STATUS OF WISCONSIN AGRICULTURE, 2007

Status of the Wisconsin Farm Economy

Situation and Outlook: Farm Products, Farm Inputs and the General Economy

Special Articles

- *Biofuels: Opportunities and Challenges*
- *Current Prospects for the 2007 Farm Bill*

Department of Agricultural and Applied Economics
College of Agricultural and Life Sciences
University of Wisconsin-Madison

Cooperative Extension
University of Wisconsin-Extension

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An Annual Report by:

Department of Agricultural and Applied Economics
College of Agricultural and Life Sciences
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and

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PREFACE

Status of Wisconsin Agriculture is an annual agricultural situation and outlook report authored (except where noted) by faculty in the Department of Agricultural and Applied Economics. The report contains three parts. Part I provides a brief overview of the financial environment in the Wisconsin farming sector. In Part II, market analysts review current conditions in major Wisconsin commodity sub-sectors and offer their forecasts for 2007. Part III contains special articles dealing with longer-term issues facing Wisconsin agriculture.

Status of Wisconsin Agriculture may be downloaded free from the Internet in Adobe Acrobat® format at http://www.aae.wisc.edu/www/pub/. If you do not have internet access, contact Ms. Linda Davis, Department of Agricultural and Applied Economics, UW-Madison, 427 Lorch Street, Madison, WI 53706, to obtain a printed copy of the report.

The faculty of the Department of Agricultural and Applied Economics welcomes your comments and questions on material in this report. We also encourage your suggestions regarding rural Wisconsin issues that we might address in subsequent editions.

Acknowledgements

Major funding for *Status of Wisconsin Agriculture* was provided by the University of Wisconsin Center for Dairy Profitability and by generous contributors to the University of Wisconsin Foundation. We also wish to thank Bob Mitchell, Department of Life Sciences Communication, for his production assistance.

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Summary

As a whole, Wisconsin farmers suffered a blow to their bottom line in 2006. Net farm income for the year is estimated at $1 billion, well under the $1.6–$1.8 billion enjoyed over the previous three years. The hardest hit came from very low milk prices, cutting $400 million from farm revenue compared to 2005. Elevated expenses, due in large part to high oil prices, added $250 million to the cost side of the net income ledger.

Crop producers did a bit better than livestock producers, mainly because of stronger corn prices during the latter part of the year. Fruit and vegetable growers also fared better than last year. But soybean growers experienced lower returns in 2006 because most sales occurred before a year-end price rally.

Despite smaller net income, Wisconsin farmers' aggregate balance sheet improved in 2006 on the strength of escalating values for farm real estate. While higher land values represent paper profits that can't be spent unless the land is sold, they do add to farmers' collateral for borrowing purposes.

Review of 2006

Dairy farmers expected lower milk prices than they had received during the boom years of 2004 and 2005, but they did not expect 2006 to be as bad as it was. Wisconsin farm-level milk prices last year averaged more than $2 per hundredweight below 2005. Low prices were the result of rising milk cow numbers combined with above-trend increases in milk per cow. The resulting 2.7 percent increase in the U.S. milk supply outstripped the 2.0 percent gain in commercial use, leading to a buildup of cheese and butter stocks and weak commodity prices. Due to strong export markets, nonfat dry milk and whey products were the exception to the low price rule, with prices reaching levels not seen in many years. Absent the surprising strength in dry milk and whey prices, farm milk prices would have been even lower.

Record meat production in 2006 caused prices for most livestock to sag slightly from 2005. Turkey and eggs were the only exceptions. Prices were propped a bit by stronger exports. Beef exports recovered some from the huge hit taken in 2004 from BSE-related trade restrictions, and pork exports set a new record, accounting for more than 9 percent of U.S. pork production.

Corn and soybean markets both rallied by more than $1.00 per bushel late in the year. In the case of corn, price strength came from two sources: a smaller crop than expected earlier in the year and strong demand from ethanol plants. USDA estimates that ethanol production will absorb 20 percent of the 2006 corn crop, and that ending stocks will be the smallest in a decade. Soybeans are not in short supply. The 2006 crop came in at a record 3.2 billion bushels. Despite rising biodiesel production, demand will not absorb the entire new crop, causing a buildup in stocks. Consequently, recent price strength is more related to trading in sympathy with corn than to a tight supply situation. For the 2006/07 season, USDA projects

U.S. farm-level corn prices to average $3.10 per bushel, up more than $1.00 from last year, and soybean prices to average $6.10 per bushel, up 45 cents.

Wisconsin's fruit and vegetable crops showed mixed results in 2006. Production of cranberries, the dominant fruit crop, was about 3.5 million barrels (100 pounds per barrel), off from initial estimates because of a late-season hailstorm in Monroe County. Season average prices are expected to exceed last year's $34 per barrel. Potatoes, the major vegetable crop, showed a drop in acreage in 2006 but a 6 percent higher yield per acre than 2005. A larger U.S. crop will pull prices down slightly from 2005's $7.85 per hundredweight.

Wisconsin farm production costs were higher in 2006, but the year-over-year increase was smaller than in 2005. Purchased inputs cost about 6 percent more, much of that increase coming from higher fertilizer and fuel prices. Hired labor in 2006 cost Wisconsin farmers about 3.5 percent more than 2005, and interest expenses were up almost 9 percent. Cash rents went up about $1 per acre, continuing their relatively slow climb compared to adjacent states

As measured by Gross Domestic Product (GDP), the U.S. economy grew by about 3 percent in 2006, which matches the longer-term growth trend. Inflation jumped to a 5 percent annual rate in the second quarter following a spike in oil prices, but settled back to under 3 percent by year end. Interest rates remained low. All of these factors supported continued good consumer demand for agricultural products. And a weakening U.S. dollar favored expanded exports.

Preview of 2007

Milk prices will rebound in 2007. The expected increase in the Wisconsin all-milk price over 2006 is between $0.90 and $1.65 per hundredweight. Where in this range the average price ends up depends on several factors. Cow numbers are expected to decline in response to lower 2006 prices and higher feed costs in 2007, but the lag time for such a response has increased in recent years. Milk yield per cow is expected to increase on trend, but the increase could be muted by breeding problems from last summer's heat wave or by reduced use of rBST. Consumption of dairy products is expected to show a trend increase in 2007, but could be lower if another spike in oil prices tightens consumers' budgets and reduces food expenditures.

While milk prices will improve in 2007, higher costs will limit gains in dairy profits. Corn prices are expected to be much higher than 2006, and a short hay crop last year along with heavier feeding of hay in drought areas will make hay more expensive.

Total U.S. meat output will be up about 1 percent in 2007, a much smaller increase than shown over the last two years. This should bring some price improvement to fed cattle, slaughter cows, and broilers. Hog and turkey prices should stay close to 2006 levels. But feeder cattle and pigs will likely be priced lower because of expected higher feed prices and their effect on the profitability of finishing cattle and hogs. Higher retail prices could reduce

meat consumption under last year's 221 pounds per capita. But larger exports should offset the loss in domestic consumption.

A tight corn balance sheet and speculative interest in corn markets due to the ethanol boom will yield continued strong corn prices in 2007. Corn acreage could be up sharply in response, pulling acreage out of other crops and elevating their prices. Some analysts are forecasting $3.50 corn well into the future because of stronger demand for corn from ethanol plants. However, it is more likely that prices will moderate as end-users alter consumption patterns and find alternatives to corn as an ethanol feedstock.

Even though 2007 soybean acreage will be drawn down by as much as 5 million acres from last year, soybean prices will be under considerable downward pressure. U.S. stocks are large, and Argentina and Brazil (which together account for larger soybean production than the United States) are expected to increase 2007 production by 2.6 percent over last year.

While fuel and fertilizer prices in 2007 should remain close to last year's level, seed corn prices will be much higher as farmers shift acreage to corn. The cost of farm credit is not expected to increase unless inflation picks up and the Federal Reserve Board tries to counter inflation with higher interest rates.

The U.S. economy will grow at a slower rate in 2007, due mainly to a major slowdown in the housing market dating to mid-2006. The slowdown is not expected to negatively affect food expenditures much, but there are a couple of red flags to watch for. Many recent home purchases were made with little or no down payment. Consequently, a large number of foreclosures at less than mortgage value could put considerable stress on lenders and reduce the supply of credit. Another possible macroeconomic red flag is oil prices. While most analysts are forecasting stable oil prices in 2007 at near $60 per barrel, political and economic instability in major oil producing regions make such forecasts quite uncertain.

A weak dollar is expected to improve agricultural exports in 2007. USDA projects exports for the 2006/07 fiscal year of $77 billion and a positive agricultural trade balance of $8 billion. Beyond 2007, U.S. exports of farm products will be strongly influenced by ethanol-related domestic demand for corn and its effect on export availability, and by resolution of multilateral trade negotiations.

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This year's *Status of Wisconsin Agriculture* contains two special articles. T. Randall Fortenbery takes a critical look at the biofuel boom, focusing on how the industry has succeeded in fulfilling objectives of renewable energy proponents. Ed Jesse reviews conditions that will influence new omnibus farm legislation to be debated in 2007 and speculates on the contents of the new farm bill.

I. Status of the Wisconsin Farm Economy

Ed Jesse (608 262-6348)

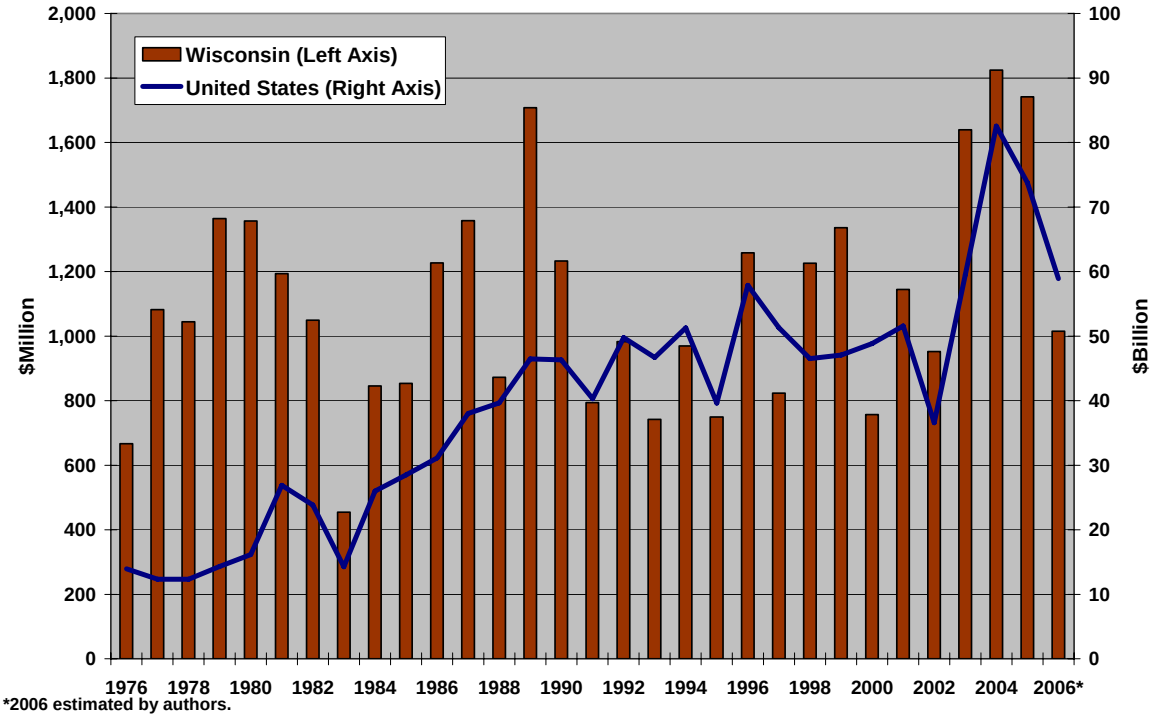
Wisconsin Farm Income

After three very good years, Wisconsin farm income took a hit in 2006. Our estimate for 2006 Wisconsin net farm income year is just over $1 billion, down more than 40 percent from 2005 net farm income, and the lowest since 2002.

The main reason for the sharp drop in net income last year was the same as for 2002 — very low milk prices. Dairy farmers' milk checks in 2006 totaled $400 million less than what they received in 2005. But part of the damage also came from the cost side of the ledger. Due mainly to higher prices for both energy and petroleum-based inputs, Wisconsin farmers spent $250 million more in 2006 for purchased inputs than they spent in 2005. And they spent $23 million more for hired labor compared to 2005.

There were a few bright spots. Most notably, corn producers enjoyed higher prices fueled by the ethanol boom. But those gains were limited, because the higher corn prices came after much of the Wisconsin corn crop had been sold at lower early-year prices. Fruit and vegetable growers did better than in 2005, mainly because of higher cranberry prices. Turkey and egg prices were higher. But cattle, hog, broiler and soybean producers saw prices slip from 2005.

Net Farm Income: U.S. and Wisconsin



*2006 estimated by authors.

Derivation of Wisconsin Net Farm Income ($1,000)				
		2004	*2005*	*2006 (est)*
	Value of crop production:			
	Food grains	43,609	36,098	40,000
	Feed crops	734,350	689,171	850,000
	Oil crops	219,988	241,184	230,000
	Fruits and tree nuts	137,202	153,369	180,000
	Vegetables	350,853	351,555	370,000
	All other crops	265,569	273,483	275,000
	Home consumption	3,240	1,269	2,000
	Inventory adjustment	89,719	133,120	0
	Total Crops	1,844,530	1,879,249	1,947,000
plus:	**Value of livestock production**:			
	Meat animals	938,107	1,005,432	1,020,000
	Dairy products	3,687,242	3,527,784	3,110,000
	Poultry and eggs	279,018	282,311	270,000
	Miscellaneous livestock	189,197	198,347	200,000
	Home consumption	14,969	17,950	18,000
	Value of inventory adjustment	(1,762)	63,708	0
	Total Livestock	5,106,771	5,095,532	4,618,000
plus:	**Revenues from services and forestry:**			
	Machine hire and custom work	79,273	65,813	70,000
	Forest products sold	149,250	148,800	155,000
	Other farm income	209,562	222,087	240,000
	Gross imputed rental value of farm dwellings	758,196	846,483	880,000
	Total	1,196,281	1,283,183	1,345,000
equals	**Value of agricultural sector production**	8,147,582	8,257,964	7,910,000
less:	**Purchased inputs:**			
	Farm origin	1,468,587	1,573,417	1,650,000
	Manufactured inputs	888,989	1,042,842	1,115,000
	Other purchased inputs	1,516,838	1,704,478	1,810,000
	Total	3,874,414	4,320,737	4,575,000
plus:	**Government transactions:**			
+	Direct Government payments	298,252	583,805	550,000
-	Motor vehicle registration and licensing fees	9,717	9,468	10,000
-	Property taxes	300,000	320,000	325,000
	Total	(11,465)	254,337	215,000
equals	**Gross value added**	4,261,703	4,191,564	3,550,000
less:	**Depreciation**	1,080,744	1,138,538	1,155,000
equals	**Net value added**	3,180,959	3,053,026	2,395,000
less:	**Payments to stakeholders**			
	Employee compensation (total hired labor)	689,937	612,520	635,000
	Net rent received by non-operator landlords	226,067	188,455	190,000
	Real estate and non-real estate interest	441,082	510,472	555,000
	Total	1,357,086	1,311,447	1,380,000
Equals	**Net Farm Income**	1,823,873	1,741,579	1,015,000

Source: 2004 and 2005 – Economic Research Service, USDA; 2006 – Authors' estimate based primarily on year-to-year changes in U.S. commodity prices.

Revenue from milk sales typically account for over half of total Wisconsin farm cash receipts. That's why the percentage reduction in Wisconsin's net farm income from 2005 (42 percent) was so much larger than the percentage reduction in U.S. net farm income (20 percent).

Government Payments

Direct government payments to U.S. farmers dropped substantially from 2005, mainly because higher corn and wheat prices trimmed loan deficiency payments by two-thirds. Ad hoc disaster payments (high in 2005 because of Hurricane Katrina losses) were also much smaller in 2006. But low milk prices elevated Milk Income Loss Contract (MILC) payments to the highest total since 2003. Consequently, government payments to Wisconsin farmers were about the same as in 2005 — smaller payments to crop farmers were offset by higher payments to dairy farmers.

Direct Payments under Agricultural Programs, Total U.S.

	2003	*2004*	*2005*	*2006F**	*% of '06 Total*
	$ million				
Fixed direct	6,703.6	5,242.4	5,198.6	5,250.0	28.9%
Counter-cyclical	2,300.7	1,122.0	4,074.0	4,185.0	23.0%
Conservation programs	2,167.0	2,319.5	2,767.5	2,900.0	15.9%
Loan deficiency payments	576.3	2,859.9	5,041.0	1,782.0	9.8%
Ad hoc & emergency programs	3,142.4	583.1	3,168.7	1,338.2	7.4%
Tobacco Transition Program	0.0	0.0	2,079.4	1,026.7	5.6%
Certificate exchange gains	556.4	475.7	1,614.0	809.0	4.4%
Milk income loss program	913.0	206.0	9.7	600.0	3.3%
Marketing loan gains	198.1	130.4	365.6	278.0	1.5%
Peanut quota buyout	237.6	24.7	22.3	20.0	0.1%
Miscellaneous programs	7.6	5.4	9.6	8.0	0.0%
TOTAL	**16,802.7**	**12,969.1**	**24,350.4**	**18,196.9**	**100.0%**

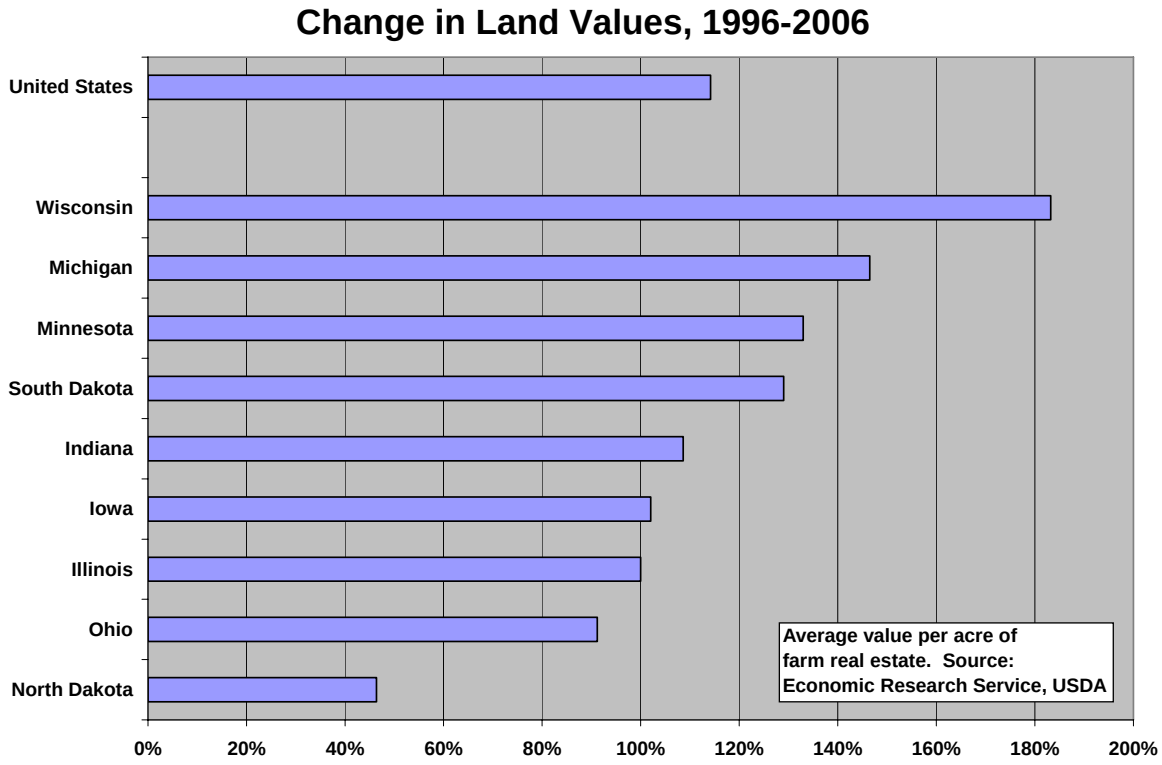
*F = August 31, 2006, forecast.

Wisconsin Farm Balance Sheet

Despite the sharp reduction in net income, Wisconsin farmers improved their net worth position in 2006. As in the past several years, most of this improvement was due to escalating land values. Between 1996 and 2006, the average value of farm real estate in Wisconsin increased more than 180 percent. This is above the U.S. average increase of 114 percent and increases for other states in the North Central region ranging from 46 percent to 146 percent.

Rising Wisconsin farm real estate values have been strongly influenced by nonfarm demand for recreational property and hobby farms. With no major recession anticipated in the near term, nonfarm demand will likely remain strong. Higher commodity prices attributable to the promotion of renewable energy production could put additional upward pressure on land prices over the next few years. While this increases the wealth position of existing farmers, it makes it harder for beginning farmers to acquire land.

Estimated Wisconsin Farm Balance Sheet August 31, 2006	
	$Million
Assets:	
Real Estate	48,021
Machinery and Equipment	4,339
Livestock and Poultry	3,485
Crop Inventory	894
Purchased Input Inventory	381
Financial Assets	1,879
TOTAL ASSETS	58,999
Debt:	
Real Estate	
Farm Credit System	1,192
Farm Service Agency	60
Life Insurance Companies	70
Commercial Banks	1,839
Individuals and Others	682
Subtotal	3,843
Non-Real Estate:	
Farm Credit System	1,192
Farm Service Agency	121
Commercial Banks	1,525
Individuals and Others	721
Subtotal	3,559
TOTAL DEBT	7,402
NET WORTH	51,597



Wisconsin Farm Household Income

Wisconsin farm households are a diverse lot with respect to their dependence on farming as a source of income. In 2005, USDA's Economic Research Service designated 45 percent of Wisconsin's farm households "residential/lifestyle" farms, meaning that their operators claimed an occupation other than farming. On average, these farms showed farming losses exceeding $5,000. Despite these losses, these households earned enough off-farm income to put total household income above the U.S. average.

Households operating limited resources and retirement farms were not so fortunate. Both categories showed farm losses and inadequate off-farm earnings to bring their household income up to the national average.

Farm households with operators claiming farming as their principal occupation represented 35 percent of all Wisconsin farm households in 2005. Total household income varied directly with farm size for these farm households, as did farm income as a percent of total household income.

Across all farm types, farm income averaged 23 percent of total household income. The average Wisconsin farm household had household income just above the U.S. average.

Composition of Household Income for Farm Operator Households by Type of Farm Wisconsin, 2005					
Type of Farm	*Farm households (Number)*	*Operator Household Income*			*Percent of U.S. Avg. Household Income*
		From farming activities (Dollars)	*From off-farm source (Dollars)*	*Total (Dollars)*	
Limited-resources	5,539	-5,942.80	13,614	7,671	12.1
Retirement	9,406	-3,289.10	53,246	49,957	78.9
Residential/lifestyle	34,200	-5,174.50	73,535	68,361	107.9
Farming Occupation/ Gross Farm Sales:					
Less than $100,000	9,621	3,178	50,571	53,749	84.9
$100,000-$250,000	10,363	51,095	24,285	75,380	119.0
$250,000-$500,000	4,274	96,062	18,814	114,876	181.4
More than $500,000	2,348	186,703	25,309	212,012	334.7
All farms	75,750	15,421	52,398	67,819	107.1

Source: Economic Research Service, USDA

II. Current Outlook: Wisconsin Agricultural Commodities, Production Inputs and the General Economy

In this section, commodity specialists offer their insights on economic conditions for Wisconsin agriculture by commodity sub-sector. Forecasts for the general economy are also offered. Interested readers are encouraged to contact these specialists for more current or more detailed information.

Dairy

Bob Cropp (608) 262-9483

The market environment entering 2007

Early in the year, 2006 farm milk prices were predicted to average lower than 2005. They did, but much lower than initial forecasts — almost $2.30 per hundredweight under 2005. The Class III price in 2006 will average about $11.90 compared to $14.05 in 2005; the average Wisconsin all-milk price about $13.35 compared to $15.62; and the Wisconsin mailbox price about $13.05 compared to $15.36.[1]

Average Annual Wisconsin Farm Milk Prices, 2004-2006

Milk Price	*2004*	*2005*	*2006*
Class III	$15.39	$14.05	$11.90
All-Milk	$16.86	$15.62	$13.35
Mailbox	$16.56	$15.36	$13.05

Source, USDA, NASS; 2006 values are author's estimates.

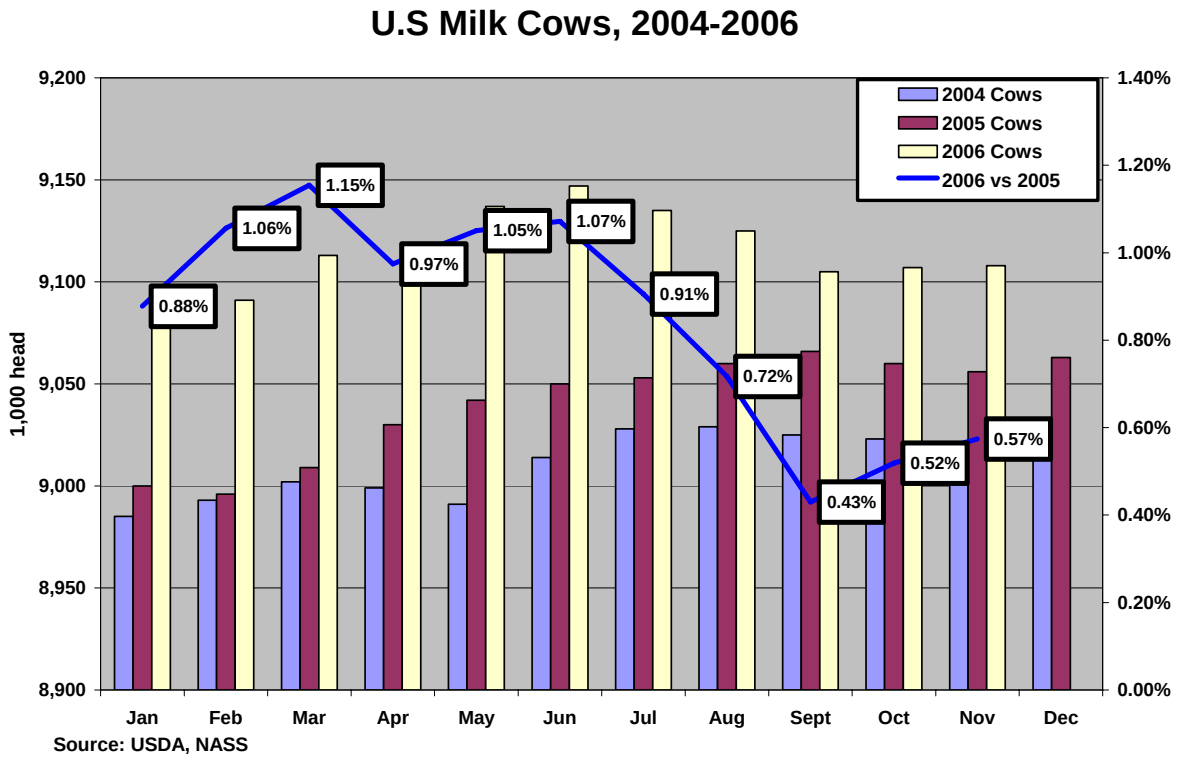
[1] The Class III price is the announced minimum federal milk marketing order price for milk at 3.5 percent milkfat used to make cheese. The average all milk price is the *gross milk price* for milk at actual butterfat test before deductions for hauling, promotion, and cooperative dues. The mailbox price is the *net milk price* at actual butterfat test after deductions.

Milk prices decreased largely because the number of milk cows increased. History shows that whenever the number of milk cows rises, there is downward pressure on milk prices. The U.S. trend for the past 10 years has been a decline of 0.4 percent in the average number of milk cows for the year. Record-high milk prices in 2004 followed by the third-highest-ever milk prices in 2005 stimulated dairy herd expansions. U.S. milk cow numbers started to increase the last half of 2004 and continued through 2005, with the average number of cows for the year up 0.3 percent from 2004. The number of cows was above 2005 during all of 2006, peaking in June. While cow numbers increased 3,000 head in November and may show an additional increase in December, it now appears the lower milk prices experienced in 2006 will still result in fewer cow numbers the last quarter of 2006 and for 2007. It is estimated that the number of milk cows for 2006 will average 9.113 million head, 0.8 percent more than 2005.

Two major factors affect cow numbers: the supply of dairy replacements and dairy cow slaughter numbers. There have been more than enough replacements heifers, not only to maintain the size of the nation's dairy herd, but also to expand it. On July 1, 2006 there were 3.8 million

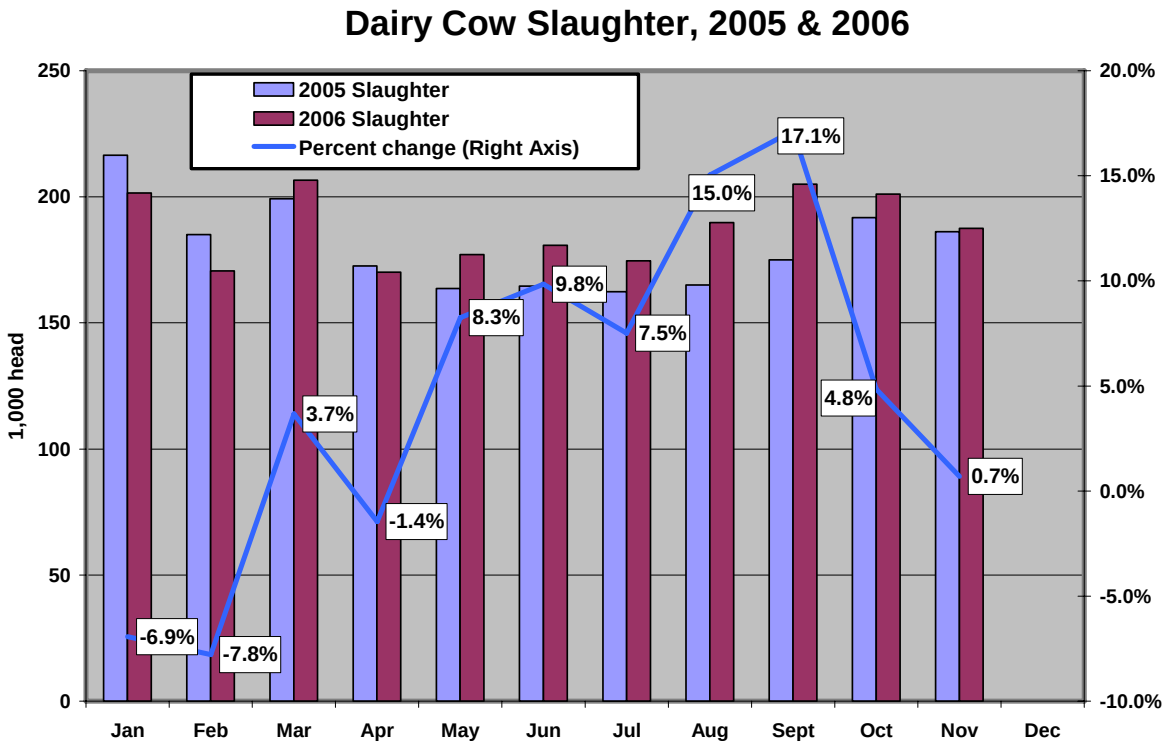
head, 2.7 percent more than last July and 5.6 percent more than there were in July 2004. Put differently, in July 2006 there were 41.5 replacements for every 100 milk cows compared to 40.9 in 2005 and 40.0 in 2004.

Except for March, dairy cow slaughter was below year-ago levels during the first four months of 2006. Slaughter numbers were about 8 percent higher than 2005 from May through July, 15 percent higher in August and 17 percent higher in September. The higher August and September numbers may be due to hot weather that caused stress on cows. But since then, the slaughter rate declined to 5 percent higher in October 2006 than 2005 and only 0.7 percent higher in November.



Number of Milk Cows and Dairy Replacements, U.S. July 1 Inventories, 1,000 head				
	2004	***2005***	***2006***	***% Change 2006 vs. 2005***
Milk Cows	9,000	9,050	9,150	+1.1
Replacements	3,600	3,700	3,800	+2.7
Ratio/100 cows	40.0	40.9	41.5	+1.5

Source: USDA, NASS

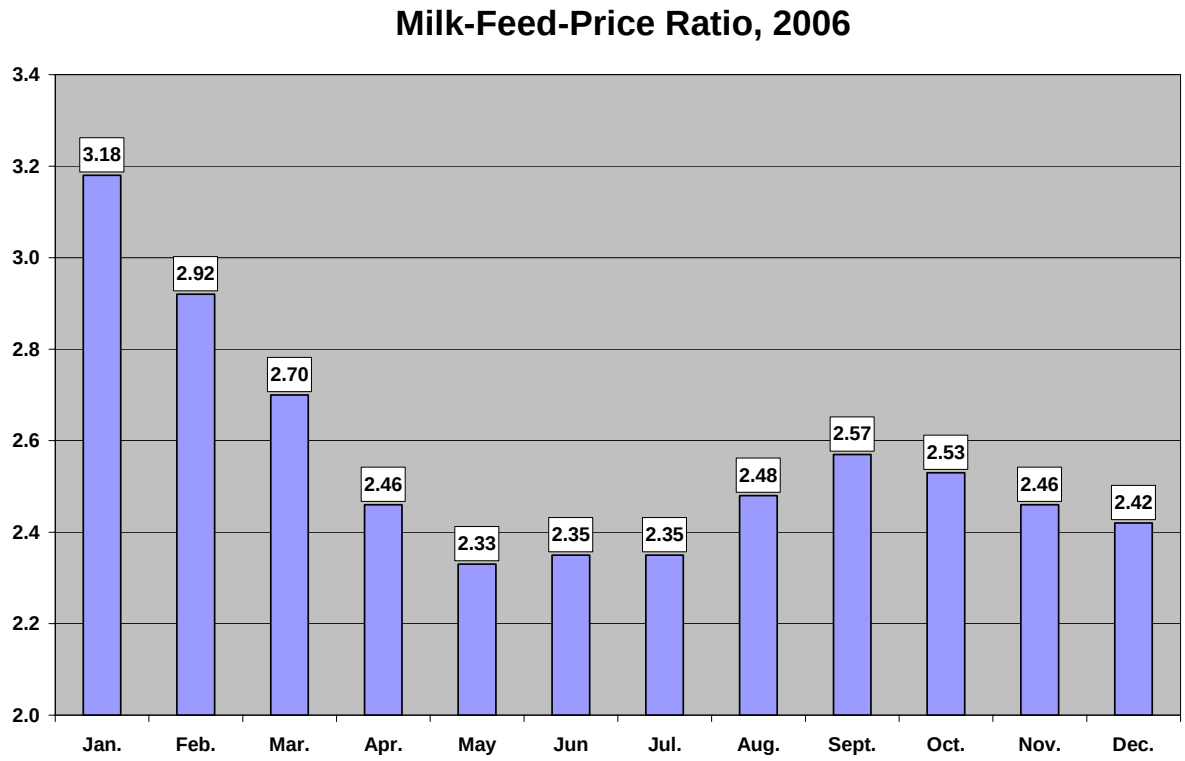


The third round of the CWT program contributed to the number of dairy cows slaughtered during December 2005 and January 2006[2]. The program enrolled 422 herds that slaughtered 64,050 milk cows with an associated annual milk production of 1.2 billion pounds.

Total milk production depends on the number of milk cows and the pounds of milk produced per cow. For the past ten years milk per cow has increased an average of 1.9 percent annually. After only a 1.1 percent increase in 2004, milk yield per cow jumped 3.4 percent in 2005. Milk yield was strong for the first quarter of 2006, about 4 percent higher than 2005, but hot weather slowed the increase to as low as 0.3 percent in July. Since September, increases in milk per cow have been above 1 percent.

The average milk per cow for 2006 will be about 19,940 pounds, up about 1.85 percent from 2005. Total milk production for 2006 is estimated at 181.7 billion pounds, 2.7 percent higher than the 177 billion pounds produced in 2005. The 2006 increase is above the 10-year trend increase of 1.5 percent. Milk yield increases above the annual trend put downward pressure on milk prices. This occurred during most of 2006.

[2] CWT is *Cooperatives Working Together*, a program managed by National Milk Producers Federation. As of July 1, 2006 dairy cooperatives and independent producers who voluntary contribute 10 cents per hundredweight of milk marketed fund the program. The program supports a milking herd retirement program and a subsidized dairy product export program.



A lower milk-feed-price ratio[3] coupled with higher energy prices has reduced net dairy farm operating margins. This helps explain a smaller increase in milk per cow and the start of a decline in milk cow numbers. A milk-feed-price ratio of 3.0 or higher is viewed as favorable to feeding cows for increased milk production. The ratio averaged 3.10 in 2004 and 3.24 in 2005, but, except for January, it was below 3.0 in 2006

Commercial disappearance of fluid milk and manufactured dairy products in 2006 is estimated at 183.3 billion pounds of milk equivalent, up 2 percent from 2005 and above the 10-year average annual increase of 1.7 percent. The increase was due to improved fluid milk sales of about 1 percent and favorable cheese sales. Lower retail prices were conducive to higher sales. Prices for all dairy products averaged about 1 percent lower, while retail prices for all food were up 2.5 percent. But since the gain in commercial disappearance was smaller than the increase in total milk production, there was downward pressure on 2006 milk prices.

[3] Number of pounds of 16 percent protein mixed dairy feed equal in value to 1 pound of whole milk. Derived by dividing the "all milk price" by the price of the 16 percent mixed ration consisting of 41 pounds of alfalfa hay, 51 pounds of corn and 8 pounds of soybeans.

The table below summarizes the milk production and commercial disappearance estimates for 2006 as compared to actual 2005 values. Note that the average all-milk price and the average mailbox price for 2006 were about $2.30 per hundredweight lower than 2005, while the average Class III price was down only $2.14 per hundredweight. Increased energy costs in 2006 raised milk plant operating costs and transportation costs, which adversely impacted cheese plant margins. As a result, dairy cooperatives and other processors were not able to pay dairy farmers premiums (above the minimum Class III federal order price) as large as those paid in recent years.

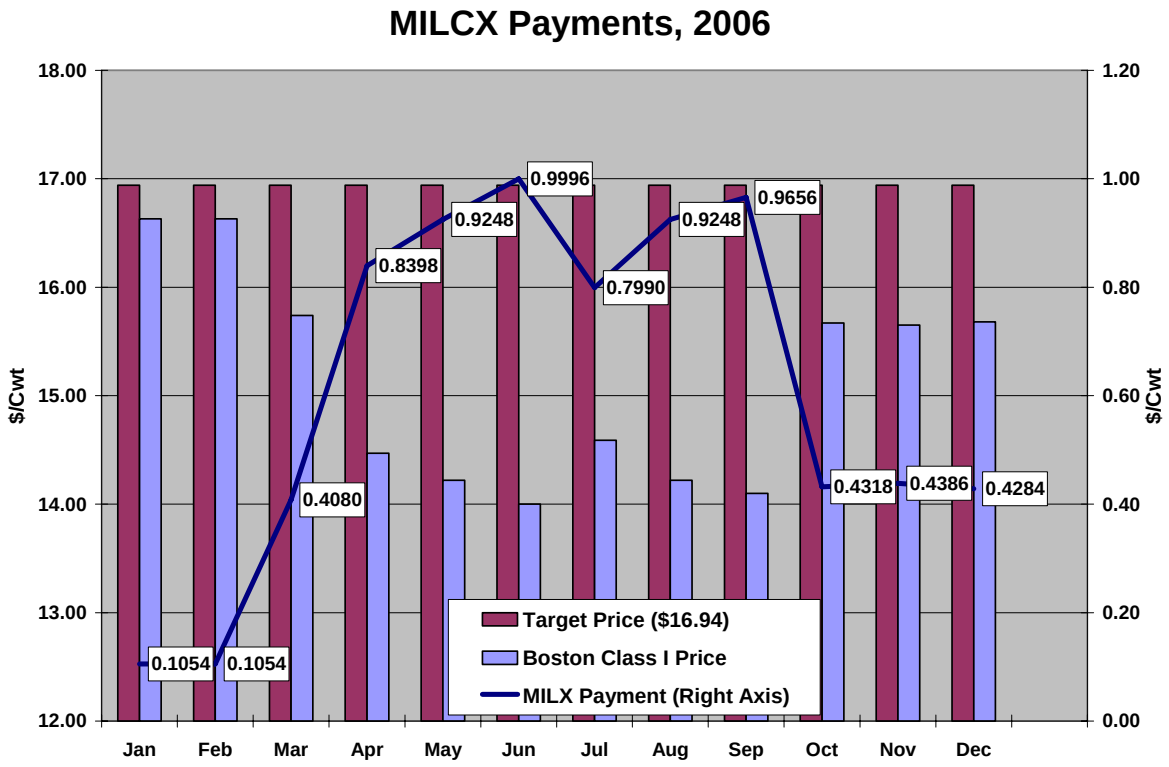
Estimated 2006 U.S. Milk Production and Commercial Disappearance and Associated Wisconsin Milk Prices Compared to 2005.

	2005	***2006***	***Change***
Number of milk cows-million head	9.041	9.113	+0.80%
Milk Per Cow-annual pounds	19,576	19,938	+1.85%
Total Milk Production-billion pounds	176.989	181.703	+2.66%
Commercial disappearance-billion pounds	179.7	183.3	+2.00%
Average Class III price	$14.04	$11.90	-$2.14
Average All Milk Price	$15.62	$13.35	-$2.27
Average Mailbox Price	$15.36	$13.05	-$2.31

Source: USDA, NASS for 2005 data; 2006 are author's estimates.

Farmers received MILCX payments on eligible milk for all 12 months in 2006. Dairy farmers receive MILCX payments whenever the Class I price in Boston is below $16.94. The payments per hundredweight are 34 percent of any positive difference. Monthly MILCX payments during 2006 averaged $0.6143 per hundredweight. However, dairy farmers can only receive payments on 2.4 million pounds of milk produced during the fiscal year, October 1 through September 30. This represents the production of about 130 cows at Wisconsin average milk yield per cow.

Other than for nonfat dry milk, there have been ample stocks of dairy products, putting downward pressure on milk prices. November 30 stocks of butter were 46.6 percent higher than a year before and 2.1 percent higher than the 5-year average for this date. Total cheese stocks were up 6.7 percent from a year ago and 11.4 percent above the 5-year average. October 31 nonfat dry milk stocks were 77.7 percent lower than a year ago and 95.5 percent lower than the 5-year average. December is normally a very good month for both butter and cheese sales, thanks to gifts of cheese, holiday parties, and more butter used for baking. November stocks are normally drawn down as cheese and butter move into retail channels for December sales. From October to November, butter stocks dropped 34.5 percent, the largest single monthly draw-down on record. However, the October-to-November cheese draw-down was only 2.6 percent, the smallest in seven years.



Butter, Cheese and Nonfat Dry Milk Stocks, November 30, 2006			
Product	***Stocks (Mil. Lbs)***	***Percent of Year-Earlier***	***Percent of 5-Year Average***
Butter	88.6	146.6	102.1
Total Cheese	768.7	106.7	111.4
Nonfat Dry Milk*	36.2	20.4	18.5

*Nonfat dry milk stocks are for October 31.
Source: USDA, NASS

U.S. dairy trade has been a bright spot for milk prices, due mainly to greater exports of skim milk powder and dry whey products.[4] As recently as 2002 and 2003, government stocks of surplus nonfat dry milk exceeded one billion pounds. But strong skim milk powder exports during 2004 and 2005 reduced government stocks to practically zero. Lowering of the CCC purchase price for nonfat dry milk from $1.00 per pound to $0.90 per pound (May 2001) and later to $0.80 per pound (November 2002) has made the United States more price-competitive on the world market.

Strong world market prices for skim milk powder also promoted U.S. exports. The Uruguay Round trade agreement and internal budget pressures led to reforms in

[4] Nonfat dry milk has a protein content of 35 to 38 percent. Skim milk powder, which is the standard in international markets, has a protein content of 34 percent. Normally lactose is added to nonfat dry milk to achieve the standardized 34 percent skim milk powder protein concentration.

EU dairy policy that greatly reduced the EU's presence in international skim milk powder markets. U.S. dairy exports have also been helped by a weak U.S. dollar relative to the euro.

The United States exports primarily skim milk powder and whey, both relatively low-valued dairy products. U.S. dairy imports are dominated by cheese and other high-valued dairy products. This creates a negative dairy trade balance measured in dollars and a positive balance when measured by milk-equivalent volume. In 2005, the trade balance in dollars was -$1.1 billion, while the trade balance measured in total milk solids was +850 million pounds.

A positive trade balance in milk solids tightens the milk supply and demand balance for the United States and raises milk prices. Skim milk powder exports may end up lower in 2006, but will still be high enough to create a positive dairy trade balance on a total milk solids basis. Dry whey exports continued strong and U.S. cheese exports exceeded year-earlier levels.

The elimination of surplus nonfat dry milk stocks and lower CCC purchase price kept nonfat dry milk prices (Central States) well above the $0.80 CCC purchase price all of 2005 and 2006. Nonfat dry milk prices were about $1.00 per pound at the start of 2006 and fell to a low of about $0.83 in May. But by late summer, nonfat dry milk supplies were short, and prices were increasing. The average August price was about $0.95 per pound with reports of sales as high as $1.13 per pound. By mid-September, most sales were at least $1.00 per pound with reports as high as $1.20 per pound. By the end of November, most sales were close to $1.50 per pound with reports as high as $2.00 per pound.

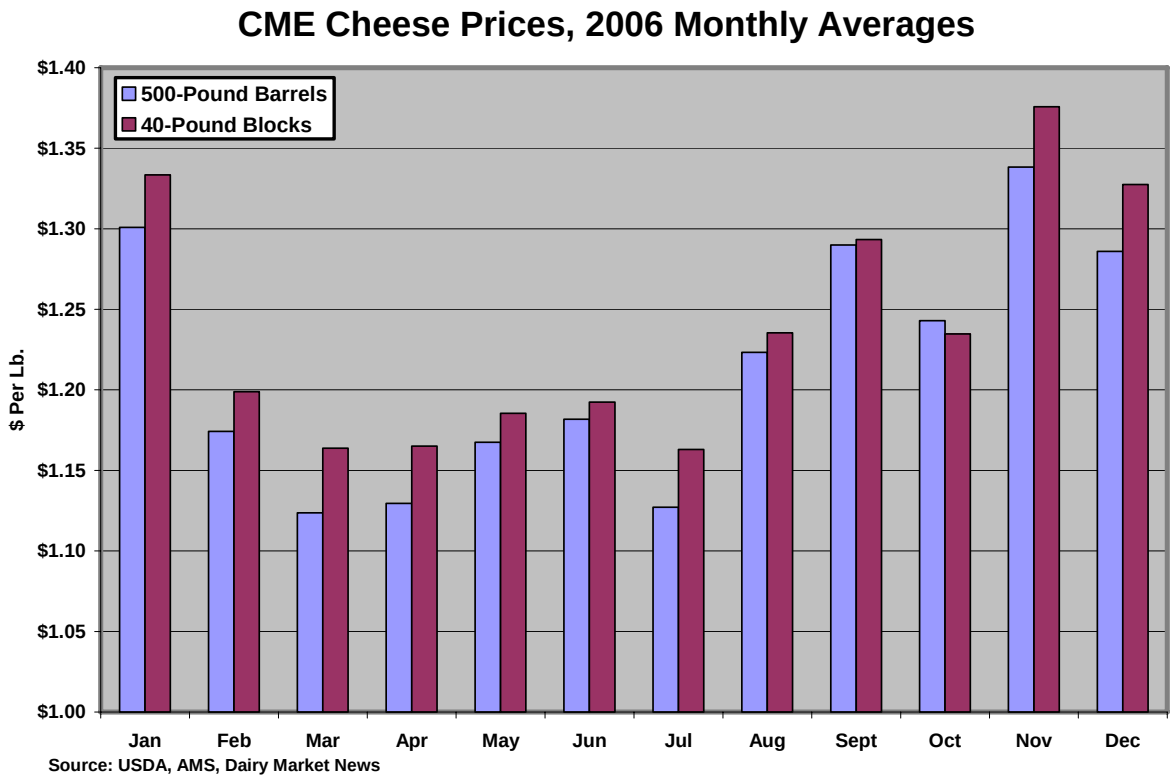
Strong nonfat dry milk prices brought higher dry whey prices as food manufacturers substituted dry whey for nonfat dry milk in some uses. Central States dry whey prices were mostly $0.27 per pound in May, were as high as $0.31 by August, and had increased to over $0.41 by late November. The dry whey price is included in the Class III price calculation. Since a 1-cent-per-pound increase in the dry whey price adds almost $0.06 per hundredweight to the Class III price, the higher dry whey prices since May added about $0.80 to the November Class III price.

Tight nonfat dry milk supplies and relatively high prices has a positive impact on cheese prices in two ways. First, either cheese plants could not obtain sufficient nonfat dry milk for standardizing the fat content of raw milk for cheese making, or they were unwilling to pay the price, thereby lowering cheese yield. Second, by November the relatively high nonfat dry milk prices started to pull some milk away from cheese making and into nonfat dry milk plants. CME cheese prices responded with strong increases. At the start of the year, CME cheddar barrels averaged $1.3009 per pound and 40-pound cheddar blocks $1.3368 per pound. By March, barrels had fallen to a yearly low of $1.1237 per pound and blocks to $1.1638. Average monthly cheese prices were fairly flat from April through July but increased in August and September. Prices fell back in October but increased again in November. Barrel prices averaged $1.3829 per pound in November, reaching an inter-month high of $1.44 per pound on November 17. Blocks averaged $1.3758

per pound in November, peaking at $1.4275 on November 17.

November CME cheese prices appeared to be higher than what would be expected based on milk production, cheese stocks and cheese sales data. Cheese prices did start to decline the last week of November and early December. For the month of December, barrels averaged $1.2855 and blocks averaged $1.3226. But these prices were still well above the lows experienced earlier in the year. Some view these relatively high November cheese prices as an overreaction of the market to higher corn prices, which could cause reductions in cow numbers and milk yield in 2007.

The year ended with higher milk prices as result of these higher cheese, nonfat dry milk, and dry whey prices. The November Class III price was $12.84 and the December Class III price is expected to be near $13.50.



Wisconsin in 2006

Wisconsin milk production has increased for two consecutive years. Total milk production increased 3.5 percent in 2005 and 2006 production is estimated to be 23.3 billion pounds, up another 2.0 percent. This is still below the state's peak milk production of 25.0 billion pounds in 1988.

Wisconsin milk cow numbers averaged 1.845 million head in 1983 and have declined each year since, except for a 1,000 head increase in 1990. But in 2006, the average herd size of 1.243 million head exceeded the 2005 average by 7,000 cows. Milk cow numbers went above year-earlier levels in November 2005 and have been higher every month since. It appears

that after reaching a low of 22.074 billion pounds in 2002, Wisconsin's milk production is on a slow path of recovery. While dairy farm numbers continue to decline, the related loss in milk is being offset by the combination of dairy modernizations and expansions along with new, larger dairy operations. Further, more dairy operations are maintaining or enhancing profitability by practicing grazing, producing organic milk, or processing and marketing dairy products on-farm.

Wisconsin Milk Cow Numbers, Milk Per Cow and Total Milk Production, 2004-2006

	2004	*2005*	*2006 Estimate*	*Change from 2005*
Milk cows: Million Head	1.241	1.236	1.243	+0.59%
Milk Per Cow: Pounds	17,796	18,500	18,766	+1.44%
Total Milk: Billion Pounds	22.085	22.866	23.332	+2.04%

Source: USDA, NASS; 2006 values are author's estimates.

Forecast for 2007

While the odds were high for lower milk prices in 2006, the opposite is true for 2007. Key indicators point to improved milk prices in 2007. The unknown is how much improvement.

Milk prices are sensitive to very small changes in production and commercial disappearance. The optimism for improved milk prices hinges on an expected slowdown in the growth in total milk production and continued growth in commercial disappearance.

Milk cow numbers are expected to keep declining in 2007, and increases in milk yields are expected to continue to be below trend. The lower milk prices and higher production costs due to higher feed and energy costs may have discouraged the construction of new, larger dairy operations and expansions of existing ones in the last half of 2006. Relatively high corn and soybean prices will increase feed costs this winter and they may also encourage some Midwest producers to exit dairying and switch to crop production. Optimism that crop prices will continue at current high levels or go even higher is driven by the expected expansion in ethanol and biodiesel production.

Prices for high-quality hay will also be higher this winter. USDA estimates the 2006 hay crop was 1.6 percent smaller than last year. Major hay-exporting states like South Dakota, North Dakota and Kansas experienced 21–37 percent reductions in this year's hay crop. Also, due to drought conditions in several states, more hay was fed last summer than normal. USDA reported that November 2006 hay prices were 11 percent higher than a year ago. Although milk prices are forecasted to be higher in 2007, these higher corn, soybean and hay prices may keep milk-feed-price ratio below 3.0 for most months of the year, discouraging higher feeding levels.

Another factor that may limit increases in milk yield during 2007 is a consequence of last summer's extreme heat in much of the country. Breeding during this period of heat stress was likely delayed. If so, more cows will be in late-stage lactation and more will freshen during the warmer months of July and August. Both factors adversely affect milk yield per cow.

One additional factor that could possibly dampen the increase in milk per cow is reduced use of rBST by dairy farmers. There appears to once again be a growing demand by consumers for rBST-free dairy products, and some dairy companies are responding.

I expect the number of cows in the United States to average 0.3 percent to 0.5 percent under 2006. This would put the average between 9.067 million head to 9.085 million head. Cow slaughter is expected to be about normal. Whether the expanded CWT program implements another buyout and slaughter of dairy herds during 2007 is an unknown. I project an increase in milk per cow of between 1.5 percent and 1.75 percent, yielding a range of 20,237 to 20,287 pounds. Under these assumptions, total milk production would increase 1.0–1.5 percent, to 183.5–184.4 billion pounds.

Forecast Milk Cow Numbers, Milk Per Cow, Total Milk Production and Commercial Disappearance for 2007, U.S.

	Forecast Range	
	Number	***% Change from 2006***
Milk Cow Numbers	9.067–9.085 Million Head	(0.3) to (0.5)
Milk Per Cow	20,237–20,287 Pounds	1.5 to 1.75
Total Milk Production	183.5–184.4 Billion Pounds	1.0 to 1.5
Commercial Disappearance	185.1–186.0 Billion Pounds	1.0 to 1.5

Economic growth is anticipated to slow in 2007, but not enough to curb continued growth in the consumption of fluid milk and dairy products, especially cheese. With higher farm milk prices, retail prices of milk and dairy products may average 1–2 percent higher. But unless some other factor, such as loss of consumer confidence or higher unemployment, reduces restaurant traffic (very important to cheese consumption), I predict a 1.0–1.5 percent growth in commercial disappearance in 2007. This would put commercial disappearance between 185.1 billion pounds and 186.0 billion pounds.

The growth in commercial disappearance would closely match the growth in total milk production, resulting in improved farm milk prices in 2007. No major changes in dairy exports and imports are expected for 2007. Prices for nonfat dry milk, dry whey, cheese and butter should be consistent with higher milk prices.

The table below summarizes where I anticipate that milk prices will range during 2007. These average prices are $0.90–$1.65 higher than 2006.

MILCX payments will terminate on August 30, 2007, unless Congress extends the program. With 2007 prices at the low end of the forecast range, farmers would receive MILCX payments every month from January through August, averaging $0.36 per hundredweight on eligible milk. At the high end of the forecast price range, MILCX payments would be made all months from January through July, but average just $0.08 per hundredweight.

Forecast Class III, All-Milk and Mailbox Prices for 2007, Wisconsin

Month	***$/Cwt.***
Monthly Class III:	
Jan.	$12.20–13.00
Feb	$12.00–12.90
Mar	$11.90–12.70
Apr.	$12.20–13.00
May	$12.40–13.25
Jun.	$12.60–13.50
Jul.	$12.90–13.70
Aug.	$13.25–13.95
Sept.	$13.75–14.25
Oct.	$13.40–14.00
Nov.	$13.10–13.75
Dec.	$12.70–13.25
Average Class III	$12.70–13.45
Average All-Milk	$14.20–14.95
Average Mailbox	$13.90–14.65

Source: Author's estimates.

Livestock and Poultry

Patrick Luby

2006 in Review

- U.S. meat production increased almost 3 percent in 2006 to about 89.5 billion pounds, a new record high. Pork and broiler production also reached new highs. However, the percentage increase for broilers was the smallest of the four major meats, a very unusual event.

- Under the weight of record meat output, the average prices of steers, feeder cattle, boning cows, lambs, hogs and broilers were lower in 2006 than in 2005. The annual price for turkeys recorded a modest increase.

- Beef exports climbed for the second straight year but remained well below pre-2004 levels before BSE-related trade restrictions became effective. Beef imports fell about 12 percent in 2006.

- Pork exports set another record high in 2006, increasing about 12 percent. Pork imports showed little change in 2006. Net pork exports (exports minus imports) of over 1.9 billion pounds amounted to over 9 percent of U.S. pork production, a record high.

- Following a 39 percent advance in average feeder steer prices over three years from 2002 to 2005, the average annual price eased downward in 2006.

- Cow slaughter rebounded upward about 11 percent in 2006 after dipping to the lowest total in 42 years in 2005.

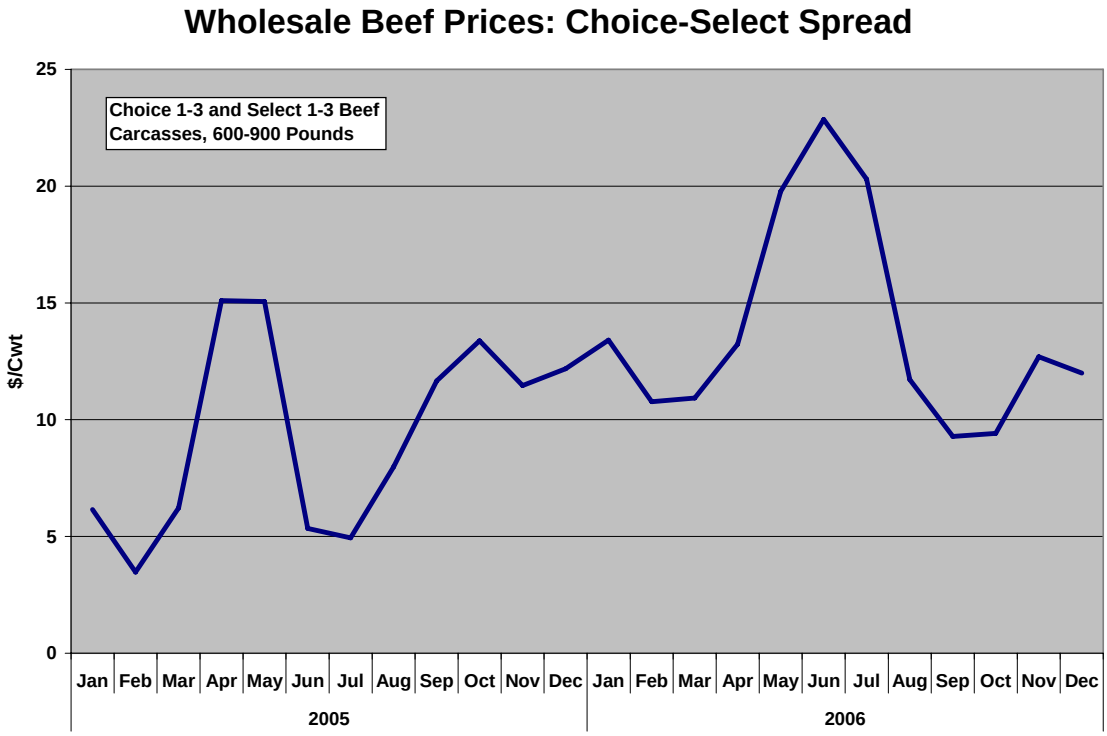
- Average retail beef, pork and poultry prices were little changed in 2006. This was the second consecutive year of sidewise price movement following two years of rising prices from 2002 to 2004.

U.S. Meat Production Up Slightly in 2007

Meat output is expected to rise only about 1 percent in 2007 following increases of nearly 3 percent in 2005 and 2006. The higher cost of feed will likely result in little or no increase in the average weights of livestock and poultry marketed, following decades of a nearly unbroken upward trend. However, there will be one additional weekday in calendar 2007 to help support the annual total of meat produced.

Cattle Prices May Rise a Little in 2007

Choice cattle prices eased lower by about 2 percent in 2006. However, the discount between the choice and select grades of beef continued wide despite an increase in the average weight of cattle marketed from feedlots.



Given normal weather, a slightly higher average price for cattle is expected in 2007. There should be a modest growth in both the domestic and export markets for beef to offset a slight increase in beef output. Last year, a dry, mild winter season in the feedlot areas in the Southern and Central Great Plains led to faster, more efficient weight gains and larger beef output.

Expected higher prices for feed in 2007 are also expected to have some upward effect on cattle prices, as cattle may be fed less or put on feed later and average slaughter weights may decline.

Feeder Cattle Prices Hurt By Higher Feed Costs

After climbing 39 percent from 2002 to 2005, feeder cattle prices will decline slightly in 2006. Rapidly rising feed prices since mid-September have driven feeder cattle prices down. Expected higher corn prices in 2007 will probably cause a 5-10 percent decrease in the average annual price of feeders in 2007.

Cow Prices Likely Steady or Up a Little in 2007

Following a 40 percent increase in boning cattle prices from 2002 to 2005, cow prices fell about 10 percent in 2006. Cow slaughter rose about 11 percent from 2005, when the number of cows slaughtered was the lowest in 43 years. Dairy cow slaughter rose about 4 percent and the slaughter of beef cows increased about 17 percent. The latter was stimulated in part by severe drought in many important cattle producing areas. A return to normal precipitation in these areas in 2007 would relieve some of the price pressure on cows.

Not Much Change in Hog Prices, Pork Output in 2007

Following three years of profitability (an unusual event in the hog production sector), pork production should increase very slowly again in 2007 for the seventh consecutive year. Pork production increased an average of about 1.8 percent per year from 2001 through 2006. About half of the increase was accounted for by larger hog slaughter and the other half by more pork produced per hog.

Hog numbers in the United States were up about 1 percent at the end of 2006. Because of the expected higher cost of feed in 2007, average slaughter weights are not likely to continue to increase. It is possible that imports of hogs from Canada will be a little larger in 2007 as a result of decreased slaughtering capacity there. But with expected good export demand for U.S. pork, average hog prices in 2007 should be near those of 2006.

Broiler Prices a Little Stronger in 2007

After two years of declining prices following a record high in 2004, broiler prices should show some gains in 2007. Broiler output has increased each year for over 30 years, but the increase in 2007 is likely to be very modest as higher feed prices combined with modest financial returns in 2006 will lead to only mild expansion. This, combined with only modest increases in the production of competing meats, should give broiler prices a lift.

Turkey Prices May Hold Most of Recent Gains

Turkey prices held up well during 2006 despite an increase of about 4 percent in output. With only a small increase in production expected in 2007, turkey prices should be able to retain their recent gains. After freezer stocks of turkey hit a record low as a percentage of production during late 2005, turkey prices in 2006 attained relatively high levels. Stocks of frozen turkey are modest at the start of 2007, which will help prices to average near 2006 levels.

Lamb Prices Should Rise a Little After a Weaker 2006

Lamb production stabilized in 2006 after declining for years, and may record a small gain in 2007. After a strong price rise from 2002 to 2005, lamb prices fell more than 10 percent in 2006. They rallied during the last half of 2006 and should average a little higher in 2007.

Egg Output and Prices Up Slightly in 2007

Egg production rose 1 percent in 2006 and should do so again in 2007. Egg prices collapsed 20 percent in 2005 following two years of high prices, but recovered more than half of that decline in 2006 and will likely recover a bit more in 2007.

Meat Exports Increased in 2006; A Small Rise in 2007 is Likely

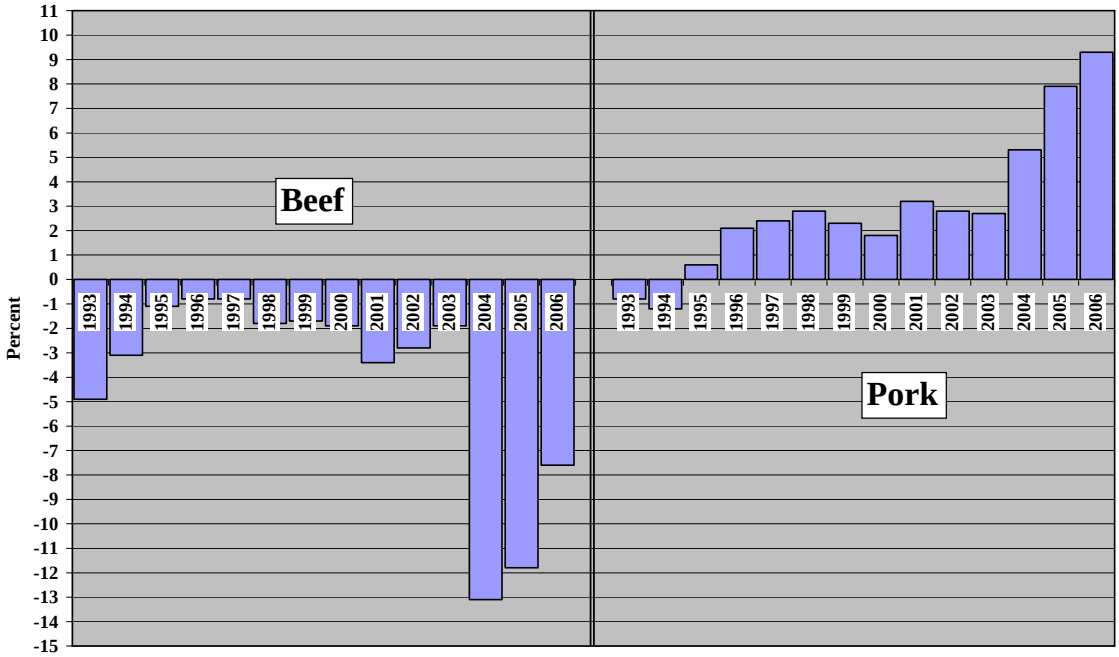
Beef exports fell 82 percent from 2003 to 2004 after cases of BSE turned up in the United States; they dropped from more than 2.5 billion pounds to 461 million pounds. Beef exports rose about 67 percent in 2006, with much of the increase going to Mexico. Beef exports in 2006 were about 47 percent of the 2003 pre-BSE total. A further modest increase is expected in 2007.

Meanwhile, pork exports continued their impressive climb. Pork exports have risen about 73 percent from 2003 to 2006 with a small increase anticipated in 2007. More than 14 percent of the pork produced in the United States in 2006 was exported.

Pork imports changed little in 2006 and are expected to continue to move sidewise in 2007. They equal about 4.9 percent of U.S. pork output. Thus, net pork exports amounted to about 9.3 percent of U.S. pork production in 2006, up from only 2.7 percent in 2003. In contrast, the United States was a net importer of pork each year for decades until 1995.

Exports of poultry are also important. Broiler exports have ranged from 14–17 percent of U.S. broiler output each year for the last decade. Exports of turkey meat have ranged between 7 percent and 11 percent during the same time. Little change is expected in 2007.

U.S. Foreign Trade Balance (Exports minus Imports) as a Percent of Production



Retail Meat Prices Likely to Record a Moderate Increase in 2007

Retail meat prices were stable in both 2005 and 2006 after rising rapidly from 2002 to 2005 (the biggest jump was from 2003 to 2004). Retail meat prices rose faster than the CPI (Consumer Price Index) from 2002 to 2004, at about the same rate as in 2005. But these increases contributed very little to the nearly 4 percent rise in the yearly average of the CPI in 2006, which was the largest annual percentage increase since 1991. The average annual increase in the CPI in the 14 years from 1991 to 2005 was 2.6 percent.

Meat Consumption May Edge Lower in 2007

U.S. residents consumed a record-tying 221.4 pounds of meat per capita in 2006, up 0.2 percent from 2005 and up only 0.5 percent from seven years ago. During those seven years from 1999 to 2006, broiler consumption per capita rose 13 percent while beef consumption fell 5.4 percent, pork fell 8 percent and turkey declined 7 percent. A slight reduction in per capita consumption is expected in 2007.

Broiler consumption was 86.9 pounds per capita in 2006 — a new record high that amounted to more than 39 percent of total meat consumption. Turkey consumption, at 16.7 pounds per capita, was 10 percent below its record high of 18.5 pounds set in 1996.

Per capita beef consumption totaled 66.1 pounds in 2006, 30 percent below the record high of 94.4 pounds in 1976. Pork consumption has moved in a narrow range of 48 to 54 pounds per capita each year from 1982 through 2006. The 49.5 pounds consumed in 2006 was the smallest in nine years and about 18 percent below the record high of 60.6 pounds reached in 1971. During the last six years, U.S. pork production increased 2.137 billion pounds. During the same six years, net pork exports increased 1.628 billion pounds and accounted for 76 percent of the increase in pork output.

Corn and Soybeans

Randy Fortenbery (608)262-4908

Introduction

Markets for grains and oilseeds ended 2006 in an impressive way. Corn and soybean prices registered annual highs in early November, with all three markets enjoying rallies in excess of $1 per bushel from mid-September through late November. While prices generally rallied, basis levels in Wisconsin tended to get weaker. This is quite common during periods of rapid price appreciation. Grain prices ended 2006 well off their fall highs but significantly higher than year-end prices the last several years. Much of the late-season price improvement for corn was attributed to the "need" for the market to buy corn acres for 2007, with soybean prices simply following corn's lead. However, a large part of the initial run-up in prices was driven by speculators, not commercials. In fact, through mid-December, speculators continued to hold net long positions in corn and soybean futures markets, while commercials were generally net short.

Corn

USDA began the 2006/07 marketing year (Sept. 1 through Aug. 31) anticipating another 11-billion-bushel corn crop. As the harvest season progressed, expectations were steadily revised downward. This is in contrast to last year, when early indications were for a crop just over 10 billion bushels, and, by the time harvest ended, it became apparent that the 2005 corn harvest had totaled over 11 billion bushels.

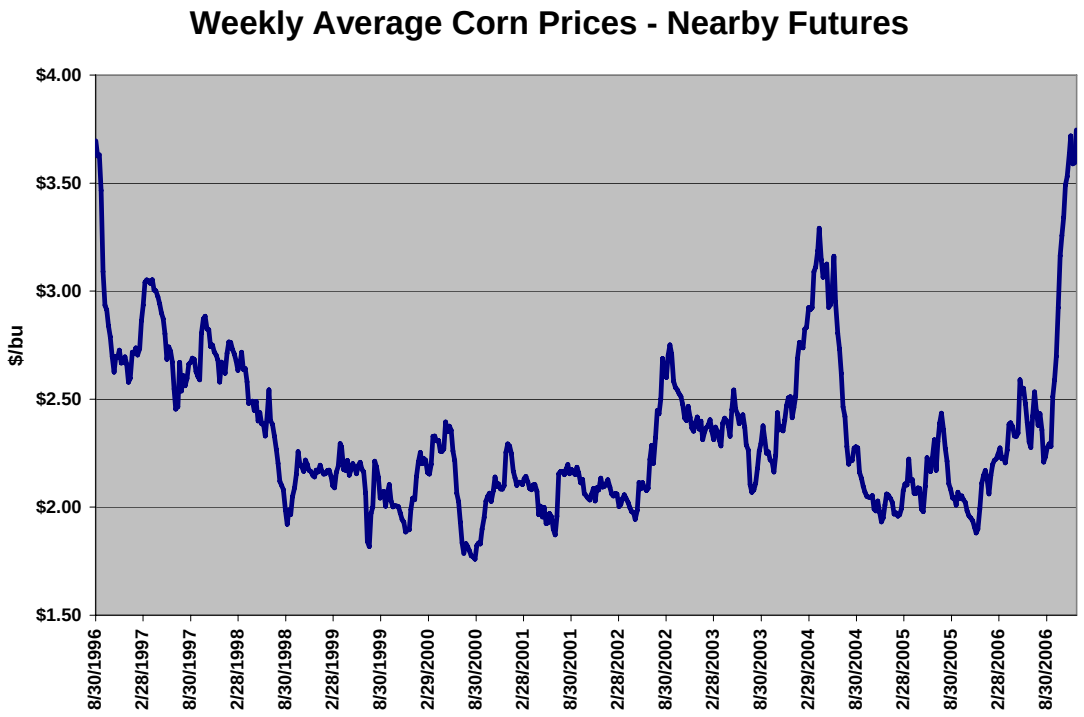
The 11-billion-bushel crop USDA expected heading into the current marketing year would have been about 1 percent below the 2005 harvest and 7 percent below 2004. Yields were expected to average just over 152 bushels per acre, an increase of 4.3 bushels from 2005. As harvest progressed, estimates became less optimistic. By the November crop report (the most recent data available as this publication went to press), USDA's production estimate had fallen to 10.7 billion bushels and yield expectations had dropped about 1 bushel per acre to 151 bushels (see table below).

As production expectations fell, so did the 2006/07 projected carryout. By November, the carryout was estimated at less than 1 billion bushels. This is the smallest carryout in a decade and represents less than a 29-day supply (a decade ago the carryout was less than 900 million bushels, but it represented a 36-day supply). The corn market went from the largest carryout in over a decade two years ago to the smallest since the 1996/97 crop year, despite recording three record harvests in the interim.

As carryout expectations were revised downward, prices rallied. Corn prices increased $1.25 per bushel from mid-September through the end of the year. Futures prices exceeded $3.50 per bushel for the first time since August 1996, and Wisconsin harvest prices exceeded $3 per bushel.

U.S. Corn Balance Sheet (Sep/Aug)								
Mktg. Year	***99/00***	***00/01***	***01/02***	***02/03***	***03/04***	***04/05***	***05/06****	***06/07****
				Million Bushels (Except as Noted)				
Beg. Stocks	1,787	1,718	1,899	1,596	1,087	958	2,114	1,971
Imports	15	7	10	14	14	14	9	10
Acres Planted (Mil.)	77.4	79.5	75.8	78.9	78.6	80.9	81.8	78.6
Acres Hvst. (Mil.)	70.5	72.7	68.8	69.3	70.9	73.6	75.1	71
% Harvested	91.1%	91.4%	90.8%	87.8%	90.2%	91.0%	91.8%	90.3%
Yield (Bu./A.)	**133.8**	**137.1**	**138.2**	**129.3**	**142.2**	**160.4**	**147.9**	**151.2**
Production	9,431	9,968	9,507	8,967	10,089	11,807	11,112	10,745
Total Supply	**11,232**	**11,693**	**11,416**	**10,578**	**11,190**	**12,776**	**13,235**	**13,135**
Feed & Res.	5,664	5,890	5,868	5,563	5,795	6,164	6,136	6,050
Food/Seed/Ind.	1,913	1,967	2,054	2,340	2,537	2,686	2,981	3,540
Ethanol						1,323	1,603	2,150
Exports	1,937	1,937	1,905	1,588	1,900	1,814	2,147	2,200
Total Demand	**9,515**	**9,794**	**9,820**	**9,491**	**10,232**	**10,664**	**11,264**	**11,790**
Ending Stocks	1,717	1,899	1,596	1,087	958	2,112	1,971	935
Stocks to Use (%)	**18.05%**	**19.39%**	**16.25%**	**11.45%**	**9.36%**	**19.80%**	**17.50%**	**7.93%**
Average Farm Price ($/Bu.)	**$1.82**	**$1.85**	**$1.97**	**$2.32**	**$2.42**	**$2.06**	**$2.00**	**$3.10**

*USDA Estimate as of November 2006
**USDA Forecast as of November 2006



While record demand coupled with reduced carryout induced higher prices, the magnitude of the harvest-season price rally was exacerbated by trade activity from speculative funds. Speculators built large long positions in the grain futures markets during October and November. As they began liquidating some of these positions towards the end of the year, prices did see some downward pressure.

The combination of a tight corn balance sheet and continued speculative interest in grain markets means producers will continue to see abnormally high corn prices in 2007, coupled with above-average price volatility. This will make corn marketing a challenge. On the one hand, producers face the strongest corn prices they have seen in over a decade; on the other hand, many analysts are predicting even higher prices based on expectations of continued strong demand and concerns related to 2007 production.

Some analysts estimate 8 million additional corn acres will be needed in 2007 to satisfy needs for the 2007/08 marketing year. New crop prices for spring wheat, soybeans, and corn all suggest incentives are in place to generate a 10-percent increase in 2007 corn acreage, but December 2007 prices assume a normal planting season and an accurate estimate of corn exports and feed use the first half of 2007. Any concerns about planting-season weather or increased corn consumption will result in yet higher corn prices.

The challenge for producers will be to maintain a clear set of market objectives in the face of continual market hype. Those looking for reasons to delay marketing 2006 corn will likely find plenty of rationale for additional price increases, but, like 1996, once the speculative interest wanes and concerns about 2007 production subside, prices can retreat in dramatic fashion.

One unique feature of the corn market structure heading into 2007 is the ability to lock in corn prices above $3 per bushel for several production seasons. At the end of 2006, corn futures prices for December 2007 were about $3.70 per bushel; for December 2008 they were $3.50 per bushel, and for December 2009 they were $3.40 per bushel. These prices levels are unprecedented early in a marketing year. Producers who prefer to speculate on higher prices for their 2006 and 2007 corn production might still consider some price protection for the 2008 and 2009 crop.

Some analysts suggest that the entire corn market price surface has changed and that average corn prices in excess of $3.50 per bushel will be the new standard. But, it is risky to bet several years' production on that expectation. Similar arguments were made in the mid-1990s. While different factors are driving current market prices than was the case a decade ago, one thing has not changed: users' ability to find substitutes for corn in the longer run when prices exceed long-run averages. Longer-term high corn prices will spur changes in feed rations (affecting feed use) and consumption patterns of corn importers (affecting export use), and drive innovation in alternate feedstocks for ethanol production. This does not mean corn markets will return to the sub-$2.00-per-bushel-averages of recent years (although that is a possibility), but beyond the next one or two crop years it is unlikely corn will continue to average above $3.50 per bushel.

Soybeans

In August, USDA estimated the 2006 soybean crop at 2.93 billion bushels, down 5 percent from 2005. In contrast to corn, however, soybean crop estimates grew as harvest progressed. By the November crop report, USDA increased its U.S. soybean estimate to 3.2 billion bushels, which is nearly 5 percent more than the 2005 crop and a U.S. record. The 2006 estimated yield of 43 bushels per acre matches that of 2005. The increased production came exclusively from a 3.2-million-acre increase in harvested acres. Wisconsin followed the general trend of increased soybean acres, but to a lesser extent. Wisconsin soybean acres increased by about 40 thousand, up about 2.5 percent over 2005.

U.S. Soybean Balance Sheet (Sep/Aug)

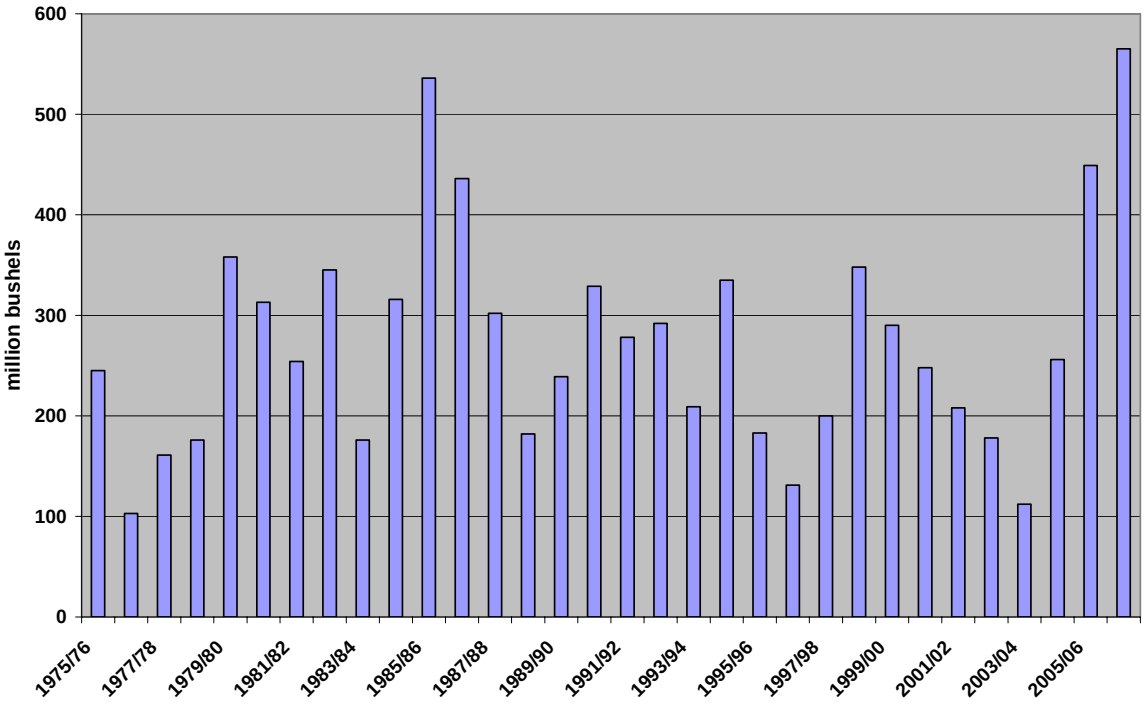
Mktg. Year	*99/00*	*00/01*	*01/02*	*02/03*	*03/04*	*04/05*	*05/06**	*06/07***
				Million Bushels (Except as Noted)				
Beg Stocks	348	290	248	208	178	112	256	449
Imports	4	4	2	5	6	4	3	4
Acres Planted (Mil.)	73.7	74.3	74.1	74	73.4	75.2	72	75.6
Acres Hvst. (Mil.)	72.4	72.4	73.0	72.5	72.5	74	71.3	74.5
% Harvested	98.2%	97.4%	98.5%	98.0%	98.8%	98.4%	99.0%	98.5%
Yield	**36.6**	**38.1**	**39.6**	**38**	**33.9**	**42.2**	**43**	**43**
Production	2,654	2,758	2,891	2,756	2,454	3,124	3,063	3,204
Total Supply	**3,006**	**3,052**	**3,141**	**2,969**	**2,638**	**3,242**	**3,322**	**3,657**
Crush Sep/Aug	1,578	1,641	1,700	1,615	1,530	1,696	1,739	1,780
Exports	973	998	1,064	1,044	887	1,103	947	1,145
F/S/R	165	165	169	130	109	187	188	166
Total Demand	**2,716**	**2,804**	**2,933**	**2,791**	**2,526**	**2,986**	**2,874**	**3,091**
Ending Stocks	290	248	208	178	112	256	449	565
Stocks To Use (%)	**10.68%**	**8.84%**	**7.09%**	**6.38%**	**4.43%**	**8.57%**	**15.62%**	**18.28%**
Avg. Farm Price	**$4.63**	**$4.54**	**$4.38**	**$5.53**	**$7.34**	**$5.74**	**$5.66**	**$6.10**

*USDA Estimate as of November 2006
**USDA Forecast as of November 2006

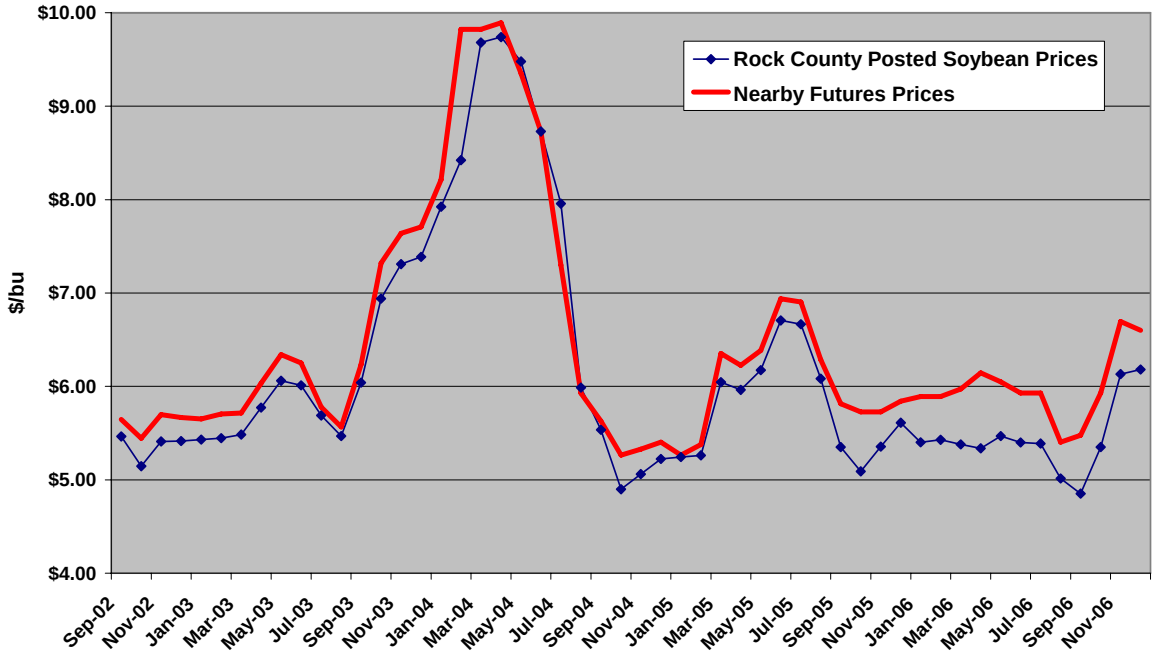
Consumption of soybeans in 20067/07 is also expected to increase relative to the last crop year, but not to the same extent as production. As a result, the 2006/07 carryout is expected to total 565 million bushels. This represents an increase of 26 percent over 2005, and 121 percent more than the 2004/05 carryout.

Despite the bearish supply/demand balance sheet, soybean prices followed corn prices higher during the harvest season. In September, November soybean futures prices were in the mid-$5 range, and Wisconsin cash prices were below loan rates. By harvest, however, futures prices approached $7 per bushel and Wisconsin cash prices exceeded $6 per bushel.

U.S. Soybean Ending Stocks

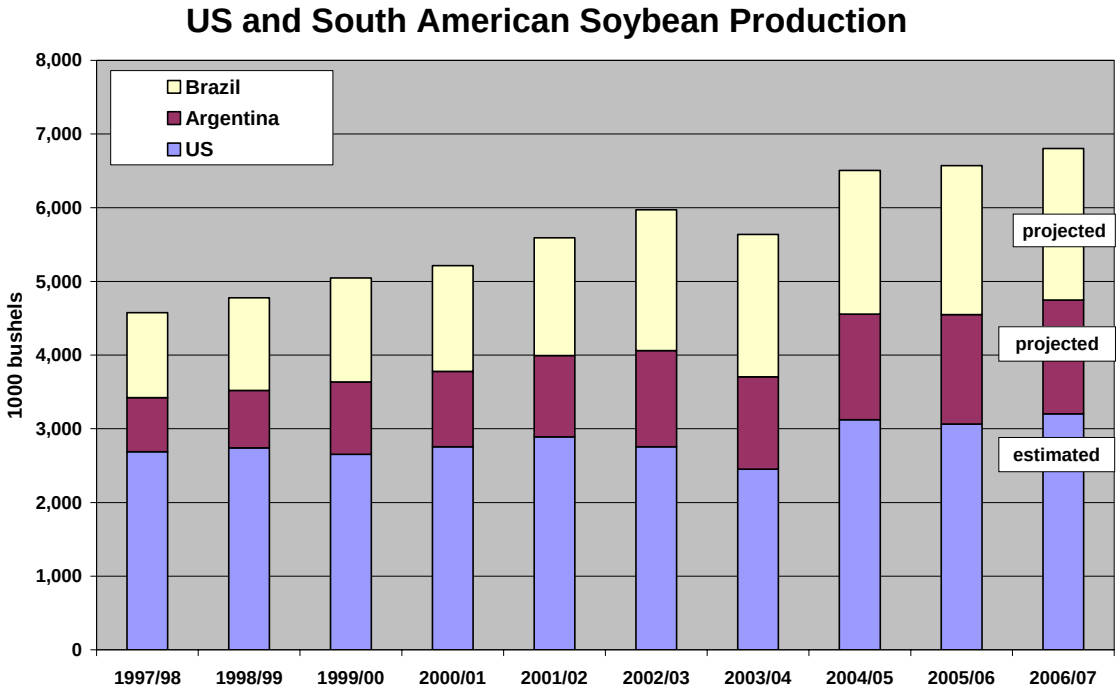


Monthly Average Soybean Prices



According to USDA estimates, both Brazil and Argentina also increased soybean production in 2006. Brazilian production was up 1.8 percent, while Argentine production increased 3.7 percent.

Additional increases in production for both countries are forecast for 2007. Together, Brazil and Argentina are expected to increase production 2.6 percent in 2007.



Wisconsin producers will likely to see significantly lower soybean prices in 2007 if planting season weather is cooperative. If we assume corn acres increase by 8 million in 2007, with 5 million of that coming from soybeans, soybean production will decrease about 220 million bushels (assuming a 44-bushel-per-acre yield, an increase of one bushel per acre over 2006). This will still yield a crop near 3 billion bushels, which means consumption would have to increase dramatically to reduce 2008 carryout below projected 2007 levels.

Unless carryout expectations decrease significantly following the current crop year, it is unlikely soybean prices can be sustained above $6 per bushel, even given relatively high corn prices. Thus, producers face the unique situation of corn prices hovering near record highs early in the marketing year while soybean prices appear significantly overvalued given their balance sheet. The key to maintaining soybean prices at their early 2007 levels will be the market's ability to trade in sympathy with corn and against the soybean balance sheet. This is possible prior to planting, but will be much more difficult once planting decisions are made, unless South America, the United States, or both have significant production problems during their growing seasons.

Despite a more bearish outlook for soybeans compared to corn, the futures market at harvest time was offering significant storage opportunities to producers of soybeans. This coupled with relatively weak Wisconsin basis levels suggests that producers who are willing to lock in prices for spring delivery can make a profit on soybean storage in 2007.

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Fruits and Vegetables

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Synopsis

Fruit and vegetable production provides important diversity to Wisconsin agriculture and has a substantial impact on the state's economy. Apple production was up significantly from 2005. Cranberry production was forecast to be up slightly from 2005, but a late-August hailstorm in Monroe County reduced production below forecasts. Potato production increased 3 percent from 2005 while snap bean production declined by 2 percent and sweet corn for processing was forecast to decrease by about 16 percent.

Total potato production has declined in Wisconsin and across the continent over the past 2 years due to poor crop prices, but total crop value has increased because of stronger prices. Sweet corn and snap bean production showed little change in 2006. Severe drought led to crop losses in the northwestern part of the state, but good to excellent yields and pack-out in other parts of the state led to stable production.

Apples

In July 2006 USDA estimated Wisconsin apple production at 62 million pounds, up 19 percent from 2005's 52-million-pound crop. Harvested acreage in Wisconsin has dropped slightly to 5,800 acres. Tree density per acre has been increasing over time as growers replant orchards on full dwarfing rootstocks. Apple prices were expected to rise slightly due to production of higher-priced Honeycrisp apples and smaller crops in Washington and Michigan, the top apple-producing states. Average apple prices in Wisconsin should trend upwards towards $0.42, giving a farm-gate value of $26 million. Wisconsin ranks 12th in apple production, producing about 0.64 percent of the nation's apples.

Tart Cherries

Wisconsin's 2006 tart cherry crop came in at 4.3 million pounds, compared to 7.3 million pounds in 2005. Grower prices are estimated to be $0.28–$0.30 per pound, giving the state's crop a value of almost $1.3 million. The crop reduction was caused by rain and windy weather during the pollination period. This is the third year in a row that Wisconsin experienced weather-related reductions in its cherry crop.

For 2006, Wisconsin produced about 1.8 percent of the nation's tart cherries. The national decline in acreage has stabilized. A slightly smaller national crop than in 2005 should bring marginally higher prices for Wisconsin growers. Because Wisconsin's tart cherry crop was

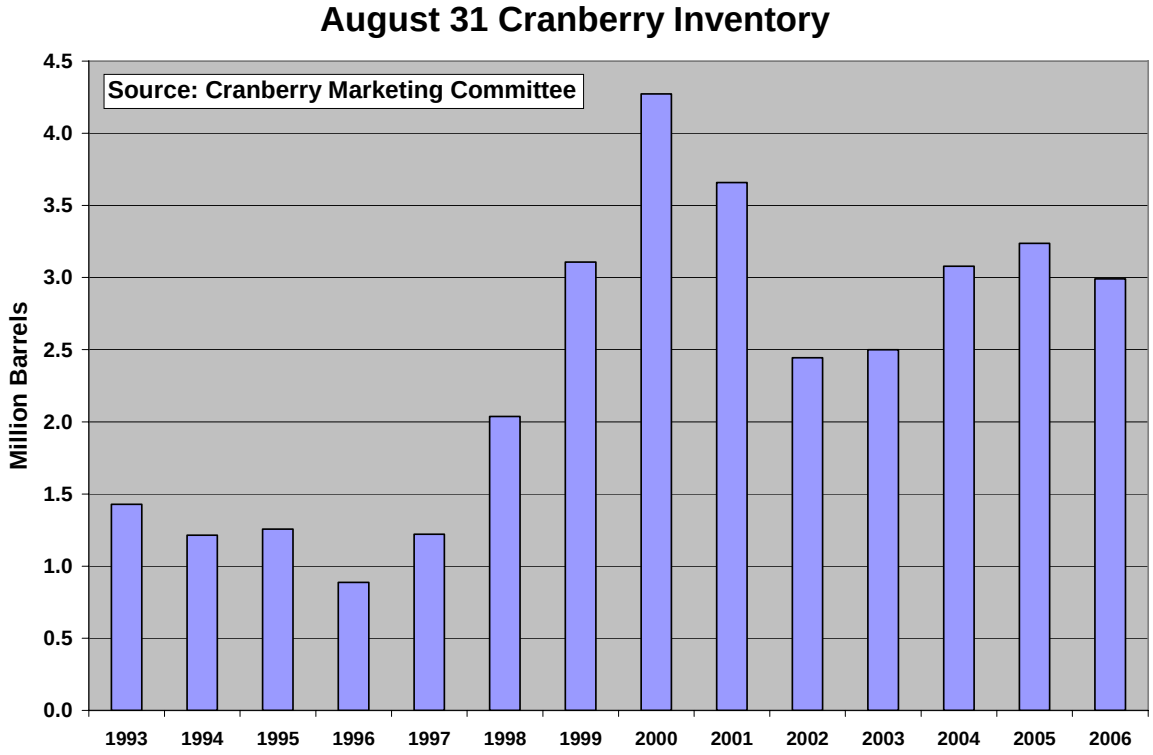
smaller than 4.4 million pounds, no holdback was required for Wisconsin growers under the federal marketing order for U.S. tart cherries. Cherry growers in Michigan and Utah were required to divert portions of their large crops in an effort to support sagging producer prices.

Cranberries

Wisconsin's 2006 cranberry crop was initially forecast at 3.75 million barrels (one barrel = 100 pounds). However, a severe hailstorm ripped through Monroe County in late August, decimating the crop on hundreds of acres. Much of the fruit was salvaged, but since it was harvested about a month early, fruit size, color and yield suffered. A revised production forecast predicted a 2 percent reduction from 2005's 3.59 million barrels. The hailstorm compounded a summer marked by high temperatures that led to stressed and yellowed vines.

Wisconsin ranks first in U.S. cranberry production, producing an estimated 55 percent of the 2006 crop. Prices are expected to be marginally above the 2005 average of $34.10 per barrel. This is due to increased demand for cranberry products both from developing export markets in Europe and Asia and increased domestic demand spurred by advertising campaigns that touted the health benefits of cranberry consumption.

August 31, 2006, U.S. cranberry stocks were slightly under 2004 and 2005 levels, suggesting that supply and demand are in good balance. Handlers have indicated that they need slightly larger carryovers to meet their business goals. However, recent carryover stocks have been well above levels observed in the mid-1990s.



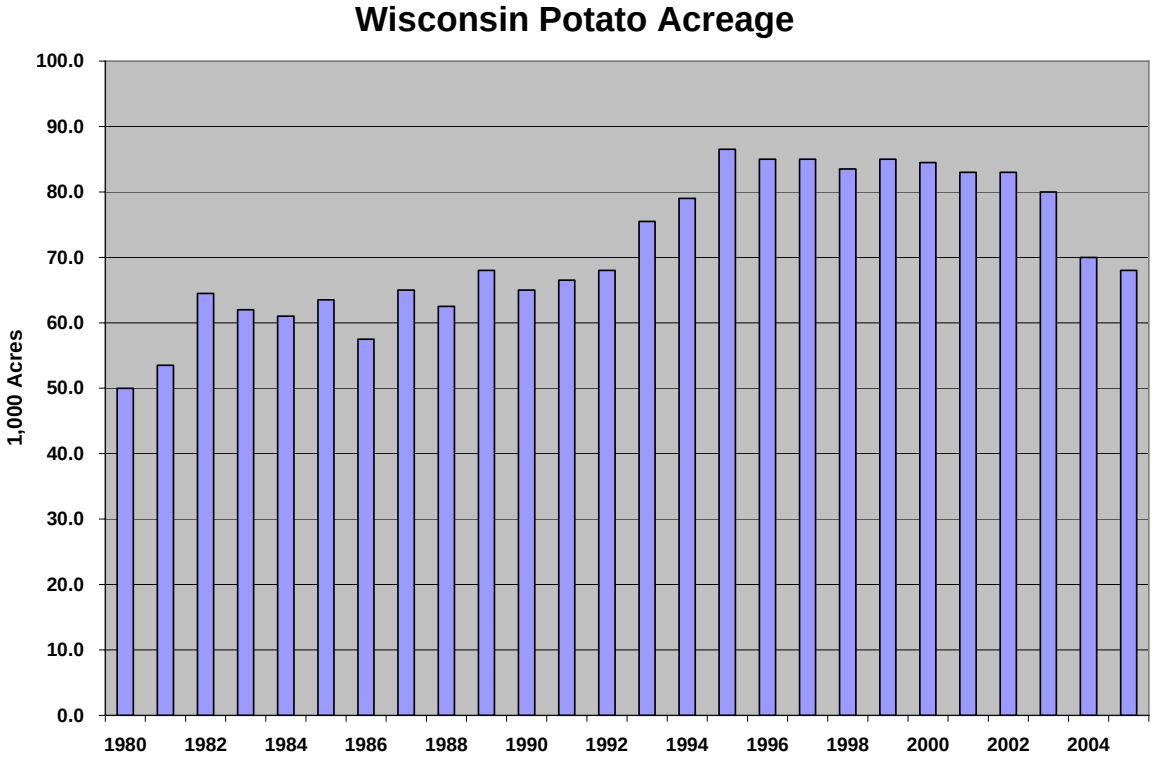
Potatoes

USDA's November estimate of potato production for Wisconsin was 28,710 hundredweight on 66,000 acres. Planted acres decreased by 2,000 from 2005. Yield per acre increased by 6 percent compared to 2005. With a slightly larger U.S. crop, potato prices should edge below the 2005 price of $7.85 per hundredweight, although 2006 prices reported to date are running 6–7 percent ahead of 2005.

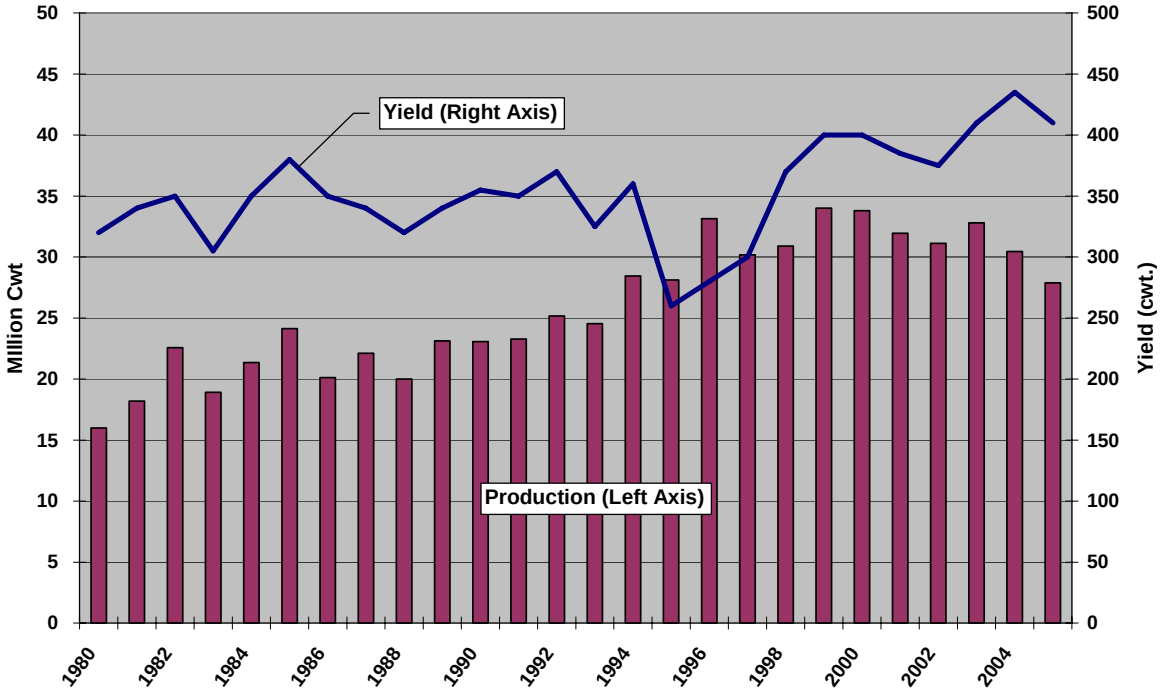
Wisconsin potato acreage increased by about 20,000 planted acres during the early 1990's. This led to increased total production, but to a decrease in yield per acre during 1995–1997. From 1998 onwards, yield per acre has been near record levels in Wisconsin. Potato acreage has declined over the past three years due to poor prices, resulting in a reduction in total production. Yields per acre were the highest on record the past two years. Yields increased due to good growing conditions as well as improved management by growers on smaller acres.

Total value of the Wisconsin crop rose to an all-time high early in this decade, but trailed off until a sharp increase in 2005. The increase in total crop value was because of higher prices due to reduced acreage and total production in 2005. This is a good example of growers working together nationally to curb supply to create higher prices when demand is stable.

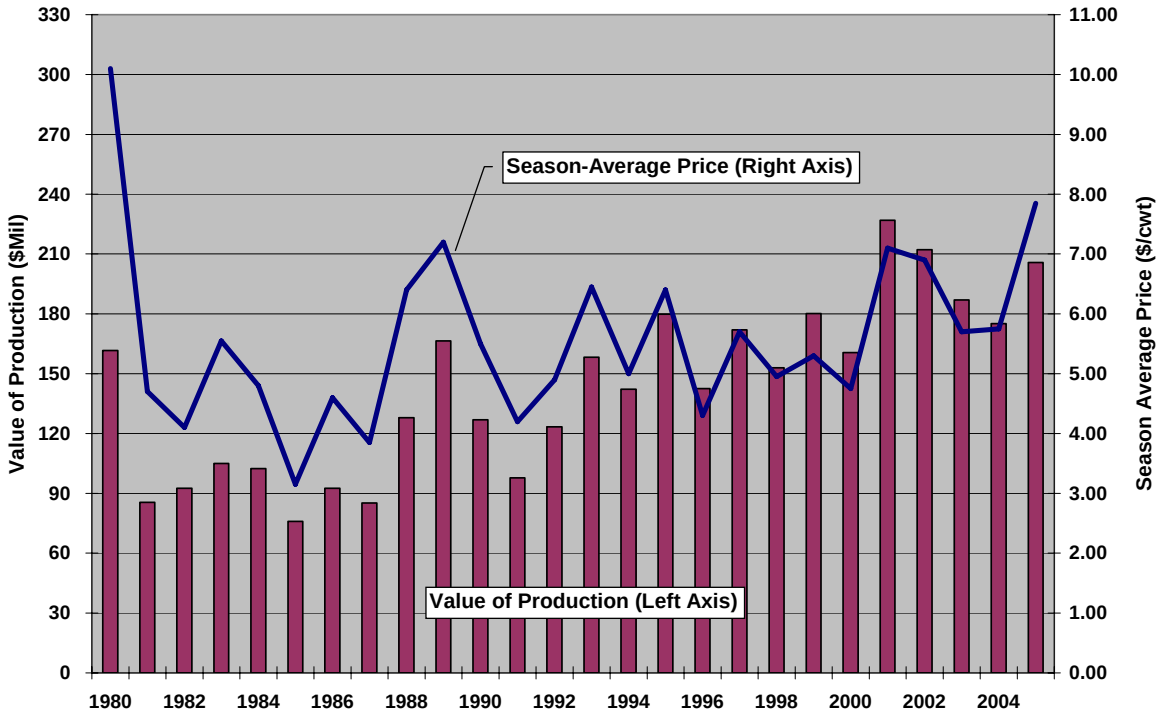
While crop value has been high, prices have fluctuated over the past 10 years until rising for 2005. Costs of production have risen to record levels, with high prices for energy and energy-related crop inputs such as fertilizer and pesticides.



Wisconsin Potatoes: Yield and Total Production



Wisconsin Potatoes: Price and Value of Production



Sweet Corn

Contracted Wisconsin sweet corn acreage for processing was 80,400 acres, down 13 percent compared to 2005, but slightly higher than 2003. Yield per acre was down 4 percent at 7.1 tons per acre, giving total contracted production of 570,840 tons. Yields under irrigation were excellent, but stand issues and regional droughts in Northwestern Wisconsin limited yields under non-irrigated conditions. Production is down 16 percent from 2005. Fresh-market sweet corn production was estimated at 6,800 acres, down slightly from 2005. Wisconsin ranks third nationally in sweet corn production for processing. Sweet corn is an important crop both to supply local canneries and as a component of rotations with potatoes.

Sweet corn production in Illinois, Minnesota, and Wisconsin is fairly stable due to the common processing infrastructure across the three states. Acreages may vary from state to state on a yearly basis, but total regional production is fairly constant. Contracted sweet corn acreage within the region is adjusted to accommodate changes in national inventories and demand. Sweet corn acreage in future years will continue to be influenced by field corn prices and relative profit potential. Many sweet corn growers may opt to focus on field corn until prices equilibrate.

Snap Beans

Production of snap beans declined by 2 percent in 2006 compared to 2005 to 305,340 tons. Loss in snap bean production was due to a 4 percent decline in acreage while yield per acre held steady at 4.2 tons per acre. Yields across much of Wisconsin were excellent due to near-optimal growing conditions. However, severe drought in the Northwestern part of the state led to near crop failures on most snap bean acres grown there.

Because Wisconsin is home to highly specialized processors, the state's snap bean production is fairly stable from year to year. As with sweet corn, contracted snap bean acreage is adjusted to accommodate changes in national inventories and demand. Also, like sweet corn, Wisconsin snap beans are increasingly being planted on irrigated acreage for more predictable production. Snap beans are a frequent crop in potato rotations.

Other Vegetables

Green peas, onion, carrot, cucumbers, beets, cabbage, and other vegetables contribute significantly to the state's economy. Green pea acreage and total production has declined over recent years due to declining consumer preference for processed peas. Carrot production is nearly all for processing and has been stable. Other vegetables are sold for either fresh market or processing, depending on the crop, and provide unique opportunities for specialized growers.

Farm Inputs, Credit and Land Rents

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Farm Inputs

According the National Agricultural Statistics Service (NASS), increases in the prices of farm inputs from 2002 to 2006 varied considerably from input to input. Agricultural chemical prices only rose 1.6 percent per year, while the prices of farm supplies rose at roughly the rate of inflation, about 2.8 percent.

On average, seed prices rose at nearly twice the rate of inflation during the same period — a hefty 6.3 percent annual increase. This is due partly to inflation and partly to improvements in the genetic quality of seeds. More and more GMO (Genetically Modified Organism) seeds are being sold, which produce plants that are insect-resistant or herbicide-tolerant. These seeds are more expensive, but they are usually worth the extra cost because they allow farmers to cut back on the use of pesticides.

The fastest-rising farm input prices were for fertilizer and fuel. Fertilizer prices climbed an average 12.6 percent per year over the 2002-2006 period, while fuel prices increased 20.3 percent per year. The surge in fertilizer and fuel costs mirror run-ups in natural gas and oil prices.

Fertilizer rose at a slower rate than fuel, probably because farmers have some flexibility in fertilizer application. Higher fertilizer prices combined with lower anticipated prices for corn and other crops likely discouraged farmers from purchasing fertilizer. This reduced demand probably slowed the rise in fertilizer prices. Farmers don't have the same flexibility when it comes to fuel. The fieldwork needed to grow and harvest a crop generally requires a fixed amount of fuel.

The Department of Energy forecasts that wholesale oil prices will be stable in 2007 and fuel prices should remain near 2006 levels. Seed and fertilizer prices could rise dramatically as farmers plant more corn in response to anticipated high grain prices. Demand for seed corn and fertilizer will likely outstrip supplies.

Farm Input Price Indices

Input Category	*Price Index: 1990-92 =100*					*Annual Percent Change:*		
	2002	2003	2004	2005	2006*	2002-04	2004-06	2002-06
Seed	142	154	158	168	182	5.48	7.18	6.33
Fertilizer	108	124	140	164	174	13.86	11.42	12.63
Agricultural Chemicals	119	121	121	122	127	0.84	2.33	1.58
Fuels	112	140	162	225	234	20.27	20.26	20.26
Farm Supplies & Repairs	131	134	137	144	146	2.26	3.23	2.75
Farm Services	120	123	124	128	131	1.65	2.82	2.24

*Index for 2006 is the average for January - November
Source: National Agricultural Statistical Service

Farm Credit

Rising interest rates on farm loans were the rule rather than the exception from January 2004 to January 2006. Interest rates on both farm operating loans and farm real estate loans rose two percentage points or more. These interest rate hikes, the result of deliberate actions by the Federal Reserve Bank (the Fed), increased farmers' borrowing costs appreciably.

Interest rates basically held steady throughout most of 2006. This was good news for farmer borrowers, because it kept their borrowing costs in check.

Interest rates will probably continue to hold steady throughout most of 2007. But this could change if inflation shows signs of heating up, perhaps due to higher oil prices. If that happens, the Fed may well decide to bump up interest rates to put the brakes on inflation.

Holding inflation in check is a key goal of the Fed, but it is not the only goal. The Fed also wants to keep the economy from slipping into a deep, prolonged recession. Consequently, the Fed stands ready to cut interest rates if the economy needs a boost to offset a downturn. The U.S. economy is currently performing at an acceptable level, so interest rate cuts are unlikely in the very near term. But the Fed might make marginal cuts, perhaps a quarter to a half percent, if the economy shows signs of moving into recession later in the year.

A big uncertainty in credit markets is the slowdown in the housing market that started in mid-2006. Sales of both new and existing homes have dropped substantially and the supply of residential property on the market has grown to the point where home prices are dramatically below year-ago levels.

These declines in house prices are eroding the security positions of mortgage lenders. This problem is most severe in cases where borrowers made little if any down payment. Lenders could see significant losses if a large number of borrowers default on such loans, so that lenders are forced to take possession of houses that are worth considerably less than what is owed on them.

The fragile state of the U.S. housing market has implications for farm borrowers. If lenders take big losses on defaulted home loans, there will likely be less credit available. This tightening of credit supplies would probably drive interest rates upward and make loans harder to obtain. So farmers would find it harder to borrow money and would pay more for what money they could borrow

Farmland Rents

Cash rents for crop land in Wisconsin averaged $71 per acre in 2006 — $1 above 2005 rents and $4 above 2002. Stable cash rents in Wisconsin have been the norm for over a decade.

Cash rents during 2002-06 grew at an 6 percent annual rate in Wisconsin. This is a slower rate of growth than observed in Michigan, Minnesota, and Illinois, where cash rents grew around 8 percent per year, and in Iowa, where they increased at about 10 percent.

Average Cash Rent For Cropland			
State	***$ per Acre***		***Annual % change 2002-06***
	2002	***2006***	
Illinois	122	132	8.2
Iowa	120	133	10.8
Minnesota	81	88	8.6
Michigan	60	65	8.3
Wisconsin	67	71	6.0

Source: Land Values and Cash Rents 2006 Summary, National Agricultural Statistics Service, USDA

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The General Economy and Agricultural Trade

William D. Dobson

Synopsis

The U.S. economy is headed toward slower growth. This is due primarily to major weaknesses in the U.S. housing market, which will not be entirely offset by other positive factors affecting the economy. The wild card in the forecast is oil. Many analysts expect 2007 oil prices to continue to range from the high $50s to mid-$60s per barrel, but it is very possible that prices will go higher. Sustained oil prices in the mid-$70-per-barrel range would produce still lower growth or an economic recession.

U.S. agricultural exports are likely to be about $77 billion in Fiscal Year 2007, up from the two previous years. There are two big uncertainties here. One relates to longer-term developments associated with higher domestic demand and higher prices for corn for ethanol production. These factors will limit U.S. corn exports. The other is whether growing protectionist tendencies in Congress will produce policies that curtail U.S. agricultural exports.

As in the past, supply-demand conditions for individual agricultural products will have more impact on the U.S. farm economy than overall macroeconomic conditions. But the anticipated lower real growth for the nation's economy will limit growth in demand for agricultural products. The livestock and poultry sectors are likely to be weaker than the crop sectors in 2007. While petroleum-related farm input costs will be high in 2007, the relatively low interest rates in prospect will be favorable to the capital-intensive U.S. farming sector.

The U.S. Economy is Heading for a Soft Landing (if we are lucky)

After performing strongly in 2004 and 2005, the U.S. economy appears to be heading for a soft landing, featuring real Gross Domestic Product growth of 2.3–2.4 percent in 2007. This is moderately below the economy's long-term trend growth rate of about 3 percent. However, getting to a soft landing will be no slam dunk. The following factors will affect what actually happens to the U.S. economy in 2007:

Pluses …

- Relatively low interest rates
- A declining dollar
- Expanding exports of agricultural and non-agricultural products
- Declining inflation
- A relatively strong but volatile stock market

Minuses …

- A weak housing market
- A weak auto industry
- Large budget deficits
- Large current account deficits

The entries on the positive side of the ledger can be counted on to produce the aforementioned 2.3– 2.4 percent real GDP growth in 2007 — unless they're short-circuited by higher-than-expected oil prices. The Federal Reserve probably has set interest rates at about the level needed to produce non-inflationary growth (5.25 percent federal funds rate in December 2006). Moreover, the Federal Reserve may lower the federal funds rate by a quarter or half percentage point in the late spring or early summer of 2007 if economic growth is weaker than expected.

Macroeconomic Statistics for the U.S. Economy.*

Year or Quarter	*Real GDP Growth*	*Inflation Rate (CPI)*	*Price of Oil*	*Housing Starts*	*Federal FY Surplus (Deficit)*
	%	*%*	*$/Barrel*	*Mil. Units*	*$Billion*
2000	3.7	3.4	30.35	1.573	236.9
2001	0.8	2.8	25.96	1.601	127.3
2002	1.6	1.6	26.11	1.710	(157.8)
2003	2.5	2.3	31.12	1.854	(377.1)
2004	3.9	2.7	41.47	1.950	(412.8)
2005	3.2	3.4	56.56	2.073	(318.5)
2006 Q1	5.6	2.2	63.35	2.123	(183.7)
Q2	2.6	5.0	70.57	1.873	97.4
Q3	2.0	2.9	70.50	1.720	(42.0)

*Sources: Global Insight, U.S. Executive Summary, various issues 2006 and Wall Street Journal, various issues November and December 2006. Quarterly housing start figures for 2006 represent estimates of annual housing starts.

The U.S. dollar has declined against major foreign currencies since the second quarter of 2006. In late November 2006, the dollar fell to 20-month lows relative to the euro. It is impossible to forecast exactly when and how much farther the dollar will decline, but the dollar must continue to lose value in order to bring our current large negative current account more nearly into balance. The United States ran a negative current account balance of about $880 billion in 2006, or about 6.7 percent of nominal GDP, reflecting mainly the large excess of U.S. imports over exports. By making U.S. products cheaper in foreign markets, the declining dollar will help to spur U.S. agricultural and non-agricultural exports in 2007.

U.S. stock prices recorded substantial gains in 2006. The Dow index rose by about 15 percent from the beginning of 2006 to late November 2006, reflecting strong corporate earnings and optimism about the U.S. economy. Those holding stocks undoubtedly felt wealthier as a result of the run-up in stock prices. This wealth effect probably fostered increases in consumer spending that partly offset the impact of the decline in the U.S. housing market.

But the stock market was spooked in late November 2006, leading to a one-day sell-off that shaved 158 points (1.3 percent) off the value of the Dow. One factor behind the selloff was the sharp decline of the U.S. dollar relative to other major currencies. There were fears that foreign holders of U.S. dollar-denominated stocks would sell part of their large portfolios to avoid losses associated with further depreciation of the U.S. currency. U.S. stockholders lightened the U.S. stock portions of their investment portfolios in anticipation of this potentially significant development. The exodus of foreigners from U.S. stocks proved to be small, and as of early December 2006, U.S. stocks had recovered part of the late November losses. However, the declining dollar could help trigger a drop in U.S. stock prices in 2007. Among other things, this would curb the impact of the wealth effect of higher stock prices on consumer spending.

Reflecting the fall in oil prices that began in August 2006 and reductions in demand for other products, U.S. inflation dropped from about 5 percent in the second quarter of 2006 to more manageable levels below 3 percent late in 2006. However, U.S. inflation rates in late 2006 were still running above the Federal Reserve's comfort zone of 1–2 percent. Thus, the Federal Reserve Board could face a difficult balancing act in 2007. The Fed might wish to push down interest rates to boost economic growth but be forced to hold rates constant or raise them to stem inflation.

The negative side of the ledger includes items that are likely to hang around for years. The white-hot U.S. residential housing market of the past couple of years is now a fading memory. U.S. housing starts in the third quarter of 2006 were down about 17 percent from the 2005 figure (see previous table). Housing prices, housing starts, and sales of new and existing houses have fallen most on the East and West coasts and Florida, places where the housing market was hottest. The small September-to-October-2006 increase in sales of existing houses was a bit of good news for the U.S. housing market.

Robust U.S. consumer spending in 2004 and 2005 was supported in part by

refinancing and withdrawal of equity from appreciating houses. The sharp reduction in consumer spending from these sources, along with the decline in housing construction and related developments, shaved a full percentage point off real GDP growth in late 2006. It is uncertain when the housing slump will end. Alan Greenspan, former Federal Reserve Board Chairman, believes that the worst of the housing slump was reached in 2006. The most likely scenario is that a weak housing market will persist into 2007 and 2008, accompanied by further reductions in housing prices in 2007.

There are few signs that the U.S. auto industry is recovering. U.S. automakers will continue to restructure in 2007 in an attempt to become more competitive with Japanese firms. Chrysler is reportedly trying to shave its costs by $1,000 per car. GM and Ford have announced plant closings and numerous layoffs and worker buyouts. Such actions will continue in 2007. It is unclear when or if the U.S. car industry will see a turnaround.

The U.S. budget generally has been in negative territory since 2001 and reached a deficit of $413 billion in fiscal 2004. U.S. budget deficits moderated in 2006 and a budget surplus actually emerged during the second quarter of 2006, reflecting strong revenue gains. The Fiscal 2006 budget deficit was only about 1.9 percent of nominal GDP, about the average size of the deficits as a percentage of GDP during the past 40 years. This was a source of some comfort to Congress and the Bush Administration. However, given the expected slower real GDP growth, U.S. tax revenues are likely to be smaller in 2007, which means that federal budget deficits will probably be moderately larger next year. Among other things, the prospective deficits might constrain spending for the 2007 Farm Bill (see following special article).

U.S. current account deficits will be partially remedied by the decline in the dollar. However, the large U.S. trade deficits are likely to stir passions in the Congress for limits on imports. This will thwart Bush Administration efforts to gain Congressional approval for any (remotely possible) Doha round World Trade Organization (WTO) agreement that might be negotiated. It will also dampen Congressional enthusiasm for passage of additional bilateral and regional trade agreements.

Oil Prices as a Wild Card. The most uncertain element in the above scenario is the behavior of oil prices. While still high by historical standards, oil prices did retreat from the mid-$70-per-barrel price range of mid-2006 to the high-$50-to-mid-$60 range in October and November 2006. This gave U.S. consumers relief at the gas pump. A few analysts assert that much of the risk premium has now been eliminated from global oil prices. This development, they claim, will permit oil prices to remain in the high-$50-to-low-$60 range. Perhaps. But for this happen, there must be a measure of stability in the volatile oil-producing areas of the Middle East and Africa. In view of the strong demand for oil in the United States, China and India, even small disruptions in the oil-producing facilities of major oil-producing countries, or reductions in oil output by OPEC, could push oil prices back to the mid-$70-per-barrel range. So it seems quite possible that oil prices would climb to this range, and that development would trigger poorer economic performance and higher inflation.

In summary, the numerous plus and minus factors and the wild card obviously produce a murky picture of U.S. economic prospects for 2007.

U.S. Agricultural Trade Outlook

The USDA forecasts that U.S. agricultural exports will total about $77 billion in FY 2007, up from $68.7 billion in FY 2006 and $62.5 billion in FY 2005. Several positive developments are reflected in the FY 2007 forecast: weakness in the U.S. dollar, strong foreign demand for corn and soybeans, and the partial opening of Japanese, South Korean, and Russian markets for U.S. beef. The USDA forecasts that the U.S. agricultural trade balance will be a positive $8.0 billion in FY 2007. While higher than the weakly positive figures of FY 2005 and FY 2006, the anticipated agricultural trade balance still is sharply lower than during the mid-1990s, when it exceeded $20 billion.

The big uncertainties in the U.S. agricultural trade outlook are longer-term. Among the factors that could reduce U.S. agricultural exports over the longer-run are the ethanol boom and trade barriers.

As pointed out elsewhere in this report, the growing domestic demand for corn for ethanol production will raise prices and ration corn exports. The rationing promises to be with us for some time because high oil prices make renewable energy sources such as ethanol more attractive. According to the 2006 *Economic Report of the President*, ethanol is competitive as a fuel source with current federal subsidies even with oil prices as low as $15 to $30 per barrel. The report further concludes that ethanol is competitive without subsidies when oil prices are $40 to $60 per barrel. If one accepts these figures, it is hard imagine how U.S. corn exports will not be limited by strong domestic demand for corn.

If the July 2006 suspension of negotiations under the Doha round of WTO trade talks is followed by a total collapse of these multilateral trade negotiations, an agreement may be years away or, in a worst-case scenario, impossible to achieve. This could lead to widespread agricultural protectionism that would limit U.S. agricultural exports.

A growing distrust of globalization and disappointment with impacts of bilateral, regional, and multilateral trade agreements has emerged in Congress. This will make it difficult for President Bush to gain approval for extension of his Trade Promotion Authority that expires on July 1, 2007 ("fast-track" negotiating authority that requires Congress to give an up-or-down vote on a trade agreement). If the President lacks fast-track negotiating authority, it will be impossible for the Administration to complete negotiations on any bilateral, regional or multilateral trade agreements. Countries simply will not negotiate with the United States if the Congress can modify trade agreement provisions before voting on them. The prospect of no new trade agreements does not augur well for U.S. agricultural exports.

Implications for the Wisconsin and U.S. Agricultural Sectors

As in past years, supply and demand conditions for individual farm products will have more impact on agricultural prices than the overall macroeconomic environment. However, the anticipated weaker economy will provide less support

for agricultural product demand than in 2004, 2005, and part of 2006.

The crosscurrents operating in the farm economy also will be different than in the past. Wisconsin farmers and others who had good grain crops in 2006 obviously will be pleased with market prospects for these products. However, livestock and poultry producers are concerned that higher corn prices, driven substantially by demand for ethanol, will drive up their costs over the longer run.

The USDA forecasts that crop prices will likely be strong relative to livestock prices in 2007, a continuation of the relationship between crop and livestock prices that existed in 2006.

John Deere officials provided useful comments on prospects for the U.S. agricultural sector in their assessment of likely farm equipment sales in 2007. They note that worldwide stocks of wheat and corn are at 30-year lows in relation to consumption. However, they expect 2007 farm equipment sales to get off to a slow start because of high used-equipment inventories and customer uncertainty about the direction of the Farm Bill. In addition, the Deere analysts point out that U.S. farmers are concerned about the sustainability of recent commodity price rallies and about high farm input costs. They believe such concerns will keep the company's 2007 U.S. and Canadian farm equipment sales close to 2006 levels.

Farming is one of the most capital intensive sectors in the U.S. economy. Thus, the relatively low interest rates — the cost of capital — in prospect for the economy are a positive factor for the farming sector.

III. Special Articles

Biofuels: Opportunities and Challenges

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Introduction

U.S. biofuel production has been developing at a pace few would have predicted a decade ago. By the end of 2006, the nation had 110 ethanol plants with a combined capacity of about 5.4 billion gallons annually (Renewable Fuels Association). Eight plants are in the process of expanding, and another 63 are under construction. This will bring an additional 5.4 billion gallons of capacity to the market in 2007. In 2005, U.S. plants produced 3.9 billion gallons of ethanol. Thus, by the end of 2007 production capacity will have increased 177 percent in just 24 months.

Biodiesel production has lagged behind ethanol, but interest in biodiesel has also increased significantly. As of September 2006, the nation's 85 biodiesel plants were producing a total of 580 million gallons (National Biodiesel Board). Thirteen of these plants are currently expanding, and another 65 are under construction. This will add another 1.4 billion gallons to U.S. biodiesel production capacity.

Public Policy and Biofuels

Favorable public policy, at both the state and national levels, has been a major force behind growth in U.S. biofuels production. Biofuel policy has focused on the following four objectives: 1) reducing reliance on foreign oil; 2) reducing noxious emissions; 3) promoting rural economic development; and 4) increasing demand for basic agricultural commodities.

In terms of chronology, these objectives are listed backwards: early policies focused on subsidizing production in order to increase demand for locally grown crops and improve economic conditions in rural communities. At the state level, the main approach has been to subsidize development of ethanol plants. Minnesota has been the leader in supporting the development of ethanol production. Minnesota was also the first to augment production subsidies with consumption mandates to insure stable markets for ethanol. At the federal level, the main approach was to offer credits for blending ethanol with gasoline. The credits go to blenders, not ethanol manufactures, but presumably have a positive impact on the price blenders pay for ethanol.

Concern about U.S. reliance on foreign oil has come to the forefront in recent years, as oil prices reached record levels (in nominal, not inflation-adjusted dollars). This helped lead to the passage of the Energy Policy Act of 2005. This legislation mandates that at least 7.5 billion gallons of ethanol enter the transportation fuel supply by 2012 (we may exceed this goal in 2007) and offers additional incentives to develop biofuel production (U. S. Department of Energy).

As energy policy has evolved, there has been increased emphasis on consumption mandates. Currently four states (Hawaii,

Montana, Minnesota, and Washington) have such mandates in place. Several other states, including Wisconsin, are considering such measures. The combination of production incentives and consumption mandates have yielded a myriad of policies that address both the supply and demand sides of energy markets.

Measuring the Impacts of Public Biofuels Policy

If we consider the effect public policy has had on addressing the social objectives identified earlier, results are mixed.

(1) Reduce Reliance on Foreign Oil

The question of whether we are reducing reliance on imported oil turns on how we quantify "reducing." In some cases, the objective has been to achieve energy independence. This is simply not possible given current technology and consumption patterns. If half of the nation's corn were used to make ethanol, for example, current technology would yield about 15 billion gallons of ethanol per year. We currently use about 385 million gallons of gasoline per day (Energy Information Administration), so devoting half of our corn crop to ethanol would yield production equal to about 10.5 percent of total gasoline consumption.

Energy independence is even less feasible on the biodiesel side. Each year the United States produces about 23.7 billion pounds of vegetable oil and 11.6 billion pounds of animal fat — the primary feedstocks for biodiesel production (Pearle). Devoting 100 percent of available feedstocks to biodiesel production would yield 4.64 billion gallons, about 15 percent of current U.S. petroleum diesel consumption. Clearly, achieving energy independence through the production of ethanol and biodiesel with conventional feedstocks is not realistic over the next decade or so. Becoming energy independent will require additional feedstocks (e.g., commercially viable cellulosic ethanol production), other alternate energy supplies (e.g., hydrogen based transport, increased adoption of hybrids, etc.), and a reduction in overall transportation fuel consumption. While some advocates see corn-based ethanol as a major contributor to energy independence, others view it as a bit player at best (Woolsey).

Part of the discussion of energy independence centers on price. There's a perception that we are paying too much for transportation fuel, which puts a drag on the overall economy.[5] If price is the key issue, reduced dependence might be seen as an acceptable alternative to independence. If so, the odds of achieving the objective increase. In the short run, the demand for transportation fuel is relatively price inelastic: Even a small increase in total supply can cause a large reduction in overall price. While estimates vary, Gwartney and Stroup report the short-run price elasticity for gasoline at -0.2. This means that a 1 percent increase in the price of gasoline reduces consumption by only 0.2 percent. It also means that a relatively small increase in fuel supply will result in a disproportionate price decrease. Just as

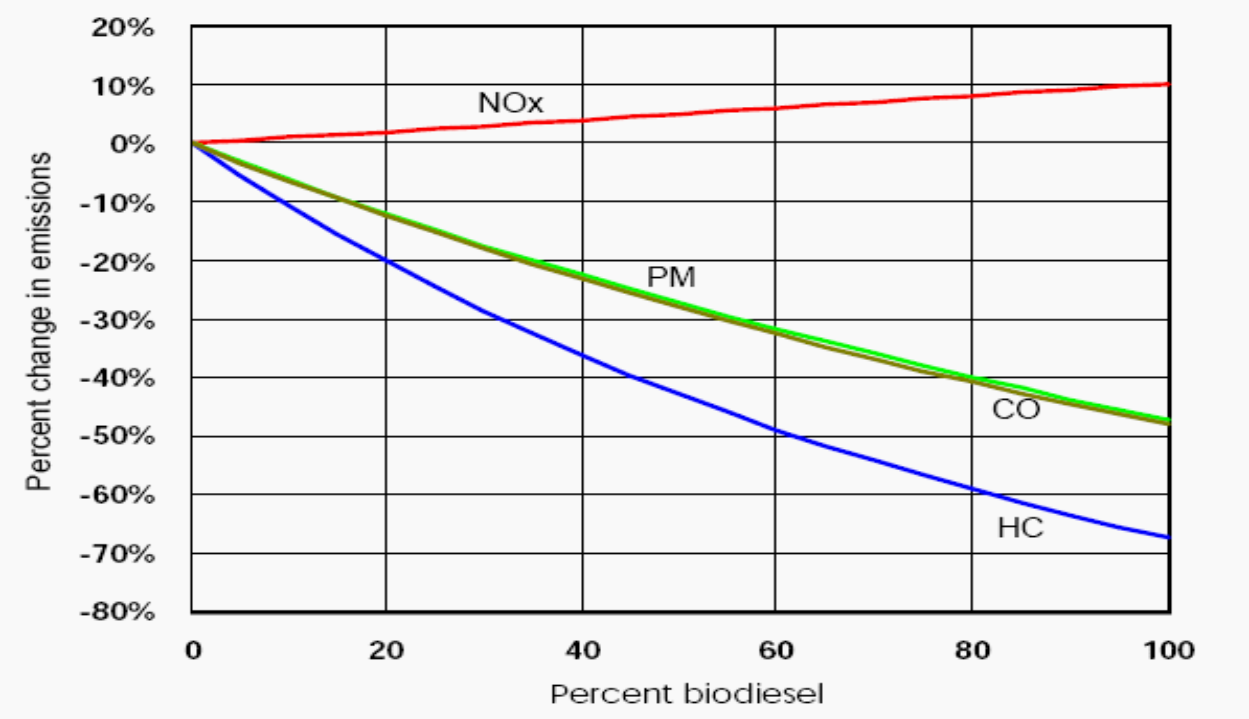
[5] This argument appears completely focused on nominal price, and is not consistent with historical experience. For example, gasoline consumption currently represents 3 percent of the average consumer's income. In 1981, it was 5 percent. This means the amount of total "work effort" needed to pay for a year's transport fuel by the average consumer has gone down 40 percent.

consumption does not decrease in proportion to a price increase, it does not increase in proportion to a price decrease. Therefore, any increase in quantity supplied to the market will require a disproportionate price decrease to ensure all supplies put on the market are consumed. As a result, relying on ethanol and biodiesel production to supplement petroleum supply could significantly reduce overall fuel prices. This assumes that we can either produce biofuels at costs that make them competitive with petroleum or subsidize them enough that they can compete with petroleum fuels.

(2) Reduce Noxious Emissions

The second objective, reducing noxious emissions, has become more controversial than biofuel proponents might initially have expected. While it is clear that biofuels offer some environmental benefits, there's debate about the magnitude of the benefits, and whether other negative factors offset the benefits. The figure below provides an example. The Environmental Protection Agency has documented that blending biodiesel with petroleum diesel decreases emissions of carbon monoxide, hydrocarbons and particulates. But as these emissions decrease, nitrous oxide emissions increase.

Emissions Resulting from Biodiesel Use



Source: Environmental Protection Agency

A quick look at the graph might lead one to believe that the net result is improved air quality. But in areas where power plants are already struggling to maintain NOx emissions at acceptable levels, the contribution of an additional NOx sources has proven controversial. The fear is that to compensate for the greater NOx emissions from biofuels, there will be increased regulation of the power generation industry, which is already struggling to meet current NOx targets.

This concern fueled recent debate of a 10-percent-ethanol mandate proposed in Wisconsin. The Wisconsin Manufacturers and Commerce argued that increased ethanol consumption would increase ozone emissions, resulting in increased regulatory burdens for southeastern Wisconsin power companies. WMC argues that utilities will be held accountable for the higher ozone levels, and forced to reduce their own emissions to compensate for ozone created by ethanol use. This, says WMC, will increase prices for utility customers and cause job losses at manufacturing plants unable to absorb higher energy costs.

WMC wasn't alone in making this argument. The Sierra Club of Wisconsin initially argued against the mandate out of concern that the net environmental impact would be negative. They eventually supported the mandate, however, after they were assured that ozone levels would be rigorously monitored, and that the mandate would be suspended in areas where ozone levels increased.

(3) Promote Rural Economic Development

Much of the biofuels discussion at the local level deals with how much local support a biofuels plant should receive. This debate centers on the benefits the plant is expected to generate: employment beyond the plant gates, increased tax base, increased earnings by other local businesses, etc. Several studies point to potential benefits of siting a biofuels plant (see for example Fortenbery (2005), Nelson et al. (2001), and Urbanchuck and Kapell (2002)). But these studies have yielded a wide range of estimates, some of which are inconsistent with the impacts generally realized by other economic development activities (Swensen (2005)).

The table below presents community impacts expected from locating biofuels plants in rural Wisconsin. The numbers come from Fortenbery and Deller, and can be replicated with *Community Impacts of Biodiesel and Bio-Ethanol Plants*, a software package developed to help communities estimate local benefits from biofuels plants. Each entry in the table is Wisconsin-specific. Local benefits associated within each type plant would likely be different in other states.

The impacts for each plant are presented as a set of multipliers categorized as *direct*, *indirect*, and *induced*. The column labeled *direct* identifies impacts at the plant itself. These are all equal to 1.0 — for each employee the plant hires, total community employment goes up by one person. The *indirect* column shows impacts from transactions between the ethanol plant and other businesses (e.g., utilities, transport firms, office supply companies, etc.). The *induced* category represents additional impacts from activity

associated with biofuel plant employees spending wages in the local economy. The total is the sum of all economic activity created. The multipliers all show positive increases in local economic activity, but the impacts vary across both plant type and plant size. A clear understanding of potential impacts for any specific plant configuration is critical in determining the return on investment associated with committing local public resources to plant development.

Estimated Multipliers by Plant

	Direct	*Indirect*	*Induced*	*Total*
Jobs				
Four Million Gallons/Year – Biodiesel	1.00	0.25	0.45	1.70
Ten Million Gallons/Year – Biodiesel	1.00	.55	1.00	2.55
Forty Million Gallons/Year - Ethanol	1.00	1.43	1.98	4.40
Industry Output				
Four Million Gallons/Year – Biodiesel	1.00	.05	.06	1.11
Ten Million Gallons/Year – Biodiesel	1.00	.04	.05	1.09
Forty Million Gallons/Year - Ethanol	1.00	.08	.51	1.68
Total Income				
Four Million Gallons/Year – Biodiesel	1.00	.46	.62	2.08
Ten Million Gallons/Year – Biodiesel	1.00	1.03	1.38	3.41
Forty Million Gallons/Year - Ethanol	1.00	.36	.39	1.75

(4) Increase Demand for Basic Agricultural Commodities

The goal of increasing demand for locally produced commodities is focused on increasing local commodity prices. As one might expect, using more local products does have a positive price impact, but impacts vary significantly by location. In 2005, McNew and Griffith looked at changes in local corn prices resulting from local ethanol production. Their analysis of 12 plants across 4 states found local price impacts ranging from less than 5 cents per bushel (i.e., the local basis improved by less than 5 cents per bushel) to more than 19 cents per bushel. The variation reflects differences in initial market conditions at each location. Areas that had a net surplus in corn (i.e., a significant amount of local corn was exported to other markets) saw a smaller price impact than did communities that were already using most of the local crop or were net importers of corn.

In addition to looking at local price impacts, McNew and Griffith also looked at impacts up to 150 miles away. Again, results varied by location. In some cases the price impact was quite large; in others there was minimal impact 150 miles out.

The McNew and Griffith analysis included plants in two Wisconsin communities: Monroe and Stanley. They found local corn prices in Monroe had increased about 7 cents per bushel due to ethanol plant activity. In Stanley, the price impacts were somewhat larger, almost 11 cents per bushel. When they looked at impacts 150 miles out, the Monroe plant had the smallest impact of all plants in the sample: 1.5 cents per bushel. So the Monroe plant benefited a smaller geographic area than did other ethanol facilities. The largest impact 150 miles out was 12 cents per bushel, associated with a plant in Rosholt, South Dakota.

As ethanol production expands, we would expect to eventually see an impact in most markets, spurring an increase not only in local prices but on the national average price as well. Some analysts attribute the unprecedented fall 2006 corn price rally to the growth in ethanol production. However, this overstates ethanol's influence. Several other factors contributed to the price appreciation, including speculative activity that, at least in the short run, does not appear driven by the underlying balance sheet for corn (see the corn outlook section elsewhere in this publication). Ethanol plants' demand for corn was known going into the harvest season. While we would expect higher prices than would have existed with less ethanol production, there were no surprises on the ethanol side that would explain why the price increased more than $1 per bushel in just a few weeks. Two things did happen: 1) USDA revised their production estimates down significantly as the harvest season progressed; and 2) substantial amounts of risk capital was shifted from energy and other markets into agricultural commodities markets. In fact, if ethanol production had spurred the recent price rally, we would expect to see commercial users of corn being the primary buyers. In fact, we saw the exact opposite: Through most of the harvest season, speculators were the large buyers of corn and commercials were net sellers. The figure below shows the price of the nearby corn futures contract and the net long position of futures traders (the total number of long positions minus the total number of short positions as reported in the Commitment of Traders Reports by the Commodity Futures Trading Commission). What we see is a strong correlation between price levels and the size of speculators' market positions.

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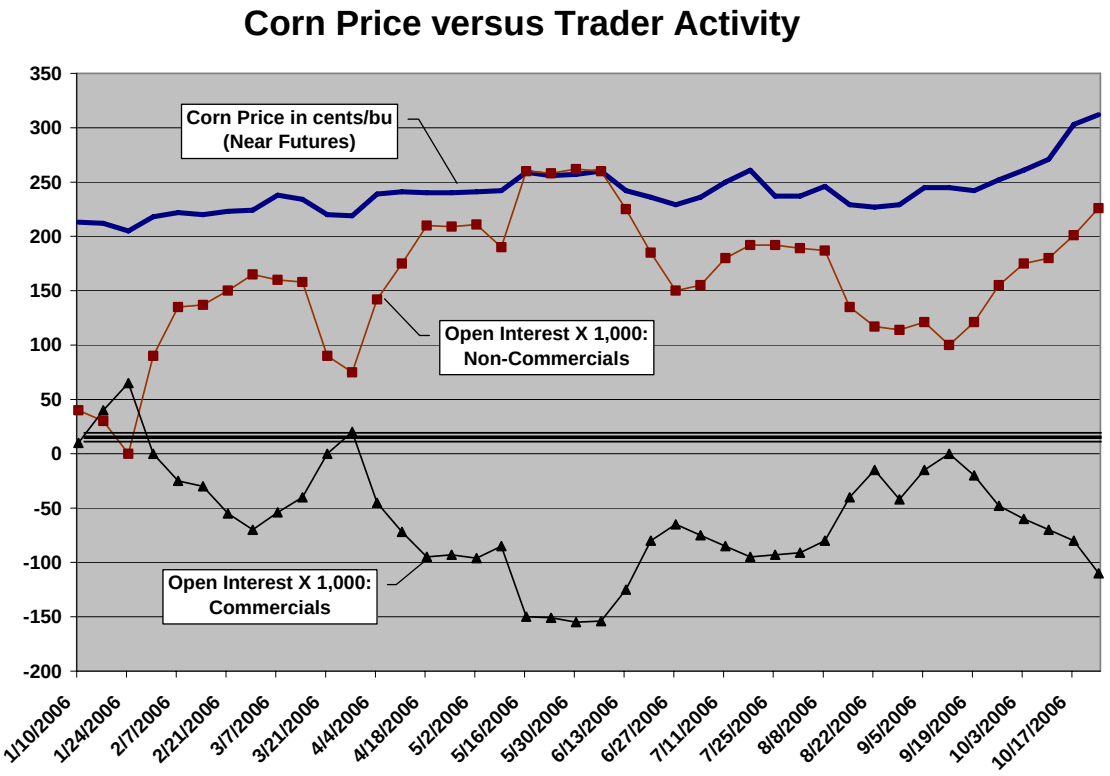
Local price improvements in soybeans will be driven by crush activity, not directly by biodiesel production. If local soybeans are shipped elsewhere to be crushed, while a local biodiesel uses soybean oil from outside the area, soybean prices will show little or no improvement in the short run (in the long run, any price improvement will be related to increases in national average prices, not local biodiesel production). Thus, a community looking to use biodiesel production to elevate soybean prices also will need to invest in a crush facility to supply oil to the local biodiesel plant. While the community will have a market for oil from the crushing facility— the biodiesel facility — the it also will need to identify a market for soybean meal. Historically, the profitability of crush facilities has been driven by the price of meal, with oil being considered a byproduct. The growth of biodiesel may shift the emphasis from meal to oil production, but profitably marketing soybean meal will still be critical to the crush plant's survival.



Conclusions

Despite record profits by ethanol plants in 2006, the growth in U.S. biofuels production has been driven by public policy, not market incentives. Policies to date have focused on improving both the supply and demand, and are directed toward several objectives. Some of the objectives are feasible. Meeting others will require additional innovations in production technology as well as reducing overall energy consumption.

Sales of biofuel feedstocks have had a positive impact on local market prices, but not enough to explain the commodity price rallies experienced in fall 2006. Longer term, price increases will encourage substitution away from other uses of primary commodities (feed use and exports) and encourage development of alternate feedstocks for biofuels production. As production capacity adjusts to new demand (whether spurred by public policy or by increases in petroleum prices), biofuels markets will become commodity markets. Historically, commodity markets generate relatively low long-run average returns, although there can be periods of abnormally high profits. Public policy can help create a more favorable economic environment than that usually associated with commodity markets. But this approach will require significant public investment, and generally must generate social benefits that outweigh the costs of insulating industry participants from market pressures.

References

Commitment of Traders Reports. Commodity Futures Trading Commission. Various issues.

Energy Information Administration (2006). United State Department of Energy, www.eia.doe.gov

Fortenbery, T.R. (2005). "Biodiesel Feasibility Study: An Evaluation of Biodiesel Feasibility in Wisconsin," Department of Agricultural and Applied Economics, UW-Madison, Staff Paper No. 481.

Fortenbery, T.T. and S. Deller (2006). "Understanding Community Impacts: A Tool for Evaluating Externalities from Local Bio-Fuels Production," Staff Paper No. 505, December.

Fortenbery, T.R., S. Deller, H. Park, and B. Thomas (2005). Community Impacts of Bio-diesel and Bio-Ethanol Plants, stand-alone software. www.aae.wisc.edu/renk.

Gwartney, J., R. Stroup, and R. Sobel (1999) . Economics: Private and Public Choice, 9th edition. Dryden Press.

McNew, K. and D. Griffith (2005). "Measuring the Impact of Ethanol Plants on Local Grain Prices," Review of Agricultural Economics, 27(2):164-180.

National Biodiesel Board (2006). www.biodiesel.org

Nelson, R., MARC-IV Consulting, and J. Leatherman (2001). "Kansas Soybean Based Biodiesel IMPLAN Analysis: Estimating the Impact of a Soybean Processing and Biodiesel Production Plant in the Crawford and Ford Counties and the State of Kansas," Kansas Soybean Commission and Energy Programs Division – Kansas Corporation Commission.

Pearle, G. "Animal Fat Potential for Bioenergy Use," Bioenergy 2002, the Tenth Bioenergy Conference, Boise, Idaho, Sept. 2002.

Renewable Fuels Association (2006). www.ethanolrfa.org.

Swensen, D. (2005). "Model Economic Analyses: An Economic Impact Assessment of an Ethanol Production Facility in Iowa", Department of Economics, Iowa State University, http://www.econ.iastate.edu/research/webpapers/paper_12226.pdf.

Sierra Club, Wisconsin John Muir Chapter. http://wisconsin.sierraclub.org/tracker/AB15.html

Urbanchuck, J. and J. Kapell (2002).. "Ethanol and the Local Community", AUS Consultants and SJH and Company, http://www.ethanolrfa.org/Ethanol_Local_Community.PDF.

U.S. Department of Energy. www.energy.gov

Wisconsin Manufacturers and Commerce (2006). www.wmc.org/MediaOutlet/display.cfm?ID=1277

Woolsey, James. Former Director of the Central Intelligence Agency. Wall Street Journal, Editorial Page, September 22, 2002.

Current Prospects for the 2007 Farm Bill

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Early last year, farm policy analysts were saying that new farm legislation in 2007 would be influenced by two factors: federal budget considerations and multilateral trade negotiations. They were half right. In July 2006, the Doha round WTO negotiations were suspended indefinitely, and there is only a remote possibility that they will be resurrected in 2007. This removes the trade liberalization "hammer" — in particular, restrictions on the use of farm payments tied to current production — that likely would have influenced the farm policy debate. Moreover, the trade talk stalemate has made it almost certain that a new farm bill will be drafted. Legislators will not simply extend the current Act pending the (now unlikely) completion of the Doha round. The new chairmen of both the House and Senate agricultural committees have emphasized their intentions to complete a new farm bill in 2007 — one that will not be bound by constraints associated with a WTO agreement on agricultural trade.

Budget issues are still germane to the farm bill debate. In fact, they have become even more so, because the Bush administration has requested large additions to funding for the Iraq war and because of a stalemate in completing the FY2007 budget. And now a new factor has come into play: the change in party leadership resulting from the mid-term Congressional election. What follows is a speculation on how these changes and other recent developments will affect the nature of the 2007 farm bill.

Budget Constraints?

Current and anticipated federal budget deficits remain an issue in defining farm programs. In August 2006, the Congressional Budget Office (CBO) forecast annual deficits averaging about $300 billion through 2010. Matters were likely made worse by tax cuts passed in the lame-duck December 2006 legislative session and by a $100 billion request for additional defense spending — unless the tax cuts stimulate economic growth that generates sufficient tax revenue to offset the increased spending.

The most recent (March 2006) CBO budget baseline projects that the Federal government will spend $488 billion for agricultural programs during FY2008–2013, the expected life of the 2007 farm bill. While this is more than what was authorized for 2002 farm bill spending (FY2002–07), that projection includes a substantial increase in nutrition programs and a reduction in commodity program spending (from $99 billion to $66 billion). In a mid-December letter to President Bush, Bob Stallman, president of the American Farm Bureau Federation, predicted that the CBO would further reduce commodity program spending in its March 2007 baseline to $57 billion.

This lower baseline is likely based on the assumption that commodity prices will be higher during the next five years due mainly to ethanol-driven demand for corn. Higher commodity prices mean lower countercyclical and loan deficiency payments under current commodity

program provisions. Nevertheless, adherence to this baseline spending could induce Congress to alter commodity programs by trimming those aspects that involve making farm payments when prices are low. Alternatively, a frugal Congress might cut direct payments that are not tied to commodity prices in order to retain countercyclical payment authority.

Stallman of Farm Bureau noted that cutting spending authorization for commodity programs could also affect future multilateral trade deliberations. If the United States is obligated to make large percentage cuts in domestic agricultural support (a part of the last U.S. proposal offered in the Doha talks), then smaller spending authorization will reduce the base level of support and require larger cuts.

One prominent agricultural policy guru, Professor Barry Flinchbaugh of Kansas State University, pooh-poohs farm organizations' hand-wringing over the impact of budget deficits on farm program spending. He notes that while recent budget deficits are large in dollar values, they are small and getting smaller as a percent of Gross Domestic Product (GDP). Hence, he argues, deficits will not be a big constraint on farm programs. He also points out that there's a difference between the amount of spending Congress authorizes and the amount it ultimately appropriates. He recalls the 1986 farm bill, which authorized $42 billion in farm commodity program spending but ended up costing $84 billion.

The first order of business for the 110th Congress will be the long-delayed consideration of the FY 2007 budget bills. Only two of 11 bills have been passed, those for Homeland Security and Defense. The lame-duck 109th Congress passed a continuing resolution that funds most agencies at FY2006 levels through February 15, 2007. Congress is expected to pass an omnibus budget bill in March. When that legislation is enacted, we'll have a somewhat clearer picture of how much anticipated spending cuts will influence the 2007 farm bill. But if history is any guide, the picture will still be murky.

New Committee Leadership

The Nov. 7 Congressional election gave the Democrats majority control of both the U.S. Senate and House of Representatives. As a result, committee leadership will change in the 110th Congress. So will membership on committees.

The new House and Senate Ag Committee Chairs are Collin Peterson (D-Minn) and Tom Harkin (D-Iowa), respectively. Peterson replaces Bob Goodlatte of Virginia, while Harkin replaces Saxby Chambliss of Georgia. These changes foretell major shifts in both regional and philosophical emphasis of federal farm programs.

One obvious change is a shift in emphasis from Southern commodities — peanuts, cotton and rice — to Midwestern commodities such as corn and soybeans. Less obvious is the possibility of more support for large commodity payments. In 2005, Harkin's Iowa led the nation in collecting direct farm payments at $2.3 billion; Chambliss' Georgia ranked 15th at $665 million. On the House side, Peterson's state of Minnesota ranked 5th in payments at $1.4 billion; Goodlatte's Virginia was 29th at $235 million.

The Republican chairs expressed willingness to work with Secretary of Agriculture Mike Johanns and the Bush administration on significantly altering farm legislation, mainly to conform to expected trade liberalization and to spend less money. The new agricultural committee chairs have expressed a preference for continuing current programs — with a bit of tweaking.

In addition to the changes on the agricultural committees, the mid-term Congressional election brought leadership changes in other committees that have a bearing on farm programs. Perhaps most important from the perspective of Wisconsin agriculture, Congressman Dave Obey (D-Wis) is the new chair of the House Appropriations Committee, and Senator Herb Kohl (D-Wis) will head the Agricultural Appropriations Subcommittee of the Senate Appropriations Committee. These positions are influential in approving funding for agricultural programs.

Senator Joe Lieberman (Ind-Conn), who will head the Senate Environment and Public Works Committee, has sponsored legislation to increase ethanol production and use. Hence, he will likely lend support to renewable energy initiatives introduced in the farm bill. Rosa DeLauro (D-Conn) replaces Henry Bonilla (R-Texas) as chair of the House Agricultural Appropriations Subcommittee. Bonilla was a major opponent of country-of-origin labeling (COOL), so his departure should expedite passage of mandatory labeling within the farm bill.

What do the Agricultural Committee chairs want?

It is instructive to look at the records and the post-election statements of the Agricultural Committee chairs to forecast the major elements of the 2007 farm bill debate. Of course, while what the chairs want is important, there is no guarantee they will get what they want. A majority of committee members must be satisfied to get proposals out of committee.

Congressman Peterson

General: Peterson has represented the heavily-rural 7th Congressional District of Minnesota since 1991. His district includes a large portion of the cultivatable land in the state. He has been a member of the House Agricultural Committee since his election. He was named ranking member in January 2005, replacing long-time ranking member Charlie Stenholm (D-Texas), who was defeated in the 2004 election.

Peterson is considered one of the most conservative Democrats in Congress, often voting with Republicans on social issues like gay marriage, abortion, and capital punishment. He was one of the seven original founders of the Blue Dog Coalition of conservative House Democrats. On the other hand, he has opposed tax cuts and most free trade agreements, and has usually voted with Democrats on economic issues.

Peterson has pledged that drafting the new farm bill within the House of Representatives will be a more open process than in the recent past, when Republican committee members did most of the drafting and presented proposals for full committee vote. He intends to rely on

subcommittees to outline provisions within their purview.

The current subcommittees of the House Agricultural Committee are: Conservation, Credit, Rural Development and Research; General Farm Commodities and Risk Management; Specialty Crops and Foreign Agriculture Programs; Department Operations, Oversight, Dairy, Nutrition and Forestry; and Livestock and Horticulture. It is likely that these subcommittees will be renamed and restructured, with specific commodity programs perhaps shifted among committees. Peterson has also noted he wants to create a 6th subcommittee to deal with matters related to renewable energy or make energy a prominent part of an existing subcommittee.

Renewable energy: Congressman Peterson is a strong proponent of crop-based energy sources. But his emphasis would be more on promoting cellulose-based ethanol and biofuels than on corn-based ethanol. He has been quoted as stating that corn-based ethanol plants, "… don't need a whole lot of help." Peterson has promised to provide significant funding for research on alternative feed stocks for fuel production. He also supports modifying the longstanding Conservation Reserve Program (CRP) to induce growing certain cellulosic crops, such as switchgrass, on land enrolled in CRP. Since there is no current market for these crops, participating farmers would receive additional payment beyond CRP rental rates.

Disaster Relief: Peterson is committed to building disaster relief into the 2007 farm bill rather than continue to providing it ad hoc. While details of such a program are not well-defined, they would require that farmers purchase some minimal level of crop insurance to be eligible for disaster relief. In the past, farmers have been lukewarm to linking disaster assistance to purchase of crop insurance, mainly because they have been quite successful in obtaining disaster aid without incurring out-of-pocket costs.

Animal ID and COOL: Peterson favors making participation in the National Animal Identification System mandatory, under the notion full participation is the best way to regain and retain Asian beef markets lost to recent BSE cases (Goodlatte, his predecessor, preferred a voluntary approach). He has also expressed support for mandatory labeling of meat products (Country of Origin Labeling, or COOL). Harkin has also vowed to include mandatory country of Origin Labeling in the 2007 farm bill. Mandatory COOL has been controversial. Although it was written into the 2002 farm bill, implementation has twice been delayed. Under current law, mandatory COOL (except for shellfish) has been postponed until October 1, 2008.

Sugar Program: Sugar beets are a major crop in Congressman Peterson's district, which includes the Red River Valley of Minnesota. Reflecting the economic interests of his constituents, Peterson has declared the sugar program off limits. The program floors beet sugar prices (refined) at 22.9 cents per pound, about double the world market price, and requires high over-quota tariffs and complex quota allocation mechanisms to limit sugar imports. Peterson has vowed to work with the Bush Administration to minimize pressures from sweetener users to modify the sugar program.

Senator Harkin

General: Tom Harkin served five terms as Congressman of the rural western 1/5 of Iowa before winning election to the Senate in 1984. He has served on the Senate Agricultural Committee since his election and was committee chair during the 107th Congress (2001-02), when the 2002 farm bill was drafted. He was the ranking committee member from 1997-2000 and from 2003-06.

In contrast to Peterson, Harkin is one of the more liberal members of Congress. He has received a 100-percent favorable rating from the National Association for the Repeal of Abortion Laws and an "F" from the National Rifle Association. On the Agricultural Committee, he has championed populist positions including producer-approved mandatory supply control (Save the Family Farm bill, S.658.)

Harkin is in harmony with Peterson on the timing of the 2007 farm bill, looking for a draft to be completed before the August recess. He also supports using the 2002 farm bill as a starting point for the debate.

Conservation: Harkin is passionate about conservation. He joined Senate Agricultural Committee ranking member, Senator Richard Lugar to push through an expansive conservation title in the 2002 farm bill that included new programs and significantly expanded funding for programs authorized under previous farm bills (see appendix). He drafted the Conservation Security Program (CSP), which pays farmers for adopting conservation practices on working lands rather than paying them for retiring environmentally sensitive lands (e.g., the Conservation Reserve Program (CRP)). The program was never funded at authorized levels ($10 billion over the life of the 2002 farm bill), and Harkin is committed to full implementation in the new farm bill. It is likely that he will also support other efforts aimed at "greening" farm legislation — offering payments for adopting conservation and environmental protection practices rather than for offsetting low commodity prices.

Renewable Energy: Like Peterson, Harkin is an ardent supporter of developing alternative agricultural-based energy sources. In recent interviews, he has emphasized that the energy title will be the driving force of the 2007 farm bill. Harkin recognizes the limitations of corn as the principal feed stock for ethanol and the negative implications of elevated corn prices on the livestock sector. Consequently, he will likely push for creating incentives to use other agricultural biomass sources for ethanol.

Antitrust: Senator Harkin strongly favors restraints on the market power of meat packers and reforms on livestock producer contracts. He unsuccessfully attempted to build contracting safeguards into the 2002 farm bill. Disappointed with USDA enforcement of Packers and Stockyards Act provisions, he introduced the Competitive and Fair Agricultural Markets Act of 2006 in March 2006. Among other things, the bill would have created an Office of Special Counsel for Competition Matters within USDA and broadened prohibitions on unfair trade practices, especially those related to production contracting. Look for Harkin to build the major features of his free-standing bill into the 2007 farm bill.

What Will Emerge From the Farm Bill Debate?

The economic environment in agriculture today is different than it was in 2002. Perhaps most important, ethanol-driven demand for corn has heightened price expectations for both crops and livestock. Some analysts expect corn prices in the range of $3–4 per bushel over the next several years as existing and under-construction ethanol plants pull larger and larger volumes of corn from the market. The higher corn prices will pull acreage away from other crops, reducing the supply and raising the prices of those crops as well. Higher feed prices will lift meat and livestock prices across the board. Higher market prices would suggest less need for subsidies.

There is also stronger support than in the past for shifting from subsidies to payments to promote conservation, farmland and landscape preservation, cropping diversity, and other multifunctional aspects of agriculture. This support comes from traditional environmental and sustainable agriculture groups, and more recently from others who believe that federal dollars for agriculture should be used for more than income support. It also reflects a lingering concern that current farm programs are at odds with what will ultimately come out of multilateral trade negotiations, and that the U.S. needs to restructure farm supports to remain WTO-compliant. It also reflects increased public scrutiny of the skewed distribution of direct farm payments and lax rules pertaining to eligibility (i.e., many believe that federal farm program money is going to the wrong parties).

The combination of fewer federal dollars to spend on agriculture, less need for price and income support, and broader farm program objectives would seem to signal a significant restructuring and redirection of farm policy in 2007.

But while the economic environment may be different from 2002, the political environment has changed little. The farm lobby has been extremely effective at derailing efforts to move away from traditional price and income support programs and to constrain individual farm payments. And the farm lobby seems to have allies in the new chairs of the Agricultural Committees.

The bottom line is that fundamental changes in direction are unlikely. But there will be some changes in focus:

- Renewable energy will receive a lot of attention in the 2007 farm bill debate. The new energy title will contain several subtitles, including targeted funding for research on energy crops, incentives to produce and process ethanol-producing crops other than corn, and, possibly, cost-sharing for methane production from manure. Some funding for supporting renewable energy production will come from commodity programs, and there will be creative efforts to ensure commodity program losses are offset with subsidies for energy production, at least at the regional level.

- The conservation title of the 2007 farm bill will have a different appearance and beefed-up programs, especially those applying to working lands. The Conservation Security Program

will be re-enacted and fully funded. Some money will shift from commodity payments to conservation payments. The 2007 farm bill will be greener than its predecessor, but more like olive drab than emerald.

- Commodity groups will battle over splitting a smaller pie than existed in 2002. Cotton and rice are vulnerable in these battles because of the highly-skewed distribution of payments toward large producers and the loss of Southern influence on the agricultural committees.

- Other battles will also involve tradeoffs. Direct payments unrelated to price levels will be under attack with efforts to reallocate limited funding to countercyclical payments. Members of Congress both inside and outside the agricultural committees will see little justification in the government paying corn farmers 28 cents per bushel if corn prices are expected to be over $3.00 per bushel. Arguments that direct payments promote rural development will be countered with arguments that conservation payments do the same thing but better.

- Payment limits will be reduced and loopholes closed. Neither agricultural committee chair has stated this and neither likely support constraining payments. But the public is not happy about the unequal distribution of farm payments and the farm bill must pass the full Congress, not just the agricultural committees.

- There will be a new farm bill but it may not be passed in 2007, despite the assurances of the agricultural committee chairs. Starting with the 2002 farm bill will not make quick passage an easy task, especially if there are binding budget constraints. Tradeoffs take time to negotiate, and there will be many tradeoffs in the new bill.

Appendix: Farm Security and Rural Investment Act of 2002

Title	*Subtitles*
TITLE I—COMMODITY PROGRAMS	Subtitle A—Direct Payments and Counter-Cyclical Payments Subtitle B—Marketing Assistance Loans and Loan Deficiency Payments Subtitle C—Peanuts Subtitle D—Sugar Subtitle E—Dairy Subtitle F—Administration
TITLE II—CONSERVATION	Subtitle A—Conservation Security Subtitle B—Conservation Reserve Subtitle C—Wetlands Reserve Program Subtitle E—Grassland Reserve Subtitle F—Other Conservation Programs Subtitle G—Conservation Corridor Demonstration Program Subtitle H—Funding and Administration
TITLE III—TRADE	Subtitle A—Agricultural Trade Development and Assistance Act of 1954 and Related Statutes Subtitle B—Agricultural Trade Act of 1978 Subtitle C—Miscellaneous
TITLE IV—NUTRITION PROGRAMS	Subtitle A—Food Stamp Program Subtitle B—Commodity Distribution Subtitle C—Child Nutrition and Related Programs Subtitle D—Miscellaneous
TITLE V—CREDIT	Subtitle A—Farm Ownership Loans Subtitle B—Operating Loans Subtitle C—Emergency Loans Subtitle D—Administrative Provisions Subtitle E—Farm Credit Subtitle F—General Provisions
TITLE VI—RURAL DEVELOPMENT	Subtitle A—Consolidated Farm and Rural Development Act Subtitle B—Rural Electrification Act of 1936 Subtitle C—Food, Agriculture, Conservation, and Trade Act of 1990 Subtitle D—SEARCH Grants for Small Communities Subtitle E—Miscellaneous
TITLE VII—RESEARCH AND RELATED MATTERS	Subtitle A—Extensions Subtitle B—Modifications Subtitle C—Repeal of Certain Activities and Authorities Subtitle D—New Authorities Subtitle E—Miscellaneous
TITLE VIII—FORESTRY	Subtitle A—Cooperative Forestry Assistance Act of 1978 Subtitle B—Amendments to Other Laws Subtitle C—Miscellaneous Provisions
TITLE IX—ENERGY	None
TITLE X—MISCELLANEOUS	Subtitle A—Crop Insurance Subtitle B—Disaster Assistance Subtitle C—Tree Assistance Program Subtitle D—Animal Welfare Subtitle E—Animal Health Protection Subtitle F—Livestock Subtitle G—Specialty Crops Subtitle H—Administration Subtitle I—General Provisions Subtitle J—Miscellaneous Studies and Reports