



AUG 1 2002

United States
Department of
Agriculture

Office of Secretary

Office of the Chief Economist

14th & Independence Ave., SW
Washington, DC 20250

The Honorable Tom Harkin
United States Senate
531 Hart Senate Building
Washington, D.C. 20510-1502

Dear Senator Harkin:

Thank you for your letter a couple of months ago to the Secretary requesting a Department of Agriculture (USDA) analysis of the effects of the Renewable Fuels Standard (RFS) as proposed in the Energy Policy Act of 2002 (H.R. 4) on commodity markets, farm income, and employment. Your request is addressed in the enclosed report, which was prepared by USDA's Office of Energy Policy and New Uses (OEPNU) working with the Economic Research Service.

To summarize, the analysis concludes the increased demand for ethanol and soybean-oil biodiesel that this legislation would likely generate could provide significant economic benefits to U.S. farmers. The ethanol production increase would lead to an increase in the demand for corn and sorghum over the 2006-11 period, compared with projections in the FY 2003 President's Budget baseline. The farm prices of corn and sorghum both increase on average by about 3 percent over the 2006-11 period and by 2011, prices are up about 13 cents per bushel or 5 percent.

The demand for soybean oil would increase over the entire period of 2002-11 to accommodate the additional use of biodiesel required under Section 40B Credit for Biodiesel Used as Fuel. Soybean oil prices increase on average by about \$0.01 per pound over the 2001-05 period and by about \$0.03 per pound, or 13 percent, over the 2006-11 period, which results in somewhat lower soybean oil exports. More soybean crush, combined with more production of distillers dried grains (DDG) from ethanol production, reduces soybean meal prices by about 1 percent during 2002-05 period and nearly 7 percent during 2006-11. DDG in particular replaces corn, grain sorghum, and soybean meal in the livestock feed rations.

Over the 2002-05 period, the effects of the RFS on farm income for the sector are minor compared with our baseline, but over 2006-11, the increased demand for ethanol raises cash receipts for feed grain producers significantly. The RFS increases net farm income on average by \$0.7 billion during 2006-11.

The Honorable Tom Harkin
Page 2

Increasing the use of ethanol and biodiesel reduces imported energy and is projected to lower the U.S. trade deficit. The net export value of agricultural commodities plus the decline in the value of imported oil is projected to lower the trade deficit by a cumulative \$4.45 billion during 2002-11. The RFS is projected to create 13,500 jobs for the U.S. economy as a whole.

The results of this analysis would show even more benefits to the agricultural sector, if the current USDA baseline had lower projected ethanol demand during the 2002-11 period. The current USDA baseline assumes 3 billion gallons of grain-ethanol production by 2011 in expectation of 16 States phasing out methyl tertiary butyl ether (MTBE) over the next several years. Ethanol is assumed to replace MTBE in those States. I hope this work provides the information you requested. If you have further questions, you or your staff may contact me at (202) 720-4164 or Roger Conway, Director, OEPNU, at (202) 401-0461.

Sincerely,



Keith Collins
Chief Economist

Enclosure

EFFECTS ON THE FARM ECONOMY OF A RENEWABLE FUELS STANDARD FOR MOTOR VEHICLE FUEL

This report provides an assessment of the effects on the farm economy of a renewable fuels standard (RFS) for motor vehicle fuel as proposed in Section 820 of the "Energy Policy Act of 2002" (Engrossed Senate Amendment), H.R. 4 (2002 bill), which specifies an applicable volume of renewable fuel for calendar years 2004-2012. The analysis also assumes other related provisions of the 2002 bill are in place. The applicable volume of renewable fuels increases from 2.3 billion gallons in 2004 to 5 billion gallons in 2012. The volume of renewable fuels required under Section 820 cannot be met without expanding ethanol production over the period of 2006-11, above the levels contained in the Department of Agriculture's (USDA) baseline projections.

The analysis also assumes expansion of soybean-oil biodiesel use under the 2002 bill's Section 40B, Credit for Biodiesel Used as Fuel, and Section 2008, Incentives for Biodiesel. The effects of expanded ethanol and soy-biodiesel production on the markets for corn, sorghum, soybeans, soybean meal, and soybean oil as well as for livestock prices, farm income, employment and trade are presented below.

Renewable Content of Motor Vehicle Fuel

The 2002 bill would eliminate the oxygenate mandate required by the Clean Air Act Amendments of 1990 and phase out methyl tertiary butyl ether (MTBE) use, while increasing renewable fuel use to 5 billion gallons per year by 2012. In general, not later than 1 year after enactment, the Administration is directed to promulgate regulations ensuring that gasoline sold or dispensed to U.S. consumers, on an annual average basis, contains the applicable volume of renewable fuel as specified in Section 820.

Production of ethanol from grain would be less than the applicable levels of renewable fuel specified in the 2002 bill, because biomass ethanol would receive credit toward meeting the RFS. One gallon of cellulosic biomass ethanol is considered to be equivalent to 1.5 gallons of renewable fuel. Biodiesel also receives credit toward meeting the renewable fuels mandate.

Biodiesel Used As Fuel

The 2002 bill's provision for a credit for biodiesel for meeting the RFS includes a mixture of virgin vegetable oils, animal fats and nonvirgin vegetable oils with diesel fuel. The biodiesel mixture credit is the sum of the biodiesel mixture rate for each qualified biodiesel mixture, multiplied by the number of gallons of such mixture.

There are two types of biodiesel identified under Section 40B, Credit for Biqdiesel Used as Fuel. One type, biodiesel V, is the monoalkyl ester of long chain fatty acids derived solely from virgin vegetable oils for use in compressional-ignition engines. Biodiesel V includes esters derived from oils from corn, soybeans, sunflower seeds, cottonseed, canola, crambe, rapeseed and others. This analysis only examines the use of

soybean oil in biodiesel mixtures, as soybean oil production accounts for 75 percent of total U.S. vegetable oil production.

The other type of biodiesel identified under Section 40B, biodiesel NV, is the monoalkyl ester of long chain fatty acids derived from nonvirgin vegetable oils or animal fats for use in compression-ignition engines. This analysis does not analyze the effects of nonvegetable oils or animal fats used in the production of biodiesel.

Implications for Corn and Sorghum in Ethanol

The volume of renewable fuel as specified in Section 820 is presented in table 1. Grain ethanol production is projected by subtracting the renewable fuel equivalent of projected biodiesel and biomass-ethanol use from the total volume of renewable fuel specified in Section 820. Calendar year biomass-ethanol projections of the Energy Information Administration (EIA), *Annual Energy Outlook 2002*, and biodiesel projections of the Congressional Budget Office, were used to project grain-ethanol use for crop years 2002-11. Grain ethanol, assumed to be produced from either corn or sorghum, is projected to increase from 1.85 billion gallons in crop year 2001/02 to 4.43 billion gallons in crop year 2011/12.

USDA's baseline projections for ethanol production used to develop the President's FY 2003 Budget are presented in table 2. Grain-ethanol production would have to increase above baseline projected levels (which assume continuation of the oxygenate requirement for reformulated gasoline) beginning in 2006 in order to meet the RFS. By 2011, grain-ethanol production would have to increase by about 1.4 billion gallons above the baseline to meet the renewable content of the motor vehicle fuel requirement of 5 billion gallons in 2012.

Alternatively, the ethanol projections under the 2002 bill could be compared with projected ethanol production assuming elimination of the oxygenate requirement. Under that scenario, the 2002 bill would generate much larger increases in ethanol production and demand for farm commodities for renewable fuel production.

Currently, corn and sorghum used in the production of ethanol account for 93 percent and 7 percent, respectively, of the total ethanol production in the United States. These percentages are used to project the corn and sorghum used in ethanol production during 2006-11.

The analysis assumes ethanol production from grains would account for most of the increase in the renewable fuel supply, with ethanol production from biomass becoming of greater importance over time. Biomass is not currently used to produce ethanol in the United States because conversion technologies are not economically feasible. However, over the next several years, improvements in biomass conversion technology, which could be spurred by the RFS, may result in biomass becoming a more competitive and an important renewable fuel source. These technologies could convert

less expensive feedstocks, such as corn stover, rice straw, sugarcane residue, wood waste, switch grass, and woody energy crops into ethanol. EIA baseline projections indicate ethanol produced from biomass could become commercially viable in 2003, with the amount produced annually steadily increasing from 20 million gallons in 2003 to 255 million gallons in 2012.

The renewable content of motor vehicle fuel program provides credits to any person that refines, blends, or imports gasoline that contains a quantity of renewable fuel that is greater than the quantity required under the program. A person who generates credits may use the credits, or transfer all or a portion to another person, for the purpose of complying with the program. Section 820 provides credits for biodiesel made from vegetable oils, nonvegetable oils, and animal fats, if it is used as a fuel.

General Procedures Used to Estimate Farm Economy Effects

ERS' FAPSIM econometric model is used to estimate changes in major crop and livestock prices, major crop supply and demand, retail food prices, and net farm income due to higher farm product under the RFS. USDA's FY 2003 President's Budget baseline assumes that provisions of the Federal Agriculture Improvement and Reform Act of 1996 (1996 Farm Bill) and the oxygenate requirement for reformulated gasoline continue through 2011. The baseline includes projections of farm prices, production, domestic use (including corn use for ethanol), exports, and aggregate farm income for the period 2002-11.

The 1996 input-output (I-O) multiplier model was used to estimate the direct and indirect change in employment under the RFS. The I-O model's multipliers reflect labor productivity in 1996. To the extent that labor productivity increases over the projected period, the employment impacts would be smaller than indicated by this analysis. Thus, the model may overstate the increase in employment resulting from the RFS.

Farm Effects

The RFS would generate an expansion in the domestic use of both ethanol and biodiesel over the next decade. The analysis assumes that the additional biodiesel would be manufactured from soybean oil, and the additional ethanol would be produced from corn and grain sorghum.

Table 2 presents the increase in the demand for agricultural products that would be required to meet the goals of sections 820 and 40B in the 2002 bill. The demand for soybean oil increases over the entire period 2002-11 to accommodate the additional use of biodiesel required by section 40B. However, the RFS would only lead to an increase in the demand for corn and sorghum over the 2006-11 period.

Feedgrains. Over the 2006-11 period, the expansion in ethanol production leads to an increase in the use of corn and sorghum for industrial purposes (tables 5 and 6).

Increased industrial demand leads to higher farm prices for all feed grains. The farm prices of corn and sorghum both increase on average by 2.9 percent per year during 2006-11, compared with the baseline and are up by 5 percent by the final year of the analysis period, 2011.

The price increase also leads to a decline in the quantity of corn and sorghum used for other purposes. Corn exports, for example, decline on average by 1.4 percent per year below baseline levels during 2006-11. Feed use also declines in response to higher prices.

The analysis assumes that the additional ethanol produced to satisfy the requirements of the RFS would be manufactured from corn and sorghum through a dry-milling process. Distillers' dried grain (DDG), which is used as animal feed, is manufactured as a coproduct of ethanol in this production process. The analysis assumes that the additional production of DDG would displace corn, grain sorghum, and soybean meal in livestock and poultry feed rations. As a result, feed demand for these products is reduced because of increased supplies of DDG on the market.

The increase in the feed grain prices also increases the relative profitability of producing these crops. As a result, producers shift land away from competing crops to expand their production of feed grains. The area planted to corn and sorghum during 2001-11 period increases on average by 0.2 and 0.1 million acres, respectively, above the baseline (table 7).

Soybeans and soybean products. The increase in the demand for soybean oil to produce additional biodiesel under the RFS leads to an increase in the domestic price of soybean oil. Oil prices increase on average by about \$0.01 per pound during 2001-05 and by about \$0.03 per pound, or about 13 percent, during 2006-11. The price increase reduces the demand for soybean oil used for purposes other than biodiesel. Exports decline on average by 149 million pounds during 2001-11. Total domestic use increases but by less than the amount that is required to meet the additional demand for biodiesel. For example, even though the quantity of soybean oil used for biodiesel increases by nearly 960 million pounds in 2011-11 (table 2), total domestic use of soybean oil increases by only 193 million pounds that same year (table 8), as domestic consumers reduce use in response to higher prices.

The increased price of soybean oil increases the profitability of crushing soybeans to produce both oil and meal. As a result, soybean meal production rises (table 9) and soybean meal prices average 1.1 percent lower during 2001-05 and 6.6 percent lower during 2006-11.

The increase in the demand for soybean oil also leads to an increase in the price of soybeans. Soybean prices increase on average by 0.8 percent during 2001-05 and by 0.9 percent during 2006-11. As a result, soybean exports decline slightly (table 10).

The increase in soybean prices also leads to a slight increase in soybean planted area over the 2001-07 period. However, the area planted to soybeans declines below the baseline during 2008-11, as farmers shift land into feed grains due to higher relative returns. Over the 2001-11 period, the area planted to soybeans falls on average by 0.1 million acres below the baseline.

Livestock. Over the 2002-05 period, lower protein feed prices slightly increase the profitability of producing livestock and poultry. As a result, livestock and poultry producers expand production and increased supplies lead to lower farm and retail prices (table 4).

The effects on livestock and poultry prices and returns is not uniform. Poultry and egg production requires relatively more protein in the feed ration. Thus, lower protein prices cause larger production and price adjustments for poultry and eggs than for livestock. Broiler prices decline on average by 0.5 percent below the baseline during 2002-05.

During 2006-11, soybean meal prices continue to decline, while feed grain prices increase. Poultry and egg producers continue to benefit from lower feed prices over this period. For livestock producers, higher feed grain prices tend to offset lower soybean meal prices, leaving feed costs nearly unchanged. During 2006-11, broiler prices decrease on average by 1.8 percent as production expands, whereas steer prices remain virtually unchanged on average as production remain essentially unchanged.

Farm Program Spending

Higher program crop prices under the RFS would reduce farm program spending. This analysis is based on USDA's FY 2003 President's Budget baseline, which was published in February 2002, and assumes continuation of the 1996 Farm Bill provisions. Nevertheless, the estimates illustrate the potential effects that the RFS could have on future farm program spending. Higher soybean prices during the 2001-11 period reduce Commodity Credit Corporation (CCC) outlays associated with the soybean marketing assistance loan program on average by about \$55 million during FY 2002-11.

CCC outlays associated with the marketing loan program for feed grains remain largely unaffected because the baseline projections indicate little budgetary exposure for these crops during 2002-11 under the 1996 Farm Bill provisions. However, slightly higher prices for rice and upland cotton result in lower outlays for these crops. Total CCC outlays associated with the marketing assistance loan program decline on average by about \$65 million per year over the 2002-11 period.

Under the 2002 Farm Bill, higher prices for program crops and soybeans would lead to lower outlays associated with the marketing assistance loan program and lower counter-cyclical payments. Since the analysis only estimates the effects of higher prices on marketing assistance loan program outlays, the analysis likely understates the

decline in CCC outlays that would occur under the RFS and the 2002 Farm Bill's provisions.

Farm Income

During 2002-05, the effects of the RFS on farm income are minor. The primary markets affected during this period are soybeans and soybean products. Although soybean prices increase, leading to higher cash receipts, higher prices also reduce marketing loan program benefits, leaving farm income essentially unchanged.

Over the 2006-11 period, the marketing loan program is projected to be less important to soybean producers as a source of income. In addition, the increase in demand for ethanol also increases cash receipts for feed grains. During 2006-11, the RFS increases net farm income on average by \$0.7 billion a year.

Trade Effects

Higher prices for feed grains, soybeans, and soybean oil resulting from the increase in demand for ethanol and biodiesel increases the cumulative value of U.S. agricultural exports by \$1.15 billion during 2001-11 (table 12). The export value of grains and feeds increase by about \$0.6 billion, and the export value of oilseeds and products, and livestock and animal products increases by about \$0.27 and \$0.3 billion, respectively.

Ethanol made from corn and sorghum and biodiesel made from soybean oil displace imported oil. To estimate the effect of this displacement on the U.S. balance of trade, the projected increase in ethanol and biodiesel production were converted to the BTU equivalency of gasoline and diesel fuel. The 1.6 billion gallons of corn and biomass ethanol needed to meet projected ethanol use in 2011 would displace an estimated 988 million gallons of gasoline. The 25 million gallons of soybean oil needed to meet projected biodiesel use in 2011 would displace about 22 million gallons of diesel fuel, and the increase in ethanol and biodiesel production would replace about 3.9 billion gallons of gasoline and diesel fuels, or an estimated \$3.3 billion in imports over the 2001-2011 period (table 12).

Employment Effects

The employment model estimates the number of new jobs that could be created from expanding ethanol and biodiesel production. Employment changes that might occur outside of the farm economy are not estimated. For example, if ethanol production leads to reduced domestic fuel production or higher taxes to replace reduced gasoline excise tax revenues, there could be employment effects that would offset some of the positive employment effects identified in this section.

The increase in ethanol production and its associated farm economy effects are projected to create an estimated 13,500 jobs, with 23 percent of them arising in farming, 21 percent in food processing, and 56 percent in the nonfood sectors. Within farming, employment in feed grains increases by 4,160 jobs offset by declines of 320 jobs in oilseeds and 790 jobs in the livestock sectors. In food processing, an increase of 3,210 jobs in the ethanol sector is augmented by an increase of 260 jobs in poultry and dairy processing and offset by a decline of 460 jobs in meat processing. Employment in services rises by almost 4,800 jobs, trade and transportation by 1,530 jobs, and manufacturing by 1,100 jobs.

Table 1-- Applicable volume of renewable fuels, projected biomass ethanol, biodiesel consumption, and grain ethanol, under the Renewable Content of Motor Vehicle Fuel

Calendar year	Applicable volume of renewable fuels	Projected biomass ethanol 1/	Applicable volume of renewable fuels	Crop year	Projected			Projected grain ethanol
					biomass	ethanol	renewable fuel equivalent	
2001	1765	0	2001/02		1866	0	0	1854
2002	1900	0	2002/03		1975	15	23	1930
2003	2000	20	2003/04		2225	20	30	2162
2004	2300	20	2004/05		2525	90	135	2346
2005	2600	113	2005/06		2825	121	182	2588
2006	2900	124	2006/07		3125	133	200	2858
2007	3200	136	2007/08		3425	149	223	3123
2008	3500	153	2008/09		3800	169	253	3456
2009	3900	174	2009/10		4200	191	287	3810
2010	4300	197	2010/11		4600	217	326	4160
2011	4700	224	2011/12		4925	247	371	4430
2012	5000	255						4430

1/ DOE/EIA Annual Energy Outlook 2002.

2/ 2002 CBO projection.

Table 2-- Production of renewable fuels and byproducts under the Renewable Content of Motor Vehicle Fuels

Crop year	Projected grain ethanol	USDA baseline corn/sorghum ethanol	New grain ethanol required	Additional corn required	Total sorghum protein required	DDGS 27% protein equivalent	Total DDGS 48% protein equivalent	Projected soybean oil required	Projected soybeans required	Projected soymeal production	Total protein production
	Mil. Gal.	Mil. Gal.	Mil. Gal.	Mil. Bu.	Mil. Bu.	Mil. Lb.	Mil. Ton	Mil. Lb.	Mil. Bu.	Mil. Ton	Mil. Ton
2001/02	1854	1830					96.25	8.58	0.21	0.21	
2002/03	1930	2195					171.71	15.30	0.37	0.37	
2003/04	2162	2450					251.79	22.44	0.54	0.54	
2004/05	2346	2663					335.72	29.92	0.72	0.72	
2005/06	2588	2715					425.81	37.95	0.91	0.91	
2006/07	2858	2779	79	26	2	400	518.98	46.25	1.11	1.22	
2007/08	3123	2831	292	98	8	1486	610.61	54.42	1.30	1.72	
2008/09	3456	2896	560	189	15	2851	800.70	62.45	1.50	2.30	
2009/10	3810	2948	862	290	23	4390	123	790.02	70.41	1.69	2.92
2010/11	4160	3000	1160	391	31	5905	1.66	877.80	78.24	1.87	3.53
2011/12	4430	3052	1378	464	37	7013	1.97	957.88	85.37	2.04	4.02

Table 3—Average market prices for major commodities

	Unit	2001	2002	2003	2004	2005	2006	Marketing year 2007	2008	2009	2010	2011	Average 2001-11
Corn	\$/bu												
Scenario		2.10	2.10	2.20	2.25	2.30	2.31	2.44	2.51	2.64	2.66	2.73	2.38
Baseline		2.10	2.10	2.20	2.25	2.30	2.30	2.40	2.45	2.55	2.55	2.60	2.35
Difference from baseline		0.00	0.00	0.00	0.00	0.01	0.01	0.04	0.06	0.09	0.11	0.13	0.04
Sorghum	\$/bu												
Scenario		2.05	1.95	2.05	2.05	2.10	2.11	2.23	2.30	2.44	2.45	2.52	2.20
Baseline		2.05	1.95	2.05	2.05	2.10	2.10	2.20	2.25	2.35	2.35	2.40	2.17
Difference from baseline		0.00	0.00	0.00	0.00	0.01	0.01	0.03	0.05	0.09	0.10	0.12	0.04
Barley	\$/bu												
Scenario		2.25	2.25	2.35	2.35	2.40	2.40	2.47	2.53	2.59	2.61	2.62	2.44
Baseline		2.25	2.25	2.35	2.35	2.40	2.40	2.45	2.50	2.55	2.55	2.55	2.42
Difference from baseline		0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.04	0.06	0.07	0.02
Oats	\$/bu												
Scenario		1.30	1.20	1.25	1.30	1.35	1.35	1.41	1.41	1.47	1.48	1.48	1.36
Baseline		1.30	1.20	1.25	1.30	1.35	1.35	1.40	1.40	1.45	1.45	1.45	1.35
Difference from baseline		0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.03	0.03	0.01
Wheat	\$/bu												
Scenario		2.85	2.75	2.75	2.85	2.95	2.95	3.00	3.15	3.26	3.36	3.42	3.52
Baseline		2.85	2.75	2.75	2.85	2.95	2.95	3.00	3.15	3.25	3.35	3.40	3.50
Difference from baseline		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.02	0.00
Rice	\$/cwt												
Scenario		4.25	4.30	4.40	4.53	4.67	4.81	4.98	5.18	5.40	5.63	5.90	4.91
Baseline		4.25	4.30	4.40	4.53	4.67	4.81	4.97	5.18	5.39	5.62	5.88	4.91
Difference from baseline		0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.00

Table 3--Average market prices for major commodities--continued

		2001	2002	2003	2004	2005	2006	Marketing year 2007	2008	2009	2010	2011	Average 2001-11
Soybeans													
Scenario	\$/bu	4.31	4.37	4.54	4.80	5.16	5.51	5.77	5.97	6.13	6.23	6.25	5.37
Baseline		4.30	4.35	4.50	4.75	5.10	5.45	5.75	5.90	6.10	6.15	6.20	5.32
Difference from baseline		0.01	0.03	0.04	0.05	0.06	0.06	0.02	0.07	0.03	0.08	0.05	0.04
Soybean meal													
Scenario	\$/Mon	154.3	153.8	150.8	151.8	158.2	164.2	169.1	168.8	170.8	168.5	165.7	161.5
Baseline		155.0	155.0	152.5	154.0	161.0	168.5	177.0	179.0	185.0	185.0	185.0	168.8
Difference from baseline		-0.7	-1.2	-1.7	-2.2	-2.8	-4.3	-7.9	-10.2	-14.2	-16.5	-19.3	-7.4
Soybean oil													
Scenario	cents/lb	15.82	16.83	18.57	20.30	22.04	23.57	24.71	26.14	27.19	28.43	29.32	22.99
Baseline		15.50	16.29	17.79	19.29	20.79	21.99	22.80	23.49	24.00	24.49	24.99	21.04
Difference from baseline		0.33	0.54	0.77	1.00	1.24	1.57	1.91	2.65	3.19	3.93	4.33	1.95
Upland cotton													
Scenario	\$/cwt	30.00	35.00	37.99	39.99	41.99	43.99	46.02	48.12	50.24	51.39	52.51	43.38
Baseline		30.00	35.00	37.99	39.99	41.99	43.99	45.99	47.99	49.99	50.99	51.99	43.27
Difference from baseline		0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	0.03	0.13	0.25	0.39	0.12

Table 4-Average market prices for livestock and poultry

Table 5-Coupling and use

Table 5--Continued

										Average
										2011-2011
		2001	2002	2003	2004	2005	2006	2007	2008	2011-2011
										Million bushels
Feed & residual use										
Scenario	5,799.9	5,699.1	5,772.9	5,846.6	5,920.3	5,956.8	5,966.8	5,975.2	5,944.6	5,943.7
Baseline	5,800.1	5,700.1	5,775.1	5,850.1	5,925.1	5,975.1	6,025.1	6,075.1	6,100.1	6,150.1
Difference	-0.2	-1.1	-2.2	-3.5	-4.7	-18.3	-58.3	-99.9	-155.5	-206.4
Food & industrial use										
Scenario	2,009.9	2,130.0	2,250.0	2,325.0	2,360.1	2,422.4	2,528.2	2,657.6	2,793.6	2,928.8
Baseline	2,009.9	2,129.9	2,249.9	2,324.9	2,359.9	2,394.9	2,429.9	2,469.9	2,504.9	2,539.9
Difference from baseline	0.0	0.0	0.1	0.1	0.1	27.4	98.2	187.6	288.7	388.9
Seed use										
Scenario	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.1	20.2	20.2
Baseline	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Difference from baseline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2
Exports										
Scenario	2,050.1	1,925.3	1,950.6	2,001.0	2,051.3	2,096.6	2,157.2	2,248.7	2,282.0	2,324.2
Baseline	2,050.0	1,925.0	1,950.0	2,000.0	2,050.0	2,100.0	2,175.0	2,275.0	2,325.0	2,375.0
Difference from baseline	0.1	0.3	0.7	1.0	1.3	-3.4	-17.8	-26.2	-43.0	-50.8
Total use										
Scenario	9,879.9	9,774.3	9,993.6	10,192.6	10,351.7	10,499.2	10,684.7	10,925.2	11,076.9	11,266.0
Baseline	9,880.0	9,775.0	9,995.0	10,195.0	10,355.0	10,490.0	10,650.1	10,840.0	10,950.1	11,085.0
Difference from baseline	-0.1	-0.7	-1.5	-2.4	-3.3	9.2	34.6	85.2	126.8	180.9
Total stocks, Aug 31										
Scenario	1,458.1	1,428.6	1,299.3	1,230.0	1,195.6	1,211.3	1,098.5	1,002.0	904.5	889.1
Baseline	1,458.0	1,428.0	1,298.0	1,228.0	1,193.0	1,218.0	1,133.0	1,053.0	988.0	988.0
Difference from baseline	0.1	0.7	1.3	2.0	2.6	-6.7	-34.5	-51.0	-83.5	-98.8

Table 6--Grain sorghum, supply and use

	Marketing year Million bushels										Average 2001-11
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total stocks, Sept 1											
Scenario	42.0	53.0	83.1	83.2	83.3	88.4	86.7	81.5	77.4	71.3	67.8
Baseline	42.0	53.0	83.0	B3.0	83.0	88.0	88.0	88.0	88.0	88.0	79.3
Difference from baseline	0.0	0.0	0.1	0.2	0.3	0.4	-1.3	-6.5	-10.6	-16.7	-20.2
Production	536.0	595.0	579.9	589.9	594.8	599.8	605.6	624.6	632.6	647.6	655.2
Scenario	536.0	595.0	580.0	590.0	595.0	600.0	605.0	620.0	625.0	635.0	640.0
Difference from baseline	0.0	0.0	-0.1	-0.1	-0.2	-0.2	0.6	4.6	7.6	12.6	15.2
Imports											
Scenario	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Baseline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Difference from baseline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total supply	578.0	648.0	663.0	673.1	678.1	688.5	693.3	708.1	712.9	722.5	727.4
Scenario	578.0	648.0	663.0	673.0	678.0	688.0	693.0	708.0	713.0	723.0	728.0
Baseline	0.0	0.0	0.0	0.1	0.1	0.1	0.5	0.3	0.1	-0.1	-0.5
Difference from baseline	0.0	0.0	0.0	0.1	0.1	0.1	0.5	0.3	0.1	-0.1	-0.6

Table 6--Grain sorghum, supply and use--continued

					Marketing year				Average			
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2001-11
Food & residual use												
Scenario	240.0	250.0	264.9	264.9	264.0	264.0	261.7	261.9	257.7	253.4	249.7	257.5
Baseline	240.0	250.0	265.0	265.0	265.0	265.0	265.0	270.0	270.0	270.0	270.0	263.2
Difference from baseline	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-1.0	-3.3	-8.1	-12.3	-16.7	-20.3
Food & industrial use												
Scenario	43.0	63.0	63.0	68.0	68.0	75.2	80.7	93.3	101.3	107.6	113.6	79.7
Baseline	43.0	63.0	63.0	68.0	68.0	73.0	73.0	78.0	78.0	78.0	78.0	69.4
Difference from baseline	0.0	0.0	0.0	0.0	0.0	2.2	7.7	15.3	23.3	29.6	35.6	10.3
Seed use												
Scenario	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Baseline	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Difference from baseline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exports												
Scenario	240.0	250.0	249.9	254.9	254.9	260.2	266.4	271.5	277.8	288.1	293.7	264.3
Baseline	240.0	250.0	250.0	255.0	255.0	260.0	260.0	265.0	270.0	275.0	285.0	290.0
Difference from baseline	0.0	0.0	-0.1	-0.1	-0.1	0.2	1.4	1.5	2.8	3.1	3.7	1.1
Total use												
Scenario	525.0	564.9	579.8	589.8	589.7	601.8	611.8	630.7	641.7	654.7	663.6	604.8
Baseline	525.0	565.0	580.0	580.0	590.0	590.0	600.0	605.0	620.0	625.0	635.0	640.0
Difference from baseline	0.0	-0.1	-0.2	-0.2	-0.3	1.8	6.8	10.7	16.7	19.7	23.6	597.7
Total stocks, Aug 31												
Scenario	53.0	83.1	83.2	83.3	88.4	86.7	81.5	77.4	71.3	67.8	63.9	76.3
Baseline	53.0	83.0	83.0	83.0	88.0	88.0	88.0	88.0	88.0	88.0	88.0	83.5
Difference from baseline	0.0	0.1	0.2	0.3	0.4	-1.3	-6.5	-10.6	-16.7	-20.2	-24.1	-7.1

Table 7--Area planted

Table 7--Area planted--continued

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average 2001-11
	Million acres											
Wheat												
Scenario	59.6	61.0	61.0	61.0	61.5	62.0	62.0	62.9	63.4	63.9	63.9	62.0
Baseline	59.6	61.0	61.0	61.0	61.5	62.0	62.0	63.0	63.5	64.0	64.0	62.1
Difference from baseline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.043
Rice												
Scenario	3.3	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Baseline	3.3	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Difference from baseline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Soybeans												
Scenario	75.2	75.5	74.5	74.0	73.8	74.3	75.2	75.3	75.7	75.5	75.8	75.0
Baseline	75.2	75.5	74.5	74.0	73.8	74.3	75.0	75.5	75.8	76.0	76.3	75.1
Difference from baseline	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-0.2	-0.1	-0.5	-0.5	-0.098
Upland cotton												
Scenario	16.0	15.1	14.8	14.7	14.6	14.5	14.3	14.1	13.9	13.8	13.7	14.5
Baseline	16.0	15.1	14.8	14.7	14.6	14.5	14.3	14.1	14.0	13.9	13.8	14.5
Difference from baseline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.029
Total												
Scenario	249.5	251.7	250.1	250.6	251.3	252.7	252.8	254.7	255.5	256.8	257.1	253.0
Baseline	249.5	251.8	250.2	250.7	251.3	252.7	252.7	254.6	255.3	256.5	256.7	252.9
Difference from baseline	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.4	0.092

Table 8--Soybean oil, supply and use

	2001	2002	2003	2004	Marketing year 2005	2006	2007	2008	2009	2010	2011	Average 2001-11
Million pounds												
Total stocks, Oct 1												
Scenario	2,800.2	2,471.8	2,204.7	2,026.5	1,893.4	1,804.8	1,706.3	1,662.0	1,625.3	1,539.5	1,442.7	1,925.2
Baseline	2,800.2	2,490.2	2,235.3	2,070.3	1,950.3	1,875.3	1,795.3	1,770.2	1,775.3	1,720.3	1,665.3	2,013.5
Difference from baseline	0.0	-18.4	-30.6	-43.8	-56.9	-70.5	-89.0	-103.2	-150.0	-180.8	-222.7	-88.3
Production												
Scenario	18,783.8	19,252.4	19,731.9	20,166.6	20,601.6	20,971.1	21,397.1	21,740.2	22,056.1	22,376.3	22,755.1	20,893.8
Baseline	18,759.5	19,209.4	19,669.4	20,084.4	20,499.4	20,864.4	21,289.3	21,714.4	22,074.2	22,494.3	22,914.1	20,870.3
Difference from baseline	24.3	42.9	62.5	82.2	102.2	106.7	107.9	25.8	-18.1	-118.0	-159.1	23.6
Imports												
Scenario	80.0	85.0	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0	105.0
Baseline	80.0	85.0	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0	105.0
Difference from baseline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total supply												
Scenario	21,663.9	21,809.2	22,026.6	22,288.1	22,595.1	22,880.9	23,213.4	23,517.2	23,801.4	24,040.8	24,327.7	22,924.0
Baseline	21,639.7	21,784.7	21,994.7	22,249.7	22,549.7	22,844.7	23,194.6	23,599.6	23,969.5	24,339.6	24,709.5	22,988.7
Difference from baseline	24.3	24.5	31.9	38.4	45.3	36.2	18.8	-82.4	-168.1	-298.8	-381.7	-64.7

Table 8--Soybean oil, supply and use--continued

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average 2001-11
Million pounds												
Domestic use												
Scenario	16,766.8	17,145.6	17,534.1	17,921.4	18,310.3	18,694.7	19,072.3	19,444.0	19,805.3	20,147.6	20,492.1	18,666.7
Baseline	16,699.1	17,049.0	17,399.0	17,749.0	18,099.0	18,449.0	18,799.0	19,174.0	19,548.9	19,923.8	20,298.7	18,471.7
Difference from baseline	67.8	96.6	135.1	172.4	211.2	245.7	273.3	270.0	256.4	223.8	193.4	195.1
Exports												
Scenario	2,426.3	2,458.9	2,466.0	2,473.3	2,480.0	2,480.0	2,479.1	2,448.0	2,456.6	2,450.5	2,470.5	2,462.6
Baseline	2,450.3	2,500.4	2,525.4	2,550.4	2,575.4	2,600.4	2,625.3	2,650.4	2,700.4	2,750.4	2,800.4	2,611.8
Difference from baseline	-25.1	-41.5	-59.4	-77.1	-95.4	-120.4	-146.2	-202.4	-243.7	-299.9	-329.9	-149.2
Total use												
Scenario	19,192.1	19,604.5	20,000.1	20,394.7	20,790.2	21,174.7	21,551.4	21,891.9	22,261.9	22,598.1	22,962.6	21,129.3
Baseline	19,149.4	19,549.4	19,924.4	20,299.4	20,674.4	21,049.4	21,424.3	21,824.4	22,249.3	22,674.2	23,099.1	21,083.4
Difference from baseline	42.7	55.1	75.7	95.3	115.8	125.2	127.1	127.6	127.7	-76.1	-136.5	45.9
Total stocks, Sept 30												
Scenario	2,471.8	2,204.7	2,026.5	1,893.4	1,804.8	1,706.3	1,662.0	1,625.3	1,539.5	1,442.7	1,365.1	1,794.7
Baseline	2,490.2	2,235.3	2,070.3	1,950.3	1,875.3	1,795.3	1,770.2	1,775.3	1,720.3	1,665.3	1,610.3	1,905.3
Difference from baseline	-18.4	-30.6	-43.8	-56.9	-70.5	-89.0	-108.2	-150.0	-180.8	-222.7	-245.2	-110.6

Table 9.-Soybean meal, supply and use

	2001	2002	2003	2004	2005	Marketing year 2006	2007	2008	2009	2010	2011	Average 2001-11
Thousand tons												
Total stocks, Oct 1												
Scenario	325.0	276.3	252.2	253.3	254.3	255.3	258.2	265.1	269.6	277.1	281.6	269.8
Baseline	325.0	275.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	259.1
Difference from baseline	0.0	1.3	2.2	3.3	4.3	5.3	8.2	15.1	19.6	27.1	31.6	10.7
Production												
Scenario	39,800.0	40,749.1	41,700.2	42,581.6	43,413.8	44,223.2	45,025.4	45,653.1	46,360.3	46,950.3	47,663.6	44,011.0
Baseline	39,749.0	40,658.8	41,568.8	42,408.8	43,198.8	43,998.8	44,798.5	45,598.7	46,398.4	47,198.5	47,998.2	43,961.4
Difference from baseline	51.0	90.3	131.5	172.8	215.0	224.4	226.9	54.3	-38.1	-248.3	-334.6	49.6
Imports												
Scenario	50.0	65.0	80.0	90.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	89.5
Baseline	50.0	65.0	80.0	90.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	89.5
Difference from baseline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total supply												
Scenario	40,175.0	41,090.4	42,032.4	42,924.8	43,768.1	44,683.1	45,758.4	46,734.5	47,831.3	48,803.1	49,802.0	44,873.0
Baseline	40,124.0	40,998.8	41,898.7	42,748.8	43,548.8	44,348.8	45,148.5	45,948.7	46,748.4	47,548.5	48,348.1	44,310.0
Difference from baseline	51.0	91.6	133.7	176.1	219.3	334.3	610.0	785.7	1,082.9	1,254.6	1,453.8	563.0

Table 9--Soybean meal, supply and use-continued

Table 10--Soybeans, supply and use

	2001	2002	2003	2004	Marketing year 2005	2006	2007	2008	2009	2010	2011	Average 2001-11
Million bushels												
Total stocks, Sept 1												
Scenario	248.0	344.1	413.4	407.7	371.9	316.2	270.9	253.8	235.7	227.9	220.1	300.9
Baseline	248.0	345.0	415.0	410.0	375.0	320.0	275.0	255.0	240.0	230.0	225.0	303.5
Difference from baseline	0.0	-0.9	-1.6	-2.4	-3.1	-3.9	-4.1	-1.2	-4.3	-2.1	-5.0	-2.6
Production												
Scenario	2,907.0	2,946.8	2,941.5	2,958.2	2,986.9	3,043.5	3,120.4	3,158.0	3,212.1	3,244.3	3,292.6	3,073.8
Baseline	2,907.0	2,946.0	2,940.0	2,956.0	2,984.0	3,040.0	3,109.9	3,165.0	3,214.9	3,265.0	3,309.9	3,076.2
Difference from baseline	0.0	0.8	1.5	2.2	2.9	3.6	10.5	-7.0	-2.8	-20.6	-17.3	-2.4
Imports												
Scenario	3.0	7.0	8.0	9.0	8.0	5.0	9.0	7.0	5.0	7.0	9.0	7.0
Baseline	3.0	7.0	8.0	9.0	8.0	5.0	9.0	7.0	5.0	7.0	9.0	7.0
Difference from baseline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total supply												
Scenario	3,158.0	3,297.9	3,362.9	3,374.8	3,366.8	3,364.7	3,400.3	3,418.8	3,452.8	3,479.3	3,521.7	3,381.6
Baseline	3,158.0	3,298.0	3,363.0	3,375.0	3,367.0	3,365.0	3,394.0	3,427.0	3,460.0	3,502.0	3,544.0	3,386.6
Difference from baseline	0.0	-0.1	-0.1	-0.2	-0.2	-0.3	6.4	-8.2	-7.2	+22.7	-22.2	-5.0

Table 10--Soybeans, supply and use--continued

					Marketing year							
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average 2001-11
Million bushels												
Feed, seed & res. use												
Scenario	173.0	173.0	173.0	175.0	177.0	180.1	183.7	186.8	189.4	191.4	193.2	181.4
Baseline	173.0	173.0	173.0	175.0	177.0	180.0	184.0	187.0	190.0	192.0	194.0	181.6
Difference from baseline	0.0	0.0	0.0	-0.1	0.1	-0.3	-0.2	-0.6	-0.6	-0.6	-0.8	-0.2
Crushings												
Scenario	1,662.1	1,703.7	1,745.5	1,782.2	1,819.0	1,849.4	1,884.5	1,912.2	1,938.3	1,964.5	1,995.9	1,841.6
Baseline	1,660.0	1,699.9	1,739.9	1,774.9	1,810.0	1,840.0	1,874.9	1,909.9	1,939.9	1,974.9	2,009.9	1,839.5
Difference from baseline	2.1	3.8	5.5	7.3	9.0	9.4	9.5	2.3	-1.6	-10.4	-14.0	2.1
Exports												
Scenario	978.8	1,007.8	1,036.8	1,045.7	1,054.7	1,064.3	1,078.3	1,084.1	1,097.1	1,103.2	1,115.8	1,060.6
Baseline	980.0	1,010.0	1,040.0	1,050.0	1,060.0	1,070.0	1,080.0	1,090.0	1,100.0	1,110.0	1,120.0	1,064.6
Difference from baseline	-1.2	-2.3	-3.3	-4.3	-5.3	-5.7	-1.7	-5.9	-2.9	-6.8	-4.3	-4.0
Total use												
Scenario	2,813.9	2,884.5	2,955.2	3,002.9	3,050.6	3,093.8	3,146.5	3,183.1	3,224.9	3,259.2	3,304.8	3,083.6
Baseline	2,813.0	2,883.0	2,953.0	3,000.0	3,047.0	3,090.0	3,138.9	3,187.0	3,229.9	3,277.0	3,323.9	3,085.7
Difference from baseline	0.9	1.5	2.2	2.9	3.6	3.8	7.6	-3.9	-5.1	-17.8	-19.1	-2.1
Total stocks, Aug 31												
Scenario	344.1	413.4	407.7	371.9	316.2	270.9	253.8	235.7	227.9	220.1	216.9	298.0
Baseline	345.0	415.0	410.0	375.0	320.0	275.0	255.0	240.0	230.0	225.0	220.0	300.9
Difference from baseline	-0.9	-1.6	-2.4	-3.1	-3.9	-4.1	-1.2	-4.3	-2.1	-5.0	-3.1	-2.9

Table 11-- Cash receipts, other income, production expenses, and farm income

	Calendar year						Average				Cumulative	
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2001-11	2001-11
Cash receipts:												
Livestock & products												
Scenario	106.4	106.3	107.7	109.5	112.6	115.4	118.3	121.4	124.0	126.9	114.8	
Baseline	106.4	106.4	107.9	109.7	112.9	115.8	118.8	122.0	124.6	127.6	115.2	
Difference from baseline	0.0	-0.1	-0.2	-0.3	-0.3	-0.4	-0.5	-0.5	-0.6	-0.7	-0.4	-3.7
Crops												
Scenario	97.9	102.2	105.5	109.2	113.2	117.9	122.7	127.1	131.2	134.8	116.2	
Baseline	97.9	102.1	105.4	109.0	113.0	117.6	122.1	126.2	130.0	133.4	115.7	
Difference from baseline	0.1	0.1	0.1	0.2	0.2	0.4	0.6	0.9	1.2	1.4	0.5	5.1
Total receipts												
Scenario	204.3	208.4	213.2	218.6	225.8	233.3	241.0	248.5	255.2	261.7	231.0	
Baseline	204.3	208.5	213.3	218.7	225.9	233.4	240.9	248.2	254.6	261.0	230.9	
Difference from baseline	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.1	0.3	0.6	0.7	0.1	1.4
Other income												
Scenario	35.4	34.7	34.1	33.4	33.6	34.0	34.5	35.0	35.5	35.9	34.6	
Baseline	35.4	34.8	34.2	33.6	33.6	34.0	34.5	35.0	35.5	36.0	34.7	
Difference from baseline	-0.1	-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.6
Value of inventory chg												
Scenario	0.9	0.3	1.3	1.3	1.3	1.1	1.4	1.6	1.6	1.6	1.2	
Baseline	0.9	0.3	1.3	1.3	1.3	1.1	1.4	1.6	1.6	1.6	1.2	
Difference from baseline	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	-0.2
Gross farm income												
Scenario	240.6	243.5	248.6	253.3	260.7	268.4	276.9	285.0	292.3	299.2	266.9	
Baseline	240.6	243.6	248.8	253.6	260.8	268.5	276.9	284.8	291.7	298.5	266.8	
Difference from baseline	0.0	-0.1	-0.2	-0.3	-0.3	-0.1	-0.1	0.0	0.2	0.5	0.1	0.6
Total expenses												
Scenario	200.0	202.0	207.3	212.3	216.6	221.1	226.2	230.9	235.9	240.7	219.3	
Baseline	200.0	202.2	207.6	212.6	217.0	221.5	226.7	231.4	236.5	241.4	219.7	
Difference from baseline	0.0	-0.1	-0.2	-0.3	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6	-0.7	-3.8
Net farm income												
Scenario	40.6	41.4	41.3	41.0	44.1	47.3	50.7	54.2	56.3	58.5	47.5	
Baseline	40.6	41.4	41.2	41.0	43.8	47.0	50.2	53.4	55.2	57.2	47.1	
Difference from baseline	0.0	0.0	0.0	0.0	0.3	0.3	0.5	0.7	1.1	1.4	0.4	4.4

Table 12--U.S. agricultural export values, displaced value of crude imports, and balance of trade impacts

													Average	Cumulative
													2001-11	
													2001-11	
Billion dollars														
Livestock and animal products														
Scenario	12.56	12.40	12.94	13.60	14.20	14.84	15.42	16.05	16.69	17.33	17.91	14.90		
Baseline	12.56	12.40	12.94	13.59	14.19	14.81	15.38	16.01	16.64	17.27	17.85	14.88		
Difference from baseline	0.00	0.00	0.00	0.01	0.01	0.03	0.04	0.04	0.05	0.06	0.06	0.03	0.30	
Grains and feeds														
Scenario	13.92	15.50	14.87	15.52	16.32	17.10	17.65	18.88	19.94	20.98	21.58	17.48		
Baseline	13.92	15.50	14.87	15.52	16.32	17.11	17.64	18.81	19.83	20.80	21.36	17.34		
Difference from baseline	0.00	0.00	0.00	0.00	0.00	-0.01	0.01	0.07	0.11	0.18	0.22	0.05	0.58	
Oilseeds and products														
Scenario	8.78	8.81	9.25	9.81	10.42	11.16	11.89	12.52	12.95	13.44	13.70	11.16		
Baseline	8.78	8.80	9.22	9.78	10.38	11.12	11.85	12.51	12.92	13.42	13.68	11.13		
Difference from baseline	0.00	0.01	0.03	0.03	0.04	0.04	0.04	0.01	0.03	0.02	0.02	0.02	0.27	
Total exports														
Scenario	53.00	54.50	56.10	59.00	61.40	64.00	66.50	69.60	72.30	75.00	77.00	64.40		
Baseline	53.00	54.50	56.10	58.90	61.30	64.00	66.40	69.50	72.10	74.80	76.70	64.30		
Difference from baseline	0.00	0.00	0.00	0.00	0.00	0.10	0.10	0.10	0.20	0.20	0.30	0.10	1.15	
Displaced gasoline and diesel imports														
Ethanol and biodiesel	0.01	0.01	0.01	0.02	0.14	0.27	0.44	0.62	0.81	0.96	0.96	0.30	3.30	
Balance of trade	0.01	0.01	0.01	0.01	0.02	0.24	0.37	0.54	0.82	1.01	1.26	0.40	4.45	

Table 13--Changes in employment and output under the Renewable Content of Motor Vehicle Fuel

Sector:		Composite impact	U.S. economy		
			2002 \$mil	Total changes in employment	Total changes in output
Total economy			1671	Number of jobs 13500	2002 \$mil 3531
Farm:			-123	3170	402
Livestock				-790	-100
Crops			-123	3950	502
Feedgrains			-123	4160	527
Oilseeds				-320	-40
Other crops				120	15
Food processing			1838	2910	1838
Ethanol			2052	3210	1958
Dairy			2	10	2
Poultry			66	250	72
Meat			-141	-460	-134
Soy mills			-142	-100	-61
Manufacturing				1100	342
Trade and transport			-44	1530	267
Services				4790	681