



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

CANADA

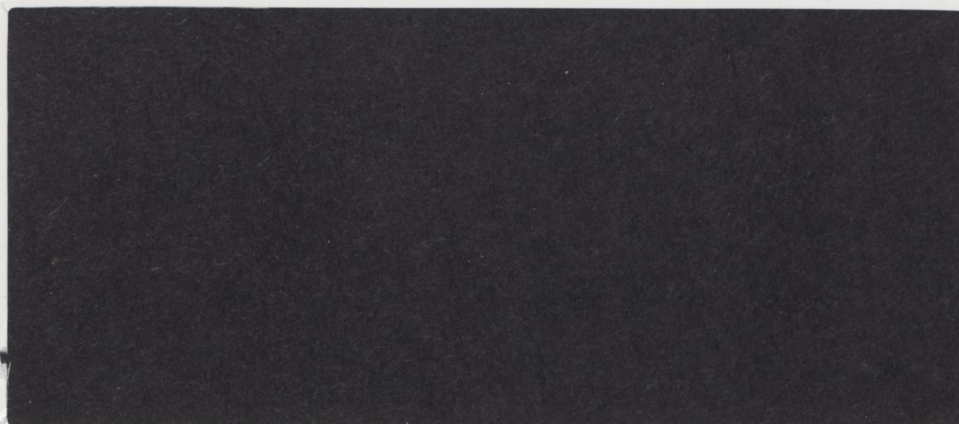
7/93



Agriculture  
Canada

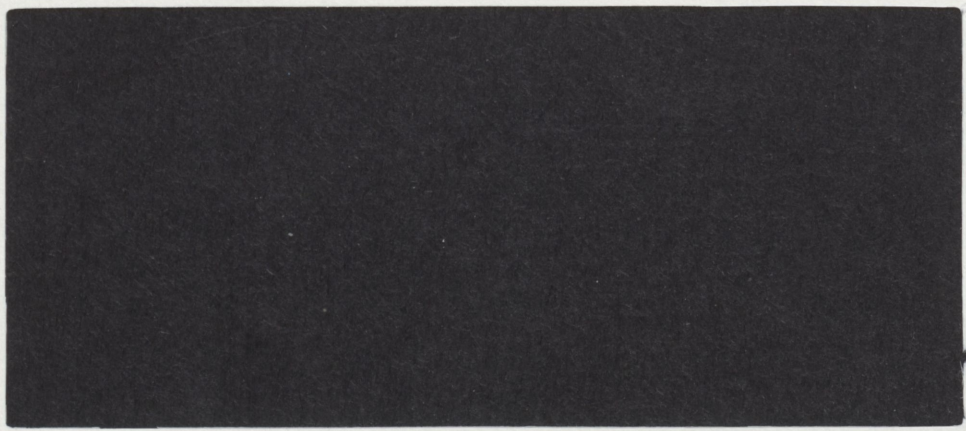
Policy  
Branch

Direction générale  
des politiques



LIBRARY  
WITHDRAWN  
JUN 22 1993  
GIANNINI FOUNDATION OF  
AGRICULTURAL ECONOMICS

Canada



Working papers are (1) interim reports completed by the staff of the Policy Branch, and (2) research reports completed under contract. The former reports have received limited review, and are circulated in the language of preparation for discussion and comment. Views expressed in these papers are those of the author(s) and do not necessarily represent those of Agriculture Canada.

**IMPACT OF INCREASED OFFSHORE IMPORTS OF  
BONELESS BEEF ON THE CANADIAN CATTLE  
AND BEEF MARKET**

**(Working Paper 7/93)**

Hsin Huang<sup>1</sup>  
H. Bruce Huff<sup>1</sup>

May 1993

<sup>1</sup>Economic Analysis Division, Policy Branch, Agriculture Canada

## TABLE OF CONTENTS

Executive Summary

1. Introduction
2. Methodology
3. Baseline Forecast (1993-1999)
4. Impact of Increased Imports
5. Conclusions

**APPENDIX I** Baseline Forecast (1993-99)

**APPENDIX II** Impact Results

**APPENDIX III** The Cattle Component of the FARM Model

## EXECUTIVE SUMMARY

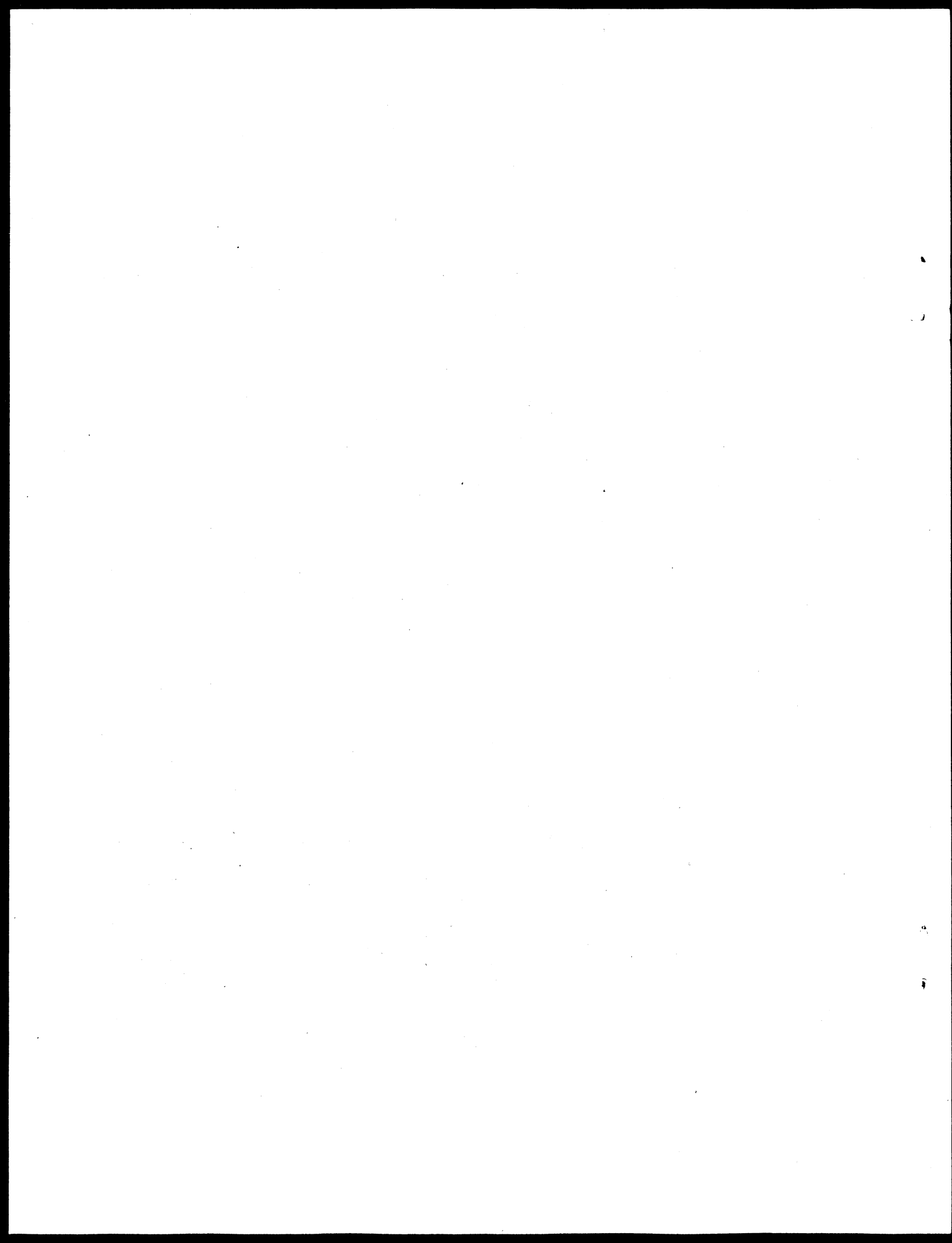
In response to the sharp increase in the import of boneless beef from countries other than the U.S. in 1993, the Canadian International Trade Tribunal (CITT) was asked to examine the injury or threat of injury to Canadian producers of like product and advise on an appropriate remedy.

An extended version of the Food and Agriculture Model (FARM) of Agriculture Canada was used to assess the impact of an increase in the import of beef into Canada from offshore on Canadian cattle and beef prices, production and trade. The extended model, which specifies economic relationships for both high and low quality beef, was used to examine the impact of an increase of 85 kt (61 kt of retail product) of additional offshore beef imports.

The study involved two scenarios in comparison with a baseline of the Agriculture Canada Medium term forecast for 1993-99, prepared in May 1993. The first scenario assumed that there were no restrictions on the export of beef from Canada to the U.S. (open U.S. border). The second scenario assumed that the U.S. restricted the exports of low quality beef from Canada to a level similar to that in the baseline (U.S. border restrictions).

In the first scenario, the increased imports of 85 kt of beef from offshore caused a small decrease in the retail price of low quality beef (about 2%) and a small increase in consumption in Canada. There was virtually no impact on the retail price or domestic consumption of high quality beef in Canada. In this case, the main impact was an increase in exports of both live cattle (mainly slaughter cows and bulls) and low quality beef to the U.S. Of the additional beef imported, an equivalent quantity of product of approximately 94% was exported to the U.S. in the form of Canadian cattle and beef. Cow prices in Ontario fell by over 7%. Producer market receipts declined about 1%.

In the second scenario, with the restriction that the exports of low quality beef from Canada to the U.S. are limited to the level of the baseline forecast, retail price of low quality beef dropped substantially (12%) while consumption rose considerably (13%) in Canada. There was a small decrease in both the retail price and consumption of high quality beef. There was also a very substantial increase in the exports of live cattle (mainly slaughter cows and bulls) to the U.S.--25% increase from the west and more than double from the east. Of the additional beef imported, an equivalent quantity of product of approximately 42% was exported to the U.S. in the form of Canadian cattle. Producer price of cows fell about 10% in Canada. Producer market receipts declined by 2-3% in Canada. The beef slaughtering and boning industry was substantially affected, as low quality beef production in Canada declined by 39 kt., representing about 12% of total production.



# IMPACT OF INCREASED OFFSHORE IMPORTS OF BONELESS BEEF ON THE CANADIAN CATTLE AND BEEF MARKET

## 1. INTRODUCTION

The Canadian International Trade Tribunal (CITT) was directed by the Governor in Council to examine whether imports of boneless beef originating in countries other than the U.S. are causing or threaten to cause serious injury to the Canadian producers of like or directly competitive products. If injury is found, the CITT should advise as to the most appropriate remedy to address the situation. The request was made to the CITT on April 16, 1993 and to report to government on May 28, 1993.

As part of the research program, the CITT requested Agriculture Canada to conduct a simulation analysis of the impact of an increase in the offshore imports of boneless beef on the Canadian beef and Cattle sector using the Food and Agriculture Regional Model (FARM). This paper reports on the results of this analysis.

The study involved the reconstruction of a large econometric model to incorporate two grades of beef in Canada, calibrating the model to the Agriculture Canada medium term outlook as a baseline and simulating the model using increased imports of low quality beef from off-shore. The comparison of simulation results of the increased imports with the medium term forecast provides an assessment of the impact.

The model used in the study provides an approximation of the Canadian cattle and beef sector. Although the study provides detailed point estimates, it is recommended that readers concentrate on the major direction of changes, rather than specific numbers themselves.

## 2. METHODOLOGY

The study was undertaken in the framework of a beef and cattle model that was developed from the Food and Agriculture Regional Model (FARM) specifically for this analysis<sup>1</sup>. The FARM model, initially developed in the 1970's, has been periodically updated and improved by Agriculture Canada for outlook and policy analysis. The model provides an important input for the Department's Medium Term Outlook report and also supports analysis for a variety of agriculture policy issues.

---

<sup>1</sup>A detailed description of the current structure of the beef component of the FARM model is available from the Economic Analysis Division, Agriculture Canada.



The model, as extended and revised for this study, is well-suited to the issue of analyzing the impact of low quality beef on the Canadian cattle and beef sector<sup>2</sup>. The specification of the model includes a complete breakdown by animal type and by region for the major supply, marketing and trade activities, as well as the supply-disposition variables for both high and low quality beef by region in Canada. There is an explicit marketing and price relationship between each level of the marketing chain and between the two regions of Canada and the U.S.

A legitimate issue in using a model for simulation purposes is the realism of its properties, and as well, the accuracy of its predictions. A detailed assessment of these attributes of the model has been accomplished for FARM. Review of statistical estimates indicate sound relationships with coefficients having expected signs and magnitude.

The analysis performed on the model relies on a number of simplifying assumptions. First, it is assumed that all offshore beef imports are low quality and are homogeneous from all countries. As well, the model used in the analysis assumes that U.S. prices are not affected by increased beef imports into Canada, and subsequent exports to the U.S. market. These assumptions condition the results of the exercise.

The analysis took the form of a simple "shock" analysis over the medium term period 1993 through 1999. The May 1993 Medium Term Outlook, extended to reflect the high-low quality split in the beef market, was used as a baseline. In this exercise, the baseline itself is not strictly important, except that it provides a basis of comparison with an alternative simulation or scenario. The shock scenario assumed that, beginning the first quarter of 1993, low quality beef imports from offshore into Canada would increase by 6lkt annually or 15.25kt on a quarterly basis over the baseline level. The increased offshore imports of beef were assumed to enter eastern and western Canada in the same proportion as in the baseline forecast. The level of additional imports chosen as a reference quantity was derived by the CIIT, based on the approximate quantity which entered the market from Oceania in the first three months of 1993<sup>3</sup>. Comparing model solution results for the baseline and scenario, provides the models's estimate of the effect of increased low-quality imports on major variables of interest.

---

<sup>2</sup>For this study, low quality beef is derived from cow and bull slaughter and trimmings from steer and heifer slaughter. High quality beef is derived from steer and heifer slaughter (excluding the trimmings).

<sup>3</sup>The model is approximately linear, and reducing (increasing) the size of the "shock" compared to the base quantity would result in approximately the same proportional reduction (increase) in the impact. Limits obviously apply, and confidence in results diminish as one moves away from the means of the data.

In a simulation analysis such as the one in this study, results are dependent upon the properties of the simulation model from which they were derived. While all parameters of the model are important to the analysis, the most critical ones to this analysis are the direct and cross price elasticities of demand for high and low quality beef in Canada<sup>4</sup>. High price elasticities imply smaller domestic price depression from import quantities, and greater exports to the U.S. market; lower elasticities would imply the opposite. The demand parameters of the model become most important when trade to the U.S. market is restricted, since under this market structure, the nature of the pricing relationship between Canada and the U.S. change. The coefficient for the low quality beef is critical as prices under this scenario are determined entirely within the Canadian market.

With trade possible in both live cattle and beef, restrictions on the export of one commodity will rapidly shift the level of export of the other. Both cattle and beef have a high export price elasticity, which implies that as prices in Canada decline, trade will open up, muting the price effect of added supplies from offshore.

### 3. BASELINE

The tables in Appendix I provide detail of the baseline projection<sup>5</sup> to which the beef and cattle component has been aligned. This baseline projection is the May 1993 Medium Term Outlook and represents a collaborative pooling of information from the FARM model and commodity specialists<sup>6</sup>. The projection therefore, is not a pure model forecast, and its solution out into the future has been adjusted in certain cases to conform to the views of analysts. It is recognized that pure model output, which only reflects historical behaviour and its relationships, may need to be supplemented by commodity specialists input in order to adequately capture current and future events that have no prototype in the past. The model's solution is then calibrated to this view.

The Canadian cattle sector, in conjunction with the U.S. cattle sector, was expected to continue expanding for another 3 years with the beef herd expected to grow at the rate of about 1-2% per year. U.S. demand for Canadian slaughter cattle was

---

<sup>4</sup>Demand coefficients have recently been updated for the FARM model, according to G. Moschini and D. Moro, "A Food Demand System for Canada", Technical Report 1/93, Policy Branch, Agriculture Canada, March 1993. The demands coefficients for the high and low quality beef used in this study were developed using similar techniques.

<sup>5</sup>Appendix I provides detailed forecasts by animal type and meat quality on the regional supply disposition breakdowns. It needs to be recognized that the level of detail reported for this projection exceeds that normally released in the Medium Term Outlook.

<sup>6</sup>See Medium Term Outlook, May 1993 for a detailed description of the environment describing this projection.

anticipated to remain strong for the next few years as U.S. producers rebuild their beef herds. U.S. slaughter cattle imports from Canada were forecast to be 600,000 to 700,000 head throughout the medium term. Regional feeding cost differences that favour western Canada were expected to continue, hence limiting the flow of feeder cattle and calves from western Canada to eastern Canada. The Canada-U.S. Trade Free Agreement has reduced the tariffs on live cattle and beef, further facilitating trade with the U.S. Net beef imports from offshore were expected to remain at 1992 levels during the forecast period.

Following U.S. prices, Canadian slaughter steer prices are expected to remain strong, with annual averages fluctuating around the high \$80/cwt range (for A1,A2 grades in Ontario). These prices are forecast to strengthen late in the forecast period as aggregate demand for meat increases and North American cattle supply levels off. Over the medium term, total domestic consumption of beef is forecast to increase roughly in line with the projected rate of increase in Canadian population.

#### **4. IMPACT OF INCREASED IMPORTS**

The impact of increased off-shore imports of low quality meat on the Canadian cattle and beef industry are examined under two alternative scenarios: 1) Cattle and beef trade between Canada and the U.S. remains unimpeded, and 2) Trade in beef between Canada and the U.S. is limited to a specified quantity, after which beef trade is prohibited.

##### **Scenario 1. Open Border (current situation)**

Increased offshore imports of low quality beef into Canada increases total supplies and hence reduces the wholesale price of cow carcasses, and to a lesser extent of steer carcasses (which also provide a supply of low quality beef). These lower wholesale prices are passed upward through to the consumer level, causing higher consumption of beef. They are also passed through to the primary level, resulting in lower prices for live animals, particularly cows.

Given the relatively free movement of cattle and beef between the two countries, Canadian beef prices closely follow the much larger U.S. market. Therefore, lower domestic prices at the wholesale and primary markets cause increased import demand from the U.S., and trade responds.

The extent of the price depression can be related with the extent of adjustment in three major factors: i) changes in domestic consumption, ii) changes in trade of live cattle between Canada and the U.S., and iii) changes in the trade of beef between Canada and the U.S. The more responsive the adjustment in these three factors, the less the extent of the price depression.

## **Scenario 2. Canada/U.S. Beef Trade Restricted**

In this scenario, increased offshore imports of low quality beef also increases supplies and reduces the wholesale price of cow carcasses and steer carcasses. Lower retail prices are passed to the consumer level, causing higher consumption of beef, and to the primary level, resulting in lower live animal prices.

Lower domestic live cattle prices result in increased import demand from the U.S., and trade responds.

However, with a trade restriction in low quality beef between Canada and the U.S., the Canadian low quality beef market becomes separated from the U.S. market. Instead of low quality beef prices being determined by demand and supply conditions in the North American market, prices become a function of domestic demand and supply. The domestic wholesale cow carcass price becomes a function of the domestic retail price of low quality beef, rather than following the U.S. wholesale cow carcass price.

The extent of price depression is related to the extent of adjustment in two factors: i) changes in domestic consumption, and ii) changes in the trade of live cattle between Canada and the U.S. A third option, adjustment in the trade of low quality beef between Canada and the U.S., is not available in this scenario.

### **Simulation Results**

The model estimates of the impact of an additional 85kt carcass weight (61kt product weight) off-shore low quality beef into Canada under the two alternative scenarios are presented in this section. Results are reported as an annual average over a simulation period from 1993 to 1999. All meat quantities are defined in terms of carcass weight, which is roughly equal to 1.4 times the retail weight. Detailed results are presented in Appendix II for all animal types and beef qualities on a regional basis. Readers should note that these results in the Appendix tables are presented in carcass equivalent weight (not retail product weight).

### **Scenario 1:**

The results under an open Canada/U.S. border can be described as follows: The increased meat supplies on the domestic market cause the wholesale price of cow carcasses to fall, on average, by 6.5%, and the retail price of low quality beef to fall by 1.9%. The retail price drop induces the domestic market to absorb an additional 0.7% (3kt) of low quality beef per year.

Net trade in low quality beef from Canada to the U.S. increases 60.3% (59kt). Domestic production of low quality beef decreases by 7.5% (25kt).

The decline in the wholesale carcass price is also transmitted to the primary level. Net trade of cows and bulls to the U.S. increases by 85 thousand head per year. Domestic production is "exported" to the U.S. in the form of live cows.

The impacts of increased low quality beef imports on the high quality beef market are estimated to be negligible. The fall in low quality beef retail prices relative to high quality beef retail prices induces 0.1% reduction in high quality beef consumption.

The results indicate that the steer and heifer markets may not be much affected by an increase in offshore imports of low quality beef. Producer prices of slaughter steers and heifers are estimated to decline very marginally. This follows mainly from the small impact on the high quality beef market.

In terms of displacement, resulting from the 85kt additional imports, net trade in low quality beef and live cows to the U.S. accounts for 81 kt, or 94%.

Market receipts from slaughter cattle sales are estimated to fall by 1% on average.

## Scenario 2:

In this scenario, the restriction on trade in low quality beef between Canada and the U.S. would require any additional quantities of offshore imports to be consumed domestically, or placed into stocks. Domestic retail prices of low quality beef fall by 12.1%, and consumption increases by 13.4% (45kt). The fall in retail prices causes the wholesale price of cow carcass to drop 10.5%

Domestic production of low quality beef decreases by 12.1% (39kt), as a result of more cows being exported live instead of being slaughtered in Canada.

The drop in cow carcass price is transmitted to the primary level. As a result, net trade to the U.S. of cows and bulls increases by 139 thousand head.

As in Scenario 1, the impacts on production in the high quality beef market are relatively small. However, the significant increase in consumption of low quality beef results in a larger substitution away from high quality beef (0.8% or 5kt) than in scenario 1.

The impacts on the steer and heifer markets are also estimated to be relatively small. This follows from the small impacts on the high quality beef market.

Of the 85kt increase in offshore imports, live cow and bull trade to the U.S. increases by 36 kt (live converted to carcass), equivalent to 42% of the additional imports.

Market receipts from slaughter cattle sales are estimated to fall by 2.6%

## 5. CONCLUSIONS

The increase in low quality beef imports from Oceania which was simulated with the FARM model represents a significant increase in the supplies available in Canada. In the scenario that the U.S. will not erect any trade barriers to prohibit increased in flow of Canadian beef and live cattle into its market, Canadian retail prices decline slightly for low quality beef (about 2%). Consumption of low quality beef rises slightly in Canada. The decline in the price of the low quality beef in Canada results in an increase in the exports of both low quality beef and live beef animals (mainly slaughter cows and bulls) to the U.S. Thus the U.S. market acts as a safety valve for the Canadian market, in which a large part of the beef imports from Oceania simply displace Canadian product into the U.S. market. The impact on the Canadian cattle sector is small with market receipts declining about 1% in the west and slightly more in the east. The Canadian slaughter and boning industry is affected as the number of cattle slaughtered in Canada is reduced.

A scenario was run in which exports of low quality beef exports to the U.S. from Canada were limited to no more than the baseline forecast level. In comparison with the above scenario, this resulted in a much sharper depression in the retail price of low quality beef (12%) as more of the low quality beef product would need to be consumed in Canada. The impact on the high quality market was still very small. In comparison with the above scenario, the most significant impact was the increase in the volume of live cattle exports (mainly cows and bulls) to the U.S. - more than a 25% increase in the west, and more than a doubling in the east. This would greatly reduce the extent of boning operations and hence the value added in Canada.

If the restrictions by the U.S. were even more severe such as eliminating any low quality beef exports or restricting "all" beef exports, the impact would be even more substantial.

APPENDIX I

Baseline Forecast (1993-99)

CATTLE PRICES (CALENDAR YEAR)

Economic Analysis Division

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Slaughter Steer</b>										
A1, A2 Toronto (\$/cwt) .....	89.47 0.67%	85.25 -4.71%	87.71 2.88%	91.21 3.98%	86.11 -5.59%	85.32 -0.91%	83.57 -2.06%	87.03 4.14%	90.20 3.64%	94.66 4.95%
A1, A2 Edmonton (\$/cwt).....	85.15 2.26%	79.67 -6.44%	81.55 2.37%	85.36 4.67%	80.63 -5.54%	79.81 -1.01%	77.98 -2.29%	81.37 4.35%	84.45 3.78%	88.95 5.32%
Omaha (US\$/cwt).....	78.05 7.63%	74.28 -4.83%	75.37 1.46%	75.50 0.18%	72.75 -3.64%	71.00 -2.41%	69.88 -1.58%	73.00 4.47%	75.75 3.77%	79.50 4.95%
<b>Slaughter Heifer</b>										
A1, A2 Toronto (\$/cwt) .....	86.43 0.51%	82.44 -4.61%	84.94 3.02%	88.39 4.06%	83.24 -5.83%	82.45 -0.95%	80.64 -2.19%	84.15 4.35%	87.36 3.82%	91.88 5.18%
A1, A2 Edmonton (\$/cwt).....	82.21 2.35%	77.64 -5.56%	79.48 2.37%	82.19 3.42%	77.43 -5.80%	76.61 -1.06%	74.73 -2.45%	78.16 4.60%	81.28 3.99%	85.83 5.59%
Omaha (US\$/cwt).....	77.91 6.87%	73.86 -5.19%	75.03 1.57%	75.48 0.60%	72.73 -3.64%	70.98 -2.41%	69.85 -1.59%	72.98 4.47%	75.73 3.77%	79.48 4.95%
<b>Slaughter Cow</b>										
D1, D2 Toronto (\$/cwt) .....	60.17 5.57%	57.88 -3.81%	58.49 1.06%	63.03 7.76%	60.25 -4.42%	59.03 -2.02%	57.55 -2.51%	58.34 1.37%	59.78 2.47%	62.21 4.07%
D1, D2 Edmonton (\$/cwt) .....	59.76 4.97%	56.19 -5.96%	56.59 0.71%	59.85 5.75%	57.18 -4.46%	56.02 -2.04%	54.60 -2.53%	55.35 1.38%	56.73 2.49%	59.06 4.11%
Omaha (US\$/cwt) .....	53.31 11.38%	50.31 -5.62%	44.84 -10.88%	46.78 4.34%	45.25 -3.27%	43.50 -3.87%	42.00 -3.45%	43.50 3.57%	45.25 4.02%	47.25 4.42%
<b>Feeder Calf</b>										
Toronto (\$/cwt) .....	97.00 0.23%	101.21 4.34%	96.55 -4.61%	100.17 3.75%	97.84 -2.32%	94.35 -3.57%	87.86 -6.88%	90.00 2.44%	95.65 6.27%	103.23 7.93%
Edmonton (\$/cwt) .....	104.15 0.69%	110.69 6.28%	106.43 -3.84%	109.12 2.53%	107.41 -1.57%	102.11 -4.94%	94.56 -7.39%	96.84 2.42%	103.27 6.63%	111.74 8.21%
Omaha (\$/cwt) .....	107.32 7.67%	111.23 3.64%	100.40 -9.74%	102.46 2.05%	96.62 -5.69%	91.69 -5.11%	89.41 -2.49%	93.19 4.22%	99.54 6.82%	107.70 8.20%
<b>Wholesale Steer Carcass</b>										
Toronto .....	155.42 1.30%	151.31 -2.65%	148.84 -1.63%	157.47 5.80%	149.75 -4.90%	148.85 -0.60%	146.41 -1.64%	152.19 3.95%	157.55 3.52%	164.98 4.72%
Calgary .....	151.12 1.70%	152.32 0.80%	150.90 -0.93%	153.02 1.41%	146.16 -4.48%	145.44 -0.49%	143.13 -1.59%	149.00 4.10%	154.43 3.64%	162.13 4.99%
US .....	114.91 6.61%	113.31 -1.39%	112.15 -1.02%	100.46 -10.42%	97.45 -3.00%	95.62 -1.88%	94.53 -1.14%	96.51 2.09%	97.89 1.43%	100.35 2.51%
High Quality Beef CPI .....	113.29 1.11%	111.91 -1.22%	109.89 -1.81%	117.41 6.84%	119.16 1.49%	120.24 0.91%	121.55 1.09%	124.94 2.79%	129.50 3.65%	134.00 3.47%
<b>Wholesale Cow Carcass</b>										
Toronto .....	127.43 6.70%	122.85 -3.59%	122.34 -0.42%	129.05 5.49%	124.20 -3.76%	120.99 -2.59%	117.67 -2.74%	119.07 1.19%	121.41 1.96%	126.91 4.53%
US .....	85.67 9.61%	85.62 -0.06%	80.08 -6.47%	79.26 -1.03%	77.14 -2.68%	74.70 -3.16%	72.62 -2.78%	73.61 1.36%	74.91 1.77%	77.79 3.84%
Low Quality Beef CPI .....	120.83 5.99%	123.18 1.94%	122.08 -0.89%	126.36 3.50%	127.51 0.91%	127.77 0.20%	128.50 0.58%	128.95 0.34%	131.74 2.17%	135.49 2.84%



CATTLE INVENTORIES (year end)

Economic Analysis Division

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total (000 head) .....	11198 0.47%	11623 3.80%	11693 0.61%	11802 0.93%	12010 1.77%	12211 1.67%	12294 0.67%	12185 -0.88%	11997 -1.55%	11718 -2.32%
Western Canada .....	7426.00 1.78%	7761.00 4.51%	7924.66 2.11%	8006.56 1.03%	8171.58 2.06%	8338.87 2.05%	8412.82 0.89%	8351.47 -0.73%	8229.80 -1.46%	8047.46 -2.22%
Eastern Canada .....	3771.60 -2.01%	3861.60 2.39%	3768.66 -2.41%	3795.00 0.70%	3838.91 1.16%	3872.54 0.88%	3880.80 0.21%	3833.72 -1.21%	3766.73 -1.75%	3670.49 -2.55%
Calves (000 head) .....	3549.70 0.92%	3843.10 8.27%	3948.13 2.73%	4014.37 1.68%	4089.04 1.86%	4173.02 2.05%	4251.59 1.88%	4270.18 0.44%	4231.52 -0.91%	4161.28 -1.66%
Western Canada .....	2724.00 1.79%	2885.00 5.91%	2959.67 2.59%	2994.75 1.19%	3038.73 1.47%	3102.65 2.10%	3162.49 1.93%	3187.69 0.80%	3167.61 -0.63%	3132.14 -1.12%
Eastern Canada .....	825.70 -1.84%	958.10 16.03%	988.46 3.17%	1019.62 3.15%	1050.31 3.01%	1070.37 1.91%	1089.10 1.75%	1082.50 -0.61%	1063.91 -1.72%	1029.14 -3.27%
Bulls & Cows (000 head) .....	3771.00 2.37%	3935.60 4.36%	4028.60 2.36%	4068.88 1.00%	4190.87 3.00%	4274.49 2.00%	4274.32 0.00%	4188.72 -2.00%	4104.85 -2.00%	3981.59 -3.00%
Western Canada .....	3101.50 2.46%	3229.00 4.11%	3319.00 2.79%	3352.19 1.00%	3452.73 3.00%	3521.74 2.00%	3521.68 0.00%	3451.18 -2.00%	3382.08 -2.00%	3280.53 -3.00%
Eastern Canada .....	669.50 1.96%	706.60 5.54%	709.60 0.42%	716.69 1.00%	738.14 2.99%	752.76 1.98%	752.64 -0.02%	737.55 -2.01%	722.77 -2.00%	701.06 -3.00%
Steers (000 head) .....	839.60 -4.11%	881.80 5.03%	858.10 -2.69%	870.97 1.50%	888.41 2.00%	915.10 3.00%	933.45 2.01%	928.82 -0.50%	910.28 -2.00%	883.01 -3.00%
Western Canada .....	501.00 0.40%	553.00 10.38%	541.00 -2.17%	549.11 1.50%	560.12 2.00%	576.97 3.01%	588.55 2.01%	585.64 -0.49%	573.96 -1.99%	556.77 -3.00%
Eastern Canada .....	338.60 -10.09%	328.80 -2.89%	317.10 -3.56%	321.86 1.50%	328.29 2.00%	338.13 3.00%	344.89 2.00%	343.18 -0.50%	336.32 -2.00%	326.24 -3.00%
Heifers (000 head) .....	1007.10 -0.66%	1063.50 5.60%	1056.90 -0.62%	1072.75 1.50%	1094.22 2.00%	1127.06 3.00%	1138.36 1.00%	1126.99 -1.00%	1104.46 -2.00%	1071.34 -3.00%
Western Canada .....	661.50 1.15%	708.00 7.03%	736.00 3.95%	747.04 1.50%	761.99 2.00%	784.87 3.00%	792.74 1.00%	784.83 -1.00%	769.14 -2.00%	746.07 -3.00%
Eastern Canada .....	345.60 -3.95%	355.50 2.86%	320.90 -9.73%	325.71 1.50%	332.22 2.00%	342.19 3.00%	345.61 1.00%	342.16 -1.00%	335.32 -2.00%	325.27 -3.00%
Dairy Cows (000 head) .....	1409.90 -1.31%	1296.70 -8.03%	1261.00 -2.75%	1242.08 -1.50%	1223.45 -1.50%	1205.10 -1.50%	1187.02 -1.50%	1169.22 -1.50%	1151.68 -1.50%	1134.41 -1.50%
Western Canada .....	323.00 -0.62%	278.00 -13.93%	269.00 -3.24%	264.97 -1.50%	260.99 -1.50%	257.08 -1.50%	253.22 -1.50%	249.42 -1.50%	245.68 -1.50%	241.99 -1.50%
Eastern Canada .....	1086.90 -1.51%	1018.70 -6.27%	992.00 -2.62%	977.12 -1.50%	962.46 -1.50%	948.03 -1.50%	933.80 -1.50%	919.80 -1.50%	906.00 -1.50%	892.41 -1.50%
Dairy Heifer (000 head) .....	620.30 -0.96%	601.90 -2.97%	540.60 -10.18%	532.49 -1.50%	524.50 -1.50%	516.64 -1.50%	508.89 -1.50%	501.25 -1.50%	493.73 -1.50%	486.33 -1.50%
Western Canada .....	115.00 0.00%	108.00 -6.09%	100.00 -7.41%	98.50 -1.50%	97.02 -1.50%	95.57 -1.50%	94.13 -1.50%	92.72 -1.50%	91.33 -1.50%	89.96 -1.50%
Eastern Canada .....	505.30 -1.17%	493.90 -2.26%	440.60 -10.79%	433.99 -1.50%	427.48 -1.50%	421.07 -1.50%	414.75 -1.50%	408.53 -1.50%	402.40 -1.50%	396.37 -1.50%

## CATTLE SUPPLY-DISPOSITION (CALENDAR YEAR)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>Slaughter Cattle, Canada</b>										
Marketings (000 head) .....	3406.45	3222.01	3563.77	3678.70	3782.84	3857.28	3927.96	3839.31	3684.86	3583.87
	-3.82%	-5.41%	10.61%	3.23%	2.83%	1.97%	1.83%	-2.26%	-4.02%	-2.74%
Inspected Slaughter (000 head) ....	2716.38	2527.98	2648.55	2702.90	2792.89	2917.75	3010.84	2970.98	2901.59	2800.25
	-7.65%	-6.94%	4.77%	2.05%	3.33%	4.47%	3.19%	-1.32%	-2.34%	-3.49%
Uninspected Slaughter (000 head)	244.40	260.30	214.97	250.00	265.00	232.91	240.62	238.10	232.63	222.79
	-3.44%	6.51%	-17.41%	16.29%	6.00%	-12.11%	3.31%	-1.05%	-2.30%	-4.23%
Net Trade with US (000 head) .....	445.67	433.73	700.24	725.80	724.95	706.62	676.50	630.23	550.64	560.84
	28.43%	-2.68%	61.45%	3.65%	-0.12%	-2.53%	-4.26%	-6.84%	-12.63%	1.85%
Average Carcass Weight (kg/head)	296.14	301.96	305.36	307.00	305.97	304.84	304.39	304.47	306.61	309.50
	1.61%	1.97%	1.13%	0.54%	-0.33%	-0.37%	-0.15%	0.03%	0.70%	0.94%
<b>Slaughter Steers, Canada</b>										
Marketings (000 head) .....	1510.74	1433.08	1637.52	1728.00	1777.58	1836.99	1845.11	1754.22	1705.33	1665.72
	-1.10%	-5.14%	14.27%	5.53%	2.87%	3.34%	0.44%	-4.93%	-2.79%	-2.32%
Inspected Slaughter (000 head) ....	1385.58	1309.98	1389.25	1474.33	1539.87	1577.63	1615.32	1550.10	1505.61	1460.66
	-4.23%	-5.46%	6.05%	6.12%	4.45%	2.45%	2.39%	-4.04%	-2.87%	-2.99%
Net Trade with US (000 head) .....	125.16	123.10	248.27	253.67	237.71	259.36	229.79	204.12	199.71	205.06
	54.98%	-1.65%	101.68%	2.18%	-6.29%	9.11%	-11.40%	-11.17%	-2.16%	2.68%
Average Carcass Weight (kg/head)	314.86	322.60	324.95	326.59	327.34	328.67	328.61	329.59	333.57	339.47
	0.28%	2.46%	0.73%	0.50%	0.23%	0.40%	-0.02%	0.30%	1.21%	1.77%
<b>Slaughter Steers, Western Canada</b>										
Marketings (000 head) .....	1118.67	1073.36	1258.42	1322.00	1360.99	1409.03	1413.11	1340.21	1305.31	1276.70
	-1.48%	-4.05%	17.24%	5.05%	2.95%	3.53%	0.29%	-5.16%	-2.60%	-2.19%
Inspected Slaughter (000 head) ....	960.98	896.17	963.35	1004.97	1062.33	1084.16	1107.81	1068.81	1044.54	1027.59
	-0.99%	-6.74%	7.50%	4.32%	5.71%	2.05%	2.18%	-3.52%	-2.27%	-1.62%
Shipments to East (000 head) .....	28.99	36.21	52.38	59.36	56.77	61.33	71.40	63.30	57.18	40.26
	-45.83%	24.92%	44.64%	13.33%	-4.36%	8.03%	16.42%	-11.35%	-9.67%	-29.59%
Net Trade with US (000 head) .....	128.70	140.98	248.72	257.67	241.89	263.54	233.90	208.11	203.60	208.85
	15.59%	9.54%	76.42%	3.60%	-6.12%	8.95%	-11.25%	-11.02%	-2.17%	2.58%
<b>Slaughter Steers, Eastern Canada</b>										
Marketings (000 head) .....	392.07	359.72	379.10	406.00	416.59	427.96	432.00	414.00	400.01	389.02
	-0.01%	-8.25%	5.39%	7.10%	2.61%	2.73%	0.94%	-4.17%	-3.38%	-2.75%
Inspected Slaughter (000 head) ....	424.60	413.81	425.90	469.36	477.54	493.47	507.50	481.30	461.08	433.07
	-10.83%	-2.54%	2.92%	10.20%	1.74%	3.34%	2.84%	-5.16%	-4.20%	-6.08%
Net Trade with US (000 head) .....	-3.54	-17.88	-0.45	-4.00	-4.18	-4.18	-4.10	-3.99	-3.89	-3.78
	-88.41%	404.54%	-97.46%	781.06%	4.62%	-0.06%	-1.89%	-2.68%	-2.67%	-2.63%
<b>Slaughter Heifers, Canada</b>										
Marketings (000 head) .....	855.89	738.15	873.48	876.00	894.66	920.16	946.35	920.56	878.76	854.94
	-2.02%	-13.76%	18.33%	0.29%	2.13%	2.85%	2.85%	-2.72%	-4.54%	-2.71%
Inspected Slaughter (000 head) ....	741.05	634.91	671.33	668.26	683.44	729.79	753.38	748.03	730.50	715.49
	-5.54%	-14.32%	5.74%	-0.46%	2.27%	6.78%	3.23%	-0.71%	-2.34%	-2.05%
Net Trade with US (000 head) .....	114.84	103.24	202.15	207.74	211.23	190.37	192.96	172.53	148.26	139.45
	29.00%	-10.10%	95.80%	2.77%	1.68%	-9.87%	1.36%	-10.59%	-14.06%	-5.94%

CATTLE SUPPLY-DISPOSITION (CALENDAR YEAR) (cont'd)

Economic Analysis Division

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Average Carcass Weight (kg/head)	278.49 3.75%	284.11 2.02%	292.90 3.09%	292.09 -0.28%	286.91 -1.77%	283.51 -1.18%	282.85 -0.24%	283.75 0.32%	284.12 0.13%	282.50 -0.57%
Slaughter Heifers, Western Canada										
Marketings (000 head) .....	636.55 5.35%	547.80 -13.94%	660.77 20.62%	658.00 -0.42%	672.66 2.23%	691.16 2.75%	709.35 2.63%	685.56 -3.35%	652.75 -4.79%	635.93 -2.58%
Inspected Slaughter (000 head) ....	520.17 2.01%	441.13 -15.19%	458.36 3.91%	447.26 -2.42%	458.47 2.51%	497.84 8.59%	513.43 3.13%	510.06 -0.65%	501.52 -1.68%	493.49 -1.60%
Shipments to East (000 head) .....	1.57	3.95	0.58	0.00	-0.03	-0.04	-0.03	-0.03	-0.02	-0.01
Net Trade with US (000 head) .....	114.81 24.96%	102.72 -10.53%	201.83 96.48%	210.74 4.41%	214.22 1.65%	193.36 -9.74%	195.95 1.34%	175.52 -10.43%	151.26 -13.83%	142.45 -5.82%
Slaughter Heifers, Eastern Canada										
Marketings (000 head) .....	219.34 -18.54%	190.34 -13.22%	212.71 11.75%	218.00 2.49%	222.00 1.84%	229.00 3.15%	237.00 3.49%	235.00 -0.84%	226.01 -3.83%	219.01 -3.10%
Inspected Slaughter (000 head) ....	220.88 -19.56%	193.78 -12.27%	212.97 9.90%	221.00 3.77%	224.97 1.79%	231.96 3.11%	239.96 3.45%	237.97 -0.83%	228.98 -3.78%	221.99 -3.05%
Net Trade with US (000 head) .....	0.03	0.52	0.32	-3.00	-2.99	-2.99	-2.99	-2.99	-2.99	-2.99
Slaughter Cows & Bulls, Canada										
Marketings (000 head) .....	795.43 -10.37%	790.48 -0.62%	837.80 5.99%	824.70 -1.56%	845.61 2.53%	867.22 2.56%	895.87 3.30%	926.43 3.41%	868.14 -6.29%	840.43 -3.19%
Inspected Slaughter (000 head) ....	589.75 -16.96%	583.09 -1.13%	587.97 0.84%	560.30 -4.71%	569.59 1.66%	610.33 7.15%	642.13 5.21%	672.85 4.78%	665.48 -1.10%	624.10 -6.22%
Net Trade with US (000 head) .....	205.68 16.04%	207.39 0.83%	249.83 20.46%	264.40 5.83%	276.02 4.40%	256.89 -6.93%	253.74 -1.23%	253.58 -0.06%	202.67 -20.08%	216.32 6.74%
Average Carcass Weight (kg/head)	274.35 1.23%	275.05 0.25%	273.31 -0.63%	273.24 -0.03%	271.08 -0.79%	268.73 -0.87%	268.72 -0.01%	269.62 0.34%	270.29 0.25%	270.32 0.01%
Slaughter Cows & Bulls, Western Canada										
Marketings (000 head) .....	439.23 -7.28%	428.64 -2.41%	451.83 5.41%	433.70 -4.01%	446.21 2.88%	452.78 1.47%	468.18 3.40%	486.22 3.85%	441.59 -9.18%	428.40 -2.99%
Inspected Slaughter (000 head) ....	294.54 -16.01%	283.25 -3.83%	251.34 -11.27%	236.36 -5.96%	265.43 12.30%	279.44 5.28%	296.92 6.26%	307.86 3.68%	295.76 -3.93%	271.99 -8.04%
Shipments to East (000 head) .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Trade with US (000 head) .....	144.69 17.62%	145.39 0.48%	200.49 37.90%	197.34 -1.57%	180.78 -8.39%	173.34 -4.11%	171.26 -1.20%	178.36 4.15%	145.83 -18.24%	156.40 7.25%
Slaughter Cows & Bulls, Eastern Canada										
Marketings (000 head) .....	356.19 -13.92%	361.85 1.59%	385.97 6.67%	391.00 1.30%	399.40 2.15%	414.44 3.77%	427.69 3.20%	440.21 2.93%	426.55 -3.10%	412.03 -3.40%
Inspected Slaughter (000 head) ....	295.21 -17.89%	299.85 1.57%	336.63 12.27%	323.95 -3.77%	304.16 -6.11%	330.89 8.79%	345.21 4.33%	364.99 5.73%	369.71 1.30%	352.11 -4.76%
Net Trade with US (000 head) .....	60.99 12.46%	62.00 1.67%	49.34 -20.43%	67.05 35.91%	95.24 42.04%	83.55 -12.28%	82.48 -1.28%	75.22 -8.81%	56.84 -24.44%	59.92 5.42%



## BEEF SUMMARY STATISTICS

Economic Analysis Division

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Beef Farm Output (kt) .....	932.25	889.44	1016.94	1045.56	1067.79	1097.69	1114.74	1089.17	1053.17	1034.17
	-2.30%	-4.49%	14.34%	2.93%	2.26%	2.65%	1.59%	-2.31%	-3.46%	-1.72%
Net Exports (kt) .....	52.10	18.89	150.80	166.83	170.59	144.60	139.04	116.24	83.81	66.74
	0.05%	-63.75%	698.44%	10.63%	2.26%	-15.23%	-3.85%	-16.40%	-27.90%	-20.37%
Live .....	131.98	130.97	213.83	222.82	221.82	215.40	205.92	191.88	168.83	173.58
	30.49%	-0.77%	63.26%	4.21%	-0.45%	-2.89%	-4.40%	-6.82%	-12.01%	2.81%
Beef .....	-79.88	-112.08	-63.03	-55.99	-51.22	-70.80	-66.87	-75.65	-85.02	-106.84
	62.80%	40.31%	-43.77%	-11.16%	-8.52%	38.22%	-5.55%	13.12%	12.39%	25.67%

## BEEF SUPPLY-DISPOSITION (CALENDAR YEAR)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total Production (kt) .....	876.16	841.55	873.84	906.62	935.61	960.39	989.65	976.86	961.02	935.51
	-5.76%	-3.95%	3.84%	3.75%	3.20%	2.65%	3.05%	-1.29%	-1.62%	-2.65%
Total Disappearance (kt) .....	959.52	951.32	939.42	961.31	985.83	1023.26	1053.59	1053.48	1047.62	1044.38
	-2.00%	-0.85%	-1.25%	2.33%	2.55%	3.80%	2.96%	-0.01%	-0.56%	-0.31%
Per Capita Disappearance (kt) .....	36.08	35.25	34.30	34.60	35.00	35.86	36.45	36.00	35.34	34.77
	-3.35%	-2.29%	-2.71%	0.88%	1.16%	2.44%	1.66%	-1.24%	-1.83%	-1.63%
Net Exports (kt) .....	-79.88	-112.08	-63.03	-55.99	-51.22	-70.80	-66.87	-75.65	-85.02	-106.84
	62.80%	40.31%	-43.77%	-11.16%	-8.52%	38.22%	-5.55%	13.12%	12.39%	25.67%
To U.S. from West.....	26.99	19.29	58.06	44.00	48.00	48.00	44.00	34.00	28.00	24.00
	-4.36%	-28.53%	200.91%	-24.21%	9.09%	0.00%	-8.33%	-22.73%	-17.65%	-14.28%
To U.S. from East.....	-12.20	-34.91	-18.87	-3.99	-3.22	-22.80	-14.88	-13.65	-17.02	-34.85
	-738.71%	186.12%	-45.94%	-78.85%	-19.25%	607.28%	-34.76%	-8.25%	24.70%	104.75%
To U.S. Total.....	14.79	-15.62	39.18	40.01	44.78	25.20	29.13	20.35	10.98	-10.84
	-50.91%	-205.55%	-350.93%	2.11%	11.92%	-43.72%	15.59%	-30.12%	-46.04%	-198.75%
To ROW .....	-94.68	-96.47	-108.17	-96.00	-96.00	-96.00	-96.00	-96.00	-96.00	-96.00
	19.54%	1.89%	12.13%	-11.25%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Closing Stocks (kt) .....	12.94	15.25	12.70	14.00	15.00	22.93	25.87	24.90	23.31	21.29
	-21.17%	17.82%	-16.71%	10.24%	7.14%	52.90%	12.80%	-3.75%	-6.38%	-8.67%
Retail Price Index of Beef (1986=10)	117.57	118.30	116.80	122.48	123.89	124.51	125.49	127.21	130.77	134.84
	3.90%	0.62%	-1.27%	4.86%	1.15%	0.50%	0.79%	1.37%	2.80%	3.11%

APPENDIX II

Impact Results

Open Border, 61KT Shock

Economic Analysis Division

Cattle and Beef		1993	1994	1995	1996	1997	1998	1999	AVG 93-99
Inventory	Base	6046	6200	6338	6365	6261	6135	5950	6185
	Scenario	6046	6200	6338	6364	6261	6134	5949	6185
	% Change		0.00%	0.00%	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%
Marketings	Base	3676	3801	3869	3934	3841	3684	3581	3769
	Scenario	3673	3795	3862	3927	3834	3677	3574	3763
	% Change		-0.16%	-0.18%	-0.18%	-0.19%	-0.19%	-0.20%	-0.18%
Inspected	Base	2707	2806	2927	3017	2975	2904	2802	2877
	Scenario	2646	2722	2837	2925	2883	2814	2714	2792
	% Change		-3.00%	-3.08%	-3.07%	-3.10%	-3.09%	-3.12%	-3.08%
Uninspected	Base	250	266	234	241	238	233	223	241
	Scenario	247	259	227	234	231	226	216	234
	% Change		-2.41%	-2.99%	-2.94%	-3.01%	-3.04%	-3.12%	-2.92%
Slaughter Cattle Net Trade	Base	719	730	708	675	628	547	556	652
	Scenario	781	814	798	768	720	637	644	737
	% Change		11.58%	12.75%	13.72%	14.68%	16.40%	15.71%	14.14%
Carcass Weight	Base	307	306	305	304	304	307	309	306
	Scenario	308	306	305	305	305	307	310	307
	% Change		0.22%	0.19%	0.15%	0.12%	0.12%	0.16%	0.16%
Total Beef Output (kt) Inspected only	Base	1050.1	1078.4	1106.2	1121.7	1095.0	1058.3	1038.8	1078.3
	Scenario	1049.4	1076.5	1103.6	1118.6	1091.6	1054.9	1035.4	1075.7
	% Change		-0.18%	-0.24%	-0.28%	-0.31%	-0.32%	-0.32%	-0.27%
Total net trade	Base	165.9	171.1	144.5	137.1	113.9	82.9	64.6	125.7
	Scenario	164.6	167.4	140.2	132.5	108.9	78.0	59.9	121.6
	% Change		-2.13%	-2.94%	-3.40%	-4.37%	-5.92%	-7.33%	-4.35%
Net Trade Beef	Base	-53.3	-49.2	-69.7	-66.3	-75.4	-85.1	-107.0	-72.3
	Scenario	-71.1	-74.9	-97.1	-94.7	-104.0	-113.1	-134.2	-98.4
	% Change		52.32%	39.37%	42.77%	37.83%	32.95%	25.36%	38.43%
Net Trade Live	Base	219.1	220.2	214.2	203.5	189.3	167.9	171.7	198.0
	Scenario	235.7	242.3	237.4	227.2	212.9	191.0	194.1	220.1
	% Change		10.03%	10.83%	11.65%	12.45%	13.77%	13.05%	11.96%
Per Capita Disappearance	Base	31.9	32.2	33.4	34.0	33.6	33.0	32.5	32.9
	Scenario	31.9	32.2	33.5	34.0	33.6	33.0	32.5	33.0
	% Change		0.18%	0.17%	0.16%	0.16%	0.16%	0.15%	0.16%
Ontario A1/A2 Steer Price (\$/cwt)	Base	91.16	86.07	85.33	83.61	87.09	90.27	94.75	88.33
	Scenario	91.12	86.03	85.29	83.57	87.06	90.24	94.72	88.29
	% Change		-0.05%	-0.04%	-0.04%	-0.04%	-0.04%	-0.03%	-0.04%
Market Receipts West	Base	2316.23	2247.50	2280.52	2251.54	2265.61	2269.53	2352.74	2283
	Scenario	2291.88	2224.40	2257.29	2227.65	2240.57	2246.20	2329.54	2260
	% Change		-1.05%	-1.03%	-1.02%	-1.06%	-1.10%	-1.03%	-0.99%
Market Receipts East	Base	979.29	954.90	967.08	964.63	985.91	989.35	1011.77	979
	Scenario	954.80	931.64	943.12	939.92	960.20	963.95	986.60	954
	% Change		-2.50%	-2.44%	-2.48%	-2.56%	-2.61%	-2.57%	-2.52%

## Open Border, 61KT Shock

## Economic Analysis Division

High Quality Beef (in kt)		1993	1994	1995	1996	1997	1998	1999	AVG 93-99
Production	Base	525.74	545.77	564.64	578.41	561.73	551.07	541.59	553
	Scenario	525.72	545.74	564.62	578.38	561.71	551.05	541.58	553
	% Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Net Imports from U.S.	Base	-52.11	-45.65	-55.66	-56.95	-73.48	-76.18	-75.48	-62
	Scenario	-51.48	-44.88	-54.91	-56.22	-72.76	-75.46	-74.82	-62
	% Change	-1.21%	-1.69%	-1.35%	-1.29%	-0.98%	-0.95%	-0.87%	-1.19%
Net Imports from ROW	Base	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2
	Scenario	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2
	% Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Disappearance	Base	575.05	588.91	617.05	632.65	632.92	625.02	614.89	612
	Scenario	574.40	588.11	616.27	631.89	632.18	624.28	614.22	612
	% Change	-0.11%	-0.14%	-0.13%	-0.12%	-0.12%	-0.12%	-0.11%	-0.12%
Closing Inventories	Base	1.51	1.62	2.47	2.78	2.68	2.51	2.29	2
	Scenario	1.51	1.62	2.47	2.78	2.68	2.51	2.29	2
	% Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Per Capita Disappearance, kg	Base	20.70	20.91	21.62	21.89	21.63	21.09	20.47	21.2
	Scenario	20.67	20.88	21.59	21.86	21.60	21.06	20.45	21.2
	% Change	-0.11%	-0.14%	-0.13%	-0.12%	-0.12%	-0.12%	-0.11%	-0.12%
Retail Price Index (1986=100)	Base	117.39	119.11	120.22	121.56	124.98	129.55	134.06	123.8
	Scenario	117.37	119.08	120.19	121.53	124.95	129.53	134.04	123.8
	% Change	-0.01%	-0.03%	-0.03%	-0.03%	-0.02%	-0.02%	-0.02%	-0.02%
Low Quality Beef (in kt)		1993	1994	1995	1996	1997	1998	1999	AVG 93-99
Production	Base	305.32	312.34	327.33	339.78	343.80	339.32	325.38	328
	Scenario	288.19	288.41	301.55	313.02	316.84	312.89	299.64	303
	% Change	-5.61%	-7.66%	-7.88%	-7.88%	-7.84%	-7.79%	-7.91%	-7.51%
Net Imports from U.S.	Base	98.10	106.09	95.56	100.24	107.65	100.73	78.04	98
	Scenario	165.05	164.99	152.76	156.55	163.80	157.39	135.64	157
	% Change	68.24%	55.53%	59.87%	56.17%	52.15%	56.25%	73.80%	60.29%
Net Imports from ROW	Base	-101.65	-112.00	-112.00	-112.00	-112.00	-112.00	-112.00	-111
	Scenario	-187.05	-197.40	-197.40	-197.40	-197.40	-197.40	-197.40	-196
	% Change	84.01%	76.25%	76.25%	76.25%	76.25%	76.25%	76.25%	77.36%
Disappearance	Base	309.89	317.36	336.69	348.92	349.02	352.01	361.15	339
	Scenario	311.81	319.77	339.07	351.25	351.33	354.33	363.24	342
	% Change	0.62%	0.76%	0.71%	0.67%	0.66%	0.66%	0.58%	0.66%
Closing Inventories	Base	12.49	13.39	20.48	23.09	22.22	20.80	18.99	19
	Scenario	11.89	12.93	20.05	22.67	21.79	20.36	18.53	18
	% Change	-4.82%	-3.42%	-2.09%	-1.81%	-1.92%	-2.08%	-2.44%	-2.66%
Per Capita Disappearance, kg	Base	11.15	11.27	11.80	12.07	11.93	11.87	12.02	11.7
	Scenario	11.22	11.35	11.88	12.15	12.01	11.95	12.09	11.8
	% Change	0.62%	0.76%	0.71%	0.67%	0.66%	0.66%	0.58%	0.66%
Retail Price Index (1986=100)	Base	126.34	127.43	127.71	128.47	128.94	131.76	135.52	129.5
	Scenario	124.25	124.83	125.18	126.03	126.55	129.33	133.27	127.1
	% Change	-1.65%	-2.04%	-1.98%	-1.91%	-1.86%	-1.85%	-1.66%	-1.85%



Open Border, 61KT Shock

Economic Analysis Division

Slaughter Steers West '000 head		1993	1994	1995	1996	1997	1998	1999	AVG 93-99
Marketings	Base	1325.21	1368.03	1413.47	1415.84	1341.85	1306.31	1277.35	1349.7
	Scenario	1325.20	1368.00	1413.40	1415.73	1341.71	1306.14	1277.16	1349.6
	% Change	0.00%	0.00%	0.00%	-0.01%	-0.01%	-0.01%	-0.02%	-0.01%
Inspected Slaughter	Base	1005.02	1062.43	1084.17	1107.77	1068.72	1044.43	1027.47	1057.1
	Scenario	1005.06	1062.49	1084.23	1107.83	1068.77	1044.47	1027.51	1057.2
	% Change	0.00%	0.01%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%
Net Exports to U.S.	Base	257.72	241.97	263.56	233.87	208.05	203.52	208.76	231.1
	Scenario	257.75	242.02	263.61	233.91	208.09	203.56	208.79	231.1
	% Change	0.01%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
Shipments to East	Base	62.47	63.63	65.74	74.20	65.08	58.37	41.12	62
	Scenario	62.39	63.49	65.56	73.99	64.84	58.11	40.85	61
	% Change	-0.13%	-0.23%	-0.27%	-0.28%	-0.36%	-0.45%	-0.65%	-0.34%
Closing Inventories	Base	555.86	564.71	580.12	590.74	587.22	575.15	557.70	573
	Scenario	555.85	564.68	580.07	590.68	587.15	575.08	557.63	573
	% Change	0.00%	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%
Producer Price A1/A (\$/cwt)	Base	85.31	80.57	79.80	78.01	81.43	84.52	89.03	83
	Scenario	85.27	80.53	79.76	77.97	81.39	84.49	89.00	83
	% Change	-0.04%	-0.05%	-0.05%	-0.05%	-0.04%	-0.04%	-0.03%	-0.04%
Wholesale Carcass Price (\$/cwt)	Base	152.93	146.06	145.42	143.17	149.07	154.53	162.25	150
	Scenario	152.87	145.99	145.35	143.11	149.02	154.48	162.21	150
	% Change	-0.04%	-0.05%	-0.04%	-0.04%	-0.04%	-0.04%	-0.03%	-0.04%

Slaughter Steers East '000 head		1993	1994	1995	1996	1997	1998	1999	AVG 93-99
Marketings	Base	395.92	413.10	424.03	427.69	409.33	394.94	383.56	406.9
	Scenario	395.92	413.09	424.01	427.66	409.29	394.89	383.50	406.9
	% Change	0.00%	0.00%	0.00%	-0.01%	-0.01%	-0.01%	-0.02%	-0.01%
Inspected Slaughter	Base	469.31	477.31	493.28	507.39	481.24	461.06	433.08	474.7
	Scenario	469.27	477.23	493.20	507.31	481.16	460.99	433.01	474.6
	% Change	-0.01%	-0.02%	-0.02%	-0.02%	-0.02%	-0.02%	-0.01%	-0.01%
Net Exports to U.S.	Base	-10.92	-0.59	-3.52	-5.49	-6.83	-7.75	-8.39	-6.2
	Scenario	-10.96	-0.66	-3.63	-5.65	-7.03	-7.99	-8.66	-6.4
	% Change	0.33%	11.72%	3.11%	2.87%	2.96%	3.10%	3.16%	3.89%
Shipments from West	Base	62.47	63.63	65.74	74.20	65.08	58.37	41.12	62
	Scenario	62.39	63.49	65.56	73.99	64.84	58.11	40.85	61
	% Change	-0.13%	-0.23%	-0.27%	-0.28%	-0.36%	-0.45%	-0.65%	-0.34%
Closing Inventories	Base	336.53	342.46	351.87	358.22	356.06	348.77	338.28	347
	Scenario	336.53	342.44	351.84	358.18	356.01	348.72	338.21	347
	% Change	0.00%	0.00%	-0.01%	-0.01%	-0.01%	-0.02%	-0.02%	-0.01%
Producer Price A1/A (\$/cwt)	Base	91.16	86.07	85.33	83.61	87.09	90.27	94.75	88
	Scenario	91.12	86.03	85.29	83.57	87.06	90.24	94.72	88
	% Change	-0.04%	-0.05%	-0.04%	-0.04%	-0.04%	-0.04%	-0.03%	-0.04%
Wholesale Carcass Price (\$/cwt)	Base	157.38	149.68	148.85	146.46	152.29	157.66	165.11	154
	Scenario	157.32	149.61	148.79	146.41	152.23	157.61	165.07	154
	% Change	-0.04%	-0.04%	-0.04%	-0.04%	-0.04%	-0.03%	-0.03%	-0.04%

Open Border, 61KT Shock

Economic Analysis Division

Slaughter Heifers West '000 head		1993	1994	1995	1996	1997	1998	1999	AVG 93-99
Marketings	Base	660.49	679.76	695.49	711.98	687.11	653.57	636.27	675.0
	Scenario	660.50	679.83	695.60	712.11	687.23	653.69	636.40	675.1
	% Change	0.00%	0.01%	0.02%	0.02%	0.02%	0.02%	0.02%	0.01%
Inspected Slaughter	Base	449.64	465.40	502.10	516.06	511.63	502.36	493.87	491.6
	Scenario	449.59	465.40	502.13	516.11	511.69	502.42	493.94	491.6
	% Change	-0.01%	0.00%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
Net Exports to U.S.	Base	210.83	214.34	193.40	195.93	175.45	151.16	142.34	183.3
	Scenario	210.88	214.41	193.47	195.99	175.51	151.22	142.38	183.4
	% Change	0.03%	0.03%	0.03%	0.03%	0.03%	0.04%	0.03%	0.03%
Shipments to East	Base	0.02	0.02	-0.01	0.00	0.02	0.05	0.07	0
	Scenario	0.02	0.03	0.00	0.01	0.04	0.06	0.08	0
	% Change	32.43%	54.68%	-80.99%	-2394.93%	45.40%	23.63%	15.90%	-329.13%
Closing Inventories	Base	751.30	764.57	786.43	793.68	785.42	769.53	746.36	771
	Scenario	751.29	764.55	786.40	793.63	785.36	769.47	746.30	771
	% Change	0.00%	0.00%	0.00%	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%
Producer Price A1/A (\$/cwt)	Base	82.14	77.36	76.59	74.75	78.21	81.35	85.91	79
	Scenario	82.10	77.31	76.55	74.71	78.18	81.32	85.88	79
	% Change	-0.04%	-0.06%	-0.05%	-0.05%	-0.05%	-0.04%	-0.04%	-0.05%

Slaughter Heifers East '000 head		1993	1994	1995	1996	1997	1998	1999	AVG 93-99
Marketings	Base	219.87	228.25	234.82	241.38	238.10	228.14	220.46	230.1
	Scenario	219.87	228.25	234.81	241.37	238.09	228.12	220.44	230.1
	% Change	0.00%	0.00%	0.00%	0.00%	-0.01%	-0.01%	-0.01%	0.00%
Inspected Slaughter	Base	222.88	231.25	237.80	244.38	241.12	231.19	223.53	233.2
	Scenario	222.89	231.26	237.80	244.38	241.12	231.18	223.51	233.2
	% Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-0.01%	0.00%
Net Exports to U.S.	Base	-3.00	-2.99	-2.99	-2.99	-3.00	-3.00	-3.00	-3.0
	Scenario	-2.99	-2.98	-2.99	-2.99	-2.99	-3.00	-3.00	-3.0
	% Change	-0.09%	-0.11%	-0.10%	-0.10%	-0.09%	-0.09%	-0.07%	-0.09%
Shipments from West	Base	0.02	0.02	-0.01	0.00	0.02	0.05	0.07	0
	Scenario	0.02	0.03	0.00	0.01	0.04	0.06	0.08	0
	% Change	32.43%	54.68%	-80.99%	-2394.93%	45.40%	23.63%	15.90%	-329.13%
Closing Inventories	Base	333.71	337.61	345.82	348.07	343.82	336.44	326.02	339
	Scenario	333.71	337.60	345.81	348.06	343.80	336.42	326.00	339
	% Change	0.00%	0.00%	0.00%	0.00%	0.00%	-0.01%	-0.01%	0.00%
Producer Price A1/A (\$/cwt)	Base	88.34	83.17	82.43	80.67	84.21	87.45	91.99	85
	Scenario	88.30	83.14	82.40	80.64	84.18	87.42	91.96	85
	% Change	-0.04%	-0.05%	-0.04%	-0.04%	-0.04%	-0.04%	-0.03%	-0.04%

Open Border, 61KT Shock

Economic Analysis Division

Slaughter Cows and Bulls West '000 head		1993	1994	1995	1996	1997	1998	1999	AVG 93-99
Marketings	Base	433.76	446.65	453.05	468.31	486.17	441.39	428.16	451.1
	Scenario	433.80	446.78	453.16	468.40	486.25	441.46	428.21	451.2
	% Change	0.01%	0.03%	0.03%	0.02%	0.02%	0.02%	0.01%	0.02%
Inspected Slaughter	Base	236.34	265.49	279.40	296.84	307.66	295.46	271.70	279.0
	Scenario	213.52	237.49	250.52	267.47	278.70	267.30	244.19	251.3
	% Change	-9.66%	-10.55%	-10.34%	-9.90%	-9.41%	-9.53%	-10.13%	-9.93%
Net Exports to U.S.	Base	197.42	181.16	173.65	171.46	178.50	145.92	156.45	172.1
	Scenario	220.28	209.29	202.64	200.93	207.55	174.15	184.03	199.8
	% Change	11.58%	15.53%	16.70%	17.19%	16.27%	19.35%	17.62%	16.32%
Shipments to East	Base	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	Scenario	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	% Change	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Closing Inventories	Base	3352.16	3452.57	3521.49	3521.39	3450.90	3381.86	3280.38	3423
	Scenario	3352.14	3452.51	3521.39	3521.27	3450.76	3381.69	3280.19	3423
	% Change	0.00%	0.00%	0.00%	0.00%	0.00%	-0.01%	-0.01%	0.00%
Producer Price D1/D (\$/cwt)	Base	59.83	57.12	55.98	54.57	55.33	56.72	59.05	57
	Scenario	55.52	53.43	52.42	51.09	51.86	53.21	55.47	53
	% Change	-7.21%	-6.47%	-6.36%	-6.38%	-6.27%	-6.19%	-6.07%	-6.42%

Slaughter Cows and Bulls East '000 head		1993	1994	1995	1996	1997	1998	1999	AVG 93-99
Marketings	Base	391.03	399.55	414.31	427.53	440.15	426.51	411.97	415.9
	Scenario	391.05	399.61	414.36	427.57	440.18	426.54	411.99	415.9
	% Change	0.00%	0.01%	0.01%	0.01%	0.01%	0.01%	0.00%	0.01%
Inspected Slaughter	Base	323.89	303.92	330.58	344.95	364.77	369.53	351.96	341.4
	Scenario	285.36	247.66	269.37	281.73	301.62	307.97	292.02	283.7
	% Change	-11.90%	-18.51%	-18.52%	-18.33%	-17.31%	-16.66%	-17.03%	-16.89%
Net Exports to U.S.	Base	67.14	95.63	83.73	82.58	75.37	56.98	60.01	74.5
	Scenario	105.68	151.95	144.99	145.83	138.56	118.57	119.97	132.2
	% Change	57.42%	58.89%	73.16%	76.60%	83.83%	108.11%	99.93%	79.71%
Shipments from West	Base	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	Scenario	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	% Change	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Closing Inventories	Base	716.67	738.07	752.76	752.71	737.63	722.87	701.18	732
	Scenario	716.66	738.04	752.70	752.63	737.54	722.77	701.07	732
	% Change	0.00%	0.00%	-0.01%	-0.01%	-0.01%	-0.01%	-0.02%	-0.01%
Producer Price D1/D (\$/cwt)	Base	63.02	60.20	59.01	57.53	58.32	59.77	62.21	60
	Scenario	58.06	55.86	54.80	53.40	54.20	55.61	57.98	56
	% Change	-7.86%	-7.21%	-7.13%	-7.19%	-7.07%	-6.96%	-6.80%	-7.17%
Wholesale Carcass Price (\$/cwt)	Base	129.02	124.11	120.92	117.62	119.04	121.39	126.90	123
	Scenario	119.88	116.11	113.17	110.00	111.44	113.72	119.11	115
	% Change	-7.08%	-6.45%	-6.41%	-6.48%	-6.38%	-6.32%	-6.14%	-6.47%

Closed Border, 61KT Shock

Economic Analysis Division

Cattle and Beef		1993	1994	1995	1996	1997	1998	1999	AVG 93-99
Inventory	Base	6046	6200	6338	6365	6261	6135	5950	6185
	Scenario	6045	6198	6336	6362	6258	6131	5946	6182
	% Change		-0.03%	-0.04%	-0.05%	-0.06%	-0.06%	-0.07%	-0.05%
Marketings	Base	3676	3801	3869	3934	3841	3684	3581	3769
	Scenario	3673	3792	3857	3922	3829	3671	3568	3759
	% Change		-0.25%	-0.29%	-0.30%	-0.31%	-0.34%	-0.35%	-0.31%
Inspected	Base	2707	2805	2926	3017	2975	2904	2801	2876
	Scenario	2624	2657	2771	2866	2828	2758	2662	2738
	% Change		-5.26%	-5.30%	-5.00%	-4.93%	-5.02%	-4.96%	-5.08%
Uninspected	Base	250	266	234	241	238	233	223	241
	Scenario	246	254	221	229	227	221	211	230
	% Change		-4.29%	-5.40%	-5.03%	-4.96%	-5.10%	-5.13%	-4.99%
Slaughter Cattle Net Trade	Base	719	730	709	676	628	547	556	652
	Scenario	803	880	865	827	774	692	694	791
	% Change		20.48%	22.06%	22.39%	23.32%	26.53%	24.81%	23.26%
Carcass Weight	Base	307	306	305	304	304	307	309	306
	Scenario	308	307	306	305	305	307	310	307
	% Change		0.41%	0.35%	0.27%	0.21%	0.22%	0.27%	0.29%
Total Beef Output (kt) Inspected only	Base	1050.1	1078.3	1106.2	1121.7	1095.0	1058.2	1038.7	1078.3
	Scenario	1049.4	1075.5	1101.7	1116.3	1089.1	1052.4	1032.9	1073.9
	% Change		-0.27%	-0.40%	-0.48%	-0.54%	-0.55%	-0.57%	-0.47%
Total net trade	Base	165.7	170.7	144.3	137.0	113.8	82.8	64.6	125.5
	Scenario	109.9	129.5	103.2	94.1	69.9	38.8	18.5	80.5
	% Change		-24.15%	-28.47%	-31.33%	-38.60%	-53.12%	-71.44%	-41.18%
Net Trade Beef	Base	-53.5	-49.8	-70.1	-66.6	-75.6	-85.2	-107.1	-72.6
	Scenario	-131.8	-130.0	-151.0	-147.8	-156.5	-166.1	-188.2	-153.1
	% Change		160.90%	115.30%	121.81%	106.94%	95.02%	75.69%	112.61%
Net Trade Live	Base	219.2	220.5	214.4	203.6	189.4	168.0	171.7	198.1
	Scenario	241.7	259.4	254.2	241.8	226.4	204.9	206.6	233.6
	% Change		17.66%	18.56%	18.78%	19.52%	21.99%	20.34%	19.47%
Per Capita Disappearance	Base	31.9	32.2	33.4	34.0	33.6	33.0	32.5	32.9
	Scenario	33.7	33.5	34.7	35.3	34.9	34.2	33.8	34.3
	% Change		4.22%	3.86%	3.82%	3.87%	3.90%	4.11%	3.96%
Ontario A1/A2 Steer Price (\$/cwt)	Base	91.16	86.07	85.33	83.61	87.09	90.27	94.75	88.32
	Scenario	90.78	85.81	85.12	83.42	86.89	90.08	94.57	88.09
	% Change		-0.30%	-0.25%	-0.23%	-0.23%	-0.21%	-0.19%	-0.24%
Market Receipts West	Base	2316.13	2247.14	2280.31	2251.41	2265.50	2269.44	2352.66	2283
	Scenario	2273.12	2200.22	2237.17	2208.98	2220.94	2227.08	2311.48	2240
	% Change	-1.86%	-2.09%	-1.89%	-1.88%	-1.97%	-1.87%	-1.75%	-1.90%
Market Receipts East	Base	979.23	954.57	966.86	964.49	985.81	989.27	1011.70	979
	Scenario	941.95	910.69	925.14	923.47	943.22	946.42	970.41	937
	% Change	-3.81%	-4.60%	-4.31%	-4.25%	-4.32%	-4.33%	-4.08%	-4.24%

Closed Border, 61KT Shock

Economic Analysis Division

High Quality Beef (in kt)		1993	1994	1995	1996	1997	1998	1999	AVG 93-99
Production	Base	525.74	545.77	564.64	578.41	561.73	551.07	541.59	553
	Scenario	525.53	545.59	564.50	578.28	561.61	550.94	541.48	553
	% Change	-0.04%	-0.03%	-0.02%	-0.02%	-0.02%	-0.02%	-0.02%	-0.03%
Net Imports from U.S.	Base	-52.08	-45.61	-55.65	-56.95	-73.48	-76.18	-75.47	-62
	Scenario	-44.97	-40.37	-51.13	-52.70	-68.96	-71.71	-71.15	-57
	% Change	-13.65%	-11.50%	-8.12%	-7.46%	-6.15%	-5.87%	-5.72%	-8.35%
Net Imports from ROW	Base	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2
	Scenario	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2
	% Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Disappearance	Base	575.02	588.87	617.04	632.65	632.92	625.02	614.89	612
	Scenario	567.70	583.45	612.38	628.27	628.28	620.42	610.45	607
	% Change	-1.27%	-0.92%	-0.76%	-0.69%	-0.73%	-0.74%	-0.72%	-0.83%
Closing Inventories	Base	1.51	1.62	2.47	2.78	2.68	2.51	2.29	2
	Scenario	1.51	1.62	2.47	2.78	2.68	2.51	2.29	2
	% Change	-0.03%	-0.03%	-0.02%	-0.02%	-0.02%	-0.02%	-0.02%	-0.02%
Per Capita Disappearance, kg	Base	20.70	20.91	21.62	21.89	21.63	21.09	20.47	21.2
	Scenario	20.43	20.72	21.46	21.74	21.47	20.93	20.32	21.0
	% Change	-1.27%	-0.92%	-0.75%	-0.69%	-0.73%	-0.74%	-0.72%	-0.83%
Retail Price Index (1986=100)	Base	117.39	119.11	120.22	121.56	124.98	129.55	134.06	123.8
	Scenario	117.19	118.87	120.02	121.38	124.80	129.38	133.90	123.6
	% Change	-0.17%	-0.20%	-0.17%	-0.15%	-0.14%	-0.14%	-0.12%	-0.15%
Low Quality Beef (in kt)		1993	1994	1995	1996	1997	1998	1999	AVG 93-99
Production	Base	305.29	312.08	327.05	339.59	343.67	339.21	325.30	327
	Scenario	282.37	270.49	282.92	296.11	300.92	296.55	284.61	288
	% Change	-7.51%	-13.33%	-13.50%	-12.80%	-12.44%	-12.58%	-12.51%	-12.09%
Net Imports from U.S.	Base	97.86	105.39	95.11	99.93	107.45	100.61	77.96	98
	Scenario	97.86	105.39	95.11	99.93	107.45	100.61	77.96	98
	% Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Net Imports from ROW	Base	-101.65	-112.00	-112.00	-112.00	-112.00	-112.00	-112.00	-111
	Scenario	-187.05	-197.40	-197.40	-197.40	-197.40	-197.40	-197.40	-196
	% Change	84.01%	76.25%	76.25%	76.25%	76.25%	76.25%	76.25%	77.36%
Disappearance	Base	310.10	317.75	336.88	349.05	349.10	352.03	361.15	339
	Scenario	368.32	361.44	378.39	390.88	391.71	394.74	405.67	384
	% Change	18.77%	13.75%	12.32%	11.99%	12.21%	12.13%	12.33%	13.36%
Closing Inventories	Base	12.50	13.43	20.50	23.11	22.23	20.80	18.99	19
	Scenario	16.76	17.82	24.63	27.33	26.49	25.10	23.48	23
	% Change	34.05%	32.69%	20.18%	18.30%	19.19%	20.66%	23.63%	24.10%
Per Capita Disappearance, kg	Base	11.16	11.28	11.80	12.08	11.93	11.88	12.02	11.7
	Scenario	13.26	12.83	13.26	13.52	13.39	13.32	13.50	13.3
	% Change	18.79%	13.75%	12.32%	11.98%	12.21%	12.13%	12.32%	13.36%
Retail Price Index (1986=100)	Base	126.24	127.29	127.68	128.46	128.94	131.76	135.52	129.4
	Scenario	104.50	110.43	113.21	114.93	114.69	117.37	121.27	113.8
	% Change	-17.22%	-13.24%	-11.33%	-10.53%	-11.05%	-10.92%	-10.52%	-12.12%

Closed Border, 61KT Shock

Economic Analysis Division

Slaughter Steers West '000 head		1993	1994	1995	1996	1997	1998	1999	AVG 93-99
Marketings	Base	1325.21	1368.03	1413.47	1415.84	1341.85	1306.31	1277.34	1349.7
	Scenario	1325.16	1367.73	1412.83	1414.86	1340.60	1304.90	1275.84	1348.8
	% Change	0.00%	-0.02%	-0.05%	-0.07%	-0.09%	-0.11%	-0.12%	-0.07%
Inspected Slaughter	Base	1005.02	1062.43	1084.17	1107.77	1068.72	1044.43	1027.47	1057.1
	Scenario	1005.53	1062.89	1084.53	1108.09	1069.03	1044.73	1027.74	1057.5
	% Change	0.05%	0.04%	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%
Net Exports to U.S.	Base	257.72	241.98	263.56	233.87	208.05	203.52	208.76	231.1
	Scenario	258.10	242.32	263.85	234.13	208.31	203.77	208.98	231.3
	% Change	0.15%	0.14%	0.11%	0.11%	0.12%	0.12%	0.10%	0.12%
Shipments to East	Base	62.46	63.62	65.73	74.20	65.07	58.36	41.11	62
	Scenario	61.53	62.53	64.45	72.64	63.26	56.40	39.12	60
	% Change	-1.49%	-1.72%	-1.95%	-2.10%	-2.78%	-3.35%	-4.84%	-2.61%
Closing Inventories	Base	555.86	564.71	580.12	590.74	587.22	575.15	557.70	573
	Scenario	555.72	564.36	579.56	590.04	586.48	574.43	557.04	573
	% Change	-0.03%	-0.06%	-0.10%	-0.12%	-0.13%	-0.12%	-0.12%	-0.10%
Producer Price A1/A (\$/cwt)	Base	85.31	80.57	79.80	78.01	81.43	84.52	89.03	83
	Scenario	84.90	80.29	79.57	77.80	81.21	84.31	88.83	82
	% Change	-0.48%	-0.35%	-0.28%	-0.26%	-0.26%	-0.24%	-0.22%	-0.30%
Wholesale Carcass Price (\$/cwt)	Base	152.93	146.06	145.42	143.17	149.07	154.53	162.25	150
	Scenario	152.27	145.60	145.05	142.84	148.72	154.19	161.94	150
	% Change	-0.43%	-0.31%	-0.25%	-0.23%	-0.23%	-0.22%	-0.20%	-0.27%

Slaughter Steers East '000 head		1993	1994	1995	1996	1997	1998	1999	AVG 93-99
Marketings	Base	395.92	413.10	424.03	427.69	409.32	394.94	383.56	406.9
	Scenario	395.91	413.02	423.87	427.46	409.03	394.58	383.14	406.7
	% Change	0.00%	-0.02%	-0.04%	-0.05%	-0.07%	-0.09%	-0.11%	-0.05%
Inspected Slaughter	Base	469.31	477.31	493.28	507.39	481.24	461.06	433.07	474.7
	Scenario	468.76	476.68	492.75	506.92	480.80	460.63	432.69	474.2
	% Change	-0.12%	-0.13%	-0.11%	-0.09%	-0.09%	-0.09%	-0.09%	-0.10%
Net Exports to U.S.	Base	-10.92	-0.59	-3.52	-5.50	-6.84	-7.76	-8.40	-6.2
	Scenario	-11.31	-1.14	-4.43	-6.82	-8.50	-9.65	-10.42	-7.5
	% Change	3.56%	92.71%	25.94%	24.09%	24.32%	24.26%	24.04%	31.27%
Shipments from West	Base	62.46	63.62	65.73	74.20	65.07	58.36	41.11	62
	Scenario	61.53	62.53	64.45	72.64	63.26	56.40	39.12	60
	% Change	-1.49%	-1.72%	-1.95%	-2.10%	-2.78%	-3.35%	-4.84%	-2.61%
Closing Inventories	Base	336.53	342.46	351.87	358.22	356.06	348.77	338.27	347
	Scenario	336.47	342.32	351.69	357.99	355.78	348.44	337.88	347
	% Change	-0.02%	-0.04%	-0.05%	-0.06%	-0.08%	-0.10%	-0.12%	-0.07%
Producer Price A1/A (\$/cwt)	Base	91.16	86.07	85.33	83.61	87.09	90.27	94.75	88
	Scenario	90.78	85.81	85.12	83.42	86.89	90.08	94.57	88
	% Change	-0.41%	-0.30%	-0.25%	-0.23%	-0.23%	-0.21%	-0.19%	-0.26%
Wholesale Carcass Price (\$/cwt)	Base	157.38	149.67	148.85	146.46	152.29	157.66	165.11	154
	Scenario	156.74	149.23	148.49	146.14	151.95	157.33	164.81	154
	% Change	-0.41%	-0.30%	-0.24%	-0.22%	-0.22%	-0.21%	-0.19%	-0.26%

Closed Border, 61KT Shock

Economic Analysis Division

Slaughter Heifers West '000 head		1993	1994	1995	1996	1997	1998	1999	AVG 93-99
Marketings	Base	660.49	679.76	695.49	711.99	687.11	653.57	636.27	675.0
	Scenario	660.65	680.57	696.45	712.89	687.88	654.31	637.00	675.7
	% Change	0.02%	0.12%	0.14%	0.13%	0.11%	0.11%	0.11%	0.11%
Inspected Slaughter	Base	449.64	465.40	502.10	516.06	511.63	502.36	493.87	491.6
	Scenario	449.12	465.67	502.60	516.53	511.98	502.69	494.23	491.8
	% Change	-0.12%	0.06%	0.10%	0.09%	0.07%	0.07%	0.07%	0.05%
Net Exports to U.S.	Base	210.83	214.34	193.40	195.93	175.45	151.16	142.34	183.4
	Scenario	211.44	214.80	193.79	196.28	175.81	151.50	142.64	183.8
	% Change	0.29%	0.21%	0.20%	0.18%	0.20%	0.22%	0.21%	0.22%
Shipments to East	Base	0.02	0.02	-0.01	0.00	0.02	0.05	0.07	0
	Scenario	0.09	0.10	0.06	0.07	0.09	0.12	0.13	0
	% Change	393.46%	403.92%	-528.72%	-28387.25%	276.73%	146.10%	101.33%	-3942.06%
Closing Inventories	Base	751.30	764.57	786.43	793.68	785.41	769.53	746.36	771
	Scenario	751.20	764.31	786.01	793.16	784.86	768.99	745.84	771
	% Change	-0.01%	-0.03%	-0.05%	-0.07%	-0.07%	-0.07%	-0.07%	-0.05%
Producer Price A1/A (\$/cwt)	Base	82.13	77.35	76.59	74.75	78.21	81.35	85.91	79
	Scenario	81.73	77.07	76.35	74.54	77.99	81.14	85.71	79
	% Change	-0.50%	-0.37%	-0.30%	-0.28%	-0.28%	-0.26%	-0.23%	-0.32%

Slaughter Heifers East '000 head		1993	1994	1995	1996	1997	1998	1999	AVG 93-99
Marketings	Base	219.87	228.25	234.82	241.38	238.10	228.14	220.46	230.1
	Scenario	219.87	228.22	234.76	241.29	237.99	228.01	220.33	230.1
	% Change	0.00%	-0.01%	-0.03%	-0.04%	-0.05%	-0.05%	-0.06%	-0.03%
Inspected Slaughter	Base	222.88	231.25	237.80	244.38	241.12	231.18	223.53	233.2
	Scenario	222.93	231.29	237.79	244.34	241.06	231.12	223.44	233.1
	% Change	0.02%	0.02%	0.00%	-0.02%	-0.02%	-0.03%	-0.04%	-0.01%
Net Exports to U.S.	Base	-3.00	-2.99	-2.99	-2.99	-3.00	-3.00	-3.00	-3.0
	Scenario	-2.97	-2.97	-2.97	-2.98	-2.98	-2.98	-2.99	-3.0
	% Change	-0.97%	-0.72%	-0.60%	-0.55%	-0.56%	-0.52%	-0.47%	-0.63%
Shipments from West	Base	0.02	0.02	-0.01	0.00	0.02	0.05	0.07	0
	Scenario	0.09	0.10	0.06	0.07	0.09	0.12	0.13	0
	% Change	393.46%	403.92%	-528.72%	-28387.25%	276.73%	146.10%	101.33%	-3942.06%
Closing Inventories	Base	333.71	337.61	345.82	348.07	343.82	336.43	326.02	339
	Scenario	333.68	337.54	345.75	348.00	343.73	336.34	325.92	339
	% Change	-0.01%	-0.02%	-0.02%	-0.02%	-0.02%	-0.03%	-0.03%	-0.02%
Producer Price A1/A (\$/cwt)	Base	88.34	83.17	82.43	80.67	84.21	87.45	91.99	85
	Scenario	87.96	82.91	82.22	80.48	84.01	87.25	91.80	85
	% Change	-0.43%	-0.32%	-0.26%	-0.24%	-0.24%	-0.22%	-0.20%	-0.27%

Closed Border, 61KT Shock

Economic Analysis Division

Slaughter Cows and Bulls West '000 head		1993	1994	1995	1996	1997	1998	1999	AVG 93-99
Marketings	Base	433.76	446.66	453.05	468.31	486.17	441.39	428.16	451.1
	Scenario	434.37	447.77	453.87	468.90	486.62	441.79	428.47	451.7
	% Change	0.14%	0.25%	0.18%	0.13%	0.09%	0.09%	0.07%	0.14%
Inspected Slaughter	Base	236.31	265.15	279.10	296.65	307.52	295.36	271.64	278.8
	Scenario	205.62	215.53	229.73	249.34	261.71	249.63	228.10	234.2
	% Change	-12.99%	-18.72%	-17.69%	-15.95%	-14.90%	-15.48%	-16.03%	-15.96%
Net Exports to U.S.	Base	197.46	181.51	173.95	171.65	178.64	146.03	156.53	172.3
	Scenario	228.75	232.24	224.13	219.56	224.91	192.15	200.37	217.4
	% Change	15.85%	27.95%	28.85%	27.91%	25.90%	31.58%	28.01%	26.58%
Shipments to East	Base	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	Scenario	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	% Change	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Closing Inventories	Base	3352.15	3452.56	3521.48	3521.38	3450.90	3381.85	3280.38	3423
	Scenario	3351.92	3452.01	3520.67	3520.39	3449.75	3380.56	3278.95	3422
	% Change	-0.01%	-0.02%	-0.02%	-0.03%	-0.03%	-0.04%	-0.04%	-0.03%
Producer Price D1/D (\$/cwt)	Base	59.82	57.07	55.95	54.56	55.32	56.71	59.04	57
	Scenario	53.59	50.20	49.97	49.00	49.78	50.98	53.39	51
	% Change	-10.41%	-12.04%	-10.68%	-10.18%	-10.02%	-10.11%	-9.59%	-10.43%

Slaughter Cows and Bulls East '000 head		1993	1994	1995	1996	1997	1998	1999	AVG 93-99
Marketings	Base	391.03	399.56	414.31	427.53	440.15	426.51	411.97	415.9
	Scenario	391.31	400.06	414.66	427.79	440.34	426.66	412.07	416.1
	% Change	0.07%	0.13%	0.09%	0.06%	0.04%	0.03%	0.02%	0.06%
Inspected Slaughter	Base	323.84	303.31	329.93	344.50	364.47	369.30	351.78	341.0
	Scenario	272.23	205.22	223.87	240.63	263.50	269.17	256.20	247.3
	% Change	-15.93%	-32.34%	-32.15%	-30.15%	-27.70%	-27.11%	-27.17%	-27.51%
Net Exports to U.S.	Base	67.19	96.24	84.38	83.02	75.66	57.19	60.17	74.8
	Scenario	119.08	194.84	190.79	187.15	176.84	157.48	155.87	168.9
	% Change	77.22%	102.45%	126.11%	125.43%	133.73%	175.38%	159.03%	128.48%
Shipments from West	Base	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	Scenario	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	% Change	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Closing Inventories	Base	716.67	738.07	752.76	752.70	737.62	722.87	701.18	732
	Scenario	716.51	737.72	752.27	752.11	736.94	722.11	700.38	731
	% Change	-0.02%	-0.05%	-0.07%	-0.08%	-0.09%	-0.10%	-0.11%	-0.08%
Producer Price D1/D (\$/cwt)	Base	63.01	60.14	58.97	57.51	58.31	59.76	62.20	60
	Scenario	55.87	52.10	51.90	50.91	51.73	52.97	55.52	53
	% Change	-11.33%	-13.37%	-11.99%	-11.47%	-11.29%	-11.35%	-10.74%	-11.65%
Wholesale Carcass Price (\$/cwt)	Base	129.00	124.00	120.85	117.58	119.02	121.37	126.89	123
	Scenario	115.84	109.17	107.82	105.42	106.88	108.86	114.57	110
	% Change	-10.20%	-11.96%	-10.79%	-10.34%	-10.20%	-10.31%	-9.71%	-10.50%



## APPENDIX III

### The Cattle Component of the FARM Model<sup>7</sup>

The cattle and beef component of the FARM model is disaggregated on a regional basis (western and eastern Canada), and on the basis of primary input (cattle) and final product (beef).

On the cattle side, four live animal markets (steers, heifers, cows and bulls, and calves), east and west, are modelled. Three directional trade flows are identified for each live animal category. Trade in live animals can occur between western Canada and the U.S., eastern Canada and the U.S., and from western Canada to Eastern Canada.

The same regional trade options exist for two qualities of beef (high and low quality), in addition to the option of trading with the rest of the world.

The model also explains price differences between regions and between each level of the marketing chain, from the farm gate to the final consumer.

Finally, there are full specifications for the slaughter, feeder cattle and cow-calf National Tripartite Stabilization Programs (NTSP).

The cattle and beef component, like the hog component, is built on the premise that the Canadian cattle and beef sector is a small and open sector with domestic prices being primarily determined in the North American market. Trade flows with the U.S. in live animals and beef are largely unimpeded, with modest mutual tariffs which, as part of the North American Free Trade Act, are scheduled to be phased out by 1993.

Domestic live animal prices are linked to key U.S. market prices: Omaha Choice steers, U.S. commercial cow price, and the U.S. feeder steer price. On the beef side, domestic wholesale steer carcasses are determined by packing plant wage rates, and domestic steer prices, which are in turn largely determined by U.S. steer prices. The domestic wholesale cow carcass price in the east is linked directly to the U.S. utility cow price, and to packing plant wages.

Steer and heifer herd size is determined primarily from previous inventory levels, the number of calves becoming cattle, interregional shipments of feeder cattle, and current period marketings. Cow and breeding heifer herd size is determined by input and output price, as well as NTSP stabilization payments.

---

<sup>7</sup>The following is adapted from the documents: "FARM, Food and Agriculture Regional Model", Forecasting and Econometrics Unit, Draft May 1989, and "The Beef and Cattle Model: Submission to the CITT", Forecasting and Econometrics Unit, Draft May 1991.

Whereas steer marketings depend only on opening herd size, heifer and cow marketings also take into consideration the relative profitability of selling feeder cattle over the last year. The higher the feeder calf price and cow-calf NTSP payments are, the more heifers that are retained for breeding purposes, and the less cows that are culled.

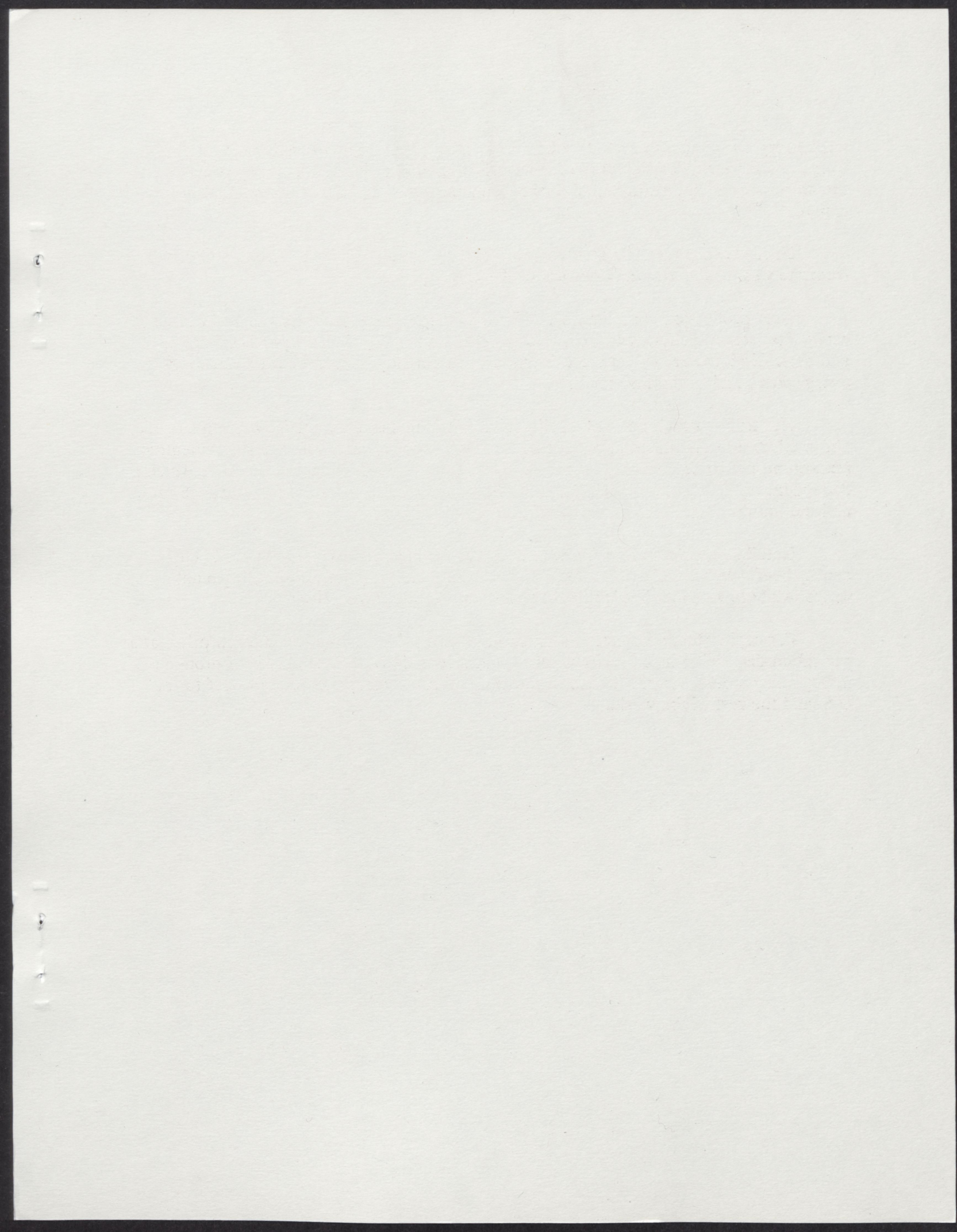
Feeder calf prices and feed costs affect the shipment of feeder cattle and calves from the west to the east, and exports to the U.S.

Beef production is an identity, defined as the average slaughter weight in three categories (steers, heifers, and bulls and cows) multiplied by their respective slaughter numbers. Ending beef stocks are a function of seasonality factors, beef production, energy costs, and beginning stocks.

Net trade of high and low quality meat between eastern Canada, western Canada, and the U.S. are calculated as a residual to satisfy regional meat balance sheet identities (exception: net trade of high quality beef between western Canada and the U.S., which is dependant on the relative Canadian-U.S. steer carcass price, adjusted for exchange rate and the mutual Canada-U.S. beef tariff):

Retail beef prices are a function of prices for high and low quality beef. High quality beef prices closely follow the domestic steer carcass price and packing plant wages, while low quality beef follows the domestic cow carcass price.

Per capita disappearance is a function of own price, pork price, chicken price, and per capita disposable income. Total disappearance is derived by adding beef production to beginning stocks, subtracting closing stocks, and subtracting net trade of beef to the U.S. and the rest of the world.



9  
P



Handwritten text in red ink, possibly a signature or date, located in the lower-left quadrant of the page.

Handwritten text in purple ink, possibly a signature or date, located in the lower-left quadrant of the page, below the red text.

