

## Hog Expansion Fears Laid to Rest For Now

July 2005

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After pork production was up five percent in May and June, there was concern that expansion was well underway in the U.S. However, producers told USDA, as reported in the June *Hogs and Pigs* report, that was not the case.

Pork production in the coming 12 months is estimated to be up less than one percent. With growing pork exports, declining pork imports, and a growing population, per capita supplies will actually tighten. However, greater marketing margins and weaker domestic demand are expected to result in lower prices.

Prices over the last 12 months averaged \$53.80 for 51-52 percent carcasses converted to a liveweight basis. In the next 12 months prices are expected to be more modest averaging about \$47. The highest prices will likely be this summer in the very high \$40s or low \$50s and again next spring. Lows are expected this fall and winter in the lower-to-mid \$40s.

Costs over the next 12 months are estimated at about \$42. Thus profit margins are expected to be around \$4 per live hundredweight. The biggest cost uncertainty involves concerns over the size of the 2005 corn and soybean crops and prices. Each 10 cent change in corn prices impacts costs by about \$.50 per hundredweight and each \$10 per ton change in soybean meal prices impacts hog production costs by about \$.35 per live hundredweight. To push costs up to \$47, a level which would be near breakeven, would require \$3.00 December corn futures and \$270 December soybean meal futures.

### The Numbers

The breeding herd increased by only .7 percent over the past year. This was somewhat surprising given the level of profits which reached an estimated average of \$37 per head over the past 12 months. The breeding herd appears to be very stable in most states right now. Farrowings from the spring quarter were unchanged. This is consistent with the inventory of pigs under 60 pounds which was the same as a year ago. Market hogs that mostly were marketed in June were up one percent (180 pounds plus category) and the July supply of market hogs was registered as up one percent as well (120-179 pounds). However, for the period August to November, market hog supplies are projected to be about equal with year ago slaughter. Thus for the August to November period increased domestic pork production will be due to the potential for heavier weights. With feed prices increasing, those weights may only be slightly higher.

Hog slaughter for this winter and the spring of 2006 will come from the summer and fall pig crop. USDA reports that producers indicate their summer and fall farrowings will be the same as year-ago. If so, larger pig crops will be a function of increased pigs per litter which are trending higher at about ½ of one percent. Overall, this means slaughter from

domestic production will be only modestly higher for the coming 12 months compared to the same period a year earlier.

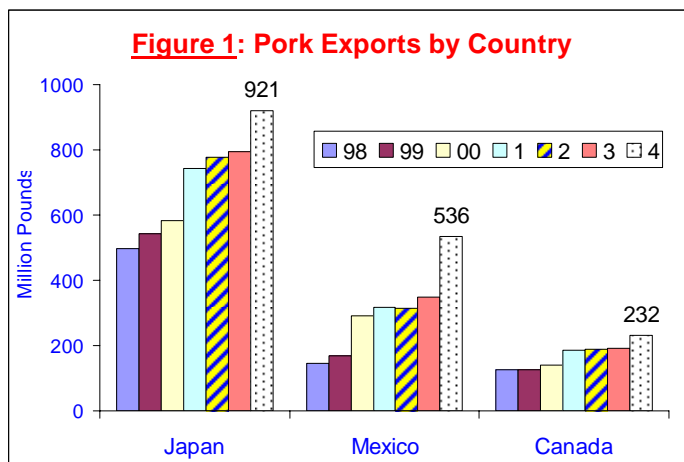
### Canadian Supplies

The large growth in the Canadian industry has been a supply concern in the U.S. However, the tide toward increasing imports from Canada seems to be reversing this year. Live hog imports from Canada are down. Imports of live animals for 2005 through mid-June were down about 10 percent for young animals that were to be finished in the U.S. while imports of market hogs were down 17 percent. The reduction appears to be related to increased slaughter capacity in Canada, and to the strength of the Canadian dollar which makes it less valuable to sell hogs in the U.S.

Less pork is coming from Canada this year as well. It appears that the Canadian pig crop will be nearly stable this year after sharp increases for several years. Even with more slaughter capacity in Canada, the U.S. has imported nine percent less pork from Canada in 2005. This implies that Canada is exporting more pork to non-U.S. countries. Thus, the combination of fewer live hogs as well as less pork imports are helping to reduce U.S. supply pressure.

### Pork Exports Remain Strong

One of the features of strong demand in the past year has been remarkable growth in pork



exports. The stimulus for this growth has been the restrictions on U.S. beef exports and the relatively weak U.S. dollar that enhances foreign buying power. In 2004, pork exports increased by 27 percent and represented 10.6 percent of all pork produced in the U.S. Japan led the way with 921 million pounds of pork imports from the U.S. This is an 85 percent increase since 1998 as shown in Figure 1. Mexico is our second largest customer and

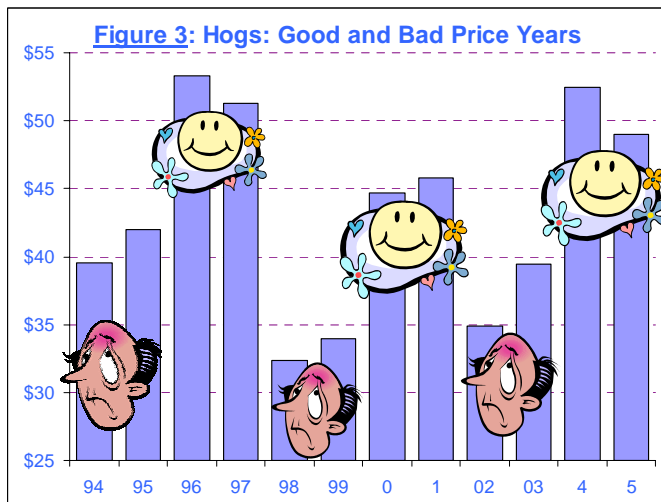
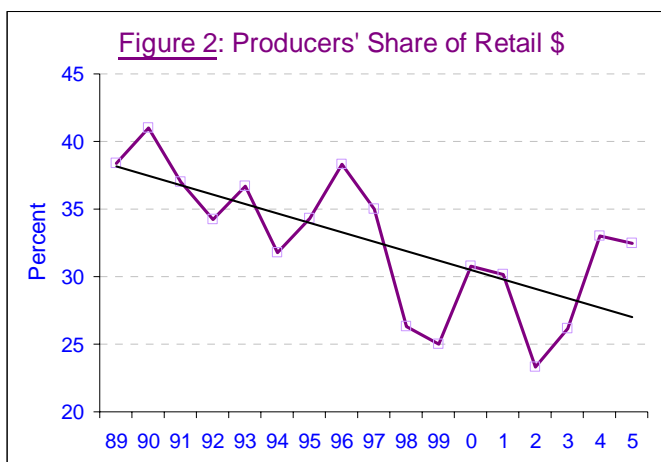
purchased 536 million pounds in 2004. Exports to Canada measured 232 million pounds in 2004 an increase of 84 percent since 1998.

For the first four months of 2005, pork exports are up again by 24 percent over the same period the year before. Astonishingly, out of every eight pounds of pork produced in the U.S., one of those pounds is now consumed in a foreign county (nearly 13 percent of production).

Leading the increase so far this year are exports to Canada which are up 19 percent. Exports to Japan are up 19 percent as well. Mexican imports are unchanged this year, after the enormous increase of 54 percent last year.

### Why Hog Prices Went Over the Cliff

Hog prices have been surprisingly weak since early May when hog prices on a liveweight basis reached the high \$50s. By early July, prices had declined a full \$10. The data is not yet available to sort out the exact reasons, but early bets are on two culprits. First, pork production in May and June was up about five percent. This was composed of about three percent larger slaughter numbers and two percent heavier weights. This led analyst to expect larger market hog supplies in the June report, which did not materialize.



The second, factor is likely related to retail pork prices and marketing margins. The most recent data at this writing is for May of 2005 when retail pork prices were 13 cents per pound higher than in May of 2004. While this would reflect improved consumer demand (higher retail pork price at a time when there was greater pork supplies) why would pork producers get lower prices than last year? The answer appears to be in the marketing margins which were very low last year. A low marketing margins means that more of the retail value goes back to producers. In 2004 low marketing margins meant hog prices to producers where surprisingly high. This year, a return to more normal marketing margins will tend to depress producer prices.

Now back to May 2005. Retail prices were up 13 cents per pound, but marketing margins were up 19

cents per retail pound. Thus, the farmers' price was about \$3 per live hundredweight lower in May of 2005 compared to 2004, and almost all is due to the wider marketing margins. It is likely that a similar pattern will be repeated in June and for the rest of 2005 and 2006.

The information for 2005 in Figure 2 is only for the January to May 2005 period. It is likely that the producers' share by the end of the year will be closer to 28 to 30 percent range. If producers' share drops back below the trend line in 2006, it is increasingly likely that 2006 will be a poor price year.

Figure 3 shows the good and bad price years back to 1994. A smiling face denotes the higher price years and a facial frown the poor price years. The pattern of two bad price years and then two good price years is quickly recognized. The first year of the two bad price years has been the most severe. In 1994, 1998, and 2002 live prices were below \$40. Does this pattern mean that hog prices are in for a disaster in 2006? The answer is unknown at this time, but the most recent *Hogs and Pigs* report is that there is not a sufficient increase in the breeding herd to cause this to happen in the first-half of 2006.

### Anticipated Supplies and Prices

With little growth in domestic supplies, and reduced imports of live animals from Canada, pork production in the U.S. is expected to show very small increases in the 12 months ahead. Supplies in the last-half of 2005 and the first quarter of 2006 are expected to rise by only one percent with production in the second quarter of 2006 close to unchanged. Continued growth in net trade (exports minus imports) and growth in population mean that per capita availability will actually be down over the coming year. However, wider marketing margins are expected to cause hog prices to be lower than they were in the same period a year earlier.

Prices this summer are expected to average in the higher \$40s which is 16 percent lower than last summer. Fall prices are expected to drop to the low-to-mid \$40s with winter prices moving back somewhat above \$45 on average. Without further increases in the breeding herd, spring prices in 2005 may once again climb back toward the very low \$50s. Quarterly production numbers and prices are provided in the table below and in Tables 4 and 5 in the statistical appendix.

PRODUCTION			Percent
Year	Quarter	Production Million#s	Change vs. Year-ago
2003	I	4,898	2.5%
	II	4,741	-1.2%
	III	4,807	-0.5%
	IV	5,499	4.0%
	Year	<b>19,945</b>	<b>1.2%</b>
2004	I	5,130	4.7%
	II	4,897	3.3%
	III	5,046	5.0%
	IV	5,435	-1.2%
	Year	<b>20,508</b>	<b>2.8%</b>
2005	I	5,136	0.1%
	II	5,033	2.8%
	III	5,089	0.8%
	IV	5,501	1.2%
	Year	<b>20,758</b>	<b>1.2%</b>
2006	I	5,190	1.1%
	II	5,045	0.2%

PRICES		Liveweight Price	Percent
Year	Quarter	\$/cwt.	Change vs. Year-ago
2003	I	\$35.38	-10.3%
	II	\$42.64	21.9%
	III	\$42.90	26.7%
	IV	\$36.89	17.5%
	Year	<b>\$39.45</b>	<b>13.0%</b>
2004	I	\$44.18	24.9%
	II	\$54.91	28.8%
	III	\$56.58	31.9%
	IV	\$54.35	47.3%
	Year	<b>\$52.51</b>	<b>33.1%</b>
2005	I	\$51.92	17.5%
	II	\$52.45	-4.5%
	III	\$47.27	-16.5%
	IV	\$44.33	-18.4%
	Year	<b>\$48.99</b>	<b>-6.7%</b>
2006	I	\$46.75	-10.0%
	II	\$50.42	-3.9%

## **Will Costs Get Out of Control?**

Dry weather is threatening corn and soybean yields in a wide area including southeastern Missouri and Arkansas, Illinois, Indiana, and Ohio. Prospects for normal yields are fading quickly in this region. Offsetting these declining crops are excellent and improving crops in most of the remaining major production areas west of the Mississippi River. I have a weekly national corn and soybean yield estimate based upon USDA's weekly crop condition forecast. These estimates are available by 5pm each Monday afternoon at [http://www.agecon.purdue.edu/extension/prices/crop\\_ratings/2005estimate.asp](http://www.agecon.purdue.edu/extension/prices/crop_ratings/2005estimate.asp) This is a general indicator and should not be used as a precise estimate. USDA provides their first objective survey of corn and soybean yields on August 12.

Starting from a base of December corn futures of \$2.50 and soybean meal futures of \$220 per ton, estimated costs of production range from about \$41 per live hundredweight this summer and increase to \$43 by next summer. Given the hog price forecasts in this report, profits would be expected over the next 12 months. They would average about \$4 per live hundredweight over the next 12 months but range from near \$6 this summer to as little as \$2.50 this fall. In contrast, over the past 12 months, estimated profits approached \$14 per hundredweight.

With an anticipated profit margin of \$4 per hundredweight, could higher corn and meal prices extract all of the profit potential? Most of you know that the answer is yes, but those odds are under 25 percent, at least at this writing. Each 10 cent change in corn prices impacts costs of hog production about \$.50 per live hundredweight. For meal, each \$10 per ton change equates to about \$.35 per hundredweight on costs. Since weather is the major driving force for corn and beans, it is likely that price changes of the two will be highly correlated over the summer. Thus to have costs increases wipe out my current anticipated profits would require about 50 cent higher corn prices and \$50 higher meal prices. For corn, this means the 2005 crop would have to be reduced by about 1.75 billion bushels from normal or about 23.5 bushels per acre. Those odds seem remote even with heat and dryness creeping toward the western Corn Belt in coming weeks. At the close of trading on July 6, the options market was putting the odds of a 50 cent increase in December futures at about 19 percent.

Soybeans and meal prices would seem to have a greater potential to rise by \$50 per ton given the tightening old crop situation, reduced number of planted acres, continued strong export sales from the old crop, potential for soybean rust, and declining prospects for new crop yields. As of the close on July 6, using the December meal futures, the options market was suggesting the odds that December meal futures would rise by \$50 or more was 22 percent, while a rise of \$100 or more was still a measurable 7 percent.

## **Summary and Implications**

No expansion yet is good news for pork producers. Hog prices had been depressed going into the June *Hogs and Pigs* report given increased pork production in May and June which convinced some that expansion was moving forward. The June report will provide

the foundation for some recovery of hog prices this summer and especially for better pricing opportunities in the fall and winter.

The hog market has several factors that will support prices including, no expansion, small imports of live hogs from Canada, increasing pork exports and reduced imports. These factors mean that per capita domestic supplies will tighten in the coming 12 months. On the bearish side, marketing margins are larger which means that producers receive lower prices for hogs and a smaller share of the retail dollars spent on pork.

With the first native BSE case in the U.S. announced on June 24, prospects for re-opening of beef exports have been dimmed. This remains positive for the pork industry as foreign countries will continue to buy more U.S. pork as a partial substitute for U.S. beef.

Profit prospects are going to be greatly diminished and are estimated at about \$4 per live hundredweight in the next 12 months compared to near \$14 in the past 12 months. This potential is threatened by dry weather primarily in the eastern Corn Belt which could still reduce yields and increase prices of corn and soybean meal. However, market based odds of corn and meal prices increasing enough to choke off profits in the next 12 months are currently less than 25 percent, however, this can change daily, so stay attentive to weather conditions and forecasts.

As in past reports, I continue to feel that the U.S. has an opportunity to grow the sow herd here rather than in Canada as has been the case since 1998. This is based on the relative weakness of the U.S. dollar and the leveling out of sow expansion in Canada.

Table 1. Hogs and Pigs in the United States, June 1, 2005

	2004	2005	2005 as % of 2004
	- - - -thousand head- - - -		percent
<i>Inventory</i>			
All hogs and pigs	60,698	60,812	100.2
Kept for breeding	5,937	5,977	100.7
Kept for market	54,760	54,834	100.1
<i>Market hogs by weight</i>			
Under 60 pounds	20,292	20,223	99.7
60-119	13,500	13,456	99.7
120-179	11,256	11,343	100.8
180 and over	9,714	9,813	101.0
<i>Sows farrowing</i>			
March 05 - May 05	2,870	2,870	100.0
June 05 -Aug 05 <sup>1</sup>	2,905	2,902	99.9
Sept 05-Nov 05 <sup>1</sup>	2888	2880	99.7
<i>Pigs saved per litter</i>			
Dec 04 - Feb 05	8.85	8.94	101.0
March 05 - May 05	8.93	9.02	101.0
<i>Pig crop</i>			
Dec 04 - Feb 05	25,105	25,489	101.5
March 05 - May 05	25,633	25,884	101.0

<sup>1</sup> Intentions

Table 2. U.S. Market Hogs Weighing 60 to 179 Pounds on June 1, and Commercial Slaughter in Calendar Quarter from July through Sept

Year	Hogs 60-179 Pounds	July-Sept Slaughter	Ratio
	- - - -thousand head- - - -		
1990	20,253	20,346	100.5
1991	21,201	21,376	100.8
1992	22,613	23,746	105.0
1993	22,455	22,777	101.4
1994	22,970	23,673	103.1
1995	23,200	23,264	100.3
1996	22,500	22,711	100.9
1997	22,576	22,666	100.4
1998	24,795	25,038	101.0
1999	24,577	24,960	101.6
2000	23,957	24,097	100.6
2001	23,528	23,635	100.5
2002	24,445	25,120	102.8
2003	23,780	24,747	104.1
2004	24,756	25,817	104.3
2005 <sup>a</sup>	24,799	25,718	103.7 <sup>b</sup>

<sup>a</sup> Projected

<sup>b</sup> Mean of past three years

Table 3. U.S. Sow Farrowings and Pig Crop Compared to U.S. Commercial Slaughter (1,000 head), with 7-month Lag 1993 to 2006

Year	Sows Farrow	Pig Crop	Pigs/ Litter	Year	Commercial Slaughter	Ratio <sup>b</sup> Slau/PigCrop
<b>December-February</b>				<b>July-September</b>		
93/94	2,885	23,368	8.10	1994	23,673	101.3
94/95	2,886	23,851	8.27	1995	23,264	97.5
95/96	2,735	23,054	8.43	1996	22,711	98.5
96/97	2,684	23,164	8.63	1997	22,679	97.9
97/98	2,929	25,480	8.70	1998	25,038	98.3
98/99	2,891	25,247	8.73	1999	24,960	98.9
99/00	2,798	24,522	8.76	2000	24,097	98.3
00/01	2,748	23,963	8.72	2001	23,635	98.6
01/02	2,835	24,857	8.77	2002	25,120	101.1
02/03	2,769	24,400	8.81	2003	24,747	101.4
03/04	2,836	25,105	8.85	2004	25,817	102.8
04/05	2,851	25,489	8.94	2005 <sup>a</sup>	26,051	102.2
<b>March-May</b>				<b>October-December</b>		
1993	3,220	26,135	8.12	1993	24,574	94.0
1994	3,390	27,984	8.26	1994	26,315	94.1
1995	3,170	26,373	8.32	1995	25,197	95.5
1996	2,930	24,833	8.48	1996	23,832	96.0
1997	2,911	25,229	8.67	1997	25,143	99.7
1998	3,086	26,989	8.75	1998	27,586	102.2
1999	2,986	26,272	8.80	1999	26,723	101.7
2000	2,885	25,565	8.86	2000	25,714	100.6
2001	2,870	25,509	8.89	2001	26,470	103.8
2002	2,941	26,001	8.84	2002	26,715	102.7
2003	2,886	25,629	8.88	2003	27,608	107.7
2004	2,870	25,633	8.93	2004	27,192	106.1
2005	2,870	25,884	9.02	2005 <sup>a</sup>	27,421	105.9
<b>June-August</b>				<b>January-March</b>		
1993	2,972	24,041	8.09	1994	22,742	94.6
1994	3,107	25,547	8.22	1995	24,224	94.8
1995	2,976	24,813	8.34	1996	23,651	95.3
1996	2,718	23,244	8.55	1997	22,308	96.1
1997	2,946	25,696	8.72	1998	24,775	96.4
1998	3,054	26,634	8.72	1999	25,579	96.0
1999	2,920	25,862	8.86	2000	25,019	96.7
2000	2,889	25,548	8.84	2001	24,578	96.2
2001	2,878	25,539	8.87	2002	24,148	94.6
2002	2,883	25,725	8.92	2003	24,654	95.8
2003	2,918	25,974	8.90	2004	25,717	99.0
2004	2,905	26,162	9.01	2005	25,529	97.6
2005 <sup>a</sup>	2,902	26,292	9.06	2006 <sup>a</sup>	25,783	98.1
<b>September-November</b>				<b>April-June</b>		
1993	2,982	24,003	8.05	1994	22,965	95.7
1994	2,997	24,517	8.18	1995	23,644	96.5
1995	2,815	23,479	8.34	1996	22,201	94.6
1996	2,731	23,327	8.54	1997	21,831	93.6
1997	2,939	25,494	8.67	1998	23,628	92.7
1998	2,993	25,902	8.66	1999	24,288	93.8
1999	2,844	24,973	8.78	2000	23,105	92.5
2000	2,838	25,112	8.85	2001	23,280	92.7
2001	2,889	25,492	8.82	2002	24,280	95.2
2002	2,833	25,094	8.86	2003	23,922	95.3
2003	2,856	25,488	8.93	2004	24,737	97.1
2004	2,888	25,881	8.96	2005	25,215	97.4
2005 <sup>a</sup>	2,880	25,978	9.02	2006 <sup>a</sup>	25,174	96.9

<sup>a</sup> Estimates

<sup>b</sup> Last entry is the mean of previous three years including Canadian live imports (not shown).

Table 4. U.S. Commercial Slaughter, Carcass Weights, and Quarterly Pork Production 1993-2006

Year	Quarter	Commercial Slaughter (1,000 head)	Carcass Weight Per Hog	Pork Production (million #'s)	Percent Change Year-Ago
1993	I	23,057	182.5	4,207	-2.6
	II	22,661	183.2	4,151	2.9
	III	22,777	181.7	4,138	-3.0
	IV	24,573	184.5	4,534	-0.7
1994	I	22,746	183.9	4,182	-0.6
	II	22,965	184.6	4,240	2.1
	III	23,673	182.7	4,326	4.5
	IV	26,322	186.6	4,913	8.4
1995	I	24,229	185.2	4,488	7.3
	II	23,646	185.8	4,394	3.6
	III	23,264	182.3	4,240	-2.0
	IV	25,198	186.1	4,690	-4.5
1996	I	23,650	185.6	4,389	-2.2
	II	22,201	184.9	4,104	-6.6
	III	22,711	182.4	4,143	-2.3
	IV	23,833	186.7	4,449	-5.1
1997	I	22,342	187.7	4,194	-4.4
	II	21,834	187.4	4,091	-0.3
	III	22,666	185.0	4,196	1.3
	IV	25,152	189.5	4,766	7.1
1998	I	24,776	189.2	4,688	11.8
	II	23,631	187.5	4,429	8.3
	III	25,038	184.7	4,625	10.2
	IV	27,523	188.9	5,239	9.9
1999	I	25,571	190.3	4,865	3.8
	II	24,292	190.6	4,630	4.5
	III	24,960	187.2	4,672	1.0
	IV	26,732	191.2	5,110	-2.5
2000	I	25,019	192.8	4,824	-0.8
	II	23,107	193.8	4,478	-3.3
	III	24,097	191.1	4,606	-1.4
	IV	25,714	194.8	5,010	-2.0
2001	I	24,578	195.5	4,805	-0.4
	II	23,280	195.3	4,546	1.5
	III	23,635	192.4	4,548	-1.3
	IV	26,470	197.9	5,239	4.6
2002	I	24,148	197.9	4,780	-0.5
	II	24,280	197.6	4,797	5.5
	III	25,120	192.4	4,832	6.2
	IV	26,715	196.7	5,255	0.3
2003	I	24,654	198.7	4,898	2.5
	II	23,922	198.2	4,741	-1.2
	III	24,747	194.2	4,807	-0.5
	IV	27,608	199.2	5,499	4.6
2004	I	25,717	199.5	5,130	4.7
	II	24,737	198.0	4,897	3.3
	III	25,817	195.5	5,046	5.0
	IV	27,192	199.9	5,435	-1.2
2005	I	25,529	201.2	5,136	0.1
	II <sup>P</sup>	25,215	199.6	5,033	2.8
	III <sup>ac</sup>	25,950	196.1	5,089	0.8
	IV <sup>a</sup>	27,421	200.6	5,501	1.2
2006	I <sup>a</sup>	25,783	201.3	5,190	1.1
	II <sup>a</sup>	25,174	200.4	5,045	0.2

<sup>a</sup> Projected

<sup>c</sup> Average of the two estimation methods (Table 2 and 3)

<sup>P</sup> Preliminary

Table 5. Actual and Forecast Hog Prices, Lean Carcass Prices, and Retail Pork Prices<sup>a</sup>

Year	Quarter	Barrow and Gilts 6-Mkt Price (\$/cwt)	Lean Value (Live Price/74.5 yield) (\$/carcass cwt)	Retail Pork ¢/carcass cwt
1993	I	\$43.96	\$59.01	194.6
	II	\$46.83	\$62.86	194.3
	III	\$47.49	\$63.74	200.2
	IV	\$43.23	\$58.03	201.3
1994	I	\$45.19	\$60.66	200.8
	II	\$42.44	\$56.97	198.8
	III	\$40.07	\$53.79	199.0
	IV	\$30.56	\$41.02	193.6
1995	I	\$38.19	\$51.26	191.6
	II	\$38.57	\$51.77	190.2
	III	\$48.32	\$64.86	195.6
	IV	\$42.86	\$57.53	201.8
1996	I	\$45.33	\$60.85	206.3
	II	\$54.84	\$73.61	214.9
	III	\$57.96	\$77.80	230.4
	IV	\$55.10	\$73.96	231.9
1997	I	\$51.06	\$68.54	231.0
	II	\$56.41	\$75.72	229.7
	III	\$54.45	\$73.09	234.5
	IV	\$43.69	\$58.64	231.0
1998	I	\$34.74	\$46.63	233.0
	II	\$39.42	\$52.91	226.9
	III	\$33.95	\$45.57	231.0
	IV	\$19.30	\$25.91	226.9
1999	I	\$28.83	\$38.70	235.8
	II	\$35.18	\$47.22	238.4
	III	\$35.70	\$47.92	246.4
	IV	\$36.29	\$48.71	245.2
2000	I	\$41.14	\$55.22	249.8
	II	\$50.43	\$67.69	257.3
	III	\$46.43	\$62.32	264.3
	IV	\$40.78	\$54.74	261.3
2001	I	\$42.83	\$57.49	262.5
	II	\$52.05	\$69.87	267.0
	III	\$51.05	\$68.52	275.0
	IV	\$37.30	\$50.07	273.0
2002	I	\$39.43	\$52.93	270.9
	II	\$34.99	\$46.97	267.7
	III	\$33.86	\$45.45	264.1
	IV	\$31.34	\$42.07	260.2
2003	I	\$35.38	\$47.49	260.9
	II	\$42.64	\$57.23	262.2
	III	\$42.90	\$57.58	269.8
	IV	\$36.89	\$49.52	270.2
2004	I	\$44.18	\$59.30	269.3
	II	\$54.91	\$73.70	276.8
	III	\$56.58	\$75.95	287.7
	IV	\$54.35	\$72.95	282.8
2005	I	\$51.92	\$69.69	282.9
	II <sup>p</sup>	\$52.45	\$70.40	283.0
	III <sup>a</sup>	\$47.27	\$63.45	
	IV <sup>a</sup>	\$44.33	\$59.50	
2006	I <sup>a</sup>	\$46.75	\$62.75	
	II <sup>a</sup>	\$50.42	\$67.68	

<sup>a</sup> Predicted prices for 2005 (III) forward are made with two equations with the results averaged.

<sup>p</sup> Preliminary