Impact of a 10 Percent Decrease in Planted Acreage of All U.S. Program Crops

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IMPACT OF A 10 PERCENT DECREASE IN PLANTED ACREAGEOF ALL U.S. PROGRAM CROPS

SENATOR TOM HARKIN asked the Food and Agricultural Policy Research Institute (FAPRI) to evaluate a uniform 10 percent reduction in program crop acreage in the United States. Following the request, FAPRI analyzed the effects of this reduction on price, trade, consumption, and production in the eight program-crop markets and all related markets. FAPRI investigated both the domestic and international implications of this reduction in U.S. planted area. In particular, FAPRI analyzed whether a decrease in U.S. production would be accommodated by a decrease in domestic use and inventories and corresponding changes in foreign production, use, and inventories.

Policy Shock and Assumptions

BEFORE GETTING INTO the results of the analysis, it is important to understand exactly how we applied the acreage reduction. Rather than operate a set-aside program, as was done in past programs, in this analysis area was initially frozen at baseline levels. Each year from 2003 forward, area in the United States was artificially reduced by 10 percent from those levels. While the rest of the world was allowed to react to the subsequent price signals, land in the United States was held at this lower level. Furthermore, the original mix of crops from the baseline was also maintained.

Again, we emphasize that this acreage reduction was imposed by assumption. In reality a 10 percent set-aside program would have a limited chance in actually removing 10 percent of the acreage from production. Slippage, ghost acres, and any number of other forgotten vocabulary words come to mind when considering such policies in the United States. This same vocabulary would apply here as well.

Yields also deserve special discussion. In the United States, reducing area tends to lead to increasing yields, as the least-productive land tends to come out of production first. While the effect is fairly small, there has been enough empirical work to suggest reasonably well identified yield responses to this kind of acreage decline. As such, yields increase for wheat (0.3 percent), corn (0.8 percent), soybeans (2.0 percent), rice (1.9 percent), and barley (0.5 percent).

The yield story on the international side is not as clear-cut. Area is allowed to adjust in other countries in response to the associated price signals. This is, after all, the point of the experiment. In some cases, one can demonstrate that increased area leads to lower yields when marginal land is brought into production. Conversely, the higher prices may stimulate adjustments in inputs, which would in turn increase yields. While both of these offsetting factors have intuitive appeal, it is often difficult to find empirical evidence to back them up.

Consequently, international yields were left unchanged from the baseline.

Finally, a special word on Brazil: the FAPRI baseline assumes an autonomous increase in Brazilian soybean acreage of 450 thousand hectares (tha) per year. This expansion of agricultural land in Brazil accelerates to 485 tha per year once world soybean prices reach a critical level of U.S.$220 per metric ton ($5.98/bushel, Gulf price). World soybean prices never reach the critical level in the baseline, but they exceed the level in this scenario.

Results

Tables 1-3 present the main results. Additional tables in the appendix present further results for major commodities (eight crops and three livestock products) and for major producing and consuming countries. Tables 1 and 2 display the effects on commodity prices and gross market returns. Table 3 summarizes the longer-term impact by commodity in terms of the decrease in U.S. production, use, and trade, and the changes in the rest of the world.

Before going into some of the specific commodity results, a review of the general pattern may be helpful. With the imposition of the acreage limits in the first year, prices for all commodities increase. In that first year, stocks of the various commodities are drawn down, mitigating some of the production decline. In the second year, production is still down—due to the imposed acreage limitation—but there are fewer stocks to draw upon; thus, the second-year price effects are larger than the first-year effects. In subsequent years, all of the various factors that take time to adjust also react, the domestic livestock sector as well as foreign crop production and consumption

being the best examples. By the end of the analysis period, price changes relative to the baseline for most crop products are down considerably from the second-year highs. Again, this pattern of initial-year price increase followed by a further bump in the second year with subsequent relative declines through the rest of the period will be common throughout.

As shown in Table 1, corn prices increase by 12.9 percent by 2010; wheat, by 6.0 percent; soybeans, by 6.0 percent; rice, by 4.0 percent; sorghum, by 11.6 percent; barley, by 13.2 percent; oats, by 22.6 percent; and cotton, by 6.2 percent. All crop prices increase relative to the baseline because production declines and substitution away from these commodities is limited, especially for grains. Although limited, substitution induces an increase in demand for the non-program crops in the rest of the world, such as for sunflower seeds and rapeseed and products. However, producers in foreign countries shift into the crops the United States has vacated and decrease their planting of other, now less profitable, crops. Corn prices increase much more than do wheat and soybean prices because only a few large foreign competitors can replace U.S. corn production. For soybeans, Brazil expands its oilseed area and mitigates the rise in U.S. soybean prices. Other oilseeds also substitute for soybeans and soybean products. The prices of sunflower and rapeseed follow the path of soybean prices, reflecting the stronger demand for the former. Rising grain prices increase feed costs, causing livestock production to decline slightly, raising livestock prices. Pork production and broiler production, which use grain feeds intensively, suffer the greatest production declines and price increases.

TABLE 1. U.S. crop and livestock price changes

	2003	2004	2005	2006	2007	2008	2009	2010
Wheat, Farm Price				(Dollars per Bushel)				
Baseline	3.03	3.11	3.17	3.25	3.34	3.39	3.46	3.55
Change	0.14	0.23	0.22	0.22	0.21	0.21	0.21	0.21
% Change	4.5%	7.4%	6.8%	6.7%	6.3%	6.1%	6.1%	6.0%
Corn, Farm Price								
Baseline	2.14	2.18	2.24	2.30	2.36	2.41	2.47	2.54
Change	0.28	0.36	0.36	0.35	0.34	0.33	0.33	0.33
% Change	13.1%	16.3%	16.0%	15.0%	14.2%	13.6%	13.2%	12.9%
Barley, Farm Price								
Baseline	2.30	2.33	2.37	2.41	2.44	2.48	2.52	2.58
Change	0.28	0.37	0.37	0.36	0.35	0.34	0.34	0.34
% Change	12.4%	15.7%	15.7%	14.9%	14.2%	13.7%	13.4%	13.2%
Sorghum, Farm Price								
Baseline	1.91	1.96	2.02	2.09	2.13	2.17	2.24	2.30
Change	0.22	0.29	0.29	0.27	0.27	0.26	0.26	0.27
% Change	11.7%	14.6%	14.2%	13.2%	12.5%	12.1%	11.8%	11.6%
Oats, Farm Price								
Baseline	1.24	1.27	1.31	1.34	1.37	1.39	1.41	1.44
Change	0.19	0.28	0.31	0.32	0.32	0.32	0.32	0.33
% Change	15.4%	21.9%	23.7%	23.8%	23.5%	23.2%	22.9%	22.6%
Soybean, Farm Price								
Baseline	4.69	4.89	5.06	5.20	5.38	5.56	5.67	5.77
Change	0.34	0.48	0.40	0.36	0.37	0.35	0.34	0.34
% Change	7.3%	9.8%	8.0%	6.9%	6.8%	6.3%	6.0%	6.0%
Rice, Farm Price								
Baseline	6.96	7.05	7.26	7.41	7.69	7.80	7.99	8.21
Change	0.35	0.47	0.47	0.47	0.42	0.39	0.35	0.33
% Change	5.0%	6.7%	6.5%	6.3%	5.5%	4.9%	4.4%	4.0%
Cotton, Farm Price								
Baseline	0.56	0.57	0.57	0.58	0.59	0.60	0.60	0.61
Change	0.05	0.07	0.08	0.07	0.07	0.06	0.05	0.04
% Change	8.3%	12.0%	13.1%	12.8%	11.6%	10.0%	8.1%	6.2%
Beef, Nebraska Direct Fed-Steer				(Dollars Per Hundredweight)				
Baseline	76.64	74.16	71.94	69.78	68.08	67.20	67.72	68.76
Change	0.25	0.79	1.04	1.15	1.14	1.08	1.01	0.97
% Change	0.3%	1.1%	1.4%	1.6%	1.7%	1.6%	1.5%	1.4%
Pork, Barrows and Gilts National Base								
Baseline	41.46	45.63	42.95	39.20	42.46	45.88	43.48	40.91
Change	0.21	1.11	2.18	2.87	2.97	2.63	2.31	2.28
% Change	0.5%	2.4%	5.1%	7.3%	7.0%	5.7%	5.3%	5.6%
Poultry, U.S. 12-City Wholesale				(Cents Per Pound)				
Baseline	57.34	57.35	57.17	57.24	57.43	57.55	57.83	58.24
Change	0.26	0.97	1.23	1.25	1.17	1.11	1.11	1.11
% Change	0.4%	1.7%	2.1%	2.2%	2.0%	1.9%	1.9%	1.9%

TABLE 2. Gross market returns by crop

	2003	2004	2005	2006	2007	2008	2009	2010
				(Million Dollars)				
Wheat								
Baseline	6,914	7,202	7,452	7,743	8,064	8,306	8,562	8,881
Change	-385.6	-216.5	-263.9	-283.6	-324.3	-344.7	-361.0	-377.0
% Change	-5.6%	-3.0%	-3.5%	-3.7%	-4.0%	-4.2%	-4.2%	-4.2%
Corn								
Baseline	21,675	22,534	23,526	24,667	25,769	26,736	27,784	28,998
Change	544.6	1,233.8	1,217.0	1,056.4	919.5	816.4	738.2	690.5
% Change	2.5%	5.5%	5.2%	4.3%	3.6%	3.1%	2.7%	2.4%
Barley								
Baseline	776	787	801	819	836	851	873	898
Change	12.6	36.5	37.2	32.2	27.2	23.7	21.9	21.2
% Change	1.6%	4.6%	4.6%	3.9%	3.3%	2.8%	2.5%	2.4%
Sorghum								
Baseline	1,078	1,105	1,143	1,184	1,213	1,236	1,270	1,312
Change	4.8	33.5	30.6	20.2	13.2	8.8	5.6	3.5
% Change	0.4%	3.0%	2.7%	1.7%	1.1%	0.7%	0.4%	0.3%
Oats								
Baseline	156	159	160	161	162	162	163	162
Change	6.1	15.4	18.1	18.5	18.1	17.6	17.2	16.8
% Change	3.9%	9.7%	11.3%	11.5%	11.2%	10.9%	10.6%	10.3%
Soybean								
Baseline	14,036	14,777	15,438	16,032	16,711	17,417	18,020	18,556
Change	-195.9	132.8	-124.9	-289.3	-330.5	-423.6	-489.2	-515.5
% Change	-1.4%	0.9%	-0.8%	-1.8%	-2.0%	-2.4%	-2.7%	-2.8%
Rice								
Baseline	1,429	1,456	1,510	1,546	1,609	1,635	1,679	1,724
Change	-52.5	-31.0	-34.2	-38.9	-52.7	-61.5	-71.8	-79.8
% Change	-3.7%	-2.1%	-2.3%	-2.5%	-3.3%	-3.8%	-4.3%	-4.6%
Cotton								
Baseline	4,920	5,000	5,090	5,181	5,277	5,381	5,489	5,598
Change	-121.3	41.8	95.5	81.0	25.4	-52.9	-144.6	-245.7
% Change	-2.5%	0.8%	1.9%	1.6%	0.5%	-1.0%	-2.6%	-4.4%
8-Crop Total								
Baseline	50,985	53,020	55,119	57,333	59,641	61,724	63,839	66,129
Change	-187.2	1,246.3	975.5	596.5	295.8	-16.3	-283.6	-485.9
% Change	-0.4%	2.4%	1.8%	1.0%	0.5%	0.0%	-0.4%	-0.7%

TABLE 3. U.S. and world less U.S. supply and utilization in 2010/11

	United States				World Less U.S.			
	Area (mha)	Production (mmt)	Utilization (mmt)	Trade (mmt)	Area (mha)	Production (mmt)	Consumption (mmt)	Stocks (mmt)
Wheat								
Baseline	26.08	68.11	38.76	32.28	195.15	598.77	624.02	84.35
Change	-2.61	-6.60	-1.22	-5.36	1.52	3.10	-2.16	-2.95
% Change	-10.0%	-9.7%	-3.1%	-16.6%	0.8%	0.5%	-0.3%	-3.5%
Corn								
Baseline	32.73	290.08	218.57	72.60	109.38	403.74	474.35	63.67
Change	-3.27	-27.04	-8.38	-18.64	3.27	13.80	-4.85	-1.75
% Change	-10.0%	-9.3%	-3.8%	-25.7%	3.0%	3.4%	-1.0%	-2.7%
Barley								
Baseline	2.29	7.57	6.98	1.28	54.37	143.77	141.37	27.74
Change	-0.23	-0.73	-0.71	-0.01	0.11	0.03	0.02	-0.12
% Change	-10.0%	-9.6%	-10.2%	-0.8%	0.2%	0.0%	0.0%	-0.4%
Sorghum								
Baseline	3.65	14.45	8.03	6.50	36.40	43.66	50.15	4.08
Change	-0.37	-1.46	-0.45	-1.01	0.69	1.88	0.89	-0.21
% Change	-10.0%	-10.1%	-5.6%	-15.6%	1.9%	4.3%	1.8%	-5.1%
Oats								
Baseline	0.73	1.63	1.56	3.19				
Change	-0.07	-0.16	0.03	-0.13				
% Change	-10.0%	-10.0%	2.0%	-4.1%				
Soybean								
Baseline	30.42	87.55	56.58	31.23	47.04	110.21	122.71	5.53
Change	-3.04	-7.23	-1.50	-5.73	2.10	5.90	0.49	-0.04
% Change	-10.0%	-8.3%	-2.7%	-18.3%	4.5%	5.4%	0.4%	-0.8%
Rice								
Baseline	1.34	9.53	6.77	3.50	149.57	427.77	432.29	55.54
Change	-0.13	-0.79	-0.04	-0.76	-0.11	0.74	-0.13	0.63
% Change	-10.0%	-8.3%	-0.6%	-21.7%	-0.1%	0.2%	0.0%	1.1%
Cotton								
Baseline	6.09	4.14	2.10	2.08	35.47	22.55	22.32	8.03
Change	-0.61	-0.41	-0.15	-0.31	0.31	0.16	-0.15	0.04
% Change	-10.0%	-10.0%	-6.9%	-14.8%	0.9%	0.7%	-0.7%	0.5%
Beef								
Baseline		13.16	12.97	0.19		35.23	34.84	0.58
Change		-0.03	0.00	-0.02		0.00	-0.02	0.00
% Change		-0.2%	0.0%	-12.8%		0.0%	-0.1%	-0.3%
Pork								
Baseline		9.97	9.48	0.48		74.97	75.02	0.69
Change		-0.08	-0.05	-0.03		-0.20	-0.22	0.00
% Change		-0.8%	-0.6%	-6.1%		-0.3%	-0.3%	-0.2%
Poultry								
Baseline		18.16	15.19	2.78		33.65	35.62	0.62
Change		-0.05	0.00	-0.05		-0.04	-0.09	0.00
% Change		-0.3%	0.0%	-1.8%		-0.1%	-0.2%	-0.1%

Given the price changes by 2010, a 1 percent decrease in all program crop area in the United States would increase prices between 0.4 and 2.3 percent depending on the crop. As shown in Table 2, the long-term combined effect on gross returns from the marketplace is negative for wheat, soybeans, rice, and cotton but positive for corn, barley, oats, and sorghum. The overall impact on revenues for all eight major crops is positive in the short run but turns negative by the end of the scenario. Again, the United States faces some major competition in wheat, rice, soybean, and cotton markets and the competitors are able to boost production enough to take away enough of the price increase to more than offset the loss in revenue associated with the foregone production. For the feed grains—corn in particular—there is not enough foreign competition to offset the increase in prices, thus explaining the positive stories for corn, sorghum, barley, and oats.

As shown in Table 3, U.S. production of the eight crops is reduced by a total of 44.43 million metric tons (mmt) relative to the baseline in 2010. To make up for that, U.S. domestic use of those crops falls 12.41 mmt (28 percent of the decline in U.S. production), and U.S. net trade falls by 31.95 mmt (72 percent of the decline in production). The change in trade reflects the net change in U.S. production, consumption, and inventories. In the rest of the world, output increases by 25.62 mmt (58 percent of the decline in U.S. production), and consumption decreases by –5.894.3 mmt (13 percent of the decline).

Under the scenario considered and for the aggregate area allocated to the eight crops, 1 retired acre of U.S. land is replaced by 0.73 acres of foreign land in 2010. The actual increase in international acreage varies by crop from 1.9 and 1 for sorghum and corn to 0.69 and 0.58 for soybeans and wheat. The differences across crops reflect the fact that yields in the United States are higher than yields in other countries for some crops (for example, even though a one-acre reduction in corn land results in a one-acre increase in foreign corn area, world corn production is still down relative to the baseline by 2 percent). Increases in crop area in major countries include 2.05 mha in Brazil, 1.05 mha in China, 0.87 mha in Argentina, 0.39 mha in Australia, and 0.28 mha in Canada. The appendix tables provide further information on where the foreign expansion occurs.

Inventory demand decreases the most in the first year, especially in the United States. Compared to the other sources of adjustment, year-to-year stock changes are marginal by 2010. Stock changes are moderate in other countries as well in the long run.

As shown in the appendix tables, the second-round effects of higher prices on livestock are essentially negative because of the increase in feed cost, both for meals and for coarse grains. As a result, meat prices increase in world markets. World output of beef, pork, and poultry decreases by 410 thousand metric tons (tmt)—only 0.2 percent. Although aggregate world production decreases, some countries increase meat production because of a heavier reliance on pasture-based livestock. These countries see little effect of higher feed cost but see all the benefits of higher output prices. Overall meat trade is marginally affected because of the small effects of the feed cost increase in most countries. Beef prices (Nebraska Direct Fed-Steer) increase by 1.3 percent, pork prices (51-51 percent lean barrows and gilts, national basis) increase by 4.9 percent, and poultry prices increase by 1.8 percent (12-city average wholesale in ready-to-cook equivalent). The proportional poultry price increase is smaller than that for hogs because it is measured at a wholesale level while cat-

tle and hog prices are measured at a farm gate level. Beef prices are also less sensitive to feed cost because the feed cost share is smaller in beef production, and pasture-fed cattle can substitute for grain-fed cattle.

Caveats and Conclusions

The policy shock imposed in the scenario is extreme because 10 percent of agricultural land in the United States is taken out of production without allowing for significant adjustment in land reallocation. By encompassing virtually all of the major crops grown in the United States, the ability to shift land into program crop production is much less feasible than under a similar policy shock involving a small subset of all program crops.

The general conclusion that reducing crop production will boost short-term crop producer gross revenue is borne out for feed grains but is only marginally true for other crops. Wheat market revenue, for example, is always below the baseline, as prices simply do not rise enough to offset the acreage producers must idle. With tough competi-

tion from other countries, this result is easily understood. Similarly, in most years for soybeans, rice, and cotton—especially after the first few years—competition and foreign demand adjustments place producers in a situation where the price boost does not offset the production decrease. Even looking at the aggregate effect, the eight-crop total gross market revenues are below the baseline by the end of the period. In short, the suggestion that production cutbacks in the United States would be offset by increased production elsewhere may not hold in the short-run, but it does seem to be the case over a five- to ten-year period.

Finally, the FAPRI analysis assumes constant policies abroad and rules out any possibility of policy response in other countries. For example, the European Union would probably decrease or even eliminate land set-aside requirements in its Common Agricultural Policy if world prices increased by 10 to 15 percent. This policy response would dampen the world market effects of the reduction in planted acreage in the United States.

Appendix A

**Results of a 10 Percent Decrease in U.S. Planted Acreage
for Major Commodities in Major Producing and Consuming Countries**

TABLE A.1. World beef supply and utilization (in thousand metric tons)

	2004/05			2010/11		
	Production	**Consumption**	**Trade**	**Production**	**Consumption**	**Trade**
Argentina	3,039	2,619	420	3,430	2,864	566
Change	1.31	-4.72	6.03	12.02	-8.01	20.02
% Change	0.0%	-0.2%	1.4%	0.4%	-0.3%	3.5%
Australia	2,077	737	1,340	2,079	812	1,267
Change	1.36	-0.72	2.19	7.99	-2.03	9.99
% Change	0.1%	-0.1%	0.2%	0.4%	-0.2%	0.8%
Brazil	7,199	6,338	861	7,723	7,075	648
Change	-10.88	-0.05	-10.83	-19.37	-4.75	-14.62
% Change	-0.2%	0.0%	-1.3%	-0.3%	-0.1%	-2.3%
Canada	1,313	1,031	282	1,420	1,127	292
Change	0.07	0.03	0.04	8.19	2.18	6.01
% Change	0.0%	0.0%	0.0%	0.6%	0.2%	2.1%
European Union	7,193	7,055	139	7,164	6,805	358
Change	1.24	0.98	0.26	-3.21	-3.52	0.35
% Change	0.0%	0.0%	0.2%	0.0%	-0.1%	0.1%
Japan	511	1,546	-1,037	493	1,600	-1,107
Change	-0.59	3.09	-3.43	-1.73	6.28	-7.95
% Change	-0.1%	0.2%	0.3%	-0.4%	0.4%	0.7%
Mexico	1,848	2,408	-560	2,260	2,707	-448
Change	0.80	-0.12	0.91	10.13	3.42	6.71
% Change	0.0%	0.0%	-0.2%	0.4%	0.1%	-1.5%
New Zealand	711	147	563	749	156	594
Change	1.50	-0.16	1.82	6.06	-0.54	6.57
% Change	0.2%	-0.1%	0.3%	0.8%	-0.3%	1.1%
Philippines	232	354	-123	274	449	-175
Change	0.01	-0.80	0.94	2.36	-1.81	4.14
% Change	0.0%	-0.2%	-0.8%	0.9%	-0.4%	-2.4%
Russia	1,681	2,272	-591	1,667	2,336	-669
Change	1.83	8.10	-6.26	-12.54	6.25	-18.79
% Change	0.1%	0.4%	1.1%	-0.8%	0.3%	2.8%
South Korea	187	558	-371	195	630	-436
Change	-0.03	0.21	-0.20	-0.02	0.01	-0.04
% Change	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
Taiwan	5	112	-107	5	138	-134
Change	-0.02	0.54	-0.55	-0.02	0.71	-0.71
% Change	-0.5%	0.5%	0.5%	-0.4%	0.5%	0.5%
Ukraine	687	581	106	742	670	72
Change	0.48	0.78	-0.26	4.12	-0.34	4.45
% Change	0.1%	0.1%	-0.3%	0.6%	-0.1%	6.2%
United States	12,037	12,245	-211	13,160	12,967	194
Change	-17.25	-13.40	-3.44	-26.75	-1.84	-24.79
% Change	-0.1%	-0.1%	1.6%	-0.2%	0.0%	-12.8%

Table A.2. World pork supply and utilization (in thousand metric tons)

	2004/05			2010/11		
	Production	**Consumption**	**Trade**	**Production**	**Consumption**	**Trade**
Brazil	2,219	2,086	133	2,440	2,277	163
Change	-10.05	2.33	-12.39	-21.54	3.04	-24.58
% Change	-0.5%	0.1%	-9.3%	-0.9%	0.1%	-15.1%
Canada	2.029	1.052	977	2.202	1.183	1.019
Change	6.82	-5.22	12.05	48.31	-15.22	63.54
% Change	0.3%	-0.5%	1.2%	2.2%	-1.3%	6.2%
China-Hong Kong	177	414	-236	165	451	-286
Change	-0.52	-1.06	0.54	0.33	-1.99	2.32
% Change	-0.3%	-0.3%	-0.2%	0.2%	-0.4%	-0.8%
European Union	18.720	17.541	1.178	19.326	18.130	1.197
Change	-26.25	-50.39	24.87	-58.31	-54.23	-4.14
% Change	-0.1%	-0.3%	2.1%	-0.3%	-0.3%	-0.3%
Hungary	492	381	111	511	394	117
Change	-2.52	-0.96	-1.57	-4.53	-0.79	-3.75
% Change	-0.5%	-0.3%	-1.4%	-0.9%	-0.2%	-3.2%
Japan	1.238	2.162	-923	1.235	2.238	-1.004
Change	-6.13	-2.61	-3.32	-9.86	-6.58	-3.26
% Change	-0.5%	-0.1%	0.4%	-0.8%	-0.3%	0.3%
Mexico	1.098	1.305	-208	1.352	1.638	-285
Change	-4.15	-1.05	-3.09	16.62	-8.29	24.91
% Change	-0.4%	-0.1%	1.5%	1.2%	-0.5%	-8.7%
Poland	1.588	1.479	109	1.645	1.510	135
Change	-0.35	-4.99	4.64	3.19	-3.49	6.69
% Change	0.0%	-0.3%	4.2%	0.2%	-0.2%	5.0%
Russia	1.537	1.937	-400	1.635	2.112	-477
Change	-3.40	-0.51	-2.89	-8.04	0.36	-8.41
% Change	-0.2%	0.0%	0.7%	-0.5%	0.0%	1.8%
Taiwan	917	1.011	-95	973	1.086	-113
Change	-8.54	-6.65	-1.89	-9.46	-9.23	-0.23
% Change	-0.9%	-0.7%	2.0%	-1.0%	-0.9%	0.2%
United States	9.079	8.894	185	9.965	9.478	483
Change	-26.81	-19.25	-6.01	-82.08	-52.63	-29.37
% Change	-0.3%	-0.2%	-3.2%	-0.8%	-0.6%	-6.1%

TABLE A.3. World broiler supply and utilization (in thousand metric tons)

	2004/05			2010/11		
	Production	**Consumption**	**Trade**	**Production**	**Consumption**	**Trade**
Argentina	978	1,013	-35	1,213	1,214	-1
Change	-11.10	-0.46	-10.64	-12.81	-0.48	-12.33
% Change	-1.1%	0.0%	30.5%	-1.1%	0.0%	1158.8%
Australia	649	612	37	739	683	56
Change	-4.81	-0.10	-4.71	-5.77	-0.18	-5.59
% Change	-0.7%	0.0%	-12.8%	-0.8%	0.0%	-9.9%
Brazil	6,671	5,516	1,155	7,516	6,281	1,235
Change	-0.88	-25.85	24.97	-6.31	-24.61	18.30
% Change	0.0%	-0.5%	2.2%	-0.1%	-0.4%	1.5%
Canada	992	1,001	-9	1,114	1,096	18
Change	0.77	0.03	0.75	-6.00	3.33	-9.33
% Change	0.1%	0.0%	-8.8%	-0.5%	0.3%	-52.5%
European Union	6,413	5,994	418	6,808	6,372	435
Change	-14.83	-15.15	0.48	-13.86	-14.88	1.01
% Change	-0.2%	-0.3%	0.1%	-0.2%	-0.2%	0.2%
Japan	1,043	1,623	-580	1,000	1,644	-645
Change	-3.56	-3.13	-0.21	-3.22	-1.44	-1.78
% Change	-0.3%	-0.2%	0.0%	-0.3%	-0.1%	0.3%
Mexico	2,235	2,374	-139	2,619	2,736	-116
Change	-1.18	-4.72	3.54	6.42	1.52	4.89
% Change	-0.1%	-0.2%	-2.5%	0.2%	0.1%	-4.2%
New Zealand	98	98	-8	118	118	-1
Change	0.91	0.91	1.56	1.93	1.93	2.84
% Change	0.9%	0.9%	-20.7%	1.6%	1.6%	-397.9%
Philippines	612	640	-52	780	812	-63
Change	-1.67	-2.16	0.53	-1.23	-2.72	1.47
% Change	-0.3%	-0.3%	-1.0%	-0.2%	-0.3%	-2.4%
Russia	521	1,356	-835	591	1,492	-901
Change	0.14	-4.80	4.94	-0.58	-3.66	3.08
% Change	0.0%	-0.4%	-0.6%	-0.1%	-0.2%	-0.3%
South Korea	471	515	-44	573	641	-69
Change	-3.20	-2.79	-0.41	-3.31	-2.86	-0.44
% Change	-0.7%	-0.5%	0.9%	-0.6%	-0.4%	0.6%
Taiwan	679	693	-14	776	790	-14
Change	-2.84	-2.83	0.00	-2.26	-2.26	0.00
% Change	-0.4%	-0.4%	0.0%	-0.3%	-0.3%	0.0%
Ukraine	231	340	-108	321	403	-82
Change	0.00	-1.46	1.46	0.00	-1.04	1.04
% Change	0.0%	0.0%	-1.3%	0.0%	0.0%	-1.3%
United States	15,438	12,746	2,531	18,160	15,189	2,777
Change	-48.01	-7.75	-37.84	-48.96	1.85	-50.13
% Change	-0.3%	-0.1%	-1.5%	-0.3%	0.0%	-1.8%