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THE ECONOMIC IMPACTS OF THE "SAVE THE FAMILY FARM" BILL ON NEW YORK DAIRY FARMERS

by

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Abstract

This paper reports the results of research which looked at the implications of the Harkin-Gephardt "Save the Family Farm" Bill (SFFB) on New York dairy farmers' net incomes. This bill, if passed, would change current dairy policy through: (1) instating a mandatory supply management (marketing quota) program, and (2) significantly raising support prices for selected crops and milk. The SFFB would have certain benefits (e.g. substantially higher milk prices) and certain costs (e.g. required reductions in milk marketings and higher grain and concentrate prices). The central focus of this research was to determine the net benefits of the Harkin-Gephardt Bill and the distribution of the net benefits among New York dairy producers with different size and resource classifications. The results indicated that the net benefits of the SFFB compared with existing policy were highly skewed towards dairy farms that grow grain. Specifically, it was found that producers who purchase all of their concentrate were worse off and farmers who grow corn grain were better off under the SFFB. Since the majority of New York farmers buy most of their concentrate, it was argued that the state's dairy farmers would generally be worse off under the Harkin-Gephardt Bill than existing policy in the short run.

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Introduction

Mandatory production controls have been used in the past for some U.S. agricultural commodities, but have never been implemented for the dairy industry. The large surpluses of milk supply relative to commercial demand experienced thus far in the 1980's, along with the associated problems of declining milk prices and erosion of many farmers' income and equity, have prompted more interest in milk quota programs. A bill calling, in part, for a mandatory milk quota program has been introduced into Congress by Senator Harkin (D) from Iowa and Representative Gephardt (D) from Missouri. The Harkin-Gephardt proposal, if enacted, would have significant economic ramifications for dairy farmers.

In response to this environment, several recent studies have looked at the implications such a change in policy would have on the dairy industry. Research by Nott and Hamm, Mason, Kaiser, and Jesse and Cropp has focused on more qualitative dimensions of mandatory supply management programs, providing valuable information with respect to alternative types of programs, experience other countries (e.g. Canada and the European Community) have had with these programs, and analyses of the ramifications mandatory programs would have at the farm level. There have also been several economic analyses of the Harkin-Gephardt proposal. For example, the Food and Agricultural Policy Research Institute (FAPRI) and the Agricultural and Food Policy Center (AFPC) each examined differences between the Harkin-Gephardt Bill and existing programs with regard to their macroeconomic impacts on net farm income, production, consumer demand, government purchases and costs for the major agricultural commodities produced in the U.S. While insight has been gained on the general effects of mandatory production controls, with the exception of FAPRI and AFPC research, specific information on farm prices, costs, and incomes is still relatively unknown. Moreover, the FAPRI and AFPC studies

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did not focus on the micro-level ramifications of the Harkin-Gephardt Bill.

In this bulletin, the farm-level implications of the Harkin-Gephardt Bill on dairy farm prices, costs, and income are explored. Specifically, we address the following question: would New York dairy producers with alternative farm characteristics be better or worse off under the Harkin-Gephardt Bill compared to current dairy programs? To address this question, representative farms constructed from actual farm data in the Cornell Dairy Farm Business Summary are used to estimate receipts, expenses, and net incomes for two general scenarios. Under the base scenario, receipts, expenses, and net incomes are calculated using actual data from the Summary. In the second scenario, receipts, expenses, and net incomes are estimated using parameters from the Harkin-Gephardt Bill. The analysis is conducted for nine different representative farms for different segments of the New York dairy farm population based on resource base and size.

Provisions of the "Save the Family Farm" Bill

The Harkin-Gephardt or "Save the Family Farm" Bill (SFFB) was introduced into Congress in the fall of 1986 as an alternative to the Food Security Act (FSA) of 1985. Proponents of this bill are dissatisfied with the FSA because they feel it has not met the objectives it was intended to accomplish. In the words of one letter circulated by SFFB advocates, as a result of the the Food Security Act,

> "farm prices have been lowered, not stabilized; the U.S. has become a net importer of agricultural products as the dollar volume of exports has plummeted; and real farm income is being replaced by direct payments from the government" (National Save the Family Farm Coalition).

Advocates contend that the SFFB is a better policy option than the FSA because it would result in price and income protection for family farmers while simultaneously reducing the burgeoning costs of farm programs. The bill attempts to achieve these policy objectives through (1) instating a mandatory supply management (marketing quota) program, and (2) significantly raising support prices for selected crops and milk.

Under the bill, the current milk surplus problem would be addressed by implementing a National Milk Marketing Base Program. This program is designed to limit total marketings to total commercial demand for milk and milk products. Basically two types of adjustments in milk marketings would be required by this program. The first adjustment is specific to each farm. Accordingly, each producer would be assigned a permanent base or Milk Marketing History (MMH), which is equal to the farmer's average annual milk marketings for 1981-85, after deleting the highest and lowest years in this period.[1] Farmers selling milk above their MMH would have to reduce their marketings to this base or pay penalties.

The second adjustment would be uniformly applied to all farms based on estimates of national milk use relative to production. For each year that the program would be in effect,

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[1]MMH's for producers that did not sell milk in each of these five years would be equal to the annual average of years that they did deliver milk. MMH's for farmers that participated in the 1984-85 Milk Diversion Program (MDP) would be equal to the base established under the MDP, i.e. 1981-82. Finally, for producers that sold milk in only one of these five years the Secretary of Agriculture is given the discretion to determine a "reasonable" MMH for them.

the Secretary of Agriculture would estimate a National Milk Marketing Allocation Factor (MMAF), which is equal to projected domestic commercial disappearance plus exports divided by estimated total production. For example, if national commercial disappearance plus exports were estimated to be 135 billion pounds (milk equivalent) and production was estimated to be 145 billion pounds, then the MMAF would be 93%. The Secretary would use these two adjustments in calculating each producer's Milk Marketing Bases (MMB), which is the quantity of milk farmers could market without being penalized. Each producer's annual MMB would be determined by the following formula:

(1) MMB = 99% x MMH x MMAF

It is unclear why the authors of the bill make this 99 percent adjustment in the MMB, but one possible explanation is to reduce potential surpluses from farmers that market over their bases.

In return for these reductions in milk marketings, the price of milk sold within one's MMB would be supported at levels significantly higher than the current dairy price support. Beginning in calendar year 1988, the price support for 3.67% (butterfat) milk would be set at 70 percent of parity and would be increased by 1 percentage point each year until it reached a maximum of 80 percent of parity. All crops covered by the SFFB would also be supported at these parity percentages.

Any milk sold over one's MMB would be subject to a civil penalty in order to discourage excess milk marketings. As currently written, the penalty on over-base milk would be equal to 75 percent of the price support. For a more detailed description of all the provisions in the SFFB, see Kaiser and Heslop.

The Model and Data

If the SFFB became law, there would be several benefits and costs to dairy farmers compared to the current dairy programs. The main benefit would be higher farm prices due to the increase in the price support for milk. If the price support for 3.67 percent (butterfat) milk would have been set at 70 percent of parity in 1986, it would have been $15.00 per hundredweight instead of $11.60, or 29 percent higher than its actual level.[2] There are two main costs to producers of this bill. The first cost is foregone income due to cutbacks in milk marketings required to bring supply into balance with demand. The second cost to dairy farmers is increased feed prices, since the SFFB would support crop prices at 70 percent of parity as well. This second cost would have different impacts on producers depending upon which resource group they belong to, i.e. purchase all concentrate, purchase some concentrate, or grow nearly all concentrate. This section discusses the model used to determine the net benefits of the SFFB compared to the current program for New York dairy farmers.

Construction of Representative Farms

Nine different representative farms were constructed from the 1986 Cornell Dairy Farm Business Summary records. The farms were formulated to represent different resource situations and different size categories. Two sorting procedures were used in developing the nine representative farms.

First, all farms in the Summary were sorted based solely on average cow numbers per operation to represent farm size.

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[2]The $15.00 per hundredweight estimate of the price support for milk at 70 percent of parity for 1986 is based on 70% of the parity equivalent for manufacturing grade milk reported in the the October issue of Dairy Situation and Outlook. This is very close to the estimate used for 1987 in the study by AFPC, i.e. $15.02, but much lower than the estimate used in the FAPRI study for 1987, i.e. $16.95. While the FAPRI study did not explain how this figure was calculated, it probably reflects the higher grain costs under the SFFB. However, if the SFFB was enacted today, the 70% of parity estimate used in this study would be more appropriate than FAPRI's $16.95 figure because the formula for determinimg parity uses the previous 10 years of prices paid and received. Hence, the dairy price support in the first year would not reflect higher grain prices.

The "small" group consisted of the third smallest farms in the records; the "large" group consisted of the third largest farms in the records; and the "medium" group included all the remaining farms in the Summary.

Second, all farms in each size group were sorted into one of three farm resource categories. These categories were defined in terms of feed supply characteristics, based on the definitions used by Kalter, et. al. For all three situations the farms grew all forage necessary to meet animal needs. In the first case, the resource situation consisted of farms that purchased all their concentrate (Forage Only case). The second resource situation, the Some Grain case, included farms which grew some, but not all, of the corn grain for their own usage. The last resource situation, the All Grain case, consisted of farms that grew more corn grain than their feeding requirements demanded, actually marketing a minimum of 5% of the value of their milk receipts in crop sales. All farms in each of the three size groups were sorted into one of these three categories.

Finally, the nine representative farms for the three size, three resource characteristics were constructed using average values from the farm business summaries for all farms in each size and resource category. Profiles of the nine representative farms are in Table 1. Although based on New York, these nine farms are thought to emulate most of the dairy farm characteristics of the Northeast, and perhaps to a lesser degree, attributes of farms in the Lake States.

The Base and Harkin-Gephardt Scenarios

For each of the nine representative farms, net income was estimated under two scenarios for 1986.[3] In the first situation, the base scenario, net income was calculated assuming that the pricing provisions of the FSA were in place. In the second scenario, the Harkin-Gephardt scenario (HG), net income was estimated assuming the provisions of the SFFB were in place. Net income for the HG scenario was calculated for seven different reductions from marketings in the 1986 base scenario. This was done since the level of reductions would depend, in large part, on each producer's current milk marketings relative to her or his MMB. The seven reductions from actual 1986 milk marketings (hereafter referred to as RFAM) included 0%, 5%, 10%,..., 25% and 30%. It was assumed that there was no excess

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[3]Net income, in this study, is defined as total farm receipts less operating expenses, interest, and depreciation.

Table 1. Profiles of the Nine Representative Farms.

	Forage Only			Some Grain			All Grain		
	Small	Medium	Large	Small	Medium	Large	Small	Medium	Large
Number of Farms	31	32	31	23	24	23	5	5	5
Average Cow Numbers	43	68	175	43	69	152	41	67	141
Average Heifer Numbers	32	50	138	34	58	128	31	57	122
Total	75	118	313	77	127	280	72	124	263
Milk Marketings (10,000 lbs)	61.0	98.4	287.0	64.0	106.9	247.3	56.4	102.4	229.9
Marketings/Cow (1,000 lbs)	14.2	14.5	16.4	14.9	15.5	16.3	13.8	15.3	16.3
Crop Acreage									
Corn Silage	25	48	175	28	47	119	17	41	80
Hay	95	129	172	101	128	210	90	135	200
Corn Grain	0	0	0	22	51	114	42	98	188
Other Grain	0	0	0	18	25	29	37	37	47
Total	120	177	347	169	251	472	186	311	515

milk marketings by the case farms above their MMB and therefore no penalty payments.

Net Income Estimation

In the base scenario, net income was calculated as follows. First, the milk price was set at the 1986 state average blend price for New York.[4] Milk sales were then determined by the product of the price ($12.09) times average milk marketings for each representative farm. Other farm receipts and all costs were based on average values from individual records for each of the nine groups. In addition to milk sales, other farm receipts included dairy cattle and calve sales, other livestock sales, crop sales, and miscellaneous income. Operating expenses included labor, feed, machinery, livestock, crop, real estate, and other expenses. Fixed costs consisted of interest payments and depreciation.

In the HG scenario, net income was estimated using the following procedures and assumptions (see Tables 2 and 3). To calculate what the blend price in New York would be given a 70 percent of parity milk support price, the following equation was estimated using ordinary least squares:[5]

$$(2) \quad BP_t = \underset{(-5.8)}{-1.725} + \underset{(12.9)}{0.949}\ PS_t + \underset{(1.5)}{0.067}\ U_t \qquad R\text{-Square} = 0.989$$

where: BP_t = Blend price, year t;
PS_t = Price support, year t;
U_t = Class I utilization, New York-New Jersey Milk Marketing Order, year t;
t = 1965 to 1986

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[4]The blend price is the minimum price that handlers of Grade A milk (eligible for fluid products) must pay to farmers within a milk marketing order. This price is an average of Class I (fluid products) and Class II (manufactured products) minimum prices, weighted by marketwide fluid and non-fluid utilization rates, respectively. The milk price support is indirectly related to the blend price because the support price attempts to establish a floor on Grade B milk (only eligible for manufactured products) prices. Since Class I and II prices are based on manufacturing prices in Minnesota and Wisconsin, the blend price is strongly influenced by the milk price support.

[5]Numbers in parentheses are t-statistics. All coefficients were significantly different from zero at the 10% significant level.

Table 2. Procedures Used in Estimating Net Dairy Farm Income Under the SFFB With Reductions in Cow Numbers (Case 1).

	Base Scenario	Harkin-Gephardt Scenario --------- RFAM --------- 0% 5% 10% 15% 20% 25% 30%
Receipts		
Milk Sales	MP86 * MM86	MPHG * MM86 * (1 - RFAM)
Dairy Cattle Sales	Ave From Records	BS * (1 - RFAM /.85)
Calves Sold	Ave From Records	BS * (1 - RFAM /.85)
Other Livestock	Ave From Records	BS * (1 - RFAM /.85)
Crop Sales	Ave From Records	Same As BS*
	or	BS * 65% * 2.29**
Misc Income	Ave From Records	Same As BS
Operating Expenses		
Labor	Ave From Records	BS * (1 - RFAM /.85)
Feed		
Grain	Ave From Records	BS * (1 - RFAM /.85) * 2.29
	or	[BS-(ACG*(1-(RFAM/.85))*YLD*Pc***
Other	Ave From Records	BS * (1 - RFAM /.85)
Machinery	Ave From Records	BS * [1 - %RAP]
Livestock	Ave From Records	BS * (1 - RFAM /.85)
Milk Marketing	Ave From Records	BS * (1 - %RMM)
Crop	Ave From Records	BS * (1 - %RAP)
Real Estate	Ave From Records	Same As BS
Other	Ave From Records	BS * (1 - RFAM /.85)
Interest	Ave From Records	IR * (DB - CCS)
Depreciation	Ave From Records	Same As BS

Where:
MP86 = State average milk (blend) price received in 1986;
MM86 = Total milk marketings in 1986;
MPHG = Projected milk price in 1986, assuming Harkin-Gephardt 70% parity;
RFAM = Reduction from actual 1986 marketings, 0%...30%;
BS = Base Scenario Value;
ACG = Acres of corn grain;
YLD = Corn grain yield per acre;
Pc = Corn meal price/ton ($164.00)
%RAP = Percentage reduction in acres planted;
%RMM = Percentage reduction in milk marketed;
IR = Interest rate;
DB = Base scenario debt level;
CCS = Proceeds from cow and calf sales applied to remaining debt.

*This formula applies to Forage Only and Some Grain farms.
**This formula applies to All Grain farms.
***This formula applies to Some Grain farms only.

Table 3. Procedures Used in Estimating Net Dairy Farm Income Under the SFFB With Reductions in Milk Marketings Per Cow (Case 2).

	Base Scenario	Harkin-Gephardt Scenario --------- RFAM --------- 0% 5% 10% 15% 20% 25% 30%
Receipts		
Milk Sales	MP86 * MM86	MPHG * MM86 * (1 - RFAM)
Dairy Cattle Sales	Ave From Records	Same As BS*
Calves Sold	Ave From Records	Same As BS*
Other Livestock	Ave From Records	Same As BS*
Crop Sales	Ave From Records	Same As BS* BS * 65% * 2.29**
Misc Income	Ave From Records	Same As BS
Operating Expenses		
Labor	Ave From Records	Same As BS
Feed		
Grain	Ave From Records	BS * RGCLP * 2.29
Other	Ave From Records	Same as BS
Machinery	Ave From Records	Same as BS
Livestock	Ave From Records	Same as BS
Milk Marketing	Ave From Records	BS * (1 - %RMM)
Crop	Ave From Records	Same as BS
Real Estate	Ave From Records	Same As BS
Other	Ave From Records	Same as BS
Interest	Ave From Records	Same as BS
Depreciation	Ave From Records	Same As BS

Where:

MP86 = State average milk (blend) price received in 1986;
MM86 = Total milk marketings in 1986;
MPHG = Projected milk price in 1986, assuming Harkin-Gephardt 70% parity;
RFAM = Reduction from actual 1986 marketings, 0%...30%;
BS = Base Scenario Value;
RGCLP = Percentage reduction between BS and linear programming feed costs (see text);
%RMM = Percentage reduction in milk marketed;

*This formula applies to Forage Only and Some Grain farms.

**This formula applies to All Grain farms.

The 1986 assumed price support level under the SFFB and Class I utilization rates for New York were substituted into equation (2) to estimate milk prices for the HG scenario (data obtained from Federal Milk Marketing Order #2). This price was $15.36 per hundredweight. Revenue from milk sales was calculated by multiplying the HG blend price times the quantity of milk marketings allowable under each RFAM.

Changes in the remaining receipts and in all costs under the SFFB would depend upon the manner in which producers would satisfy their reductions in milk marketings. For example, costs and other farm receipts would be different if farmers made these reductions totally through culling dairy cattle than by using management strategies that reduce production per cow. Recognizing this, two different strategies were modeled for reducing milk marketings for each of the seven RFAM levels. Under the first case (Case 1), it was assumed that the reductions in milk marketings were achieved through reducing cow numbers. In the second case (Case 2), reductions in milk marketings were assumed to be made through reducing production per cow.

Other Receipts and Costs - Case 1 - To accomplish the reduction in milk marketings in Case 1 for each RFAM, it was assumed that producers reduced herd inventory by culling their lowest producing animals and proportional youngstock inventories. The percentage reduction in herd was assumed to be greater than the required percentage reduction in milk marketings because lower than average producing animals would be culled. Based on discussions with a Cornell animal scientist, it was assumed that for each one percent required reduction in milk marketings, farmers had to cull 1.176% of their lowest producing animals (Oltenacu). The proceeds from the sale of these animals were assumed to be applied exclusively to reduce debt.

Revenue from dairy cattle, calves, and other livestock sales were equal to base scenario levels reduced by the percentage decrease in cow numbers required to satisfy reductions in milk marketings for each RFAM. Revenue from crop sales for the first two resource groups, the Forage Only and Some Grain farms, were assumed to be identical to the base scenario, as these sales are generally excess roughage. However, crop sales for the All Grain farms were adjusted in the following fashion. It was assumed that these farms were in the Feed Grain Program and the maximum acreage reduction (35%) was in effect. These farmers then received 70 percent of the corn parity price ($3.44 per bushel) on all corn sales, given the 35 percent cutback. Finally, miscellaneous income for all farms was assumed to be the same as in the base scenario for all levels of RFAM.

Operating expenses in this case were estimated as follows. Labor costs were decreased by the same reduction in dairy

cattle for each RFAM. In calculating feed costs, first the amount of concentrates for feeding requirements were reduced according to the reduction in dairy animals. For Forage Only and All Grain farms, the amount of concentrate remaining to be purchased after the reduction was multiplied by the ratio of concentrate prices set at 70 percent of parity to actual concentrate prices in 1986, which was equal to 2.29. For the Some Grain farms, the corn grain acreage was allowed to remain at the same level, adjusting grain purchases downward to reflect the increased contribution of home grown grains.[6] Roughage and other feed costs were reduced by the same percentage used in cow number reductions for each RFAM. Machinery costs were reduced by the percentage reduction in acres planted. It was assumed that the unutilized roughage acres on the Forage Only and Some Grain farms were idled. For the All Grain farms, roughage acreage was reduced according to the percentage decrease in cow numbers while grain acreage was decreased by the 35 percent requirement of the acreage reduction program. All livestock costs, except milk marketing, were reduced by the same percentage as cow numbers for each RFAM. Milk marketing costs were adjusted by the corresponding change in milk sales for each RFAM. All crop expenses were adjusted using identical procedures employed in adjusting machinery costs. Real estate costs were assumed to be the same for all scenarios. Finally, other operating costs were reduced by the same percentage applied to cow numbers.

Proceeds from the sale of the excess dairy cattle required to meet the marketing reductions were applied to reduce debt. Hence, interest costs for each RFAM greater than 0 percent fell according to the debt remaining after this sale. It was assumed that the value of cows was $300 per head and the value of heifers was $150 per head. Depreciation costs were assumed to be the same under all scenarios.

Other Receipts and Costs - Case 2 - To accomplish the reduction in milk marketings in Case 2 for each RFAM, it was assumed that producers reduced marketings per cow instead of cow numbers. All receipts and costs, except milk sales receipts and grain costs, were assumed to be the same as those in the base scenario. Compared to Case 1, feed costs were reduced since reductions were assumed to be made by feeding less grain.

The grain costs, under Case 2, were determined using a linear programming model that minimized the feed costs to meet the nutrient demand for the dairy herd for each RFAM. The

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[6]A second version of Case 1 is reported in Appendix 3. In this version, it was assumed that the farm could use idle forage acres to grow additional grain.

program balanced crude protein, net energy-lactation, acid detergent fiber, and dry matter intake demands by allocating feeds to early lactation (91.5 days), mid lactation (122 days), late lactation (91.5 days), dry cows (60 days), and replacement heifers. The change in feed requirements was calculated by first determining feed needs, holding the ratio of hay to corn silage acres constant and assuming no additional acres could enter the solution. Feed needs were then determined for 10 and 20 percent reductions in marketings and therefore herd averages. Again, it was assumed that no additional acreage could enter the solution. Next, using linear interpolation based on the 10 and 20 percent reductions, grain costs for the 0, 5, 15, 25, and 30 percent RFAM's were determined. Finally, the resulting costs were multiplied by 2.29, which was the increase in grain prices under the Harkin-Gephardt Bill.

It is important to point out that Cases 1 and 2 probably represent the extremes of how producers would respond to supply control. As such, actual changes would probably lie somewhere in between the estimates provided from these two assumed reduction strategies since most farmers would likely use a combination of reduction in cows and production.

Results

For each of the nine representative farms, net incomes were calculated for the base and HG scenarios using the procedures outlined above. Figures 1, 2, and 3 illustrate graphically the percentage change in net income under the SFFB from base scenario net income for the two reduction procedures and the seven RFAM's.[7] The horizontal line extending from the 0% level on the vertical axis is the break even point in net income between the HG and base scenarios.

In the Forage Only case (Figure 1), all three case farms were significantly worse off under the SFFB than under existing programs. Net incomes for the small and medium farms were actually negative for all seven RFAM in both cases. Under Case 1, the percentage changes in net incomes due to the SFFB for the small, medium, and large farms were -199, -178, and -84 percent at the 0 percent RFAM. Furthermore, net income consistently declined as the RFAM increased under this reduction strategy. The major reason for this result was due to the cost of grain and concentrate more than doubling in the SFFB situation. These costs, on average, represented about 35 percent of total operating expenses in the base situation. If the Harkin-Gephardt Bill was adopted, grain and concentrate costs for Forage Only farms would rise to approximately 55 percent of total operating expenses.

Use of the second reduction strategy for Forage Only farms also resulted in significant decreases in net income under the SFFB. As Figure 1 indicates, the percentage changes in net income due to the SFFB even at the 0 percent RFAM were -211, -189, and -78 percent, respectively, for the small, medium, and large farms. As in Case 1, net incomes for the small and medium Forage Only farms consistently fell with increases in the RFAM. However, income in the HG scenario for the large farm actually exceeded base scenario income for successive increases in the RFAM above the 17 percent level. This result was due to the large reductions in grain costs these farmers achieved. This group of producers were able to meet the majority of their nutrient needs through roughage, particularly at higher RFAM levels.

The results for the Forage Only farms reflect the precarious position many of these producers are in. These farms are located on poor soil which makes production of high quality

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[7]The complete income statements for the nine representative farms for all scenarios are listed in the appendix of this paper.

Figure 1. Percentage Change in Net Income Under the Harkin-Gephardt Bill From Base Scenario Net Income by RFAM Level, Forage Only Farms.

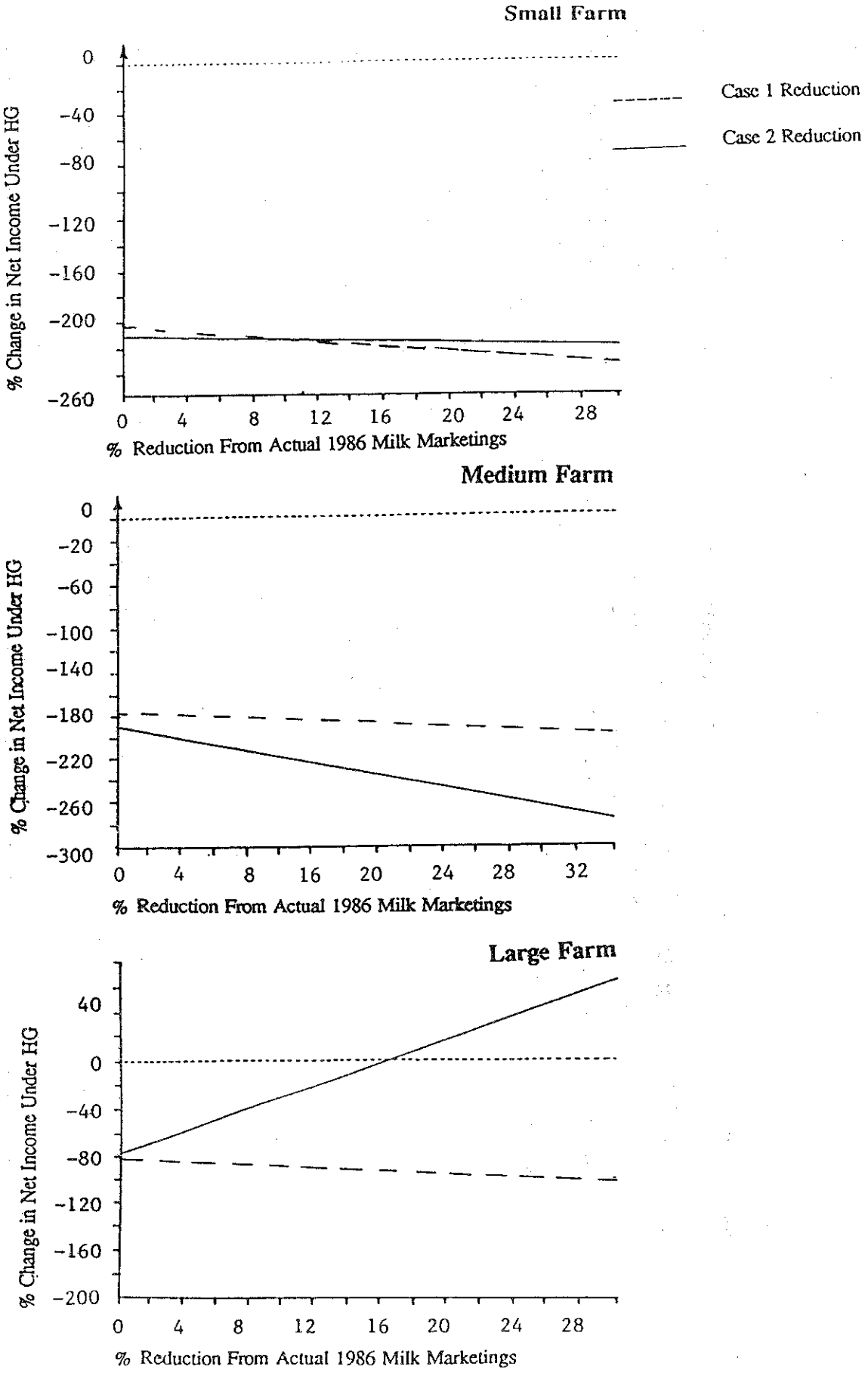


Figure 2. Percentage Change in Net Income Under the Harkin-Gephardt Bill From Base Scenario Net Income by RFAM Level, Some Grain Farms.

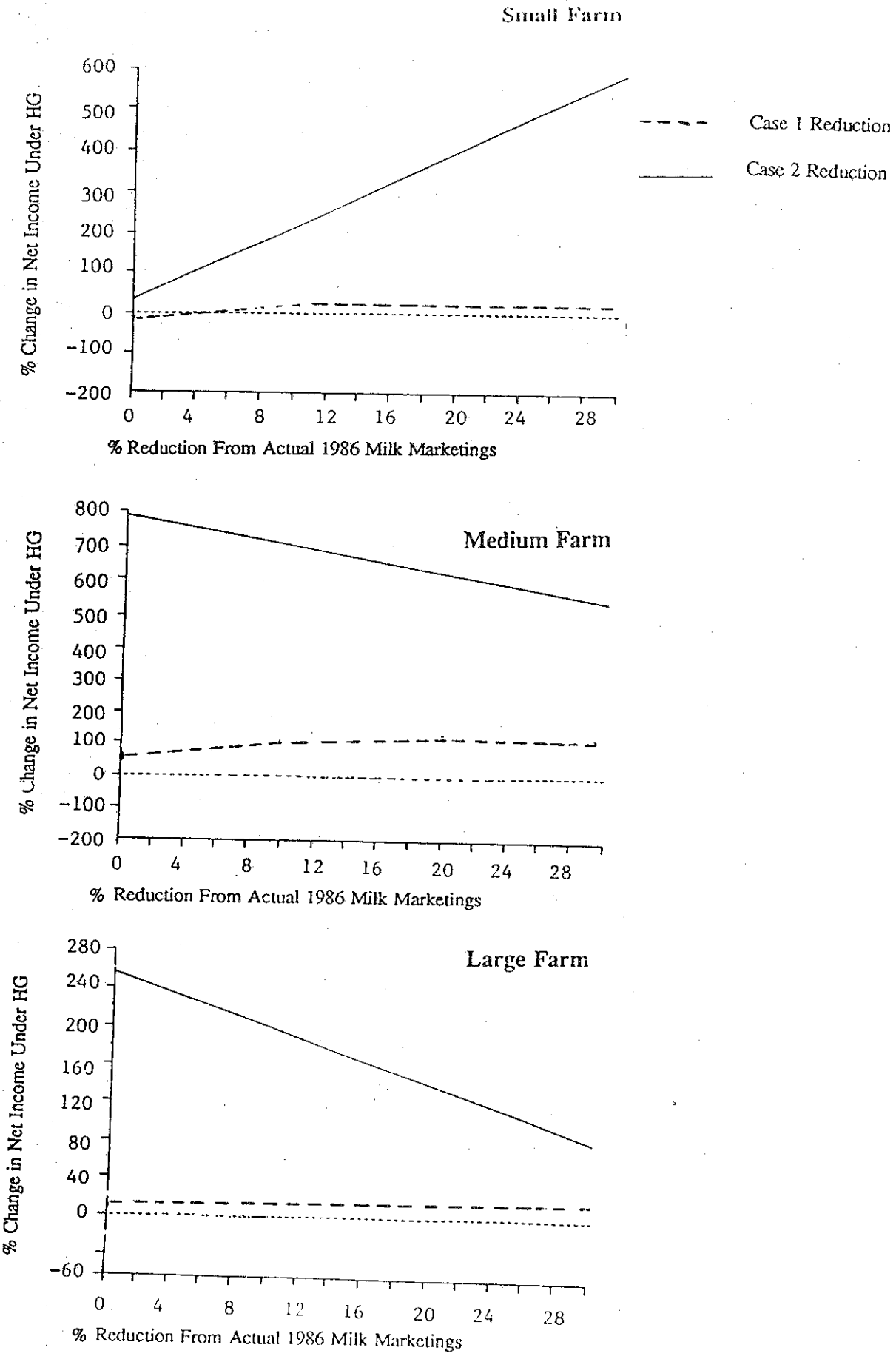
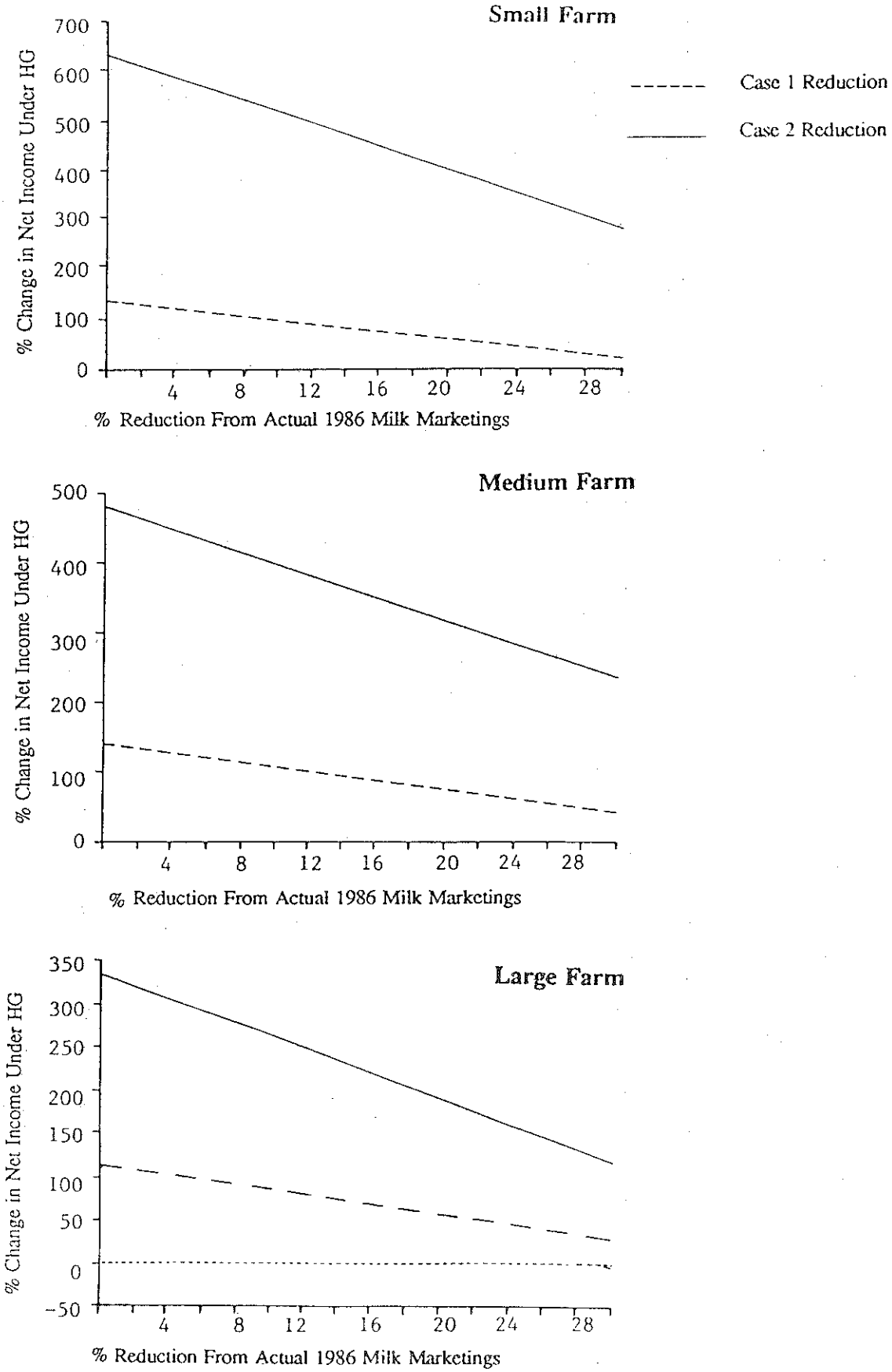


Figure 3. Percentage Change in Net Income Under the Harkin-Gephardt Bill From Base Scenario Net Income by RFAM Level, All Grain Farms.



forage difficult and grain production nearly impossible. The negative effect of the increased cost of the purchased feed is much greater than the positive impact of increased milk price for these farms. It is important to recognize that a high proportion of the small dairy farms in New York and the Northeast are in this situation, while only few of the Forage Only farms have the soil and financial resources to grow grain. The small proportion of the Forage Only farms that could grow grain would be impacted more like those in the Some Grain resource group.

Figure 2 displays a similar set of graphs for the Some Grain farms. The results reflect the unique circumstances these farms experience: they have the soil and equipment resources to grow some grain to feed the dairy herd, but are not able to expand significantly. Many farms in this case cannot increase grain production due to soil, machinery, and storage constraints. The results, therefore, reflect a constant acreage of grain and, hence, increasing grain production per cow as cow numbers are reduced. The Some Grain farms were generally better off under the HG scenario for most of the RFAM range.

In Case 1, the incomes increased only marginally for the small and large farms under HG, with all increases less than 22 percent of actual 1986 net income. The medium size farm, however, was substantially better off in this case, with net income more than doubling under HG for some RFAM's. Since some farms in this resource class do have the resources to expand grain production, Case 1 was re-estimated assuming that acreage not needed for forage could be converted to grain production. The results, which are presented in Appendix C, show that Some Grain farms capable of doing this were much better off under HG than the base scenario.

Under Case 2 reductions, the Some Grain farms had higher income in the HG than the base and Case 1 scenarios. The discrepancy between Case 1 and 2 results is due to the fact that grain costs are driven to zero under the HG scenario in Case 2. It is important to note that one shortcoming with Case 2 is whether it is realistic from a management perspective to entirely cease feeding corn grain to one's herd. Obviously if this is not realistic, then the Case 2 results exaggerate the net income in the HG scenario.

The All Grain farms were consistently better off in the HG than base scenario. As Figure 3 illustrates, all three size farms had higher incomes for all RFAM levels considered in Case 1. For reduction levels between 0 and 30 percent, HG net income ranged from 134 to 63 percent for the small farm, 139 to 74 percent for the medium farm, and 111 to 32 percent for the large farm of base scenario net income. These farms were substantially better off under HG because while their grain and

concentrate costs increased significantly, this increase was partially offset by an increase in crop sale receipts and their feed purchases were relatively low in the base scenario.

The Case 2 results for the All Grain farms were similar to Case 1, but even more pronounced. In short, the small, medium, and large farms have significantly higher net income under the SFFB. Again, the questionable result that grain costs are driven to zero occurs, however, which should be noted.

The actual RFAM that would be mandated if this bill became law would be specific to each farm. Farms that have increased marketings relative to their MMH would have to cut back more than farms that have not expanded or have actually decreased marketings relative to this base.

One way to gage what the average RFAM would be is to assume that national data is representative of these nine farms and calculate a MMB using national data. In 1986, national milk marketings were 142.8 billion pounds. The national MMH (i.e. 1981 to 1985 average marketings with highest and lowest years excluded) is 134.3 billion pounds. Consequently, the reduction from actual 1986 marketings to the MMH would have been 8.5 billion pounds (a reduction of 6%) had the SFFB been law in 1986. In addition, there would also be reductions due to decreases in commercial disappearance because of higher retail prices. The study by AFPC projected that commercial disappearance would fall from 136.7 billion pounds (milk equivalent) in 1987 under the FSA price support level to 120.6 billion pounds in 1988 under the SFFB. Assuming this 11.8 percent decrease in commercial disappearance for 1986 and exports of 2.5 billion pounds, these results suggest that the MMAF in 1986 would have been 91.7 percent. Using the formula for determining the MMB (equation 1), the national average MMB in 1986 would have been 121.9 billion pounds, compared with actual marketings of 142.8 billion pounds. Therefore, the national average RFAM would have been 14.6 percent in 1986 had the SFFB been in place.

At a 14.6 percent RFAM, all three of the Forage Only farms would have significantly lower net incomes under the SFFB. The net incomes of these farms in the HG scenario would have been 209%, 183%, and 91% lower than actual 1986 net income for small, medium, and large farms, respectively in Case 1. In Case 2, HG net income would have been 217%, 233%, and 8% lower than net income in the base scenario for these three Forage Only farms. Hence, it is clear that farms in New York that purchase all their concentrate would be drastically worse off if the SFFB was enacted.

The implications of a 14.6 percent cutback to the Some Grain farms are a modest to substantial increase in net income. For Case 1 with constant grain acreage, this cutback level

resulted in income increasing for these three farms by 15, 112, and 21 percent relative to base scenario income. For farms that could expand grain acreage as well as those in the Case 2 situation, the potential existed for major gains in income under HG at this RFAM.

The results for New York producers in the All Grain resource group clearly indicate that their net incomes would rise if the SFFB was passed. With respect to the Case 1 reduction technique, HG net incomes would have increased by 98%, 96%, and 71% for small, medium, and large All Grain farms, respectively at a 14.6 percent RFAM. In the Case 2 marketing cutback situation, net income under the SFFB would have been 448%, 351%, and 224% higher than actual 1986 income for these farms.

Summary and Implications

This research report has examined the possible impact of the "Save the Family Farm" Bill on New York dairy farmers' net incomes. With the use of 1986 Cornell Dairy Farm Business Summary records, nine representative farms based on different size and feed resource characteristics were constructed. A model was developed that generated net incomes for these nine case farms under two scenarios. The first scenario assumed that provisions of current policy were in effect for 1986. The second scenario assumed that provisions of the SFFB were in place in 1986. Finally, two different milk marketing reduction strategies were modeled. The first strategy assumed reductions were made entirely through decreasing herd size, while the second assumed producers could achieve these reduction through decreasing herd average production.

The results were conclusive for all resource groups. Forage Only producers were worse off under the SFFB because net income was significantly lower in the HG compared with base scenario. On the other hand, the Some Grain farms were generally better off, although in Case 1, where cow numbers were reduced, the increase was modest. Finally, the All Grain farmers were consistently better off in the HG scenario. Their net incomes were found to be consistently higher in the HG than base scenario.

The implications of these results on New York dairy farmers, in general, suggest that the majority of farmers would likely be worse off if the SFFB was in effect in 1986. This is due to the fact that the majority of New York dairy farmers fall into the Forage Only resource classification. For example, the 1982 Census of Agriculture reported that only 10 percent of New York dairy farmers had corn grain sales, and another 33 percent reportedly grew some grain. While the Census did not report a Forage Only category, the percentage above suggest that 57 percent of New York producers did not grow any corn grain. The proportion of farms from the 1986 Cornell Dairy Farm Business Summary in each of these three resource categories supports the Census figures. About 53 percent of these farms were Forage Only farms; another 39 percent fell into the Some Grain class, and only 8 percent could be classified as All Grain farms.

While the results of a static model make it difficult to determine how the farms would make production and marketing adjustments over time if the SFFB were adopted, the inclusion of two reduction strategies does shed some useful light on the matter. The Forage Only and Some Grain farms would definitely want to reduce their grain costs by either feeding less, or possibly growing more corn grain if the SFFB became law. While following the lower grain feeding strategy improved net income

for the Some Grain farms in this study, it was not a successful strategy for the Forage Only farms. As a result, the Forage Only farms might be long run, as well as short run, losers if the "Save the Family Farm" Bill was adopted.

References

Department of Agricultural Economics, Cornell University, Dairy Farm Business Summary Records, 1986.

Food and Agricultural Policy Research Institute. "Comparative Analysis of Selected Policy Options for U.S. Agriculture." FAPRI Staff Report #1-87, Center for National Food and Agricultural Policy, Department of Agricultural Economics, University of Missouri and Center for Trade and Agricultural Policy, Department of Economics, Iowa State University, February 1987.

Food and Agricultural Policy Research Institute. "The Commodity Supply Management Program." FAPRI Staff Report #2-87, Center for National Food and Agricultural Policy, Department of Agricultural Economics, University of Missouri and Center for Trade and Agricultural Policy, Department of Economics, Iowa State University, February 1987.

Jesse, Ed and Bob Cropp. "Use of Mandatory Supply Control in the U.S. Dairy Sector." Marketing and Policy Briefing Paper 2, Department of Agricultural Economics, University of Wisconsin, May 1986.

Kaiser, Harry M. "Economic Issues and Implications of a U.S. Milk Quota Program." Journal of Dairy Science. forthcoming.

Kaiser, Harry M. and Edward H. Heslop. "A Summary of House Congressional Bill H.R. 5588 a.k.a. The 'Save the Family Farm Act'." A.E. Ext. 86-36, Department of Agricultural Economics, Cornell University, December 1986.

Kalter, Robert J., Robert Milligan, William Lesser, William Magrath, Loren Tauer, Dale Bauman. "Biotechnology and the Dairy Industry: Production Costs, Commercial Potential, and the Economic Impact of the Bovine Growth Hormone." A.E. Res 85-20, Department of Agricultural Economics, Cornell University, December 1985.

Knutson, Ronald D., Edward G. Smith, James W. Richardson, John B. Penson, Jr., Dean W. Hughs, Mechel S. Paggi, Robert D. Yonkers, and Dean T. Chen. "Policy Alternatives for Modifying the 1985 Farm Bill." Agricultural and Food Policy Center, B-1561, Texas Agricultural Research Station and Extension Service, The Texas A&M University, January 1987.

Market Administrator, Federal Milk Marketing Order No. 2. Statistical Handbook, August 1957 to August 1986. 1986.

Mason, Judson P. "Alternative Ways of Balancing Production to Market Needs." Journal of Dairy Science. 62:1365.

Nott, Sherrill B. and Larry Hamm. "Quotas for U.S. Dairy Farmers? A Review." Unpublished Mimeograph, Department of Agricultural Economics, Michigan State University, September 1986.

Oltenacu, Pascal. Department of Animal Science, Cornell University, Conversation regarding appropriate reductions in lowest producing cows to achieve required cutbacks in milk marketings required under the SFFB.

U.S. Department of Agriculture, Economic Research Service. Dairy Situation and Outlook Yearbook, July 1986.

Appendix A

This appendix contains the income statements for the base and Harkin-Gephardt scenarios for the nine representative farms under Case 1 milk marketing reduction assumptions.

Table A.1. Income Statement for Small Forage Only Farm, Base and HG Scenarios by RFAM Level, Case 1.

INCOME STATEMENT

FORAGE 1	ORIGINAL INCOME	REDUCTION FROM ACTUAL 1986 MILK MARKETINGS 0%	5%	10%	15%	20%	25%	30%
RECEIPTS								
Milk Sales	73,705	93,610	88,929	84,249	79,568	74,888	70,207	65,527
Dairy Cattle Sales	5,678	5,678	5,344	5,010	4,676	4,342	4,008	3,674
Calves Sold	1,138	1,138	1,071	1,004	937	870	803	736
Other Livestock	190	190	179	168	156	145	134	123
Crop Sales	626	626	626	626	626	626	626	626
Misc Income	2,258	2,258	2,258	2,258	2,258	2,258	2,258	2,258
GROSS RECEIPTS	83,595	103,500	98,407	93,314	88,222	83,129	78,037	72,944
EXPENSES								
Labor	3,893	3,893	3,664	3,435	3,206	2,977	2,748	2,519
Feed								
Grain + Concen	21754	49,889	46,955	44,020	41,085	38,151	35,216	32,281
Roughage	1,469	1,469	1,383	1,296	1,210	1,123	1,037	951
Other	94	94	88	83	77	72	66	61
Machinery								
Hire/Rent/Lease	966	966	909	852	796	739	682	625
Repair/part/auto	3,794	3,794	3,571	3,348	3,124	2,901	2,678	2,455
Fuel,Oil,Grease	2,510	2,510	2,362	2,215	2,067	1,919	1,772	1,624
Livestock								
Replacement	1,084	1,084	1,020	956	893	829	765	701
Breeding	1,157	1,157	1,089	1,021	953	885	817	749
Vet & Med	1,416	1,416	1,333	1,249	1,166	1,083	1,000	916
Milk Marketing	5,465	5,465	5,192	4,919	4,645	4,372	4,099	3,826
Lease/Rent	45	45	42	40	37	34	32	29
Other	3,326	3,326	3,130	2,935	2,739	2,543	2,348	2,152
Crop								
Fert & Lime	3,140	3,140	2,955	2,771	2,586	2,401	2,216	2,032
Seed & Plants	835	835	786	737	688	639	589	540
Spraying/other crop expense	707	707	665	624	582	541	499	457
Real Estate								
Land/Bldg/Fence	1,141	1,141	1,141	1,141	1,141	1,141	1,141	1,141
Taxes	2,352	2,352	2,352	2,352	2,352	2,352	2,352	2,352
Insurance	1,429	1,429	1,429	1,429	1,429	1,429	1,429	1,429
Rent & Lease	1,575	1,575	1,575	1,575	1,575	1,575	1,575	1,575
Other								
Utilities	2,760	2,760	2,598	2,435	2,273	2,111	1,948	1,786
Misc	1,141	1,141	1,074	1,007	940	873	805	738
OPERATING EXPENSES	62,053	90,188	85,313	80,439	75,564	70,689	65,814	60,939
Interest	7,935	7,935	7,851	7,766	7,682	7,598	7,513	7,429
Depreciation	9,476	9,476	9,476	9,476	9,476	9,476	9,476	9,476
NET INCOME	4,131	(4,100)	(4,233)	(4,366)	(4,500)	(4,633)	(4,767)	(4,900)
% CHANGE IN NET INCOME UNDER HG		-199%	-202%	-206%	-209%	-212%	-215%	-219%
NET INCOME PER COW	96	-95	-105	-115	-127	-141	-157	-176

Table A.2. Income Statement for Medium Forage Only Farm, Base and HG Scenarios by RFAM Level, Case 1.

INCOME STATEMENT								
	ORIGINAL	----------REDUCTION FROM ACTUAL 1986 MILK MARKETINGS----------						
FORAGE 2	INCOME	0%	5%	10%	15%	20%	25%	30%
RECEIPTS								
Milk Sales	118,901	151,012	143,462	135,911	128,361	120,810	113,259	105,709
Dairy Cattle Sales	10,182	10,182	9,583	8,984	8,385	7,786	7,187	6,588
Calves Sold	1,495	1,495	1,407	1,319	1,231	1,143	1,055	967
Other Livestock	243	243	229	214	200	186	172	157
Crop Sales	625	625	625	625	625	625	625	625
Misc Income	3,128	3,128	3,128	3,128	3,128	3,128	3,128	3,128
GROSS RECEIPTS	134,574	166,685	158,434	150,182	141,930	133,678	125,426	117,175
EXPENSES								
Labor	8,132	8,132	7,654	7,175	6,697	6,219	5,740	5,262
Feed								
Grain + Concen	35621	81,691	76,885	72,080	67,275	62,469	57,664	52,859
Roughage	1,027	1,027	967	906	846	785	725	665
Other	376	376	354	332	310	288	265	243
Machinery								
Hire/Rent/Lease	1,244	1,244	1,171	1,098	1,024	951	878	805
Repair/part/auto	5,718	5,718	5,382	5,045	4,709	4,373	4,036	3,700
Fuel,Oil,Grease	3,988	3,988	3,753	3,519	3,284	3,050	2,815	2,580
Livestock								
Replacement	1,417	1,417	1,334	1,250	1,167	1,084	1,000	917
Breeding	2,083	2,083	1,960	1,838	1,715	1,593	1,470	1,348
Vet & Med	2,381	2,381	2,241	2,101	1,961	1,821	1,681	1,541
Milk Marketing	10,392	10,392	9,872	9,353	8,833	8,314	7,794	7,274
Lease/Rent	68	68	64	60	56	52	48	44
Other	5,262	5,262	4,952	4,643	4,333	4,024	3,714	3,405
Crop								
Fert & Lime	4,770	4,770	4,489	4,209	3,928	3,648	3,367	3,086
Seed & Plants	1,400	1,400	1,318	1,235	1,153	1,071	988	906
Spraying/other crop expense	1,296	1,296	1,220	1,144	1,067	991	915	839
Real Estate								
Land/Bldg/Fence	1,303	1,303	1,303	1,303	1,303	1,303	1,303	1,303
Taxes	3,326	3,326	3,326	3,326	3,326	3,326	3,326	3,326
Insurance	2,103	2,103	2,103	2,103	2,103	2,103	2,103	2,103
Rent & Lease	2,816	2,816	2,816	2,816	2,816	2,816	2,816	2,816
Other								
Utilities	4,324	4,324	4,070	3,815	3,561	3,307	3,052	2,798
Misc	1,780	1,780	1,675	1,571	1,466	1,361	1,256	1,152
OPERATING EXPENSES	100,827	146,897	138,909	130,922	122,934	114,946	106,959	98,971
Interest	11,126	11,366	11,220	11,074	10,928	10,782	10,636	10,490
Depreciation	14,658	14,658	14,658	14,658	14,658	14,658	14,658	14,658
NET INCOME	7,963	(6,236)	(6,354)	(6,472)	(6,590)	(6,708)	(6,826)	(6,944)
% CHANGE IN NET INCOME UNDER HG		-178%	-180%	-181%	-183%	-184%	-186%	-187%
NET INCOME PER COW	117	-92	-99	-108	-118	-129	-142	-158

Table A.3. Income Statement for Large Forage Only Farm, Base and HG Scenarios by RFAM Level, Case 1.

INCOME STATEMENT

FORAGE 3	ORIGINAL INCOME	REDUCTION FROM ACTUAL 1986 MILK MARKETINGS 0%	5%	10%	15%	20%	25%	30%
RECEIPTS								
Milk Sales	346,942	440,640	418,608	396,576	374,544	352,512	330,480	308,448
Dairy Cattle Sales	37,392	37,392	35,192	32,993	30,793	28,594	26,394	24,195
Calves Sold	4,702	4,702	4,425	4,149	3,872	3,596	3,319	3,042
Other Livestock	806	806	759	711	664	616	569	522
Crop Sales	7,329	7,329	7,329	7,329	7,329	7,329	7,329	7,329
Misc Income	7,597	7,597	7,597	7,597	7,597	7,597	7,597	7,597
GROSS RECEIPTS	404,768	498,466	473,910	449,355	424,799	400,244	375,688	351,133
EXPENSES								
Labor	38,904	38,904	36,616	34,327	32,039	29,750	27,462	25,173
Feed								
Grain + Concen	100466	230,402	216,849	203,296	189,743	176,190	162,637	149,084
Roughage	4,454	4,454	4,192	3,930	3,668	3,406	3,144	2,882
Other	782	782	736	690	644	598	552	506
Machinery								
Hire/Rent/Lease	1,449	1,449	1,364	1,279	1,193	1,108	1,023	938
Repair/part/auto	17,611	17,611	16,575	15,539	14,503	13,467	12,431	11,395
Fuel,Oil,Grease	11,559	11,559	10,879	10,199	9,519	8,839	8,159	7,479
Livestock								
Replacement	2,501	2,501	2,354	2,207	2,060	1,913	1,765	1,618
Breeding	4,865	4,865	4,579	4,293	4,006	3,720	3,434	3,148
Vet & Med	8,546	8,546	8,043	7,541	7,038	6,535	6,032	5,530
Milk Marketing	23,277	23,277	22,113	20,949	19,785	18,622	17,458	16,294
Lease/Rent	0	0	0	0	0	0	0	0
Other	15,323	15,323	14,422	13,520	12,619	11,718	10,816	9,915
Crop								
Fert & Lime	16,757	16,757	15,771	14,786	13,800	12,814	11,828	10,843
Seed & Plants	4,597	4,597	4,327	4,056	3,786	3,515	3,245	2,975
Spraying/other crop expense	3,874	3,874	3,646	3,418	3,190	2,962	2,735	2,507
Real Estate								
Land/Bldg/Fence	5,835	5,835	5,835	5,835	5,835	5,835	5,835	5,835
Taxes	6,755	6,755	6,755	6,755	6,755	6,755	6,755	6,755
Insurance	5,131	5,131	5,131	5,131	5,131	5,131	5,131	5,131
Rent & Lease	8,895	8,895	8,895	8,895	8,895	8,895	8,895	8,895
Other								
Utilities	8,123	8,123	7,645	7,167	6,690	6,212	5,734	5,256
Misc	3,536	3,536	3,328	3,120	2,912	2,704	2,496	2,288
OPERATING EXPENSES	293,240	423,176	400,054	376,933	353,811	330,689	307,568	284,446
Interest	33,179	34,292	33,991	33,689	33,388	33,086	32,785	32,484
Depreciation	33,714	33,714	33,714	33,714	33,714	33,714	33,714	33,714
NET INCOME	44,635	7,284	6,151	5,019	3,887	2,754	1,622	489
% CHANGE IN NET INCOME UNDER HG		-84%	-86%	-89%	-91%	-94%	-96%	-99%
NET INCOME PER COW	255	42	37	33	27	21	13	4

Table A.4. Income Statement for Small Some Grain Farm, Base and HG Scenarios by RFAM Level, Case 1A.

INCOME STATEMENT

SOME GRAIN 1	ORIGINAL INCOME	REDUCTION FROM ACTUAL 1986 MILK MARKETINGS 0%	5%	10%	15%	20%	25%	30%
RECEIPTS								
Milk Sales	77,316	98,197	93,287	88,377	83,467	78,557	73,648	68,738
Dairy Cattle Sales	7,099	7,099	6,681	6,264	5,846	5,429	5,011	4,593
Calves Sold	995	995	936	878	819	761	702	644
Other Livestock	350	350	329	309	288	268	247	226
Crop Sales	3,133	4,670	4,670	4,670	4,670	4,670	4,670	4,670
Misc Income	4,192	4,192	4,192	4,192	4,192	4,192	4,192	4,192
GROSS RECEIPTS	93,085	115,503	110,096	104,690	99,283	93,877	88,470	83,064
EXPENSES								
Labor	7,418	7,418	6,982	6,545	6,109	5,673	5,236	4,800
Feed								
Grain + Concen	18,324	41,962	38,301	34,789	31,426	28,213	25,148	22,232
Roughage	514	514	484	454	423	393	363	333
Other	438	438	412	386	361	335	309	283
Machinery								
Hire/Rent/Lease	1,282	1,225	1,164	1,104	1,044	983	923	862
Repair/part/auto	5,245	5,011	4,764	4,517	4,269	4,022	3,775	3,527
Fuel,Oil,Grease	3,630	3,468	3,297	3,126	2,955	2,784	2,612	2,441
Livestock								
Replacement	670	670	631	591	552	512	473	434
Breeding	1,225	1,225	1,153	1,081	1,009	937	865	793
Vet & Med	1,617	1,617	1,522	1,427	1,332	1,237	1,141	1,046
Milk Marketing	6,045	6,045	5,743	5,441	5,138	4,836	4,534	4,232
Lease/Rent	9	9	8	8	7	7	6	6
Other	3,411	3,411	3,210	3,010	2,809	2,608	2,408	2,207
Crop								
Fert & Lime	4,342	4,149	3,944	3,739	3,534	3,330	3,125	2,920
Seed & Plants	1,692	1,617	1,537	1,457	1,377	1,298	1,218	1,138
Spraying/other crop expense	1,302	1,244	1,183	1,121	1,060	998	937	876
Real Estate								
Land/Bldg/Fence	1,426	1,426	1,426	1,426	1,426	1,426	1,426	1,426
Taxes	2,832	2,832	2,832	2,832	2,832	2,832	2,832	2,832
Insurance	1,661	1,661	1,661	1,661	1,661	1,661	1,661	1,661
Rent & Lease	2,334	2,334	2,334	2,334	2,334	2,334	2,334	2,334
Other								
Utilities	2,935	2,935	2,762	2,590	2,417	2,244	2,072	1,899
Misc	976	976	919	861	804	746	689	632
OPERATING EXPENSES	69,328	92,187	86,269	80,499	74,879	69,408	64,086	58,914
Interest	7,156	7,180	7,096	7,012	6,929	6,845	6,761	6,678
Depreciation	10,652	10,652	10,652	10,652	10,652	10,652	10,652	10,652
NET INCOME	5,949	5,484	6,080	6,526	6,823	6,971	6,970	6,820
% CHANGE IN NET INCOME UNDER HG		-8%	2%	10%	15%	17%	17%	15%
NET INCOME PER COW	138	128	150	172	193	212	230	245

Table A.5. Income Statement for Medium Some Grain Farm, Base and HG Scenarios by RFAM Level, Case 1A.

INCOME STATEMENT

	ORIGINAL	REDUCTION FROM ACTUAL 1986 MILK MARKETINGS						
SOME GRAIN 2	INCOME	0%	5%	10%	15%	20%	25%	30%
RECEIPTS								
Milk Sales	129,217	164,115	155,909	147,703	139,498	131,292	123,086	114,880
Dairy Cattle Sales	10,460	10,460	9,845	9,229	8,614	7,999	7,384	6,768
Calves Sold	1,780	1,780	1,675	1,571	1,466	1,361	1,256	1,152
Other Livestock	427	427	402	377	352	327	301	276
Crop Sales	4,241	6,322	6,322	6,322	6,322	6,322	6,322	6,322
Misc Income	6,726	6,726	6,726	6,726	6,726	6,726	6,726	6,726
GROSS RECEIPTS	152,851	189,830	180,879	171,928	162,977	154,026	145,075	136,125
EXPENSES								
Labor	13,670	13,670	12,866	12,062	11,258	10,454	9,649	8,845
Feed								
Grain + Concen	26,978	61,780	55,559	49,662	44,088	38,838	33,911	29,307
Roughage	855	855	805	754	704	654	604	553
Other	639	639	601	564	526	489	451	413
Machinery								
Hire/Rent/Lease	1,526	1,432	1,365	1,299	1,232	1,166	1,099	1,032
Repair/part/auto	8,494	7,970	7,599	7,229	6,858	6,488	6,117	5,747
Fuel,Oil,Grease	5,754	5,399	5,148	4,897	4,646	4,395	4,144	3,893
Livestock								
Replacement	1,383	1,383	1,302	1,220	1,139	1,058	976	895
Breeding	2,276	2,276	2,142	2,008	1,874	1,740	1,607	1,473
Vet & Med	3,032	3,032	2,854	2,675	2,497	2,319	2,140	1,962
Milk Marketing	8,771	8,771	8,332	7,894	7,455	7,017	6,578	6,140
Lease/Rent	54	54	51	48	44	41	38	35
Other	5,510	5,510	5,186	4,862	4,538	4,214	3,889	3,565
Crop								
Fert & Lime	8,571	8,042	7,668	7,294	6,920	6,547	6,173	5,799
Seed & Plants	3,347	3,140	2,994	2,848	2,702	2,556	2,410	2,264
Spraying/other crop expense	3,103	2,911	2,776	2,641	2,505	2,370	2,235	2,099
Real Estate								
Land/Bldg/Fence	1,931	1,931	1,931	1,931	1,931	1,931	1,931	1,931
Taxes	4,237	4,237	4,237	4,237	4,237	4,237	4,237	4,237
Insurance	2,702	2,702	2,702	2,702	2,702	2,702	2,702	2,702
Rent & Lease	3,331	3,331	3,331	3,331	3,331	3,331	3,331	3,331
Other								
Utilities	4,534	4,534	4,267	4,001	3,734	3,467	3,200	2,934
Misc	1,979	1,979	1,863	1,746	1,630	1,513	1,397	1,281
OPERATING EXPENSES	112,677	145,577	135,579	125,905	116,553	107,525	98,820	90,438
Interest	13,036	13,379	13,227	13,075	12,923	12,770	12,618	12,466
Depreciation	21,463	21,463	21,463	21,463	21,463	21,463	21,463	21,463
NET INCOME	5,675	9,410	10,610	11,486	12,038	12,268	12,174	11,757
% CHANGE IN NET INCOME UNDER HG		66%	87%	102%	112%	116%	115%	107%
NET INCOME PER COW	82	136	163	189	212	233	250	263

Table A.6. Income Statement for Large Some Grain Farm, Base and HG Scenarios by RFAM Level, Case 1A.

INCOME STATEMENT	ORIGINAL	REDUCTION FROM ACTUAL 1986 MILK MARKETINGS						
SOME GRAIN 3	INCOME	0%	5%	10%	15%	20%	25%	30%
RECEIPTS								
Milk Sales	298,942	379,676	360,692	341,709	322,725	303,741	284,757	265,773
Dairy Cattle Sales	27,825	27,825	26,188	24,551	22,915	21,278	19,641	18,004
Calves Sold	3,899	3,899	3,670	3,440	3,211	2,982	2,752	2,523
Other Livestock	1,020	1,020	960	900	840	780	720	660
Crop Sales	7,186	10,712	10,712	10,712	10,712	10,712	10,712	10,712
Misc Income	13,451	13,451	13,451	13,451	13,451	13,451	13,451	13,451
GROSS RECEIPTS	352,323	436,583	415,673	394,763	373,853	352,943	332,034	311,124
EXPENSES								
Labor	42,884	42,884	40,361	37,839	35,316	32,794	30,271	27,748
Feed								
Grain + Concen	63,464	145,333	130,471	116,398	103,115	90,620	78,915	67,999
Roughage	1,704	1,704	1,604	1,504	1,403	1,303	1,203	1,103
Other	1,839	1,839	1,731	1,623	1,514	1,406	1,298	1,190
Machinery								
Hire/Rent/Lease	2,761	2,599	2,478	2,357	2,237	2,116	1,995	1,874
Repair/part/auto	18,318	17,245	16,443	15,640	14,838	14,036	13,234	12,432
Fuel,Oil,Grease	12,742	11,996	11,438	10,880	10,322	9,763	9,205	8,647
Livestock								
Replacement	2,247	2,247	2,115	1,983	1,850	1,718	1,586	1,454
Breeding	4,848	4,848	4,563	4,278	3,992	3,707	3,422	3,137
Vet & Med	7,043	7,043	6,629	6,214	5,800	5,386	4,972	4,557
Milk Marketing	16,864	16,864	16,021	15,178	14,334	13,491	12,648	11,805
Lease/Rent	204	204	192	180	168	156	144	132
Other	12,783	12,783	12,031	11,279	10,527	9,775	9,023	8,271
Crop								
Fert & Lime	17,721	16,683	15,907	15,131	14,355	13,579	12,803	12,026
Seed & Plants	7,111	6,694	6,383	6,072	5,760	5,449	5,137	4,826
Spraying/other crop expense	6,901	6,497	6,195	5,892	5,590	5,288	4,986	4,683
Real Estate								
Land/Bldg/Fence	4,219	4,219	4,219	4,219	4,219	4,219	4,219	4,219
Taxes	8,017	8,017	8,017	8,017	8,017	8,017	8,017	8,017
Insurance	5,429	5,429	5,429	5,429	5,429	5,429	5,429	5,429
Rent & Lease	9,145	9,145	9,145	9,145	9,145	9,145	9,145	9,145
Other								
Utilities	8,711	8,711	8,199	7,686	7,174	6,661	6,149	5,637
Misc	4,310	4,310	4,056	3,803	3,549	3,296	3,042	2,789
OPERATING EXPENSES	259,265	337,293	313,625	290,746	268,656	247,355	226,843	207,120
Interest	32,463	33,831	33,469	33,107	32,745	32,383	32,020	31,658
Depreciation	4,310	4,310	4,310	4,310	4,310	4,310	4,310	4,310
NET INCOME	56,285	61,149	64,269	66,601	68,143	68,896	68,860	68,035
% CHANGE IN NET INCOME UNDER HG		9%	14%	18%	21%	22%	22%	21%
NET INCOME PER COW	370	402	449	497	544	593	642	692

Table A.7. Income Statement for Small All Grain Farm, Base and HG Scenarios by RFAM Level, Case 1.

INCOME STATEMENT

GRAIN 1	ORIGINAL INCOME	REDUCTION FROM ACTUAL 1986 MILK MARKETINGS 0%	5%	10%	15%	20%	25%	30%
RECEIPTS								
Milk Sales	68,235	86,663	82,330	77,997	73,664	69,331	64,997	60,664
Dairy Cattle Sales	6,139	6,139	5,778	5,417	5,056	4,695	4,333	3,972
Calves Sold	1,028	1,028	968	907	847	786	726	665
Other Livestock	976	976	919	861	804	746	689	632
Crop Sales	11,258	16,782	16,782	16,782	16,782	16,782	16,782	16,782
Misc Income	4,798	4,798	4,798	4,798	4,798	4,798	4,798	4,798
GROSS RECEIPTS	92,434	116,386	111,574	106,762	101,950	97,137	92,325	87,513
EXPENSES								
Labor	8,176	8,176	7,695	7,214	6,733	6,252	5,771	5,290
Feed								
Grain + Concen	13904	31,887	30,011	28,135	26,259	24,384	22,508	20,632
Roughage	925	925	871	816	762	707	653	599
Other	375	375	353	331	309	287	265	243
Machinery								
Hire/Rent/Lease	1,297	1,145	1,099	1,052	1,006	960	914	867
Repair/part/auto	5,568	4,916	4,717	4,518	4,319	4,121	3,922	3,723
Fuel,Oil,Grease	3,851	3,400	3,262	3,125	2,987	2,850	2,713	2,575
Livestock								
Replacement	895	895	842	790	737	684	632	579
Breeding	1,146	1,146	1,079	1,011	944	876	809	742
Vet & Med	1,507	1,507	1,418	1,330	1,241	1,152	1,064	975
Milk Marketing	5,210	5,210	4,950	4,689	4,429	4,168	3,908	3,647
Lease/Rent	0	0	0	0	0	0	0	0
Other	2,830	2,830	2,664	2,497	2,331	2,164	1,998	1,831
Crop								
Fert & Lime	5,325	4,701	4,511	4,321	4,131	3,941	3,751	3,561
Seed & Plants	1,934	1,707	1,638	1,569	1,500	1,431	1,362	1,293
Spraying/other crop expense	2,424	2,140	2,053	1,967	1,880	1,794	1,707	1,621
Real Estate								
Land/Bldg/Fence	1,508	1,508	1,508	1,508	1,508	1,508	1,508	1,508
Taxes	3,086	3,086	3,086	3,086	3,086	3,086	3,086	3,086
Insurance	1,796	1,796	1,796	1,796	1,796	1,796	1,796	1,796
Rent & Lease	2,938	2,938	2,938	2,938	2,938	2,938	2,938	2,938
Other								
Utilities	2,632	2,632	2,477	2,322	2,168	2,013	1,858	1,703
Misc	752	752	708	664	619	575	531	487
OPERATING EXPENSES	68,079	83,671	79,676	75,680	71,684	67,688	63,692	59,696
Interest	7,791	7,779	7,699	7,619	7,540	7,460	7,380	7,300
Depreciation	10,305	10,305	10,305	10,305	10,305	10,305	10,305	10,305
NET INCOME	6,259	14,631	13,894	13,158	12,421	11,685	10,948	10,212
% CHANGE IN NET INCOME UNDER HG		134%	122%	110%	98%	87%	75%	63%
NET INCOME PER COW	153	357	360	364	368	373	378	385

Table A.8. Income Statement for Medium All Grain Farm, Base and HG Scenarios by RFAM Level, Case 1.

INCOME STATEMENT	ORIGINAL	REDUCTION FROM ACTUAL 1986 MILK MARKETINGS						
GRAIN 2	INCOME	0%	5%	10%	15%	20%	25%	30%
RECEIPTS								
Milk Sales	123,777	157,205	149,345	141,485	133,624	125,764	117,904	110,044
Dairy Cattle Sales	9,662	9,662	9,094	8,525	7,957	7,389	6,820	6,252
Calves Sold	1,488	1,488	1,400	1,313	1,225	1,138	1,050	963
Other Livestock	171	171	161	151	141	131	121	111
Crop Sales	25,505	38,019	38,019	38,019	38,019	38,019	38,019	38,019
Misc Income	7,890	7,890	7,890	7,890	7,890	7,890	7,890	7,890
GROSS RECEIPTS	168,493	214,436	205,909	197,383	188,857	180,331	171,805	163,278
EXPENSES								
Labor	12,785	12,785	12,033	11,281	10,529	9,777	9,025	8,273
Feed								
Grain + Concen	23090	52,953	49,838	46,723	43,608	40,494	37,379	34,264
Roughage	168	168	158	148	138	128	119	109
Other	803	803	756	709	661	614	567	520
Machinery								
Hire/Rent/Lease	2,322	2,046	1,964	1,883	1,801	1,719	1,637	1,555
Repair/part/auto	9,224	8,128	7,803	7,478	7,153	6,828	6,503	6,178
Fuel,Oil,Grease	7,076	6,235	5,986	5,737	5,487	5,238	4,989	4,739
Livestock								
Replacement	1,359	1,359	1,279	1,199	1,119	1,039	959	879
Breeding	2,088	2,088	1,965	1,842	1,720	1,597	1,474	1,351
Vet & Med	2,600	2,600	2,447	2,294	2,141	1,988	1,835	1,682
Milk Marketing	7,831	7,831	7,439	7,048	6,656	6,265	5,873	5,482
Lease/Rent	147	147	138	130	121	112	104	95
Other	5,790	5,790	5,449	5,109	4,768	4,428	4,087	3,746
Crop								
Fert & Lime	10,903	9,608	9,224	8,839	8,455	8,071	7,687	7,303
Seed & Plants	4,714	4,154	3,988	3,822	3,656	3,490	3,323	3,157
Spraying/other crop expense	4,405	3,882	3,727	3,571	3,416	3,261	3,106	2,950
Real Estate								
Land/Bldg/Fence	1,842	1,842	1,842	1,842	1,842	1,842	1,842	1,842
Taxes	4,136	4,136	4,136	4,136	4,136	4,136	4,136	4,136
Insurance	2,551	2,551	2,551	2,551	2,551	2,551	2,551	2,551
Rent & Lease	7,923	7,923	7,923	7,923	7,923	7,923	7,923	7,923
Other								
Utilities	4,690	4,690	4,414	4,138	3,862	3,586	3,311	3,035
Misc	2,274	2,274	2,140	2,006	1,873	1,739	1,605	1,471
OPERATING EXPENSES	118,721	143,994	137,202	130,410	123,618	116,826	110,034	103,242
Interest	12,980	13,303	13,158	13,013	12,868	12,723	12,578	12,433
Depreciation	22,174	22,174	22,174	22,174	22,174	22,174	22,174	22,174
NET INCOME	14,618	34,965	33,376	31,787	30,198	28,608	27,019	25,430
% CHANGE IN NET INCOME UNDER HG		139%	128%	117%	107%	96%	85%	74%
NET INCOME PER COW	218	522	529	538	547	558	571	587

Table A.9. Income Statement for Large All Grain Farm, Base and HG Scenarios by RFAM Level, Case 1.

INCOME STATEMENT

	ORIGINAL	REDUCTION FROM ACTUAL 1986 MILK MARKETINGS						
GRAIN 3	INCOME	0%	5%	10%	15%	20%	25%	30%
RECEIPTS								
Milk Sales	277,920	352,978	335,329	317,680	300,031	282,382	264,733	247,084
Dairy Cattle Sales	22,267	22,267	20,957	19,647	18,338	17,028	15,718	14,408
Calves Sold	4,563	4,563	4,295	4,026	3,758	3,489	3,221	2,953
Other Livestock	4,033	4,033	3,796	3,559	3,321	3,084	2,847	2,610
Crop Sales	33,783	50,359	50,359	50,359	50,359	50,359	50,359	50,359
Misc Income	16,602	16,602	16,602	16,602	16,602	16,602	16,602	16,602
GROSS RECEIPTS	359,168	450,802	431,337	411,873	392,409	372,944	353,480	334,016
EXPENSES								
Labor	43,262	43,262	40,717	38,172	35,628	33,083	30,538	27,993
Feed								
Grain + Concen	42276	96,953	91,250	85,547	79,844	74,140	68,437	62,734
Roughage	2,801	2,801	2,636	2,471	2,307	2,142	1,977	1,812
Other	3,198	3,198	3,010	2,822	2,634	2,446	2,257	2,069
Machinery								
Hire/Rent/Lease	2,860	2,517	2,419	2,321	2,223	2,125	2,027	1,928
Repair/part/auto	19,330	17,015	16,351	15,687	15,024	14,360	13,697	13,033
Fuel,Oil,Grease	13,295	11,703	11,246	10,790	10,333	9,877	9,420	8,964
Livestock								
Replacement	2,761	2,761	2,599	2,436	2,274	2,111	1,949	1,787
Breeding	4,306	4,306	4,053	3,799	3,546	3,293	3,040	2,786
Vet & Med	5,924	5,924	5,576	5,227	4,879	4,530	4,182	3,833
Milk Marketing	13,280	13,280	12,616	11,952	11,288	10,624	9,960	9,296
Lease/Rent	0	0	0	0	0	0	0	0
Other	10,879	10,879	10,239	9,599	8,959	8,319	7,679	7,039
Crop								
Fert & Lime	20,144	17,731	17,040	16,348	15,656	14,965	14,273	13,582
Seed & Plants	8,803	7,749	7,446	7,144	6,842	6,540	6,238	5,935
Spraying/other crop expense	7,791	6,858	6,590	6,323	6,055	5,788	5,520	5,253
Real Estate								
Land/Bldg/Fence	5,397	5,397	5,397	5,397	5,397	5,397	5,397	5,397
Taxes	9,218	9,218	9,218	9,218	9,218	9,218	9,218	9,218
Insurance	5,608	5,608	5,608	5,608	5,608	5,608	5,608	5,608
Rent & Lease	12,739	12,739	12,739	12,739	12,739	12,739	12,739	12,739
Other								
Utilities	7,973	7,973	7,504	7,035	6,566	6,097	5,628	5,159
Misc	4,643	4,643	4,370	4,097	3,824	3,551	3,277	3,004
OPERATING EXPENSES	246,488	292,514	278,623	264,733	250,842	236,952	223,061	209,171
Interest	28,697	30,088	29,720	29,353	28,986	28,619	28,252	27,885
Depreciation	43,979	43,979	43,979	43,979	43,979	43,979	43,979	43,979
NET INCOME	40,004	84,221	79,015	73,808	68,601	63,395	58,188	52,981
% CHANGE IN NET INCOME UNDER HG		111%	98%	84%	71%	58%	45%	32%
NET INCOME PER COW	284	597	595	593	591	588	585	581

Appendix B

This appendix contains the income statements for the base and Harkin-Gephardt scenarios for the nine representative farms under Case 2 milk marketing reduction assumptions.

Table B.1. Income Statement for Small Forage Only Farm, Base and HG Scenarios by RFAM Level, Case 2.

INCOME STATEMENT

FORAGE 1	ORIGINAL INCOME	-------RFAM------- 10%	20%
RECEIPTS			
Milk Sales	73,705	84,249	74,888
Dairy Cattle Sales	5,678	5,678	5,678
Calves Sold	1,138	1,138	1,138
Other Livestock	190	190	190
Crop Sales	626	626	626
Misc Income	2,258	2,258	2,258
GROSS RECEIPTS	83,595	94,139	84,778
EXPENSES			
Labor	3,893	3,893	3,893
Feed			
Grain + Concen	21754	41,907	33,426
Roughage	1,469	1,469	1,469
Other	94	94	94
Machinery			
Hire/Rent/Lease	966	966	966
Repair/part/auto	3,794	3,794	3,794
Fuel,Oil,Grease	2,510	2,510	2,510
Livestock			
Replacement	1,084	1,084	1,084
Breeding	1,157	1,157	1,157
Vet & Med	1,416	1,416	1,416
Milk Marketing	5,465	4,919	4,372
Lease/Rent	45	45	45
Other	3,326	3,326	3,326
Crop			
Fert & Lime	3,140	3,140	3,140
Seed & Plants	835	835	835
Spraying/other crop expense	707	707	707
Real Estate			
Land/Bldg/Fence	1,141	1,141	1,141
Taxes	2,352	2,352	2,352
Insurance	1,429	1,429	1,429
Rent & Lease	1,575	1,575	1,575
Other			
Utilities	2,760	2,760	2,760
Misc	1,141	1,141	1,141
OPERATING EXPENSES	62,053	81,659	72,632
Interest	7,935	7,766	7,598
Depreciation	9,476	9,476	9,476
NET INCOME	4,131	(4,763)	(4,928)
% CHANGE IN NET INCOME UNDER HG		-215%	-219%
NET INCOME PER COW	96	-126	-150

Table B.2. Income Statement for Medium Forage Only Farm, Base and HG Scenarios by RFAM Level, Case 2.

INCOME STATEMENT FORAGE 2	ORIGINAL INCOME	RFAM 10%	RFAM 20%
RECEIPTS			
Milk Sales	118,901	135,911	120,810
Dairy Cattle Sales	10,182	10,182	10,182
Calves Sold	1,495	1,495	1,495
Other Livestock	243	243	243
Crop Sales	625	625	625
Misc Income	3,128	3,128	3,128
GROSS RECEIPTS	134,574	151,584	136,483
EXPENSES			
Labor	8,132	8,132	8,132
Feed			
Grain + Concen	35621	71,071	59,634
Roughage	1,027	1,027	1,027
Other	376	376	376
Machinery			
Hire/Rent/Lease	1,244	1,244	1,244
Repair/part/auto	5,718	5,718	5,718
Fuel,Oil,Grease	3,988	3,988	3,988
Livestock			
Replacement	1,417	1,417	1,417
Breeding	2,083	2,083	2,083
Vet & Med	2,381	2,381	2,381
Milk Marketing	10,392	9,353	8,314
Lease/Rent	68	68	68
Other	5,262	5,262	5,262
Crop			
Fert & Lime	4,770	4,770	4,770
Seed & Plants	1,400	1,400	1,400
Spraying/other crop expense	1,296	1,296	1,296
Real Estate			
Land/Bldg/Fence	1,303	1,303	1,303
Taxes	3,326	3,326	3,326
Insurance	2,103	2,103	2,103
Rent & Lease	2,816	2,816	2,816
Other			
Utilities	4,324	4,324	4,324
Misc	1,780	1,780	1,780
OPERATING EXPENSES	100,827	135,238	122,762
Interest	11,126	11,074	10,782
Depreciation	14,658	14,658	14,658
NET INCOME	7,963	(9,386)	(11,719)
% CHANGE IN NET INCOME UNDER HG		-218%	-247%
NET INCOME PER COW	117	-156	-225

Table B.3. Income Statement for Large Forage Only Farm, Base and HG Scenarios by RFAM Level, Case 2.

INCOME STATEMENT

FORAGE 3	ORIGINAL INCOME	-------RFAM-------- 10%	20%
RECEIPTS			
Milk Sales	346,942	396,576	352,512
Dairy Cattle Sales	37,392	37,392	37,392
Calves Sold	4,702	4,702	4,702
Other Livestock	806	806	806
Crop Sales	7,329	7,329	7,329
Misc Income	7,597	7,597	7,597
GROSS RECEIPTS	404,768	454,402	410,338
EXPENSES			
Labor	38,904	38,904	38,904
Feed			
Grain + Concen	100466	165,889	103,681
Roughage	4,454	4,454	4,454
Other	782	782	782
Machinery			
Hire/Rent/Lease	1,449	1,449	1,449
Repair/part/auto	17,611	17,611	17,611
Fuel,Oil,Grease	11,559	11,559	11,559
Livestock			
Replacement	2,501	2,501	2,501
Breeding	4,865	4,865	4,865
Vet & Med	8,546	8,546	8,546
Milk Marketing	23,277	20,949	18,622
Lease/Rent	0	0	0
Other	15,323	15,323	15,323
Crop			
Fert & Lime	16,757	16,757	16,757
Seed & Plants	4,597	4,597	4,597
Spraying/other crop expense	3,874	3,874	3,874
Real Estate			
Land/Bldg/Fence	5,835	5,835	5,835
Taxes	6,755	6,755	6,755
Insurance	5,131	5,131	5,131
Rent & Lease	8,895	8,895	8,895
Other			
Utilities	8,123	8,123	8,123
Misc	3,536	3,536	3,536
OPERATING EXPENSES	293,240	356,336	291,800
Interest	33,179	33,689	33,086
Depreciation	33,714	33,714	33,714
NET INCOME	44,635	30,663	51,738
% CHANGE IN NET INCOME UNDER HG		-31%	16%
NET INCOME PER COW	255	199	387

Table B.4. Income Statement for Small Some Grain Farm, Base and HG Scenarios by RFAM Level, Case 2.

INCOME STATEMENT SOME GRAIN 1	ORIGINAL INCOME	-------RFAM------- 10%	20%
RECEIPTS			
Milk Sales	77,316	88,377	78,557
Dairy Cattle Sales	7,099	7,099	7,099
Calves Sold	995	995	995
Other Livestock	350	350	350
Crop Sales	3,133	4,670	4,670
Misc Income	4,192	4,192	4,192
GROSS RECEIPTS	93,085	105,683	95,864
EXPENSES			
Labor	7,418	7,418	7,418
Feed			
Grain + Concen	18324	19,751	0
Roughage	514	514	514
Other	438	438	438
Machinery			
Hire/Rent/Lease	1,282	1,234	1,234
Repair/part/auto	5,245	5,049	5,049
Fuel,Oil,Grease	3,630	3,495	3,495
Livestock			
Replacement	670	670	670
Breeding	1,225	1,225	1,225
Vet & Med	1,617	1,617	1,617
Milk Marketing	6,045	5,441	4,836
Lease/Rent	9	9	9
Other	3,411	3,411	3,411
Crop			
Fert & Lime	4,342	4,180	4,180
Seed & Plants	1,692	1,629	1,629
Spraying/other crop expense	1,302	1,253	1,253
Real Estate			
Land/Bldg/Fence	1,426	1,426	1,426
Taxes	2,832	2,832	2,832
Insurance	1,661	1,661	1,661
Rent & Lease	2,334	2,334	2,334
Other			
Utilities	2,935	2,935	2,935
Misc	976	976	976
OPERATING EXPENSES	69,328	69,498	49,143
Interest	7,156	7,012	6,845
Depreciation	10,652	10,652	10,652
NET INCOME	5,949	18,521	29,224
% CHANGE IN NET INCOME UNDER HG		211%	391%
NET INCOME PER COW	138	488	889

Table B.5. Income Statement for Medium Some Grain Farm, Base and HG Scenarios by RFAM Level, Case 2.

INCOME STATEMENT			
	ORIGINAL	-------RFAM-------	
SOME GRAIN 2	INCOME	10%	20%
RECEIPTS			
Milk Sales	129,217	147,703	131,292
Dairy Cattle Sales	10,460	10,460	10,460
Calves Sold	1,780	1,780	1,780
Other Livestock	427	427	427
Crop Sales	4,241	6,322	6,322
Misc Income	6,726	6,726	6,726
GROSS RECEIPTS	152,851	173,418	157,007
EXPENSES			
Labor	13,670	13,670	13,670
Feed			
Grain + Concen	26978	9,280	0
Roughage	855	855	855
Other	639	639	639
Machinery			
Hire/Rent/Lease	1,526	1,473	1,412
Repair/part/auto	8,494	8,198	7,859
Fuel,Oil,Grease	5,754	5,553	5,324
Livestock			
Replacement	1,383	1,383	1,383
Breeding	2,276	2,276	2,276
Vet & Med	3,032	3,032	3,032
Milk Marketing	8,771	7,894	7,017
Lease/Rent	54	54	54
Other	5,510	5,510	5,510
Crop			
Fert & Lime	8,571	8,272	7,931
Seed & Plants	3,347	3,230	3,097
Spraying/other crop expense	3,103	2,995	2,871
Real Estate			
Land/Bldg/Fence	1,931	1,931	1,931
Taxes	4,237	4,237	4,237
Insurance	2,702	2,702	2,702
Rent & Lease	3,331	3,331	3,331
Other			
Utilities	4,534	4,534	4,534
Misc	1,979	1,979	1,979
OPERATING EXPENSES	112,677	93,029	81,644
Interest	13,036	13,075	12,770
Depreciation	21,463	21,463	21,463
NET INCOME	5,675	45,852	41,129
% CHANGE IN NET INCOME UNDER HG		708%	625%
NET INCOME PER COW	82	753	779

Table B.6. Income Statement for Large Some Grain Farm, Base and HG Scenarios by RFAM Level, Case 2.

INCOME STATEMENT SOME GRAIN 3	ORIGINAL INCOME	RFAM 10%	RFAM 20%
RECEIPTS			
Milk Sales	298,942	341,709	303,741
Dairy Cattle Sales	27,825	27,825	27,825
Calves Sold	3,899	3,899	3,899
Other Livestock	1,020	1,020	1,020
Crop Sales	7,186	10,712	10,712
Misc Income	13,451	13,451	13,451
GROSS RECEIPTS	352,323	398,616	360,648
EXPENSES			
Labor	42,884	42,884	42,884
Feed			
Grain + Concen	63464	0	0
Roughage	1,704	1,704	1,704
Other	1,839	1,839	1,839
Machinery			
Hire/Rent/Lease	2,761	2,693	2,535
Repair/part/auto	18,318	17,870	16,822
Fuel,Oil,Grease	12,742	12,430	11,701
Livestock			
Replacement	2,247	2,247	2,247
Breeding	4,848	4,848	4,848
Vet & Med	7,043	7,043	7,043
Milk Marketing	16,864	15,178	13,491
Lease/Rent	204	204	204
Other	12,783	12,783	12,783
Crop			
Fert & Lime	17,721	17,287	16,274
Seed & Plants	7,111	6,937	6,530
Spraying/other crop expense	6,901	6,732	6,337
Real Estate			
Land/Bldg/Fence	4,219	4,219	4,219
Taxes	8,017	8,017	8,017
Insurance	5,429	5,429	5,429
Rent & Lease	9,145	9,145	9,145
Other			
Utilities	8,711	8,711	8,711
Misc	4,310	4,310	4,310
OPERATING EXPENSES	259,265	192,510	187,074
Interest	32,463	33,107	32,383
Depreciation	4,310	4,310	4,310
NET INCOME	56,285	168,688	136,881
% CHANGE IN NET INCOME UNDER HG		200%	143%
NET INCOME PER COW	370	1258	1178

Table B.7. Income Statement for Small All Grain Farm, Base and HG Scenarios by RFAM Level, Case 2.

INCOME STATEMENT			
	ORIGINAL	-------RFAM-------	
GRAIN 1	INCOME	10%	20%
RECEIPTS			
Milk Sales	68,235	77,997	69,331
Dairy Cattle Sales	6,139	6,139	6,139
Calves Sold	1,028	1,028	1,028
Other Livestock	976	976	976
Crop Sales	11,258	16,782	16,782
Misc Income	4,798	4,798	4,798
GROSS RECEIPTS	92,434	107,720	99,053
EXPENSES			
Labor	8,176	8,176	8,176
Feed			
Grain + Concen	13904	0	0
Roughage	925	925	925
Other	375	375	375
Machinery			
Hire/Rent/Lease	1,297	1,177	1,143
Repair/part/auto	5,568	5,055	4,905
Fuel,Oil,Grease	3,851	3,496	3,392
Livestock			
Replacement	895	895	895
Breeding	1,146	1,146	1,146
Vet & Med	1,507	1,507	1,507
Milk Marketing	5,210	4,689	4,168
Lease/Rent	0	0	0
Other	2,830	2,830	2,830
Crop			
Fert & Lime	5,325	4,834	4,691
Seed & Plants	1,934	1,756	1,704
Spraying/other crop expense	2,424	2,200	2,135
Real Estate			
Land/Bldg/Fence	1,508	1,508	1,508
Taxes	3,086	3,086	3,086
Insurance	1,796	1,796	1,796
Rent & Lease	2,938	2,938	2,938
Other			
Utilities	2,632	2,632	2,632
Misc	752	752	752
OPERATING EXPENSES	68,079	51,773	50,704
Interest	7,791	7,619	7,460
Depreciation	10,305	10,305	10,305
NET INCOME	6,259	38,022	30,585
% CHANGE IN NET INCOME UNDER HG		507%	389%
NET INCOME PER COW	153	1051	975

Table B.8. Income Statement for Medium All Grain Farm, Base and HG Scenarios by RFAM Level, Case 2.

INCOME STATEMENT		-------RFAM-------	
GRAIN 2	ORIGINAL INCOME	10%	20%
RECEIPTS			
Milk Sales	123,777	141,485	125,764
Dairy Cattle Sales	9,662	9,662	9,662
Calves Sold	1,488	1,488	1,488
Other Livestock	171	171	171
Crop Sales	25,505	38,019	38,019
Misc Income	7,890	7,890	7,890
GROSS RECEIPTS	168,493	198,715	182,995
EXPENSES			
Labor	12,785	12,785	12,785
Feed			
Grain + Concen	23090	0	0
Roughage	168	168	168
Other	803	803	803
Machinery			
Hire/Rent/Lease	2,322	2,079	2,012
Repair/part/auto	9,224	8,259	7,992
Fuel,Oil,Grease	7,076	6,335	6,131
Livestock			
Replacement	1,359	1,359	1,359
Breeding	2,088	2,088	2,088
Vet & Med	2,600	2,600	2,600
Milk Marketing	7,831	7,048	6,265
Lease/Rent	147	147	147
Other	5,790	5,790	5,790
Crop			
Fert & Lime	10,903	9,762	9,446
Seed & Plants	4,714	4,221	4,084
Spraying/other crop expense	4,405	3,944	3,816
Real Estate			
Land/Bldg/Fence	1,842	1,842	1,842
Taxes	4,136	4,136	4,136
Insurance	2,551	2,551	2,551
Rent & Lease	7,923	7,923	7,923
Other			
Utilities	4,690	4,690	4,690
Misc	2,274	2,274	2,274
OPERATING EXPENSES	118,721	90,803	88,902
Interest	12,980	13,013	12,723
Depreciation	22,174	22,174	22,174
NET INCOME	14,618	72,725	59,196
% CHANGE IN NET INCOME UNDER HG		398%	305%
NET INCOME PER COW	218	1230	1155

Table B.9. Income Statement for Large All Grain Farm, Base and HG Scenarios by RFAM Level, Case 2.

INCOME STATEMENT		-------RFAM-------	
GRAIN 3	ORIGINAL INCOME	10%	20%
RECEIPTS			
Milk Sales	277,920	317,680	282,382
Dairy Cattle Sales	22,267	22,267	22,267
Calves Sold	4,563	4,563	4,563
Other Livestock	4,033	4,033	4,033
Crop Sales	33,783	50,359	50,359
Misc Income	16,602	16,602	16,602
GROSS RECEIPTS	359,168	415,504	380,206
EXPENSES			
Labor	43,262	43,262	43,262
Feed			
Grain + Concen	42276	0	0
Roughage	2,801	2,801	2,801
Other	3,198	3,198	3,198
Machinery			
Hire/Rent/Lease	2,860	2,656	2,517
Repair/part/auto	19,330	17,951	17,012
Fuel,Oil,Grease	13,295	12,346	11,701
Livestock			
Replacement	2,761	2,761	2,761
Breeding	4,306	4,306	4,306
Vet & Med	5,924	5,924	5,924
Milk Marketing	13,280	11,952	10,624
Lease/Rent	0	0	0
Other	10,879	10,879	10,879
Crop			
Fert & Lime	20,144	18,707	17,729
Seed & Plants	8,803	8,175	7,747
Spraying/other crop expense	7,791	7,235	6,857
Real Estate			
Land/Bldg/Fence	5,397	5,397	5,397
Taxes	9,218	9,218	9,218
Insurance	5,608	5,608	5,608
Rent & Lease	12,739	12,739	12,739
Other			
Utilities	7,973	7,973	7,973
Misc	4,643	4,643	4,643
OPERATING EXPENSES	246,488	197,730	192,896
Interest	28,697	29,353	28,619
Depreciation	43,979	43,979	43,979
NET INCOME	40,004	144,442	114,712
% CHANGE IN NET INCOME UNDER HG		261%	187%
NET INCOME PER COW	284	1161	1064

Appendix C

This appendix contains the income statements for the base and Harkin-Gephardt scenarios for the three Some Grain farms under the assumption that they can use idle forage acres for expanded grain production.

Table C.1. Income Statement for Small Some Grain Farm, Base and HG Scenarios by RFAM Level, Case 1B.

INCOME STATEMENT

SOME GRAIN 1B	ORIGINAL INCOME	REDUCTION FROM ACTUAL 1986 MILK MARKETINGS 0%	5%
RECEIPTS			
Milk Sales	77,316	98,197	93,287
Dairy Cattle Sales	7,099	7,099	6,681
Calves Sold	995	995	936
Other Livestock	350	350	329
Crop Sales	3,133	4,670	4,670
Misc Income	4,192	4,192	4,192
GROSS RECEIPTS	93,085	115,503	110,096
EXPENSES			
Labor	7,418	7,418	6,982
Feed			
Grain + Concen	18,324	41,962	31,308
Roughage	514	514	484
Other	438	438	412
Machinery			
Hire/Rent/Lease	1,282	1,225	1,164
Repair/part/auto	5,245	5,011	4,764
Fuel,Oil,Grease	3,630	3,468	3,297
Livestock			
Replacement	670	670	631
Breeding	1,225	1,225	1,153
Vet & Med	1,617	1,617	1,522
Milk Marketing	6,045	6,045	5,743
Lease/Rent	9	9	8
Other	3,411	3,411	3,210
Crop			
Fert & Lime	4,342	4,149	3,944
Seed & Plants	1,692	1,617	1,537
Spraying/other crop expense	1,302	1,244	1,183
Real Estate			
Land/Bldg/Fence	1,426	1,426	1,426
Taxes	2,832	2,832	2,832
Insurance	1,661	1,661	1,661
Rent & Lease	2,334	2,334	2,334
Other			
Utilities	2,935	2,935	2,762
Misc	976	976	919
OPERATING EXPENSES	69,328	92,187	79,276
Interest	7,156	7,180	7,096
Depreciation	10,652	10,652	10,652
NET INCOME	5,949	5,484	13,073
% CHANGE IN NET INCOME UNDER HG		-8%	120%
NET INCOME PER COW	138	128	323

The reason why there are not RFAM levels greater than 5% in this case is that they convert to all Grain 1 farms.

Table C.2. Income Statement for Medium Some Grain Farm, Base and HG Scenarios by RFAM Level, Case 1B.

INCOME STATEMENT	ORIGINAL	REDUCTION FROM ACTUAL 1986 MILK MARKETINGS	
SOME GRAIN 2B	INCOME	0%	5%
RECEIPTS			
Milk Sales	129,217	164,115	155,909
Dairy Cattle Sales	10,460	10,460	9,845
Calves Sold	1,780	1,780	1,675
Other Livestock	427	427	402
Crop Sales	4,241	6,322	6,322
Misc. Income	6,726	6,726	6,726
GROSS RECEIPTS	152,851	189,830	180,879
EXPENSES			
Labor	13,670	13,670	12,866
Feed			
Grain + Concen	26,978	61,780	46,685
Roughage	855	855	805
Other	639	639	601
Machinery			
Hire/Rent/Lease	1,526	1,432	1,365
Repair/part/auto	8,494	7,970	7,599
Fuel,Oil,Grease	5,754	5,399	5,148
Livestock			
Replacement	1,383	1,383	1,302
Breeding	2,276	2,276	2,142
Vet & Med	3,032	3,032	2,854
Milk Marketing	8,771	8,771	8,332
Lease/Rent	54	54	51
Other	5,510	5,510	5,186
Crop			
Fert & Lime	8,571	8,042	7,668
Seed & Plants	3,347	3,140	2,994
Spraying/other crop expense	3,103	2,911	2,776
Real Estate			
Land/Bldg/Fence	1,931	1,931	1,931
Taxes	4,237	4,237	4,237
Insurance	2,702	2,702	2,702
Rent & Lease	3,331	3,331	3,331
Other			
Utilities	4,534	4,534	4,267
Misc	1,979	1,979	1,863
OPERATING EXPENSES	112,677	145,577	126,705
Interest	13,036	13,379	13,227
Depreciation	21,463	21,463	21,463
NET INCOME	5,675	9,410	19,484
% CHANGE IN NET INCOME UNDER HG		66%	243%
NET INCOME PER COW	82	136	300

The reason why there are not RFAM levels greater than 5% in this case is that they convert to all Grain 2 farms.

Table C.3. Income Statement for Large Some Grain Farm, Base and HG Scenarios by RFAM Level, Case 1B.

INCOME STATEMENT				
	ORIGINAL	----------REDUCTION FROM ACTUAL 1986 MILK MARKETINGS----------		
SOME GRAIN 3B	INCOME	0%	5%	
RECEIPTS				
Milk Sales	298,942	379,676	360,692	
Dairy Cattle Sales	27,825	27,825	26,188	
Calves Sold	3,899	3,899	3,670	
Other Livestock	1,020	1,020	960	
Crop Sales	7,186	10,712	10,712	
Misc Income	13,451	13,451	13,451	
GROSS RECEIPTS	352,323	436,583	415,673	
EXPENSES				
Labor	42,884	42,884	40,361	The reason why there are not RFAM
Feed				
Grain + Concen	63,464	145,333	112,253	levels greater than 5% in this case
Roughage	1,704	1,704	1,604	
Other	1,839	1,839	1,731	is that they convert to all Grain 3
Machinery				
Hire/Rent/Lease	2,761	2,599	2,478	farms.
Repair/part/auto	18,318	17,245	16,443	
Fuel,Oil,Grease	12,742	11,996	11,438	
Livestock				
Replacement	2,247	2,247	2,115	
Breeding	4,848	4,848	4,563	
Vet & Med	7,043	7,043	6,629	
Milk Marketing	16,864	16,864	16,021	
Lease/Rent	204	204	192	
Other	12,783	12,783	12,031	
Crop				
Fert & Lime	17,721	16,683	15,907	
Seed & Plants	7,111	6,694	6,383	
Spraying/other crop expense	6,901	6,497	6,195	
Real Estate				
Land/Bldg/Fence	4,219	4,219	4,219	
Taxes	8,017	8,017	8,017	
Insurance	5,429	5,429	5,429	
Rent & Lease	9,145	9,145	9,145	
Other				
Utilities	8,711	8,711	8,199	
Misc	4,310	4,310	4,056	
OPERATING EXPENSES	259,265	337,293	295,407	
Interest	32,463	33,831	33,469	
Depreciation	4,310	4,310	4,310	
NET INCOME	56,285	61,149	82,488	
% CHANGE IN NET INCOME UNDER HG		9%	47%	
NET INCOME PER COW	370	402	577	