically denotes replacement animals

CATTLE			
	Total	SSI	Outer Gulf Islands
Breeding Males	22	13	9
Breeding Females	223	86	137
Market Animals	173	112	61
Other *	22	8	14
Total	440	219	221
Percentage	100.0%	49.8%	50.2%

SHEEP			
	Total	SSI	Outer Gulf Islands
Breeding Males	88	53	35
Breeding Females	2,440	1,837	603
Market Animals	389	307	82
Other *	333	145	188
Total	3,250	2,342	908
Percentage	100.0%	72.0%	28.0%

SWINE			
	Total	SSI	Outer Gulf Islands
Breeding Males	4	4	-
Breeding Females	3	3	-
Market Animals	55	19	36
Other *	-	-	-
Total	62	26	36
Percentage	100.0%	42.4%	57.6%

GOATS			
	Total	SSI	Outer Gulf Islands
Breeding Males	3	1	2
Breeding Females	27	7	20
Market Animals	-	-	-
Other *	4	-	4
Total	34	8	26
Percentage	100.0%	23.5%	76.5%

Organic - All on Salt Spring Island except for 2 enterprises on Saturna, 1 enterprise on Mayne and 1 on Pender.

	Total	Cattle	Sheep	Goats	Swine
Breeding Males	4	-	2	2	-
Breeding Females	34	7	15	12	-
Market Animals	23	9	-	-	14
Other *	2	-	2	-	-
Total	63	16	19	14	14

Other

20 horses

20 Jersey cows - male calves and cull cows sold as meat (organic)

2,000 deer on Sidney Island (wild animals)

1d. Farm Size Breakdown Based on AU Inventory

Basis for Determination of AUs

	Cattle	Sheep	Swine	Goats
Breeding	1 AU	0.2 AU	0.3 AU	0.2 AI
Market	1 AU	0.1 AU	0.3 AU	0.1 AU
Other	0.75 AU	0.2 AU	0.3 AU	0.2 AU

FARM SIZE BREAKDOWN

AU Range	SSI	Outer Gulf Islands	Total
0-5	42	21	63
6-10	20	6	26
11-20	9	5	14
21-50	6	4	10
51-75	-	1	1
76-100	-	-	-
100+	-	-	-

FARM SIZE BREAKDOWN ON ISLANDS

SALT SPRING ISLAND	
Type of Animal	Amount of AUs
Cattle	217
Sheep	438
Swine	8
Goats	1
Total	664 AUs

OUTER GULF ISLANDS	
Type of Animal	Amount of AUs
Cattle	218
Sheep	174
Swine	11
Goats	5
Total	408 AUs

2a. Types of Meat Animals Marketed in 2004 by Number of Respondents

Sheep	66
Cattle	35
Swine	13
Goats	<u>5</u>
Total	119

Some producers marketed more than one species.

16 marketed 2 species

2 marketed 3 species

2b. Market Animals Sold in 2004 by Respondents

	No. of Animals Sold	Average live weight (lbs)
Sheep	1,881	95
Cattle	207	812
Swine	86	192
Goats	23	58

The above markets would represent the following number of animals units:

Cattle	=	1	AU
Sheep	=	0.1	AU

Swine = 0.3 AU
 Goats = 0.1 AU

	<u>AUs</u>
Cattle	207
Sheep	188
Swine	26
Goats	<u>3</u>
	424

2c. Total Animals Sold

	# of Respondents	Total Animals	Farm gate sales	At farmers' markets	Sell live to processors	Direct to retailers	Other
SSI	65	1,678	1,020	-	184	384	90
Outer Gulf Islands	29	1,058	641	39	229	-	149
Total	94	2,736	1,661	39	413	384	239

3a. Amount of Increased Production for 2005

	Total Respondents	Total Current Animals from Respondents			Total Current AUs from Respondents	Average % Increase	Total Future Animals from Respondents			Total Future AUs from Respondents
		Sheep	Cattle	Swine			Sheep	Cattle	Swine	
SSI	21	443	27	21	78	85	551	66	14	125
Outer Gulf Islands	5	120	13	-	25	27	131	15	-	28
Total	26	563	40	21	103	N/A	682	81	14	153

Applied to the total population, this represents a 4% increase in the sheep population, a 10% increase in cattle, and a decrease in swine.

3b. Amount of Decreased Productions for 2005

	Total Respondents	Total Current Animals from Respondents				Total Current AUs from Respondents	Average % Decrease	Total Future Animals from Respondents				Total Future AUs from Respondents
		Sheep	Cattle	Swine	Goats			Sheep	Cattle	Swine	Goats	
SSI	14	236	35	30	4	68	61	114	9	15	2	25
Outer Gulf Islands	-	-	-	-	-	-	-	-	-	-	-	-
Total	14	236	35	30	4	68	61	114	9	15	2	25

- If the above occurred, it would nearly offset the entire increase noted in 3a).
- This may be due to uncertainty over processing. See question 11 for a more relevant result (increases if a licensed plant was available).

4. Cull Animals Marketed in 2004 by Respondents

	Breeding Stock		Over 30 Months in Age	
	No. of animals	Avg. live weight (lbs)	No. of animals	Avg. live weight (lbs)
Sheep	118	103	108	100
Cattle	17	1,800	25	1,092
Swine	1	140	-	-
Goats	1	55	-	-

5. There is a 12% increase in cull sales expected in 2005, taken from 15 respondents (about 20% of red meat operators). (Overall average is 2% increase.)

6. How do you currently market your red meat production (Basis 2004)?

Farm gate sales	85	76.6%
Selling live to processors	12	10.8%
Direct to retailers	6	5.4%
At farmer's market*	3	2.7%
Auction live animals	1	0.9%
Breeding stock sold live	1	0.9%
On island word of mouth	1	0.9%
Myself	1	0.9%
Other	<u>1</u>	<u>0.9%</u>
Total	111	100.0%

* May not be legal in the future without the Health Department's approval

7. Percentages of Various Marketing Strategies

The majority of meat is sold as either farm gate or direct to retailers.

8a. Where do you currently get your animals slaughtered?

Local unlicensed	36	34.6%
Off island licensed processors	28	26.9%
Myself	21	20.2%
Off island unlicensed processors	15	14.4%
Other	<u>4</u>	<u>3.9%</u>
Total	104	100.0%

8b. Amount of Animals Slaughtered

	# of Respondents	Local unlicensed	Off island licensed processors	Off island unlicensed processors	Self	Other	Total
SSI	61	350	447	77	418	18	1,310
Outer Gulf Islands	25	50	351	74	265	20	760
Total	86	400	798	151	683	38	2,070

9. Where do you currently get your animals processed?

Local unlicensed	44	43.1%
Off island licensed processors	27	26.5%
Off island unlicensed processors	15	14.7%
Myself	13	12.8%
Other	<u>3</u>	<u>2.9%</u>
Total	102	100.0%

10. If you had convenient access to a Gulf Islands processing facility at a reasonable cost, would your production of red meat* increase in 2006 and beyond?

Yes	47	44.3%
No	<u>59</u>	<u>55.7%</u>
Total	106	100.0%

* Assumed to mean market animals

11. Animals Units Increase by Size Category

AU Range	SSI			Outer Gulf Islands		
	Total AUs	Average% increase	Total AUs after increase	Total AUs	Average% increase	Total AUs after increase
0-5	44.9	34	60.2	6.5	46.5	9.5
6-10	26.7	50	40.1	13.5	10	14.9
11-20	35.2	10	38.7	15.9	30	20.7
21-50	22	10	24.2	-	-	-
51-75	-	-	-	-	-	-
76-100	-	-	-	-	-	-
100+	-	-	-	-	-	-
Total	128.8	N/A	163.2	35.9	N/A	45.1

- There were no increases for Mayne, Prevost, or Sidney.
- Galiano and Salt Spring Island each had a respondent who believed their farm would increase production, but they were unsure by what amount.
- The overall results represent an 11% increase in market animals sold. (43.7/424 = 10.7%)

12. Slaughter Fees

The average slaughter fees suggested for the various species were:

Sheep	\$28.00	Swine	\$44.00
Cattle	\$70.00	Goats	\$29.00

13. The average processing fee suggested was 41¢/lb.

14. Do you currently raise poultry as part of your farm operation?

Yes	64	56.6%
No	49	43.4%
Total	113	100.0%

15a. Please indicated what type of poultry you currently raise.

Chickens	51	86.4%
Turkeys	5	8.5%
Ducks	2	3.4%
Geese	1	1.7%
Other	-	-
Total	59	100.0%

15b. Inventory

	Total	SSI	Outer Gulf Islands
Chickens	2,525	1,681	844
Turkeys	45	8	37
Ducks	69	39	30
Geese	2	2	-
Total	2,641	1,730	911
Percentage	100.0%	65.4%	34.6%

16. How many birds of each species would you currently be marketing annually? (Basis 2004)

	Total	SSI	Outer Gulf Islands
Chickens	5,080	4,000	1,080
Turkeys	169	82	87
Ducks	141	91	50
Geese	-	-	-
Total	5,390	4,173	1,217
Percentage	100.0%	77.5%	22.5%

17. Minimal overall increases are expected for 2005. (Only 9 of 64 respondents were looking at expanding, with an average increase of 5%.)

18. How do you currently market your poultry?

- 8 producers market 100% of production as farm gate sales
- 1 producer markets 80% of production as farm gate sales
- 1 producer markets 20% of production to retailers

19. With access to a licensed Gulf Islands processing plant, 28 of 57 producers (49.0%) said their production would increase.

20. With access, the estimated production increase was 50.0% (25 producers). Based on 57 producers, the average increase would be 21.9%.

21. What fee per bird would be a reasonable charge for custom processing your poultry (based on you retaining ownership and selling all end products yourself?)

Chickens	\$2.60
Turkeys	\$4.80
Ducks	\$4.00
Geese	-

22. Where do you currently have your poultry processed?

Off island unlicensed	15	36.6%
Myself	15	36.6%
Off island licensed	<u>11</u>	<u>26.8%</u>
Total	41	100.0%

23. If you lose the ability to do farm gate and/or farmers' market sales due to the new health regulations and the lack of a licensed on island processing option, do you anticipate having to shut down your red meat and poultry operations?

Yes	61	59.2%
No	<u>42</u>	<u>40.8%</u>
Total	103	100.0%

Comments

- I don't use an on island, so as long as there is a licensed plant in Duncan, not much will change.
- Have own slaughter house but no longer use it
- A shame for local industry to collapse due to change in law
- Will have to leave island
- Cut numbers of sheep
- Keep small flock
- Sell live cattle
- Sell live to processors
- Public should have right to make the choices, farm gate sales are safe
- Too expensive to sell off island
- Not a problem, I can take them to Duncan
- Raise only for personal use not considered farming
- 80% reduction
- If can not be processed will shut down
- Would keep animals for personal use

24. If yes was chosen to Question 23, the total value of production lost is \$176,775 (45 respondents). The average is \$3,928/farm.

25. Would this mean you would have to quit farming?

Yes	33	40.2%
No	<u>49</u>	<u>59.8%</u>
Total	82	100.0%

26. Could this mean the loss of your farm tax status?

Yes	39	48.8%
No	<u>41</u>	<u>51.2%</u>
Total	80	100.0%

27. Do you have any comments or innovative suggestions as to solutions to the processing challenges facing Gulf Island farmers?

- Get rid of regulations x4
- If there was an on island processor, we would use it x2
- Behind anything to keep farming viable on island x2
- Would increase lamb production if there was a market
- On island licensed facility is needed
- Public input is needed
- Shipping off island really affects the economics of farming
- New regulation are a cash cow for the government
- Need on island solution
- Some facilities are good for animals as well as farmers
- Help small farms as well
- Government should fund diversity supporting demand for today farm gate food
- Licensed mobile unit that would be at least on Salt Spring Island
- Agree with mobile livestock processing x2

4.2 MAXIMUM VOLUMES BASED ON AN 100% CAPTURE

Based on the survey results, the following potential volumes could be realized from a Gulf Islands facility:

Red Meat (10% increase based on survey question #11)

1. Beef

- 207 market animals plus 42 cull cows
- Applied an increase of 10% to get volume = 227 market animals and 46 culls
- Fees for abattoir only

273 x \$75.00 =	\$20,475.00
-----------------	-------------
- Fees for processing (cut and wrap)

273 x 623 x 55¢ =	\$93,543.00
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- **Total Beef = \$114,018.00**

2. Lamb/Sheep

- 1,881 lambs plus 225 mature culls
- Applied an increase of 10% to get volume = 2,069 lambs plus 248 mature culls
- Fees for abattoir only

2,317 x \$28.00 =	\$64,876.00
-------------------	-------------
- Fees for processing (cut and wrap)

Lambs 50 lbs @ 45¢ =	\$23
Ewes 80 lbs @ 45¢ =	\$36
- Total fees for processing

2,069 x \$27 =	\$47,587.00
248 x \$54 =	<u>\$8,928.00</u>
	\$56,515.00
- **Total Sheep = \$121,391.00**

3. Swine

- 86 currently

- Applied an increase of 10% to get volume = 95 swine
- Fees for abattoir only
 $95 \times \$44 =$ \$4,180.00
- Fees for processing (cut and wrap)
 $180 \times 45 \times 95 =$ \$7,695.00
- **Total Swine =** **\$11,875.00**

4. Goats

- Fees for abattoir only
 $25 \times \$29 =$ \$725.00
- Fees for processing (cut and wrap)
 $25 \times \$27 =$ \$675.00
- **Total Goats =** **\$1,400.00**

Summary			
Type	Abattoir	Processing	Total
Beef	\$20,475	\$93,543	\$114,018
Sheep	64,876	56,515	121,391
Swine	4,180	7,695	11,875
Goats	725	675	1,400
Total	\$90,256	\$158,428	\$248,684

This is based on a 100% capture of slaughter and processing.

Poultry (20% increase based on survey question #20)

1. Chickens

- 5,080 birds
- Applied an increase of 20% to get volume = 6,000 birds
- Fees
 $6,000 \times \$2.60 =$ \$15,600.00

2. Turkeys

- 169 birds
- Applied an increase of 20% to get volume = 200 birds
- Fees

$$200 \times \$4.50 = \$960.00$$

3. Ducks

- 141 birds
- Applied an increase of 20% to get volume = 169 birds
- Fees

$$169 \times \$4.00 = \$676.00$$

Total Poultry **\$17,236.00**

Other

The deer on Sidney Island could also represent a potential opportunity for a mobile plant. Parks Canada would like to sell meat to offset costs of an annual population reduction (200-300 animals per year).

Based on Canadian consumption averages, the Gulf Islands market for meat products is generally for in excess of what is produced locally.

Gulf Islands Market/Production Analysis			
	Consumed No. of Animals	Produced No. of Animals⁽²⁾	Shortfall
Beef	1,545	273	1,272
Pork	5,064	95	4,969
Chicken	201,600	6,000	195,600
Turkey	17,437	169	17,568 ⁽³⁾
Lamb⁽¹⁾	540	2,317	(1,777)

- (1) Lamb is the only exception. The Islands produce and sell more lamb than the apparent consumption.
- (2) Project volume based on survey responses.
- (3) Turkey shortfall may be overstated. An average weight of 8 lbs only was used.

5.0 PROCESSING OPTIONS

5.1 OVERVIEW

The consultants were given three options to consider, including the following:

- 1) development of a fixed facility for slaughter and further processing;
- 2) development of a portable facility that would move to various island locations;
and
- 3) development of transportation infrastructure to access off-island plants.

The abattoir models are sized to address 100% of the marketed production. This would require a capacity to process as follows:

	Animals	AU Conversion	Animal Units (AUs)
Beef	273	1	273
Sheep	2,069	0.1	207
Goats	248	0.15	37
Swine	95	0.2	19
			536

We have used a level of 500 AUs for sizing purposes



5.2 PORTABLE FACILITY

The portable model is based on the San Juan Island concept, which is described as follows:

- 1) The abattoir is owned by the Island Grown Farmers Co-op. It was custom built by Featherlite Trailers and is USDA approved. It has a daily capacity to store 10-12 cattle, 50 sheep or 20 hogs.
- 2) A drawing is provided as follows with an information package in the Appendix B.
- 3) It does slaughter only and is moved from farm site to farm site. This is an infield, on-farm slaughter facility.
- 4) Waste is disposed of on-site. Solid waste is composted, and liquid waste is spread as fertilizer.
- 5) Carcasses are moved to a fixed-in-place, cut and wrap facility for further processing.

Disadvantages would include:

- 1) It is not certain that British Columbia (CFIA) will approve a portable facility.
- 2) An approved Refrigerated transport unit would be needed to transfer carcasses from the abattoir to a cut and wrap facility.

FEATHERITE
INC.

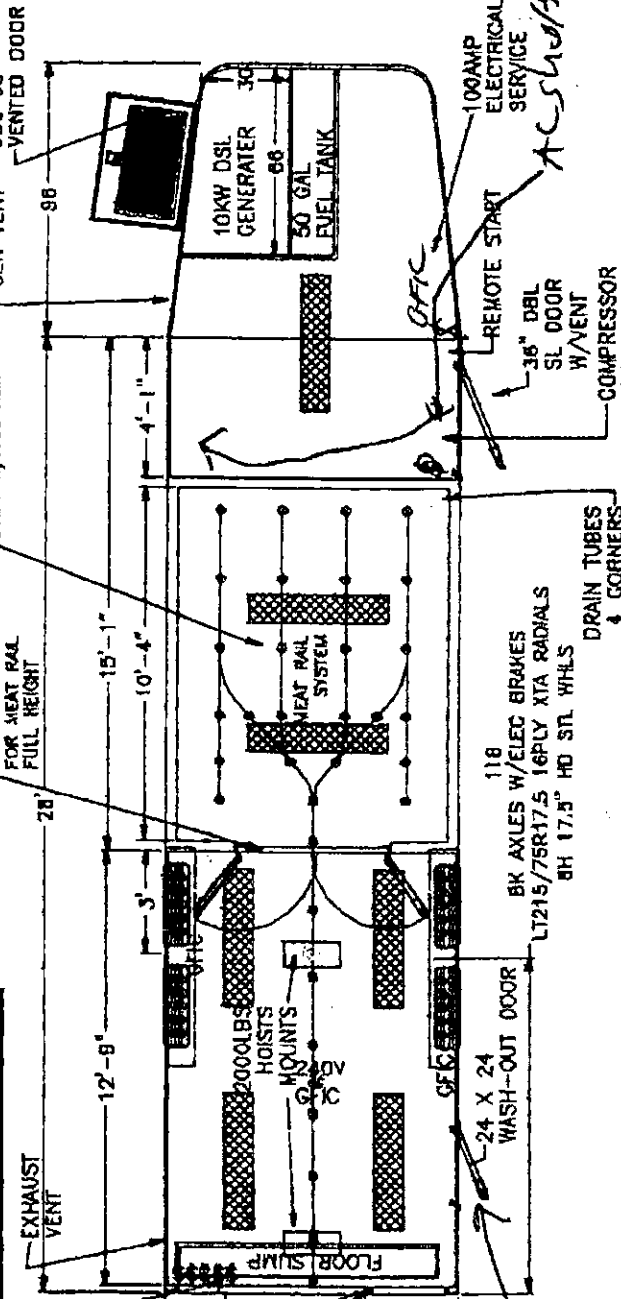
DESIGNATION / PROJECT NAME
48' NOT AFFECT OR INTERFERE
THE POSITION WHERE, EITHER
CONCRETE OR STEEL, IS IN THE

FLOORPLAN FOR FRONTIER TRAILER SALES
101.125W X 28' LONG DRY FREIGHT
CUSTOMER : MONTERY CO. AG CONSERANCY
SALESMAN : MEL PARKHURST

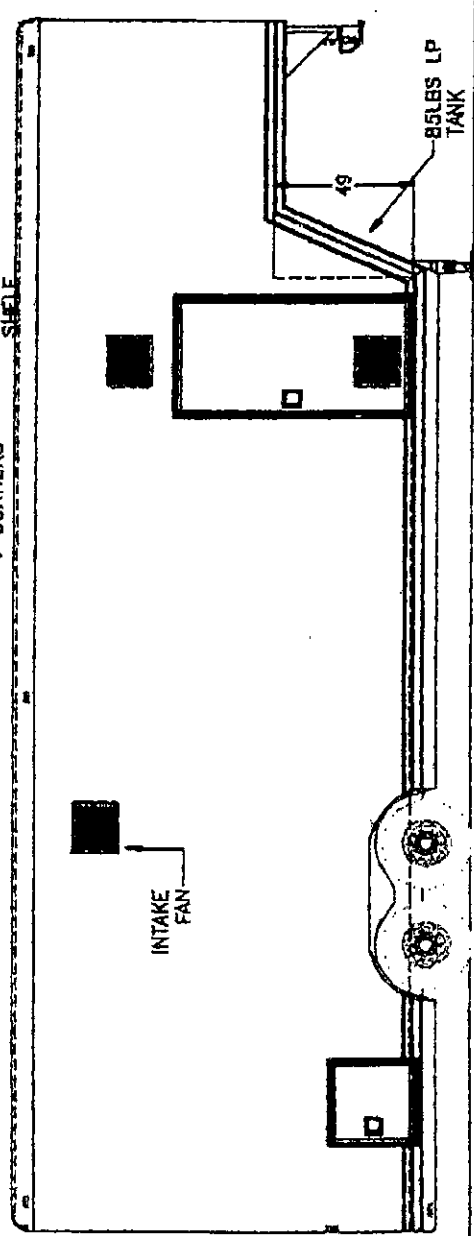
TRAILER NUMBER	40067780	SALES CODE	1530-8028	ORDER BY	TONY PHILLIPS	DATE ORDER	09/23/03
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PLEASE REVIEW THIS PLAN CAREFULLY.
MAKE CHANGES OR CORRECTIONS AND
RETURN TO FEATHERITE ENGINEERING.

SIGNATURE *B. Dunlop*
DATE 10/6/03



*no lip
flush with
floor*



11'-8" INSIDE HEIGHT
DUAL 25PO LANDING LEDS
2 EXTRA STOP TURNS UP HIGH
.128 ALM TREADPLATE FLOORING
CEILING LINED .040 WHITE
COOLER & PROCESSING AREA LINED IN
BRUSHED STNLS STL LINING MUST BE
OVERLAPPED AND TAPED TO BE AS
WATER TIGHT AS POSSIBLE
STNLS INNER FENDER COVERS
FLOOR UNDER COOLER SECTION TO BE
LINED AND INSULATED W/SPRAY FOAM
COOLER AREA HAS 4" INSULATION
REST OF TRAILER HAS 1" INSULATION
FLUORESCENT LIGHTS NEED SHATTER
PROTECTION
REINFORCE FOR OVER 1-TON

- 3) Each island would need a cut and wrap facility with cold and freezer storage.

Producers with suitable equipment could be hired to haul the abattoir and cooler units.

Other issues include:

- The home headquarters for the portable unit would likely need to be on SSI, given that there are more animals located there.
- There would need to be specific processing sites established based on factors such as the availability of water and power, distance from water courses, isolation from neighbours, etc.
- The cost of relocations should be amortized among all of the users on a per AU basis.
- A firm schedule would be required to accommodate the needs of inspection staff. (It is not known if local veterinarians can be contracted for inspection.)
- Producers from each island will need to assess how they could establish local cut and wrap facilities.



5.2.1 COSTS

Portable Abattoir

- 1) The quoted price for the San Juan Islands model, using a USA supplier is \$100,000 USF or \$120,000 CDN. There is also the possibility of sourcing from a Canadian supplier.
- 2) A refrigeration trailer for transfers is optional. Carcasses can also be transported in the portable abattoir, which has a hanging cooler (allow \$30,000.00).
- 3) It is assumed that trucks to haul the unit(s) could either be rented commercially or would be available from producers.
- 4) A stationary model cut and wrap facility could include:
 - a carcass receiving area with a hanging cooler (sized for three weeks of products);
 - a cut and wrap room;
 - a finished products cooler with an out load dock;
 - a finished products freezer (optional);
 - an office;
 - mens/womens washroom and cleanup area;
 - mechanical room; and
 - retail area (optional).

A floor plan for a model facility is provided (800 square feet including retail). At \$100 per square foot plus refrigeration and equipment (at \$87.50 per square foot), a facility of this size could cost \$150,000. Modifying an existing building and/or not having retail or freezing capacity could reduce this substantially. This assumes no land cost. As well, it assumes the facility could be hooked into existing infrastructure.

Another option would be to develop a portable cut and wrap facility, which could move with the slaughter facility. It could likely be done at a similar cost to the abattoir. (This is not certain, since we have not obtained a quote.)

5.2.2 PORTABLE ABATTOIR CAPACITY TAKE-UP

The San Juan portable abattoir model has the capacity to store two days of production. As noted previously, the facility can store 10-12 cattle, 50 sheep or 20 hogs. (Processing capacity per day is 6 cattle or 25 sheep.)

It is assumed that species are not co-mingled, so the following slaughter days would be needed to process the total AUs identified in the market study.

Lamb/Sheep/Goats

2342 / 25 = 94 days

Cattle

273 / 6 = 45 days

Swine

95 / 10 = 10 days

Total days 149 days

On the basis of a 50-week operating year, this would represent three days per week, leaving the remaining days for cleanup, travel, repairs, etc.

5.2.3 FINANCIAL ANALYSIS

Abattoir

The slaughter program for the San Juan system was projected to operate with a cost of goods sold of 63%, resulting in a gross margin of 37%. Included in the costs of sales were the following cost categories:

- lead butcher and assistant labour;
- benefits;
- fuel and oil;
- ferry costs (added);
- repairs;
- insurance;
- consumables; and
- vehicle license.

Based on a projected 100% capture, the red meat division of a Gulf Islands project could generate the following:

Sales	\$90,256.00	100%
Cost of Sales	<u>56,861.00</u>	<u>63%</u>
Gross Profit	\$33,575.00	37%

This would be required to service debt (if any) and cover overhead costs. Overhead costs typically include management, telephone licenses, office supplies, bank charges, etc.

To raise the gross profit, the fees could be raised or expenses lowered. Labour is the largest cost of sale category (over 60%).

5.2.4 MEAT PROCESSING

The San Juan model is based on one stationary facility to do cut and wrap. The cost of sales percentage is 67% resulting a gross margin of 33%. Operating multiple cut and wrap facilities could be more expensive, so we have increased the cost of sales to 75%.

On the basis of the 100% capture of survey sales, the gross profit from cut and wrap would be as follows:

Sales	\$158,428.00	100%
Cost of Sales	<u>118,821.00</u>	<u>75%</u>
Gross Profit	\$39,607.00	25%

For the overall project (mobile slaughterhouse plus stationary cut and wrap facilities (one or more)), the total available for overhead would be \$73,182.00.

5.2.5 POULTRY

The portable abattoir used in the San Juan Islands is not suitable for poultry. A separate unit would be required. At this time, we do not see the poultry volume as being sufficient to support a processing facility.

5.3 STATIONARY FACILITY

The plan for a stationary facility is based on a typical concept/design layout for a small slaughterhouse and cut and wrap facility. A preliminary review was done by CFIA, and modification made as a result of their input.

No site has been identified for the stationary facility, so a number of the costs are difficult to assess.

5.3.1 WASTE ISSUES

In addition, waste disposal from a stationary plant is a major issue of concern. The following summary of the current state of knowledge is provided.

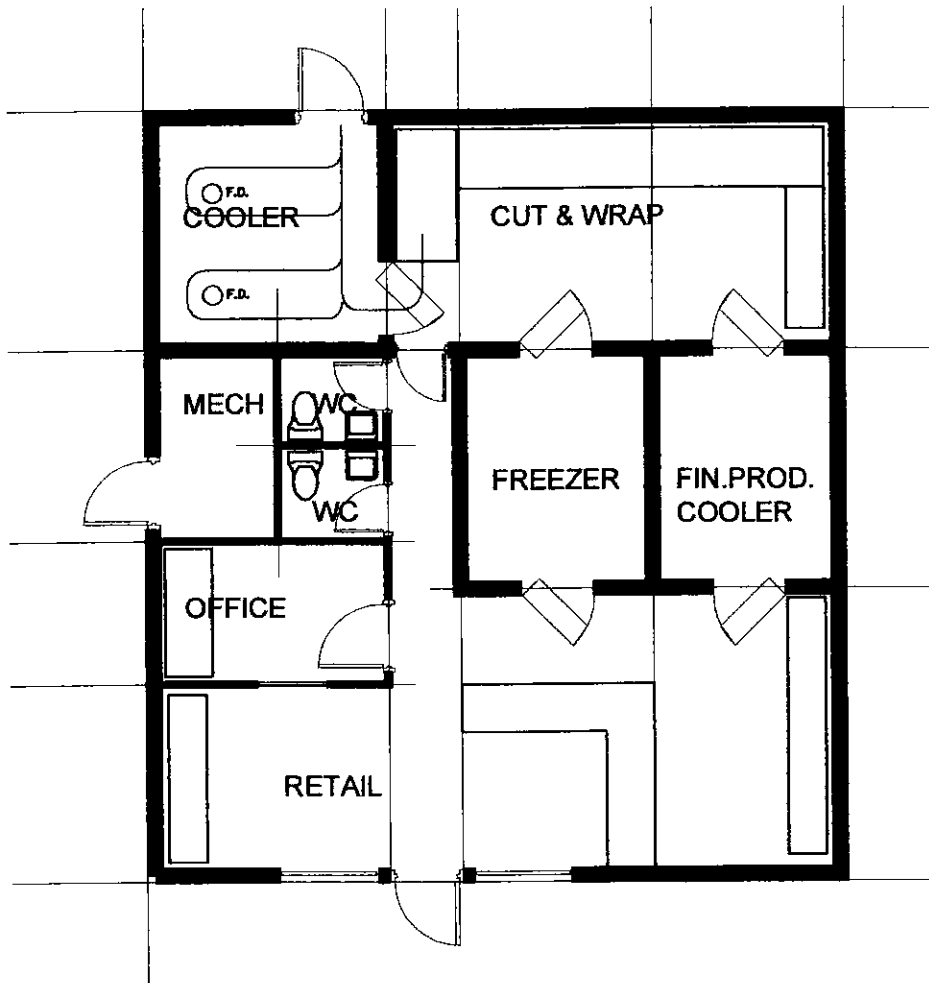
- The model is based on 500 AUs. 500 AUs will produce about 100,000 gallons of liquid waste (200 gallons/AU) and 250,000 lbs of solid waste (bones, fat, trim, guts, etc.) (500 lbs/AU).
- Solid waste can not be put into an on-island landfill. About 65% of the waste could go to the West Coast Reductions (WCR). (They would pick it up at 3-

5¢/lb.) The rest (35%), would be picked up by Salt Spring Island Garbage Services (SSGS) at a cost of \$450/MT. The waste disposal cost, using the WCR/SSGS, would cost \$52.11 per AU. (\$5.21 per lamb) This could be a low estimate.

- We do not see this as an economic solution. It would represent 30% of slaughter fees.
- Additional costs would be incurred as the rendering material would have to be kept in a cooler. In addition, sheep over one year of age are not accepted. The cost of placing solid waste in a land fill is four times that of placement with the rendering company.
- Composting is a generally accepted practice for abattoir waste. It could be done in a central facility (beside a fixed-in-place abattoir) or at various locations associated with a portable abattoir. Sawdust, leaves, etc. would be needed to drive the process.
- Information is being obtained on an in-vessel system, which could be stationary or portable.
- On-farm composting is also an accepted practice, which would not require a permit or license. A variance might be needed for composting if the animals were not raised on that specific property. A central composting facility would require a permit.
- Another option could be to have farmers take back all the waste from their animals and compost them on their own farm. This would have logistical

issues, especially if we develop one fixed plant. It would work better with a portable abattoir.

- Liquid waste is more of an issue. The liquid waste produced by this plant is equivalent to the design guideline for a household of 3-4 people. However, the nature of the effluent is much different than household waste. Virtually no municipalities will accept abattoir waste without pre-treatment. In other words, abattoirs have to treat it to the point where it is similar in constitution to household sewage. (Blood, fats, proteins, etc. are the problem.)
- There is a liquid waste disposal site on SSI. Early indication were that they would take the effluent directly from the plant. This is not the case, and pre-treatment “to stabilize it” would be needed before they would take it. The costs of dumping are about 32¢ per gallon or \$6.40 per lamb. The sewage plants on SSI would also not take the effluent without pre-treatment (if at all).
- As per G. Hendren of CRD, the recommendation would be to do ground disposal (septic tank and field). A properly designed field would be needed. **In order to accurately identify requirements and costs, a qualified engineer is required to assess these requirements.**



1
PA-1 **FLOOR PLAN**
SCALE : N.T.S.

REV.1	-
PA-1	

SCALE	N.T.S.
DATE	MAR.19/05
PROJECT No.	

**CUT & WRAP FACILITY
WITH RETAIL**

PM ASSOCIATES
65 DEMDNEY AVENUE
WINNIPEG, MANITOBA R3B 0E1

5.3.2 WATER USE

It should also be noted that the amount of water used (which must also ultimately be disposed of as waste water) is a matter of some complexity. Several estimates have been obtained including:

- 1) 1.7 – 2.0 cu. Metres per AU
374-440 gallons

This would mean processing one lamb would require 37-44 gallons of water.

This estimate came from an engineer from Mallot Creek Engineering in Southern Ontario who does slaughter plant design.

- 2) 200 gallons per AU
20 gallons per lamb

This estimate came from a CFIA Vet working in Ontario.

- 3) 5 gallons per lamb

This estimate came from an abattoir operator in Dryden, Ontario.

- 4) 22 gallons per lamb

This estimate was provide from an excerpt from an EEC Guidebook provided by J. R. Cousins Consulting of Winnipeg.

It is noted that a plant using dry clean-up techniques and employing water conservation methods should use lower water volumes. Blood collection is also important.

5.3.3 PLANT DESIGN

The following preliminary design is provided. The plant size is about 1,800 square feet. A number of sources have been used to estimate the capital cost including:

1) Mallot Creek Engineering R.R.D. (Federal Plant)

Capital Cost	\$100 per sq. foot
Equipment Cost	\$75 per sq. foot
Other costs including:	
Infrastructure* costs including	
engineering	\$50 per sq. foot
Total	\$225 per sq. foot

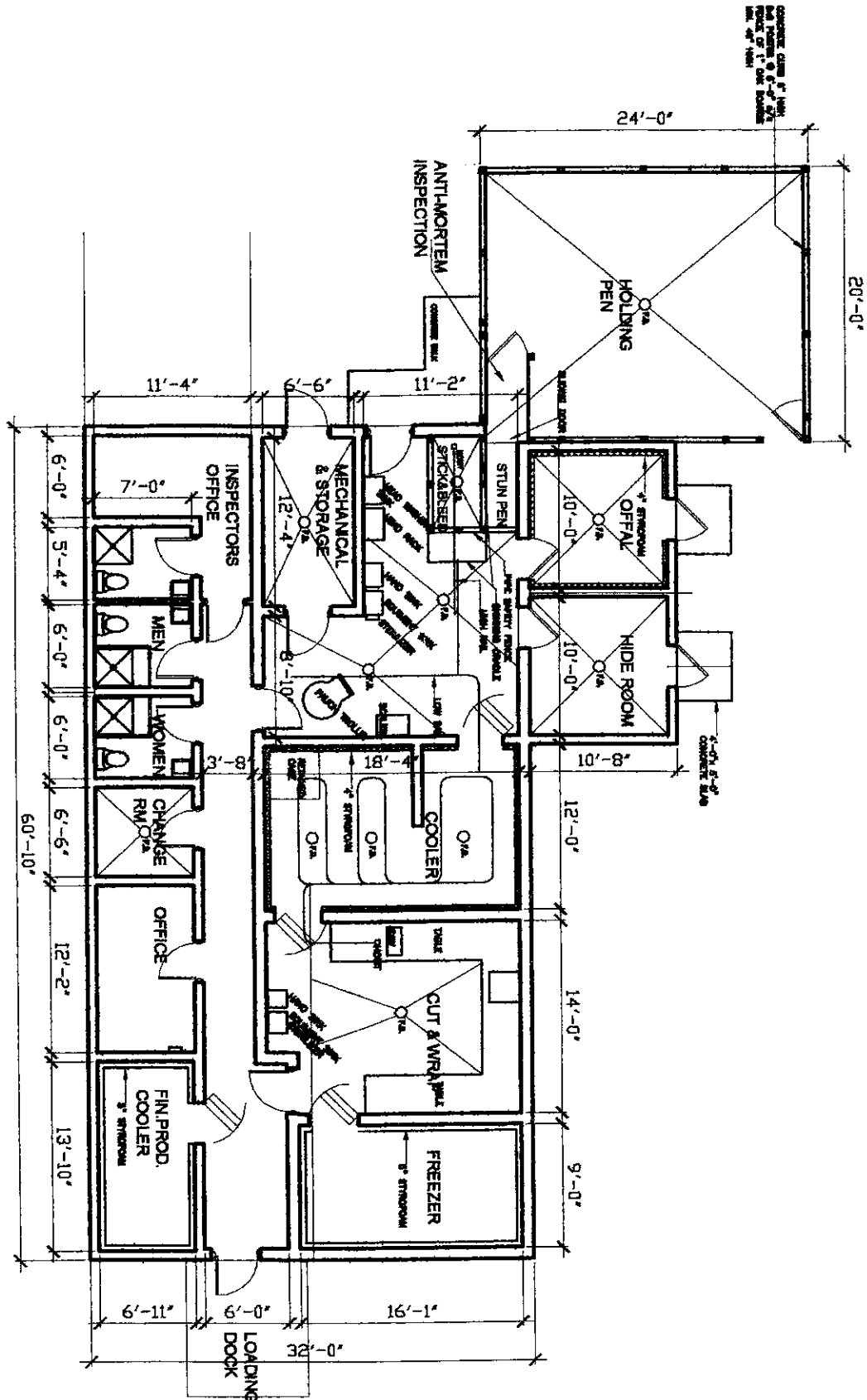
A 25% reduction was envisaged if provincial standards were used, which would result in a cost of \$168 per square foot.

* Infrastructure refers primarily to waste disposal, water supply, etc.

2) Meyers Norris Penny Study for a 2,400 sq. foot combined slaughter (processing facility to federal standards in Manitoba).

\$300 per sq. foot plus equipment, design, waste treatment, etc. at \$300 per sq. foot for a total of \$600 per sq. foot.

1
FLOOR PLAN
SCALE: 1/8" = 1'-0" (11 X 17")
PM-3



REV.1	-	PA-2		FLOOR PLAN - ALT.2		CUSTOM SLAUGHTER HOUSE		PM ASSOCIATES	
SCALE	1/8"							85 DENNEY AVENUE	
DATE	MAR.20/06							WINNIPEG, MANITOBA R3B 0E1	
PLCT No.									

3) F.W. Sawatsky (FWS)- Builders

FWS has been involved as design builders in the meat processing industry in Alberta. For larger projects, they indicated \$150-175 per sq. foot. They expected a smaller facility would cost over \$200 sq. foot plus equipment and waste disposal.

We were unable to find cost data for facilities of the scale indicated for the Gulf Islands.

5.3.4 COST ASSUMPTIONS

Basic Building	
1,800 sq. feet@ \$150	\$270,00.00
Equipment and Refrigeration	
1,800 sq. feet @ \$50	<u>90,000.00</u>
	360,000.00
Design @ 10%	36,000.00
Septic System/Cost	
Unknown, have used \$100,000 for now	\$100,000.00
Total	\$496,000.00

Round up to \$500,000.00.

Land cost not included.

5.3.5 FINANCIAL ANALYSIS

Industry Canada collects statistical data from variety of business sources. Abattoirs fall under the animal slaughtering category. Their publication indicated the following with respect to gross profit for medium sized firms.

Average (2002)	12.8%
Median	20.9%
Better (75%)	19.4%
Worse	8.5%

It is noted that many of these abattoirs would do a combination of purchased animals processing and custom processing. The proposed SSI facility will only do custom processing and will not be an owner or seller of the processed meat. This reduces both risk and working capital needs. The direct costs would include:

	% of Sales
Wages for the processing staff	35%
Benefits	3.5%
Waste disposal costs	15%
Water costs	2%
Packaging costs/supplies	<u>3%</u>
	58.5%

Based on revenue of \$248,684 (100% capture), the cost of sales would be 58.5 x \$248,684 = \$145,480. This would leave \$103,204 for overhead and investment costs.

- Overhead costs would include utilities, accounting/legal, repairs, telephone, bank charges, insurance and taxes.
- Overall, investment costs need to be considered. If a target overall return of 8% was desired, the investment cost would be at least \$40,000. Part of the \$40,000 would cover interest on debt. The rest would be a return on equity.
- Depreciation costs would be:

\$300,000 @ 6% for the building	\$18,000
\$200,000 @ 10% for the equipment	<u>20,000</u>
	\$38,000

Based on the above, a plant costing \$500,000 would not be profitable.

5.3.6 ISSUES OF CONCERN

- The stationary plant may not achieve a 100% capture of the available market (especially from other islands).
- The waste disposal issue is not resolved. Costs may be even higher than those used in the analysis.
- Land costs and location issues for a stationary facility could be problematic.

5.4 TRANSPORT

There are a number of existing plants (35) on Vancouver Island, some of which currently process Gulf Islands livestock. Any of these facilities that wish to continue will need to be in compliance with the new legislation by September of 2006. It is unclear how many will be in compliance, but British Columbia Agriculture officials indicate there might only be three compliant red meat facilities that would be in reasonable proximity to the Gulf Islands. They are:

- Westholme Meat Packers (Federal)
Chemainus, B.C.
- Maplewood – Nikkels
Victoria, B.C.
- Valley View Farms
Nanaimo, B.C.

There may only be one poultry facility (Cowichan Bay Farms – Lyle Young).

The proposed Cowichan Bay poultry plant will have a theoretical capacity of 3,000 birds per day. It will be initially licensed at 1,400 birds per day or some 365,000 per year. The proponent is currently working on obtaining all the necessary permits and he hopes to break ground this spring. He is eager to work with producers from the Gulf Islands.

5.4.1 KEY ISSUES

Red Meat

For the red meat sector, the logistics associated with Vancouver Island processing are such that to be legal, producers would need to make two trips – one to transport the live animals to a plant and one to transport processed meat back to their farms (or to the customer). This would typically involve two ferry trips, plus waiting times. It would also mean that live animal transportation vehicles need to meet B.C. ferry requirements with respect to no waste droppings. The finished product conveyance would need to be refrigerated and sanitary. (The cold chain principle applies to meat conveyance – frozen meat would need to be moved in a freezer unit and chilled meat in a refrigerated unit.)

- Incremental costs to producers could include:
 - acquiring the transportation vehicle(s);
 - operating the transportation vehicles(s);
 - ferry fees; and
 - time.

- Smaller producers may not find this to be economic. There may also be scheduling issues with respect to the processing plants not having capacity at critical times.

- There are no livestock transport businesses currently in place. Some producers move animals using farm trucks with stock racks but not all producers have this equipment.

- The ferry service appears to be in a process of consolidation and rationalization. This may result in service reductions in the future.
- Livestock transportation may cause stress to the animals which potentially lowers meat quality.
- Ferry service is the best from Salt Spring Island to Vancouver Island. The other islands experience lesser levels of service. SSI has 49.8% of the cattle, 72% of the sheep, 42.4% of the swine and 23.5% of the goats.
- Pender has the next most active ferry service to Vancouver Island. Pender has 17.7% of the cattle, 13.6% of the sheep, 19.1% of the swine and 64.7 of the goats.
- For the other islands, service to and from Vancouver Island is somewhat more complex and not as frequent.

Calculating the incremental costs of processing on Vancouver Island is somewhat difficult given that unit costs would depend on the number of animals per trip, the degree of processing, location of producer, etc. However, an estimate was made for an SSI producer transporting ten lambs in a farm truck.

- 10 lambs, saleable meat 50 lbs each
- Processed in Victoria (Metchosin)
- One trip for live transport, assume 6 hours in total
- \$10/hr
- One trip to retrieve meat, 6 hours
- Ferry costs, \$18/trip
- Truck cost @ 30¢/kilometre. Assume 200 kilometres in total.

• Total costs	
Ferry	\$36.00
Truck	60.00
Time 12 hours @ \$10/hr	<u>120.00</u>
	\$216.00
\$126.00 / 10 =	\$21.60*
Processing fee per lamb	\$51.00
Total cost including transportation	\$72.60
Percent increase	30%

* Does not include equipment depreciation

Pooled transportation with a larger vehicle could lower costs, but an investment would be needed to acquire the vehicle.

Poultry

- Most poultry marketings currently occur on Salt Spring Island (77.5%) with the remainder equally split between Pender and Mayne.
- The proposed poultry plant at Cowichan Bay Farms is located approximately 30 minutes from the Crofton Ferry terminal. This is quite convenient for Salt Spring producers. It is less so for Mayne and Pender producers.
- Total marketing currently represents slightly less than four days processing capacity for the proposed plant.

- The incremental costs per bird processed will depend on the number of birds transported per trip. Once again, to be legal, the live animal transport vehicle and the processed conveyance could not be the same.
- The total trip costs would be lower than to Metchosin due to the close proximity to the ferry terminal. We estimate \$176 versus \$216 (SSI basis).
- The cold weather load density for chickens is 139 lbs per 10 square feet of space. Given B.C. conditions, we used an average of 100 lbs/10 sq. foot. (12 birds @ 6 lbs)
- A regular pickup truck using layered cages might haul 200 birds. The incremental cost is 88¢ per bird, which is a 30% increase.

Hauling to the Cowichan Bay plant may be practical for SSI producers. It would be less so for Pender and Mayne producers.

6.0 RECOMMENDATIONS

Based on the present information, it is our opinion that the portable abattoir option has the best potential to meet the needs of producers in the Gulf Islands. The portable abattoir plans could be refined with more input from producers on each island and a business plan prepared.

The advantages of the portable abattoir are as follows:

- 1) Lower capital costs than a stationary plant (\$300,000 versus \$500,000 including processing)
- 2) Flexibility to serve more locations
- 3) No need to go through a potentially difficult process of selecting and developing an industrial site (NIMBY)
- 4) Waste disposal would fall under agricultural guidelines.
- 5) Potential to serve farmers' markets if a portable cooler/freezer cut and wrap facility was included.
- 6) Lower stress on animals due to reduced transportation.

It is also noted that carcass grading will need to be considered. Lower grade carcasses may be sold as hamburger and/or sausage.

APPENDIX A
ISLAND GROWN FARMERS
CO-OP

Mobile Abattoirs

Island Grown Farmers Co-op
Washington State
September 9, 2004 visit

Island Grown Farmers Co-op



Island Grown Farmers Co-op

- 40 Co-op members
- 15 sites where they kill beef
- Charge \$45/head to slaughter
- 0.75/lb to cut and wrap
- Inspector sticks with truck, travels in separate vehicle
- Operator is key to business
- Gooseneck truck and trailer unit
 - Maneuverability
 - Height restriction - ferries

Featherlight Trailer



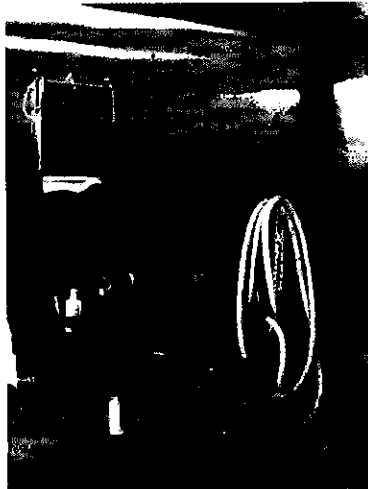
Mobile Abattoir

- Currently building 4th unit
- Holding capacity
 - 10 – 12 cattle or
 - 50 sheep or
 - 20 hogs

Island Grown Farmers Co-op



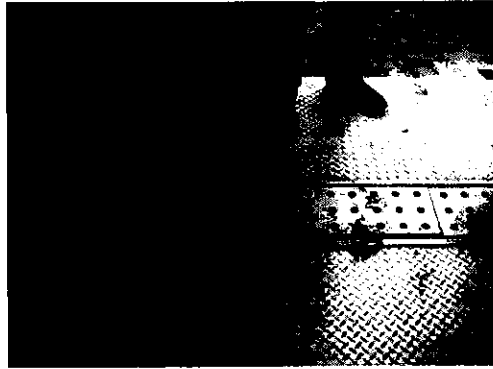
Mobile Abattoir



Stainless Steel Construction



Mobile Abattoir



Hydraulic Winch



“Central” cut & wrap facility

- Aging
- Small retail area
- 1 butcher
- 2 cutters
- 2 wrappers

Each site has squeeze with headlock



Stainless steel construction



Offal removal



Mobile abattoir chilled storage



On site composting



Composted material



BC interest in mobile concept

- Northern BC Buffalo Company, FSJ
- Large sheep producer in 100 Mile
- Gulf Islands
- Poultry processing

Possible resources

- Entrepreneur's seed money
- Co-operatives, partnerships
- Friends and family
- National Research Council – development
- Planning & Assessment for Value Added Enterprises (PAVE) Program
 - Feasibility studies, business plans, credit applications

Possible resources

- Government
 - Agrifood Futures Funds – “soft costs”
 - Studies, marketing, training
- Angel investors
- Venture capital
- Commercial banks
- We'll keep looking for others ...

Islands' Farm & Food Connection

Inside this Issue

- 1** Island Grown Farmers Cooperative Organic Pasture Poultry
- 2** FSA Committee Elections
- 3** New Publications and Links Upcoming Events
- 4** Classes for Food Safety Advisors and Food Processors Grant Information for Producers We Need Your Feedback!
- 5** Island Profile: Patty Family Farm, Orcas Island
- 6** The School Farm
- 7** Using Compost for Managing Plant Diseases
- 9** Farm Products Guide Sign-Up Form

WSU Cooperative Extension Agent
221 Weber Way, Suite LL
Friday Harbor, WA 98250
(360) 378 - 4414
www.sanjuan.wsu

Island Grown Farmers Cooperative Wants You!

Bruce Dunlop and Bruce Gregory

Island Grown Farmers' Cooperative is looking for more members. If you are a livestock producer with a herd or flock of two or two thousand, you may be interested in what this farmers' cooperative has to offer.

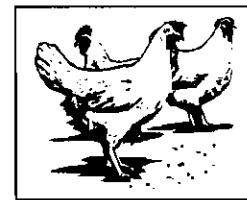
Island Grown Farmers Cooperative (IGFC) will operate a USDA inspected meat processing plant with a USDA inspected mobile slaughter unit to provide in field, on farm slaughter service, and a fixed facility on Lopez Island for aging and cutting. Local livestock producers will have the opportunity to sell their meat products by the cut or pound without having to haul their livestock 200 miles to where the nearest USDA processing plant is now. This will solve one islander's dilemma who wrote in the recent Local Foods Consumer Survey, "I wish I could buy local meat by the cut and not the cow!"

The Cooperative will also offer Sales and Marketing services for its members. Many livestock producers do not want to deal with selling their animals, but are looking for an alternative to the auction market. Marketing finished animals through the Cooperative will provide a more stable and better return for producers than taking their chances at the auction market.

Basic services of slaughter and cut and

wrap will be offered to non-members as well as members, but at slightly higher fees. Only members will be able to take advantage of the value added meat processing and marketing services. In addition, members will receive scheduling priority over non-members. Educational and technical support will also be available to members. Information regarding production methods to achieve certain standards, farm business operation, and assistance with organic certification and pasture management are examples of the type of support envisioned.

(continued on page 8)



Organically Grown Pasture Raised Poultry on San Juan Island

Lovel Pratt

This year, three farms on San Juan Island formed an informal coop and produced 1,950 organically grown pasture raised chickens. Inspired by Joel Salatin's book, *Pasture Poultry Profits*, and Karen Gilbert's experience with pasture raised chickens at Middle Farm on Lopez Island, these farmers set out to meet an ever growing demand for high quality, locally produced, organic poultry.

(continued on page 2)

Pasture Poultry

(Continued from page 1)

Katie Hover and Paul Lacrampe of Lacrover Farm on Mitchell Bay Road bought their 30-acre farm just over a year ago. Along with one acre of strawberries and another acre of market vegetables, Katie and Paul raised 150 chickens in 2 batches of 75. Jim and Christina Sesby lived on Shaw for 25 years before moving to their 37 acre Heritage Farm on Cattle Point Road in June of 1999. You have probably seen Christina and Jim giving carriage rides in Friday Harbor, or at weddings in Roche Harbor. This year they raised 600 chickens in 2 batches of 300. Megan Jones of Willowcrest Farm raised 1,200 chickens in 6 batches of 200. Megan first came to SJI in 1977, and has been farming in various ways for 20 years. In addition to the pasture chickens, Megan has 200 laying hens. You can buy her eggs at Kings, the Marketplace, and Gourmet Galley.

Through their informal coop, these 5 farmers were able to save money in many ways. They bought their certified organic feed in 6-ton truck loads which not only saved money, but were large enough orders for the feed manufacturer to deliver to the island. They advertised their chickens with one brochure that listed all the farms. And when it came time for butchering, they all helped each other out for the labor-intensive butchering process. Whenever a problem came up for any of the growers, they all pitched in to solve it.

The chickens were butchered at Middle Farm on Lopez, which has a Washington State approved chicken processing facility. This allowed their chickens to be sold in grocery stores and to restaurants in San Juan County, as well as directly to consumers from their farms.

"The market is definitely there" says Jim Sesby, "But be prepared to spend about one to one and a half hours each day moving the pens once a day, feeding and watering twice, and when its hot,

watering three times a day." He also emphasized the need for a large storage space for the feed. With 12 – 14 pens going at a time, Megan spent approximately six hours a day caring for her chickens. "The help we got from Karen Gilbert and her years of experience was invaluable," said Megan.

"One of the best benefits from raising the organic pasture poultry is the improved health and fertility of the soil in our field," said Katie Hover while looking at the bright green strips in her pasture where the chicken pens had been. "The nitrogen from their manure, and the aeration of the soil from their scratching up bugs has made significant improvements to our soil's health in just one season."

The Sesbys will be doing one more batch of 150 free range organic chickens for the Christmas season. Free range chickens are raised on a floor as opposed to cages with access to the out-of-doors. Because these chickens are being raised in the winter when the weather can be very cold and wet (not good chicken-raising weather), they won't be raised in the outdoor pens.

Many of these chickens will be processed for the holidays in the Sesby's smoker/griller, which can hold 12 whole chickens at a time. The smoker/griller uses special wood only pellets (no fillers or fire enhancing chemicals) that come in mesquite, hickory, alder, maple, or cherry. With a portable rig for the smoker/griller made from a discarded pop-up camper, Jim and Christina have plans to sell their ready to eat grilled or smoked chicken at the farmers' market, the county fair, and other events.

For anyone interested in learning more about organically grown pasture raised poultry here in San Juan County, call Megan Jones at 378 – 4917, Jim and Christina Sesby at 378 – 2872, Katie Hover and Paul Lacrampe at 378 – 3515, or Karen Gilbert at 468 – 2406.



Megan Jones bagging a chicken at Middle Farm's Washington State approved chicken processing facility.

Grant Information for Producers

Tom Schultz

Keeping up on funding opportunities that could potentially assist you in growing and marketing your products is always a challenge. We hope to use this newsletter to connect you creative folks to funding sources that will help get your new ideas off the ground. *(Continued on page 4)*

FSA Committee Elections in Progress

The Skagit Farm Services Agency Office will mail ballots to elect FSA Committee members to represent Skagit, Island and San Juan Counties. Farmers, operators, tenants and sharecroppers of legal voting age can vote if they are eligible to participate in any FSA program. The election will end Dec. 11, 2000. You may call the FSA Office in Mt. Vernon at 360.428.7758 to inquire about your eligibility and request a ballot.

New Publications

Tom Schultz

There are a few new USDA publications that might be of interest: "Direct Marketing Today- Challenges and Opportunities" is now available on the Web in PDF format at <http://www.ams.usda.gov/directmarketing/DirectMar2.pdf>

This publication, in cooperation with Cornell University Extension discusses the results of focus groups (with producers and facilitators) about direct marketing hosted by USDA. A print publication will be available soon and can be ordered in advance from Velma Lakins at velma.lakins@usda.gov

Also available: "Small Farmer Success Story" - four bulletins describing a project through which a group of limited-resource growers in the northern Florida area formed a cooperative to market fresh produce to local school districts. The bulletins outline the experiences of the New North Florida Cooperative, now in its third school year of operation.

They are available in PDF format at <http://www.ams.usda.gov/tmd/mta/publications.htm>

Chef/Farmer Connections

A new directory that connects Washington Chefs and Farmers is now available. Developed through a combined effort by WSU, King County, the Washington Restaurant Assoc., Washington Tilth Producers and the Seattle Chefs Collaborative 2000, a group that supports local agriculture. Growers are listed by region to help restaurateurs connect with local producers. Copies can be ordered from WSU-King County at (206) 205-6410 or by downloading via the web at <http://king.wsu.edu/Ag/cheffarmdir.htm>



Agricultural Research Service
News Archive

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Upcoming Events

Pacific NW Vegetable Association Meeting
November 13-14. Pasco, WA. Info. 509-547-0701

Central WA Dairy Management Conference
November 14. Sunnyside, WA. Info. 509-574-1600

1st Meeting of the Island Grown Farmers Cooperative
November 16. 5:45 pm at the Lopez Fire Hall

2000 CA Farm Conference
November 17-19. Santa Rosa College, CA. Info. www.californiafarmconference.com

Alternative and Value-Added Agriculture Conference
November 28. Rufus, OR. Info. 541-296-5494

Annual Meeting of the WA State Horticultural Assoc
December 4-6. Yakima, WA. Info. Email to members@wahort.org

Barn Again! The Smithsonian Museum's Traveling Exhibit at Lyndon's Pioneer Museum
December 30 - February 11
Info. 206-682-1770

Farm-Link Workshop
January 5. SeaTac Marriott
Info. 206-296-7824

Spokane Ag Expo
January 16-18. WA State Agricultural Trade Center Spokane, WA. Info. 509-459-4114

Northwest Food Processors Association 2001 Convention and Exposition
January 20-24. Portland, OR. Info. www.nwfpa.org

21st Annual Ecological Farming Conference
January 24-27. Asilomar, CA. Info. www.csa.org

WSU Master Gardener Training for San Juan, Skagit, and Island Counties
January 23 - February 27 on Tuesdays and Thursdays
Info. Coop. Ext. Office, 378-4414

American Sheep Industry Convention
January 25-27. Reno, NV
Info. 303-771-3500 ext. 0

Milking Systems and Parlors Sponsored by Cornell University
January 30 - February 1. Camp Hill, PA. Info. <http://www.nra>

Cattlemen's Winter School
Dates to be set in *early February*
Skagit Valley College, Mt. Vernon, WA
Info. 360-428-4270

Food Safety Advisors and Commercial Food Processors Classes on San Juan Island
Dates to be set in *March*
Info. 378-4414
lovel@coopext.cahe.wsu.edu

Greater NW Equine Expo
March 23-25. Albany, OR. Info. www.showmasters.com

2001 Food Safety Farm to Table Conference
May 30th and 31st. Moscow, Idaho
Sponsored by WSU and U of Idaho
Info. Val Hillers: hillersv@wsu.edu

Grant Information for Producers

The USDA Western Sustainable Agriculture Research and Education (SARE) program has two grant programs that involve producers. The first is the **Farmer Rancher Grant (FRG)**. These grants range from up to \$7,500 (individual) or \$15,000 (for groups of 3 or more) for conducting research, demonstrations and education projects in sustainable agriculture. The next round of proposals will be due 10/31/01. SARE also has previously funded **Producer Marketing Grants (PMG)** to fund projects that promote new, alternative marketing strategies for producers using sustainable agriculture techniques. Last year they funded up to \$10,000 for individuals and \$20,000 for groups of producers. The last RFP was in January 2000.



Details for SARE grant projects can be found on the SARE WEB site <http://wsare.usu.edu/>. You may also call SARE at (435) 797-2257.

Organic Farming Research Foundation (OFRF)



OFRF is a non-profit foundation that supports organic farming research and education projects. OFRF has deadlines of January 15th and July 15th each year to submit proposals. Funding ranges from \$1,000 to \$10,000. Contact OFRF at (831) 426-6606 or visit their WEB site at <http://www.ofrf.org>.

We Need Your Feed Back!!!!

If you are interested (or not) in receiving future issues of this newsletter, please let us know! Call, write, email, or stop by the WSU Extension Office. Let us know if you want us to 'keep it coming'. We will try to keep the cost as low as possible (free) for as long as possible. For those of you with internet access, please let us know your email address, and we will let you know when the next issue of the newsletter is available on our web site as a PDF file. This would mean a significant postage savings to us. Any comments on this newsletter and what you would like to see in future issues are very welcome! 378 - 4414
<http://sanjuan.wsu.edu/level@coopext.cahe.wsu.edu>

Regularly Occurring Meetings:

Noxious Weed Board 3rd TUESDAY of each month at the WSU Ext. Office beginning at 8:30 am. The public is encouraged to attend.

SJC Food Processing Center Project Committee - 2nd MONDAY of each month at 6:30 pm at the Lopez Fire Hall.

SJC Conservation District - 2nd WEDNESDAY of each month at the Guard St. Professional Building, 540 Guard St., at 8:30 am.

SJC Fair Board - 2nd SATURDAY of each month at 8:30 am at the Fairgrounds.

Farm Services Agency (FSA) Area Committee Meetings - 3rd THURSDAY of each month, 8:00 am, Mt. Vernon FSA office, 2021 E. College Way. 360 - 428 - 7758.

Food Safety Advisor and Food Processor Classes Coming in March 2001

The WSU Cooperative Extension Office is in the process of scheduling both a Food Safety Advisors class, and a Commercial Food Processors class.

Food Safety Advisors are a Cooperative Extension volunteer group that take an in-depth course in food safety and food preservation. They then volunteer by passing that information on to members of our community.

The Commercial Food Processors class will cover some of the same food safety and food preservation material as in the Food Safety Advisors class, but it will be geared specifically to those who are or would like to become commercial food processors.

The classes will take place on San Juan Island in March of 2001. If you are interested in either of these classes, you can sign up by calling the Extension Office at 378 - 4414.

For more information contact Level at 378 - 7172 or level@coopext.cahe.wsu.edu.

Level Pratt joins the WSU Extension Office

Level Pratt from San Juan Island has joined the WSU Extension Office staff through a USDA Food Security Grant. Level's responsibility as the Food Systems Coordinator is to help educate consumers and producers about locally grown and processed foods. You can reach Level at home at 378-7172 or at level@coopext.cahe.wsu.edu.



Rena, Nathan, Michael and Jeff Patty at the Eastsound Farmers' Market

Island Profile

Lovel Pratt

Patty Family Farm, Orcas Island

Five years ago, Rena Patty had a 15' x 30' garden plot in a clearing at Westcott Bay on San Juan Island where her husband Jeff worked. One day Jeff asked, "How would you like to grow vegetables in this whole field?" to which Rena answered, "Are you kidding? No way!"

Two years later, Rena and Jeff bought 59 acres on Orcas where Rena was born and raised. They cleared scotch broom from a field where an orchard had been years ago, and put up a fence where the garden and orchard would go. They took time to get to know their land before they were finally able to move to their farm three years later.

In the two years they have lived on the Patty Family Farm, Rena has established a one-third-acre garden. All the raised beds are a standardized 4' x 50' so that the irrigation lines and floating row covers can be used anywhere in the garden. Seven year old Nathan and four year old Michael each have their own 4' x 16' plot in the garden where they grow their own corn, tomatoes, and pumpkins. Jeff is in

charge of the 50 laying hens, and built the two PVC hoop greenhouses they use for plant starts, and early cucumbers and tomatoes. The whole family helped to plant a 65-tree orchard with a mix of Asian plums and pears, European plums and pears, apples, peaches, and cherries.

Rena sells two-thirds of her farm produce at the Eastsound Farmers' Market on Saturdays. The other one-third she sells at her farm on Tuesdays to about 15 regular customers. Last year she did a CSA, but this year decided to try a new system where she requested that customers come weekly to buy produce of their choice. The system has worked well, although just like at farmers' market, she sells out of the most popular produce first: strawberries, snap peas, corn, and whatever is just coming into season. Some regular customers have a standing order for a \$20.00 bag of Rena's choosing, but most like the versatility of choosing from what is available. Rena doesn't sell to restaurants, as she prefers to sell directly to families. "I can sell everything I can grow," says Rena.

Rena says that what her customers want more than anything else is quality organically grown produce with fresh flavor and a healthy appearance. She finds customers to be very appreciative, relating a story of one customer at the farmers' market saying to another customer, "We eat so well! We are so lucky!" And Rena adds, "Farming is not as hard as I thought it was going to be." The biggest challenge, she finds, is the marketing and pricing of her produce.

There is much that makes the Patty family's decision to farm all worthwhile. One evening this summer the Pattys were relaxing, enjoying the view of the orchard while the golden setting sun shone on nearby Buck Mountain. The three-year-old Asian plum trees were bearing fruit for the first time. The kids asked if they could eat the plums, and Rena and Jeff said, "Yes." As Nathan and Michael ran down the hill through the orchard, Rena turned to look at Jeff and said, "This is exactly what I imagined."

Would you like to have your farm products included in upcoming San Juan County farm products guides?

The WSU Cooperative Extension Office will be publishing two new farm products guides. One will be primarily for Orcas Island, and the other primarily for San Juan Island. Waldron, Shaw, and any other San Juan County islands will be included by island in their guide of choice (i.e. if most farm producers on Waldron want to be included in the San Juan Island guide, it will be the "Farm Products on San Juan Island and Waldron Island").

These guides will be modeled on the very successful "Farm Products on Lopez Island" that the Lopez Community Land Trust first published in 1996.

We plan to update the guides each year for distribution in late May. Information about Farmers' Markets will be highlighted in the guide, and all island locations where farm products are sold will be listed. This is a great opportunity to inform both islanders and visitors about our farms and farm products.

If you are interested, please fill out the enclosed insert and mail it to the Extension Office. If you are on Waldron, Shaw, or another San Juan County island and would like to be included, please indicate which guide you prefer being included in. For more information contact Lovel Pratt at 378-7172 or

lovel@coopext.cahe.wsu.edu



Left: Planting greens in the school garden.

Above: First graders visit Guard Sundstrom's pumpkin patch.

Right: Making pumpkin bread.

The School Farm

Janelle Teasdale

The School Farm at Friday Harbor Elementary School began three years ago with a small garden plot adjacent to the playground. Besides a vegetable garden, the school farm now includes cooking and eating local foods, farmers in the classrooms, farm field trips, and guest farm animals.

The school farm provides San Juan Island elementary students with wonderful hands-on opportunities to learn about our county's agricultural heritage, past, present and future.

We are looking for more farmers who would like to be "adopted" by a class of Elementary School Students. Farmers and producers are eagerly sought to pass on their expertise to our students in any of these five areas:

The Vegetable Garden –Heat reflected from the school building greatly extends the growing season in our small vegetable garden where twenty-two first graders have planted an assortment of fall greens.

Food Preparation – This fall the students have enjoyed cooking and eating sweet and sour greens from our school garden, and pumpkin bread made from Guard Sundstrom's pumpkins.

The fourth graders converted the school's play shed into a cider mill one day this fall. We pressed fresh apple cider with apples donated by Ruth Fleming of Beaverton Valley Orchard and Larry Soll of Windfall Farms and Cider Mill. Edith Dickinson assisted with her expertise as our fourth graders participated in this delightful extension of their unit on Washington State History.

Farmers in the Classroom – Colleen Howe of Mitchell Bay Farms delighted our second graders with her presentations on honeybees. We look forward to another visit from Colleen later in the year as she continues to instruct our students on the agricultural importance of these wonderful insects.

Farm Fieldtrips – Guard Sundstrom hosted our first graders in his pumpkin patch. This was a wonderful hands on lesson that coincided with the book, Pumpkin, Pumpkin, in their newly adopted reading series. Next month our third graders look forward to

visiting Lovel and Boyd Pratt on Mulno Cove Farm and Clyde Sundstom as they explore "San Juan Farms- Past, Present and Future" as part of their unit on San Juan County History.

Guest Farm Animals – The San Juan County Fair Board has again provided us with the use of part of the fair grounds, which is adjacent to the elementary school, to house, work with, and show our guest farm animals on school days. We are looking forward to dairy goats, a pig, a horse, llamas, and sheep visiting in the spring. We are also hoping to locate a dairy cow and dairyman that could come for a one-day visit.

If you are interested in passing on our agricultural heritage through the donation of time, materials, or funds to The School Farm or have any questions regarding this worthwhile program, please contact our county Extension office or Janelle Teasdale at Friday Harbor Elementary School. Janelle may also be reached by email at jteasdale@sjisd.wednet.edu.

Using Compost for Managing Plant Diseases

Tom Schultz

Composts have been widely used and recommended as a soil amendment for improvement of soil structure and drainage. They increase moisture holding capacity and, improve soil drainage in some. Composts and mulches conserve soil moisture in the summer and insulate roots from cold in winter. Over time they mineralize, leaving nutrients and humic substances in the soil. However, their beneficial side effects gradually disappear unless more compost is applied.

Compost materials (a.k.a. recycled organic material or ROM) have been evaluated by numerous agencies, non-profit and for-profit companies, and individual growers in recent years. Many companies have developed recipes and equipment to make compost teas that are touted to have benefits to your growing system. Numerous recipes and testimonials abound speaking to the benefits of using these "brews."

The development of these biological protection systems using compost for plant disease control is still very much in the experimental stage. Some of the research has demonstrated significant suppression of disease organisms particularly with soil-added composts and soil-borne pathogens. However, there is a great deal of information reporting the benefits with only a small body of solid research to support it. A great deal of the research points to inconsistency with these systems. Biological control systems are complex and this inconsistency is no doubt due to a lack of understanding of the numerous factors involved with this type of biological control.

The EPA is even promoting disease suppressive composts as an

alternative to the widely-used soil fumigant Methyl Bromide which will be phased out in 2005 because of concerns regarding ozone depletion (except for a few exempt uses such as export shipment and quarantines). However, the EPA admits that, "While the use of disease suppressive compost as a pest control tool is theoretically sound, the science is still new and is not clearly understood."

The disease suppression ability of compost mixes in soils was discovered almost 10 years ago when ROM's were tested to replace increasingly scarce peat mined from bogs. Much of this work was funded by the Nursery Industry and done by Harry Hoitink at Ohio State University (see references below).

The future of biological control of plant diseases using composts looks very promising at present. Currently however, there are no compost materials registered in Washington for pest control (including diseases). Therefore WSU cannot make any recommendations of these compost products for controlling plant diseases or other pests. We can and still do recommend composts as soil amendments for improving general plant health. We hope that if you use these materials that you have realistic expectations of the outcomes.

Currently, the USDA Western Sustainable Agriculture, Research and Education division is funding a three-year study to determine the efficacy of compost tea for controlling *Botrytis* in Oregon Wine Grapes. Field trials will begin in 2001.

The Organic Farming Research Foundation (OFRF) has also supported several small studies of the effectiveness of compost extracts.

I would encourage any of you that are interested to try some experimentation with small areas that can be "sacrificed" in your operation. I am willing to help design and evaluate results of your farm research

in order to increase the body of knowledge in this area under our local conditions. Be aware that safety guidelines have not been developed for making or using these materials. Although these materials certainly sound innocuous, some people may have negative reactions to dusts, fungal spores or having skin, eye, or lung irritation from these substances.

Below is a partial list of companies and organizations that are working in this area and sell composting products to growers. These links are provided only as examples of a few of these organizations and companies to begin your own inquiries. No endorsement of any of these companies or products is implied by WSU. It is unintentional that any company may have been left off this "example" list.

Companies & Organizations

A Comprehensive Guide to Compost Tea, written by Dr. Elaine Ingham of Soil Foodweb, Inc. and Michael Alms of Growing Solutions Incorporated. 1(888) 600-9558.

Growing Solutions Inc. WEB site at: <http://www.growingsolutions.com/compostmanual.html>

SoilSoup Inc. Toll Free 1(877)711-7687
<http://www.soilsoup.com/home.asp>

Woods End Research. Director Wil Brinton. Catalog of Compost Testing Services and Products. 1(800) 451-0337 or <http://www.woodsend.org/>

Organic Farming Research Foundation. 1(831)426-6606 or <http://www.ofrf.org/>

Selected References

Bess, Vicki. 2000. *Understanding Compost Tea*. Biocycle. October

(Continued on page 8)

Touart, Adrienne. 2000. *Time for Compost Tea in the Northwest*. Biocycle. October

Hoitink, H. A. J., Stone, A. G., and Han, D. Y. 1997. *Suppression of plant diseases by composts*. HortScience 32:184-187.

U.S. Environmental Protection Agency. 1997. *Methyl Bromide Alternatives*. Case Study No. 3. *Disease Suppressive Compost as an Alternative to Methyl Bromide*. Sept.

Disease Suppressive Potting Mixes. ATTRA Pest Management Technical Notes. 1.800.346.9140 or <http://ncatfyv.uark.edu/attra-pub/>

Trankner and Brinton, Wil. 1997. *Compost Practices for Control of Grape Powdery Mildew*. Biodynamics, June.

Island Grown Farmers Cooperative Wants You!

(Continued from page 1)

The Island Grown Farmers Cooperative and the USDA inspected meat processing plant are the result of a lot of hard work by many dedicated individuals. Four years ago a group of farmers got together to talk about the obstacles they faced. Everyone present had the same basic goal: provide local food to local people. This has been especially challenging to producers who raise livestock. If a local customer was willing to buy a whole or half of an animal, local butchers could then do the slaughtering, cutting and wrapping. But not everyone has the freezer space or the flexibility in their budget to buy meat for a good part of the year all at once. Sales through local grocery stores and to restaurants are only allowed with the

USDA's seal of approval. If these livestock producers wanted to sell by the cut or pound, and to grocery stores and restaurants, they were hauling their animals 200 miles to the nearest USDA inspected meat processing plant, and then going back down and hauling the cut and wrapped meat back home to their customers.

This group of farmers identified several obstacles that were greater than any one of them could individually overcome. They decided to approach the Lopez Community Land Trust, a community service non-profit organization, to ask for some help. With the help of the Lopez Community Land Trust (LCLT), the San Juan County Food Processing Center project was initiated.

After four years of planning and feasibility analysis, including extensive market and consumer studies, the Food Processing Center has made a lot of progress. Phase I of the Food Processing Center is the formation of the Island Grown Farmers Cooperative and the USDA meat processing plant. Phase II will be value added food processing kitchens for vegetable and fruit growers which will be started once the first phase is up and running.

The purpose of the Food Processing Center is to strengthen, and add to, the permanent agriculture infrastructure; accessible to businesses and individuals; for processing meat and plant products in San Juan County. By strengthening agriculture in San Juan County (SJC), the Food Processing Center will work toward the larger public goals of making SJC less dependent on imported food products, preserving the pastoral landscape and biodiversity of the islands, promoting agricultural economic development.

In 1999 a Community Food Grant from the USDA provided funding for developing the San Juan County Food Processing Center, for developing education and training resources through WSU Cooperative Extension in SJC, and developing distribution networks for locally grown foods that include social services, food banks, and schools. In October of 2000, the Food Processing Center's USDA inspected meat processing facility was ranked the number one priority project in San Juan County's Washington Community Economic Revitalization Team (WA-CERT) process. Through WA-CERT, the Lopez Community Land Trust is applying for funds that will become a revolving loan fund for agricultural projects. The Food Processing Center's USDA inspected meat processing facility would be the first recipient of this loan.

On October 19th, 2000, representatives of Island Grown Farmers Cooperative (IGFC) filed Articles of Incorporation in Olympia. Fifteen producers have already become members of the IGFC, with over six hundred sheep, twenty-five beef cattle, and several pigs committed for the first year of operation (late 2001 or early 2002).

The first meeting of the Island Grown Farmers Cooperative will be on Thursday November 16th at 5:45 pm at the Lopez Fire Hall. For additional information or to request an information and membership packet, please contact:

Vern Coffelt, 376 – 4357,
coffeltsfarm@rockisland.com

Bruce Dunlop, 468-4620,
bdunlop@lopezislandfarm.com

Bruce Gregory, 378 – 2309,
mbfarm@rockisland.com

Julie Matthews, 468-2586

FARM PRODUCTS GUIDE SIGN-UP FORM

Please fill out and return this form if you are interested in being listed in the Guide to Farm Products on San Juan Island or the Guide to Farm Products on Orcas Island. If you are on Shaw, Waldron or another San Juan County island, please indicate which guide you would prefer to be listed with. We will update the Farm Product Guide each year in February for distribution by late May.

Name(s) _____

Farm name _____

Address _____

Street address if different from mailing address _____

Phone _____

email (optional) _____

fax (optional) _____

Description of farm:

Where are your products sold? (list all locations in San Juan County) _____

Do you want your location to appear on the map? Yes _____ No _____

Can people visit your farm? Yes _____ No _____

If yes, do you have specific hours you are 'open'? _____

Do you prefer visitors to call before visiting? Yes _____ No _____

Do you sell products from your farm? Yes _____ No _____

If yes, which products do you sell from your farm? _____

Additional comments: _____

See page 5 of this newsletter for more information. If you have any questions, please contact Lovel Pratt at 378 – 7172 or lovel@coopext.cahe.wsu.edu. Please return your completed form to:
WSU Cooperative Extension, 221 Weber Way, Suite LL, Friday Harbor, WA 98250

APPENDIX B
YIELDS OF MARKET ANIMALS

Current Research Articles

South Dakota State University
Department of
Animal and Range Sciences
Meat Science Extension and Research

Did the Locker Plant Steal Some of My Meat?

by Duane M. Wulf, Ph.D.

Department of Animal and Range Sciences
South Dakota State University

To determine how much meat you should get from a market animal:

$$\text{Pounds of Meat} = (\text{Dressing Percent} \times \text{Carcass Cutting Yield}) \times \text{Live Weight}$$

Therefore, two factors affect the percentage of meat that you will receive:

1. Dressing Percentage
2. Carcass Cutting Yield

Dressing Percentage

Dressing Percentage = The percentage of the live animal that ends up as carcass.

$$\text{Dressing Percentage} = \text{Carcass Weight} / \text{Live Weight} \times 100$$

Dressing Percentage is affected by:

1. Gut fill – The more gut fill at the time the live weight is taken, the lower the dressing percentage will be. If an animal is weighed right off of full feed, the dressing percentage will be 2 to 5% lower than if the animal is fasted for 24 hours prior to weighing.
2. Muscling – A heavier muscled animal will have a higher dressing percentage than a light muscled animal.
3. Fatness – A fatter animal will have a higher dressing percentage than a lean animal.
4. Mud – Cattle with a lot of mud attached to their hide will have a lower dressing percentage than clean cattle.
5. Wool – Lambs with long wool will have a lower dressing percentage than recently-shorn lambs.

Average Dressing Percentages:

Beef cattle: 62%
Dairy steers: 59%
Market hogs: 74%
Market lambs: 54% (shorn)

Carcass Cutting Yield

Carcass Cutting Yield = The percentage of the carcass that ends up as meat.

$$\text{Carcass Cutting Yield} = \text{Pounds of Meat} / \text{Carcass Weight} \times 100$$

Carcass Cutting Yield is affected by:

1. Fatness – Leaner animals will have higher carcass cutting yields than fatter animals.
2. Muscling – More muscular animals will have higher carcass cutting yields than less muscular animals.
3. Bone-in versus Boneless – This will dramatically affect carcass cutting yield. If more boneless cuts that are made, then the carcass cutting yield will be lower than if bone-in cuts are made. If bone-in chuck roasts, rib steaks, T-bones, and bone-in sirloin steaks are made, the carcass cutting yield will be much higher than if boneless chuck roasts, ribeye steaks, strip steaks, and boneless sirloin steaks are made. It is important to note that the amount of edible meat will not change, but boneless cuts will take up less room in your freezer. If you get soup bones and short ribs, the carcass cutting yield will be higher than if you have these items boned and put into ground beef.
4. The Amount of Fat Remaining on the Meat Cuts – If the meat cutter leaves more surface fat on the meat cuts, then the carcass cutting yield will be higher than if the meat cuts are closely-trimmed.
5. The Leanness of the Ground Product – If the ground product (ground beef, ground pork, pork sausage, ground lamb) is made very lean, then the carcass cutting yield will be lower than if the ground product is made with more fat. For example, a typical beef carcass could have 20 more pounds of ground beef if it is made into 70% lean ground beef than if it is made into 92% lean ground beef.

BEEF EXAMPLES:

Average beef animal, weighed full, 1200 lbs., boneless steaks and roasts, closely trimmed, lean ground beef:

$$(.61 \times .62) \times 1200 = 38\% \times 1200 = 456 \text{ lbs. of meat}$$

Average beef animal, weighed full, 1200 lbs., bone-in steaks and roasts, regular trimmed, regular ground beef:

$$(.61 \times .71) \times 1200 = 43\% \times 1200 = 516 \text{ lbs. of meat}$$

Average beef animal, weighed full, 1200 lbs., some bone-in and some boneless steaks and roasts, closely trimmed, regular ground beef:

$$(.61 \times .67) \times 1200 = 41\% \times 1200 = 492 \text{ lbs. of meat}$$

Average Holstein steer, weighed full, 1200 lbs., boneless steaks and roasts, closely trimmed, lean ground beef:

$$(.58 \times .57) \times 1200 = 33\% \times 1200 = 396 \text{ lbs. of meat}$$

Lean, heavily muscled beef animal, weighed full, 1200 lbs., boneless steaks and roasts, closely trimmed, lean ground beef:

$$(.62 \times .69) \times 1200 = 43\% \times 1200 = 516 \text{ lbs. of meat}$$

Very fat beef animal, weighed full, 1200 lbs., boneless steaks and roasts, closely trimmed, lean ground beef:

$$(.62 \times .46) \times 1200 = 29\% \times 1200 = 348 \text{ lbs. of meat}$$

Lean, heavily muscled beef animal, weighed empty, 1200 lbs., bone-in steaks and roasts, regular trimmed, regular ground beef:

$$(.65 \times .80) \times 1200 = 52\% \times 1200 = 624 \text{ lbs. of meat}$$

PORK EXAMPLES:

Note: The dressing percentages and carcass cutting yields in these examples are for skin-on pork carcasses. Many meat plants skin pork carcasses. Skinned carcasses will have lower dressing percentages and higher carcass cutting yields. However, you will still come up with the same answer when calculating the amount of meat so these examples still apply. In other words, you will get the same amount of meat from a pig whether the carcass is skinned or not.

Average market hog, weighed full, 250 lbs., bone-in chops and roasts, closely trimmed, regular ground pork/sausage:

$$(.72 \times .74) \times 250 = 53\% \times 250 = 133 \text{ lbs. of meat}$$

Average market hog, weighed full, 250 lbs., boneless chops and roasts, closely trimmed, lean ground pork/sausage:

$$(.72 \times .65) \times 250 = 47\% \times 250 = 118 \text{ lbs. of meat}$$

Lean, heavily muscled market hog, weighed full, 250 lbs., boneless chops and roasts, closely trimmed, lean ground pork/sausage:

$$(.73 \times .73) \times 250 = 53\% \times 250 = 133 \text{ lbs. of meat}$$

Very fat, light muscled market hog, weighed full, 250 lbs., boneless chops and roasts, closely trimmed, lean ground pork/sausage:

$$(.74 \times .50) \times 250 = 37\% \times 250 = 93 \text{ lbs. of meat}$$

Heavily muscled market hog, weighed empty, 250 lbs., bone-in chops and roasts, regular trimmed, regular ground pork/sausage:

$$(.76 \times .82) \times 250 = 62\% \times 250 = 155 \text{ lbs. of meat}$$

LAMB EXAMPLES:

Average market lamb, shorn, weighed full, 120 lbs., bone-in chops and roasts, closely trimmed, regular ground lamb:

$$(.51 \times .75) \times 120 = 38\% \times 120 = 46 \text{ lbs. of meat}$$

Average market lamb, shorn, weighed empty, 120 lbs., bone-in chops and roasts, closely trimmed, regular ground lamb:

$$(.54 \times .75) \times 120 = 41\% \times 120 = 49 \text{ lbs. of meat}$$

Average market lamb, shorn, weighed full, 120 lbs., some bone-in and some boneless chops and roasts, closely trimmed, regular ground lamb:

$$(.51 \times .68) \times 120 = 35\% \times 120 = 42 \text{ lbs. of meat}$$

Lean, heavily muscled market lamb, shorn, weighed empty, 120 lbs., bone-in chops and roasts, closely trimmed, regular ground lamb:

$$(.57 \times .78) \times 120 = 44\% \times 120 = 53 \text{ lbs. of meat}$$

Fat, light muscled market lamb, long fleece, weighed full, 120 lbs., bone-in chops and roasts, closely trimmed, regular ground lamb:

$$(.48 \times .65) \times 120 = 31\% \times 120 = 37 \text{ lbs. of meat}$$

APPENDIX C
STATISTICAL BRIEFER

Statistical Briefer

Prepared by Canfax Research - January 2005

Canadian Cattle Inventory Jul 1st, 2004 - '000 head

	Bulls	B.Cows	D.Cows	D.Hfrs	B.Hfrs(brd)	B.Hfrs(slt)	Steers	Calves	Total
Nfid	0.1	0.5	4.6	1.4	0.1	0.1	0.2	2.2	9.2
PEI	0.9	14.0	14.7	7.0	3.3	9.5	17.5	20.1	87.0
NS	1.5	27.0	23.8	11.5	5.0	3.6	5.8	30.3	108.6
NB	1.2	20.3	19.0	9.8	4.8	4.4	6.3	26.2	92.0
Que	16.5	236.0	415.0	186.0	42.0	30.0	112.0	477.5	1,515.0
Ont	27.0	410.0	372.0	210.0	80.0	190.0	380.6	638.7	2,308.3
Man	33.0	655.0	45.0	23.0	94.0	110.0	160.0	630.0	1,750.0
Sask	74.0	1,500.0	29.0	13.0	222.0	130.0	197.0	1,375.0	3,540.0
Alta	113.0	2,150.0	80.0	32.0	320.0	765.0	780.0	2,160.0	6,400.0
BC	19.0	327.0	78.0	35.0	51.0	32.0	73.0	335.0	950.0
CANADA	286.2	5,339.8	1,081.1	528.7	822.2	1,274.6	1,732.4	5,696.0	16,760.0

D. Cows = Dairy Cows
B. Cows = Beef Cows
Source: Statistics Canada

D. Hfrs = Dairy Heifers
B. Hfrs (brd) = Beef Breeding Heifers
B. Hfrs (slt) = Beef Slaughter Heifers
Steers = Steers (castrated males)
Calves = Cattle (< one year age)

World Cattle Inventories

JAN 2004p	mil. head	% world
India	323.3	30.2%
Brazil	164.4	15.3%
China	133.0	12.4%
U.S.	95.4	8.9%
EU	78.4	7.3%
Argentina	50.5	4.7%
M.E./N. Africa	39.0	3.6%
Australia	26.4	2.5%
Mexico	30.8	2.9%
Russia	22.3	2.1%
CEEC	5.9	0.6%
S. Africa	13.9	1.3%
Canada	14.8	1.4%
Uruguay	11.9	1.1%
Ukraine	8.7	0.8%
N. Zealand	9.8	0.9%
Philippines	5.7	0.5%
Japan	4.5	0.4%
Other	33.6	3.1%
TOTAL	1,072.3	

Source: GIRA

Beef and veal production - 1000 metric tonnes, carc. wt equiv.

	2001	2002	2003	2004p	% of world
U.S.	11,954	12,411	12,160	11,639	23.35%
Brazil	6,820	6,950	7,180	7,400	13.79%
E.U.	7,255	7,450	7,327	7,346	14.07%
China	5,490	5,848	6,022	6,263	11.56%
India	2,889	2,889	2,925	2,998	5.62%
Argentina	2,531	2,493	2,539	2,556	4.88%
M.East/N. Africa	1,840	1,890	1,904	1,922	3.66%
Australia	2,069	2,092	1,972	1,886	3.79%
Russia	1,721	1,740	1,665	1,590	3.20%
Mexico	1,428	1,468	1,515	1,540	2.91%
Canada	1,282	1,272	1,145	1,374	2.20%
Other	5,443	5,501	5,551	5,565	10.66%
World	50,702	52,004	51,905	52,079	

Source: GIRA

Fed Cattle Production - '000 head

	2002	2003
Alta	2,467.3	2,007.1
Ont	625.8	629.0
BC/Sask/Man	316.9	272.3
Que/Atl	71.0	56.1
CANADA	3,481.0	2,964.5

Source: Canfax, AAFC, Stats Can

Cattle Slaughter - '000 head

	2002	2003	2004p
Alta	2,367.6	2,100.1	2,599.0
Ont	635.6	649.0	724.9
Que/Atl	230.8	204.8	263.9
BC/Sask/Mt	223.4	201.0	253.1
CANADA	3,457.5	3,164.9	3,840.9

Source: CBGA, (Fed&Prov plants)

Canadian average warm carcass weights

Cattle - Pounds	2002	2003	2004p
Steer	832	835	834
Heifer	777	781	779
Cow	704	702	659
Bull	913	986	1016
Average	794	802	797

Source: CBGA

Multilateral Beef Trade - 2003

Top suppliers to selected countries

Country	Supplier	%
Canada 2003	U.S.	82%
	Mexico	10%
U.S. 2003	Japan	34%
	Mexico	25%
	S. Korea	24%
	Canada	10%
Australia 2003	U.S.	37%
	Japan	29%
	O Far East	17%
	Canada	3%

World top 10 beef&cml exporters-2003

(% of world exports)

Rank	Country	%
1.	Australia	20%
2.	U.S.	17%
3.	Brazil	17%
4.	New Zealand	8%
5.	Canada	8%
6.	India	6%
7.	EU-15	5%
8.	Argentina	5%
9.	Uruguay	5%
10.	Mexico	3%

World top 10 beef importers-2003

(% of world imports)

Rank	Country	%
1.	U.S.	25%
2.	Japan	12%
3.	EU-15	10%
4.	N.Af/Mid East	8%
5.	Russia	7%
6.	O Far East	7%
7.	S. Korea	6%
8.	Mexico	5%
9.	Canada	5%
10.	O S America	3%

Source: GIRA

Canadian Beef Export Markets (Fa/Ch/Fz)

Rank	Country	mil \$	tonnes
1.	U.S.	\$1,252.7	265,821
2.	Mexico	\$109.5	27,369
3.	Japan	\$41.5	8,345
4.	S. Korea	\$28.7	6,190
5.	Russia	\$2.1	2,378
6.	C&S America	\$1.9	1,693
7.	SE Asia	\$1.4	1,543
8.	Taiwan	\$7.8	1,487
9.	Caribbean	\$3.3	1,115
10.	China	\$2.2	895

Source: Statistics Canada/CFIA

2001/02 Barley and Corn Production - mil tonnes

Country	2002	2003	
U.S.	246.9	B.C.	0.10
China	119.0	Alberta	4.75
Brazil	41.4	Sask.	3.65
Argentina	22.8	Manitoba	1.40
Canada	19.5	Ontario	5.55
Mexico	18.6	Quebec	3.50
India	11.8	Atlantic	1.75
World	741.1	Total	19.1

Source: USDA, Stats Canada, AAFC

Farm Cash Receipts (Canada) - BIL \$

	2002	2003
Cattle & Calves	\$7.6	\$5.2
Total Livestock	\$18.0	\$16.2
Crops	\$14.3	\$13.1
Direct Payments	\$3.4	\$4.8
Total Receipts	\$35.7	\$34.2

US cash receipts - 2002

Cattle & Calves	\$38.0 bil
Total	\$192.9 bil

Source: Statistics Canada, USDA

Meat Consumption in Canada (Pounds per Capita)

Retail Weight (beef, pork), Carcass Weight (poultry)

Year	Beef	Pork	Chicken	Turkey
1990	54.5	43.7	48.7	9.9
1991	53.6	43.4	48.9	9.9
1992	52.0	47.6	48.9	9.9
1993	50.0	46.3	50.9	9.5
1994	50.9	47.6	54.7	9.7
1995	50.9	46.5	54.7	9.5
1996	50.5	43.4	54.9	9.0
1997	50.5	42.6	56.0	9.3
1998	51.2	47.8	57.7	9.4
1999	52.5	50.4	61.3	9.3
2000	51.5	46.0	64.2	9.3
2001	49.5	48.5	67.2	9.2
2002	49.0	46.7	67.7	9.4
2003	51.5	42.2	67.2	9.3

Source: Stats Canada, Canadian Chicken Marketing Agency

Per Capita Meat Consumption 2003 (Carcass Equivalent)

(Kilograms per Capita)

	Beef & Veal	Pork	Broilers
Argentina	57.36	n/a	18.30
USA	42.60	30.16	51.76
Australia	35.89	n/a	n/a
Brazil	34.63	11.51	34.20
Canada	32.01	31.91	n/a
Korea	22.23	36.95	n/a
E.U.	20.14	44.51	22.00
Mexico	18.86	13.18	25.62
Japan	10.42	18.59	14.74
China	4.63	33.7	10.97

Source: GIRA



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