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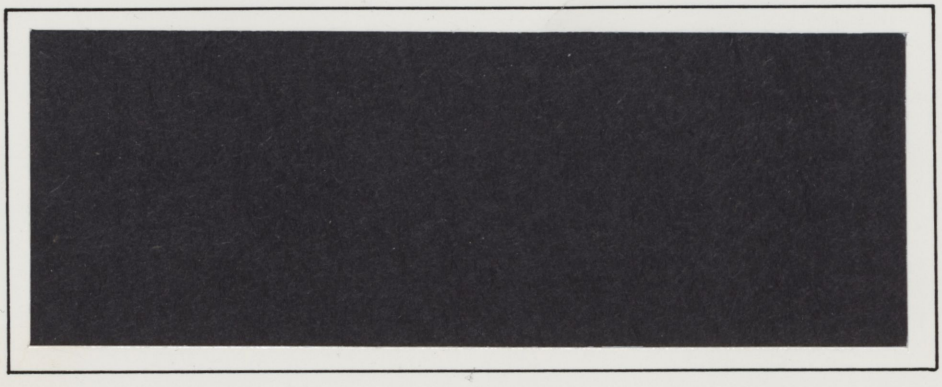

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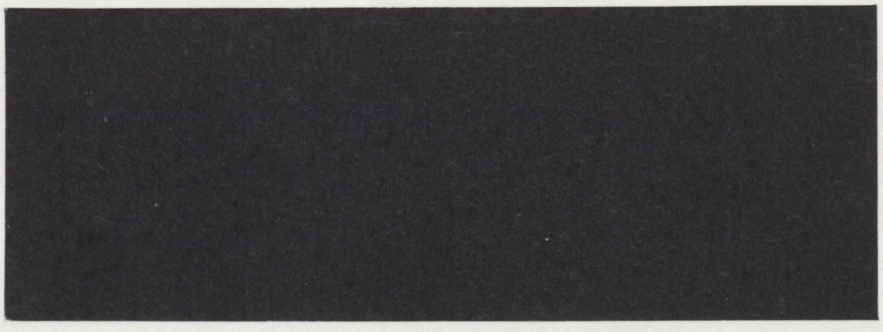

A REGIONAL ANALYSIS OF DIRECT GOVERNMENT ASSISTANCE PROGRAMS IN CANADA AND THEIR IMPACTS ON THE BEEF AND HOGS SECTORS

(Working Paper 6/88)

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September 1988

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FOREWORD

The impact government support programs have on production decisions, resource use and trade is currently one of the most important questions facing policy makers. It is important in both the domestic arena in terms of reshaping and harmonizing domestic support programs. It is also important in the international arena as nations attempt to deal with the trade distorting effects of these domestic support programs. Central to both the domestic and international debate is the extent to which distortionary impact varies between policy instruments used to support producer incomes and the magnitude of distortion arising from individual policies. This information is required to assess whether programs can be considered decoupled or production distorting.

This Working Paper reports on research findings that are part of a much larger research effort being undertaken by Agriculture Canada to address these issues. International discussions are now underway that could lead to significant changes in the future orientation of support policies. Research, as reported here, may prove useful in providing negotiators with quantitative estimates of the impact current support programs may have on trade. Given Canada's federated political structure with shared jurisdiction in agriculture the provincial level impacts provided are also important information for policy makers.

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EXECUTIVE SUMMARY

Within Canada one finds a large number of federal and provincial programs that either directly or indirectly affect the incomes of producers. Wide differences in the levels of support also exist between provinces. Sector earnings in each of the provinces and trading patterns are affected by these differing levels of support.

This study has two broad objectives, namely:

1. To select an appropriate method to incorporate product price and factor cost relationships into the beef and hog components of the Canadian Regional Agricultural Model (CRAM).

2. To evaluate the impact of selected agricultural policies or programs on regional production patterns and supply responses for the beef and hog sectors in the short and longer term. More specifically, to examine reduction, equalization or elimination of federal and provincial government payments within and between provinces and to measure the impact of these changes in government payments on regional and national beef and pork production patterns, on trade flows and on regional and national gross farm incomes.

It is difficult to incorporate product price and factor cost relationships into livestock retention functions of CRAM without making unrealistic assumptions. The method adopted in this study allows cow and sow numbers to adjust based on retention function elasticities estimated by econometric methods.

Martin and van Duren (1987) have provided estimates of direct financial transfers (DFTs) made by provincial and federal governments to beef and hog producers by province over the period 1981/82 to 1985/86. It is possible to estimate the impact of selected policy changes in which DFT payments are reduced or eliminated using CRAM. Five alternatives are examined in this

study:

1. **The Base Case:** Farm returns to producers include DFT payments in both the input and output markets by both federal and provincial governments with 1985/86 representing the base year.

2. **Equal Output Program Payments:** Provincial output programs are eliminated and federal output program benefits are equalized across all provinces. Input program benefits remain and therefore total net benefits vary by province.

3. **Tripartite Scenario with No Provincial Government Transfers:** All DFTs on input programs are eliminated, provincial government output payments are also eliminated and therefore federal government output payments are made only in situations where market prices fall under the tripartite agreement levels. Expected output payments over the period 1986 to 1990 are averaged in this scenario.

4. **Market Price Scenario:** All DFTs are eliminated.

5. **Anticipated Payment Levels for 1988:** Using expected market prices and expected levels of net payouts for current federal and provincial programs an estimate of DFTs for 1988 is provided. Input programs are left at their 1981/82 to 1985/86 average.

Table 1 presents a summary of assumed DFT payments to cow-calf and hog producers under each of the scenarios examined. Payments under scenario #1 (the base case) correspond to existing levels as estimated by Martin and Van Duren (1987).

The base year for this analysis is 1986 and opening stock numbers of cows and replacements and sows are noted in Table 2. There are about 3.4 million cows and replacement animals in the national beef herd and 1.1 million sows. Alberta's share of the beef breeding herd is 36.9%, Saskatchewan has 25.3% and Manitoba and Ontario fall relatively further down with each having approximately 11.5% of the total. DFTs to the beef sector in this base

Table 1: Summary of Direct Financial Transfers to the Cow-Calf and Hog Sector for Various Options Examined (per $100 Cash Receipts)

	1 PRESENT PAYMENTS	2 WEIGHTED AV. FEDERAL PAYMENTS	3 TRIPARTITE SCENARIO	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS
COW-CALF					
B.C.	11.96	3.35	-1.30	0	11.50
Alberta	7.66	4.76	-1.30	0	3.73
Sask.	10.13	7.75	-1.30	0	1.78
Manitoba	4.25	1.59	-1.30	0	-0.41
Ontario	5.35	2.40	-1.30	0	1.37
Quebec	45.20	16.36	-1.30	0	38.20
Maritimes	9.70	9.56	-1.30	0	8.53
HOG					
B.C.	8.31	4.68	1.99	0	10.06
Alberta	9.52	5.69	1.99	0	10.00
Sask.	13.81	7.33	1.99	0	12.16
Manitoba	5.39	3.44	1.99	0	7.75
Ontario	4.67	3.92	1.99	0	8.23
Quebec	9.48	5.19	1.99	0	14.34
Maritimes	16.98	9.62	1.99	0	18.41

Source: Martin and Van Duren (1987)

Table 2: The Base Case — A Review of the Relative Sizes of the Beef and Hog Sectors by Province and Associated Direct Financial Transfers over 1981/82 to 1985/86 period

	BEEF SECTOR				HOG SECTOR			
	Cows & Replacements		DFTs		Sows		DFTs	
	#	% of Total	Payment Level	% of Total	#	% of Total	Payment Level	% of Total
	(000'head)		(m.$)		(000'sows)		(m.$)	
B.C.	217	6.3	17.9	7.3	26	2.4	3.9	2.6
Alberta	1268	36.9	74.1	30.4	145	13.3	24.8	16.3
Sask.	871	25.3	46.2	19.0	68	6.3	13.8	9.1
Manitoba	380	11.1	18.5	7.6	113	10.4	12.2	8.0
Ontario	418	12.1	23.6	9.7	370	34.1	29.3	19.3
Quebec	212	6.1	58.0	23.8	320	29.5	54.9	36.2
Maritimes	71	2.1	5.2	2.1	44	4.1	12.9	8.5
Canada	3437	100%	243.5	100%	1086	100%	151.8	100%

situation are estimated to be $243.5 million. This estimate is based upon payment levels as indicated in Table 1 and represents both cow-calf and finishing sector payments. Producers in the Prairie provinces and Ontario receive payments generally less than the relative size of their cow herds while Quebec with 6.1% of the national cow herd receives 23.8% of total DFTs to the beef sector.

Ontario and Quebec are the largest hog producing provinces with about 34% and 29% of national sow numbers respectively. Alberta has 13.3% of the nation's sows, Manitoba 10.4% and the remainder is spread as shown in Table 2. Total payments to hog producers amount to $152 million. Quebec receives 36.2% of all payments. Ontario producers with 34% of the sows receive payments equal to 19% of the total. Quebec producers on the other hand with 29% of the sows receive payments amounting to 36% of the total.

Changes between the base situation and each of the scenarios are summarized in terms of fairly aggregated measures in this study. These are:

- Government payments by scenario to the beef, (cow-calf, finishing) and hog sectors by province.
- Opening stock levels for the cows and sows. As noted earlier, a change in the level of DFTs is through the retention function and the net impact is represented by a changed herd size. Production is a function of herd size.
- High and low quality beef production and pork production levels by province.
- Feed grain usage by sector and province.
- Net levels of trade (both interprovincial and export) by livestock category and commodity category.

- Earnings for the beef and hog sectors by province under each of the scenarios.

Sector earnings for each of the beef and hog sectors for each scenario are presented in Tables 3 and 4. Sector earnings are calculated as total revenue less total variable costs of production. The total value of each provincial sector's output is adjusted for changes in the value of inventories and the value of live animals shipped out of the province. Direct financial transfers received by the sector are also treated as income. Total variable costs are a summation of cash production costs, feed costs, and the value of shipments into the province including transportation costs which are assigned to the importing province. Transfers of animals from the dairy to the beef sector are also accounted for.

In the base case beef sector earnings as shown in Table 3 amount to $1.3 billion. Direct financial transfers amount to $243 million and therefore net sector earnings in the absence of DFTs amount to $1.08 billion. At the national level sector earnings fall by 2% for scenario #2 and by 12% for scenarios #3 and #4. Direct financial transfers in the base case amount to approximately 18% of total sector earnings. Under scenario #2 DFTs are approximately half that of the base case, they are approximately 100% less in scenarios #3 and 4 and about 12% less in scenario #5. The fall in sector earnings in scenarios #3 and 4 of 12% is also attributable to a 2% decline in the cow herd's size.

Interprovincial changes are best examined by comparing the

Table 3: Beef Sector Earnings by Province Under Different Payment Schemes (million dollars)

PROVINCE	1 BASE CASE (1981-86)	2 AVG. FED PAYMENT (1981-86)	3 AVG. TRIPARTITE PAYMENT (1986-90)	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS (1988)
B.C.	53.2	44.8 (-16)	39.6 (-26)	39.5 (-26)	86.8 (63)
Alberta	535.3	556.5 (4)	507.4 (-5)	508.7 (-5)	615.4 (15)
Sask.	210.7	225.5 (7)	167.3 (-21)	168.7 (-20)	250.0 (19)
Manitoba	139.7	106.8 (-24)	125.5 (-10)	123.1 (-12)	148.2 (6)
Ontario	247.5	265.2 (7)	255.4 (3)	257.4 (4)	320.5 (30)
Quebec	114.4	77.9 (-32)	50.6 (-56)	50.6 (-56)	132.3 (16)
Maritimes	27.6	31.0 (12)	26.0 (-6)	26.0 (-6)	32.9 (19)
Canada	1328.4	1307.7 (-2)	1171.8 (-12)	1174.0 (-12)	1586.1 (19)

base situation to that of scenario #4 where no DFTs are made. In B.C. earnings are down by 26%, in Alberta by 5%, 20% down in Saskatchewan and down 12% in Manitoba, up 4% in Ontario, 56% down in Quebec and 6% down in the Maritimes. These changes correspond approximately to the reduction in DFTs in terms of absolute amounts. In scenario #5, where provincial programs play a more dominant role, changes in sector earnings differ quite substantially. In B.C. earnings are up 63% while in Quebec they are up 16%. The overall change is an increase in earnings of approximately 19% over the base.

Table 4 summarizes results for the hog sector. Earnings in the base case are $1.8 billion, these drop to $1.7 billion in scenario #2, to about $1.6 billion in scenarios #3 and 4 and to $1.8 billion in the forecasted situation for 1988. These changes represent declines of -5%, -11%, -14% and -1% respectively. The decline in earnings is more than the decline in DFTs and therefore the results differ from those for the beef sector in this respect. The differences may be explained by differences in the retention function elasticities assumed for the beef and hog sectors.

It is noted that changes in interprovincial beef and hog sector earnings do differ under each of the scenarios. The decline in hog sector earnings for scenario #4 is 9% for Ontario and 15% for Saskatchewan, 19% for Quebec and 30% for the Maritimes. Substantial differences are noted in scenario #5 where DFTs vary by province and earnings' changes vary from -27% for Manitoba to +28% for Quebec. The elasticity of own price with respect to sow

Table 4: Hog Sector Earnings by Province Under Different Payment Schemes (million dollars)

PROVINCE	1 BASE CASE (1981-86)	2 AVG. FED PAYMENT (1981-86)	3 AVG. TRIPARTITE PAYMENT (1986-90)	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS (1988)
B.C.	46.3	44.4 (-4)	42.4 (-8)	41.7 (-10)	45.9 (-.9)
Alberta	274.9	263.0 (-4)	249.9 (-9)	245.5 (-11)	266.9 (-3)
Sask.	102.1	95.0 (-7)	88.3 (-14)	86.8 (-15)	98.9 (-3)
Manitoba	250.2	240.1 (-4)	231.2 (-8)	222.4 (-11)	183.1 (-27)
Ontario	489.0	480.7 (-2)	458.1 (-6)	443.2 (-9)	412.8 (-16)
Quebec	555.6	506.5 (-2)	467.4 (-16)	449.1 (-19)	709.6 (28)
Maritimes	85.7	75.9 (-12)	62.6 (-27)	60.2 (-30)	61.0 (-29)
Canada	1803.8	1705.6 (-5)	1599.9 (-11)	1548.9 (-14)	1778.2 (-1)

numbers was fairly high for Manitoba and therefore when DFTs are forecast to decline 10% an adjustment in sector earnings of 27% is noted.

There are significant changes in earnings by province for each of the beef and hog sectors as one moves from the base situation where DFTs are set at their historical level to situations

where DFT payments between provinces are equalized or gradually eliminated. Changes in the size of the breeding herd in the case of the beef sector or in the number of sows farrowing in the case of the hog sector are less dramatic than the changes in net sector earnings. Under a tripartite scenario it is shown that sector earnings to beef producers are down by 26% for B.C. producers, down 56% for Quebec, down 21% for Saskatchewan and 10% for Manitoba and up 4% for Ontario producers. Ontario, currently with the lowest level of DFT payments to the beef sector, is obviously better positioned to face open market conditions. In the hog sector, earnings under tripartite are down by 16% for Quebec, 14% for Saskatchewan, 9% for Alberta, 8% for B.C. and 6% for Ontario. Hog producers in Quebec and Saskatchewan are therefore affected most by a move towards lower support levels or free market prices and Ontario producers are affected the least.

CHAPTER 1

INTRODUCTION

Canada has played and is playing a major role in some of the talks and background studies that have committed governments in various countries to examining means of reducing the level of assistance to their farm sectors. In doing so and by reshaping domestic policies it is hoped that the international trading environment will be improved. Canada, as a major trading nation, expects to benefit from these efforts.

If countries around the world are to reform their policies it is essential that proposed changes both national and international be examined for their impacts. Policy changes must be examined in terms of changes that are expected in national production levels, consumption, trade, farm incomes, asset values and more broadly in terms of their impacts on international markets.

Martin and van Duren (1987)[1] have recently released their report which provides an estimate of direct financial transfer (DFTs) payments made by both federal and provincial to producers in the red meats sector. DFT payments made vary rather dramatically by province. For example, it is estimated that over the 1981/82 to 85/86 period beef producers in Quebec received approximately $510 per head on average while those in Ontario received $34 per

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[1] These estimates of DFTs have been revised since the completion of this study.

head. Manitoba hog producers receive $18.50 per market hog while those in Quebec and Ontario receive approximately $7.00.

This study examines changes that can be expected on a province-by-province basis as both federal and provincial program adjustments are made. Under the alternatives examined adjustments are made in DFT payments to producers in the different provinces and regional responses are examined. The Canadian Regional Agricultural Model (CRAM) is used as a tool for this analysis. The different scenarios examined represent a move by both the provincial and federal governments towards a situation where regional disparities in DFTs are reduced or eliminated. Hence, an attempt is being made to examine changes in the beef and hog sectors that may be expected as governments reshape their national agricultural policies and thereby abide by some of the commitments the Canadian government has made at an international level.

1.1 Background

The Canadian agricultural industry relies upon trade in order to maintain its viability. In the grain and oilseeds sectors over 70 percent of the nation's production is exported and as much as 40 to 50 percent of total farm cash receipts are derived from the export market. During recent years approximately 20 to 25% of our national pork production has been exported and the beef industry relies upon the U.S. market with which it trades.

In the last decade conflicts amongst trading nations have increased and, as noted by Warley (1987), GATT rules and procedures

have been unable to prevent increasing protectionism amongst trading nations or the widening national use of trade distorting subsidies. Protectionist policies and various import barriers to trade which protect domestic producers from competition include a wide variety of measures: licencing, quotas, tariffs, variable import levies, voluntary restraint agreements, countervailing duties and a variety of other instruments. Trade distorting measures include export subsidies, trade credit arrangements, subsidized shipping and transport rates, and other forms of assistance.

Recognizing these many problems and with a view towards attempting to reform agricultural policies under GATT there has been a series of meetings involving heads of governments, ministerial councils and various trade and agricultural committees. In particular the Organization for Economic Cooperation and Development (OECD) Committee on Trade in Agriculture recommended that there be "an attempt to achieve greater liberalization of trade in agriculture and bring all measures affecting import access and export competition under strengthened and more operationally effective GATT rules and disciplines".

Paralleling these developments and based upon studies undertaken by the OECD there is agreement by governments belonging to this organization that there be an attempt to reform the trade picture by reforming domestic agricultural policies. In particular, as noted by Warley (1987), Ministers have committed their governments to reform based upon the following principles:

- Agricultural policies should be examined and provide lower levels of support

- Guaranteed prices should be reduced for commodities in excess supply or output should be restricted.

- Market signals and mechanisms should be allowed to rule even when supply is controlled by administrative decisions.

- Assistance programs should support farmers' incomes directly rather than indirectly through support of commodity prices and farm production activities.

Following these developments at the international level, discussion in Canada has focused on decoupling options and an examination of various programs is underway to determine whether such programs, particularly provincial programs, cause injury or prejudice to provincial trading partners. Under this GATT-like procedure, "prejudice" is described as the impact a trading partner's program has on a producer's position in a neighbouring province or trading area. Their position can be affected through a decline in output in that region, through lost sales, a decline in market share, reduced profits, reduced return on investments, reduced capacity utilization or any other economic measure that is adversely affected by a trading partner's programs.

There are a large number of federal and provincial programs currently in place that may or may not affect the trading positions of the provinces in Canada. There are programs which encourage production through subsidies, there are subsidies to compensate producers for low market returns, subsidies which reduce farm input costs, payments to stabilize incomes, crop insurance programs and so forth. Statistics Canada (Cat. #21-603) reports that in 1986

direct payments to producers amounted to $834 million under the Western Grain Stabilization Act, provincial stabilization programs paid out $221 million, $11 million was paid under the Agricultural Stabilization Act, crop insurance programs accounted for $298 million, the dairy program payed out $276 million, rebates on inputs accounted for $510 million, a further $366 was received under miscellaneous type programs and the grand total amounted to $2.5 billion. Cluff et al (1987) have estimated that the red meats sector received approximately $396 million in the federal and provincial agricultural stabilization support programs. Martin and van Duren (1987) have shown that in Manitoba hog producers have received $18.50 per market hog per year in the form of direct financial transfers over a five year period while in Ontario this payment has been only $6.62. In the beef sector producers in Quebec have received $510 per head while those in Ontario have received $34 per head.

It is clear that payments of the nature noted above will impact upon trading positions to varying degrees depending upon the program and the manner in which it operates. This study examines payments made to producers through both federal and provincial programs in the beef and hog sectors and attempts to measure some of the impacts of these payments on the economy of the province concerned and upon the economy of its trading partners.

1.2 Objectives of the Study

This study has two broad objectives, namely:

1. To select an appropriate method to incorporate product price and factor cost relationships into the beef and hog components of the Canadian Regional Agricultural Model (CRAM).

2. To evaluate the impact of selected agricultural policies or programs on regional production patterns and supply responses for the beef and hog sectors in the short and longer term. More specifically to examine reduction, equalization or elimination of federal and provincial government payments within and between provinces and to measure the impact of these changes in government payments on regional and national beef and pork production patterns, on trade flows and on regional and national gross farm incomes.

In order to accomplish these major objectives, several sub-objectives are noted.

1. Initially, to review the literature and develop an appropriate methodological framework that would allow price and factor price responses to be incorporated into CRAM for both the beef and hog components. The specification needed to be consistent with the recursive linear programming model specification of CRAM and also remain consistent with the MPSX algorithm. Integer programming, separable programming and quadratic programming solution procedures were examined as they relate to the problem whereby the retention function of closing livestock numbers may be upward sloping with respect to price. The approach needed to be consistent with asset investment and disinvestment theory and needed to allow for dynamic adjustments one observes in the size of the herd at an aggregate level as this adjusts to changes in product prices and input costs.

2. Review the status and structure of CRAM and revise as appropriate in order to be able to incorporate the adjustments both for beef and hogs. Specific changes incorporated in this study are as follows:

- A more detailed hog block.
- Beef retention functions for 5 animal classes.
- Hog retention functions for sows.
- Domestic demand functions for all commodities in CRAM.
- Government payment activities and constraints specified.
- Revised livestock diets with the ability to select a specific diet.
- A revised objective function which maximizes consumer plus producer surplus.

3. To demonstrate the usefulness of the revised CRAM model through an examination of policies aimed at reducing, equalizing or eliminating federal and provincial government payments within and between provinces. Government payments to red meat producers are adjusted by scenario and changes are measured. Estimates of the level of payments as provided by Martin and van Duren (1987) are used. The different scenarios reported on are listed as:

The Base Case: Farm returns to producers include DFT payments in both the input and output markets by both federal and provincial governments with 1985/86 representing the base year. The payments are set at their 1981/82 to 1985/86 average.

Equal Output Program Payments: Provincial output programs are eliminated and federal output program benefits are equalized across all provinces. Input program benefits remain and therefore total net benefits vary by province.

Tripartite Scenario with No Provincial Government Transfers: All DFTs on input programs are eliminated, provincial government output payments are also eliminated and therefore federal government output payments are made only in situations where market prices fall under the tripartite

agreement levels. Expected output payments over the period 1986 to 1990 are averaged in this scenario.

Market Price Scenario: All DFTs are eliminated.

Anticipated Payment Levels for 1988: Using expected market prices and expected levels of net payouts for current federal and provincial stabilization programs, an estimate of DFTs for 1988 is provided. Input programs are left at their 1981/82 to 1985/86 average.

4. Finally, an evaluation of the feasibility of converting the entire CRAM model together with associated software components over to a more generalized standardized modelling language such as GAMS (Generalized Algebraic Modelling System; Meeraus, 1987) was undertaken. The GAMS system was installed, and tested vis-a-vis the needs of the CRAM model system.

There appears to be many advantages to converting over to GAMS particularly since the structure of CRAM and the data files associated within are becoming more and more complex. In addition, one is now faced with the problem of further developments of the model occuring independently at several different locations. Consequently, it is essential that documentation of changes be consistent and understood by other users. There are obviously fairly high resource costs involved in this conversion process but for the longer-run viability of the model it is recommended that a more detailed examination of this option be undertaken.

1.3 Scope

This report provides estimates of the impacts of direct financial transfers (DFTs) by governments to the beef and hog sectors on regional production patterns, supply responses, trade flows and on provincial and national sector level earnings. In section 2 of this report, asset investment and disinvestment rules are reviewed as these relate to cow-calf ranchers and hog producers. In order to incorporate these rules into CRAM a retention function is specified with herd sizes being a function of changes in expected revenues, changes in expected costs and other appropriate variables. Section 3 of this report reviews DFT estimates as provided by Martin and van Duren (1987) for the beef and hog sectors and specifies five alternative scenarios to be examined. Each scenario details differing levels of DFTs with scenario #4 representing a situation where producers rely on market prices alone. Section 4 of the study details the results. Changes in herd sizes, production levels, earnings, trade and government payment levels for each of the scenarios are reported. Summary and conclusions are presented in Section 5.

CHAPTER 2

THEORETICAL CONSIDERATIONS

This section discusses some of the problems associated with attempting to truly endogenize investment and disinvestment decisions for the breeding herd in a single period model with CRAM's structure or in a model with similar structure. Initially, the discussion focuses on the literature as it relates to backward-bending supply responses at the aggregate level and then asset replacement theory is examined, since it is the decision of the individual firm that accounts for aggregate supply responses. Based on this review it appears that it is extremely difficult to correctly incorporate asset replacement rules into the decision mode of CRAM and therefore an alternative approach is suggested. The procedure allows for opening and closing livestock numbers in CRAM to be adjusted to changes in expected future profits and draws upon exogenous information in order to make these adjustments.

2.1 Aggregate Supply Responses

Attempts to understand fluctuations in the size of the breeding herd at an aggregate level must be based upon an understanding of how individual cow-calf producers behave. It has been pointed out by Rosen (1987), Trapp (1986), Jarvis (1974) and others that cow-calf producers make investment or disinvestment decisions and that at an aggregate level it is these decisions that determine

market supplies. Discussion has focused on the supply responses both in the shorter-run and the longer-run, and herd inventory management.

Rosen (1987) distinguishes between transitory price changes to which producers may or may not respond and to more permanent price changes to which producers respond if they are profit maximizers. A permanent increase in price will initially cause a further increase in price as breeding heifers are held back by ranchers in order to allow them to build up their herd in this shorter-run period. However, over the longer-run increasing market supplies are associated with a larger herd and therefore falling prices. These results are well known to many since Jarvis first published, however, Rosen notes that supply responses to changing market conditions vary in both sign and magnitude according to whether demand and supply shocks are transitory or permanent. A permanent increase in price will always lower current supplies to the market because ranchers must increase the size of their breeding herd to take advantage of this permanent price increase. However, with a transitory shock, ranchers will generally initially sell more in order to maximize their benefits from the transitory price increase while future supplies will be reduced because ranchers will need to make up for the decrease in herd size that resulted from this earlier selling off.

In this sense one can understand why empirical results from various econometric and other studies have found relationships between market prices, beef supplies and animal stocks that do not

always result in a negative short-run supply response. Some ranchers may view a price change as being relatively permanent in nature and therefore their response may be different to others who view a change as being transitory. The basic decision by a rancher whether to hold or cull an animal is based upon a comparison of selling now at a known output price or keeping the cow and her future calves to some future date when both are sold at uncertain prices. The key economic decision involves comparing current price with expected future returns and this ties in with optimal replacement theory of assets.

2.2 Asset Replacement Theory

It is rather surprising to note that confusion existed amongst agricultural economists until fairly recently as to the optimal replacement decision rules for assets. Faced with the problem of whether or not to keep wine for another year and with the experience of forest economists who had to decide whether or not to allow a tree to grow for another year, it is interesting to note that Faris (1960), Winder and Trant (1961) and others were still debating the problem and it wasn't until Chisholm (1966) that the rules were correctly defined.

Faris and Winder and Trant concluded that the optimum time to replace a tree is when the marginal net revenue from that tree is equal to the highest amortized present value of anticipated net revenues from the tree. Chisholm noted that it is incorrect to choose a single production period and maximize net present value,

but rather one should use the net present value criterion to select the production period which maximizes the net present value for a perpetual sequence of production periods. Chisholm noted that this correction allows for the opportunity cost of money tied to the appreciating asset overlooked by Faris.

In 1972, Perrin developed an equivalent but alternative replacement criterion based upon equating the present value of the marginal revenue with the marginal opportunity cost of that asset, and more recently one finds a repeat of these same principles as stated by Trapp (1986):

Cull Rule: Cull an animal if the expected present value of all future net revenues is less than the current value of the animal.

Addition Rule: A heifer will be added to the herd when the expected net present value of the benefits from that heifer are greater than the current value of the animal.

These rules appear deceptively simple but as pointed out by Trapp the question is complicated by two very important problems. Firstly, the expected productivity of the asset (cow) changes over her life span and secondly, the prices received for calves produced from the asset may vary. Therefore, the net cash flow received will vary from asset to asset. In order to maximize profits one therefore needs to cull cows or retain heifers at different rates over time and this will lead to herd sizes that vary depending upon whether one is investing or disinvesting. Traditional asset replacement theory has viewed the problem as being one where a cull is always replaced and therefore herd size remains constant. It is

important to allow herd size to vary depending on expected prices and these are non-constant.

Earlier contributions to the literature in this field include Bently, Waters and Shumway (1976), Burt (1965), Plain and Williams (1981), Spreen, McCarl and White (1980), Melton (1980) and others. Burt extended asset replacement theory to the case where there is a chance destruction or failure of assets and therefore showed that replacement may either be planned or random. Bently, Waters and Shumway used Burt's methodology by allowing for stochastic calving rates and cow life, thus influencing the optimum replacement age for beef cows, but their analysis assumed input and output prices to be constant and herd size likewise was held constant. Their methods can handle non-constant prices but do not allow for non-constant herd size.

Studies by King and Bently and Williams have allowed herd size to vary by treating annual culling and replacement rates as control variables within an adaptive control model approach. A nonlinear optimization algorithm is used to search for a sequence of annual culling or replacement rates that optimizes a specified profit function. The approach does not explicitly consider net present values of each cull or replacement, it is more of a heuristic type search procedure and so does not necessarily result in a global maximum. As noted by Trapp it is inappropriate to predefine a planning horizon and therefore their results more nearly represent short-run culling and replacing patterns which are strongly influenced by the age distribution of animals assumed at the start

(see Nuthall, 1980).

Plain and Williams use a rolling planning horizon approach in order to determine optimal culling and replacement strategies for swine herds. Replacement gilts are added to the herd if their expected net present values over four farrowings (2 years) exceed their current market values. A sow is culled if her present market value is greater than the discounted net present value of one more litter and her value after that litter. With simplifying assumptions regarding a finite planning horizon, constant input and output prices and arbitrarily specified time spans for calculating net present values, it is possible to use a traditional net present value approach to determine culling and replacement strategies, however, a more generalized approach, as outlined by Trapp, is considered appropriate.

2.3 New Constant Prices and Varying Herd Size

Trapp's basic decision rules have been presented but operationalizing these rules can be difficult. Firstly, it is necessary to determine an optimal culling age for each animal. This is the age at which the discounted net earnings from a cow over her next year of production plus her discounted market value at the end of that year is equal to her current market value. Secondly, it is necessary to determine whether or not a heifer should be placed in a herd assuming that she will be culled at her optimal age. She will be placed in the herd if her discounted net present value is greater than zero. Thirdly, it is also important to note that each

cow or her replacement should be considered as a separate entity and a decision made. A cow may be replaced, not replaced, or heifers may be added to the herd without culling, thereby varying herd size. Assets need not be replaced when they are culled and it is also possible to build up herd size by adding heifers. Investment or disinvestment in any period will affect future decisions and the link between these need to be explicitly considered.

The linkage between investments over time is through their effects upon firm size and firm production costs. A firm has both fixed and variable costs and changes in firm size will therefore change average total costs per unit of output. Therefore, as firm size varies because of decisions to cull or add, average costs of production will change and this will change the discounted net revenue flows of all other assets being held. Decisions to expand firm size will drive up the cost of production per unit assuming that part of a firm's assets are fixed. Furthermore, if prices change over time, a firm's net present value of cash flows from assets will change and therefore the firm will want to change its size from year to year with price changes. If expected future output prices rise, the expected net present value of assets held will rise and therefore firms will want to expand. This increase in benefits is offset by changes in average total costs per unit which come about as the firm expands, and therefore limit firm expansion. Therefore, to maximize the net present value for the entire herd it is necessary to consider changes in costs as herd size is expanded or contracted and hence the decision rule becomes

a comparison of discounted marginal revenues for the entire herd with discounted marginal costs.

Trapp notes that a subtle but important point is that herd size adjustment in order to achieve equality between discounted marginal revenue and costs may either be in the current period or in any future period. If a firm expands in period t this will increase average total costs of production for that period and hence increase the sum of the discounted marginal costs for any future year in question. In other words, expansion in year t are competing with future possible opportunities for expansion, because of the fixed resources of the firm. In a given year, there are therefore an infinite number of combinations of current and future herd size that will allow discounted marginal revenues and costs to be equated. For an optimal multi-year solution it is necessary to derive an algorithm that will simultaneously satisfy a set of equations which relates discounted marginal revenues and costs for a rolling planning horizon over c* years into the future (where c* is the optimal culling age). This criterion requires that the firm adjust continually as the market changes and therefore there can only be a single static equilibrium condition if market prices do not change.

Trapp was able to solve this problem by developing a simulation model of the cow herd and a solution algorithm which determined the optimal sequence of culling and addition rates for a given set of future prices. Production risks were incorporated by allowing for death probabilities for calves and mature cows, by

allowing for variations in expected weaning weights of calves and calf-weaning percentages, and by correlating cow cull weights with cow age. The simulation model specifies the physical attributes of the herd (number, their age, calves produced, deaths, weaning weights, etc.) and the financial accounting component (costs, revenues, expected net present values of cows of certain ages, etc.). The solution algorithm for the problem followed a direct iterative search procedure which solves for a system of non-linear equations of the following form:

$$X_1^* = g_1(X_1, x_2 \ldots\ldots\ldots\ldots\ldots\ldots X_n)$$

$$X_2^* = g_1(X_1^*, x_2 \ldots\ldots\ldots\ldots\ldots\ldots X_n)$$

.

.

.

.

$$Xn^* = g_n(X_1^*, X_2^*, X_3^* \ldots\ldots\ldots\ldots X_n)$$

As a starting point initial values for X_i (optimum herd size) are assumed, each X_i^* is calculated in sequence and replaces the assumed initial values before the next equation is solved. The g_i equations are solved in sequence and repetitively until the change for every X_i is less than some minimum tolerance level. With optimal cull and replacement decisions over time, the result is an optimal herd size where each net present value calculation correctly reflects future herd sizes and costs per head.

The results for this model show the optimal age at which to

cull varies with feeder prices. At high feeder prices cows are culled earlier (8 years old) than at lower prices (11 years old). At low slaughter values for cows a cow is worth more in the herd. Culling and addition rates are higher during times of rising and higher prices than during the bottom periods of the price cycle. The average age of cows in the herd is lowest one year prior to the price peak. Trapp's results point out the fallacy of using a fixed time horizon to evaluate breeding animal net present values when prices are cyclical.

2.4 Aggregate Investment and Disinvestment Rules

This section proposes a methodology that will substitute for some of the decision rules proposed by Trapp. This approach is necessary because future prices or expected prices over an extended time horizon are not known, or are difficult to forecast.

To operationalize the rules put forward by Trapp it is necessary to have a large amount of information including:

- the expected prices of various animal categories (feeders, slaughter and cull cows) over a relatively long time horizon (generally between 8 and 15 years)
- the age distribution of all cows in the herd
- expected feed and maintenance costs of a cow/calf pair over the planning horizon
- expected weaning rates of calves born to a cow at various ages
- expected death losses of cows at various ages
- expected weaning weights of a heifer or steer raised by a cow of a given age

It is unlikely that this type of information for cows of different ages over an unspecified horizon (but generally more than 8 years) will be readily available to an individual rancher. But, on the assumption that it is, it would be feasible following Trapp to determine whether a particular cow of a particular age should be retained or not. Simplifications to Trapp's procedure are possible provided a finite planning horizon is stipulated. Under this process an arbitrarily specified time span for calculating net present values is stipulated and generally some starting point is assumed. The analysis is multiperiod in nature and involves obtaining expected prices and costs over a given horizon.

There are difficulties involved in attempting to follow Trapp's approach in CRAM and, even if one follows the simplifications found in Plain and Williams and Bentley and Shumway, difficulties are still noted. In particular a multi-year model is required and it would also be necessary to disaggregate the cow herd by age. In a single period model it would also be feasible to allow for investment and disinvestment decisions provided forecasts of expected net revenues over the given horizon for each different age class of cow are provided. Forecasts of expected net revenues over the given horizon for each age and class of cow would be necessary to incorporate investment and disinvestment decisions even in a single period model.

Currently CRAM does not specify different age structures for cows and the data that would allow one to do this is not available. In addition, the flow of benefits and costs over 8 to 15 years into

the future is required and since this is generally also not available difficulties are foreseen in attempting to truly endogenize the investment and disinvestment decision in CRAM. The fact that prices are determined exogenously by the U.S. does not simplify the problem. Therefore, it is proposed that econometrically estimated behavioral responses be used.

Therefore, the approach takes past behavior explained by econometric models of the beef sector to forecast herd build-ups or reductions. The approach is flexible in that either (1) elasticities of retention are given and these, together with some expected price at the end of the period, determine closing inventories (in this case closing inventories are really exogenous) or (2) closing inventories will be determined endogenously in the model provided an appropriate definition of the objective function can be obtained.

Various econometric studies starting with that of Yver (1971), Jarvis (1974), Kulshreshtha and Wilson (1972), Paarsh (1985) and others have attempted to specify and estimate the behavior of ranchers as it relates to capital goods, namely the herd. Gordon (1984) has recently completed a similar study in Canada and the beef component of the FARM model has received a great deal of attention. Provided one is dealing with permanent price changes these studies show that there is evidence, both theoretical and empirical, that the price elasticity of supply of beef to the market in the short-run is dependent upon retention decisions and if producers retain heifers to build up their herds

then the supply to the market is reduced. This elasticity must gradually be increased over the longer-run period as a larger breeding herd implies more supplies to the market. Using results from these models, or reliable estimates provided from other sources, it is feasible to allow closing stock numbers in CRAM to adjust upwards or downwards based on elasticities provided a priori.

The beef component of the FARM model has been developed and refined over the past 10 years. Experience with this component suggests that it is difficult for a mathematical programming model to capture the various cycles that characterize the beef sector. Both longer term and shorter term relationships exist and these need to be captured in CRAM depending on the policy application. There are times when herd size and price are moving together both in the short-run and long-run. Yet, for other classes of animals, the supply to the slaughter market may increase with price and therefore it is necessary to develop a procedure that simulates the economic decisions made by ranchers and feeders.

The essential relationship that needs to be captured is that between opening stocks of animals of the various classes, closing stocks and price changes. Five classes of animals are involved--cows, replacements, stockers, feedlot calves and feedlot yearlings. There are also 7 provinces or beef production regions in CRAM and hence if regional patterns of adjustment are to be captured the retention elasticities by province are required. A simple inventory/price relationship is illustrated in Figure 1. Opening stock

(o/s) numbers and existing price (p) are given. Assuming a positive slope for the retention function, closing numbers (c/s) are expected to be some function of future profits or price (P_e). When expected prices or profits are lower than current prices then the herd size may decrease (p^*e and c/s^*). The slope of this relationship will change depending on the animal class involved and it may shift depending on other factors, e.g. feed costs. The slope could also be negative over some time periods for some animal classes indicating that as prices increase inventories are decreased.

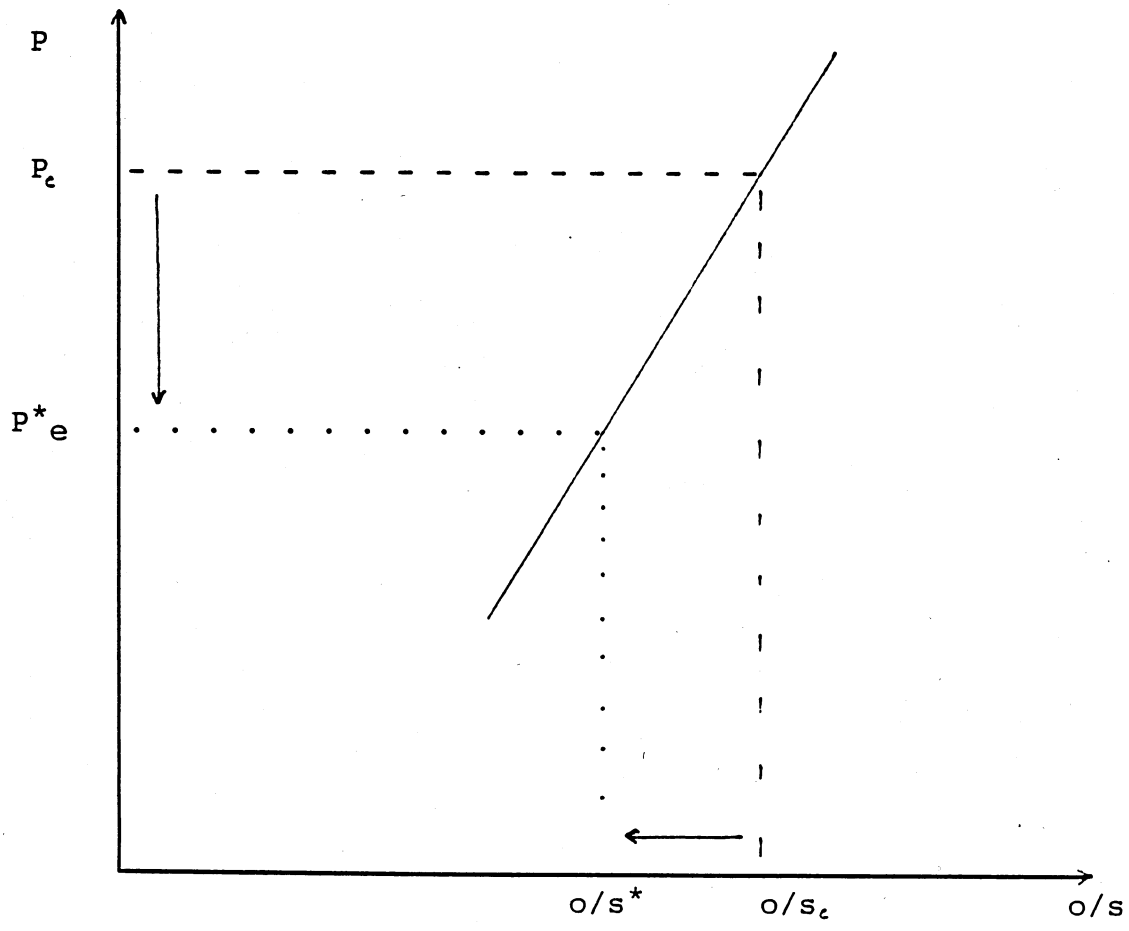

Figure 1: Simple Price/Inventory Relationship

Both short-term adjustments and longer-term adjustments need to be considered. The elasticities for adjustment may vary depending on the time-period. In the case of short-term adjustments a one-year period is considered appropriate. Longer-term adjustments may be captured by solving the model recursively over a number of years with the short-term adjustment parameters or alternatively, in a comparative static sense, long term adjustment parameters may be specified.

The general form of the stock retention function is

$$S = S(X_1, X_2, \ldots, X_n) \qquad (1)$$

The total differential of this function is

$$dS = \frac{\partial S}{\partial X_1} \cdot dX_1 + \ldots\ldots\ldots\ldots + \frac{\partial S}{\partial X_n} \cdot dX_n \qquad (2)$$

where each term on the right side indicates the amount of change in the retained stock, S, resulting from an infinitesimal change in one of the independent variables.

If the stock retention function has the following linear form:

$$S = a_0 + a_1 * X_1 + a_2 * X_2 + \ldots + a_n * X_n \qquad (3)$$

then the partial derivatives can be written as:

$$\frac{\partial S}{\partial X_i} = a_i \qquad (i=1,\ldots\ldots\ldots n) \qquad (4)$$

and equation 2 becomes

$$dS = a_1*dX_1 + a_2*dX_2 + \ldots + a_n*dX_n \qquad (5)$$

In discrete time, equation 5 can be written as the following difference form:

$$S_1 - S_0 = a_1*(X_{1,1} - X_{1,0}) + \cdots a_n*(X_{n,1} - X_{n,0}) \qquad (6)$$

where

S_0 = stock at time 0 (opening stock)

S_1 = stock at time 1 (closing stock)

$X_{i,0}$ = level (or price) of variable i at time 0

$X_{i,1}$ = level (or price) of variable i at time 1

In general, the elasticity of stock retention with respect to variable X_i is defined as:

$$\varepsilon_{S,X_i} = \frac{\partial S}{\partial X_i} \cdot \frac{X_{i,o}}{S_o} \qquad (7)$$

Therefore, each partial derivative can be derived from the corresponding elasticity as follows:

$$a_i = \frac{\partial S}{\partial X_i} = \frac{S_o}{X_{i,o}} \cdot \varepsilon_{S,Xi} \qquad (8)$$

Consequently, given the open stock (S_0), the levels of each independent variable (X_i) at time 0 and 1, and the set of elasticities, the closing stock (S_1) can be computed.

The elasticity in equation 7 is defined in terms of the slope of the stock retention curve at a particular point on the curve. A policy change could effect S, the level of X_i, or $\partial S/\partial X_i$, and thus, the elasticity could be altered. In terms of the policy analyses, the model could be solved for various elasticities and the results compared in a comparative static sense.

To operationalize this concept elasticities of retention with respect to important variables and expected price changes must be provided. Assuming one is dealing with only one variable, a 35*9 dimensioned matrix of information is required (7 provinces and 5 animal classes). This input file is structured as follows:

1. Province
2. Animal Class
3. Opening Stock Numbers
4. Current Price
5. Expected Future Price
6. Elasticity of Retention (+ or -)
7. Adjustment Range
8. Number of Steps in Retention Function
9. Completely Endogenous (0 or 1)

Dealing with this data set the first three parameters (province, animal class and opening numbers) are self-explanatory. The current price, expected price and elasticity of retention information follow the ideas outlined by Trapp. Closing stock numbers for each animal class is a function of the relationship between existing livestock values and the expected discounted net benefits. If changes in profits or prices are exogenously given then closing livestock number may be determined provided an elasticity of retention is specified.

The remaining three parameters deal with some of the procedures developed in this study to operationalize the concepts noted. The adjustment range (parameter 7) and number of steps (parameter 8) in the retention function are required if a separable programming approach is used. For example, size may adjust upwards or downwards by 10% with 20 steps being defined.

The last parameter allows the user the option of endogenous-

ly determining all closing livestock numbers through the definition of objective function coefficients in the model. Following Trapp, if discounted net benefits are evaluated against current values of the herd for different animal classes a decision regarding retentions may be made. The livestock balance row in CRAM specifies that opening stock plus transfers in plus purchases is equal to closing stock plus transfers out plus sales plus death losses. This relationship holds for all classes. However, it may be necessary, if this approach is followed, to consider disaggregating the national cow herd by age.

A separable programming approach may need to be used rather than a nonlinear programming algorithm when herd sizes are endogenously determined. The procedure adopted depends on whether the objective function is convex or concave to the origin. In the concave situation the procedure is straightforward but in the convex situation the delta method of separable programming may be used. In the short-run where observed adjustment responses by ranchers have tended to show a negative short-term supply response, a convex objective function is appropriate. Over the longer run where falling prices are associated with larger herd sizes, a concave objective function results. Spreen, McCarl and White (1980) have illustrated this in a multi-year cattle sector model.

Cow-herd size in the beef sector and sow numbers in the hog sector are extremely important in that it is the opening and closing livestock numbers that determine flows to the market and earnings to the sector. Product price changes, input cost changes

and changes in several other important variables will determine investment or disinvestment levels and it is important to be able to allow for these. Traditionally, the approach in many single period agricultural sector programming models is to set opening and closing livestock numbers exogenously and then determine flows to the market based upon these predetermined stock levels. Various scenarios may be assumed and changes measured. The approach obviously has disadvantages and it is therefore desirable to attempt to endogenize livestock as outlined.

2.5 Summary

Given the difficulties involved in attempting to endogenize closing livestock numbers, as outlined by Trapp, an alternative approach based upon information provided by FARM is proposed. The procedure outlined allows closing number by animal class and province to be determined based upon retention function elasticities that have been previously estimated. Where this information is not known the user may specify their own adjustment responses based upon expert opinion. The matrix generator used was modified accordingly and specified such that two major alternatives are open to the user -- that situation where closing numbers are partially or completely exogenously determined and a situation where numbers are endogenously determined. In this latter case the coefficients of the objective function need to be carefully determined and it may be necessary to define an age structure for the cow herd.

CHAPTER 3

SUPPORT PROGRAMS AND THEIR LEVELS

Various provinces in Canada have employed a wide variety of different types of programs to support their producers. Both "top" loading and "bottom" loading program are found and the debate has centred around the impact of these on the economy within a province and on the economy of other provinces or regions with which that province trades. This section of the report will briefly illustrate the impact that support programs have on the relative trading positions of various provinces. Details of the different levels of support as they presently exist, and changes to these in terms of the scenarios examined, will be presented.

The recently released report by Martin and van Duren (1987)[2] provides an estimate of the present level of payments by both provincial and federal governments to the red meat sector. Their estimates cover the period 1981/82 to 1985/86 and thus represent an average level of support payment by province to the red meats sector for this period. As noted, several scenarios are examined in this study and these represent departures from this base situation with payments gradually being reduced to a level where they are zero and thus producers will receive their returns from the market only.

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[2] Since this analysis was undertaken, a revised report has been released. Some changes are noted but most were minor.

3.1 Trade Distorting Programs

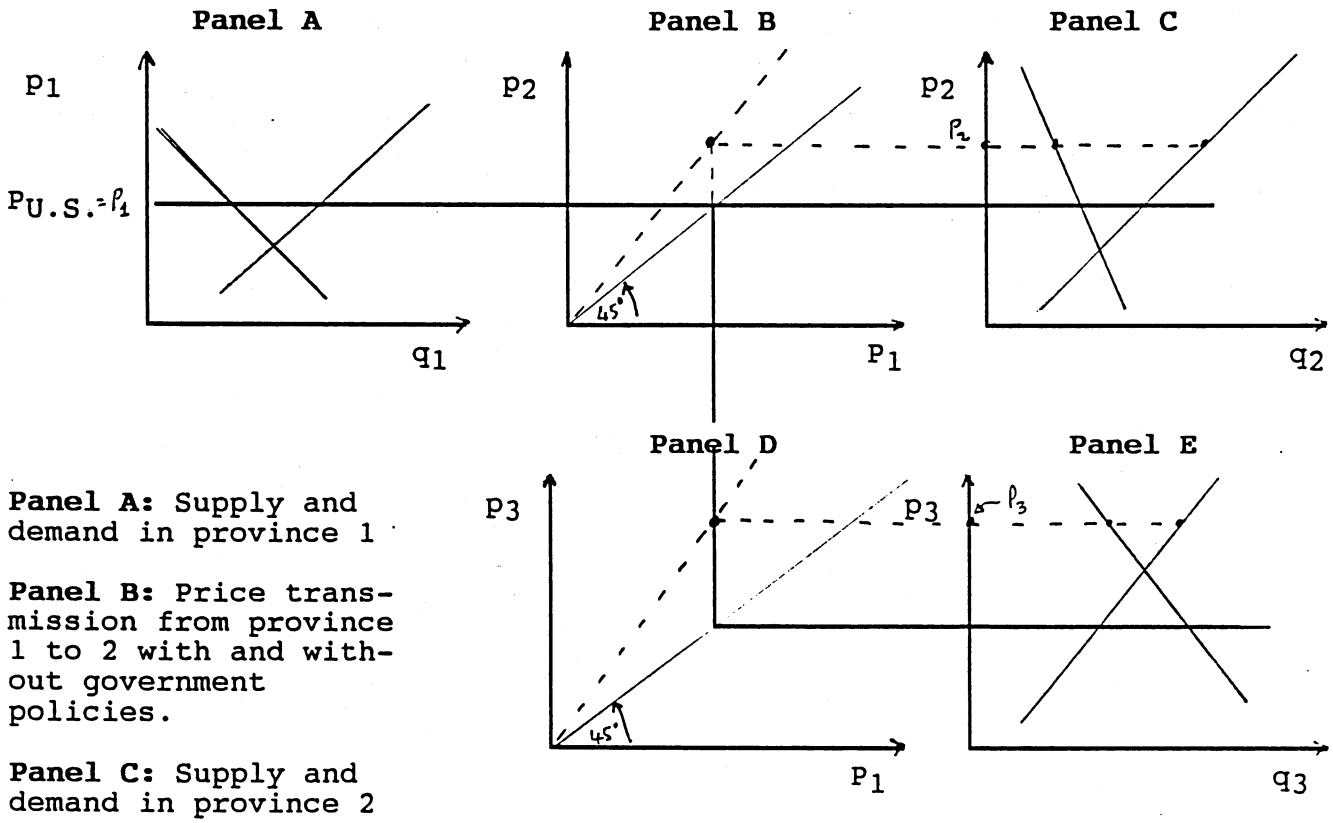
It is convenient to examine the effect of different levels of support in terms of a conventional spatial equilibrium model. To illustrate this impact consider the situation illustrated in Figure 3.1 where an exogenous market price is accepted in province 1 but not in the other two provinces.

Three provinces trade a homogeneous product for which the price is set in the U.S. Panel A for Province 1 shows the province to be in a surplus position at the initial price ($P_{U.S.}$). For convenience it is also useful to assume that all three provinces accept this exogenous price and that their internal price is therefore equal to the U.S. price. Province 2 (Panel C) is also in a surplus position while Province 3 (Panel E) is in a deficit position. As noted, variables in the model are the quantities produced in each province, the quantities consumed and traded and the price. It is also convenient to assume that the U.S. price is expressed as a Canadian price after exchange rate, transport, and other considerations.

In the initial situation (shown as a solid line) it is assumed that governments in Provinces 2 and 3 do not interfere in the market and therefore at the equilibrium situation $P_{U.S.} = P_1 = P_2 = P_3$. That is, prices are equal. Panel B and D show this relationship between prices with the 45-degree line representing no interference.

Also, in Panels B and D the broken lines represent a situation in which governments in both Province 2 and 3 choose to

Figure 3.1: Effect of a Change in Government Policies on Relative Import and Export Market Shares



Panel A: Supply and demand in province 1

Panel B: Price transmission from province 1 to 2 with and without government policies.

Panel C: Supply and demand in province 2

Panel D: Price transmission from province 1 to 3

Panel E: Supply and demand in province 3

_____ Prices without government payments

----- Prices with government payments

supplement market price to producers only. The broken line in Panel D is steeper than that in Panel B indicating that Province 3 chooses to support producer local prices at a level higher than Province 2.

The analysis now assumes that the internal producer prices are set at a different level to the exogenous U.S. price. Province 1 does not interfere in the market, but Provinces 2 and 3 do. With no change in prices, Province 1 remains an exporter. In Province 2 the price is now P2 and this is now different to P1 = PU.S. As noted in Panel C this province is a net exporter and the net level of exports is now higher than in a situation where government payments are zero. In Province 3 it is noted that with additional government payments to producers the province has moved from a net import to a situation where imports are almost zero. The dashed line shows the new equilibrium situation for the important supply variables in the model where Provinces 2 and 3 interfere.

It is obvious that support payments in Provinces 2 and 3 will distort market prices and will attract resources to that sector. At a trade level it is also true that these additional payments will impact upon trade flows and hence on market conditions.

3.2 Program Classification and Direct Financial Transfer Scenarios

As noted earlier a wide variety of red meat support programs exist. These are administered by various departments by both the federal and provincial governments and fairly significant differences are found in the total level of support offered by different

programs in different provinces. A support program may affect red meat production through the output market, the input market, or through payments that enhance productivity of factors or enhance the market through infrastructural supports (Martin and Van Duren). Programs which stabilize or supplement the product price of livestock are classified as output market supports, those which reduce the cost of feed, agricultural credit or other similar schemes are classified as input market programs. Programs involving support in research or extension services belong to the productivity enhancement category and market information services, grants to packing companies or others that are similar in nature operate through market infrastructure support. This analysis considers input and output programs only and tries to measure the impacts on the economy of differing levels of support.

The debate has also focused on "top" loading programs versus "bottom" loading and it is evident that different provinces have employed some or both of these to differing degrees. "Top" loading programs generally increase producer returns based on production or marketed quantities whereas "bottom" loading programs generally refer to benefits that producers receive through inputs that they purchase and use in their production processes. "Bottom" loading programs will obviously lower the firm's average cost curve and shift the industry's supply curve to the right. Likewise, "top" loading programs which also shift the supply curve or cause a movement along it have their impacts. Such shifts upon the markets may easily be demonstrated in Figure 3.1.

The focus of this study is to examine the impact of changes in the level of support and, in particular, to examine changes as provinces move towards support levels that are equalized or set equal to zero. In this context the following scenarios are examined:

Scenario #1: The Base Case: Farm gate prices to producers are set equal to market prices plus direct financial transfers (DFTs) in both the input and output markets. Both provincial and federal DFTs are included in estimating the total additional payments to producers over and above market returns.

In Table 3.1 the present level of DFTs for the Base Case Situation are shown and these are classified for the three major red meat sectors considered in this study -- the cow-calf sector of the beef industry, the finishing or feedlot sector and the hog sector. Payments are shown for each province by head and by $100 of cash receipts. A closer examination shows some slight discrepancies in the relationships between payments per head and payments per $100 of market receipts. Wide differences between support levels between provinces are noted. It may be expected that these differing levels will obviously be trade distorting in their impact upon a trading partner whether this be a neighbouring province or external trading country. Tables 3.2 to 3.4 show these payments (per $100 of cash receipts) for the base case relative to each of the other scenarios.

Table 3.1: Direct Financial Transfers from Provincial and Federal Governments (Input and Output Programs Only - Average 81/82 to 85/86)

	PAYMENTS PER HEAD			PAYMENTS PER $100 OF CASH RECEIPTS		
	COW-CALF	FINISH	HOGS	COW-CALF	FINISH	HOGS
B.C.	52.39	70.64	11.51	11.96	16.64	8.31
Alberta	30.13	32.99	12.57	7.66	7.10	9.52
Sask.	40.68	44.39	18.37	10.13	10.78	13.81
Manitoba	16.41	40.09	6.93	4.25	8.83	5.39
Ontario	21.40	20.45	6.57	5.35	3.61	4.67
Quebec	162.63	161.61	11.91	45.20	37.84	9.48
Maritimes	40.93	35.10	22.06	9.70	6.82	16.98

Scenario #2: Equal Output Payments Across the Provinces: DFTs for the output market will be equalized for the provinces based upon a weighted average of federal payments for the sectors. Provincial output payments are set at zero. Input payments from the provincial and federal governments remain at the base case levels.

In Table 3.2 to 3.4 it is noted that differences in levels of support between provinces remain but these reflect the fact that input supports differ by province. Federal output supports in this scenario are relatively small and hence this scenario, in essence, represents a situation where input payments differ by province but

output payments are approximately zero in the beef sector and 2% of market price for hogs.

Scenario #3: No Provincial Government Transfers: DFTs from the provincial governments for both input and output programs will be set equal to zero. All federal government input payments are set equal to zero. Federal output government payments will equal the average tripartite payment (1986-1990) for all provinces. Thus there will be one single level of national support for each of the three sectors.

This scenario therefore represents full tripartite participation by all provinces and the level of government payments to or payments made by producers are set more closely in line with what is happening in the market place. Forecasted prices and costs (based on the appropriate formulae) over the period 1986 to 1990 are used.

Under Tripartite, and using FARM forecasts, hog prices are expected to gradually decline over this 5 year period but beef prices remain firm. In the case of hogs the expected price declines from $81.43 per hundred weight in 1986 to $67.38 in 1990. Hence as shown in Table 3.4, payments to producers are expected to average $1.99 per $100 of cash receipts. In the case of the cow-calf program the market price in 1986 for feeder calves is set at $100.43 and in 1990 at $104.86 per hundred weight. As noted in Table 3.2 it is calculated that cow-calf producers will be required to make payments of $1.30 per $100 receipts in this scenario.

Table 3.2: Summary of Direct Financial Transfers to the Cow-Calf Sector for Various Options Examined (per $100 Cash Receipts)

	1 PRESENT PAYMENTS	2 WEIGHTED AV. FEDERAL PAYMENTS	3 TRIPARTITE SCENARIO	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS
B.C.	11.96	3.35	-1.30	0	11.50
Alberta	7.66	4.76	-1.30	0	3.73
Sask.	10.13	7.75	-1.30	0	1.78
Manitoba	4.25	1.59	-1.30	0	-0.41
Ontario	5.35	2.40	-1.30	0	1.37
Quebec	45.20	16.36	-1.30	0	38.20
Maritimes	9.70	9.56	-1.30	0	8.53

Table 3.3: Summary of Direct Financial Transfers to the Finishing Sector for Various Options Examined (per $100 Cash Receipts)

	1 PRESENT PAYMENTS	2 WEIGHTED AV. FEDERAL PAYMENTS	3 TRIPARTITE SCENARIO	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS
B.C.	16.64	3.74	0.49	0	19.46
Alberta	7.10	3.74	0.49	0	4.60
Sask.	10.78	4.87	0.49	0	12.80
Manitoba	8.83	1.59	0.49	0	4.92
Ontario	3.61	1.92	0.49	0	2.78
Quebec	37.84	13.21	0.49	0	28.64
Maritimes	6.82	10.33	0.49	0	11.19

Table 3.4: Summary of Direct Financial Transfers to the Hog Sector for Various Options Examined (per $100 Cash Receipts)

	1 PRESENT PAYMENTS	2 WEIGHTED AV. FEDERAL PAYMENTS	3 TRIPARTITE SCENARIO	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS
B.C.	8.31	4.68	1.99	0	10.06
Alberta	9.52	5.69	1.99	0	10.00
Sask.	13.81	7.33	1.99	0	12.16
Manitoba	5.39	3.44	1.99	0	7.75
Ontario	4.67	3.92	1.99	0	8.23
Quebec	9.48	5.19	1.99	0	14.34
Maritimes	16.98	9.62	1.99	0	18.41

Forecasts for the tripartite feeder cattle stabilization program show prices moving from $78.53 per cwt. to $92.22 per cwt, but producers still receive a small payment of $0.49 (Table 3.3). Payments into the fund or out of the fund are based on a 5 year moving average for prices and costs.

Scenario #4: Market Price Scenario: All DFTs will be set at zero.

Scenario #5: Anticipated Payment Levels for 1988: Using expected market prices and existing stabilization programs an estimate of DFTs for 1988 are provided. Input DFTs are left at their base case values.

Scenario #5 allows for a forecast of the cost of current programs and their impacts upon provincial production levels and trade. In situations where provincial programs exist, payments depend upon product price and input cost forecasts by each individual province and upon the manner in which their programs operate. If a province does not have a stabilization program of its own, the national tripartite program is followed. Hence, in the case of beef in Alberta and Ontario the national estimates and forecasts are assumed. In the case of hogs, Alberta, Saskatchewan (a phase-in period for Saskatchewan), Manitoba and Ontario are signatories to the national program. Although tripartite payments are constant across provinces, input programs and payments differ and, therefore, as noted in Tables 3.2 to 3.4, direct financial transfers differ.

The estimates of forecasted payments in scenario #5 vary widely by province and results reported in this study reflect this. In the cow-calf sector, for example, Ontario producers will receive a payment of $1.37 per $100 of receipts. On the other hand, Quebec producers must pay $38.20 per $100 received (Table 3.2). In scenario #1 Quebec's cow-calf sector producers receive $45.20 per $100 of market receipts. The forecasted payments for each province and for each sector generally follow a similar trend although in some cases these forecasts are questioned.

In summary, scenarios #1 to #4 are intended to examine plausible options in terms of provincial and federal input and output payments. Scenario #4 is an extreme situation where market

returns alone are relied upon.[3] Scenario #5 represents the anticipated situation for the current year and provides an estimate of the impacts of various provincial and federal programs on the red meats sector. It is noted that throughout this analysis payments to the grain sector remain and therefore changes examined are ceteris paribus.

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[3] In the context of MTNs this could represent a relatively "free trade" scenario where direct subsidies that stimulate production are eliminated.

CHAPTER 4

RESULTS

This section presents the results of our analysis. As noted in the previous sections, investment and disinvestment decisions by producers are affected by the level of current and future expected profits and it is these decisions that determine herd size, output and trade levels and ultimately sector earnings at the provincial and federal levels. These decisions are also directly affected by payments received from governments. This section summarizes results obtained by varying the level of government payments holding everything else constant. It details changes in herd size, production, trade, and earnings at the provincial level that may be expected under each of the scenarios examined.

4.1 The Retention Function for Livestock

In a static equilibrium sense one may examine changes that occur within a single one year period, adjustments that occur over several years as one moves from one partial equilibrium situation to another, or alternatively, it may be desirable to detail herd sizes and output levels for one equilibrium situation and then compare these with herd sizes and output levels for another equilibrium situation. In this latter case it is assumed that both opening and closing livestock herd sizes are constant and therefore

the industry has reached a new equilibrium situation from a previous level. The time path of adjustment has been ignored and one is more concerned with output level differences that result between the two scenarios. The results reported in this section adopt this approach and examine the equilibrium levels of livestock herds associated with each of five different scenarios. It is also assumed that producers view government payments as impacting upon their investment decisions and that herd sizes vary depending on the level of these payments. The analysis could trace out the adjustment path over time but this was not attempted given the focus of this study.

Following the procedures outlined in section 2 the impact of a change in expected profits is through the retention functions in CRAM. Retention functions need to be specified with respect to elasticity estimates for own product prices, feed prices, and other variables affecting expected profits. Price elasticities and feed price elasticities as provided by FARM results are noted in Table 4.1 for the beef sector and Table 4.2 for hogs. These are specified on an eastern and western Canada basis for beef but vary by province for hogs. Results, as reported, are sensitive to these estimates.

Since one is interested in examining the impacts of a change in the level of DFTs ceterus paribus, no change in market price of the product or feed prices is assumed. However, as noted earlier, producers are assumed to treat a dollar received

Table 4.1: Retention function elasticities for beef sector with respect to own product prices and feed price by animal category

	Own Price Elasticities		Feed Price Elasticities	
	Western Canada	Eastern Canada	Western Canada	Eastern Canada
Cows	0.25	0.40	-0.22	-0.14
Replacements	0.44	0.40	-0.22	-0.14
Stockers.	0.20	0.25	-0.22	-0.14
Feeders	0.20	0.25	-0.20	-0.08
Feeder Yearlings	0.50	0.75	-0.20	-0.08

Source: Farm Model, Working Paper (P. Charlebois)

Table 4.2: Retention function elasticities for sows with respect to own product price and feed price

	Own Price	Feed Price
B.C.	0.22	-0.22
Alberta	0.22	-0.22
Saskatchewan	0.14	-0.14
Manitoba	1.28	-0.20
Ontario	0.79	-0.20
Quebec	1.19	-0.20
Maritimes	1.19	-0.20

Source: Farm Model, Working Paper (P. Charlebois)

from government as equivalent to a dollar received from the market and adjust stock numbers through the retention function. That is, expected profits will change if government payment levels change ceteris paribus.

4.2 Relative Size of the Red Meat Sector and Payment Levels

As a starting point it is helpful to review the relative sizes of the beef and hog sectors in each of the provinces and the total share of DFTs each sector in each province has received. DFTs used are based upon estimates of average payments made over the period 81/82 to 85/86.

The base year for this analysis is 1986 and opening stock numbers of cows and replacements and sows are noted in Table 4.3. In terms of the beef breeding herd Alberta's share is 36.9%, Saskatchewan has 25.3% and Manitoba and Ontario fall relatively further down with approximately 11.5% of the total. DFTs to the beef sector in this base situation are estimated to be $243.5 million. This estimate is based upon payment levels as indicated in Table 3.1 and represent both cow-calf and finishing sector payments. Some interesting comparisons are noted. Producers in the Prairie provinces and Ontario receive payments generally less than the relative size of their cow-calf herds while Quebec with only 6.1% of the national cow herd receives 23.8% of total DFTs.

Ontario and Quebec are the largest producers in the hog sector with about 34% and 29% of national sow numbers respectively. Alberta has 13.3% of the national sows, Manitoba 10.4% and the

Table 4.3: The Base Case — A Review of the Relative Sizes of the Beef and Hog Sectors by Province and Associated Direct Financial Transfers over 1981/82 to 1985/86 period

	BEEF SECTOR				HOG SECTOR			
	Cows & Replacements		DFTs		Sows		DFTs	
	#	% of Total	Payment Level	% of Total	#	% of Total	Payment Level	% of Total
	(000'head)		(m.$)		(000'sows)		(m.$)	
B.C.	217	6.3	17.9	7.3	26	2.4	3.9	2.6
Alberta	1268	36.9	74.1	30.4	145	13.3	24.8	16.3
Sask.	871	25.3	46.2	19.0	68	6.3	13.8	9.1
Manitoba	380	11.1	18.5	7.6	113	10.4	12.2	8.0
Ontario	418	12.1	23.6	9.7	370	34.1	29.3	19.3
Quebec	212	6.1	58.0	23.8	320	29.5	54.9	36.2
Maritimes	71	2.1	5.2	2.1	44	4.1	12.9	8.5
Canada	3437	100%	243.5	100%	1086	100%	151.8	100%

remainder is spread as shown in Table 4.3. Total payments to hog producers amount to $152 million and it is noted that Quebec receives 36.2% of this. Ontario producers, with 34% of the sows, receive payments equal to 19% of the total. Quebec producers, on the other hand, with 29% of the sows, receive payments amounting to 36% of the total.

The size of the cattle and hog sectors relative to that of other commodity groups is noted in Table 4.4. In Alberta, for example, the cattle and hog sectors account for 36.5% of total farm cash receipts which amounted to approximately $3.7 billion. In Ontario these two sectors account for 33.7% of total cash receipts, in Quebec about 30.2%, in Manitoba 25.9%, in the Maritimes 23.4%, in British Columbia about 21.3% and in Saskatchewan 14.6%. The share received in direct government assistance during 1986 is also shown in Table 4.4. These payments may be compared with the estimated payments to the cattle and hog sectors as shown in Table 4.5. It should be noted that DFTs for the cattle and hog sector are based on a historical average (1981/82 - 85/86) and therefore adjustments to the 1986 period are required. Also, during 1986 emergency payments to the grain sector have been made.

The sections that follow present the results of our analysis. The base case situation represents 1986 with DFTs set at the observed level over the 5 year period noted. The four scenarios represent alternative levels of program benefits and it is noted that as relative benefits between provinces are changed, or perhaps equalized, production, trade, income and other important measures

Table 4.4: Total Cash Receipts for the Cattle and Hog Sectors by Province - 1986

	Farm Cash Receipts				% of Total		
	Cattle	Hogs	Gov't Payments (million $)	Total Cash Receipts	Cattle	Hogs %	Payments
B.C.	158	55	57	1,003	15.8	5.5	5.7
Alberta	1,103	272	646	3,759	29.3	7.2	17.2
Sask.	497	108	923	4,130	12.0	2.6	22.3
Manitoba	294	243	217	2,074	14.2	11.7	10.5
Ontario	1,158	681	139	5,458	21.2	12.5	2.5
Quebec	300	673	292	3,227	9.3	20.9	9.0
Maritimes	84	87	26	729	11.5	11.9	3.6
Canada	3,594	2,118	2,301	20,380	17.6	10.4	11.3

Source: Statistics Canada, 21-603

Table 4.5: Cattle and Hog Payments Relative to All Payments by Province

	DFTs to Cattle and Hog Sector	Payments to All Sectors - 1986	Cattle and Hog DFTs as % of Total Payments
	(m.$)	(m.$)	(%)
B.C.	21.8	57	38
Alberta	98.9	646	15
Saskatchewan	60.0	923	6
Manitoba	30.7	217	14
Ontario	52.9	139	38
Quebec	112.9	292	38
Maritimes	18.1	26	69
Canada	395.3	2301	17

Source: Model Results and Statistics Canada, 21-603

will be impacted. Given the large amount of information generated with each solution of the model it has been necessary to summarize these results. The following format of presentation has been selected:

- Government payments to the beef, (cow-calf, finishing) and hog sectors by province for each scenario. This information represents total expected payments for each scenario and provides an estimate of the relative size of this contribution in each of the provinces by sector.
- Opening stock levels for the beef hog sectors. As noted earlier a change in the level of DFTs is through the retention function and the net impact is represented by changed herd size.
- High and low quality beef production and pork production levels by province. Changes in herd size directly affect output levels and these changes are noted.
- Feed grain usage by sector and province under each scenario.
- Net levels of trade (both interprovincial and export) by livestock category and commodity category.
- Sector earnings by province.

Currently the CRAM model has approximately 2,200 columns and 1,700 rows (Webber and Graham, 1988). In the Appendix of this report a complete set of results for the Base Case and the No Payments Case (scenario #4) is provided. These results include solution values for each of the two cases. Furthermore, the absolute change and the percentage change is provided for each activity in the beef and hog blocks. The results as presented in this report summarize these changes.

4.3 Direct Financial Transfers

The net level of direct financial transfers to the beef and

hog sectors under each of these scenarios is reported in Tables 4.6 to 4.9. As noted earlier, 1986 is chosen as the base period. Livestock numbers are set at their opening levels for this year, and all prices correspond to those existing in 1986. DFTs, in the base case, are set at the levels noted in Table 3.1. Included in this base are payments made to the crop sector but results relevant to this sector are not reported here. Payments to cow-calf producers are based on the size of their herd (cows and replacements), payments to the finishing sector are based on the number of animals passing through the feedlot and slaughtered, and payments to the hog sector are based upon marketed hogs. The accounting framework of CRAM thus keeps track of payments on an animal unit basis. The number of animals is determined by retention functions which allow for price or factor cost changes as a percentage of the initial price or cost.

For the beef sector, Table 4.6 is a summary of Tables 4.7 and 4.8. Fairly significant differences are noted in the level of payments between the 5 scenarios as well as between provinces. Under the base situation, total DFTs amount to $243 million, this drops to $122 million in scenario #2 and to $1.4 in scenario #3. It is estimated that payments for 1988 will approximate $215 million.

Changes between the base situation and scenario #2 show Manitoba DFTs being reduced by 80% and by 29% for Saskatchewan.

Under the Tripartite Scenario (scenario #3) where cow-calf producers are expected to pay in at the rate of $1.30 per $100 of

Table 4.6: Direct Financial Transfers to Beef Sector by Province Under Different Payment Schemes (million dollars)

PROVINCE	1 BASE CASE (1981-86)	2 AVG. FED PAYMENT (1981-86)	3 AVG. TRIPARTITE PAYMENT (1986-90)	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS (1988)
B.C.	17.9	5.5 (-69)	0 (-100)	0 (-100)	30.9 (73)
Alberta	74.1	42.8 (-42)	0 (-100)	0 (-100)	46.7 (-37)
Sask.	46.2	32.7 (-29)	0 (-108)	0 (-100)	38.4 (-17)
Manitoba	18.5	3.8 (-80)	0 (-100)	0 (-100)	14.6 (-21)
Ontario	23.6	12.4 (-47)	1.4 (-94)	0 (-100)	16.8 (-29)
Quebec	58.0	19.5 (-66)	0 (-100)	0 (-100)	62.9 (-9)
Maritimes	5.2	4.8 (-6)	0 (-100)	0 (-100)	5.0 (-4)
Canada	243.5	121.5 (-50)	+1.4 (-99)	0 (-100)	215.4 (-12)

Table 4.7: Direct Financial Transfers to Feedlot Sector by Province Under Different Payment Schemes (million dollars)

PROVINCE	1 BASE CASE (1981-86)	2 AVG. FED PAYMENT (1981-86)	3 AVG. TRIPARTITE PAYMENT (1986-90)	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS (1988)
B.C.	6.8	1.5 (-77)	0.4 (-94)	0 (-100)	20.2 (197)
Alberta	36.1	18.7 (-48)	4.9 (-86)	0 (-100)	27.4 (-24)
Sask.	10.9	5.7 (-48)	0.8 (-93)	0 (-100)	27.2 (149)
Manitoba	12.3	1.5 (-88)	1.5 (-88)	0 (-100)	15.4 (26)
Ontario	15.4	8.8 (-42)	3.6 (-77)	0 (-100)	15.2 (-1)
Quebec	27.1	9.3 (-65)	0.7 (-98)	0 (-100)	35.5 (31)
Maritimes	2.4	2.2 (-11)	0.3 (-86)	0 (-100)	2.5 (4)
Canada	111	47.7 (-57)	12.2 (-89)	0 (-100)	143.4 (29)

Table 4.8: Direct Financial Transfers to Cow-Calf Sector by Province Under Different Payment Schemes (million dollars)

PROVINCE	1 BASE CASE (1981-86)	2 AVG. FED PAYMENT (1981-86)	3 AVG. TRIPARTITE PAYMENT (1986-90)	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS (1988)
B.C.	11.1	4.0 (-64)	-0.4 (-104)	0 (-100)	10.8 (-3)
Alberta	38.0	24.1 (-37)	-4.9 (-113)	0 (-100)	19.3 (-49)
Sask.	35.3	27.0 (-22)	-0.8 (-102)	0 (-100)	11.2 (-68)
Manitoba	6.2	2.3 (-63)	-1.5 (-124)	0 (-100)	-0.89 (114)
Ontario	8.2	3.5 (-57)	-2.2 (-127)	0 (-100)	1.6 (-80)
Quebec	30.9	10.2 (-67)	-0.7 (-102)	0 (-100)	27.4 (-11)
Maritimes	2.8	2.6 (-7)	-0.3 (-111)	0 (-100)	2.5 (-11)
Canada	132.5	73.7 (-44)	-10.8 (-108)	0 (-100)	71.9 (-46)

receipts, and where the finishing sector receives payments of $0.49 per $100, the net overall impact is that all provinces reduce payments by approximately 100%. Therefore, results from this scenario are similar to that of #4 in that payments are approximately zero. It is noted that under scenario #3, Ontario receives payments of $1.4 million while other provinces pay in. This results from the fact that cow-calf producers under this scenario make payments whereas the finishing sector is expected to receive payments.

In scenario #5 where provincial programs operate, fairly significant changes betwen provinces emerge from the base. Payments in B.C. are increased by 73% whereas other provinces' payments are reduced, the range being from -4% to -37%.

Payments to the hog sector are noted in Table 4.9. These amount to $152 million for the base situation. The distribution by province is shown. Under scenario #2 they are reduced by 38%, by 84% in scenario #3 and increased by 23% in scenario #5. Payments to each of the provinces are reduced fairly equally under scenario #2 except in the case of Ontario (-19%) which reflects the fact that input payments in this province are proportionately less than those of other provinces. Under a tripartite agreement reductions range from 93% for the Maritimes to approximately 74% for Manitoba and Ontario. Disproportionate changes are noted in the forecast for 1988 (scenario #5) where Alberta is expected to reduce payments by 12% for this year but Quebec increases payments by 74%. It is noted that the market price for hogs in Quebec is forecasted to move from $68.85 per cwt in 1986 to $78.43 in 1988 whereas under

Table 4.9: Direct Financial Transfers to Hog Sector by Province Under Different Payment Schemes (million dollars)

PROVINCE	1 BASE CASE (1981-86)	2 AVG. FED PAYMENT (1981-86)	3 AVG. TRIPARTITE PAYMENT (1986-90)	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS (1988)
B.C.	3.9	2.3 (-42)	0.6 (-85)	0 (-100)	4.0 (3)
Alberta	24.8	14.9 (-40)	3.5 (-86)	0 (-100)	21.9 (-12)
Sask.	13.8	7.4 (-47)	1.3 (-90)	0 (-100)	10.5 (-24)
Manitoba	12.2	7.8 (-37)	3.0 (-75)	0 (-100)	10.7 (-13)
Ontario	29.3	23.8 (-19)	7.9 (-73)	0 (-100)	34.8 (19)
Quebec	54.9	29.2 (-47)	7.6 (-86)	0 (-100)	95.2 (74)
Maritimes	12.9	8.5 (-34)	0.9 (-93)	0 (-100)	9.9 (-23)
Canada	151.8	93.9 (-38)	24.8 (-84)	0 (-100)	187 (23)

the federal hog slaughter program prices decrease to $60.71 per cwt in 1988 from $81.43 in 1986.

In summary scenarios #3 and 4 are fairly similar in terms of their distribution and reduction in DFTs, scenario #2 and 5 are dissimilar in that producers in each of the provinces will receive altered payments. In the beef sectors significant differences between the two scenarios (#2 and #5) and the base case are noted for B.C. and Manitoba while differences for the other provinces are smaller. In the hog sector the differences between scenarios #2 and #5 and the base case are quite significant. There is a 38% reduction in net payouts at the national level for scenario #2 but an increase in the level by 23% for #5.

4.4 Stock Levels and Output Responses

Changes in herd sizes under each of the various scenarios and output responses in terms of slaughter animals are summarized in Tables 4.10 to 4.15. Breeding stock numbers for the cow-calf herd are reported in Table 4.10, feedlot numbers in Table 4.11 and sow numbers in Table 4.12. Output changes are measured in terms of thousand tonnes of high and low quality beef produced and for the hog sector in tonnes of pork produced.

At the national level the change in the cow herd amounts to a 1% to 3% decrease for scenarios #2, 3 and 4, but about +2% for scenario #5. Sow numbers also adjust downwards with a range of -2.3% to -6.0%. High quality beef production falls about 1 to 2% (except for scenario #5) and pork production falls by about 5%

Table 4.10: Beef Breeding Stock Levels (Cows and Replacements) by Province Under Different Payment Schemes (thousand head)

PROVINCE	1 BASE CASE (1981-86)	2 AVG. FED PAYMENT (1981-86)	3 AVG. TRIPARTITE PAYMENT (1986-90)	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS (1988)
B.C.	217	212.1 (-2)	209.7 (-3)	210.5 (-3)	225.1 (4)
Alberta	1268	1258.5 (-0.7)	1239.7 (-2)	1243.7 (-2)	1297.4 (2)
Sask.	871	866.1 (-.5)	845.9 (-3)	848.7 (-2)	874.9 (0.4)
Manitoba	380	377.4 (-.6)	374.5 (1)	375.8 (-1)	397.5 (5)
Ontario	418	413.5 (-1)	407.4 (-3)	409.4 (-2)	432.3 (3)
Quebec	212	195.2 (-8)	184.8 (-13)	185.6 (-12)	221.1 (4)
Maritimes	71.3	71.2 (-0.1)	68.4 (-4)	68.8 (-4)	74.6 (5)
Canada	3437.3	3394.1 (-1)	3330.4 (-3)	3353.5 (-2)	3522.9 (2)

Table 4.11: Feedlot Opening Stock Levels (Calves and Long Yearlings) by Province Under Different Payment Schemes (thousand head)

PROVINCE	1 BASE CASE (1981-86)	2 AVG. FED PAYMENT (1981-86)	3 AVG. TRIPARTITE PAYMENT (1986-90)	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS (1988)
B.C.	65.9	62.7 (-5)	62.5 (-5)	62.4 (-5)	69.3 (5)
Alberta	499	493.8 (-1)	488.8 (-2)	488.1 (-2)	510.9 (2)
Sask.	241.5	231.1 (-4)	214.4 (-11)	217.4 (-10)	252.9 (5)
Manitoba	135.2	132.2 (-2)	131.7 (-3)	131.6 (-3)	138.2 (2)
Ontario	607.3	600.8 (-1)	595.1 (-2)	593.0 (-2)	642.3 (6)
Quebec	85.7	80.4 (-6)	77.6 (-9)	77.5 (-10)	85.6 (0)
Maritimes	23.6	23.8 (0.8)	23.3 (-1)	23.2 (-2)	24.4 (4)
Canada	1658.2	1624.8 (-2)	1593.4 (-4)	1593.2 (-4)	1723.6 (4)

Table 4.12: Sow Stock Levels by Province Under Different Payment Schemes (thousand head)

PROVINCE	1 BASE CASE (1981-86)	2 AVG. FED PAYMENT (1981-86)	3 AVG. TRIPARTITE PAYMENT (1986-90)	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS (1988)
B.C.	26.5	26.3 (-0.7)	26.2 (-1)	26.1 (-2)	25.2 (-5)
Alberta	145.0	143.8 (-0.8)	142.9 (-2)	142.3 (-2)	137.2 (-5)
Sask.	68.0	67.4 (-0.8)	67.0 (-2)	66.9 (-2)	65.5 (-4)
Manitoba	113.0	110.4 (-2)	108.3 (-4)	105.6 (-7)	79.2 (-30)
Ontario	370.0	367.8 (-0.6)	362.4 (-2)	356.8 (-4)	304.3 (-18)
Quebec	320.0	305.1 (-5)	293.8 (-8)	287.0 (-10)	392.6 (23)
Maritimes	44.1	40.8 (-8)	37.4 (-15)	36.5 (-17)	30.9 (-30)
Canada	1086.6	1061.6 (-2.3)	1038.0 (-4.4)	1021.2 (-6.0)	1034.9 (-5)

Table 4.13: High Quality Beef Production by Province Under Different Payment Schemes (thousand tonnes)

PROVINCE	1 BASE CASE (1981-86)	2 AVG. FED PAYMENT (1981-86)	3 AVG. TRIPARTITE PAYMENT (1986-90)	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS (1988)
B.C.	20.6	20.1 (-2)	20.1 (-2)	20.1 (-2)	27.2 (32)
Alberta	260.3	259.0 (-0.5)	256.3 (-2)	256.8 (-1)	258.4 (-7)
Sask.	58.5	68.3 (17)	51.7 (-12)	52.7 (-10)	68.3 (17)
Manitoba	71.4	47.4 (-34)	64.9 (-9)	63.8 (-11)	58.1 (-18)
Ontario	156.7	168.0 (7)	164.7 (5)	166.4 (6)	167.5 (7)
Quebec	26.9	27.0 (0.4)	21.7 (-19)	21.7 (-19)	26.8 (-0.2)
Maritimes	12.7	14.3 (13)	14.0 (10)	14.0 (10)	12.6 (-1)
Canada	607.1	604.1 (-0.5)	593.4 (-2)	595.5 (-2)	618.9 (2)

Table 4.14: Low Quality Beef Production by Province Under Different Payment Schemes (thousand tonnes)

PROVINCE	1 BASE CASE (1981-86)	2 AVG. FED PAYMENT (1981-86)	3 AVG. TRIPARTITE PAYMENT (1986-90)	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS (1988)
B.C.	14.8	14.5 (-2)	14.6 (-1)	14.6 (-1)	16.8 (13)
Alberta	107.4	106.3 (-0.9)	105.2 (-2)	105.4 (-2)	107.5 (.1)
Sask.	49.6	52.1 (5)	47.3 (-5)	47.4 (-5)	52.3 (5)
Manitoba	33.9	27.5 (-19)	31.6 (-7)	31.7 (-7)	31.4 (-8)
Ontario	62.3	61.4 (-2)	61.6 (-1)	61.8 (-1)	63.5 (2)
Quebec	16.4	16.1 (-2)	14.6 (-11)	14.6 (-11)	16.5 (.8)
Maritimes	6.7	7.2 (6)	7.0 (4)	7.0 (4)	6.8 (.9)
Canada	291.1	285.1 (-2)	281.9 (-3)	282.5 (-3)	294.8 (1)

Table 4.15: Pork Production by Province Under Different Payment Schemes (thousand tonnes)

PROVINCE	1 BASE CASE (1981-86)	2 AVG. FED PAYMENT (1981-86)	3 AVG. TRIPARTITE PAYMENT (1986-90)	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS (1988)
B.C.	22.6	22.4 (-0.7)	22.3 (-1)	22.2 (-2)	21.5 (-5)
Alberta	131.0	130.0 (-0.8)	129.1 (-2)	128.6 (-2)	124.0 (-5)
Sask.	50.1	49.7 (-0.8)	49.4 (-2)	49.3 (-2)	48.3 (-4)
Manitoba	116.9	114.2 (-2)	112.1 (-4)	109.3 (-7)	82.0 (-30)
Ontario	297.1	295.4 (-0.6)	291.0 (-2)	286.5 (-4)	244.4 (-18)
Quebec	305.3	291.0 (-5)	280.3 (-8)	273.8 (-10)	374.6 (23)
Maritimes	38.9	36.0 (-8)	33.0 (-15)	32.2 (-17)	27.3 (-30)
Canada	961.9	938.7 (-2)	917.2 (-5)	901.9 (-6)	922.1 (-4)

under the scenarios detailed. These changes are not that large but it should be noted that in the base case DFT payments average (excluding Quebec) about 7.7% of market receipts for the beef sector and 9.7% for the hog sector. The own price elasticities used are also relatively small.

In terms of interprovincial adjustments the most significant changes are noted in Quebec. Comparing the base with scenario #4 the cow herd in Quebec is reduced by approximately 12%, sow numbers by 10%, high quality beef output falls by 19% and pork production by 10%. Changes in the output levels of other provinces are less dramatic than these, although the Maritimes is expected to reduce hog numbers and pork output by about 8% in scenario #2, by about 15% in the Tripartite scenario and by about 17% under the no payments option.

Adjustments between the remaining provinces vary as shown in these tables. In general, changes noted are fairly small. There are some changes in the flows of feeder and slaughter animals between provinces and these changes impact upon some of the production levels. For example, the production of high quality beef in Manitoba is down significantly for all scenarios while that of Ontario is up by approximately 7%. Manitoba currently has payments to the finishing sector amounting to $8.83 per $100 receipts while those in Ontario are $3.61 and this accounts for the change.

Since Ontario has the lowest level of DFTs in the base case, it suffers proportionately less as DFTs approach zero. If scenarios #1 and 4 are compared the following changes in high quality

beef production levels are noted: B.C. down 2%, Alberta down 1%, Saskatchewan down 10%, Manitoba down 11%, Ontario up 6%, Quebec down 19% and the Maritimes up 10%. In the case of hogs, B.C., Alberta and Saskatchewan decrease output by 2%, Manitoba by 7%, Ontario by 4%, Quebec by 10% and the Maritimes by 17%. These provincial differences are fairly substantial.

4.5 Feed Grain Usage

Tables 4.16 and 4.17 report estimated usage of feed grains in the beef and hog sectors respectively. Changes in requirements will approximate changes in herd sizes although the relative importance of the cow-calf herd vis-a-vis that of the feedlot sector will determine quantities fed. It is noted that at the aggregate level estimated use is 4.1 million tonnes for the beef sector and 7.5 million tonnes for the hog sector. Under the scenarios reported the use levels decline about 2% (except #5) in the case of beef and about 5% in the case of hogs. Quebec generally feeds less because of the greater reduction in the size of the herd relative to other provinces. There are also changes in Manitoba and Ontario corresponding to the changes in shipments of animals from Manitoba to Ontario. In general, this movement is from Western Canada to Eastern Canada but numbers are fairly sensitive to changes in some of the transportation costs and other coefficients of the model.

Table 4.16: Feed Grain Usage by Provincial Beef Sector Under Different Payment Schemes (thousand tonnes)

PROVINCE	1 BASE CASE (1981-86)	2 AVG. FED PAYMENT (1981-86)	3 AVG. TRIPARTITE PAYMENT (1986-90)	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS (1988)
B.C.	151.6	149.0 (-2)	148.9 (-2)	149.0 (-2)	185.0 (22)
Alberta	1812.5	1804.5 (-4)	1787.0 (-1)	1790.3 (-1)	1809.3 (-0.2)
Sask.	517.6	563.3 (9)	473.8 (-8)	479.0 (-7)	567.4 (10)
Manitoba	478.8	358.2 (-25)	449.1 (-7)	439.6 (-8)	415.8 (-13)
Ontario	899.3	927.8 (3)	917.0 (2)	922.4 (3)	945.7 (5)
Quebec	156.0	153.9 (-1)	132.4 (-15)	132.3 (-15)	156.4 (.3)
Maritimes	70.0	76.2 (9)	74.5 (6)	74.6 (6)	70.2 (0.2)
Canada	4085.8	4032.9 (-1)	3977.7 (-3)	3987.2 (-2)	4149.8 (2)

Table 4.17: Feed Grain Usage by Provincial Hog Sector Under Different Payment Schemes (thousand tonnes)

PROVINCE	1 BASE CASE (1981-86)	2 AVG. FED PAYMENT (1981-86)	3 AVG. TRIPARTITE PAYMENT (1986-90)	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS (1988)
B.C.	176.9	175.6 (-0.7)	174.6 (-1)	173.9 (-2)	168.4 (-5)
Alberta	988.5	980.7 (-0.8)	973.9 (-2)	970.1 (-2)	935.2 (-5)
Sask.	434.2	430.8 (-0.8)	427.8 (-2)	427.0 (-2)	418.3 (-4)
Manitoba	757.5	739.8 (-2)	726.3 (-4)	708.0 (-7)	531.2 (-30)
Ontario	2614.4	2598.8 (-0.6)	2560.6 (-2)	2521.1 (-4)	2150.0 (-18)
Quebec	2302.4	2194.9 (-5)	2114.2 (-8)	2064.9 (-10)	2825.0 (23)
Maritimes	271.7	251.3 (-8)	230.2 (-15)	224.7 (-17)	190.5 (-30)
Canada	7545.6	7371.9 (-2)	7207.6 (-4)	7089.7 (-6)	7218.6 (-4)

4.6 Interprovincial Trade Movements and Net Exports from Canada

Given that domestic retail prices are related to export prices and that this exogenous export price is held constant in the scenarios examined, domestic consumption levels of beef and pork are relatively stable. Changes in relative production levels within and between provinces do impact upon interprovincial movements and exports of live animals, beef and pork. Canada is in a net export position for beef and pork, and production levels would need to decrease fairly significantly before the country would move up the demand functions to an import position. The approach followed is to allow domestic price to vary between upper and lower bounds, which are related to the import and export prices.

Table 4.18 provides a summary of net exports for selected beef and pork commodities. Under the base situation there is a net inflow of 12 thousand calves, exports of high quality beef and pork amount to 69 and 271 thousand tonnes, and imports of low quality beef amount to 23 million tonnes. Under scenario #2, exports of high quality beef decrease about 4%, pork exports decline by 9% and there is a 40% increase in the amount of low quality beef imported. The changes for scenario #3 and 4 follow these trends. In absolute terms these changes are less significant because in the base case exports of 69 thousand tonnes of high quality beef represent a small fraction of total production (11%). It is estimated that 607 thousand tonnes of high quality beef are produced in Canada in the base case. Pork production in the base situation is estimated to be 962 thousand tonnes with exports of

Table 4.18: Net Exports of Beef and Pork Commodities by Canada Under Different Payment Schemes

COMMODITY	1 BASE CASE (1981-86)	2 AVG. FED PAYMENT (1981-86)	3 AVG. TRIPARTITE PAYMENT (1986-90)	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS (1988)
Calves & Yearlings (thou.head)	-12.2	-12.2 (0)	-12.2 (0)	-12.2 (0)	-1.1 (91)
Dressed HQB (thou.tonnes)	68.9	66.0 (-4)	55.4 (-19)	57.4 (-17)	103.5 (50)
Dressed LQB (thou.tonnes)	-22.9	-32.0 (40)	-32.1 (40)	-31.4 (37)	-5.2 (-77)
Dressed Pork (thou.tonnes)	271.0	247.7 (-9)	226.2 (-17)	210.9 (-22)	234.1 (-14)

271 thousand tonnes. Under the no payment scenario exports of high quality beef are down to 57.4 thousand tonnes (a decrease of 17%) and imports of low quality beef increase by 37%. Exports of pork fall from 271 thousand tonnes to 211 thousand tonnes. These changes have interesting implications given the countervailing duties case against Canadian producers recently argued by the U.S.

In Tables 4.19 to 4.22 changes in net interprovincial and export movements of feedlot calves and yearlings, high and low quality beef and pork are presented. Fairly dramatic changes in the flows of feeder calves between Manitoba and Ontario are observed which result in significant changes in beef production.

Flows between provinces are sensitive to changes in the level of government payments, to changes in transportation rates and, ultimately, to changes in the profitability of producing one type of animal versus another in each of the provinces. The close links between livestock and meat prices in Canada and the United States market are also important. Prices in Canada for the different livestock and meat products should equal those in the U.S. less transfer costs when Canada is exporting and equal U.S. price plus transfer costs when we are importing.

Moschini and Meilke (1987) have discussed problems involved in attempting to examine some of these price differences in a spatial analysis. It is suggested that further work along these lines may be useful in terms of future CRAM developments.

4.7 Beef and Hog Sector Earnings

Estimated earnings for each of the beef and hog sectors are presented in Tables 4.23 and 4.24. These summarize the changes reported in the sections above and are important from a policy analysis aspect.

Income to each of the sectors is calculated as total revenue less total variable costs of production. Revenue is calculated as production multiplied by farmgate price. This is adjusted for changes in the value of inventories. Shipments of animals between provinces are accounted for by crediting the exporting province and debiting the importing province. Direct financial transfers received by the sector are also treated as revenue. Total variable

Table 4.19: Interprovincial Trade and Net Exports of Feedlot Calves and Yearlings Under Different Payment Schemes (thousand head)

PROVINCE	1 BASE CASE (1981-86)	2 AVG. FED PAYMENT (1981-86)	3 AVG. TRIPARTITE PAYMENT (1986-90)	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS (1988)
B.C.	28.4	27.8 (-2)	26.6 (-6)	27.0 (-5)	4.9 (-83)
Alberta	-96.4	-96.4 (-2)	-98.9 (-4)	-98.2 (-3)	-65.8 (31)
Sask.	347.7	304.5 (-12)	360.5 (4)	359.0 (3)	309.8 (-11)
Manitoba	-23.6	74.5 (416)	1.1 (-105)	5.7 (-124)	41.1 (274)
Ontario	-398.7	-434.6 (-9)	-428.9 (-8)	-434.0 (-9)	-427.8 (-7)
Quebec	115.1	104.6 (-9)	120.0 (4)	120.7 (5)	120.7 (5)
Maritimes	13.9	7.3 (-47)	7.3 (-47)	7.4 (-47)	15.8 (14)
Canada	-12.1	-12.3 (-2)	-12.3 (-2)	-12.4 (-3)	-1.3 (89)

Table 4.20: Interprovincial Trade and Net Exports of Dressed High Quality Beef by Province Under Different Payment Schemes (thousand tonnes)

PROVINCE	1 BASE CASE (1981-86)	2 AVG. FED PAYMENT (1981-86)	3 AVG. TRIPARTITE PAYMENT (1986-90)	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS (1988)
B.C.	-43.1	-40.7 (46)	-40.7 (46)	-40.7 (6)	-32.1 (26)
Alberta	207.9	208.9 (-0.5)	206.3 (-1)	206.8 (-0.5)	209.6 (0.8)
Sask.	36.1	46.9 (30)	21.8 (-40)	31.2 (-13)	47.4 (31)
Manitoba	47.7	24.8 (-48)	50.9 (7)	41.2 (-14)	36.2 (-24)
Ontario	-25.2	-9.5 (62)	-12.7 (49)	-11.1 (56)	-0.6 (98)
Quebec	-116.3	-112.9 (3)	-118.2 (-2)	-118.2 (-2)	-106.2 (9)
Maritimes	-38.3	-35.5 (7)	-35.8 (6)	-35.8 (6)	-34.8 (9)
Canada	68.9	82 (19)	71.6 (4)	73.4 (7)	119.5 (74)

Table 4.21: Interprovincial Trade and Net Exports of Dressed Low Quality Beef by Province Under Different Payment Schemes (thousand tonnes)

PROVINCE	1 BASE CASE (1981-86)	2 AVG. FED PAYMENT (1981-86)	3 AVG. TRIPARTITE PAYMENT (1986-90)	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS (1988)
B.C.	-32.2	-31.4 (3)	-31.3 (3)	-31.4 (3)	-34.8 (-8)
Alberta	93.2	77.4 (-17)	76.2 (-18)	76.4 (-18)	96.8 (4)
Sask.	16.8	9.8 (-42)	30.4 (81)	21.5 (28)	10.5 (-38)
Manitoba	21.5	39.5 (84)	18.3 (-14)	27.3 (27)	32.4 (51)
Ontario	-49.1	-48.3 (2)	-52.4 (-7)	-52.2 (-6)	-38.5 (22)
Quebec	-47.7	-47.7 (1)	-42.3 (11)	-42.3 (11)	-42.8 (10)
Maritimes	-25.3	-26.4 (-4)	-25.7 (-2)	-25.7 (-2)	-23.5 (7)
Canada	-22.8	-26.8 (-17)	-26.8 (-17)	-26.4 (-16)	-0.1 (100)

Table 4.22: Interprovincial Trade and Net Exports of Dressed Pork by Province Under Different Payment Schemes (thousand tonnes)

PROVINCE	1 BASE CASE (1981-86)	2 AVG. FED PAYMENT (1981-86)	3 AVG. TRIPARTITE PAYMENT (1986-90)	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS (1988)
B.C.	-35.3	-35.5 (-0.6)	-35.6 (-0.8)	-35.7 (-1)	-35.2 (0.4)
Alberta	40.6	39.6 (-2)	38.7 (-5)	38.2 (-6)	34.5 (-15)
Sask.	23.9	23.5 (-2)	23.1 (-3)	23.0 (-4)	22.5 (-6)
Manitoba	81.1	78.4 (-3)	76.3 (-6)	73.5 (-9)	46.7 (-43)
Ontario	19.4	17.6 (-9)	13.3 (-31)	8.8 (-55)	-33.4 (-272)
Quebec	165.0	150.7 (-9)	140.0 (-15)	133.5 (-19)	234.3 (42)
Maritimes	-23.7	-26.6 (-12)	-29.6 (-25)	-30.4 (-28)	-35.3 (-49)
Canada	271.0	247.7 (9)	226.2 (17)	210.9 (22)	234.1 (-14)

costs are a summation of cash production costs, feed costs, the value of shipments into the sector, and transportation costs for importing provinces. Transfers of animals between the dairy and beef sectors are also accounted for.

In the base case earnings to the beef sector amount to $1.3 billion. It was noted in Table 4.6 that DFTs in the base situation amounted to $243 million and therefore net sector earnings in the absence of all DFTs amount of $1.08 billion. In scenario #4, which represents the no payments situation, earnings are $1.17 billion. These are 12% lower than the base with government payments but slightly higher than the base in the absence of payments.

At the national level beef sector earnings fall by 2% for scenario #2 and by 12% for scenario #3 and #4. Direct financial transfers in the base case amount to approximately 18% of total sector earnings and therefore when these are reduced or eliminated a corresponding reduction in sector earnings is noted. Under scenario #2 DFTs are approximately half that of the base case, they are approximately 100% less in scenarios #3 and 4 and about 12% less in scenario #5 (Table 4.6). The fall in sector earnings in scenarios #3 and 4 is 12% and this results from a 2% decline in the cow herd noted in Table 4.10 as well as the effective removal of support payments. In the case of scenario #5, where cow numbers increase by 2% at the national level, sector earnings are expected to increase by 19%.

Interprovincial changes for the beef sector are best examined by comparing the base situation to that of scenario #4 where

Table 4.23: Beef Sector Earnings by Province Under Different Payment Schemes (million dollars)

PROVINCE	1 BASE CASE (1981-86)	2 AVG. FED PAYMENT (1981-86)	3 AVG. TRIPARTITE PAYMENT (1986-90)	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS (1988)
B.C.	53.2	44.8 (-16)	39.6 (-26)	39.5 (-26)	86.8 (63)
Alberta	535.3	556.5 (-4)	507.4 (-5)	508.7 (-5)	615.4 (15)
Sask.	210.7	225.5 (7)	167.3 (-21)	168.7 (-20)	250.0 (19)
Manitoba	139.7	106.8 (-24)	125.5 (-10)	123.1 (-12)	148.2 (6)
Ontario	247.5	265.2 (7)	255.4 (3)	257.4 (4)	320.5 (30)
Quebec	114.4	77.9 (-32)	50.6 (-56)	50.6 (-56)	132.3 (16)
Maritimes	27.6	31.0 (12)	26.0 (-6)	26.0 (-6)	32.9 (19)
Canada	1328.4	1307.7 (-2)	1171.8 (-12)	1174.0 (-12)	1586.1 (19)

Table 4.24: Hog Sector Earnings by Province Under Different Payment Schemes (million dollars)

PROVINCE	1 BASE CASE (1981-86)	2 AVG. FED PAYMENT (1981-86)	3 AVG. TRIPARTITE PAYMENT (1986-90)	4 NO RED MEAT PAYMENTS	5 FORECASTED PAYMENTS (1988)
B.C.	46.3	44.4 (-4)	42.4 (-8)	41.7 (-10)	45.9 (-0.9)
Alberta	274.9	263.0 (-4)	249.9 (-9)	245.5 (-11)	266.9 (-3)
Sask.	102.1	95.0 (-7)	88.3 (-14)	86.8 (-15)	98.9 (-3)
Manitoba	250.2	240.1 (-4)	231.2 (-8)	222.4 (-11)	183.1 (-27)
Ontario	489.0	480.7 (-2)	458.1 (-6)	443.2 (-9)	412.8 (-16)
Quebec	555.6	506.5 (-2)	467.4 (-16)	449.1 (-19)	709.6 (28)
Maritimes	85.7	75.9 (-12)	62.6 (-27)	60.2 (-30)	61.0 (-29)
Canada	1803.8	1705.6 (-5)	1599.9 (-11)	1548.9 (-14)	1778.2 (-1)

no DFTs are made. In B.C. earnings are down by 26%, in Alberta by 5%, approximately 20% down in Saskatchewan, Manitoba down 12%, 4% up in Ontario, 56% down in Quebec and 6% down in the Maritimes. These changes correspond approximately to the reduction in DFTs in terms of absolute amounts. The scenarios examined did not allow for market price changes (except for #5) or feed price changes and therefore the results are not surprising. However, the results do clarify some of the interrelationships between herd sizes, production levels, trade flows and sector earnings. Ontario, with lower levels of support, is the only province where sector earnings are up.

In scenario #5, where provincial programs play a more dominant role, changes in sector earnings differ quite substantially by province. In B.C. earnings are up 63%. They are also up in the Prairie provinces, up 16% in Quebec and up 19% in the Maritimes. The overall change is an increase in earnings of approximately 19% over the base.

Table 4.24 summarizes results for the hog sector. Earnings in the base case are $1.8 billion. These drop to $1.7 billion in scenario #2, to about $1.5 billion in scenarios #3 and 4 and to $1.8 billion in the forecasted situation for 1988. These changes represent -5%, -11%, -14% and -1% declines, respectively. In all cases the decline in earnings is more than the absolute decline in DFTs and therefore the results differ from those for the beef sector. The differences are explained by differences in the retention function elasticities assumed for the beef and hog

sectors.

For scenarios 2, 3 and 4, interprovincial changes in hog sector earnings do not differ significantly (Table 4.24). With the exception of Quebec and the Maritimes the decline in sector earnings for scenario #4 falls between 9% for Ontario and 15% for Saskatchewan. Substantial differences are noted in scenario #5 where DFTs vary by province and earning changes vary from -27% for Manitoba to +28% for Quebec. The elasticity of own price with respect to sow numbers was fairly high for Manitoba. This, coupled with the relative changes in DFTs, results in the decline in sector earnings of 27%.

4.8 Summary

There are significant changes in sector level earnings by province for each of the beef and hog sectors as one moves from the base situation where DFTs are set at their historical level to situations where DFT payments between provinces are equalized or gradually eliminated. Although changes in the size of the breeding herd or in the number of sows farrowing are less dramatic the changes in net sector earnings are substantial. Under a tripartite scenario it is shown that sector earnings to beef producers are down 26% for B.C., down 56% for Quebec, down 21% for Saskatchewan, down 10% for Manitoba, but up 4% for Ontario. Ontario, currently with the lowest level of DFT payments to the beef sector, is obviously better positioned to face open market conditions. In the hog sector, earnings are down by 19% for Quebec, 15% for Sas-

katchewan, 11% for Alberta, 10% for B.C. and 9% for Ontario. Hog producers in Quebec and Saskatchewan are therefore affected most by a move towards lower support levels or free market prices.

CHAPTER 5

SUMMARY AND CONCLUSIONS

Within Canada one finds a large number of federal and provincial programs that either directly or indirectly affect the incomes of producers. Wide differences in the levels of support also exist between provinces. Sector earnings in each of the provinces and their trading patterns are affected by these differing levels of support.

This study has two broad objectives, namely:

1. To select an appropriate method to incorporate product price and factor cost relationships into the beef and hog components of the Canadian Regional Agricultural Model (CRAM).

2. To evaluate the impact of selected agricultural policies or programs on regional production patterns and supply responses for the beef and hog sectors in the short and longer term. More specifically, to examine reductions, equalization or elimination of federal and provincial government payments within and between provinces and to measure the impact of these changes in government payments on regional and national beef and pork production patterns, on trade flows and on regional and national gross farm incomes.

In terms of the first objective, it is extremely difficult to endogenize product price and factor cost relationships into livestock retention functions within a mathematical programming model without making unrealistic assumptions. The method adopted in this study allows cow and sow numbers to adjust based on retention function elasticities estimated by econometric methods.

Martin and van Duren (1987) have provided estimates of direct financial transfers made by provincial and federal govern-

ments to beef and hog producers by province over the period 1981/82 to 1985/86. The impact of selected policy changes in which DFT payments are reduced or eliminated can be estimated using CRAM. Five alternatives are examined in this study:

1. **The Base Case:** Farm returns to producers include DFT payments in both the input and output markets by both federal and provincial governments with 1985/86 representing the base year.

2. **Equal Output Program Payments:** Provincial output programs are eliminated and federal output program benefits are equalized across all provinces. Input program benefits remain and therefore total net benefits vary by province.

3. **Tripartite Scenario with No Provincial Government Transfers:** All DFTs on input programs are eliminated, provincial government output payments are also eliminated and therefore federal government output payments are made only in situations where market prices fall under the tripartite agreement levels. Expected output payments over the period 1986 to 1990 are averaged in this scenario.

4. **Market Price Scenario:** All DFTs are eliminated.

5. **Anticipated Payment Levels for 1988:** Using expected market prices and expected levels of net payouts for federal and provincial stabilization programs an estimate of DFTs for 1988 is provided. Input programs are left at their 1981/82 to 1985/86 average.

Sector earnings for each of these scenarios for the beef and hog sectors are presented in Tables 4.23 and 4.24. Sector earnings are calculated as total revenue less total variable costs of production. Revenue is based on the value of output but this is adjusted for changes in the value of inventories, shipments of live animals, and direct financial transfers. On the cost side, total variable costs are a summation of cash production costs, feed costs, and the value of live animals shipped into the sector

including transportation costs. Transfer of animals from the dairy to the beef sector is also accounted for.

In the base case beef sector earnings as shown in Table 4.23 amount to $1.3 billion. Direct financial transfers amount to $243 million and therefore net sector earnings in the absence of DFTs amount to $1.08 billion. At the national level sector earnings fall by 2% for scenario #2 and by 12% for scenarios #3 and #4. Direct financial transfers in the base case amount to approximately 18% of total sector earnings. Under scenario #2 DFTs are approximately half that of the base case, they are approximately 100% less in scenarios #3 and 4, and about 30% less in scenario #5. The fall in sector earnings in scenarios #3 and 4 of 12% is also attributable to a 2% decline in the cow herd's size.

Interprovincial changes are best examined by comparing the base situation to that of scenario #4 where no DFTs are made. In B.C. earnings are down by 26%, in Alberta by 5%, 20% down in Saskatchewan and down 12% in Manitoba, up 4% in Ontario, 56% down in Quebec and 6% down in the Maritimes. These changes correspond approximately to the reduction in DFTs in terms of absolute amounts. In scenario #5 where provincial programs play a more dominant role changes in sector earnings differ quite substantially. In B.C. earnings are up 63% while in Manitoba they are up 6%. The overall change is an increase in earnings of approximately 19% over the base.

Table 4.24 summarizes results for the hog sector. Earnings in the base case are $1.8 billion, these drop to $1.7 billion in

scenario #2, to about $1.5 billion in scenarios #3 and 4 and to $1.8 billion in the forecasted situation for 1988. These changes represent declines of -5%, -11%, -14% and -1%, respectively. The decline in earnings is more than the decline in DFTs and therefore the results differ from those for the beef sector in this respect. The differences may be explained by differences in the retention function elasticities assumed for the beef and hog sectors.

Changes in interprovincial hog sector earnings differ under each of the scenarios. The decline in sector earnings for scenario #4 is 9% for Ontario, 15% for Saskatchewan, 19% for Quebec and 30% for the Maritimes. Substantial differences are noted in scenario #5 where DFTs vary by province and earnings changes vary from -27% for Manitoba to 28% for Quebec. The elasticity of own price with respect to sow numbers was fairly high for Manitoba and therefore when DFTs are forecast to decline 10% an adjustment in sector earnings of 27% is noted.

There are significant changes in sector level earnings by province for each of the beef and hog sectors as one moves from the base situation where DFTs are set at their historical level to situations where DFT payments between provinces are equalized or gradually eliminated. Changes in the size of the breeding herd in the case of the beef sector or in the number of sows farrowing in the case of the hog sector are less dramatic. Under a tripartite scenario sector earnings to beef producers are down in all provinces except Ontario. Ontario, currently with the lowest level of DFT payments to the beef sector, is obviously better positioned to

face open market conditions. In the hog sector producers in Quebec and Saskatchewan are affected most by a move towards lower support levels or free market prices and Ontario producers the least.

Conclusions

It has been shown that interprovincial trade movements, imports and exports and sector earnings are affected by the differing levels of DFTs made by both the federal and provincial governments to producers in the different provinces. The changes in trade flows noted are relatively small as a pecentage of total production in each of the provinces but can amount to about 5 to 20% of net trade depending on the policy change examined.

Producers will be reluctant to see policy changes that result in reduced levels of income unless these are broadly based and the movement is towards a common goal. On the other hand, trading partners who are currently adversely affected by the differing levels of support will argue that any program or policy that is not trade-neutral in its impacts is "unfair" and will want to see changes. There is a need for both provincial and federal policy makers to attempt to iron out differences in support programs and harmonize domestic policies.

The approach adopted in this study has made several assumptions and further work is required to refine these. Firstly, in the absence of better information, the own price elasticities for the retention functions assume that producers view a dollar received from the market as being equivalent to a dollar received via

DFTs. For some programs such an assumption may be valid but where DFT payment levels are decided upon after production decisions are made or where the payment is uncertain it is unlikely that producers will treat the two sources as being equal. The methodology developed does allow different responses to market price and DFT changes but reliable retention function elasticities for these two types of responses are not currently available.

The analysis has summed all programs where DFTs are involved and input and output program payments are treated as being equivalent. Under this approach it is assumed that producers respond similarly to all forms of DFTs. However, it might be more useful to examine individual programs and their impacts since, from a policy perspective, marginal changes are often more acceptable and sometimes easier to implement.

This study and its recommendations should not be interpreted to suggest the elimination of all government programs in agriculture. Scenario #3, the tripartite scenario, examines a policy change where there is agreement between the provinces and the federal government as to the operation of a stabilization program. Warley has argued that many view a program of this sort as having a minimal effect on production and consumption and therefore for all practical purposes should be viewed as being trade neutral. Provinces currently not participating in this tripartite stabilization program are encouraged to review these results and may wish to examine certain policy changes in terms of their own needs. The analytical framework presented in this study allows selective

policy changes to be examined relatively easily.

Finally, in terms of policy changes that are being debated at international meetings, it is important that our own domestic policies be in line with our position at this level. The emphasis is on a market-oriented agriculture and red meat producers in Canada, who are amongst the most efficient, have argued that we can compete effectively in this market. Canadian producers want to see changes in policies in other countries where market forces have been distorted. It is highly likely that the longer-run gains through a harmonization of domestic policies will outweigh some of the shorter-run sector losses shown in this study.

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APPENDIX - TABLES

Table A1 . Base Situation: Historical Average of DFTs (1981/82 to 1985/86) to the Cow-Calf Sector

	PROVINCIAL	FEDERAL	PROVINCIAL	FEDERAL	TOTAL
Payments for $100 Receipts					
Maritimes	8.49	1.06	0	0	9.70
Quebec	14.62	1.73	28.85	0	45.20
Ontario	1.46	0.93	2.96	0	5.35
Manitoba	0.41	1.17	2.65	0.03	4.25
Sask.	4.39	3.35	2.39	0	10.13
Alberta	1.98	2.77	2.91	0	7.66
B.C.	1.34	2.00	8.56	0.06	11.96
Payments per Head					
Maritimes	35.49	4.13	0	0	40.93
Quebec	51.44	6.60	104.59	0	162.63
Ontario	6.18	3.74	11.48	0	21.40
Manitoba	1.57	4.51	10.22	0.11	16.41
Sask.	17.89	13.36	9.44	0.01	40.68
Alberta	8.00	11.18	10.95	0	30.13
B.C.	5.21	13.53	33.39	0.26	52.39

Table A2 . Base Situation: Historical Average of DFTs (1981/82 to 1985/86) to the Finishing Sector

	INPUT PROGRAMS		OUTPUT PROGRAMS		
	PROVINCIAL	FEDERAL	PROVINCIAL	FEDERAL	TOTAL
Payments for $100 Receipts					
Maritimes	9.27	1.05	0	0.06	0
Quebec	11.59	1.61	24.64	0	37.84
Ontario	1.09	0.82	1.69	0	3.61
Manitoba	0.46	1.12	7.23	0.03	8.83
Sask.	1.54	3.32	5.92	0	10.78
Alberta	1.02	2.71	3.38	0	7.10
B.C.	1.78	1.95	12.85	0.06	16.64
Payments per Head					
Maritimes	23.58	4.91	0	0.29	0
Quebec	48.73	7.00	105.87	0	161.61
Ontario	6.36	4.69	9.39	0	20.45
Manitoba	2.12	5.02	32.81	0.13	40.09
Sask.	6.43	13.37	24.58	0.01	44.39
Alberta	4.72	12.45	15.83	0	32.99
B.C.	7.56	8.83	53.96	0.29	70.64

Table A3 . Base Situation: Historical Average of DFTs (1981/82 to 1985/86) to the Hog Sector

	INPUT PROGRAMS		OUTPUT PROGRAMS		
	PROVINCIAL	FEDERAL	PROVINCIAL	FEDERAL	TOTAL
Payments for $100 Receipts					
Maritimes	6.65	0.99	0	0	16.98
Quebec	1.61	1.60	4.36	1.91	9.48
Ontario	1.11	0.83	0.50	2.22	4.67
Manitoba	0.34	1.12	1.81	2.12	5.39
Sask.	2.02	3.33	6.68	1.79	13.81
Alberta	1.10	2.70	3.89	1.91	9.52
B.C.	0.96	1.74	5.00	0.61	8.31
Payments per Head					
Maritimes	11.86	1.34	0	0	22.06
Quebec	2.08	2.00	5.34	2.33	11.91
Ontario	1.62	1.18	0.71	3.05	6.57
Manitoba	0.45	1.49	2.27	2.71	6.93
Sask.	2.77	4.55	8.85	2.22	18.37
Alberta	1.35	3.69	5.08	2.46	12.57
B.C.	1.25	2.92	6.22	1.11	11.51

Table A4 . Scenario #2: Weighted Average of Federal Output Payment Programs (1981/82 to 1985/86) with INPUT DFTs Included - Cow-Calf Sector

	INPUT PROGRAMS		OUTPUT PROGRAMS		
	PROVINCIAL	FEDERAL	PROVINCIAL	FEDERAL	TOTAL
Payments for $100 Receipts					
Maritimes	8.49	1.06	0	0.0080	9.56
Quebec	14.62	1.73	0	0.0080	16.36
Ontario	1.46	0.93	0	0.0080	2.40
Manitoba	0.41	1.17	0	0.0080	1.59
Sask.	4.39	3.35	0	0.0080	7.75
Alberta	1.98	2.77	0	0.0080	4.76
B.C.	1.34	2.00	0	0.0080	3.35
Payments per Head					
Maritimes	35.49	4.13	0	0.0343	39.65
Quebec	51.44	6.60	0	0.0343	58.07
Ontario	6.18	3.74	0	0.0343	9.95
Manitoba	1.57	4.51	0	0.0343	6.11
Sask.	17.89	13.36	0	0.0343	31.28
Alberta	8.00	11.18	0	0.0343	19.21
B.C.	5.21	13.53	0	0.0343	18.77

Table A5 . Scenario #2: Weighted Average of Federal Output Payment Programs (1981/82 to 1985/86) with INPUT DFTs Included - Finishing Sector

	INPUT PROGRAMS		OUTPUT PROGRAMS		
	PROVINCIAL	FEDERAL	PROVINCIAL	FEDERAL	TOTAL
Payments for $100 Receipts					
Maritimes	9.27	1.05	0	0.0069	10.33
Quebec	11.59	1.61	0	0.0069	13.21
Ontario	1.09	0.82	0	0.0069	1.92
Manitoba	0.46	1.12	0	0.0069	1.59
Sask.	1.54	3.32	0	0.0069	4.87
Alberta	1.02	2.71	0	0.0069	3.74
B.C.	1.78	1.95	0	0.0069	3.74
Payments per Head					
Maritimes	23.58	4.91	0	0.0318	28.52
Quebec	48.73	7.00	0	0.0318	55.76
Ontario	6.36	4.69	0	0.0318	11.08
Manitoba	2.12	5.02	0	0.0318	7.17
Sask.	6.43	13.37	0	0.0318	19.83
Alberta	4.72	12.45	0	0.0318	17.20
B.C.	7.56	8.83	0	0.0318	16.42

Table A6 . Scenario #2: Weighted Average of Federal Output Payment Programs (1981/82 to 1985/86) with INPUT DFTs Included Hog Sector

	INPUT PROGRAMS		OUTPUT PROGRAMS		
	PROVINCIAL	FEDERAL	PROVINCIAL	FEDERAL	TOTAL
Payments for $100 Receipts					
Maritimes	6.65	0.99	0	1.98	9.62
Quebec	1.61	1.60	0	1.98	5.19
Ontario	1.11	0.83	0	1.98	3.92
Manitoba	0.34	1.12	0	1.98	3.44
Sask.	2.02	3.33	0	1.98	7.33
Alberta	1.01	2.70	0	1.98	5.69
B.C.	0.96	1.74	0	1.98	4.68
Payments per Head					
Maritimes	11.86	1.34	0	2.56	15.76
Quebec	2.08	2.00	0	2.56	6.64
Ontario	1.62	1.18	0	2.56	5.36
Manitoba	0.45	1.49	0	2.56	4.50
Sask.	2.77	4.55	0	2.56	9.88
Alberta	1.35	3.69	0	2.56	7.60
B.C.	1.25	2.92	0	2.56	6.73

Table A7 . Scenario #5: Estimated DFTs for 1988 Under Existing Programs - Cow-Calf Sector

	INPUT PROGRAMS		OUTPUT PROGRAMS		
	PROVINCIAL	FEDERAL	PROVINCIAL	FEDERAL	TOTAL
Payments for $100 Receipts					
Maritimes	8.49	1.06	0	-1.02	8.53
Quebec	14.62	1.73	21.85	0	38.20
Ontario	1.46	0.93	0	-1.02	1.37
Manitoba	0.41	1.17	-1.99	0	-0.41
Sask.	4.39	3.35	-5.96	0	1.78
Alberta	1.98	2.77	0	-1.02	3.73
B.C.	1.34	2.00	8.16	0	11.50
Payments per Head					
Maritimes	35.49	4.13	0	-4.14	35.48
Quebec	51.44	6.60	88.49	0	146.53
Ontario	6.18	3.74	0	-4.14	5.78
Manitoba	1.57	4.51	-8.28	0	-2.20
Sask.	17.89	13.36	-18.00	0	13.25
Alberta	8.00	11.18	0	-4.14	15.04
B.C.	5.21	13.53	32.15	0	50.89

Table A8 . Scenario #5: Estimated DFTs for 1988 Under Existing Programs - Finishing Sector

	INPUT PROGRAMS		OUTPUT PROGRAMS		
	PROVINCIAL	FEDERAL	PROVINCIAL	FEDERAL	TOTAL
Payments for $100 Receipts					
Maritimes	9.27	1.05	0	0.87	11.19
Quebec	11.59	1.61	15.44	0	28.64
Ontario	1.09	0.82	0	0.87	2.78
Manitoba	0.46	1.12	-6.50	0	4.92
Sask.	1.54	3.32	7.94	0	12.80
Alberta	1.02	2.71	0	0.87	4.60
B.C.	1.78	1.95	15.73	0	19.46
Payments per Head					
Maritimes	23.58	4.91	0	8.03	36.52
Quebec	48.73	7.00	155.67	0	211.40
Ontario	6.36	4.69	0	8.03	19.08
Manitoba	2.12	5.02	-58.64	0	61.54
Sask.	6.43	13.37	75.28	0	95.08
Alberta	4.72	12.45	0	8.03	25.20
B.C.	7.56	8.83	146.84	0	163.23

Table A9 . Scenario #5: Estimated DFTs for 1988 Under Existing Programs - Hog Sector

	INPUT PROGRAMS		OUTPUT PROGRAMS		
	PROVINCIAL	FEDERAL	PROVINCIAL	FEDERAL	TOTAL
Payments for $100 Receipts					
Maritimes	6.65	0.99	10.77	0	18.41
Quebec	1.61	1.60	11.13	0	14.34
Ontario	1.11	0.83	0	6.29	8.23
Manitoba	0.34	1.12	0	6.29	7.75
Sask.	2.02	3.33	0.52	6.29	12.16
Alberta	1.01	2.70	0	6.29	10.00
B.C.	0.96	1.74	7.36	0	10.06
Payments per Head					
Maritimes	11.36	1.34	11.43	0	24.13
Quebec	2.08	2.00	12.77	0	16.85
Ontario	1.62	1.18	0	6.67	9.47
Manitoba	0.45	1.49	0	6.67	8.61
Sask.	2.77	4.55	0.54	6.67	14.53
Alberta	1.35	3.69	0	6.67	11.71
B.C.	1.25	2.92	8.32	0	12.49

TABLE 1A. BRITISH COLUMBIA BEEF STOCKS

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
B0B0B120	HQB YIELDS (CC & FL)	20561.9	20121.1	-440.8	-2.1
B0B0B130	LQB YIELDS (CC & FL)	14789.1	14606.6	-182.5	-1.2
B0BOS011	O/S BREED. HERD(i)	180000.0	175267.8	-4732.2	-2.6
B0BOS012	O/S BREED. HERD(ii)	0.0	0.0	0.0	0.0
B0BOS013	O/S BREED. HERD(iii)	0.0	0.0	0.0	0.0
B0BOS021	O/S REPLACEMENTS(i)	37000.0	35271.7	-1728.3	-4.7
B0BOS031	O/S STOCKERS(i)	103633.0	101402.1	-2230.9	-2.2
B0BOS041	O/S FDLT CALF(hg/hg)	25943.0	25211.9	-731.1	-2.8
B0BOS042	O/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
B0BOS043	O/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
B0BOS044	O/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
B0BOS081	O/S FDLT LNG YRLG(i)	40000.0	37140.2	-2859.8	-7.1
B0BOS005	O/S BULLS (head)	12500.0	12500.0	0.0	0.0
B0BCS011	C/S BREED. HERD(i)	180000.0	175267.8	-4732.2	-2.6
B0BCS012	C/S BREED. HERD(ii)	0.0	0.0	0.0	0.0
B0BCS013	C/S BREED. HERD(iii)	0.0	0.0	0.0	0.0
B0BCS021	C/S REPLACEMENTS(i)	37000.0	35271.7	-1728.3	-4.7
B0BCS031	C/S STOCKERS(i)	103633.0	101402.1	-2230.9	-2.2
B0BCS041	C/S FDLT CALF(hg/hg)	25943.0	25211.9	-731.1	-2.8
B0BCS042	C/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
B0BCS043	C/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
B0BCS044	C/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
B0BCS081	C/S FDLT LNG YRLG(i)	40000.0	37140.2	-2859.8	-7.1
B0BCS005	C/S BULLS (head)	13000.0	13000.0	0.0	0.0
B0DTR060	DAIRY CALF TRANSFER	13214.0	13214.0	0.0	0.0
B0BEX060	CALF EXP	28377.0	27029.8	-1347.2	-4.7
B0BIM060	CALF IMP	0.0	0.0	0.0	0.0
B0BEX070	YRLG EXP	0.0	0.0	0.0	0.0
B0BIM070	YRLG IMP	0.0	0.0	0.0	0.0
B0BGV000	BEEF GOV'T PAYMENTS	17923280.0	0.0	-17923280.0	-100.0
B0B0I010	CASH COSTS (CC & FL)	7088243.0	6891405.0	-196838.0	-2.8
B0BTC010	IMP COSTS	0.0	0.0	0.0	0.0
B0B0C210	FORAGE USE (CC & FL)	655281.4	638388.8	-16892.6	-2.6
B0B0C310	PASTURE USE(CC & FL)	770774.5	746999.1	-23775.4	-3.1
B0B0C020	BARLEY USE (CC & FL)	151567.3	148964.1	-2603.2	-1.7
B0B00INC	BEEF INCOME	0.0	0.0	0.0	0.0

TABLE 1B. ALBERTA BEEF STOCKS

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
A0B0B120	HQB YIELDS (CC & FL)	260279.3	256834.3	-3445.0	-1.3
A0B0B130	LQB YIELDS (CC & FL)	107356.3	105427.1	-1929.2	-1.8
A0BOS011	O/S BREED. HERD(i)	1130000.0	1110020.0	-19980.0	-1.8
A0BOS012	O/S BREED. HERD(ii)	0.0	0.0	0.0	0.0
A0BOS013	O/S BREED. HERD(iii)	0.0	0.0	0.0	0.0
A0BOS021	O/S REPLACEMENTS(i)	138000.0	133720.9	-4279.1	-3.1
A0BOS031	O/S STOCKERS(i)	1008510.0	994585.8	-13924.2	-1.4
A0BOS041	O/S FDLT CALF(hg/hg)	273093.0	269588.4	-3504.6	-1.3
A0BOS042	O/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
A0BOS043	O/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
A0BOS044	O/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
A0BOS081	O/S FDLT LNG YRLG(i)	225902.0	218473.9	-7428.1	-3.3
A0BOS005	O/S BULLS (head)	64000.0	64000.0	0.0	0.0
A0BCS011	C/S BREED. HERD(i)	1130000.0	1110020.0	-19980.0	-1.8
A0BCS012	C/S BREED. HERD(ii)	0.0	0.0	0.0	0.0
A0BCS013	C/S BREED. HERD(iii)	0.0	0.0	0.0	0.0
A0BCS021	C/S REPLACEMENTS(i)	138000.0	133720.9	-4279.1	-3.1
A0BCS031	C/S STOCKERS(i)	1008510.0	994585.8	-13924.2	-1.4
A0BCS041	C/S FDLT CALF(hg/hg)	273093.0	269588.4	-3504.6	-1.3
A0BCS042	C/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
A0BCS043	C/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
A0BCS044	C/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
A0BCS081	C/S FDLT LNG YRLG(i)	225902.0	218473.9	-7428.1	-3.3
A0BCS005	C/S BULLS (head)	64000.0	64000.0	0.0	0.0
A0DTR060	DAIRY CALF TRANSFER	107598.0	107598.0	0.0	0.0
A0BEX060	CALF EXP	0.0	0.0	0.0	0.0
A0BIM060	CALF IMP	94937.0	98152.9	3215.9	3.4
A0BEX070	YRLG EXP	0.0	0.0	0.0	0.0
A0BIM070	YRLG IMP	0.0	0.0	0.0	0.0
A0BGV000	BEEF GOV'T PAYMENTS	74113520.0	0.0	-74113520.0	-100.0
A0B0I010	CASH COSTS (CC & FL)	48358624.0	47539712.0	-818912.0	-1.7
A0BTC010	IMP COSTS	1331422.0	1363824.0	32402.0	2.4
A0B0C210	FORAGE USE (CC & FL)	4609671.0	4535569.0	-74102.0	-1.6
A0B0C310	PASTURE USE(CC & FL)	4455749.0	4371027.0	-84722.0	-1.9
A0B0C020	BARLEY USE (CC & FL)	1812536.0	1790252.0	-22284.0	-1.2
A0B00INC	BEEF INCOME	0.0	0.0	0.0	0.0

TABLE 1C. SASKATCHEWAN BEEF STOCKS

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
S0B0B120	HQB YIELDS (CC & FL)	58530.8	52663.3	-5867.5	-10.0
S0B0B130	LQB YIELDS (CC & FL)	49641.5	47427.1	-2214.4	-4.5
S0BOS011	O/S BREED. HERD(i)	760000.0	742187.5	-17812.5	-2.3
S0BOS012	O/S BREED. HERD(ii)	0.0	0.0	0.0	0.0
S0BOS013	O/S BREED. HERD(iii)	0.0	0.0	0.0	0.0
S0BOS021	O/S REPLACEMENTS(i)	111000.0	106525.9	-4474.1	-4.0
S0BOS031	O/S STOCKERS(i)	490383.0	481239.4	-9143.6	-1.9
S0BOS041	O/S FDLT CALF(hg/hg)	88460.0	71806.9	-16653.1	-18.8
S0BOS042	O/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
S0BOS043	O/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
S0BOS044	O/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
S0BOS081	O/S FDLT LNG YRLG(i)	153000.0	145575.6	-7424.4	-4.9
S0BOS005	O/S BULLS (head)	38000.0	38000.0	0.0	0.0
S0BCS011	C/S BREED. HERD(i)	760000.0	742187.5	-17812.5	-2.3
S0BCS012	C/S BREED. HERD(ii)	0.0	0.0	0.0	0.0
S0BCS013	C/S BREED. HERD(iii)	0.0	0.0	0.0	0.0
S0BCS021	C/S REPLACEMENTS(i)	111000.0	106525.9	-4474.1	-4.0
S0BCS031	C/S STOCKERS(i)	490383.0	481239.4	-9143.6	-1.9
S0BCS041	C/S FDLT CALF(hg/hg)	88460.0	71806.9	-16653.1	-18.8
S0BCS042	C/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
S0BCS043	C/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
S0BCS044	C/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
S0BCS081	C/S FDLT LNG YRLG(i)	153000.0	145575.6	-7424.4	-4.9
S0BCS005	C/S BULLS (head)	38000.0	38000.0	0.0	0.0
S0DTR060	DAIRY CALF TRANSFER	46371.0	46371.0	0.0	0.0
S0BEX060	CALF EXP	147779.0	156169.8	8390.8	5.7
S0BIM060	CALF IMP	0.0	0.0	0.0	0.0
S0BEX070	YRLG EXP	199904.2	202869.4	2965.2	1.5
S0BIM070	YRLG IMP	0.0	0.0	0.0	0.0
S0BGV000	BEEF GOV'T PAYMENTS	46180560.0	0.0	-46180560.0	-100.0
S0B0I010	CASH COSTS (CC & FL)	28269440.0	27419088.0	-850352.0	-3.0
S0BTC010	IMP COSTS	0.0	0.0	0.0	0.0
S0B0C210	FORAGE USE (CC & FL)	2610756.0	2524390.0	-86366.0	-3.3
S0B0C310	PASTURE USE(CC & FL)	3034329.0	2955671.0	-78658.0	-2.6
S0B0C020	BARLEY USE (CC & FL)	517621.4	478950.3	-38671.1	-7.5
S0B00INC	BEEF INCOME	0.0	0.0	0.0	0.0

TABLE 1D. MANITOBA BEEF STOCKS

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
M0B0B120	HQB YIELDS (CC & FL)	71380.6	63764.6	-7616.0	-10.7
M0B0B130	LQB YIELDS (CC & FL)	33916.1	31687.1	-2229.0	-6.6
M0BOS011	O/S BREED. HERD(i)	325000.0	321782.2	-3217.8	-1.0
M0BOS012	O/S BREED. HERD(ii)	0.0	0.0	0.0	0.0
M0BOS013	O/S BREED. HERD(iii)	0.0	0.0	0.0	0.0
M0BOS021	O/S REPLACEMENTS(i)	55000.0	54027.5	-972.5	-1.8
M0BOS031	O/S STOCKERS(i)	230530.0	228700.4	-1829.6	-0.8
M0BOS041	O/S FDLT CALF(hg/hg)	73620.0	72460.6	-1159.4	-1.6
M0BOS042	O/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
M0BOS043	O/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
M0BOS044	O/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
M0BOS081	O/S FDLT LNG YRLG(i)	61600.0	59117.1	-2482.9	-4.0
M0BOS005	O/S BULLS (head)	19000.0	19000.0	0.0	0.0
M0BCS011	C/S BREED. HERD(i)	325000.0	321782.2	-3217.8	-1.0
M0BCS012	C/S BREED. HERD(ii)	0.0	0.0	0.0	0.0
M0BCS013	C/S BREED. HERD(iii)	0.0	0.0	0.0	0.0
M0BCS021	C/S REPLACEMENTS(i)	55000.0	54027.5	-972.5	-1.8
M0BCS031	C/S STOCKERS(i)	230530.0	228700.4	-1829.6	-0.8
M0BCS041	C/S FDLT CALF(hg/hg)	73620.0	72460.6	-1159.4	-1.6
M0BCS042	C/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
M0BCS043	C/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
M0BCS044	C/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
M0BCS081	C/S FDLT LNG YRLG(i)	61600.0	59117.1	-2482.9	-4.0
M0BCS005	C/S BULLS (head)	19000.0	19000.0	0.0	0.0
M0DTR060	DAIRY CALF TRANSFER	45850.0	45850.0	0.0	0.0
M0BEX060	CALF EXP	120459.0	123994.6	3535.6	2.9
M0BIM060	CALF IMP	81219.0	85046.7	3827.7	4.7
M0BEX070	YRLG EXP	0.0	169653.2	169653.2	0.0
M0BIM070	YRLG IMP	62823.7	202869.4	140045.7	222.9
M0BGV000	BEEF GOV'T PAYMENTS	18503648.0	0.0	-18503648.0	-100.0
M0B0I010	CASH COSTS (CC & FL)	13683060.0	13346423.0	-336637.0	-2.5
M0BTC010	IMP COSTS	1941000.0	4308634.0	2367634.0	122.0
M0B0C210	FORAGE USE (CC & FL)	1293293.0	1266897.0	-26396.0	-2.0
M0B0C310	PASTURE USE(CC & FL)	1326222.0	1309937.0	-16285.0	-1.2
M0B0C020	BARLEY USE (CC & FL)	478807.8	439588.8	-39219.0	-8.2
M0B00INC	BEEF INCOME	0.0	0.0	0.0	0.0

TABLE 1E. ONTARIO BEEF STOCKS

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
O0B0B120	HQB YIELDS (CC & FL)	156749.8	166434.8	9685.0	6.2
O0B0B130	LQB YIELDS (CC & FL)	62321.2	61822.7	-498.5	-0.8
O0BOS011	O/S BREED. HERD(i)	325000.0	318315.4	-6684.6	-2.1
O0BOS012	O/S BREED. HERD(ii)	0.0	0.0	0.0	0.0
O0BOS013	O/S BREED. HERD(iii)	0.0	0.0	0.0	0.0
O0BOS021	O/S REPLACEMENTS(i)	93000.0	91087.2	-1912.8	-2.1
O0BOS031	O/S STOCKERS(i)	432923.0	427367.3	-5555.7	-1.3
O0BOS041	O/S FDLT CALF(hg/hg)	100000.0	99108.0	-892.0	-0.9
O0BOS042	O/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
O0BOS043	O/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
O0BOS044	O/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
O0BOS081	O/S FDLT LNG YRLG(i)	507258.0	493922.1	-13335.9	-2.6
O0BOS005	O/S BULLS (head)	31000.0	31000.0	0.0	0.0
O0BCS011	C/S BREED. HERD(i)	325000.0	318315.4	-6684.6	-2.1
O0BCS012	C/S BREED. HERD(ii)	0.0	0.0	0.0	0.0
O0BCS013	C/S BREED. HERD(iii)	0.0	0.0	0.0	0.0
O0BCS021	C/S REPLACEMENTS(i)	93000.0	91087.2	-1912.8	-2.1
O0BCS031	C/S STOCKERS(i)	432923.0	427367.3	-5555.7	-1.3
O0BCS041	C/S FDLT CALF(hg/hg)	100000.0	99108.0	-892.0	-0.9
O0BCS042	C/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
O0BCS043	C/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
O0BCS044	C/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
O0BCS081	C/S FDLT LNG YRLG(i)	507258.0	493922.1	-13335.9	-2.6
O0BCS005	C/S BULLS (head)	31000.0	31000.0	0.0	0.0
O0DTR060	DAIRY CALF TRANSFER	47719.0	47719.0	0.0	0.0
O0BEX060	CALF EXP	0.0	0.0	0.0	0.0
O0BIM060	CALF IMP	207652.0	206912.9	-739.1	-0.4
O0BEX070	YRLG EXP	0.0	0.0	0.0	0.0
O0BIM070	YRLG IMP	191084.0	227057.5	35973.5	18.8
O0BGV000	BEEF GOV'T PAYMENTS	23571184.0	0.0	-23571184.0	-100.0
O0B0I010	CASH COSTS (CC & FL)	22067984.0	21902848.0	-165136.0	-0.7
O0BTC010	IMP COSTS	15688606.0	15180134.0	-508472.0	-3.2
O0B0C210	FORAGE USE (CC & FL)	1622811.0	1620604.0	-2207.0	-0.1
O0B0C310	PASTURE USE(CC & FL)	2103185.0	2058432.0	-44753.0	-2.1
O0B0C020	BARLEY USE (CC & FL)	899285.7	922385.8	23100.1	2.6
O0B00INC	BEEF INCOME	0.0	0.0	0.0	0.0

TABLE 1F. QUEBEC BEEF STOCKS

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
Q0B0B120	HQB YIELDS (CC & FL)	26873.9	21698.2	-5175.7	-19.3
Q0B0B130	LQB YIELDS (CC & FL)	16386.6	14601.5	-1785.1	-10.9
Q0BOS011	O/S BREED. HERD(i)	172000.0	150612.9	-21387.1	-12.4
Q0BOS012	O/S BREED. HERD(ii)	0.0	0.0	0.0	0.0
Q0BOS013	O/S BREED. HERD(iii)	0.0	0.0	0.0	0.0
Q0BOS021	O/S REPLACEMENTS(i)	40000.0	35026.3	-4973.7	-12.4
Q0BOS031	O/S STOCKERS(i)	129837.0	119775.8	-10061.2	-7.7
Q0BOS041	O/S FDLT CALF(hg/hg)	68736.0	64000.0	-4736.0	-6.9
Q0BOS042	O/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
Q0BOS043	O/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
Q0BOS044	O/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
Q0BOS081	O/S FDLT LNG YRLG(i)	16988.0	13493.3	-3494.7	-20.6
Q0BOS005	O/S BULLS (head)	27000.0	27000.0	0.0	0.0
Q0BCS011	C/S BREED. HERD(i)	172000.0	150612.9	-21387.1	-12.4
Q0BCS012	C/S BREED. HERD(ii)	0.0	0.0	0.0	0.0
Q0BCS013	C/S BREED. HERD(iii)	0.0	0.0	0.0	0.0
Q0BCS021	C/S REPLACEMENTS(i)	40000.0	35026.3	-4973.7	-12.4
Q0BCS031	C/S STOCKERS(i)	129837.0	119775.8	-10061.2	-7.7
Q0BCS041	C/S FDLT CALF(hg/hg)	68736.0	64000.0	-4736.0	-6.9
Q0BCS042	C/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
Q0BCS043	C/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
Q0BCS044	C/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
Q0BCS081	C/S FDLT LNG YRLG(i)	16988.0	13493.3	-3494.7	-20.6
Q0BCS005	C/S BULLS (head)	27500.0	27500.0	0.0	0.0
Q0DTR060	DAIRY CALF TRANSFER	113557.0	113557.0	0.0	0.0
Q0BEX060	CALF EXP	67412.0	63255.8	-4156.2	-6.2
Q0BIM060	CALF IMP	0.0	0.0	0.0	0.0
Q0BEX070	YRLG EXP	47658.8	57404.3	9745.5	20.4
Q0BIM070	YRLG IMP	0.0	0.0	0.0	0.0
Q0BGV000	BEEF GOV'T PAYMENTS	57989872.0	0.0	-57989872.0	-100.0
Q0B0I010	CASH COSTS (CC & FL)	7407030.0	6555842.0	-851188.0	-11.5
Q0BTC010	IMP COSTS	0.0	0.0	0.0	0.0
Q0B0C210	FORAGE USE (CC & FL)	730673.6	651328.1	-79345.5	-10.9
Q0B0C310	PASTURE USE(CC & FL)	780595.0	694832.3	-85762.7	-11.0
Q0B0C020	BARLEY USE (CC & FL)	155967.9	132303.4	-23664.5	-15.2
Q0B00INC	BEEF INCOME	0.0	0.0	0.0	0.0

TABLE 1G. MARITIMES BEEF STOCKS

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
E0B0B120	HQB YIELDS (CC & FL)	12724.0	14007.4	1283.4	10.1
E0B0B130	LQB YIELDS (CC & FL)	6734.9	6999.3	264.4	3.9
E0BOS011	O/S BREED. HERD(i)	56200.0	54194.8	-2005.2	-3.6
E0BOS012	O/S BREED. HERD(ii)	0.0	0.0	0.0	0.0
E0BOS013	O/S BREED. HERD(iii)	0.0	0.0	0.0	0.0
E0BOS021	O/S REPLACEMENTS(i)	15100.0	14561.2	-538.8	-3.6
E0BOS031	O/S STOCKERS(i)	51059.0	49911.0	-1148.0	-2.2
E0BOS041	O/S FDLT CALF(hg/hg)	23604.0	23232.3	-371.7	-1.6
E0BOS042	O/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
E0BOS043	O/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
E0BOS044	O/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
E0BOS081	O/S FDLT LNG YRLG(i)	0.0	0.0	0.0	0.0
E0BOS005	O/S BULLS (head)	4800.0	4800.0	0.0	0.0
E0BCS011	C/S BREED. HERD(i)	56200.0	54194.8	-2005.2	-3.6
E0BCS012	C/S BREED. HERD(ii)	0.0	0.0	0.0	0.0
E0BCS013	C/S BREED. HERD(iii)	0.0	0.0	0.0	0.0
E0BCS021	C/S REPLACEMENTS(i)	15100.0	14561.2	-538.8	-3.6
E0BCS031	C/S STOCKERS(i)	51059.0	49911.0	-1148.0	-2.2
E0BCS041	C/S FDLT CALF(hg/hg)	23604.0	23232.3	-371.7	-1.6
E0BCS042	C/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
E0BCS043	C/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
E0BCS044	C/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
E0BCS081	C/S FDLT LNG YRLG(i)	0.0	0.0	0.0	0.0
E0BCS005	C/S BULLS (head)	4800.0	4800.0	0.0	0.0
E0DTR060	DAIRY CALF TRANSFER	36281.0	36281.0	0.0	0.0
E0BEX060	CALF EXP	7535.2	7416.6	-118.6	-1.6
E0BIM060	CALF IMP	0.0	0.0	0.0	0.0
E0BEX070	YRLG EXP	6344.6	0.0	-6344.6	-100.0
E0BIM070	YRLG IMP	0.0	0.0	0.0	0.0
E0BGV000	BEEF GOV'T PAYMENTS	5175113.0	0.0	-5175113.0	-100.0
E0B0I010	CASH COSTS (CC & FL)	2448569.0	2416283.0	-32286.0	-1.3
E0BTC010	IMP COSTS	0.0	0.0	0.0	0.0
E0B0C210	FORAGE USE (CC & FL)	255402.4	251658.0	-3744.4	-1.5
E0B0C310	PASTURE USE(CC & FL)	237778.3	229965.8	-7812.5	-3.3
E0B0C020	BARLEY USE (CC & FL)	70063.4	74571.8	4508.4	6.4
E0B00INC	BEEF INCOME	0.0	0.0	0.0	0.0

TABLE 2A. FEEDLOT STOCKS - B.C.

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
B0BFB120	HQB YIELDS (FL ONLY)	20530.5	20091.8	-438.7	-2.1
B0BFB130	LQB YIELDS (FL ONLY)	5938.2	5811.9	-126.3	-2.1
B0BOS041	O/S FDLT CALF(hg/hg)	25943.0	25211.9	-731.1	-2.8
B0BOS042	O/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
B0BOS043	O/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
B0BOS044	O/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
B0BOS081	O/S FDLT LNG YRLG(i)	40000.0	37140.2	-2859.8	-7.1
B0BCS041	C/S FDLT CALF(hg/hg)	25943.0	25211.9	-731.1	-2.8
B0BCS042	C/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
B0BCS043	C/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
B0BCS044	C/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
B0BCS081	C/S FDLT LNG YRLG(i)	40000.0	37140.2	-2859.8	-7.1
B0B00051	FDLT YEARLINGS	17820.4	20246.8	2426.4	13.6
B0B00052	FDLT YEARLINGS	0.0	0.0	0.0	0.0
B0B00053	FDLT YEARLINGS	0.0	0.0	0.0	0.0
B0B00054	FDLT YEARLINGS	0.0	0.0	0.0	0.0
B0BKL020	CULLED REPLACEMENTS	3273.0	2454.8	-818.2	-25.0
B0DTR060	DAIRY CALF TRANSFER	13214.0	13214.0	0.0	0.0
B0BEX060	CALF EXP	28377.0	27029.8	-1347.2	-4.7
B0BIM060	CALF IMP	0.0	0.0	0.0	0.0
B0BEX070	YRLG EXP	0.0	0.0	0.0	0.0
B0BIM070	YRLG IMP	0.0	0.0	0.0	0.0
B0BFG000	FDLT GOV'T PAYMENTS	6785858.0	0.0	-6785858.0	-100.0
B0BFI010	CASH COSTS (FL ONLY)	1015245.1	976696.8	-38548.3	-3.8
B0BTC010	IMP COSTS	0.0	0.0	0.0	0.0
B0BFC210	FORAGE USE (FL ONLY)	61693.4	60877.2	-816.2	-1.3
B0BFC020	BARLEY USE (FL ONLY)	111046.8	109315.8	-1731.0	-1.6
B0BFLINC	FEEDLOT INCOME	0.0	0.0	0.0	0.0

TABLE 2B. FEEDLOT STOCKS - ALBERTA

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
A0BFB120	HQB YIELDS (FL ONLY)	260859.8	257411.9	-3447.9	-1.3
A0BFB130	LQB YIELDS (FL ONLY)	75612.4	74612.3	-1000.1	-1.3
A0BOS041	O/S FDLT CALF(hg/hg)	273093.0	269588.4	-3504.6	-1.3
A0BOS042	O/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
A0BOS043	O/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
A0BOS044	O/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
A0BOS081	O/S FDLT LNG YRLG(i)	225902.0	218473.9	-7428.1	-3.3
A0BCS041	C/S FDLT CALF(hg/hg)	273093.0	269588.4	-3504.6	-1.3
A0BCS042	C/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
A0BCS043	C/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
A0BCS044	C/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
A0BCS081	C/S FDLT LNG YRLG(i)	225902.0	218473.9	-7428.1	-3.3
A0B00051	FDLT YEARLINGS	593667.3	591798.3	-1869.0	-0.3
A0B00052	FDLT YEARLINGS	0.0	0.0	0.0	0.0
A0B00053	FDLT YEARLINGS	0.0	0.0	0.0	0.0
A0B00054	FDLT YEARLINGS	0.0	0.0	0.0	0.0
A0BKL020	CULLED REPLACEMENTS	4600.0	2725.6	-1874.4	-40.7
A0DTR060	DAIRY CALF TRANSFER	107598.0	107598.0	0.0	0.0
A0BEX060	CALF EXP	0.0	0.0	0.0	0.0
A0BIM060	CALF IMP	94937.0	98152.9	3215.9	3.4
A0BEX070	YRLG EXP	0.0	0.0	0.0	0.0
A0BIM070	YRLG IMP	0.0	0.0	0.0	0.0
A0BFG000	FDLT GOV'T PAYMENTS	36060432.0	0.0	-36060432.0	-100.0
A0BFI010	CASH COSTS (FL ONLY)	10053801.0	9886642.0	-167159.0	-1.7
A0BTC010	IMP COSTS	1331422.0	1363824.0	32402.0	2.4
A0BFC210	FORAGE USE (FL ONLY)	788906.9	780303.9	-8603.0	-1.1
A0BFC020	BARLEY USE (FL ONLY)	1418208.0	1401369.0	-16839.0	-1.2
A0BFLINC	FEEDLOT INCOME	0.0	0.0	0.0	0.0

TABLE 2C. FEEDLOT STOCKS - SASKATCHEWAN

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
S0BFB120	HQB YIELDS (FL ONLY)	58517.3	52648.9	-5868.4	-10.0
S0BFB130	LQB YIELDS (FL ONLY)	16986.4	15279.7	-1706.7	-10.0
S0BOS041	O/S FDLT CALF(hg/hg)	88460.0	71806.9	-16653.1	-18.8
S0BOS042	O/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
S0BOS043	O/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
S0BOS044	O/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
S0BOS081	O/S FDLT LNG YRLG(i)	153000.0	145575.6	-7424.4	-4.9
S0BCS041	C/S FDLT CALF(hg/hg)	88460.0	71806.9	-16653.1	-18.8
S0BCS042	C/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
S0BCS043	C/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
S0BCS044	C/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
S0BCS081	C/S FDLT LNG YRLG(i)	153000.0	145575.6	-7424.4	-4.9
S0B00051	FDLT YEARLINGS	0.0	0.0	0.0	0.0
S0B00052	FDLT YEARLINGS	0.0	0.0	0.0	0.0
S0B00053	FDLT YEARLINGS	0.0	0.0	0.0	0.0
S0B00054	FDLT YEARLINGS	0.0	0.0	0.0	0.0
S0BKL020	CULLED REPLACEMENTS	3567.0	1653.9	-1913.1	-53.6
S0DTR060	DAIRY CALF TRANSFER	46371.0	46371.0	0.0	0.0
S0BEX060	CALF EXP	147779.0	156169.8	8390.8	5.7
S0BIM060	CALF IMP	0.0	0.0	0.0	0.0
S0BEX070	YRLG EXP	199904.2	202869.4	2965.2	1.5
S0BIM070	YRLG IMP	0.0	0.0	0.0	0.0
S0BFG000	FDLT GOV'T PAYMENTS	10906617.0	0.0	-10906617.0	-100.0
S0BFI010	CASH COSTS (FL ONLY)	3348469.0	3071278.0	-277191.0	-8.3
S0BTC010	IMP COSTS	0.0	0.0	0.0	0.0
S0BFC210	FORAGE USE (FL ONLY)	186253.1	156684.3	-29568.8	-15.9
S0BFC020	BARLEY USE (FL ONLY)	325881.6	290785.7	-35095.9	-10.8
S0BFLINC	FEEDLOT INCOME	0.0	0.0	0.0	0.0

TABLE 2D. FEEDLOT STOCKS - MANITOBA

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
M0BFB120	HQB YIELDS (FL ONLY)	71506.9	63862.7	-7644.2	-10.7
M0BFB130	LQB YIELDS (FL ONLY)	20708.4	18497.1	-2211.3	-10.7
M0BOS041	O/S FDLT CALF(hg/hg)	73620.0	72460.6	-1159.4	-1.6
M0BOS042	O/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
M0BOS043	O/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
M0BOS044	O/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
M0BOS081	O/S FDLT LNG YRLG(i)	61600.0	59117.1	-2482.9	-4.0
M0BCS041	C/S FDLT CALF(hg/hg)	73620.0	72460.6	-1159.4	-1.6
M0BCS042	C/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
M0BCS043	C/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
M0BCS044	C/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
M0BCS081	C/S FDLT LNG YRLG(i)	61600.0	59117.1	-2482.9	-4.0
M0B00051	FDLT YEARLINGS	164600.1	136655.0	-27945.1	-17.0
M0B00052	FDLT YEARLINGS	0.0	0.0	0.0	0.0
M0B00053	FDLT YEARLINGS	0.0	0.0	0.0	0.0
M0B00054	FDLT YEARLINGS	0.0	0.0	0.0	0.0
M0BKL020	CULLED REPLACEMENTS	0.0	0.0	0.0	0.0
M0DTR060	DAIRY CALF TRANSFER	45850.0	45850.0	0.0	0.0
M0BEX060	CALF EXP	120459.0	123994.6	3535.6	2.9
M0BIM060	CALF IMP	81219.0	85046.7	3827.7	4.7
M0BEX070	YRLG EXP	0.0	169653.2	169653.2	0.0
M0BIM070	YRLG IMP	62823.7	202869.4	140045.7	222.9
M0BFG000	FDLT GOV'T PAYMENTS	12267848.0	0.0	-12267848.0	-100.0
M0BFI010	CASH COSTS (FL ONLY)	2750974.0	2520908.0	-230066.0	-8.4
M0BTC010	IMP COSTS	1941000.0	4308634.0	2367634.0	122.0
M0BFC210	FORAGE USE (FL ONLY)	214982.3	199368.1	-15614.2	-7.3
M0BFC020	BARLEY USE (FL ONLY)	388670.5	350167.0	-38503.5	-9.9
M0BFLINC	FEEDLOT INCOME	0.0	0.0	0.0	0.0

TABLE 2E. FEEDLOT STOCKS - ONTARIO

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
O0BFB120	HQB YIELDS (FL ONLY)	156704.3	166374.2	9669.9	6.2
O0BFB130	LQB YIELDS (FL ONLY)	45449.5	48233.3	2783.8	6.1
O0BOS041	O/S FDLT CALF(hg/hg)	100000.0	99108.0	-892.0	-0.9
O0BOS042	O/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
O0BOS043	O/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
O0BOS044	O/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
O0BOS081	O/S FDLT LNG YRLG(i)	507258.0	493922.1	-13335.9	-2.6
O0BCS041	C/S FDLT CALF(hg/hg)	100000.0	99108.0	-892.0	-0.9
O0BCS042	C/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
O0BCS043	C/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
O0BCS044	C/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
O0BCS081	C/S FDLT LNG YRLG(i)	507258.0	493922.1	-13335.9	-2.6
O0B00051	FDLT YEARLINGS	0.0	45810.9	45810.9	0.0
O0B00052	FDLT YEARLINGS	0.0	0.0	0.0	0.0
O0B00053	FDLT YEARLINGS	0.0	0.0	0.0	0.0
O0B00054	FDLT YEARLINGS	0.0	0.0	0.0	0.0
O0BKL020	CULLED REPLACEMENTS	35559.1	46412.9	10853.8	30.5
O0DTR060	DAIRY CALF TRANSFER	47719.0	47719.0	0.0	0.0
O0BEX060	CALF EXP	0.0	0.0	0.0	0.0
O0BIM060	CALF IMP	207652.0	206912.9	-739.1	-0.4
O0BEX070	YRLG EXP	0.0	0.0	0.0	0.0
O0BIM070	YRLG IMP	191084.0	227057.5	35973.5	18.8
O0BFG000	FDLT GOV'T PAYMENTS	15353173.0	0.0	-15353173.0	-100.0
O0BFI010	CASH COSTS (FL ONLY)	9307902.0	9371589.0	63687.0	0.7
O0BTC010	IMP COSTS	15688606.0	15180134.0	-508472.0	-3.2
O0BFC210	FORAGE USE (FL ONLY)	249065.3	270645.6	21580.3	8.7
O0BFC020	BARLEY USE (FL ONLY)	730012.8	755285.2	25272.4	3.5
O0BFLINC	FEEDLOT INCOME	0.0	0.0	0.0	0.0

TABLE 2F. FEEDLOT STOCKS - QUEBEC

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
Q0BFB120	HQB YIELDS (FL ONLY)	26626.2	21450.2	-5176.0	-19.4
Q0BFB130	LQB YIELDS (FL ONLY)	7741.6	6244.9	-1496.7	-19.3
Q0BOS041	O/S FDLT CALF(hg/hg)	68736.0	64000.0	-4736.0	-6.9
Q0BOS042	O/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
Q0BOS043	O/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
Q0BOS044	O/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
Q0BOS081	O/S FDLT LNG YRLG(i)	16988.0	13493.3	-3494.7	-20.6
Q0BCS041	C/S FDLT CALF(hg/hg)	68736.0	64000.0	-4736.0	-6.9
Q0BCS042	C/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
Q0BCS043	C/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
Q0BCS044	C/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
Q0BCS081	C/S FDLT LNG YRLG(i)	16988.0	13493.3	-3494.7	-20.6
Q0B00051	FDLT YEARLINGS	11531.3	384.3	-11147.0	-96.7
Q0B00052	FDLT YEARLINGS	0.0	0.0	0.0	0.0
Q0B00053	FDLT YEARLINGS	0.0	0.0	0.0	0.0
Q0B00054	FDLT YEARLINGS	0.0	0.0	0.0	0.0
Q0BKL020	CULLED REPLACEMENTS	22212.0	19450.1	-2761.9	-12.4
Q0DTR060	DAIRY CALF TRANSFER	113557.0	113557.0	0.0	0.0
Q0BEX060	CALF EXP	67412.0	63255.8	-4156.2	-6.2
Q0BIM060	CALF IMP	0.0	0.0	0.0	0.0
Q0BEX070	YRLG EXP	47658.8	57404.3	9745.5	20.4
Q0BIM070	YRLG IMP	0.0	0.0	0.0	0.0
Q0BFG000	FDLT GOV'T PAYMENTS	27102000.0	0.0	-27102000.0	-100.0
Q0BFI010	CASH COSTS (FL ONLY)	992081.3	819280.0	-172801.3	-17.4
Q0BTC010	IMP COSTS	0.0	0.0	0.0	0.0
Q0BFC210	FORAGE USE (FL ONLY)	92516.8	79654.4	-12862.4	-13.9
Q0BFC020	BARLEY USE (FL ONLY)	105201.6	85471.1	-19730.5	-18.8
Q0BFLINC	FEEDLOT INCOME	0.0	0.0	0.0	0.0

TABLE 2G. FEEDLOT STOCKS - MARITIMES

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
E0BFB120	HQB YIELDS (FL ONL Y)	12651.6	13935.0	1283.4	10.1
E0BFB130	LQB YIELDS (FL ONLY)	3667.5	4036.8	369.3	10.1
E0BOS041	O/S FDLT CALF(hg/hg)	23604.0	23232.3	-371.7	-1.6
E0BOS042	O/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
E0BOS043	O/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
E0BOS044	O/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
E0BOS081	O/S FDLT LNG YRLG(i)	0.0	0.0	0.0	0.0
E0BCS041	C/S FDLT CALF(hg/hg)	23604.0	23232.3	-371.7	-1.6
E0BCS042	C/S FDLT CALF(hg/hf)	0.0	0.0	0.0	0.0
E0BCS043	C/S FDLT CALF(lg/hg)	0.0	0.0	0.0	0.0
E0BCS044	C/S FDLT CALF(lg/hf)	0.0	0.0	0.0	0.0
E0BCS081	C/S FDLT LNG YRLG(i)	0.0	0.0	0.0	0.0
E0B00051	FDLT YEARLINGS	26687.6	32446.0	5758.4	21.6
E0B00052	FDLT YEARLINGS	0.0	0.0	0.0	0.0
E0B00053	FDLT YEARLINGS	0.0	0.0	0.0	0.0
E0B00054	FDLT YEARLINGS	0.0	0.0	0.0	0.0
E0BKL020	CULLED REPLACEMENTS	5244.0	5056.9	-187.1	-3.6
E0DTR060	DAIRY CALF TRANSFER	36281.0	36281.0	0.0	0.0
E0BEX060	CALF EXP	7535.2	7416.6	-118.6	-1.6
E0BIM060	CALF IMP	0.0	0.0	0.0	0.0
E0BEX070	YRLG EXP	6344.6	0.0	-6344.6	-100.0
E0BIM070	YRLG IMP	0.0	0.0	0.0	0.0
E0BFG000	FDLT GOV'T PAYMENTS	2440868.0	0.0	-2440868.0	-100.0
E0BFI010	CASH COSTS (FL ONLY)	389311.9	422601.0	33289.1	8.6
E0BTC010	IMP COSTS	0.0	0.0	0.0	0.0
E0BFC210	FORAGE USE (FL ONLY)	43203.2	46038.5	2835.3	6.6
E0BFC020	BARLEY USE (FL ONLY)	50099.3	55056.5	4957.2	9.9
E0BFLINC	FEEDLOT INCOME	0.0	0.0	0.0	0.0

TABLE 3. HOG STOCKS (ALL PROVINCES)

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
B0H0H120	YIELD BEFORE TRADE	22587.8	22210.2	-377.6	-1.7
B0H0H121	# PROD. "	339942.0	334259.6	-5682.4	-1.7
B0HT1010	O/S SOWS	26500.0	26057.0	-443.0	-1.7
B0HT1020	O/S GROWERS	230550.0	226696.2	-3853.8	-1.7
B0HT2010	I/S SOWS	26500.0	26057.0	-443.0	-1.7
B0HT2020	I/S GROWERS	230550.0	226696.2	-3853.8	-1.7
B0HT3010	C/S SOWS	26500.0	26057.0	-443.0	-1.7
B0HT3020	C/S GROWERS	230550.0	226696.2	-3853.8	-1.7
B0HGV000	HOGS - GOV'T PAYMENT	3912732.0	0.0	-3912732.0	-100.0
B0H0I010	CASH COSTS	10771238.0	10591188.0	-180050.0	-1.7
B0H0C020	BARLEY USED	176866.3	173909.8	-2956.5	-1.7
B0H00INC	HOG INCOME	0.0	0.0	0.0	0.0
A0H0H120	YIELD BEFORE TRADE	131020.6	128577.6	-2443.0	-1.9
A0H0H121	# PROD. "	1974320.0	1937507.0	-36813.0	-1.9
A0HT1010	O/S SOWS	145000.0	142296.4	-2703.6	-1.9
A0HT1020	O/S GROWERS	1290500.0	1266438.0	-24062.0	-1.9
A0HT2010	I/S SOWS	145000.0	142296.4	-2703.6	-1.9
A0HT2020	I/S GROWERS	1290500.0	1266438.0	-24062.0	-1.9
A0HT3010	C/S SOWS	145000.0	142296.4	-2703.6	-1.9
B0H0H120	YIELD BEFORE TRADE	22587.8	22210.2	-377.6	-1.7
B0H0H121	# PROD. "	339942.0	334259.6	-5682.4	-1.7
B0HT1010	O/S SOWS	26500.0	26057.0	-443.0	-1.7
A0HT3020	C/S GROWERS	1290500.0	1266438.0	-24062.0	-1.9
A0HGV000	HOGS - GOV'T PAYMENT	24817200.0	0.0	-24817200.0	-100.0
A0H0I010	CASH COSTS	61080416.0	59941520.0	-1138896.0	-1.9
A0H0C020	BARLEY USED	988523.0	970091.3	-18431.7	-1.9
A0H00INC	HOG INCOME	0.0	0.0	0.0	0.0
S0H0H120	YIELD BEFORE TRADE	50111.2	49273.6	-837.6	-1.7
S0H0H121	# PROD. "	751536.0	738973.4	-12562.6	-1.7
S0HT1010	O/S SOWS	68000.0	66863.3	-1136.7	-1.7
S0HT1020	O/S GROWERS	564400.0	554965.6	-9434.4	-1.7
S0HT2010	I/S SOWS	68000.0	66863.3	-1136.7	-1.7
S0HT2020	I/S GROWERS	564400.0	554965.6	-9434.4	-1.7
S0HT3010	C/S SOWS	68000.0	66863.3	-1136.7	-1.7
S0HT3020	C/S GROWERS	564400.0	554965.6	-9434.4	-1.7
S0HGV000	HOGS - GOV'T PAYMENT	13805716.0	0.0	-13805716.0	-100.0
S0H0I010	CASH COSTS	26425904.0	25984176.0	-441728.0	-1.7
S0H0C020	BARLEY USED	434234.4	426975.8	-7258.6	-1.7
S0H00INC	HOG INCOME	0.0	0.0	0.0	0.0
M0H0H120	YIELD BEFORE TRADE	116927.9	109278.4	-7649.5	-6.5
M0H0H121	# PROD. "	1766642.0	1651067.0	-115575.0	-6.5
M0HT1010	O/S SOWS	113000.0	105607.5	-7392.5	-6.5
M0HT1020	O/S GROWERS	971800.0	908224.3	-63575.7	-6.5
M0HT2010	I/S SOWS	113000.0	105607.5	-7392.5	-6.5

TABLE 3. HOG STOCKS (ALL PROVINCES) (cont'd)

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
MOHT2020	I/S GROWERS	971800.0	908224.3	-63575.7	-6.5
M0HT3010	C/S SOWS	113000.0	105607.5	-7392.5	-6.5
M0HT3020	C/S GROWERS	971800.0	908224.3	-63575.7	-6.5
M0HGV000	HOGS - GOV'T PAYMENT	12242829.0	0.0	-12242829.0	-100.0
M0H0I010	CASH COSTS	49301168.0	46075872.0	-3225296.0	-6.5
M0H0C020	BARLEY USED	757506.8	707950.3	-49556.5	-6.5
M0H00INC	HOG INCOME	0.0	0.0	0.0	0.0
O0H0H120	YIELD BEFORE TRADE	297147.0	286544.8	-10602.2	-3.6
O0H0H121	# PROD. "	4465900.0	4306557.0	-159343.0	-3.6
O0HT1010	O/S SOWS	370000.0	356798.4	-13201.6	-3.6
O0HT1020	O/S GROWERS	2960000.0	2854388.0	-105612.0	-3.6
O0HT2010	I/S SOWS	370000.0	356798.4	-13201.6	-3.6
O0HT2020	I/S GROWERS	2960000.0	2854388.0	-105612.0	-3.6
O0HT3010	C/S SOWS	370000.0	356798.4	-13201.6	-3.6
O0HT3020	C/S GROWERS	2960000.0	2854388.0	-105612.0	-3.6
O0HGV000	HOGS - GOV'T PAYMENT	29340960.0	0.0	-29340960.0	-100.0
O0H0I010	CASH COSTS	184037072.0	177470656.0	-6566416.0	-3.6
O0H0C020	BARLEY USED	2614420.0	2521138.0	-93282.0	-3.6
O0H00INC	HOG INCOME	0.0	0.0	0.0	0.0
Q0H0H120	YIELD BEFORE TRADE	305289.6	273802.3	-31487.3	-10.3
Q0H0H121	# PROD. "	4605440.0	4130439.0	-475001.0	-10.3
Q0HT1010	O/S SOWS	320000.0	286995.5	-33004.5	-10.3
Q0HT1020	O/S GROWERS	2976000.0	2669058.0	-306942.0	-10.3
Q0HT2010	I/S SOWS	320000.0	286995.5	-33004.5	-10.3
Q0HT2020	I/S GROWERS	2976000.0	2669058.0	-306942.0	-10.3
Q0HT3010	C/S SOWS	320000.0	286995.5	-33004.5	-10.3
Q0HT3020	C/S GROWERS	2976000.0	2669058.0	-306942.0	-10.3
Q0HGV000	HOGS - GOV'T PAYMENT	54850784.0	0.0	-54850784.0	-100.0
Q0H0I010	CASH COSTS	194729024.0	174644864.0	-20084160.0	-10.3
Q0H0C020	BARLEY USED	2302400.0	2064933.0	-237467.0	-10.3
Q0H00INC	HOG INCOME	0.0	0.0	0.0	0.0
E0H0H120	YIELD BEFORE TRADE	38890.9	32167.8	-6723.1	-17.3
E0H0H121	# PROD. "	585736.2	484479.9	-101256.3	-17.3
E0HT1010	O/S SOWS	44100.0	36476.4	-7623.6	-17.3
E0HT1020	O/S GROWERS	343980.0	284516.1	-59463.9	-17.3
E0HT2010	I/S SOWS	44100.0	36476.4	-7623.6	-17.3
E0HT2020	I/S GROWERS	343980.0	284516.1	-59463.9	-17.3
E0HT3010	C/S SOWS	44100.0	36476.4	-7623.6	-17.3
E0HT3020	C/S GROWERS	343980.0	284516.1	-59463.9	-17.3
E0HGV000	HOGS - GOV'T PAYMENT	12921341.0	0.0	-12921341.0	-100.0
E0H0I010	CASH COSTS	17702352.0	14642142.0	-3060210.0	-17.3
E0H0C020	BARLEY USED	271691.3	224724.0	-46967.3	-17.3
E0H00INC	HOG INCOME	0.0	0.0	0.0	0.0

TABLE 4. BEEF AND HOG EARNINGS (ALL PROVINCES)

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
B0B00INC	BEEF INCOME	0.0	0.0	0.0	0.0
A0B00INC	BEEF INCOME	0.0	0.0	0.0	0.0
S0B00INC	BEEF INCOME	0.0	0.0	0.0	0.0
M0B00INC	BEEF INCOME	0.0	0.0	0.0	0.0
O0B00INC	BEEF INCOME	0.0	0.0	0.0	0.0
Q0B00INC	BEEF INCOME	0.0	0.0	0.0	0.0
E0B00INC	BEEF INCOME	0.0	0.0	0.0	0.0
B0BFLINC	FEEDLOT INCOME	0.0	0.0	0.0	0.0
A0BFLINC	FEEDLOT INCOME	0.0	0.0	0.0	0.0
S0BFLINC	FEEDLOT INCOME	0.0	0.0	0.0	0.0
M0BFLINC	FEEDLOT INCOME	0.0	0.0	0.0	0.0
O0BFLINC	FEEDLOT INCOME	0.0	0.0	0.0	0.0
Q0BFLINC	FEEDLOT INCOME	0.0	0.0	0.0	0.0
E0BFLINC	FEEDLOT INCOME	0.0	0.0	0.0	0.0
B0BCCINC	COW-CALF INCOME	0.0	0.0	0.0	0.0
A0BCCINC	COW-CALF INCOME	0.0	0.0	0.0	0.0
S0BCCINC	COW-CALF INCOME	0.0	0.0	0.0	0.0
M0BCCINC	COW-CALF INCOME	0.0	0.0	0.0	0.0
O0BCCINC	COW-CALF INCOME	0.0	0.0	0.0	0.0
Q0BCCINC	COW-CALF INCOME	0.0	0.0	0.0	0.0
E0BCCINC	COW-CALF INCOME	0.0	0.0	0.0	0.0
B0H00INC	HOG INCOME	0.0	0.0	0.0	0.0
A0H00INC	HOG INCOME	0.0	0.0	0.0	0.0
S0H00INC	HOG INCOME	0.0	0.0	0.0	0.0
M0H00INC	HOG INCOME	0.0	0.0	0.0	0.0
O0H00INC	HOG INCOME	0.0	0.0	0.0	0.0
Q0H00INC	HOG INCOME	0.0	0.0	0.0	0.0
E0H00INC	HOG INCOME	0.0	0.0	0.0	0.0

TABLE 5. DETAILED BEEF EARNINGS (ALL PROVINCES)

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
B0BYDVAL	BEEF YIELD VALUE	0.0	0.0	0.0	0.0
B0BOSVAL	OS VALUE	0.0	0.0	0.0	0.0
B0BCSVAL	CS VALUE	0.0	0.0	0.0	0.0
B0DFCVAL	DAIRY CALF VALUE	0.0	0.0	0.0	0.0
B0BFCNEX	VALUE OF FC NET EXP	0.0	0.0	0.0	0.0
B0BFYNEX	VALUE OF FY NET EXP	0.0	0.0	0.0	0.0
B0BGVVAL	BEEF GOV'T PAYMENTS	0.0	0.0	0.0	0.0
B0B0IVAL	BEEF CASH COSTS	0.0	0.0	0.0	0.0
B0BTCVAL	TRANSPORTATION COST	0.0	0.0	0.0	0.0
B0BFDVAL	VALUE OF BEEF FEED	0.0	0.0	0.0	0.0
B0B00INC	BEEF INCOME	0.0	0.0	0.0	0.0
A0BYDVAL	BEEF YIELD VALUE	0.0	0.0	0.0	0.0
A0BOSVAL	OS VALUE	0.0	0.0	0.0	0.0
A0BCSVAL	CS VALUE	0.0	0.0	0.0	0.0
A0DFCVAL	DAIRY CALF VALUE	0.0	0.0	0.0	0.0
A0BFCNEX	VALUE OF FC NET EXP	0.0	0.0	0.0	0.0
A0BFYNEX	VALUE OF FY NET EXP	0.0	0.0	0.0	0.0
A0BGVVAL	BEEF GOV'T PAYMENTS	0.0	0.0	0.0	0.0
A0B0IVAL	BEEF CASH COSTS	0.0	0.0	0.0	0.0
A0BTCVAL	TRANSPORTATION COST	0.0	0.0	0.0	0.0
A0BFDVAL	VALUE OF BEEF FEED	0.0	0.0	0.0	0.0
A0B00INC	BEEF INCOME	0.0	0.0	0.0	0.0
S0BYDVAL	BEEF YIELD VALUE	0.0	0.0	0.0	0.0
S0BOSVAL	OS VALUE	0.0	0.0	0.0	0.0
S0BCSVAL	CS VALUE	0.0	0.0	0.0	0.0
S0DFCVAL	DAIRY CALF VALUE	0.0	0.0	0.0	0.0
S0BFCNEX	VALUE OF FC NET EXP	0.0	0.0	0.0	0.0
S0BFYNEX	VALUE OF FY NET EXP	0.0	0.0	0.0	0.0
S0BGVVAL	BEEF GOV'T PAYMENTS	0.0	0.0	0.0	0.0
S0B0IVAL	BEEF CASH COSTS	0.0	0.0	0.0	0.0
S0BTCVAL	TRANSPORTATION COST	0.0	0.0	0.0	0.0
S0BFDVAL	VALUE OF BEEF FEED	0.0	0.0	0.0	0.0
S0B00INC	BEEF INCOME	0.0	0.0	0.0	0.0
M0BYDVAL	BEEF YIELD VALUE	0.0	0.0	0.0	0.0
M0BOSVAL	OS VALUE	0.0	0.0	0.0	0.0
M0BCSVAL	CS VALUE	0.0	0.0	0.0	0.0
M0DFCVAL	DAIRY CALF VALUE	0.0	0.0	0.0	0.0
M0BFCNEX	VALUE OF FC NET EXP	0.0	0.0	0.0	0.0
M0BFYNEX	VALUE OF FY NET EXP	0.0	0.0	0.0	0.0
M0BGVVAL	BEEF GOV'T PAYMENTS	0.0	0.0	0.0	0.0
M0B0IVAL	BEEF CASH COSTS	0.0	0.0	0.0	0.0
M0BTCVAL	TRANSPORTATION COST	0.0	0.0	0.0	0.0
M0BFDVAL	VALUE OF BEEF FEED	0.0	0.0	0.0	0.0
M0B00INC	BEEF INCOME	0.0	0.0	0.0	0.0
O0BYDVAL	BEEF YIELD VALUE	0.0	0.0	0.0	0.0
O0BOSVAL	OS VALUE	0.0	0.0	0.0	0.0

TABLE 5. DETAILED BEEF EARNINGS (ALL PROVINCES) (cont'd)

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
O0BCSVAL	CS VALUE	0.0	0.0	0.0	0.0
O0DFCVAL	DAIRY CALF VALUE	0.0	0.0	0.0	0.0
O0BFCNEX	VALUE OF FC NET EXP	0.0	0.0	0.0	0.0
O0BFYNEX	VALUE OF FY NET EXP	0.0	0.0	0.0	0.0
O0BGVVAL	BEEF GOV'T PAYMENTS	0.0	0.0	0.0	0.0
O0B0IVAL	BEEF CASH COSTS	0.0	0.0	0.0	0.0
O0BTCVAL	TRANSPORTATION COST	0.0	0.0	0.0	0.0
O0BFDVAL	VALUE OF BEEF FEED	0.0	0.0	0.0	0.0
O0B00INC	BEEF INCOME	0.0	0.0	0.0	0.0
Q0BYDVAL	BEEF YIELD VALUE	0.0	0.0	0.0	0.0
Q0BOSVAL	OS VALUE	0.0	0.0	0.0	0.0
Q0BCSVAL	CS VALUE	0.0	0.0	0.0	0.0
Q0DFCVAL	DAIRY CALF VALUE	0.0	0.0	0.0	0.0
Q0BFCNEX	VALUE OF FC NET EXP	0.0	0.0	0.0	0.0
Q0BFYNEX	VALUE OF FY NET EXP	0.0	0.0	0.0	0.0
Q0BGVVAL	BEEF GOV'T PAYMENTS	0.0	0.0	0.0	0.0
Q0B0IVAL	BEEF CASH COSTS	0.0	0.0	0.0	0.0
Q0BTCVAL	TRANSPORTATION COST	0.0	0.0	0.0	0.0
Q0BFDVAL	VALUE OF BEEF FEED	0.0	0.0	0.0	0.0
Q0B00INC	BEEF INCOME	0.0	0.0	0.0	0.0
E0BYDVAL	BEEF YIELD VALUE	0.0	0.0	0.0	0.0
E0BOSVAL	OS VALUE	0.0	0.0	0.0	0.0
E0BCSVAL	CS VALUE	0.0	0.0	0.0	0.0
E0DFCVAL	DAIRY CALF VALUE	0.0	0.0	0.0	0.0
E0BFCNEX	VALUE OF FC NET EXP	0.0	0.0	0.0	0.0
E0BFYNEX	VALUE OF FY NET EXP	0.0	0.0	0.0	0.0
E0BGVVAL	BEEF GOV'T PAYMENTS	0.0	0.0	0.0	0.0
E0B0IVAL	BEEF CASH COSTS	0.0	0.0	0.0	0.0
E0BTCVAL	TRANSPORTATION COST	0.0	0.0	0.0	0.0
E0BFDVAL	VALUE OF BEEF FEED	0.0	0.0	0.0	0.0
E0B00INC	BEEF INCOME	0.0	0.0	0.0	0.0

TABLE 6. BEEF AND HOG PRODUCTION (ALL PROVINCE)

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
B0B0B120	HQB YIELDS (CC & FL)	20561.9	20121.1	-440.8	-2.1
B0B0B130	LQB YIELDS (CC & FL)	14789.1	14606.6	-182.5	-1.2
B0BFB120	HQB YIELDS (FL ONLY)	20530.5	20091.8	-438.7	-2.1
B0BFB130	LQB YIELDS (FL ONLY)	5938.2	5811.9	-126.3	-2.1
B0H0H120	PORK BEFORE TRADE	22587.8	22210.2	-377.6	-1.7
B0H0H121	FAT HOGS PRODUCED	339942.0	334259.6	-5682.4	-1.7
A0B0B120	HQB YIELDS (CC & FL)	260279.3	256834.3	-3445.0	-1.3
A0B0B130	LQB YIELDS (CC & FL)	107356.3	105427.1	-1929.2	-1.8
A0BFB120	HQB YIELDS (FL ONLY)	260859.8	257411.9	-3447.9	-1.3
A0BFB130	LQB YIELDS (FL ONLY)	75612.4	74612.3	-1000.1	-1.3
A0H0H120	PORK BEFORE TRADE	131020.6	128577.6	-2443.0	-1.9
A0H0H121	FAT HOGS PRODUCED	1974320.0	1937507.0	-36813.0	-1.9
S0B0B120	HQB YIELDS (CC & FL)	58530.8	52663.3	-5867.5	-10.0
S0B0B130	LQB YIELDS (CC & FL)	49641.5	47427.1	-2214.4	-4.5
S0BFB120	HQB YIELDS (FL ONLY)	58517.3	52648.9	-5868.4	-10.0
S0BFB130	LQB YIELDS (FL ONLY)	16986.4	15279.7	-1706.7	-10.0
S0H0H120	PORK BEFORE TRADE	50111.2	49273.6	-837.6	-1.7
S0H0H121	FAT HOGS PRODUCED	751536.0	738973.4	-12562.6	-1.7
M0B0B120	HQB YIELDS (CC & FL)	71380.6	63764.6	-7616.0	-10.7
M0B0B130	LQB YIELDS (CC & FL)	33916.1	31687.1	-2229.0	-6.6
M0BFB120	HQB YIELDS (FL ONLY)	71506.9	63862.7	-7644.2	-10.7
M0BFB130	LQB YIELDS (FL ONLY)	20708.4	18497.1	-2211.3	-10.7
M0H0H120	PORK BEFORE TRADE	116927.9	109278.4	-7649.5	-6.5
M0H0H121	FAT HOGS PRODUCED	1766642.0	1651067.0	-115575.0	-6.5
O0B0B120	HQB YIELDS (CC & FL)	156749.8	166434.8	9685.0	6.2
O0B0B130	LQB YIELDS (CC & FL)	62321.2	61822.7	-498.5	-0.8
O0BFB120	HQB YIELDS (FL ONLY)	156704.3	166374.2	9669.9	6.2
O0BFB130	LQB YIELDS (FL ONLY)	45449.5	48233.3	2783.8	6.1
O0H0H120	PORK BEFORE TRADE	297147.0	286544.8	-10602.2	-3.6
O0H0H121	FAT HOGS PRODUCED	4465900.0	4306557.0	-159343.0	-3.6
Q0B0B120	HQB YIELDS (CC & FL)	26873.9	21698.2	-5175.7	-19.3
Q0B0B130	LQB YIELDS (CC & FL)	16386.6	14601.5	-1785.1	-10.9
Q0BFB120	HQB YIELDS (FL ONLY)	26626.2	21450.2	-5176.0	-19.4
Q0BFB130	LQB YIELDS (FL ONLY)	7741.6	6244.9	-1496.7	-19.3
Q0H0H120	PORK BEFORE TRADE	305289.6	273802.3	-31487.3	-10.3
Q0H0H121	FAT HOGS PRODUCED	4605440.0	4130439.0	-475001.0	-10.3
E0B0B120	HQB YIELDS (CC & FL)	12724.0	14007.4	1283.4	10.1
E0B0B130	LQB YIELDS (CC & FL)	6734.9	6999.3	264.4	3.9
E0BFB120	HQB YIELDS (FL ONLY)	12651.6	13935.0	1283.4	10.1
E0BFB130	LQB YIELDS (FL ONLY)	3667.5	4036.8	369.3	10.1
E0H0H120	PORK BEFORE TRADE	38890.9	32167.8	-6723.1	-17.3
E0H0H121	FAT HOGS PRODUCED	585736.2	484479.9	-101256.3	-17.3

TABLE 7. BEEF AND HOG GOV'T PAYMENTS (ALL PROVINCES)

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
B00GV000	TOTAL - BC	49500384.0	27664368.0	-21836016.0	-44.1
B0BGV000	BEEF - BC	17923280.0	0.0	-17923280.0	-100.0
B0BFG000	FDLOT - BC	6785858.0	0.0	-6785858.0	-100.0
B0HGV000	HOGS - BC	3912732.0	0.0	-3912732.0	-100.0
A00GV000	TOTAL - ALBERTA	927763712.0	828833024.0	-98930688.0	-10.7
A0BGV000	BEEF - ALBERTA	74113520.0	0.0	-74113520.0	-100.0
A0BFG000	FDLOT - ALBERTA	36060432.0	0.0	-36060432.0	-100.0
A0HGV000	HOGS - ALBERTA	24817200.0	0.0	-24817200.0	-100.0
S00GV000	TOTAL - SASK			0.0	0.0
S0BGV000	BEEF - SASK	46180560.0	0.0	-46180560.0	-100.0
S0BFG000	FDLOT - SASK	10906617.0	0.0	-10906617.0	-100.0
S0HGV000	HOGS - SASK	13805716.0	0.0	-13805716.0	-100.0
M00GV000	TOTAL - MANITOBA	377690368.0	346944000.0	-30746368.0	-8.1
M0BGV000	BEEF - MANITOBA	18503648.0	0.0	-18503648.0	-100.0
M0BFG000	FDLOT - MANITOBA	12267848.0	0.0	-12267848.0	-100.0
M0HGV000	HOGS - MANITOBA	12242829.0	0.0	-12242829.0	-100.0
O00GV000	TOTAL - ONTARIO	327181312.0	274269184.0	-52912128.0	-16.2
O0BGV000	BEEF - ONTARIO	23571184.0	0.0	-23571184.0	-100.0
O0BFG000	FDLOT - ONTARIO	15353173.0	0.0	-15353173.0	-100.0
O0HGV000	HOGS - ONTARIO	29340960.0	0.0	-29340960.0	-100.0
Q00GV000	TOTAL - QUEBEC	178315664.0	65474992.0	**********	-63.3
Q0BGV000	BEEF - QUEBEC	57989872.0	0.0	-57989872.0	-100.0
Q0BFG000	FDLOT - QUEBEC	27102000.0	0.0	-27102000.0	-100.0
Q0HGV000	HOGS - QUEBEC	54850784.0	0.0	-54850784.0	-100.0
E00GV000	TOTAL - MARITIMES	27944464.0	9848012.0	-18096452.0	-64.8
E0BGV000	BEEF - MARITIMES	5175113.0	0.0	-5175113.0	-100.0
E0BFG000	FDLOT - MARITIMES	2440868.0	0.0	-2440868.0	-100.0
E0HGV000	HOGS - MARITIMES	12921341.0	0.0	-12921341.0	-100.0

TABLE 8. BEEF AND HOG FEED USAGE (ALL PROVINCES)

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
B0B0C210	FORAGE USE (CC & FL)	655281.4	638388.8	-16892.6	-2.6
B0B0C310	PASTURE USE(CC & FL)	770774.5	746999.1	-23775.4	-3.1
B0B0C020	BARLEY USE (CC & FL)	151567.3	148964.1	-2603.2	-1.7
B0BFC210	FORAGE USE (FL ONLY)	61693.4	60877.2	-816.2	-1.3
B0BFC020	BARLEY USE (FL ONLY)	111046.8	109315.8	-1731.0	-1.6
B0H0C020	BARLEY USED (HOGS)	176866.3	173909.8	-2956.5	-1.7
A0B0C210	FORAGE USE (CC & FL)	4609671.0	4535569.0	-74102.0	-1.6
A0B0C310	PASTURE USE(CC & FL)	4455749.0	4371027.0	-84722.0	-1.9
A0B0C020	BARLEY USE (CC & FL)	1812536.0	1790252.0	-22284.0	-1.2
A0BFC210	FORAGE USE (FL ONLY)	788906.9	780303.9	-8603.0	-1.1
A0BFC020	BARLEY USE (FL ONLY)	1418208.0	1401369.0	-16839.0	-1.2
A0H0C020	BARLEY USED (HOGS)	988523.0	970091.3	-18431.7	-1.9
S0B0C210	FORAGE USE (CC & FL)	2610756.0	2524390.0	-86366.0	-3.3
S0B0C310	PASTURE USE(CC & FL)	3034329.0	2955671.0	-78658.0	-2.6
S0B0C020	BARLEY USE (CC & FL)	517621.4	478950.3	-38671.1	-7.5
S0BFC210	FORAGE USE (FL ONLY)	186253.1	156684.3	-29568.8	-15.9
S0BFC020	BARLEY USE (FL ONLY)	325881.6	290785.7	-35095.9	-10.8
S0H0C020	BARLEY USED (HOGS)	434234.4	426975.8	-7258.6	-1.7
M0B0C210	FORAGE USE (CC & FL)	1293293.0	1266897.0	-26396.0	-2.0
M0B0C310	PASTURE USE(CC & FL)	1326222.0	1309937.0	-16285.0	-1.2
M0B0C020	BARLEY USE (CC & FL)	478807.8	439588.8	-39219.0	-8.2
M0BFC210	FORAGE USE (FL ONLY)	214982.3	199368.1	-15614.2	-7.3
M0BFC020	BARLEY USE (FL ONLY)	388670.5	350167.0	-38503.5	-9.9
M0H0C020	BARLEY USED (HOGS)	757506.8	707950.3	-49556.5	-6.5
O0B0C210	FORAGE USE (CC & FL)	1622811.0	1620604.0	-2207.0	-0.1
O0B0C310	PASTURE USE(CC & FL)	2103185.0	2058432.0	-44753.0	-2.1
O0B0C020	BARLEY USE (CC & FL)	899285.7	922385.8	23100.1	2.6
O0BFC210	FORAGE USE (FL ONLY)	249065.3	270645.6	21580.3	8.7
O0BFC020	BARLEY USE (FL ONLY)	730012.8	755285.2	25272.4	3.5
O0H0C020	BARLEY USED (HOGS)	2614420.0	2521138.0	-93282.0	-3.6
Q0B0C210	FORAGE USE (CC & FL)	730673.6	651328.1	-79345.5	-10.9
Q0B0C310	PASTURE USE(CC & FL)	780595.0	694832.3	-85762.7	-11.0
Q0B0C020	BARLEY USE (CC & FL)	155967.9	132303.4	-23664.5	-15.2
Q0BFC210	FORAGE USE (FL ONLY)	92516.8	79654.4	-12862.4	-13.9
Q0BFC020	BARLEY USE (FL ONLY)	105201.6	85471.1	-19730.5	-18.8
Q0H0C020	BARLEY USED (HOGS)	2302400.0	2064933.0	-237467.0	-10.3
E0B0C210	FORAGE USE (CC & FL)	255402.4	251658.0	-3744.4	-1.5
E0B0C310	PASTURE USE(CC & FL)	237778.3	229965.8	-7812.5	-3.3
E0B0C020	BARLEY USE (CC & FL)	70063.4	74571.8	4508.4	6.4
E0BFC210	FORAGE USE (FL ONLY)	43203.2	46038.5	2835.3	6.6
E0BFC020	BARLEY USE (FL ONLY)	50099.3	55056.5	4957.2	9.9
E0H0C020	BARLEY USED (HOGS)	271691.3	224724.0	-46967.3	-17.3

TABLE 9. BEEF AND PORK SHIPMENTS

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
B0DTR060	DAIRY CALF TRANSFER	13214.0	13214.0	0.0	0.0
A0DTR060	DAIRY CALF TRANSFER	107598.0	107598.0	0.0	0.0
S0DTR060	DAIRY CALF TRANSFER	46371.0	46371.0	0.0	0.0
M0DTR060	DAIRY CALF TRANSFER	45850.0	45850.0	0.0	0.0
O0DTR060	DAIRY CALF TRANSFER	47719.0	47719.0	0.0	0.0
Q0DTR060	DAIRY CALF TRANSFER	113557.0	113557.0	0.0	0.0
E0DTR060	DAIRY CALF TRANSFER	36281.0	36281.0	0.0	0.0
B0BIM060	IM: F.CALVES	0.0	0.0	0.0	0.0
A0BIM060	IM: F.CALVES	94937.0	98152.9	3215.9	3.4
S0BIM060	IM: F.CALVES	0.0	0.0	0.0	0.0
M0BIM060	IM: F.CALVES	81219.0	85046.7	3827.7	4.7
O0BIM060	IM: F.CALVES	207652.0	206912.9	-739.1	-0.4
Q0BIM060	IM: F.CALVES	0.0	0.0	0.0	0.0
E0BIM060	IM: F.CALVES	0.0	0.0	0.0	0.0
CPBIM060	IM: F.CALVES	19781.0	19662.6	-118.4	-0.6
WOBIM060	IM: F.CALVES	0.0	0.0	0.0	0.0
B0BEX060	EX: F.CALVES	28377.0	27029.8	-1347.2	-4.7
A0BEX060	EX: F.CALVES	0.0	0.0	0.0	0.0
S0BEX060	EX: F.CALVES	147779.0	156169.8	8390.8	5.7
M0BEX060	EX: F.CALVES	120459.0	123994.6	3535.6	2.9
O0BEX060	EX: F.CALVES	0.0	0.0	0.0	0.0
Q0BEX060	EX: F.CALVES	67412.0	63255.8	-4156.2	-6.2
E0BEX060	EX: F.CALVES	7535.2	7416.6	-118.6	-1.6
CPBEX060	EX: F.CALVES	19781.0	19662.6	-118.4	-0.6
WOBEX060	EX: F.CALVES	12245.8	12246.0	0.2	0.0
B0BIM070	IM: F.YEARLINGS	0.0	0.0	0.0	0.0
A0BIM070	IM: F.YEARLINGS	0.0	0.0	0.0	0.0
S0BIM070	IM: F.YEARLINGS	0.0	0.0	0.0	0.0
M0BIM070	IM: F.YEARLINGS	62823.7	202869.4	140045.7	222.9
O0BIM070	IM: F.YEARLINGS	191084.0	227057.5	35973.5	18.8
Q0BIM070	IM: F.YEARLINGS	0.0	0.0	0.0	0.0
E0BIM070	IM: F.YEARLINGS	0.0	0.0	0.0	0.0
CPBIM070	IM: F.YEARLINGS	0.0	0.0	0.0	0.0
WOBIM070	IM: F.YEARLINGS	0.0	0.0	0.0	0.0
B0BEX070	EX: F.YEARLINGS	0.0	0.0	0.0	0.0
A0BEX070	EX: F.YEARLINGS	0.0	0.0	0.0	0.0
S0BEX070	EX: F.YEARLINGS	199904.2	202869.4	2965.2	1.5
M0BEX070	EX: F.YEARLINGS	0.0	169653.2	169653.2	0.0
O0BEX070	EX: F.YEARLINGS	0.0	0.0	0.0	0.0
Q0BEX070	EX: F.YEARLINGS	47658.8	57404.3	9745.5	20.4
E0BEX070	EX: F.YEARLINGS	6344.6	0.0	-6344.6	-100.0
CPBEX070	EX: F.YEARLINGS	0.0	0.0	0.0	0.0
WOBEX070	EX: F.YEARLINGS	0.0	0.0	0.0	0.0
B0BIM121	IM: SL.STEER&HEIFERS	0.0	0.0	0.0	0.0
A0BIM121	IM: SL.STEER&HEIFERS	0.0	0.0	0.0	0.0
S0BIM121	IM: SL.STEER&HEIFERS	0.0	0.0	0.0	0.0

TABLE 9. BEEF AND PORK SHIPMENTS (cont'd)

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
M0BIM121	IM: SL.STEER&HEIFERS	0.0	0.0	0.0	0.0
O0BIM121	IM: SL.STEER&HEIFERS	0.0	0.0	0.0	0.0
Q0BIM121	IM: SL.STEER&HEIFERS	0.0	0.0	0.0	0.0
E0BIM121	IM: SL.STEER&HEIFERS	0.0	0.0	0.0	0.0
CPBIM121	IM: SL.STEER&HEIFERS	0.0	0.0	0.0	0.0
WOBIM121	IM: SL.STEER&HEIFERS	0.0	0.0	0.0	0.0
B0BEX121	EX: SL.STEER&HEIFERS	0.0	0.0	0.0	0.0
A0BEX121	EX: SL.STEER&HEIFERS	0.0	0.0	0.0	0.0
S0BEX121	EX: SL.STEER&HEIFERS	0.0	0.0	0.0	0.0
M0BEX121	EX: SL.STEER&HEIFERS	0.0	0.0	0.0	0.0
O0BEX121	EX: SL.STEER&HEIFERS	0.0	0.0	0.0	0.0
Q0BEX121	EX: SL.STEER&HEIFERS	0.0	0.0	0.0	0.0
E0BEX121	EX: SL.STEER&HEIFERS	0.0	0.0	0.0	0.0
CPBEX121	EX: SL.STEER&HEIFERS	0.0	0.0	0.0	0.0
WOBEX121	EX: SL.STEER&HEIFERS	0.0	0.0	0.0	0.0
B0BIM131	IM: SLT. COWS&BULLS	0.0	0.0	0.0	0.0
A0BIM131	IM: SLT. COWS&BULLS	62469.6	0.0	-62469.6	-100.0
S0BIM131	IM: SLT. COWS&BULLS	0.0	0.0	0.0	0.0
M0BIM131	IM: SLT. COWS&BULLS	14472.3	46875.5	32403.2	223.9
O0BIM131	IM: SLT. COWS&BULLS	19115.0	327.0	-18788.0	-98.3
Q0BIM131	IM: SLT. COWS&BULLS	0.0	4906.2	4906.2	0.0
E0BIM131	IM: SLT. COWS&BULLS	44.0	44.0	0.0	0.0
CPBIM131	IM: SLT. COWS&BULLS	0.0	0.0	0.0	0.0
WOBIM131	IM: SLT. COWS&BULLS	73800.0	73800.0	0.0	0.0
B0BEX131	EX: SLT. COWS&BULLS	23295.0	21000.0	-2295.0	-9.9
A0BEX131	EX: SLT. COWS&BULLS	0.0	0.0	0.0	0.0
S0BEX131	EX: SLT. COWS&BULLS	78631.9	50860.5	-27771.4	-35.3
M0BEX131	EX: SLT. COWS&BULLS	11000.0	11000.0	0.0	0.0
O0BEX131	EX: SLT. COWS&BULLS	35000.0	35000.0	0.0	0.0
Q0BEX131	EX: SLT. COWS&BULLS	20288.0	1500.0	-18788.0	-92.6
E0BEX131	EX: SLT. COWS&BULLS	1300.0	6206.2	4906.2	377.4
CPBEX131	EX: SLT. COWS&BULLS	0.0	0.0	0.0	0.0
WOBEX131	EX: SLT. COWS&BULLS	386.0	386.0	0.0	0.0
B0BIM114	IM: SLT. BULLS	0.0	286.2	286.2	0.0
A0BIM114	IM: SLT. BULLS	0.0	0.0	0.0	0.0
S0BIM114	IM: SLT. BULLS	14093.0	13806.8	-286.2	-2.0
M0BIM114	IM: SLT. BULLS	4837.0	4837.0	0.0	0.0
O0BIM114	IM: SLT. BULLS	0.0	0.0	0.0	0.0
Q0BIM114	IM: SLT. BULLS	1349.0	1349.0	0.0	0.0
E0BIM114	IM: SLT. BULLS	0.0	0.0	0.0	0.0
CPBIM114	IM: SLT. BULLS	0.0	0.0	0.0	0.0
WOBIM114	IM: SLT. BULLS	20000.0	20000.0	0.0	0.0
B0BEX114	EX: SLT. BULLS	2000.0	2000.0	0.0	0.0
A0BEX114	EX: SLT. BULLS	16093.0	16093.0	0.0	0.0
S0BEX114	EX: SLT. BULLS	8837.0	8837.0	0.0	0.0
M0BEX114	EX: SLT. BULLS	12000.0	12000.0	0.0	0.0

TABLE 9. BEEF AND PORK SHIPMENTS (cont'd)

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
O0BEX114	EX: SLT. BULLS	1349.0	1349.0	0.0	0.0
Q0BEX114	EX: SLT. BULLS	0.0	0.0	0.0	0.0
E0BEX114	EX: SLT. BULLS	0.0	0.0	0.0	0.0
CPBEX114	EX: SLT. BULLS	0.0	0.0	0.0	0.0
WOBEX114	EX: SLT. BULLS	0.0	0.0	0.0	0.0
B0BIM122	IM: DRESSED HQB	43133.2	40733.2	-2400.0	-5.6
A0BIM122	IM: DRESSED HQB	0.0	0.0	0.0	0.0
S0BIM122	IM: DRESSED HQB	0.0	0.0	0.0	0.0
M0BIM122	IM: DRESSED HQB	0.0	0.0	0.0	0.0
O0BIM122	IM: DRESSED HQB	25149.8	41197.9	16048.1	63.8
Q0BIM122	IM: DRESSED HQB	116321.2	118230.4	1909.2	1.6
E0BIM122	IM: DRESSED HQB	38263.4	35832.3	-2431.1	-6.4
CPBIM122	IM: DRESSED HQB	0.0	0.0	0.0	0.0
WOBIM122	IM: DRESSED HQB	68863.7	73399.0	4535.3	6.6
B0BEX122	EX: DRESSED HQB	0.0	0.0	0.0	0.0
A0BEX122	EX: DRESSED HQB	207930.1	206815.8	-1114.3	-0.5
S0BEX122	EX: DRESSED HQB	36079.9	31232.1	-4847.8	-13.4
M0BEX122	EX: DRESSED HQB	47721.3	41197.9	-6523.4	-13.7
O0BEX122	EX: DRESSED HQB	0.0	30146.9	30146.9	0.0
Q0BEX122	EX: DRESSED HQB	0.0	0.0	0.0	0.0
E0BEX122	EX: DRESSED HQB	0.0	0.0	0.0	0.0
CPBEX122	EX: DRESSED HQB	0.0	0.0	0.0	0.0
WOBEX122	EX: DRESSED HQB	0.0	0.0	0.0	0.0
B0BIM132	IM: DRESSED LQB	32224.6	31354.6	-870.0	-2.7
A0BIM132	IM: DRESSED LQB	0.0	0.0	0.0	0.0
S0BIM132	IM: DRESSED LQB	0.0	0.0	0.0	0.0
M0BIM132	IM: DRESSED LQB	0.0	0.0	0.0	0.0
O0BIM132	IM: DRESSED LQB	49058.2	52161.1	3102.9	6.3
Q0BIM132	IM: DRESSED LQB	47736.7	42312.9	-5423.8	-11.4
E0BIM132	IM: DRESSED LQB	25330.4	25748.4	418.0	1.7
CPBIM132	IM: DRESSED LQB	0.0	0.0	0.0	0.0
WOBIM132	IM: DRESSED LQB	0.0	0.0	0.0	0.0
B0BEX132	EX: DRESSED LQB	0.0	0.0	0.0	0.0
A0BEX132	EX: DRESSED LQB	93151.8	76448.5	-16703.3	-17.9
S0BEX132	EX: DRESSED LQB	16824.5	21536.1	4711.6	28.0
M0BEX132	EX: DRESSED LQB	21487.5	27322.9	5835.4	27.2
O0BEX132	EX: DRESSED LQB	0.0	0.0	0.0	0.0
Q0BEX132	EX: DRESSED LQB	0.0	0.0	0.0	0.0
E0BEX132	EX: DRESSED LQB	0.0	0.0	0.0	0.0
CPBEX132	EX: DRESSED LQB	0.0	0.0	0.0	0.0
WOBEX132	EX: DRESSED LQB	22886.1	26269.4	3383.3	14.8
B0HIM121	IM: SLT. HOGS	209757.0	209757.0	0.0	0.0
A0HIM121	IM: SLT. HOGS	1872.0	1872.0	0.0	0.0
S0HIM121	IM: SLT. HOGS	31779.0	31779.0	0.0	0.0
MOHIM121	IM: SLT. HOGS	87562.0	87562.0	0.0	0.0
O0HIM121	IM: SLT. HOGS	3250.0	3250.0	0.0	0.0

TABLE 9. BEEF AND PORK SHIPMENTS (cont'd)

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
Q0HIM121	IM: SLT. HOGS	431514.0	431514.0	0.0	0.0
E0HIM121	IM: SLT. HOGS	0.0	0.0	0.0	0.0
CPHIM121	IM: SLT. HOGS	0.0	0.0	0.0	0.0
WOHIM121	IM: SLT. HOGS	492090.0	492090.0	0.0	0.0
B0HEX121	EX: SLT. HOGS	3672.0	3672.0	0.0	0.0
A0HEX121	EX: SLT. HOGS	405086.0	405086.0	0.0	0.0
S0HEX121	EX: SLT. HOGS	30574.0	30574.0	0.0	0.0
M0HEX121	EX: SLT. HOGS	188778.0	188778.0	0.0	0.0
O0HEX121	EX: SLT. HOGS	600337.0	600337.0	0.0	0.0
Q0HEX121	EX: SLT. HOGS	3200.0	3200.0	0.0	0.0
E0HEX121	EX: SLT. HOGS	26177.0	26177.0	0.0	0.0
CPHEX121	EX: SLT. HOGS	0.0	0.0	0.0	0.0
WOHEX121	EX: SLT. HOGS	0.0	0.0	0.0	0.0
B0HIM122	IM: DRESSED PORK	35304.2	35681.7	377.5	1.1
A0HIM122	IM: DRESSED PORK	0.0	0.0	0.0	0.0
S0HIM122	IM: DRESSED PORK	0.0	0.0	0.0	0.0
M0HIM122	IM: DRESSED PORK	0.0	0.0	0.0	0.0
O0HIM122	IM: DRESSED PORK	0.0	0.0	0.0	0.0
Q0HIM122	IM: DRESSED PORK	0.0	0.0	0.0	0.0
E0HIM122	IM: DRESSED PORK	23652.6	30375.6	6723.0	28.4
CPHIM122	IM: DRESSED PORK	0.0	0.0	0.0	0.0
WOHIM122	IM: DRESSED PORK	270994.1	210873.9	-60120.2	-22.2
B0HEX122	EX: DRESSED PORK	0.0	0.0	0.0	0.0
A0HEX122	EX: DRESSED PORK	40596.2	38153.3	-2442.9	-6.0
S0HEX122	EX: DRESSED PORK	23871.4	23033.8	-837.6	-3.5
M0HEX122	EX: DRESSED PORK	81125.8	73476.3	-7649.5	-9.4
O0HEX122	EX: DRESSED PORK	19364.7	8762.5	-10602.2	-54.8
Q0HEX122	EX: DRESSED PORK	164992.6	133505.3	-31487.3	-19.1
E0HEX122	EX: DRESSED PORK	0.0	0.0	0.0	0.0
CPHEX122	EX: DRESSED PORK	0.0	0.0	0.0	0.0
WOHEX122	EX: DRESSED PORK	0.0	0.0	0.0	0.0

TABLE 10. BEEF AND PORK DOMESTIC DEMAND AND PRICE

CODE	DESCRIPTION	BASE SOLUTION	NO PAYMENTS SOLUTION	ABSOLUTE CHANGE	% CHANGE
C1CDD020	BARLEY :WEST CANADA	119318.5	119318.5	0.0	0.0
C2CDD020	:EAST CANADA	1615580.0	1615580.0	0.0	0.0
C1BDD120	HQ BEEF :W CANADA	168458.4	161174.4	-7284.0	-4.3
C2BDD120	HQ BEEF :E CANADA	411809.6	402981.6	-8828.0	-2.1
C1BDD130	LQ BEEF:W CANADA	121724.7	120455.9	-1268.8	-1.0
C2BDD130	LQ BEEF:E CANADA	290097.3	286175.2	-3922.1	-1.4
C1HDD120	PORK :WEST CANADA	188072.7	188072.7	0.0	0.0
C2HDD120	PORK :EAST CANADA	466001.6	466001.6	0.0	0.0
C1CPR020	BARLEY :WEST CANADA	76.2	76.2	0.0	0.0
C2CPR020	:EAST CANADA	89.1	89.1	0.0	0.0
C1BPR120	HQ BEEF :W CANADA	3195.6	3390.0	194.4	6.1
C2BPR120	HQ BEEF :E CANADA	3291.1	3390.0	98.9	3.0
C1BPR130	LQ BEEF:W CANADA	2458.3	2515.6	57.3	2.3
C2BPR130	LQ BEEF:E CANADA	2616.3	2688.9	72.6	2.8
C1HPR120	PORK :WEST CANADA	2950.1	2950.1	0.0	0.0
C2HPR120	PORK :EAST CANADA	2950.1	2950.1	0.0	0.0

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