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New York Economic Handbook 2010



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This publication contains information pertaining to the general economic situation and New York agriculture. It is prepared primarily for use by professional agricultural workers in New York State. USDA reports provide current reference material pertaining to the nation's agricultural situation. Many of these reports are available on the internet. Click on "Newsroom" at the following website:

<http://www.usda.gov/wps/portal/usdahome>

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<http://aem.cornell.edu/outreach/publications.htm>

Chapter 1. Websites for Economic Information and Commentary

Steven C. Kyle, Associate Professor

1. <http://rfe.org> *Resources for Economists*
This American Economics Association website has an encyclopedic list of all sorts of web-based economics sites.
2. <http://www.economagic.com/> *Economagic -- Economic Times Series Page*
Economagic is an excellent site for all kinds of U.S. economic data, including national income accounts, the Federal Reserve, the Bureau of Labor Statistics and more. The site includes a very useful graphing function and allows downloads to excel worksheets as well as simple statistical functions.
3. <http://www.econstats.com/> *Economic Statistics*

EconStats is another site with links to all kinds of US data. It also has links to data for many other countries.
4. <http://www.whitehouse.gov/issues/economy/> *Economics Statistics Briefing Room*
This is the White House site for overall economics statistics. This also includes links to other parts of the government.
5. <http://www.cbpp.org/index.html> *Center on Budget and Policy Priorities*
The Center on Budget and Policy Priorities is a non-partisan web site that focuses on economic policies related to the budget and their effects on low- and moderate-income people.
6. <http://www.argmax.com/> *ArgMax*
This is an excellent site for economic news, data links and analysis.
7. <http://www.econlib.org/> *Library of Economics and Liberty*
The Library of Economics and Liberty web site features articles and links to many books and other economics related resources.
8. <http://www.heritage.org/> *Heritage Foundation*
The Heritage Foundation comments on economic policy from a conservative viewpoint. This link takes you to a very useful federal budget calculator that will help you understand what the federal government spends its money on and where they get the money from.
9. <http://www.kowaldesign.com/budget/> *Budget Explorer*
This site contains a budget explorer which I like because it allows you not only to calculate your own budget but also links to the various executive branch departments with spending authority, so you can see exactly where the money is going.
10. <http://www.concordcoalition.org/> *The Concord Coalition*
The Concord Coalition is a non-partisan group advocating a balanced budget. Their site contains very useful graphs and projections showing what current taxing and spending proposals mean for the federal budget in the years ahead.
11. <http://www.economy.com/dismal/> *The Dismal Scientist*
This is a very good web site for evaluations of current statistics and policy.

12. <http://www.federalbudget.com/> *National Debt Awareness Center*
The National Debt Awareness Center has a useful graph providing up to date information on the size of the national debt and what the Federal Government is spending money on.
13. <http://www.ombwatch.org/> *OMB Watch*
OMB Watch is another web site devoted to information on what is happening to the federal budget.
14. <http://www.brook.edu/default.htm> *The Brookings Institution*
The Brookings Institution publishes lots of good articles on current economic and political policy.
15. <http://www.realtor.org> *National Assoc. of Realtors*
Check this site if you want information on real estate.
16. <http://www.census.gov/> *U.S. Census Bureau*
The U.S. Census Bureau web site provides demographic and population numbers.
17. <http://www.briefing.com/Investor/Index.htm> *Briefing.com*
For a more in-depth analysis of stock and bond markets and the factors that influence them, check out Briefing.com.
18. <http://www.imf.org/> *International Monetary Fund*
The International Monetary Fund is an excellent site for data on all member countries, with a particular emphasis on balance of payments, exchange rate and financial/monetary data.
19. <http://worldbank.org/> *The World Bank Group*
The World Bank has cross country data on a wide variety of subjects.
20. <http://www.undp.org/> *United Nations Development Programme*
The UNDP has cross country data with a particular focus on measures of human welfare and poverty.
21. <http://www.fao.org/> *Food and Agriculture Organization of the UN*
The Food and Agriculture Organization of the UN has cross country information on food and agriculture.
22. <http://datacentre2.chass.utoronto.ca/pwt/> *Penn World Tables*
The Penn World Tables are a useful source for a variety of economic data series not available from other sources.
23. <http://www.bls.gov/fls/> *U.S. Department of Labor, Foreign Labor Statistics*
The Foreign Labor Statistics program provides international comparisons of hourly compensation costs; productivity and unit labor costs; labor force, employment and unemployment rates; and consumer prices. The comparisons relate primarily to the major industrial countries, but other countries are included in certain measures.
24. <http://www.kyle.aem.cornell.edu/> *Professor Kyle's Web Site*
Visit my web site for information about me, material contained in this chapter, and my work in the area of economic policy.

Chapter 2. The Marketing System

Kristen S. Park, Extension Associate

Special Topic – The New Economy’s Effect

Everyone is calling it the New Economy. For consumers, this new economy has triggered changes in shopping patterns, diverting spending from restaurants to supermarkets, from supermarkets to discount food retailers, from brands to private label, and from fresh to frozen.

Sales in almost all retail outlets were down in 2009, even in supercenters, the format dominated by Walmart (Table 2 – 1). Declines in food sales can be attributed to changes in the economy (prices) and to changes in shopping behavior. Sales have fallen due to a drop in commodity prices reflected in the Producer Price Index (please see Figure 2 – 1 on page 4) which stabilized many food prices combined with consumers clamping down on food expenses. One way consumers have tightened their belts has been to buy more private label. Private label, or store brands, are 30% cheaper, on average, than national brands enabling consumers to lower their food bill. In addition, consumers are trading down to cheaper substitutes, using lists to limit impulse purchases, and purchasing increasingly using sales, promotions, and coupons.

TABLE 2 – 1. ANNUAL RETAIL AND FOOD SERVICE SALES,
PERCENT CHANGE FROM YEAR AGO

Kind of Business	% change from year ago		
	2007	2008	2009est.
Retail and food services sales, total	3.4	-0.4	-8.2
Automobile dealers	0.8	-14.9	-13.2
Building mat. and supplies dealers	-4.0	-6.5	-11.7
Supermarkets and other grocery (except convenience) stores	4.7	5.1	-1.1
Beer, wine, and liquor stores	5.9	6.3	-3.3
Pharmacies and drug stores	4.9	3.1	2.0
Gasoline stations	5.9	9.6	-26.3
Clothing stores	4.8	-2.2	-10.1
Hobby, toy, and game stores	3.5	6.7	-12.0
Department stores(excl. discount department stores)	-3.0	-7.0	-22.3
Warehouse clubs and superstores	9.1	8.5	-1.6
Used merchandise stores	7.4	5.3	-1.5
Electronic shopping and mail-order houses	8.7	2.5	-3.4
Food services and drinking places	4.8	3.5	1.1

Source: US Department of Commerce, Census Bureau. *Monthly Retail Trade and Food Service Survey*, September 2009. <http://www.census.gov/mrts/www/mrts.html>

Fresh food departments, in particular, have been vulnerable to the recession. Heavily impacted by last year’s increase in commodity prices, fresh foods have been comparatively expensive and vulnerable to substitution. Even within these departments, shoppers have also been switching to less expensive items.

A recent article by The Perishables Group, a consulting firm, (*Grocery Headquarters, September 2009*), examined sales trends in the fresh departments¹. First, with the exception of Bakery, dollar sales in the 52 weeks ending May 23, 2009 increased only slightly over a year ago (Table 2 – 2). However, the increases may actually have been due only to increased retail prices. Unit volume in many cases actually declined.

Each department also saw shifts in consumer spending to more frugal items. In the meat department, ground beef sales were up significantly while steak and beef sales were down. In the produce department staple items such as potatoes and bananas were up while specialty vegetables were down. Bulk lettuce sales increased at the expense of packaged salads, apparently a direct trade-off in consumer spending. Berries did extremely well, although berry prices were very reasonable. Tomatoes were down significantly, but probably due to the food safety scare.

Deli, Bakery, and Seafood also exhibited changes in category sales as consumers shifted their spending. Deli Platter sales were down, perhaps because consumers chose to make up their own platters. On the other hand specialty cheeses, prepared chicken, and pizzas still did well as consumers shifted away-from-home dining to less expensive, convenient at-home meals. In Seafood, catfish was up. Lobster was up as well, but lobster prices were down significantly, so perhaps consumers allowed themselves a treat by purchasing up on lobster. Shrimp sales were down.

Table 2 – 2. TOTAL FRESH FOODS PERFORMANCE,
52 WEEKS ENDING May 23, 2009

Fresh Department	Sales % chg vs year ago	Avg retail price	Interdepartment Shifts
Meat	2.4%	1.8%	<ul style="list-style-type: none"> ↑ ground beef, chicken, turkey ↓ steaks, beef, veal ↑ potatoes, bananas, bulk lettuce, berries
Produce	1.2	5.1	<ul style="list-style-type: none"> ↓ tomatoes, packaged salads, specialty vegetables ↑ specialty cheese, prepared chicken, pizzas
Deli	2.3	4.4	<ul style="list-style-type: none"> ↓ platters ↑ bagels, desserts, breads, rolls, cakes
Bakery	4.3	8.4	<ul style="list-style-type: none"> ↓ muffins, miscellaneous (ingredients) ↑ catfish, lobster
Seafood	1.1	4.4	<ul style="list-style-type: none"> ↓ shrimp

Source: Perishable Group FreshFacts Powered by Nielsen and Lutz, Steve, "The New Frugal Consumer". *Grocery Headquarters*.

The Perishables Group has also examined department trends since May 2009 and found more evidence of this negative correlation between prices and volume. They looked at produce department data. In this most recent data, for 13 weeks this summer, produce retail prices decreased from year ago, a reflection of the drop in Producer Price Index, while volume, at least for vegetables, increased slightly

¹ Lutz, Steve, "The New Frugal Consumer". *Grocery Headquarters*. Fresh Food Handbook Supplement. September 2009.

(Table 2 – 3). Overall, however, the increase in volume was not enough to compensate for the drop in retail prices, and produce sales declined compared with summer 2008. The Perishable Group surmised that consumers were still looking for more bang for their buck and continue to migrate from fresh to frozen and canned.

Product	Dollars per store/week	Volume per store % chg vs year ago	Avg retail price
Produce	-1.1%	1.8%	-3.0%
Fruits	-2.8	-0.0	-3.0
Vegetables	0.3	4.0	-3.7

Source: Lutz, Steve, "New Strategies for a New Economy". Presentation October 4, 2009 for FreshSummit Convention. Produce Marketing Association.

The U.S. Food Marketing System Update

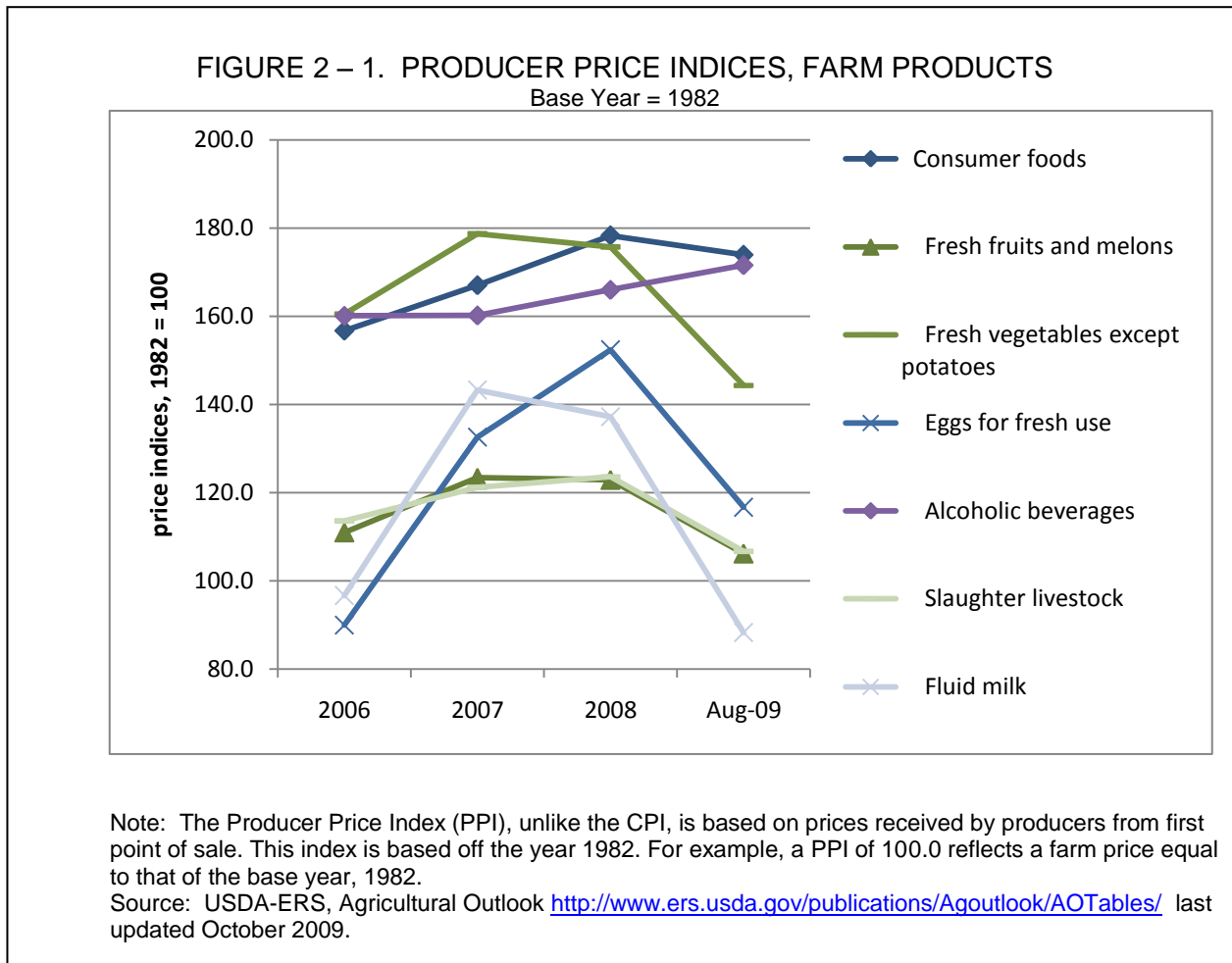
The recession hit every household income bracket in 2009. While 2008 may have seen the greatest food inflation in recent decades, 2009 saw food sales slip in several prime food store departments. Food inflation in 2009 was very modest. In late 2008, the USDA-Economic Research Service initially forecast 4 – 5% inflation for food in 2009, but actual food inflation for the year is now projected to be 2 – 3%. (Table 2 – 4). Egg prices crashed and dairy products prices spent the year in the doldrums. Even fresh fruit and vegetable prices were in survival mode.

Item	Final 2008	Forecast 2009	Forecast 2010
Consumer Price Indexes		<i>Percent change</i>	
All food	5.5	2.0 to 3.0	3.0 to 4.0
Food away from home	4.4	3.5 to 4.5	3.5 to 4.5
Food at home	6.4	1.0 to 2.0	2.5 to 3.5
Meats	3.5	-0.5 to 0.5	1.0 to 2.0
Poultry	5.0	2.0 to 3.0	1.0 to 2.0
Eggs	14.0	-16.0 to -15.0	2.0 to 3.0
Dairy products	8.0	-7.0 to -6.0	2.5 to 3.5
Fresh fruits and vegetables	5.2	-1.5 to -0.5	2.5 to 3.5
Processed fruits and vegetables	9.5	6.0 to 7.0	3.0 to 4.0
Sugar and sweets	5.5	5.0 to 6.0	3.5 to 4.5
Cereals and bakery products	10.2	3.0 to 4.0	2.5 to 3.5

Source: USDA-ERS, Food CPI, Prices, and Expenditures,
<http://www.ers.usda.gov/Briefing/CPIFoodAndExpenditures/Data/cpiforecasts.htm>

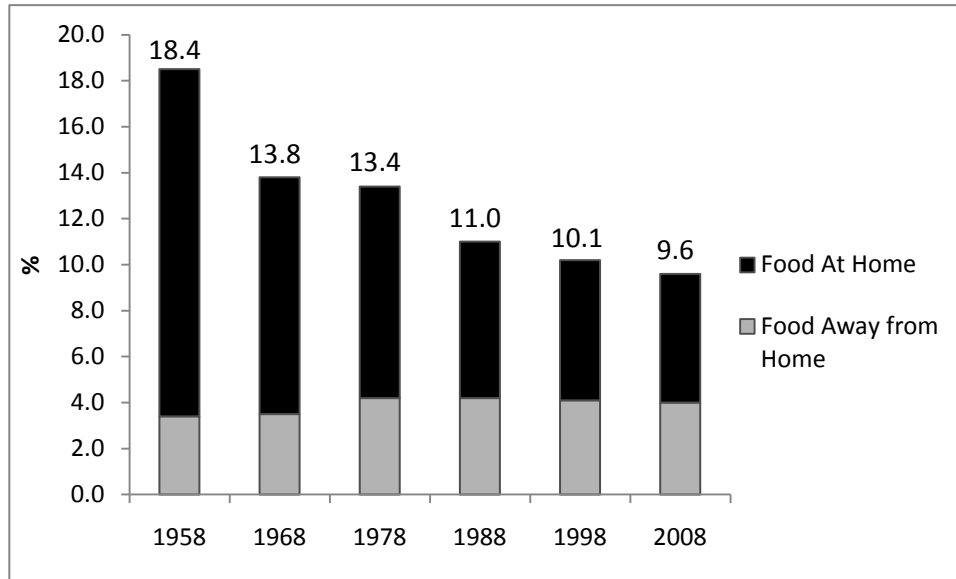
The Producer Price Index

After 2 years of general price increases due to increases in fuel prices and in corn and wheat prices, the PPI dropped sharply for many products (Figure 2 – 1). Fluid milk prices crashed to below 1982 levels. A few general categories have continued to see index gains even through the past year: Bakery Products, Frozen Vegetables, Canned Fruits & Juices, and Tobacco Products.



Despite the economy, food expenditures as a percent of disposable income remain low. Fifty years ago, families and individuals spent 18% of their disposable income on food, while in 2008, food costs only 9.6% of our disposable income (Figure 2 – 2).

FIGURE 2 – 2. FOOD EXPENDITURES AS A SHARE OF DISPOSABLE PERSONAL INCOME



Source: USDA-ERS, Food CPI, Prices and Expenditures.
<http://www.ers.usda.gov/Briefing/CPIFoodAndExpenditures/Data/table7.htm>

The most recent yearly sales figures are for 2008, the year that saw skyrocketing commodity prices early in the year and the start of the worst recession since the depression of the 1930s. Food and beverage sales experienced modest growth in 2008, increasing 3.2% from 2007 (Table 2 – 5). Food away from home sales increases (3.2%) were again outpaced by food at home sales (3.3%).

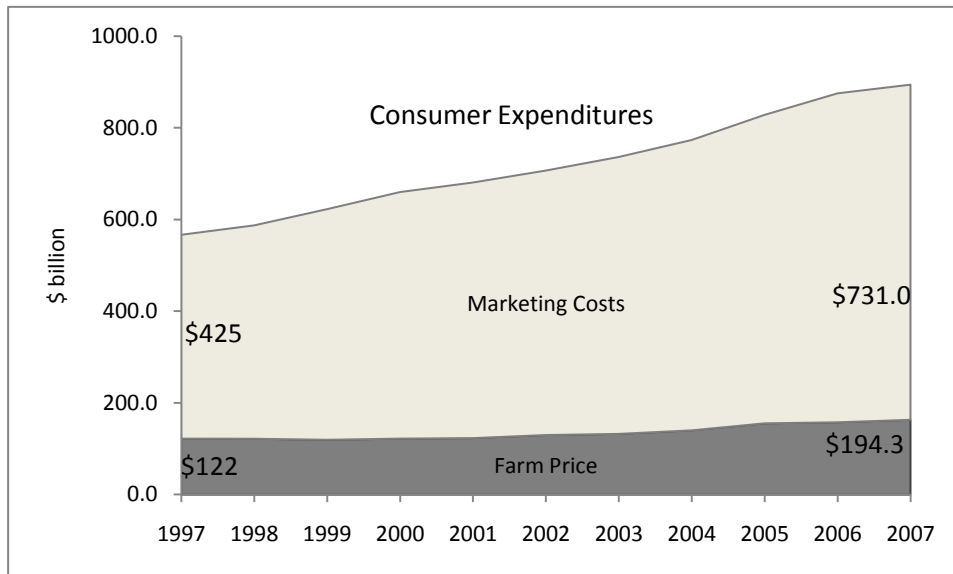
TABLE 2 – 5. FOOD SALES¹

Sector	Sales 2007	2008	Increase	Growth
		--\$ billion--		--% change--
Total food and beverage sales	\$1,239,170	\$1,279,095	\$39,925	3.2%
Total food sales (excluding alcohol)	1,076,002	1,111,131	35,129	3.3
Food at home sales	574,137	593,071	18,934	3.3
Food away from home sales	501,865	518,060	16,195	3.2
Alcoholic beverage sales	163,168	167,964	4,796	2.9

¹ Sales only. Does not include home production, donation, or school lunch program expenditures
 Source: USDA-ERS, <http://www.ers.usda.gov/briefing/CPIFoodAndExpenditures/Data/table1.htm>.

The USDA calculates farm price or value and marketing costs for food produced and consumed in the United States. In 2007, the latest data, consumer expenditures for food produced in the U.S. totaled \$925.3 billion (Figure 2 – 3). The farm value portion was \$194.3 billion or 21% of expenditures. The remainder of food expenditures, \$731.0 billion, are associated with marketing costs, including labor, packaging, transportation, energy, profits, advertising, depreciation, rent, interest, repairs, business taxes, and other costs.

FIGURE 2 – 3. U.S. FARM VALUE AND MARKETING BILL, 1997 - 2007¹



¹ Marketing bill and farm value components of consumer expenditures for domestically produced farm foods
 Source: USDA-ERS Food Marketing and Price Spreads,
<http://www.ers.usda.gov/Data/FarmToConsumer/marketingbill.htm> (updated November 2009).

Chapter 3. Cooperatives

Brian M. Henehan, Senior Extension Associate

Todd M. Schmit, Assistant Professor

Total U.S Cooperative Impacts

The economic impact of cooperatives in the U.S. economy is often overlooked. The cooperative model is used extensively outside of agriculture and is used in a wide variety of contexts, ranging from the production and distribution of energy to delivery of home health care services for the elderly. While significant cooperative research has been conducted regarding the economic impacts of cooperative activities at the state or individual firm level, no set of national-level statistics had been compiled about U.S. cooperative businesses, their importance to the U.S. economy, or their impact on the lives and businesses of American citizens. USDA recently funded a large-national scale project, essentially an economic census of all types of cooperatives, to determine their economic impact in the U.S. The project was conducted by a large team of economic and cooperative specialists at the University of Wisconsin-Madison. We thought it would be useful to summarize some of their initial research results. The text below is adapted from the research report "Research on the Economic Impact of Cooperatives," by S. Deller, A. Hoyt, B. Hueth, and R. Sundaram-Stukel, at the University of Wisconsin Center for Cooperatives (June 19, 2009).

Their census identified 29,284 cooperatives currently operating in the U.S. economy. Surveys were then conducted to collect key business indicators from individual cooperatives. The enumeration of cooperatives by economic sector is shown in Table 3-1. It should be noted that the 'universe' of cooperatives included in the census also included other forms of member-owned business entities such as credit unions, mutual insurance companies, and others. As shown, farm supply and marketing cooperatives accounted for nearly 9 percent of all cooperatives or 2,547 establishments (firms with multiple establishments (or plants) were counted separately). Housing cooperatives and credit unions represented the largest portion of cooperative businesses, accounting for 9,472 and 8,334, respectively, for a combine percentage of over 60 percent. Also prevalent were water/waste treatment and/or supply cooperatives at 3,352, mutual insurance firms at 1,042, and daycare cooperatives at 1,096.

The study identified the revenue generated; income paid to owners and workers (wages, benefits, patronage refunds, and dividends); and numbers of jobs. They then used input-output analysis to examine how these direct economic impacts ripple through the economy to generate additional indirect and induced impacts. Indirect impacts measure the ripple effect that results from connections with other businesses, while the induced impacts measure spending by the cooperative's labor force and its owners with the wages and dividends (or "patronage refunds") they earn.

Total assets across all cooperative business forms amounted to over \$3 trillion dollars, creating \$554 billion in annual revenue, and supporting 856,000 jobs. The total impacts, including indirect and induced effects, are even more eye-opening: cooperatives account for \$652 billion in annual revenue, \$154 billion of income, \$75 billion in wages and benefits, and 2.1 million jobs. To put these numbers in perspective, the \$154 billion in annual income generated represents roughly 1% of the total U.S. Gross Domestic Product (\$14 trillion), and accounts for 30 percent of total agricultural income and 10 percent of consumer finance revenues. Put differently, annual revenues generated by U.S. cooperatives are roughly equivalent to the annual revenues generated by AT&T, Microsoft, and Walmart combined!

We encourage you to check out additional information and details, as well as a copy of their full report, at <http://uwcc.wisc.edu>.

Economic Sector	Number	Percent
Farm Supply/Marketing	2,547	8.84
Grocery & Consumer Goods/Retail	468	1.62
Arts & Crafts/Entertainment	305	1.06
Media	100	0.35
Housing	9,472	32.86
Healthcare	305	1.06
Daycare	1,096	3.80
Transportation	49	0.17
Education	388	1.35
Credit Unions	8,334	28.91
Farm Credit	104	0.36
Mutual Insurance	1,042	3.62
Electric	939	3.26
Telephone	255	0.88
Water/Waste	3,352	11.63
Biofuels	39	0.14
Corporate Finance	29	0.10
Total	28,824	100.00

Source: S. Deller, A. Hoyt, B. Hueth, and R. Sundaram-Stukel. 2009.
 "Research on the Economic Impact of Cooperatives, University of Wisconsin
 Center for Cooperatives, <http://reic.uwcc.wisc.edu>.

U.S. Situation – Farmer Cooperatives

Higher commodity and input prices helped U.S. farmer, rancher, and fishery cooperatives set new sales and net income records over the previous record highs in 2007. Gross business volume was nearly \$192 billion in 2008, up 31 percent from 2007, while net income before taxes was \$4.8 billion, up over 26 percent (Table 3-2). The data reported by USDA are on a calendar year basis. High commodity and input prices were evident for the first 10 months of the year, followed by a significant decline in the last 2 months with the general downturn in the U.S. economy. It remains to be seen how 2009 will unfold; however, the economic recession and lower prices for numerous commodities for much of the year will surely be reflected in 2009 performance levels.

Gross marketings were up over 25 percent in 2008 to \$116.8 billion, primarily due to increased prices of dairy products and grains and oilseeds (Table 3-2). Similarly, cooperative farm supplies sales increased 42 percent to over \$70 billion, reflecting increased energy (petroleum) costs and ingredient prices for feed. Related services of marketing and supply cooperatives increased to \$4.8 billion in 2008. Grain and oilseed marketings still made up the largest proportion of total cooperative marketings in 2008 (42%), followed by dairy (milk and milk products) with 35%, and fruit and vegetables with 5 percent.

Across all cooperatives, total assets increased by 21 percent, with much of the increase reflecting higher inventory values for grains and oilseeds and energy commodities (Table 3-2). Liabilities increased by 29 percent, but still resulted in equity growth of nearly 10% to \$23 billion. Member and patron equity financed 33 percent of total assets, down 4 percentage points from 2007 and 9 percentage points since 2006. Since 1999, member equity-to-asset ratios were consistently between 41 and 42 percent, the last two years indicate relatively higher debt financing. In addition, allocated equity comprised just 23 percent of ownership of all cooperatives, with the very largest cooperatives having the lowest equity ratios.

Item	2007	2008	Change
	(\$ billion)	(\$ billion)	percent
Gross Business Volume			
Marketing	93.1	116.8	25.5
Farm Supplies	49.3	70.2	42.4
Services	4.1	4.8	16.5
Total	146.6	191.9	30.9
Balance sheet			
Assets	57.1	69.1	20.9
Liabilities	36.2	46.1	27.4
Equity	20.9	23.0	9.7
Income Statement			
Sales (Gross)	146.6	191.9	30.9
Patronage income	0.6	0.9	33.7
Net income before taxes	3.8	4.8	26.1
Employees	(Thousand)	(Thousand)	
Full-time	125.2	124.4	-0.6
Part-time, seasonal	56.2	53.8	-4.3
Total	181.4	178.2	-1.8
Membership	(Million)	(Million)	
	2.5	2.4	-2.8
Cooperatives	(Number)	(Number)	
	2,594	2,473	-4.7

Source: *Cooperative Statistics 2008*, USDA Rural Development, Service Report 69, November 2009.

Total net business volume was \$165.3 billion in 2008, surpassing the previous record of \$127.8 billion in 2007 by a whopping \$38 billion, again, primarily a reflection of high commodity and input prices for much of 2008. The result was a record \$4.8 billion in net income before taxes, an increase of 26 percent, and almost four times as high as 10 years ago. Accordingly, patronage income increased by over 33 percent, from \$600 million in 2007 to \$900 million in 2008. Farmer cooperatives remain one of the largest employers in many rural communities, although total employment dropped modestly in 2008 to 178,200. This drop was primarily a reflection of less part-time or seasonal workers, which dropped 4.3% from 2007.

New York State Situation

Table 3-3 summarizes cooperative numbers, membership, and business volume for New York State. In total, cooperative numbers continue to decrease, reflecting a national trend involving mergers, acquisitions or dissolutions. Just three years ago, New York agricultural cooperatives numbered 71, this number dropped to 46 in 2008, primarily due to consolidation of dairy cooperatives. Memberships, however, have been relatively stable, a small negative trend over the past few years, primarily the result of lower farm numbers. Note that producers may belong to more than one cooperative, so the numbers are not mutually exclusive.

While New York cooperative numbers dropped 6 percent from 2007, net business volume actually increased by 8.3 percent to \$2.3 billion, a \$175.5 million dollar increase (Table 3-3). Agricultural cooperative activities produce significant economic impacts to the New York agricultural economy. To put these numbers in perspective, cooperative business volume is about 60% of the total market value of all agricultural commodities marketed in New York each year. The change in business volume primarily reflects higher commodity prices received for milk and feed ingredients.

TABLE 3-3. NEW YORK STATE AGRICULTURAL COOPERATIVE NUMBERS, MEMBERSHIPS AND NET BUSINESS VOLUME, 2007 and 2008 ¹						
Major Business Activity	Number & Membership (000) Headquartered in State				Net Business Volume	
	2007		2008		2007	2008
	No.	Members (000)	No.	Members (000)	(\$ million)	
<u>Marketing:</u>						
Dairy	36	3.7	34	3.7	1,800.5	1,910.5
Fruit & Vegetable	9	1.0	9	1.0	41.4	68.6
Other Products ²	4	0.3	3	0.3	161.4	143.8
TOTAL MARKETING	49	5.0	46	5.0	2,003.3	2,122.9
<u>Supply:</u>						
Crop Protectants					1.5	3.7
Feed					46.9	73.4
Fertilizer					14.5	22.4
Petroleum					4.7	5.5
Seed					1.6	1.6
Other Supplies					24.0	23.7
TOTAL SUPPLY	7	1.4	6	1.4	93.2	130.4
TOTAL SERVICE ³	5	0.3	4	0.3	24.9	26.6
TOTAL	61	6.7	56	6.7	2,121.3	2,296.8

Source: *Cooperative Statistics 2008*, USDA Rural Development, Service Report 69, November 2009.

¹ Totals may not add due to rounding.

² Includes wool, poultry, dry bean, grains, livestock, maple syrup, ethanol, and miscellaneous cooperatives.

³ Includes those cooperatives that provide services related to cooperative marketing and purchasing.

All primary cooperative business activities (i.e., marketing, supply, and service) saw year-over-year increases in net business volume (Table 3-3). Service cooperative volume increased \$1.7 million (+6.8 percent), supply cooperative volume increased \$37.2 million (+40.0 percent), and marketing cooperative volume increased \$119.6 million (+5.9 percent). The relatively lower percentage increase in marketing cooperative volume was due largely to the substantially reduced milk prices in the last quarter of 2008.

It should be noted that individual state-level data for agricultural cooperatives are becoming more difficult to obtain as more cooperatives operate across broader multi-state areas. For instance, cooperatives headquartered in New York State generate significant business volume outside of New York State (e.g., Dairylea, ProFac, National Grape) and a number of cooperatives headquartered outside of New York generate significant volume in New York and include a large number of New York producers as members (e.g., Agrimark, Dairy Farmers of America).

Cooperative Situation

The financial performance of agricultural cooperatives operating in New York State has on the whole been good. Due to the importance of dairy marketing and related service cooperatives to New York producers, we will review their situation first.

The share of milk receipts accounted for by dairy marketing cooperatives under Federal Milk Marketing Order 1 has remained stable at about 76 percent from 2000 through 2008. For the first eight months of 2009, the cooperative share has increased slightly by 1 percent.

There is a volume of milk produced by farmers who are not members of cooperatives that is being marketed by a cooperative marketing alliance in Federal Order 1 that combines independent supplies of milk with that supplied by cooperative members. It should be noted that this volume of non-member milk marketed is not included in the data for the cooperative share of producer receipts in the Order.

Wet and cool weather conditions in most of New York State during the growing season put pressure on forage crop yields as well as milk production. Weather during the harvest season has also been a challenge with generally wet conditions. Isolated weather events have created some problems that might result in lowering the overall harvest of forage crops.

Milk prices decreased early in the year and then declined significantly. Low milk prices for the year have created challenges for cooperatives offering dairy herd improvement or breeding genetics to members. Although, export sales of genetics as well as international operations continued to add to the revenues of several dairy services cooperatives.

Dairy marketing cooperatives involved in value-added operations experienced mixed results. As milk prices declined, cooperatives involved in aging cheese experienced challenges in managing inventory values. Although, sales of cheese, yogurt and other soft dairy products remain relatively strong in a weak economy. For these cooperatives, lower milk prices can increase profit margins on value-added products as raw product expenses decline. Cooperatives with manufacturing operations continued to see relatively high but more stable energy and packaging costs. International markets for dry milk products softened significantly with the global economic downturn. Decreased exports of non-fat dry milk and whey protein concentrate combined with declining international demand have resulted in lower product prices, as well as an increasing surplus of dry milk products. The U.S government has returned to purchasing larger volumes of milk powder products.

The bankruptcy liquidation of Agway assets, the former major supply cooperative in the Northeast, continues as unsecured creditors have received periodic distributions from 2004 through 2009. Payments are being made to unsecured creditors until the funds of the Trust created by the bankruptcy court are exhausted. A total of eight distributions have been made to unsecured creditors, many of whom were members or retired farmers, which amount to 71 cents on the dollar as of January 2009. The Liquidating Trust estimates an additional, future distribution of approximately 4 cents on the dollar. Until all outstanding accounts are settled and all costs are deducted from the funds held by the Trust, the value of the total distribution cannot be determined. For more information, see the Liquidating Trust web site at: <http://www.agwaylt.com>

The major juice grape cooperative in New York has struggled to rebound from weak sales, higher expenses, and lower returns to growers. The marketing arm continues to cut costs and implement new marketing strategies. Financial performance has improved slightly resulting in a larger advance payment made to growers this Fall than last year. Higher total patronage returns to members for previously produced crops are forecasted.

A fresh apple marketing cooperative continues to grow with new members joining from across a broader geography. This organization works on improving the coordination of marketing and quality control on behalf of members. The apple crop is in general good. Some isolated weather problems resulted in lower yields in selected production areas. Production in New York State was strong compared to other areas such as Michigan or Washington. Cooler, wet weather has had a negative impact on the size and quality of the crop resulting in downward pressure on prices.

The major vegetable processing cooperative continues to adjust operations following a change in its relationship with a major food processing customer. When the processing and marketing assets of the cooperative were acquired by an investment group a number of years ago, a portion of member's equity was

converted to shares in the holding company that was created. That holding company is currently an acquisition target by another private equity firm. At press time, the deal was not finalized. If the purchase price exceeds the current equity value of grower-members, they would be in line to receive a capital gain on the sale.

Meanwhile, a good working relation has been developed with the current firm that operates several major processing plants in New York State. The new owner is continuing to operate plants in New York State and maintain supplier relations with the grower cooperative that previously delivered to those plants. Acreage of processing vegetables delivered to the cooperative has increased as well as the price received by growers. In fact, the total commercial market value (CMV) of processed fruits and vegetables in New York reached records levels last year.

The Farm Credit associations experienced relatively good financial performance during the year. Weaker prices for dairy farmers combined with unfavorable weather in most areas are creating weaker farm financial performance and creditworthiness. A merger of the Farm Credit Associations serving New York State has been announced and is moving towards final approval.

The U.S. financial credit crisis and failure of investment banks involved in sub-prime mortgage financing did have a negative impact in 2008 on the Federal Agricultural Mortgage Corp. (NYSE: AGM and AGM.A) known as "Farmer MAC". Farmer MAC was chartered by Congress to establish a secondary market for agricultural real estate and rural housing, rural utilities, funding for USDA loan programs and the Farm Credit System. Farmer MAC was exposed to high risk investments that resulted in a negative impact on its balance sheet that required an infusion of capital from various Farm Credit System partners. Farmer MAC reported stronger earnings and a strengthened balance sheet in 2009, for more information see www.farmermac.com.

The cooperative bank that lends to rural cooperatives in the U.S. and New York reported record results again during the most recent year that data are available. Net income, cash patronage distributions, and member equity all increased from the previous record year. That said, recent fluctuations in commodity markets, ethanol prices, and capital markets have created a higher level of financial uncertainty.

Cooperative Outlook

Most cooperatives operating in New York State had positive results in 2009. Declining milk prices in 2009 have created more uncertainty and challenges for the performance of dairy marketing and service cooperatives. Milk prices and dairy farm income declined dramatically from the relatively high levels of 2008.

Dairy producers have seen their costs of production increase as prices have declined resulting in very tight or negative margins. Dairy farm numbers have been on a long term decline, but dairy cooperatives will experience a higher loss of farmer-member numbers as farmers exit farming due to increased financial stress on dairy farms and dairy farmer exits from farming.

Dairy cooperatives with value-added operations have experienced increasing costs for processing milk, packaging, transportation, and ingredients as energy prices continue to increase. Recent declining costs of energy may bring more stable prices. It remains to be seen how energy prices unfold in 2010, but falling demand and an economic recession may cause energy costs to remain stable or decline further.

Domestic consumer concerns over rising food prices and an economic recession may shift purchasing to lower priced food product outlets, as well as result in less food consumed away from home. On the export side, a continued global recession may limit exports in 2010. The dairy industry and dairy marketing cooperatives have relied on increasing exports to support farm prices and overall cooperative sales.

New management in the marketing arm of the grape juice processing cooperative has been developing strategies to grow patronage proceeds to grape grower members. Initial signs point toward improved performance for this commodity.

Significant changes may be in the offing in the processed fruit and vegetable industry as a major brand is being acquired by a new private equity firm. Cooperative members have a minor equity position in the company and may reap capital gains through the sale. The exact level of returns is yet to be determined.

Although the last half of 2009 has brought a number of challenges for cooperatives operating in New York State - declining milk prices, downward pressure on farm income, shifting consumer purchasing patterns and a deepening recession, most cooperatives operating in New York State remain well positioned for solid performance in 2010.

Chapter 4. Finance

Calum G. Turvey, Professor

Table 4-1. United States Farm Balance Sheet Current Dollars, December 31 Excluding Operator Households					
Item	2005	2006	2007	2008	2009 ^c
Assets					
Real Estate	1,487	1,626	1,751	1,693	1,627
Livestock	79	79	79	79	79
Machinery	113	114	115	116	112
Crops ^a	24	23	23	28	27
Purchased Inputs	6	6	7	7	7
Financial Assets	<u>67</u>	<u>74</u>	<u>79</u>	<u>82</u>	<u>83</u>
Total	1,778	1,922	2,054	2,004	1,935
Liabilities & Equity					
Real Estate Debt	105	108	113	131	131
Nonreal Estate Debt ^b	<u>92</u>	<u>96</u>	<u>101</u>	<u>109</u>	<u>103</u>
Total	196	204	214	240	234
Owner Equity	<u>1,581</u>	<u>1,719</u>	<u>1,840</u>	<u>1,764</u>	<u>1,701</u>
Total	1,778	1,922	2,054	2,004	1,935
Percent Equity	89	89	90	88	88
^a Excludes crops under CCC loan. ^b Excludes CCC loans. ^c Forecast					

Table 4-2. Changes in Structure, United States Farm Balance Sheet Current Dollars, December 31 Excluding Operator Households					
Item	2005	2006	2007	2008	2009 ^c
Assets					
Real Estate	84	85	85	84	84
Livestock	4	4	4	4	4
Machinery	6	6	6	6	6
All Other ^a	<u>6</u>	<u>5</u>	<u>5</u>	<u>6</u>	<u>6</u>
Total	100	100	100	100	100
Liabilities					
Real Estate Debt	53	53	53	54	56
Nonreal Estate Debt ^b	<u>47</u>	<u>47</u>	<u>47</u>	<u>46</u>	<u>44</u>
Total	100	100	100	100	100
^a Excludes crops under CCC loan. ^b Excludes CCC loans. ^c Forecast					
Source: Agricultural Income and Finance Outlook, ERS, USDA; Agricultural Outlook: Statistical Indicators					

Table 4-3. Distribution of United States Farm Debt by Lender Current Dollars, December 31 Excluding Operator Households							
Item	2003	2004	2005	2006	2007	2008	2009 ^b
<i>billion dollars</i>							
Real Estate							
Farm Credit System	37.8	41.2	43.4	46.8	56.1	56.1	37.8
Farm Service Agency	3.2	2.5	2.4	2.3	2.1	2.1	3.2
Commercial Banks	33.1	37.9	40.1	41.9	48.8	48.8	33.1
Insurance Companies	11.4	11.3	12.0	12.8	13.4	13.4	11.4
Individuals & Others	<u>9.9</u>	<u>11.9</u>	<u>10.1</u>	<u>9.0</u>	<u>10.2</u>	<u>10.2</u>	<u>9.9</u>
Total	95.4	104.8	108.0	112.7	130.7	130.7	95.4
Nonreal Estate^a							
Farm Credit System	4	3.0	2.7	2.8	2.6	2.5	4
Farm Service Agency	44.3	48.4	51.3	54.1	57.1	54.0	44.3
Commercial Banks	13	15.9	13.7	12.8	12.4	11.7	13
Individuals & Others	<u>81.8</u>	<u>91.6</u>	<u>95.5</u>	<u>101.4</u>	<u>109.4</u>	<u>103.4</u>	<u>81.8</u>
Total	20.5	24.3	27.8	31.6	37.2	35.2	20.5
^a Excludes crops under CCC loan.							
^b Forecast:							

Table 4-4. Market Share of United States Farm Debt by Lender Current Dollars, December 31 Excluding Operator Households							
Item	2003	2004	2005	2006	2007	2008	2009 ^b
<i>percent of total</i>							
Farm Credit System	32.9	33.3	35.0	36.6	38.9	39.0	32.9
Farm Service Agency	4.1	2.8	2.5	2.4	2.0	2.0	4.1
Commercial Banks	43.7	44.0	44.9	44.9	44.2	43.9	43.7
Insurance Companies	6.4	5.8	5.9	6.0	5.6	5.7	6.4
Individuals & merchants	12.9	14.2	11.7	10.2	9.4	9.3	12.9
Total ^a	100	100	100	100	100	100	100
^a Excludes crops under CCC loan.							
^b Forecast:							
Source: Economic Research Service, USDA, Data, Farm Balance Sheet./ Author Calculations							

The U.S. Farm Sector is witnessing a very modest slow down in accumulated asset values with real estate prices falling again in 2009 to \$1,627 Billion. Machinery assets are expected to decline as current economic conditions and credit restrictions affect new acquisitions and thus alternative investments in financial assets are expected. Real estate debt is still increasing as many farmers expand but non real estate debt is expected to decline. Many commercial lenders in 2008 and early 2009 limited the amount of credit for non-real estate purchases so what is observed in Table 4-1 is likely a consequence of the current financial crisis. Overall farm equity is projected to decrease in 2009 as it did from the high in 2007, and this has resulted in a slight decrease in the percentage equity. While certain segments of the agricultural economy are showing signs of stress in 2009, the overall equity position of agriculture is still very strong with ample flexibility to leverage asset and operational growth. New York typically has about 3-5% more debt than the U.S. average. The USDA has stopped providing state-level summaries.

Tables 4-3 and 4-4 show that the Farm Credit System continues to be the major provider of real-estate credit to agriculture, with a total of \$56.1 billion in loans which is about the same as was observed in 2008. Commercial lenders are close with \$48.8 billion in loans with an increase of 16.5% over 2006. Commercial lenders provide the majority of non-real estate loans with a total of \$54 billion in 2009. In 2008 and into 2009 the Farm Credit System provided about 39% of credit to farmers with commercial lenders providing 54%, largely due to the non-real estate business. The Farm Service Agency, as well as other lenders, is actually decreasing its lending activities in proportion to commercial lenders and Farm Credit.

Year	Nonaccrual	Nonperforming
	percent of loan volume	
1988	6.5	12.3
1989	5.1	11.0
1990	4.5	9.7
1991	3.7	8.0
1992	2.7	6.0
1993	2.3	4.2
1994	1.9	2.9
1995	1.4	2.1
1996	1.1	1.5
1997	0.9	1.3
1998	1.8	2.1
1999	1.4	1.6
2000	0.9	1.2
2001	0.9	1.2
2002	1.0	1.3
2003	1.1	1.3
2004	0.7	0.8
2005	0.6	0.6
2006	0.5	0.5
2007	0.358	0.434
2008	0.47	0.55
2009	1.88	1.99

^a Nonaccrual plus accrual that are restructured or 90 days or more past due (impaired loans).
Source: Annual and Quarterly Reports of the Farm Credit System.

Credit quality of commercial lenders (Farm Credit and commercial banks) has seen a significant deterioration in the past year. The increase in both non accrual and non performing loans is substantial. Between June 2008 and June 2009 non accrual loans increased 4-times from 769 million to 3,077 million while nonperforming loans increased 3.8 times from 884 million to 3,252 million. There was a slight increase in non-performing loans from 0.434% in 2007 to 0.55% in 2008 and 1.99% in 2009, attributed to problems in the credit markets and residential real estate (Table 4-5). The Farm Credit System is seeing weakened performance in non-accrual and non-performing loans in 2009, with only 1 in 200 loans being non-performing or non-accrual in 2008 but about 2 in every hundred being accruing or non performing in 2009. Table 4.6 shows total delinquency of about 2.4% of non-real estate loans and about 2.7% of farm real estate loans. These data indicate a significant increase in delinquent loans from \$800 million at Q2 2008 to \$1,400 million at Q2 2009 for non real estate loans and an increase of \$700 m in delinquent real estate loans over the same period.

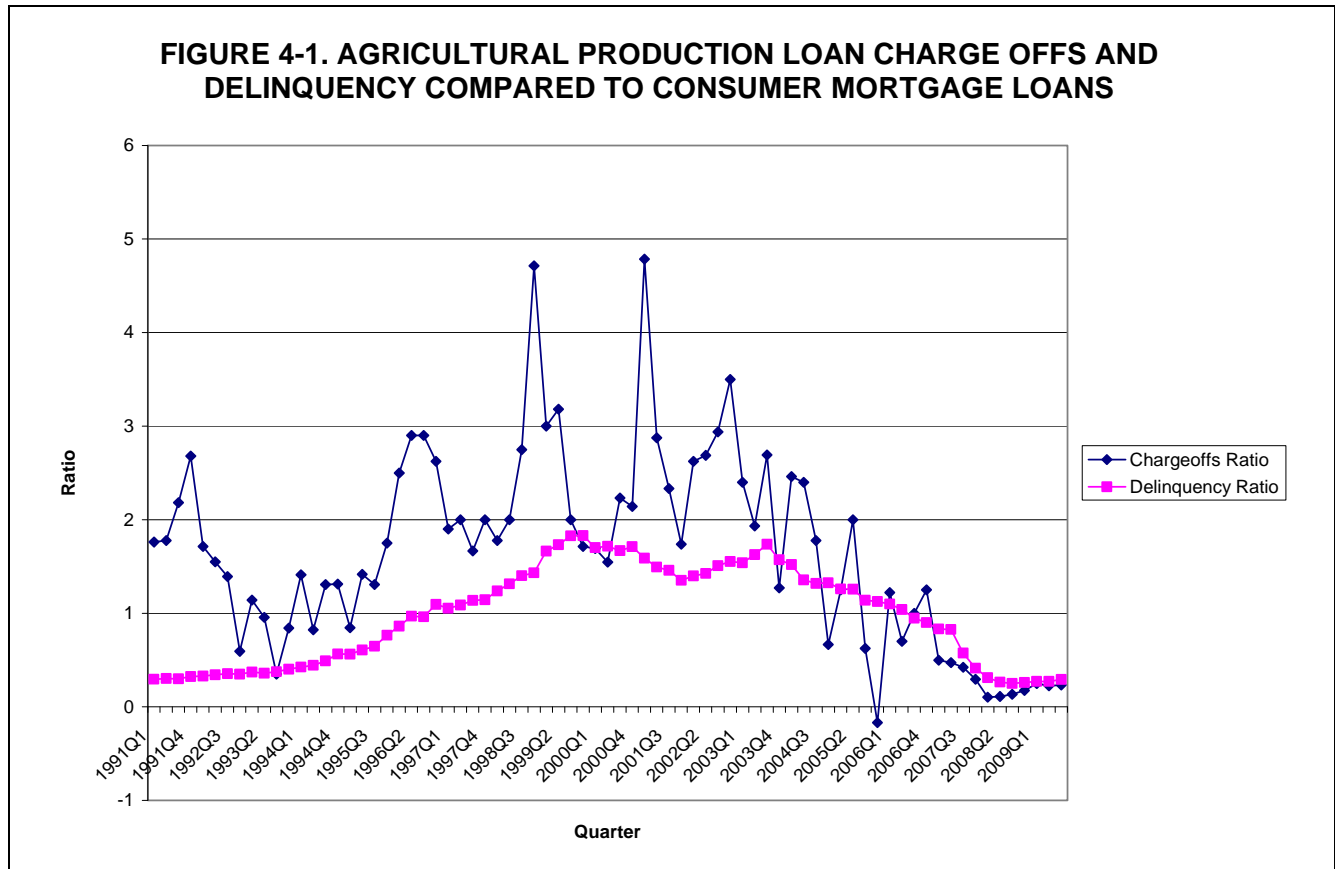
Table 4-6. Non-accrual, Non-performing, and Total Delinquent
United States Commercial Banks, December 31

Year	Farm Non Real Estate Loans			Farm Real Estate Loans		
	Non-accrual	Non-performing	Delinquent	Non-accrual	Non-performing	Delinquent
	percent of loan volume					
2000	1.0	1.2	2.1	0.8	1.4	2.3
2001	1.3	1.5	2.7	1.2	1.5	2.6
2002	1.3	1.6	2.6	1.2	1.5	2.5
2003	1.2	1.5	2.3	1.1	1.3	2.1
2004	0.9	1.0	1.6	0.8	1.0	1.6
2005	0.5	0.7	1.3	0.6	0.7	1.3
2006	0.5	0.6	1.3	0.5	0.7	1.3
2007	0.5	0.8	1.9	0.5	0.7	1.6
2008	0.5	0.7	1.4	0.7	0.9	1.6
2009	1.2	1.5	2.4	1.5	1.8	2.7

^a Includes non-accrual and past due 90 days but accruing.
^b Includes non-performing and past due 30 to 89 days but accruing.

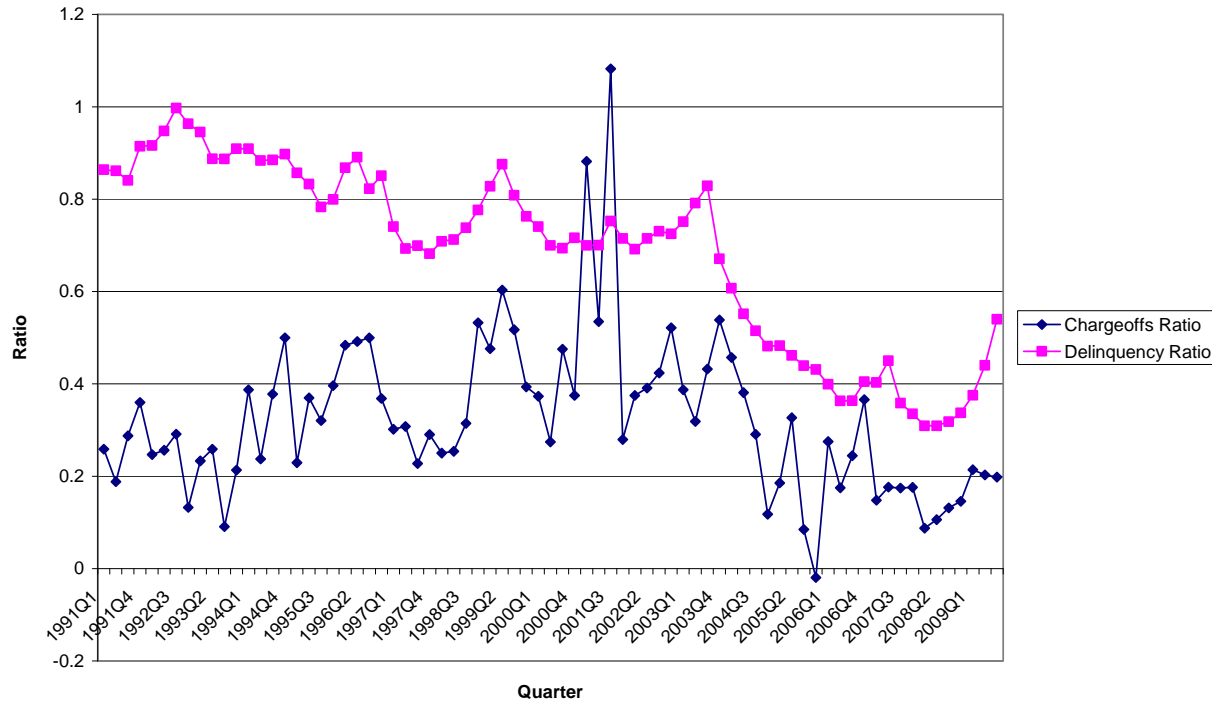
Source: Agricultural Financial Databook, Board of Governors of the Federal Reserve System. 2009 Q2

Outlook on Credit Supply and Credit Risk



Considerations on the quality of agricultural credit suggests a deeper look into how the agricultural sector compares with the non farm sector. In other words, how does the agricultural economy fare in terms of credit worthiness relative to consumers? History is replete with depressions that cause structural shifts in agriculture with randomness in commodity prices and weather patterns largely to blame. Using data available from the Federal Reserve Bank on consumer loans and agricultural production loans by commercial banks on charge offs and delinquencies we can get a sense, albeit incomplete, of the trend. Figures 4.1 and 4.2 show the ratio of consumer loan write-offs and delinquency relative to agricultural loans. While there is deterioration in agricultural loan quality, it compares little with problems in the consumer and non-farm mortgage loans. It would be incorrect to suggest that the farm crisis of this past year has not had a negative influence on agricultural credit, but quality of agricultural credit as a whole is much stronger than consumer credit in the non-farm sector.

FIGURE 4-2. AGRICULTURAL PRODUCTION LOAN CHARGE OFFS AND DELINQUENCY COMPARED TO ALL CONSUMER LOANS



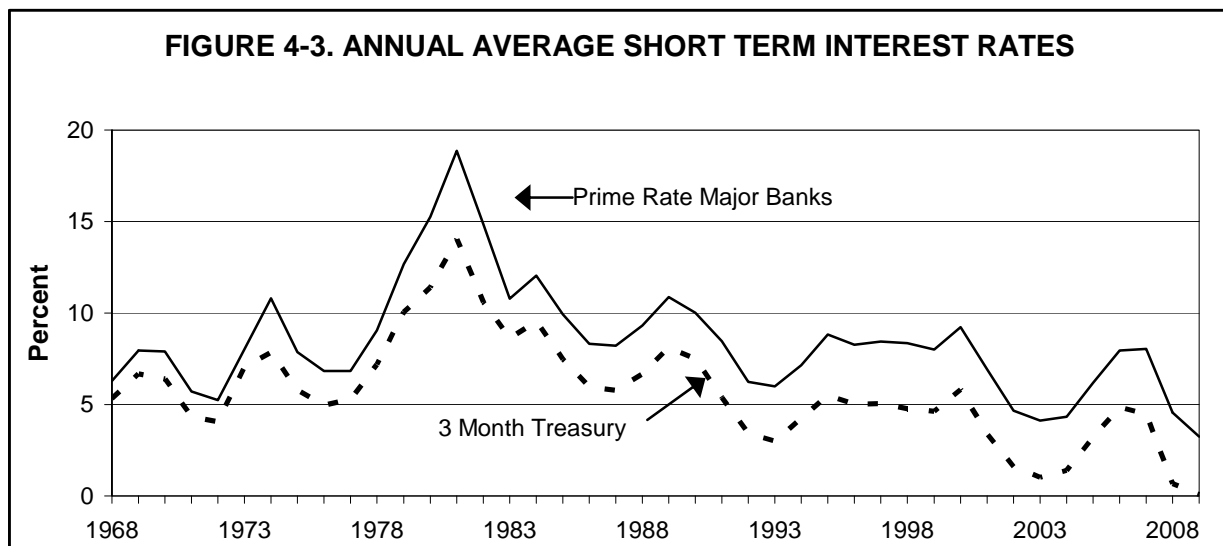
Up to the fourth quarter of 2004 the delinquency rate on agricultural production loans was always higher than consumer mortgage loans (Figure 4-1). This was as high as 149% in 2003, and between 1990 and 2003 the average was 121%. There is nothing critical about this since the timing and sequencing of cash flows in agriculture do not always match the terms of loan repayment. However in 2004 this trend reversed itself and delinquencies in agricultural loans fell dramatically so that in 2007 the delinquency rate is only half of that on consumer mortgages. More critically charge offs of agricultural production loans were twice that of consumer mortgages averaging 206% between 1990 and 2003. However this too reversed itself starting in 2003 where now in 2009 the charge off rates of agricultural loans is only 20% of charge offs on consumer loans.

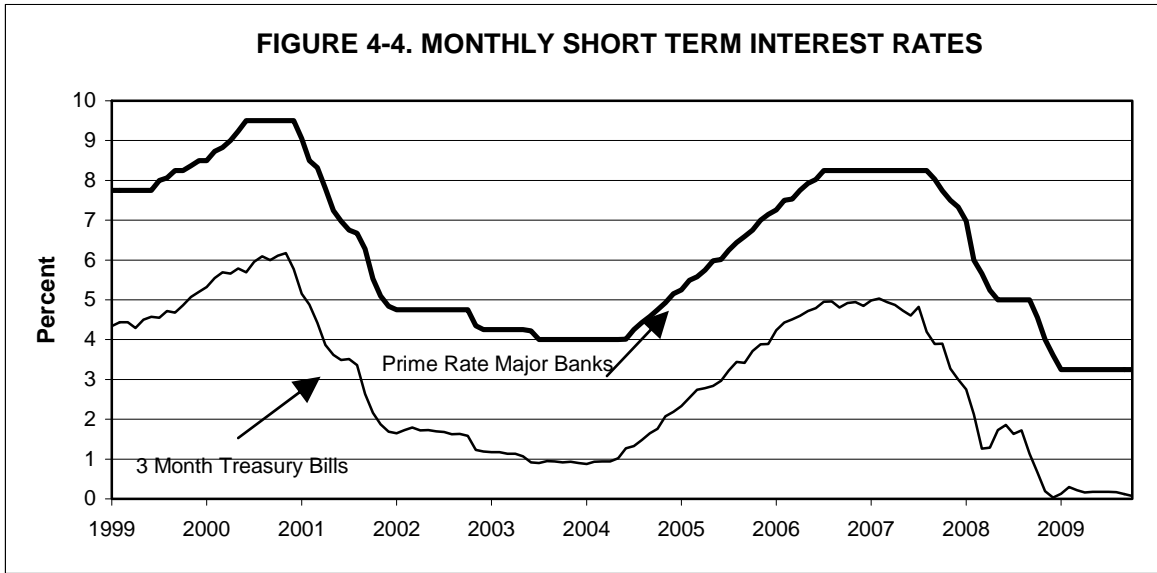
In terms of total consumer loans including credit cards and non revolving loans for auto and improvements, the delinquency rate and charge off rates in agriculture have always been lower (Figure 4-2). Delinquency rates peaked in 1991 at about 91% of consumer loans but has fallen steadily since so that today the delinquency rate relative to all consumer loans is only 0.366. The charge off ratio is much lower. The peak charge off ratio was 0.238 in late 1990, as farmers were coming off the collapse in the 1980s. Since then, the decline and the prudential use of agricultural credit has resulted in a charge off ratio of only 0.05 in 2007. In other words a consumer loan is nearly 20 times more likely to be charged off by a commercial lender than an agricultural production loan. Two qualifications to this are required. The first is that the farm production loans do not include FSA loans but data we have for 2005 indicate that FSA delinquencies and charge offs are no worse than consumers. In other words, the most severe distresses in agriculture are no worse than the average of consumers. The second qualification is that only production credit is considered. This may not be critical.

First, charge offs on agricultural production loans will most surely in most cases take place before charge offs on farm mortgages so the farm mortgage charge off rate will be much lower than consumer mortgages as presented here. Second, consumer credit includes not only mortgages but also credit cards and other non-revolving credit sources. It may be the case that a farmer has a delinquency on a personal credit card, but most commercial farms now operate off lines of credit from which cards are paid as well as equipment purchases and repairs and inputs and so on. It is therefore possible that a farmer can have both a consumer loan and a production loan, so at best we can say that the ratios so presented are lower bounds. Even so, we are seeing in 2007-2008 not only a continued parity with the non-farm sector in terms of income but overall improvement in credit quality. In 2009, for every 100 consumer loans that are delinquent less than 60 agricultural loans are delinquent. In relative terms at least, the farm sector has appeared to weather the financial crisis better than the non-farm sector.

Outlook on Interest Rates

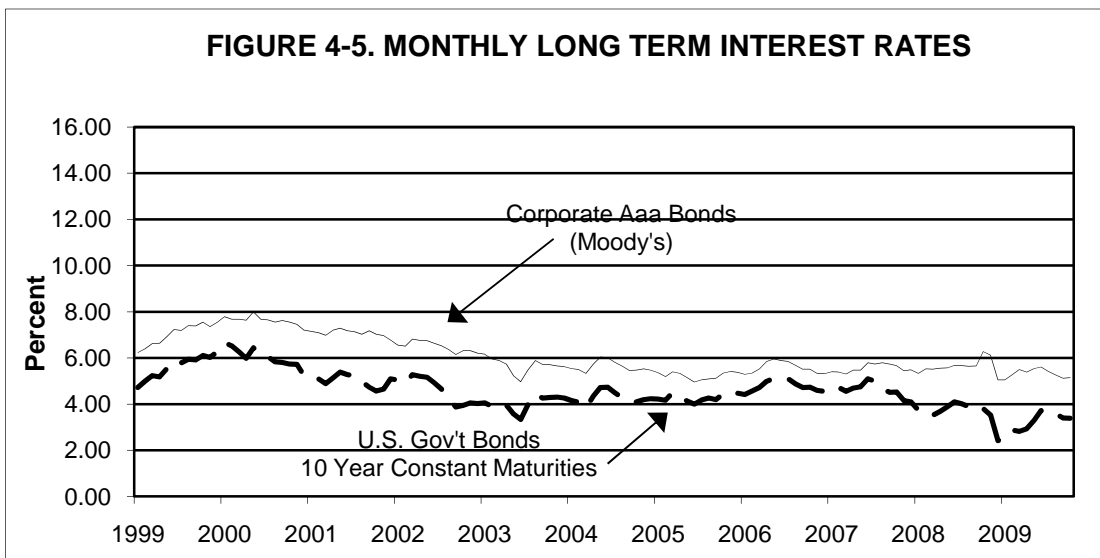
Short term interest rates bottomed out at the lowest level in 50 years in late 2003 and early 2004 and have been rising throughout 2005, 2006 and 2007. The average 2004 prime rate was 4.3% but this increased to 6.19% in 2005, 7.96% in 2006 but fell slightly to 7.74% through October 2007, falling below 5% through 2008 and in response to low-cost monetary policy prime is at about 3.5% as of October 2009, an all time low (Figure 4-3). Rates are still historically low and have not been at this level since 2001 and before that 1967. In mid 2005 and continuing through the first part of 2007 the Federal Reserve Board pushed interest rates up from these historic levels in an effort to reach a more neutral monetary policy position and inflation pressure. The current credit crisis in sub prime lending has given pause to these increases causing the Federal Reserve to lower rates. On a calendar year basis, short term rates averaged 1.4% in 2004, increased to 3.22% for 2005, and averaged around 4.75% for 2006, exceeded 7% in 2007, 4.56% in 2008 and are less than 4% on average in 2009 (Figure 4-4).



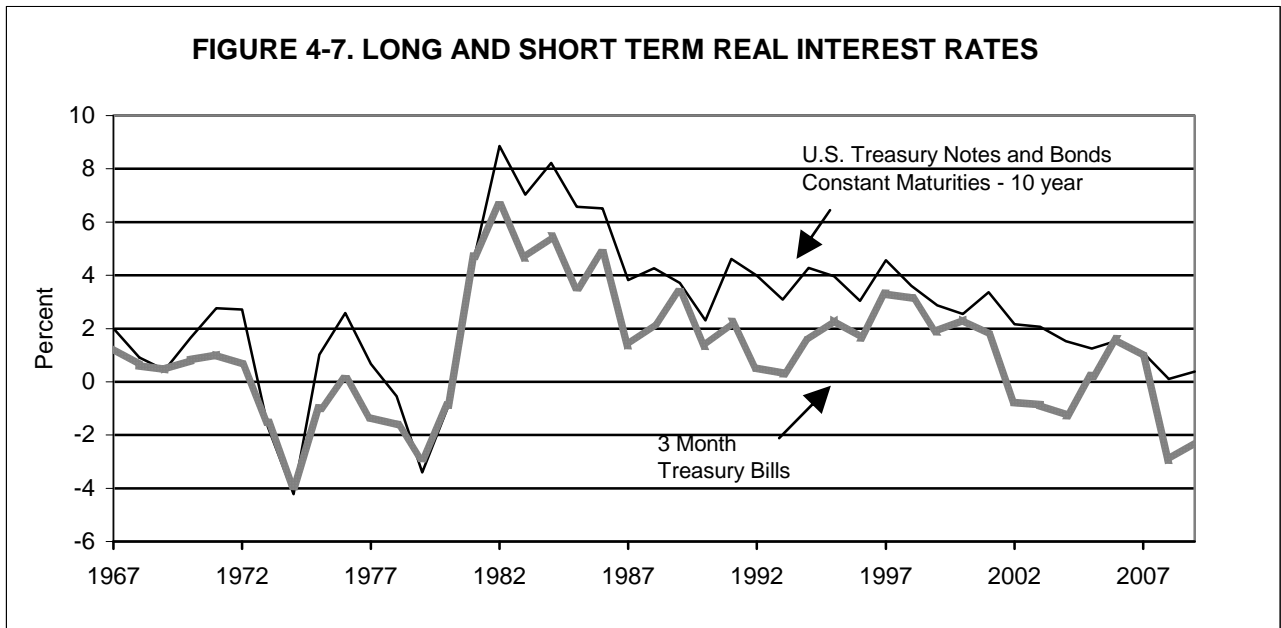
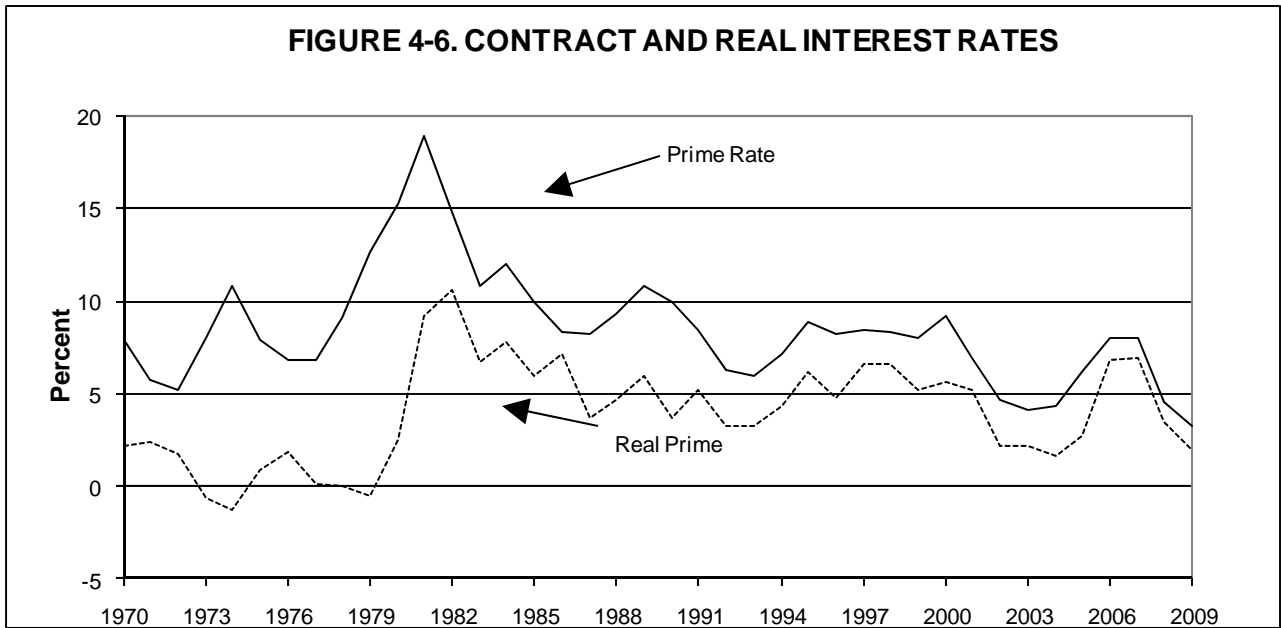


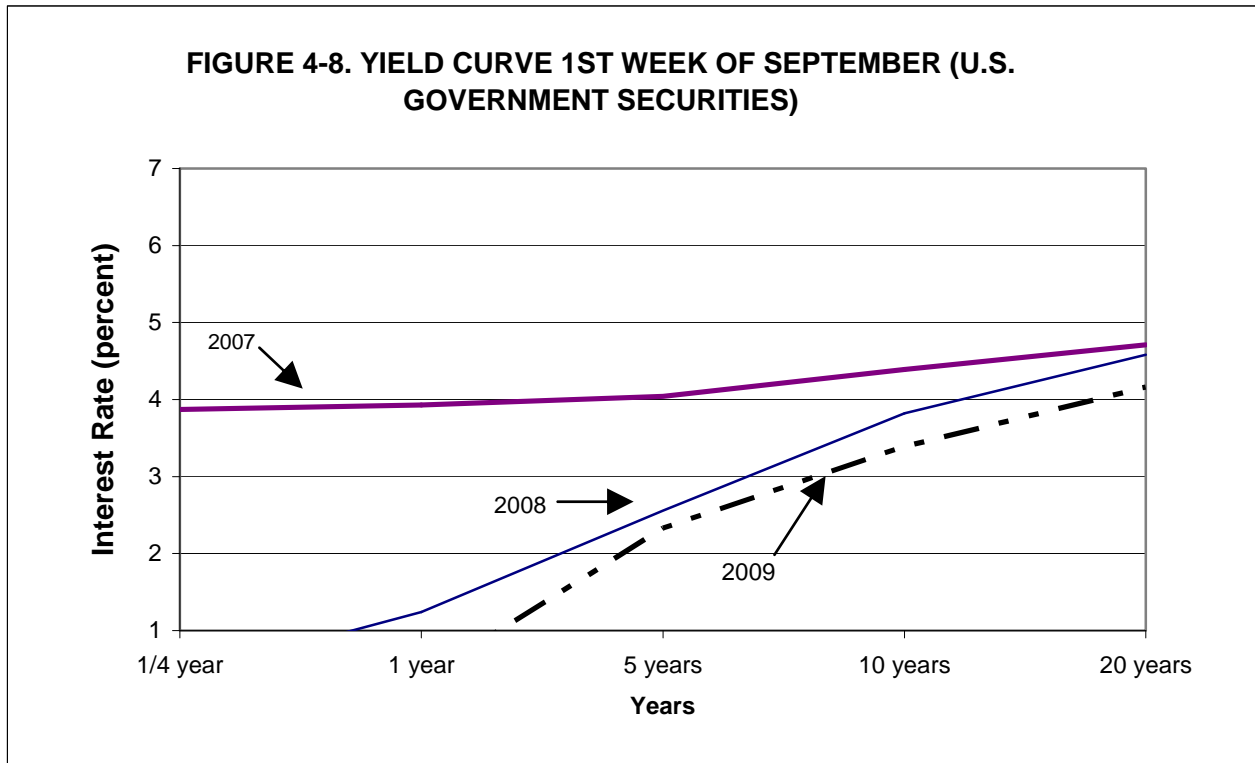
3 Month Treasury Bills		
	2008	2009
Jan.	2.82	0.13
Feb.	2.17	0.3
Mar.	1.28	0.22
Apr.	1.31	0.16
May	1.76	0.18
June	1.89	0.18
July	1.66	0.18
Aug.	1.75	0.17
Sept.	1.15	0.12
Oct.	0.69	0.07
Nov.	0.19	
Dec.	0.03	

There has been a sharp decline in the 3-month treasury bills throughout 2007, 2008 and 2009 with the more dramatic declines taking place in the last half of 2008 and 2009. Currently treasury yields are at 0.07% in October 2009 compared to 0.67% in October 2008. These are far below the rate of inflation. The low rate reflects illiquidity in the credit markets, reductions in the Federal Reserve Rate. It is expected that the rates will remain low until the current financial crisis is ended. High quality corporate bonds continue to be low (Figure 4-5). As of October 2009 the Aaa rate was 5.15% in comparison to 10-year bond rates of 3.39%. The spread, at 1.26% is higher than the October 2007 spread of 1.13% and the 0.78% spread observed in 2006. This increase in the spread indicates an increase in the riskiness of corporate bonds relative to government bonds. The 10-year bonds have hovered between 3.81% and 3.39% between October 2008 and October 2009 (Figure 4-5). Figure 4-6 shows a decrease in the real prime rate of interest while Figure 4-7 shows that currently in 2009 the real short term rate is negative because of a cheap money policy.



U.S. Govt. Bonds		
10 Year Constant Maturity		
	2008	2009
Jan.	3.74	2.52
Feb.	3.74	2.87
Mar.	3.51	2.82
Apr.	3.68	2.93
May	3.88	3.29
June	4.1	3.72
July	4.01	3.56
Aug.	3.89	3.59
Sept.	3.69	3.4
Oct.	3.81	3.39
Nov.	3.53	
Dec.	2.42	





Compared to 2007 the yield curve in 2009 is showing October bond yields at different maturities has shifted down and has become steeper (Figure 4-8). This is quite a shift from the inverted curve observed in 2006. Yields at all maturities are lower in 2009 than they were in 2008. As of November 2009, the spread between 3-month and 1-year t-bills was only 0.3% and between 1-year and 5-year treasury bills the spread was only 1.96%. The spread between 5 and 10-year rates is only 1.06%.

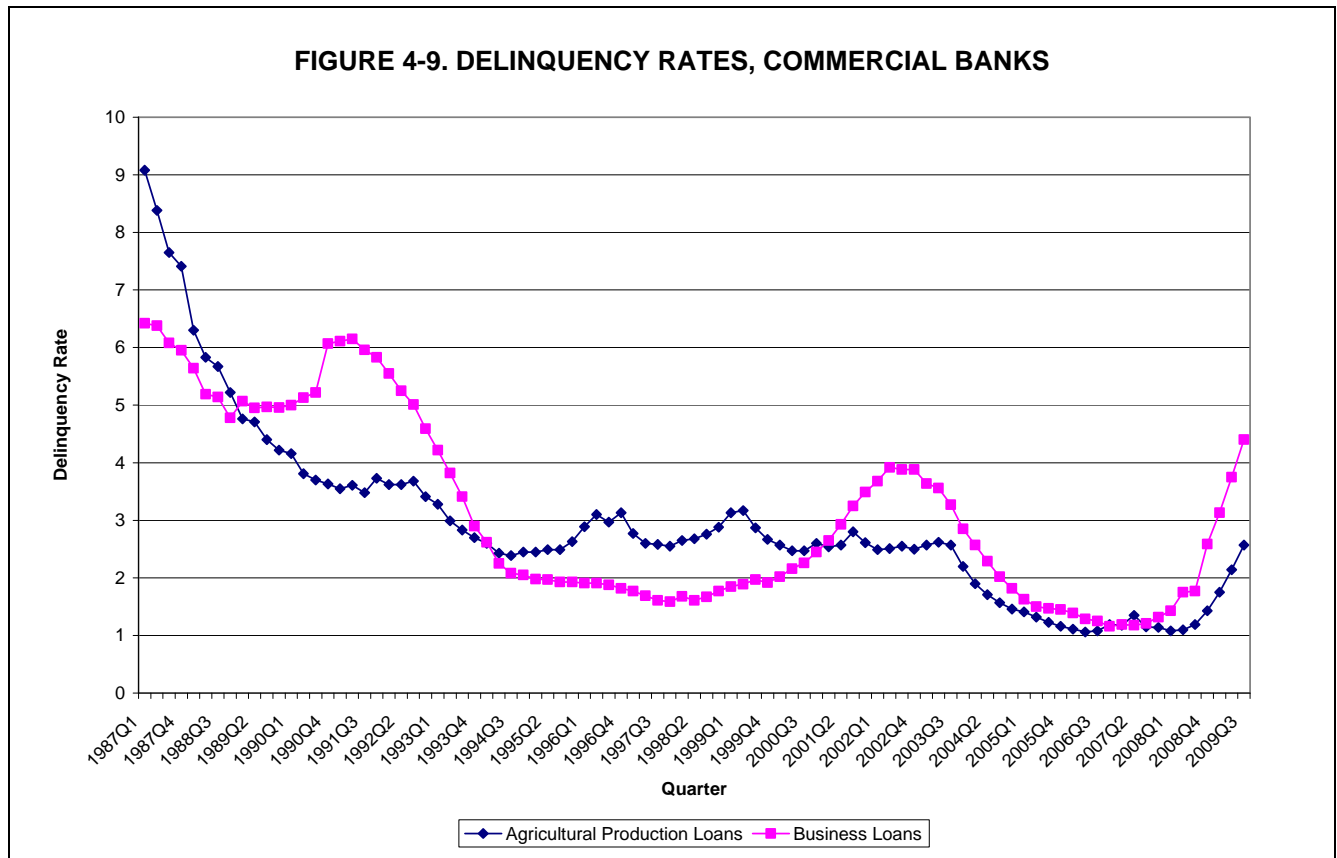
Normally one would expect this yield curve to signal some very low interest rates in the next two or three years but under current conditions it is unlikely that they will be reflected in lending rates soon. Commercial banks are currently operating on tight credit schedules and are being extremely cautious. On the other hand, it does not appear that commercial, real estate, or agricultural loan rates are going to increase significantly in 2010, although it must be understood that there is considerable uncertainty in financial markets.

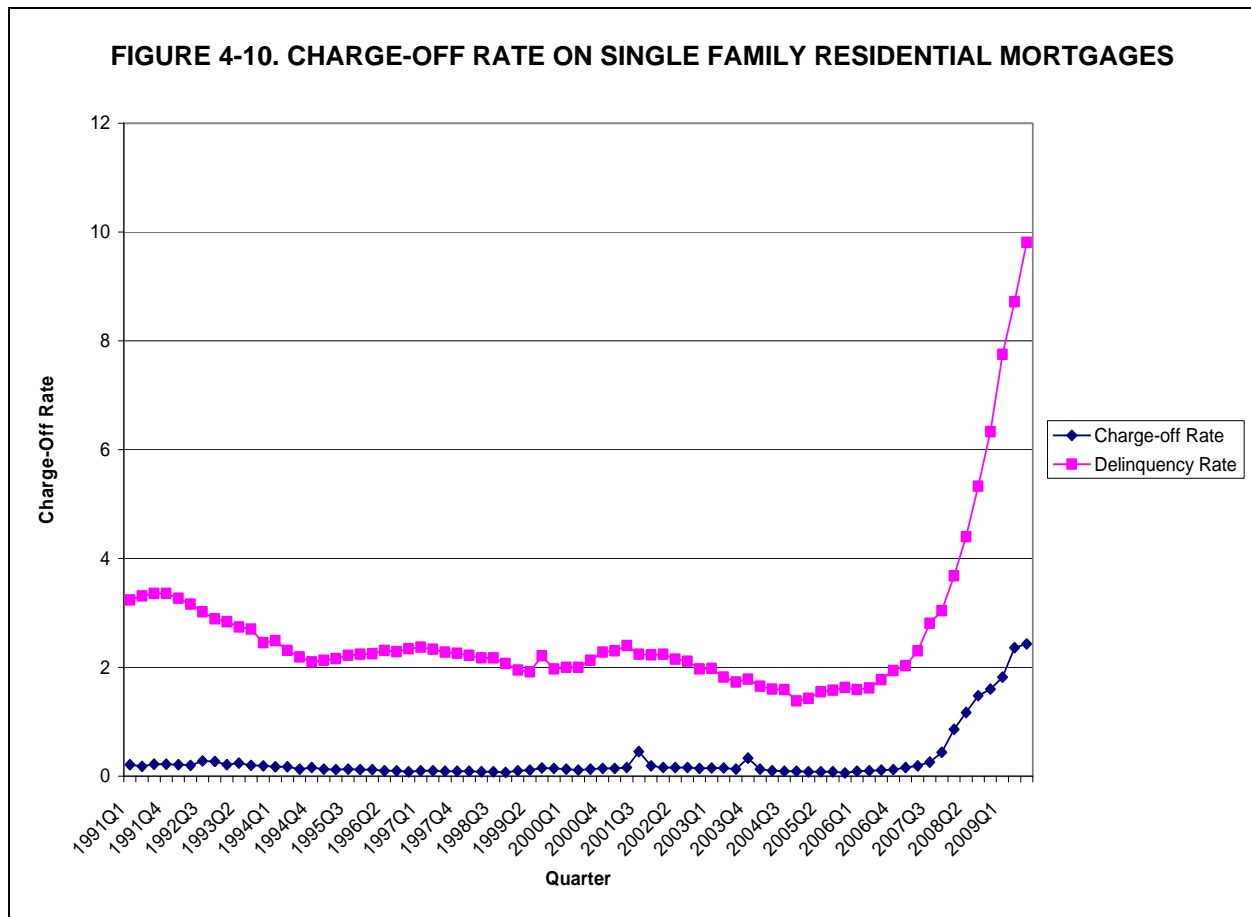
Agricultural Economy is in Pretty Good Shape

Relative to the non-farm economy the evidence and data suggests that agriculture is faring quite well in 2009 but there has been a significant deterioration in its condition throughout 2009. There is some indication that some spillover effects of the current mortgage meltdown due to sub-prime is infiltrating some agricultural loans. What is happening in the urban/residential housing market is beyond the control of any farmer, but its fallout is having an impact. The sub prime housing market has two components.

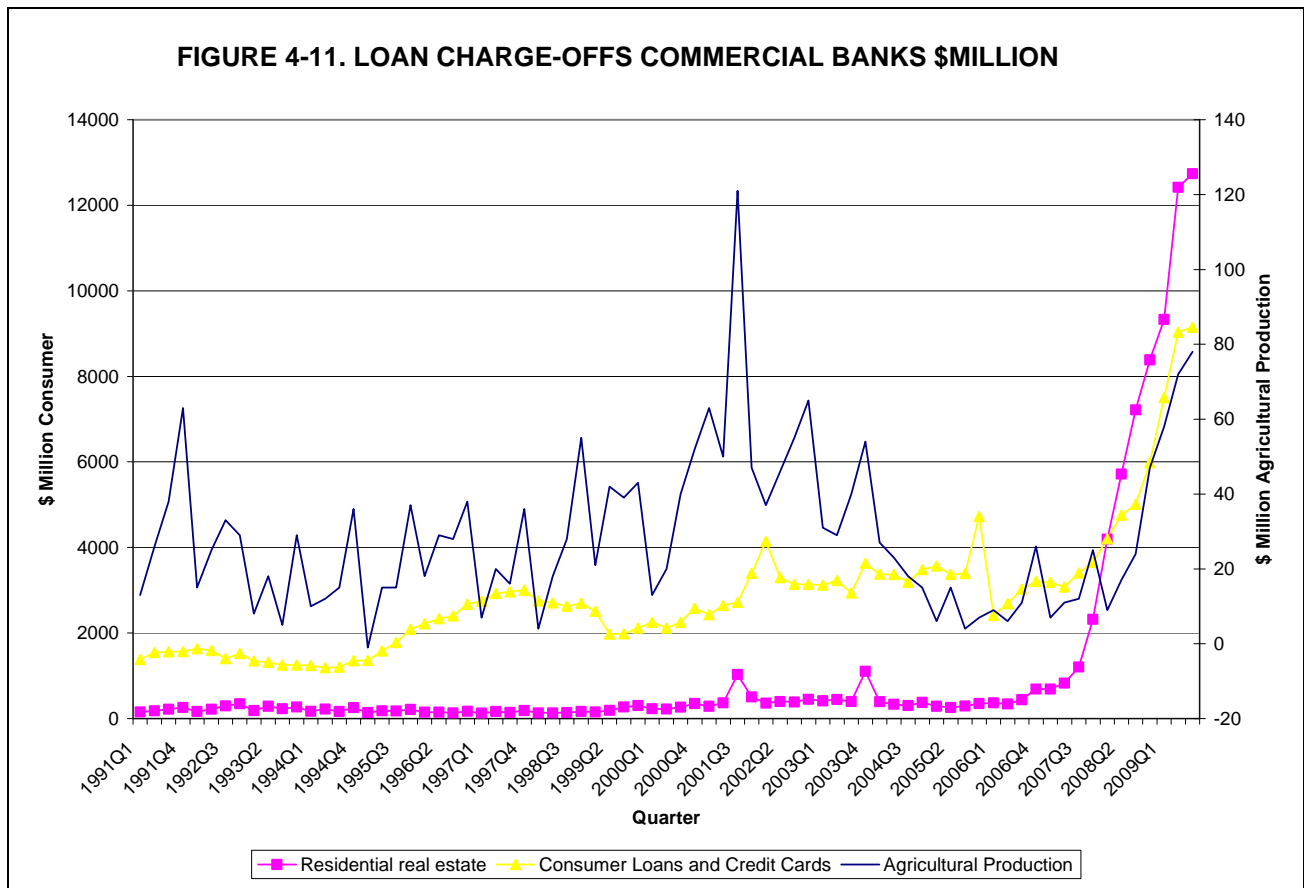
Figure 4.9 plots the charge-off rates for agricultural loans versus non-farm business loans since 1991. As business loans approach charge-off rates nearing 1% in 2008 the agricultural rate was 5-times lower at

0.19%. By October 2009 conditions have deteriorated even further with delinquency rates on commercial loans exceeding 4% and agricultural loans increasing to 2.5%. Furthermore the charge off and delinquency rates in commercial real estate are substantive. Delinquency rates have in general been lower in agriculture in recent years, but the drama that is now unfolding in the non-farm real estate market is confounding. The stalling of real estate markets in late 2007 and through 2008, combined with adjustable sub-prime mortgages have caused the steep rise in delinquencies and charge-offs as shown in Figure 4-10. One can see the origination of the crisis in the 4th quarter of 2006, but it was not until after the first quarter in 2008 that politics took notice. By the first quarter of 2008 delinquency rates – a future look into home foreclosures— had increased to 3.73% increasing to 5.08% by October 2008. By October 2009 delinquency rates had accelerated to 9.1% in the non-farm mortgage market compared to 2.43% in the agricultural mortgage market.



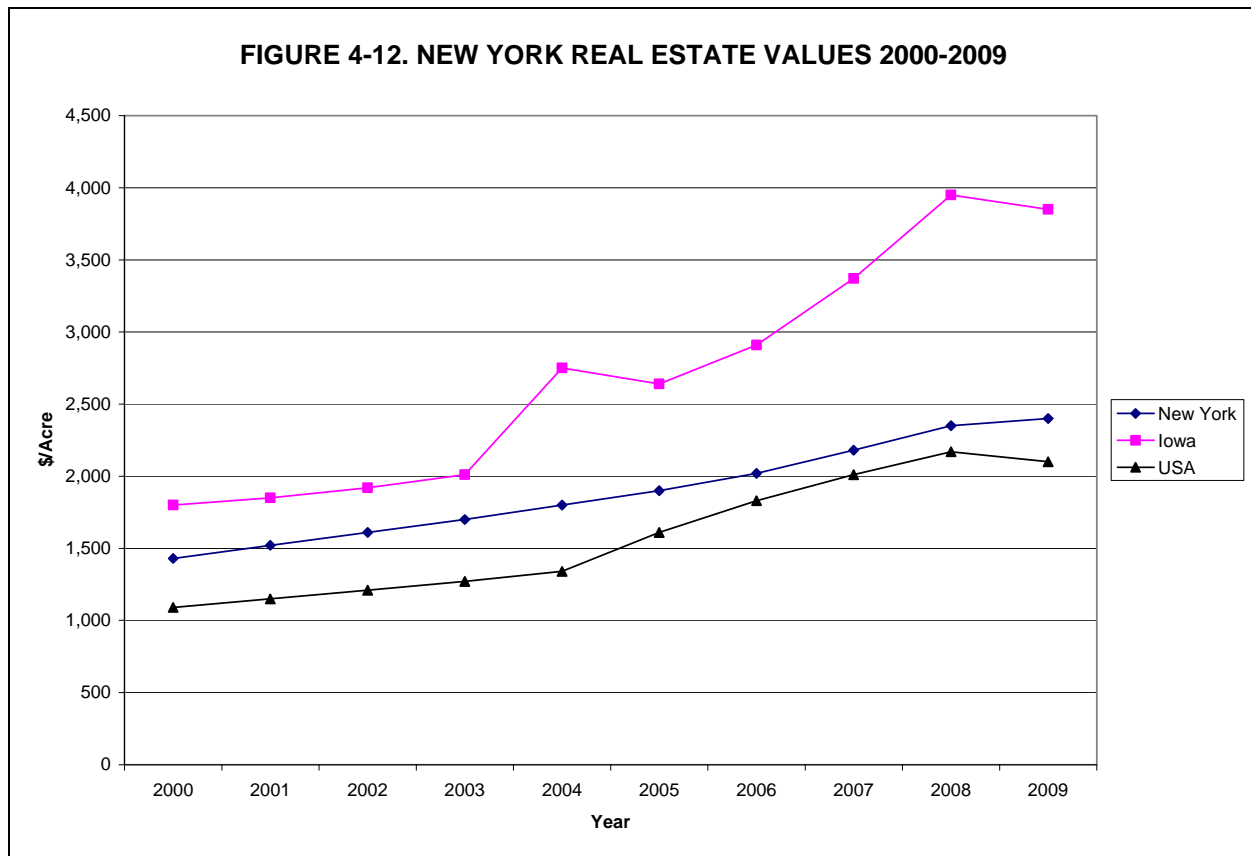


The fallout in the consumer mortgage market is more dramatic than what Figure 4-10 portrays. The charge off rate is actually a function of outstanding loan balances. With rapidly increasing loan volume in the commercial sector an increase in ‘rates’ says little about the true carnage. Figure 4-11 plots real estate, credit card and agricultural loans in millions of dollars. Between October 2007 and October 2008 quarterly charge offs increased from \$1,205 million to \$7,059 million, with almost 5 times this amount at risk. By October 2009 this had soared to \$12,737 for real estate and 78 Consumer credit-card charge-offs are following a similar pattern with a trend increase being observed since 2006. By October 2009 charge offs for credit cards was \$9,147 million. The effect of the financial crisis on agriculture can also be observed. Agricultural production loans, which are found on the right-hand axis were only \$20 million in 2008 Q3 but have since risen more than 3 times to \$78 million by October 2009.



Agricultural Land Values

The financial crisis does not appear to be having a dramatic effect on agricultural land prices. Despite significant reduction in residential real estate values, agricultural land prices have not followed suit. Figure 4-11 shows a steady increase in land prices in New York. According to USDA ERS data land prices in New York increased by about \$50/acre over 2008 prices to 2400. The trend in New York follows a path that is similar to farmland prices in the United States, except that across all states land values fell by about \$70/acre from \$2,170 in 2008 to \$2,100 in 2009. But prices in New York have not risen as dramatically as prices elsewhere. Figure 4-11 also includes land prices in Iowa which have steadily increased and at an increasing rate since 2000 but found a slight decrease to \$3,500/ acre in 2009 from \$3,850 in 2008.



Conclusions

The outlook for 2010 is not particularly good for agriculture but it is not as bad as the non-farm sector. Still farmers should be wary of immediate and future risks. Over the past several years much of the equity gains in agriculture have been due to farm real estate prices. The caution here is that much of the gains in commodity prices in the past few years have proven illusory, illustrating that a combination of events and structural change that gives rise to optimism can be taken away just as quickly. Milk, corn, soybean and ethanol prices are 'hovering' in 2009 with no dramatic rises or falls since 2007 but they are fairly unpredictable although futures market signals indicate for the time being that prices will remain at about current levels. It appears that any waning in the urban housing market is having an impact on farmland prices nationwide. Such an impact is inevitable if foreclosures increase, increasing the supply of houses; decreasing the number of housing starts, and reducing the development option of farmland values. The financial strength of agriculture is strong but reductions in equity is measurable. The contraction of credit and credit constraints and rationing may slow down investment in agricultural technologies, and creditors may be more wary about over leveraging for growth. Thus under current conditions it is unlikely that agricultural growth will be as strong as in previous years. Furthermore the dramatic rise in delinquency of both operating and mortgage credit both within the Farm Credit System and the Commercial System will result in the financial institutions realigning their risk. For now it is wait and see.

Chapter 5. Grain and Feed

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The grain outlook has typically emphasized changes in supply as the largest influence on prices, but since the 2005/06 marketing year, volatility in demand has been an especially important driver of prices. After a run-up in demand associated with a world-wide economic boom, the recession greatly dampened the demand for grains and oilseeds. The outlook for the coming year is still one of uncertainty about economic conditions, and prices continue to vary from day to day as news arrives in the market. Thus, this Chapter should be viewed as a status report as of mid-November 2009. After reviewing the wheat, corn, and soybean markets, we discuss the implications for feed prices in 2010.

Wheat

In 2009, 49.9 million acres of wheat were harvested in the U.S. with an average yield of 44 bushels per acre (Table 5.1). The resulting output is within the range of experience of the past seven years. Harvested acres have been trending downward since the early 1980s, though acreage devoted to wheat apparently has stabilized in the last few years. Yields have grown only modestly. Basically, alternative crops have provided farmers with better returns than wheat.

TABLE 5-1. U.S. SUPPLY AND DEMAND BALANCE SHEET FOR WHEAT ^a			
	2007-08	2008-09E	2009-10F
Supply:			
Harvested Acres (million)	51.0	55.7	49.9
Yield (bushels per acre)	40.2	44.9	44.4
	(Million Bushels)		
Beginning Stocks	456	306	667
Production	2,051	2,499	2,216
Imports	113	127	110
Total Supply	2,620	2,932	2,983
Use:			
Food	948	925	955
Seed	88	75	78
Feed & Residual	16	260	190
Total Domestic Use	1,051	1,260	1,223
Exports	1,263	1,015	875
Total Use	2,314	2,275	2,098
Ending Stocks	306	667	885
Stocks/Use Ratio	13.2%	29.3%	42.2%
Avg. farm price, U.S., \$bu.	6.48	6.78	4.85
Avg. farm price, NYS, \$bu.	6.92	6.50	--
^a Data from USDA, "World Agricultural Supply and Demand Estimates," (November 10, 2009) WASDE-476, P.11.			

Although production is down slightly this year, total supply of almost three billion bushels is little changed from last year, because of the large carry-in. In addition, global wheat supplies are projected to be about 1.7 million metric tons higher this year than last, reflecting increased production in Canada, Australia, and a few other countries. This larger output, combined with the recession, implies that U.S. exports are likely to shrink over 225 million bushels in 2009/10 versus 2008/09. Put another way, wheat exports this year will be about 29% of total U.S. supply versus 35% last year. Thus, ending inventories for the current marketing year are projected to grow to 885 million bushels, i.e., 42% of expected use. Just two years ago, this ratio was only 13%.

Feed use of wheat varies substantially, based partly on relative prices of feed ingredients. In a typical year, less than 10% of the available supply of wheat is fed to animals. The variability in reported feed use also reflects any errors in estimating other uses, as feed use is computed as a residual after estimating export, food, and seed uses.

The consequence of the ample supply of wheat relative to expected demand is that farm prices are going to be substantially lower in 2009/10 than in the past two years. The USDA is projecting a farm price of \$4.85 per bushel, compared with \$6.78 last year. We note, however, that soft red wheat production—and total supply—is down from last year. Thus, the decline in soft wheat prices may be less than for hard winter and spring wheats.

Corn

The U.S. is the world's dominant producer of corn, and Table 5.2 provides a supply-demand balance sheet for corn in the U.S. as of November 10, 2009. The corn situation is difficult to evaluate because the farm-level demand for corn is derived from many different uses, including animal feed, various manufacturing uses (ethanol, sweeteners, etc.), and exports.

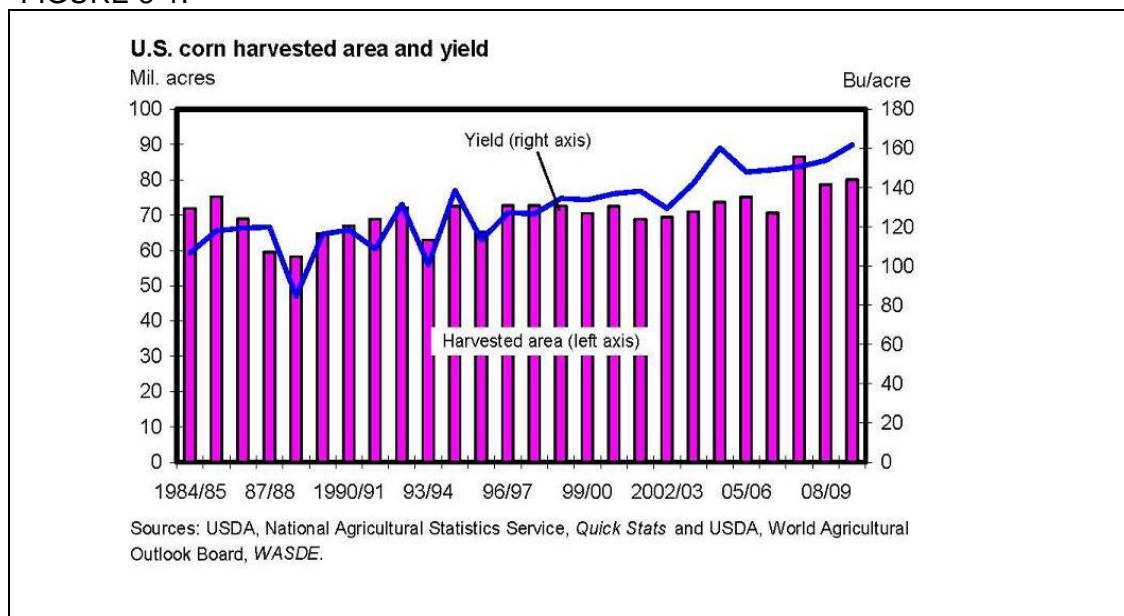
This year, U.S. farmers are expected to harvest about 79 million acres of corn, with a record average yield of 163 bushels to the acre. Figure 5.1 helps place these numbers in context. Over the past 25 years, acres harvested for grain have fluctuated from about 60 to over 85 million. This variation is explained in part by the changing relative prices (profitability) of corn and soybeans, and also to some extent by Spring planting conditions. The more remarkable part of the supply story is the upward trend in yields. In the past 25 years, the national average yield has grown from about 100 to over 160 bushels per acre. The result is an upward trend in supply.

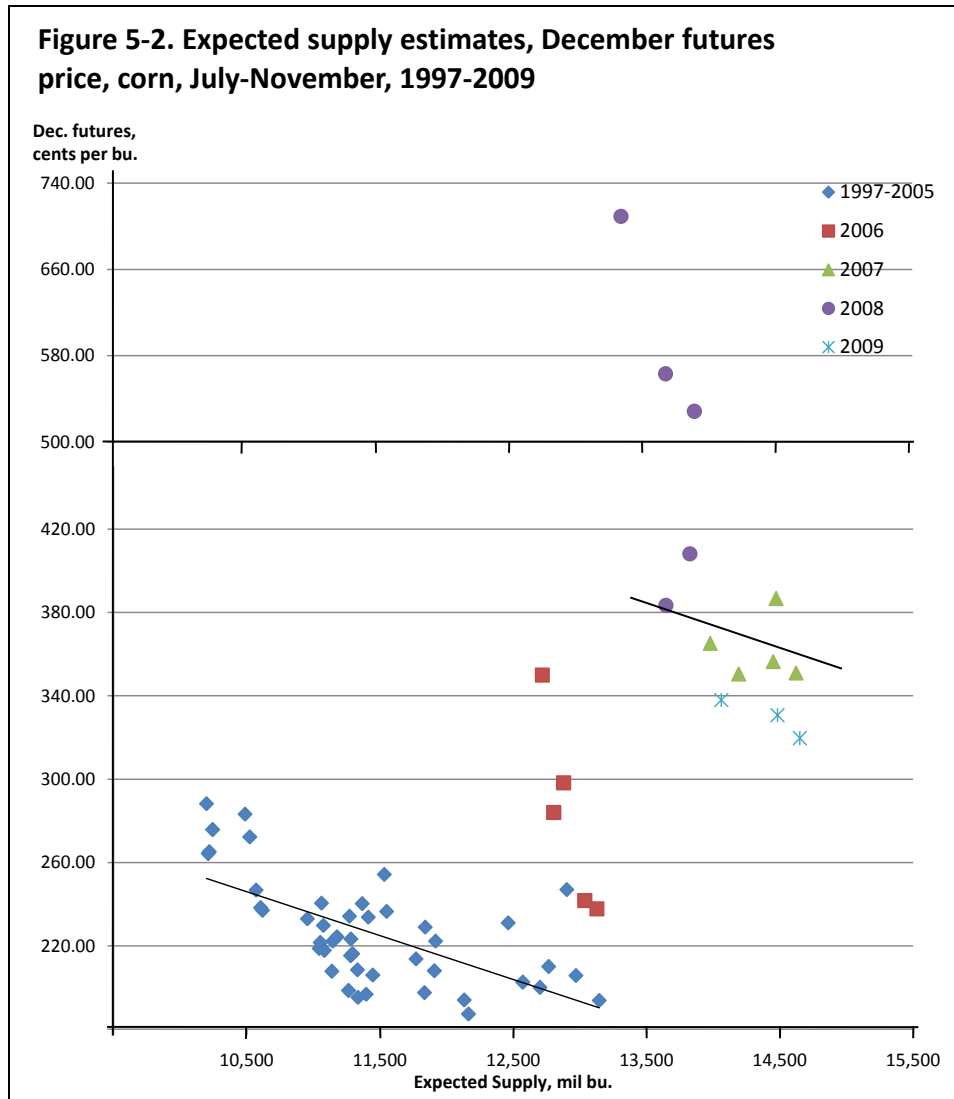
The demand for corn has grown too, and since the 2005/06 marketing year, somewhat faster than supply. This is demonstrated in Figure 5.2, which plots supply estimates for corn (made by the USDA) on the horizontal axis and the corresponding settlement prices for December corn futures on the vertical axis. There are five observations per year, for the months of July through November. The Figure helps make two points. It shows how prices vary as the new crop reports are released, i.e., how prices respond to changing expectations about supply, and how expected demand has shifted in recent years. We estimate that, on average, prices for December corn futures are almost \$2.00 per bushel higher now, for a fixed supply, than they would have been with the old 1997 to 2005 level of demand. This is a rough estimate, but it emphasizes that the growth in demand for corn has more than offset the growth in supply.

Figure 5.2 also shows that corn prices were “off the chart” high in July-September 2008. (To accommodate these 2008 observations, a change in the scale of the vertical-price-axis was required.) Clearly, in the Summer of 2008 the market was expecting an unusually strong demand for corn and not a major recession. Prices have since adjusted downward, and the prices for 2007, October and November 2008, and 2009 perhaps represent a new “normal,” illustrated by the line drawn through these points.

TABLE 5-2. U.S. SUPPLY AND DEMAND BALANCE SHEET FOR CORN ^a			
	2007-08	2008-09E	2009-10F
Supply:			
Harvested Acres (million)	86.5	78.6	79.3
Yield (bushels per acre)	150.7	153.9	162.9
(Million Bushels)			
Beginning Stocks	1,304	1,624	1,674
Production	13,038	12,101	12,921
Imports	20	14	10
Total Supply	14,362	13,739	14,605
Use:			
Feed & Residual	5,913	5,254	5,400
Food, Seed and Industrial	4,387	4,953	5,480
Ethanol for Fuel ^b	3,049	3,677	4,200
Total Domestic Use	10,300	10,207	10,880
Exports	2,437	1,858	2,100
Total Use	12,737	12,065	12,980
Ending Stocks	1,624	1,674	1,625
Stocks/Use Ratio	12.8%	13.5%	12.5%
Avg. farm price, U.S., \$bu.	4.20	4.06	3.55
Avg. farm price, NYS, \$bu.	5.05	4.30	-
^a Data from USDA, "World Agricultural Supply and Demand Estimates," (November 10, 2009) WASDE-476, p. 12. ^b Ethanol for fuel is included in the food, seed, and industrial category and presented for illustrative purposes.			

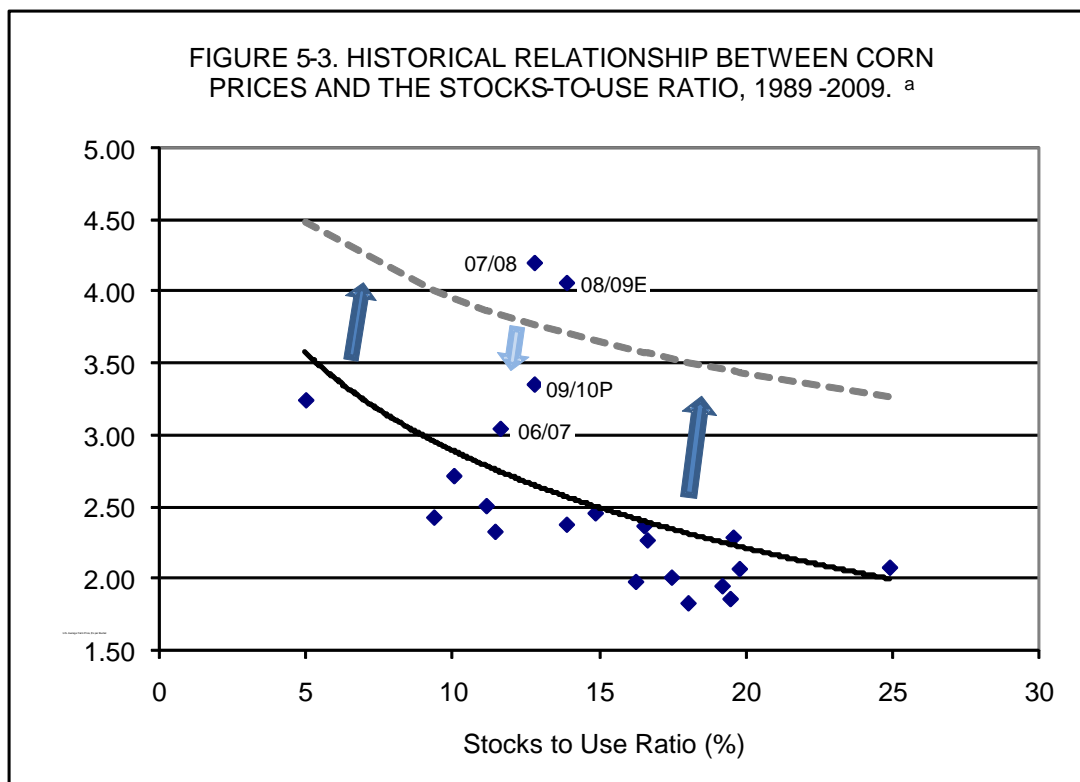
FIGURE 5-1.





A way to combine supply and demand is to plot the stocks-to-use ratio against the average farm price of corn for the year (Figure 5.3). The observations for 1989/90 through 2005/06 have a constant relationship, consistent with the relatively stable demand for those years implied by Figure 5.2. A small upward shift is observable in 2006/07, and a big jump in 2007/08 and 2008/09. Using the USDA projection for the average farm price in 2009/10, it appears that prices are settling down from the previous two years, but are still above the relationship that prevailed through 2005/06.

The foregoing analysis suggests that the price regime for corn has shifted to a new higher level. Based on Figure 5.3, we estimate that the net effect of shifts in demand and supply is to increase the average farm-price of corn about 115 cents per bushel as of the current marketing year. A major unknown is, of course, the nature of future changes in demand. The demand for corn for ethanol is approaching a maximum, given the total use of gasoline in the U.S. and the technical limit of using 10% or less ethanol in a gasoline-ethanol blend. Export demand is projected to grow slightly this year and has the potential to grow more. Low prices in the livestock sector have dampened the demand for corn for feed, but this is a type of demand that can recover in the longer run.



The world's supply-demand balance for corn is summarized in Table 5.3. Clearly the total use of corn has trended upward, and is projected to be over 800 million metric tons in 2009/10. The variation in ending stocks in recent years is an indicator of the ability of supply to balance use. The stocks-to-use ratio was 14.9% at the end of 2006/07, a relatively low level for the world, but the ratio is projected to be 16.5% at the end of this year. Even with the upward trend in yield, uncertainty persists about the ability of supply to match potential growth in demand, especially from countries like China and India that have large populations and growing incomes.

TABLE 5-3. WORLD SUPPLY-DEMAND BALANCE FOR CORN, 2004-05 to 2009-10^a

Marketing Year	Domestic Use	Ending Stocks	Stocks/Use Ratio
	(Million Metric Tons)		(%)
2004 – 05	684.97	131.23	19.1
2005 – 06	704.03	123.02	17.5
2006 - 07	728.53	108.69	14.9
2007 – 08	771.23	129.72	16.8
2008 – 09E	775.69	145.95	18.8
2009 – 10F	803.27	132.25	16.5

^aData from USDA, "World Agricultural Supply and Demand Estimates". Various issues.
E = preliminary, F = forecast

We close this section by presenting the price quotations for corn futures for nearby and distant contracts as of November 10, 2009 (Table 5.4). Research suggests that these prices are as good a forecast as any alternative, but like all forecasts for distant months, the futures quotes are imprecise. For example, the price of the December 2009 corn contract was \$4.50 per bushel on November 10, 2008; a year later it was \$3.945. The prices in Table 5.4 can only represent what was known on November 10, 2009.

TABLE 5-4. FUTURES PRICES FOR CORN, CHICAGO MERCANTILE EXCHANGE, NOVEMBER 10, 2009	
Contract Month	- \$ per bu. -
December 2009	3.945
March 2010	4.090
May 2010	4.190
July 2010	4.275
September 2010	4.350
December 2010	4.430
December 2011	4.530

Soybeans

Soybeans have been in rather short supply relative to demand in recent years, and the 2008/09 marketing year finished with only 138 million bushels in inventory (though this amount was slightly larger than forecast). This year's crop is projected to be 3.32 billion bushels, providing a total supply of almost 3.5 billion (Table 5.5). The concern about an early frost passed without a problem, but harvest conditions were wet in major producing areas as was the case for corn. So, concern exists about the quality of the crop.

Crop prospects in other major producing countries appear good, though ending stocks for this year are relatively small world-wide (Table 5.6). The small carry-in has created a strong export demand currently for U.S. soybeans, but if the prospective production in the Southern Hemisphere is realized, prices will continue to be lower than last year. As Table 5.6 shows, the world's stocks-to-use ratio is projected to return to a near "normal" level by the end of the current marketing year. Stocks in the U.S. will still be small relative to historical experience.

The USDA is projecting an average farm price about 75 cents per bushel below the 2008/09 level, but like corn, the prices of soybeans are in a new higher regime than was the case just a few years ago. The demands for both domestic and export uses remain quite strong relative to available supplies.

Futures contracts for beans and for meal are provided in Table 5.7. The sources of uncertainty about changes in these prices include whether or not the projected supply of beans in the Southern Hemisphere is realized and also whether or not the expected export demand from major importers like China occurs. As noted above, futures prices for distant maturity months are imprecise forecasts, but they are likely as good as alternate forecasts.

	2007-08	2008-09E	2009-10F
Supply:			
Harvested Acres (millions)	64.1	74.7	76.6
Yield (bushels per acre)	41.7	39.7	43.3
(Million Bushels)			
Beginning Stocks	574	205	138
Production	2,677	2,967	3,319
Imports	10	13	8
Total Supply	3,261	3,185	3,465
Use:			
Crushings	1,803	1,662	1,695
Exports	1,159	1,283	1,325
Seed	93	95	94
Residual	0	6	81
Total Use	3,056	3,047	3,195
Ending Stocks	205	138	270
Stocks/Use Ratio	6.7%	4.5%	8.5%
Avg. farm price, U.S., \$bu.	10.10	9.97	9.20
Avg. farm price, NYS, \$bu.	11.20	8.25	-
^a Data from USDA, "World Agricultural Supply and Demand Estimates," (November 10, 2009) WASDE-476, p.15.			

Marketing Year	Domestic Use	Ending Stocks	Stocks/Use Ratio
	(Million Metric Tons)		(%)
2004 – 05	205.39	48.18	23.5
2005 – 06	215.21	52.94	24.6
2006 - 07	225.28	62.68	27.8
2007 – 08	229.75	52.91	23.0
2008 – 09E	220.43	42.39	19.2
2009 – 10F	231.62	54.79	23.7
^a Data from USDA, "World Agricultural Supply and Demand Estimates." Various issues. E = preliminary, F = forecast			

Contract Month	Beans	Meal
	\$ per bu.	\$ per ton
January 2010	9.680	288.2 (Dec)
March 2010	9.740	279.2
May 2010	9.775	279.0
July 2010	9.830	280.3
September 2010	9.790	279.7
November 2010	9.80	279.2 (Dec)
November 2011	9.86	293.7 (Dec)

Feeds

With corn yield forecasts well above trend, feed grain production is expected to be the second highest ever. The increased supplies have been reflected in increased corn ‘feed and residual’ use and forecasted feed costs have softened somewhat relative to year-ago levels. For the current marketing year, feed and residual use for corn is projected to be up about 3% from last year. But, looking out to future years, ingredient prices could very well return higher.

Combined with the grain production increases, the projected index of grain-consuming animal units (GCAU) in the U.S. in 2009/10 of 91.3 million is down 1.6% from 2008/09. Feed needs for all livestock classes are down due to these reduced livestock numbers. Dairy GCAUs are down 330,000 from last year, suggesting lower feed needs; however, this is offset some by increasing feed requirements per cow as milk production continues to increase. Livestock and poultry producers are struggling with weak demand for their products, and large supplies of meat and high feed costs continue to pressure prices.

Feeding DDGS

Lower corn prices have provided some relief to tight corn-ethanol production margins, where earlier in 2009 higher-than-proportional drops in ethanol prices resulted in the lowest estimated ethanol margins in recent history. It has been a tough year for an industry that has witnessed several plant shutdowns, bankruptcy filings, or reduced sell-off changes in ownerships. The ethanol plant in Volney, NY is a particular example – the \$200 million plant was sold to Sunoco in May 2009 for \$8.5 million.

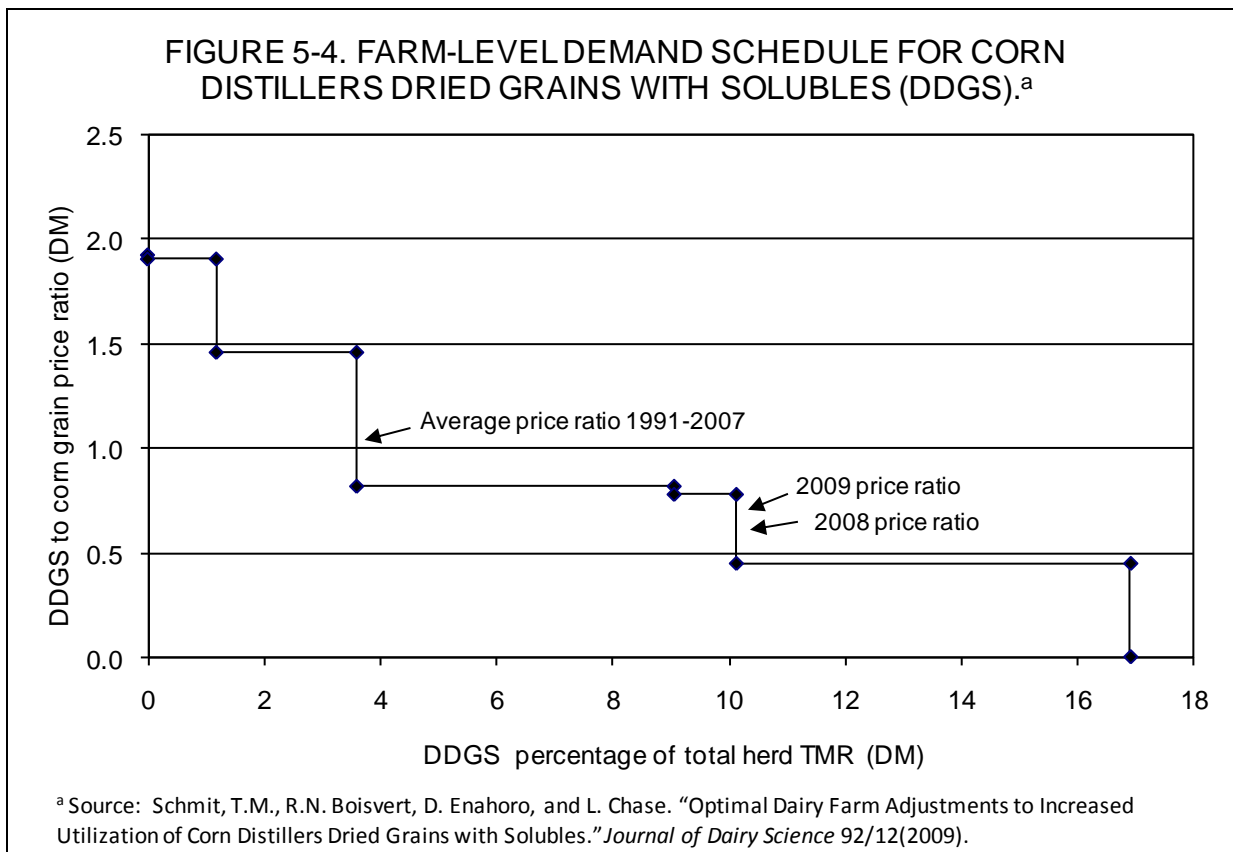
That said, U.S. ethanol production is expected to grow in 2009/10, with improvements in average operating margins and existing plants increasing production levels. The double digit growth rates are likely a thing of the past, with firms realizing narrower year-over-year margins and aggregate production nearing total blending mandates. However, a total production estimate of nearly 12 billion gallons implies continued strong supplies of distillers grains for livestock feeds.

While supplies are available, the relevant question is whether relative prices are favorable for use in livestock rations. DDGS prices have continued to closely track changes in corn prices, although the ratio of DDGS to corn prices has decreased some relative to historical experience. In addition, ethanol firms are concentrating more attention to producing a consistent quality product, with increased palatability and reduced fat levels that can improve sales revenues. Of course, the use of DDGS in livestock rations should not be made independently from other farm planning decisions. For example, dairy producers may make other adjustments,

including the proportional uses of alternative forages that are consistent with growing a larger portion of total dairy feed. The extent to which this is possible depends on the nature of a farmer's land resources, along with changes in relative prices. In addition, management adjustments may also be in response to changes in the nutrient content of animal waste when rations are adjusted by using alternative and less expensive feed ingredients.

Along with Professor Richard Boisvert, graduate student Dolapo Enahoro, and Professor Larry Chase (Animal Science), we have developed a model to identify optimal adjustments (i.e., those that maximize net farm returns over variable costs) for an 'average' New York dairy farm regarding on-farm feed production, feed purchases, crop sales, and dairy rations that account explicitly for expanded utilization of DDGS feedstocks. As part of this, we mapped out a farm-level demand curve for DDGS by varying their prices relative to the price of corn. Figure 5-4 shows the derived demand curve where the horizontal axis measures the percent of DDGS that is in the aggregate dairy herd total mixed ration (TMR), including lactating and dry cows, and heifer replacements, and the vertical axis measures the ratio of the price of DDGS relative to the price of corn grain (both measured on a per ton dry matter basis).

This demand curve is a typical "step function" that is characteristic of those generated through linear programming methods, where there is often a range in the price of an input, all else held constant, over which there is no change in the levels of the optimal activities (e.g., the average prices for 2008 and 2009 result in the same optimal feeding level of DDGS). As expected, the cheaper DDGS is (relative to corn), more DDGS are included in the optimal dairy rations.



From Figure 5-4, if current relative prices of major feed ingredients had remained at their past 17-year average (1991-2007), the potential demand for DDGS would be modest—serving only as a substitute for soybean meal in the TMR for dry cows and young stock, and corresponding to an aggregate TMR percentage of just 3.6%. However, since the price of DDGS has increased less than either the price of corn grain or soybean meal over the past two years, DDGS would account for just over 10% of the aggregate dairy herd TMR when evaluated at current prices. Specifically, the optimal solution at current prices corresponds to feeding lactating cows DDGS (with 12% fat) at a level of 10% of the total ration, and dry cows and replacement heifers fed at levels of 13% and 10% DDGS (with 8% fat), respectively. Thus, had the prices of DDGS in 2008 and 2009 risen by as much as the price of corn grain relative to this 17-year average, the optimal use of DDGS would be only about a third of what is optimal at actual prices.

Furthermore, if the relative price of DDGS (to corn grain) were to fall by 25% relative to the 2008 level, the farm-level demand for DDGS would be nearly 17% of the aggregate herd TMR and lactating cows would be switched to a primarily alfalfa-based ration (rather than corn silage). At this low price, it is now optimal to feed lactating cows 20% DDGS (with 8% fat). Since the price of corn grain is now high relative to the price of DDGS, it is now more profitable to grow and sell more corn grain, rather than feed it.

A final consideration in optimal ration selection relates to environmental consequences, and specifically, to changes in the phosphorus levels in the dairy waste. While we show that it is economically optimal for the dairy producer to incorporate DDGS into these rations, some operations will be unable to accommodate the additional phosphorus at higher levels of DDGS feeding due to existing nutrient management recommendations, soil P status, and the number of acres available for manure spreading. In summary, the level of DDGS included in livestock rations should be considered in a whole-farm planning context; i.e., by considering not only changes in ration costs via changing prices, but also how those price changes affects management adjustments throughout the farming operation, including nutrient management.

Projected Feed Costs

In reviewing the corn and soybean meal futures prices for nearby and distant contracts as of November 10, 2009 (Tables 5-4 and 5-7, respectively), strengthening corn prices and weakening meal prices are forecast next year. In 2011, corn prices are expected to continue to increase, along with meal prices rebounding to just above current levels. As in the past, we utilize a model we developed to project selected mixed feed costs conditional on an assumed set of ingredient costs. While the results are only as good as the accuracy of the future prices realized, it remains useful when considering future feed purchase options.

One set of estimates for dairy, hog, and layer feeds over the next two years is shown in Table 5-8. They suggest, for example, that 18% protein dairy feed could be about \$14 per ton lower this coming spring than a year earlier. The results are similar across sectors, where four to five percent reductions in feed costs are projected over year-earlier levels. As noted in the table's footnote, these particular results assume, among other things, that corn prices will be \$4.09 and \$4.54 per bushel and soybean meal will be \$279 and \$282 per ton for 2010 and 2011, respectively. These prices are consistent with recent quotes for corn and soybean meal futures contracts for March delivery. Obviously, the actual ingredient prices next March may be higher or lower than the November quotes, and it is the volatility in the underlying ingredient prices that makes feed costs difficult to forecast.

While projecting out an additional year is likely less precise, the model estimates do show expected increases in feed costs for 2011, returning to levels at or near costs experienced this past year. The results imply some relief for livestock and milk producers that are currently receiving below-average output prices, but longer-term ingredient pricing models (e.g., hedging, options, forward contracting) should be considered in determining costs that can lock in a margin with reasonable returns.

TABLE 5-8. APRIL COMPLETE FEED PRICES FOR DAIRY AND
LAYERS, NORTHEAST U.S., 1999-2009.^a

Year	Dairy (18%)	Hog (14-18%)	Layer
2005	202	262	207
2006	217	290	237
2007	259	330	288
2008	312	376	332
2009	285	352	330
2010F	271	339	306
2011F	283	354	320

^a Historical prices from USDA *Agricultural Prices*. Authors' 2010 and 2011 forecasts are based on CME March contract settlement prices (11.10.09) for corn and soybean meal, and assumed price correlations for corn and distillers dried grains with solubles of 0.88 and corn and meat and bone meal of 0.80. Specifically, assumed prices are respectively: corn \$4.09 and \$4.54/bu, soybean meal \$279 and \$280/ton, distillers dried grains with solubles \$145 and \$160/ton, and meat & bone meal \$310 and \$340/ton.

Chapter 6. Dairy – Markets and Policy

Andrew M. Novakovic, PhD

The E.V. Baker Professor of Agricultural Economics

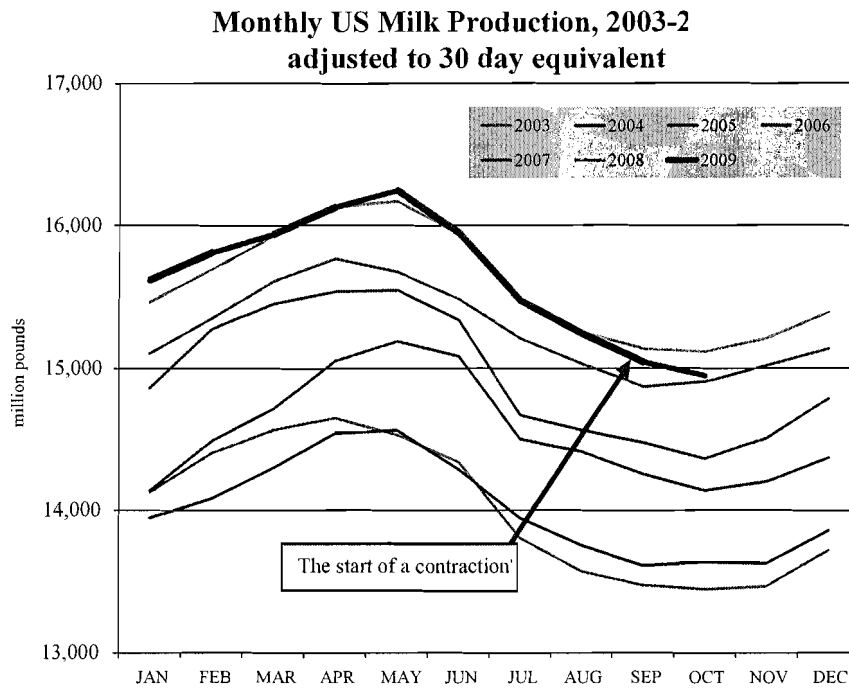
According to the official arbiter of US economic growth, the National Bureau of Economic Research determined that the Great Recession started on December 2007 and some analysts believe that it ended this Fall. The Farm Price for All Milk was high throughout the last half of 2007 but peaked in November. Both milk prices and the economy tumbled throughout 2008. The All Milk price hit bottom this past Summer.

This is not a coincidence or curious parallel. Dairy markets are always influenced to some degree by general economic conditions, but in years past, analysts generally believe that conditions particular to the dairy sector dominate larger economic factors, and supply side conditions are usually thought to be more significant than demand side factors. While supply side factors are certainly part of the story, in this latest dairy cycle demand side factors have played a very important and probably larger role.

Among the most important factors in pushing milk prices up are:

1. Strong world demand
 - a) Incredible growth in household incomes in emerging markets (e.g., China)
 - b) Strong growth in household and national incomes in oil exporting countries
2. A weak dollar made our dairy products cheaper than other sources
3. Changes in the EU common dairy policy led to less milk production and a drastic reduction in dairy products available for export and an increase in their price
4. Ongoing dry weather in Australia, the third largest exporter, and tight supplies in New Zealand, the largest exporter, created a shortage in world markets
5. US milk supply and prices were heading for a seasonal up-tick in 2007

All combined, these created perfect conditions for the US to take advantage of export market opportunities, thereby pushing milk and dairy product prices up to new record highs. Exports rose through the second quarter of 2008 and then tumbled, returning to historical normal levels in 2009. With the huge push of the Great Recession, dairy markets collapsed and are only now beginning to recover.

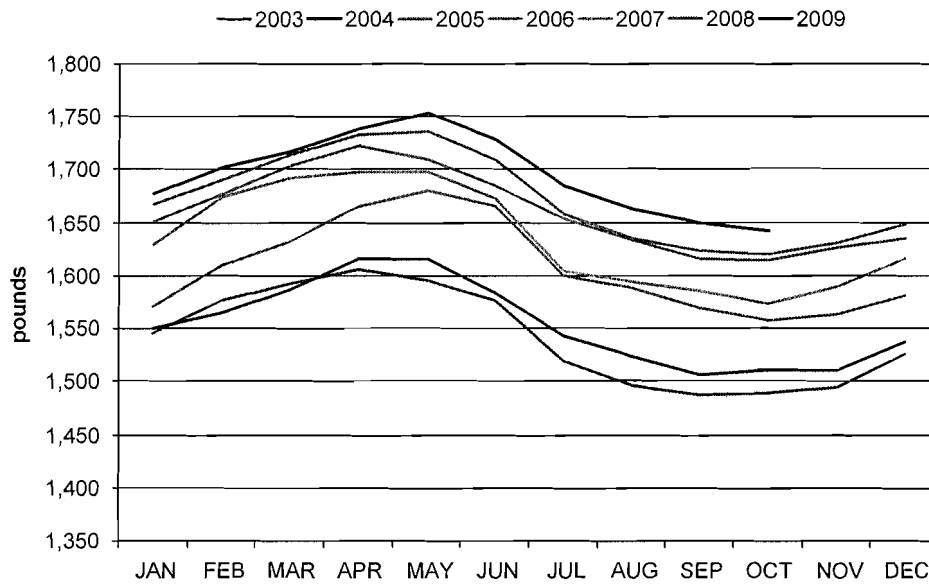


Current Milk Supply Situation

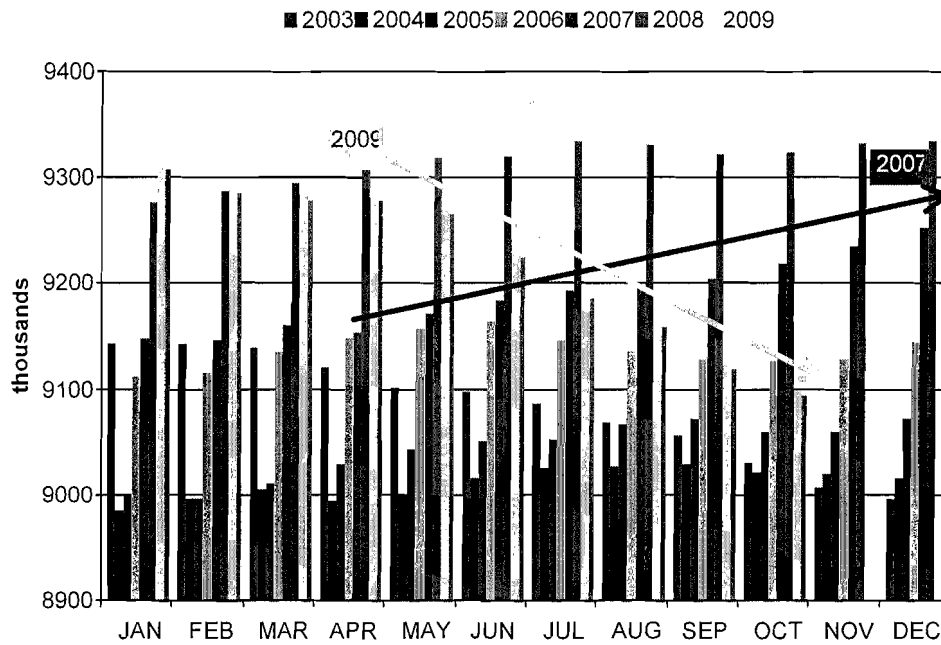
The figure illustrates monthly US milk since 2003. The Year over Year (YOY) display illustrates that milk production generally increases from one year to the next, but in the last two down turns in the cycle (2004 and 2009), production shows little if any growth. Indeed, a tightening of milk supplies is the precondition to improved prices. Until this Fall, US milk production was about level with 2008. Early estimates indicate that national production in October are 1% below 2008. Markets have responded with higher milk prices forecasted into 2010, but further tightening will be required to boost prices to levels that would allow farmers to recover lost reserves and equity.

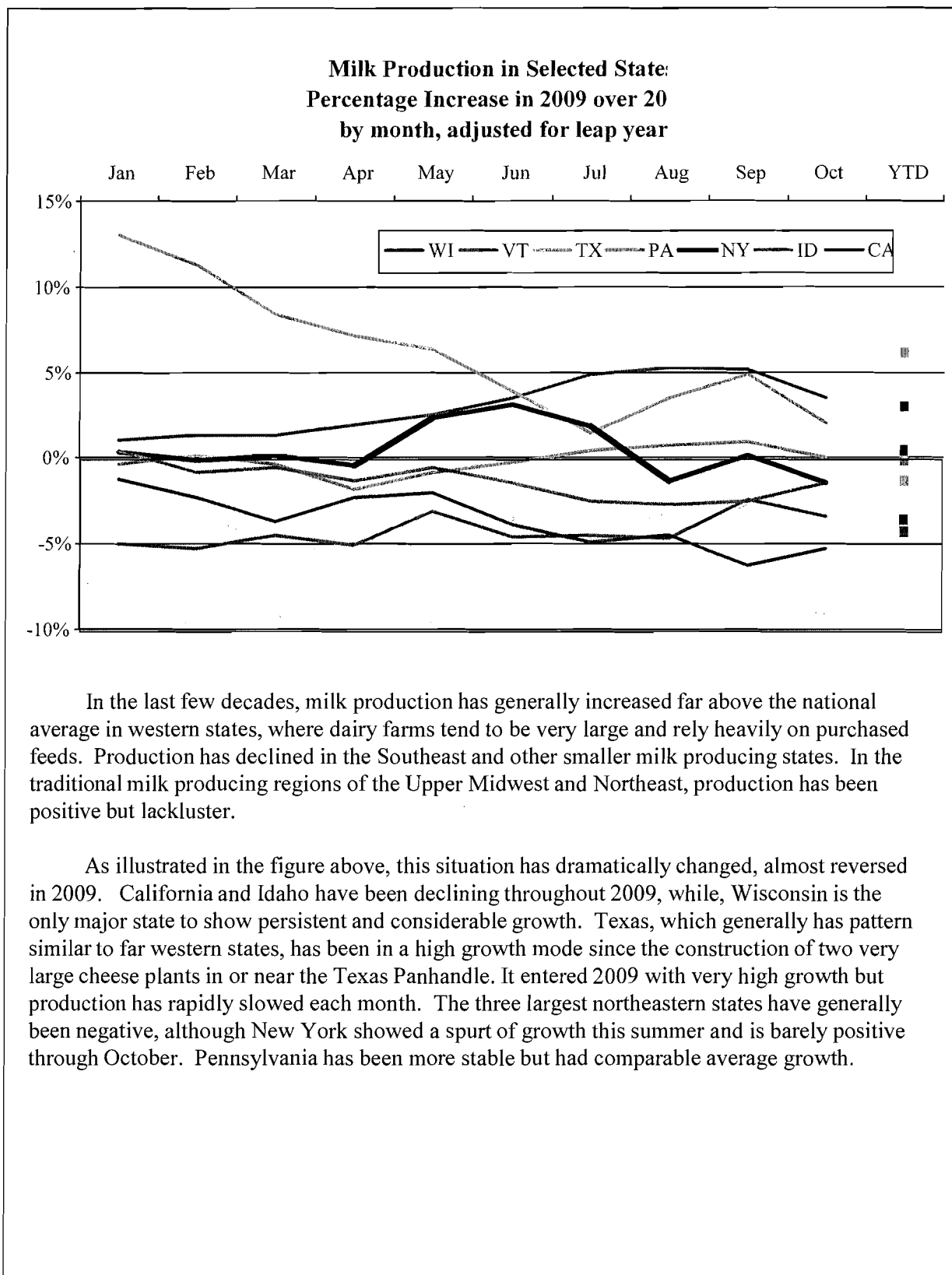
As shown in the figures on the next page, milk production per cow has shown persistent increases throughout 2009, despite very unfavorable feed costs. Cow numbers began decreasing in 2009, especially following the price bottom in late winter. Since April, cow numbers have declined substantially each month, eventually leading to the first reduction in monthly year-over-year production in September.

US Monthly Milk Production Per Cow, 2003 to pres



Average Number of Milk Cows in US During th





Commercial Disappearance

USDA's monthly calculation of the amount of milkfat produced and imported less the amounts we can account for in storage is called commercial disappearance. It is not so much a measure of sales as a measure of what must have been sold. It does not differentiate export versus domestic sales, much less retail versus foodservice or food ingredient use. Nevertheless, it is a number we can calculate fairly quickly to provide a quick read of the overall sales of dairy products.

Commercial disappearance, on a monthly basis, is illustrated for All Dairy Products (milkfat basis), all cheese, butter, and nonfat dry milk.

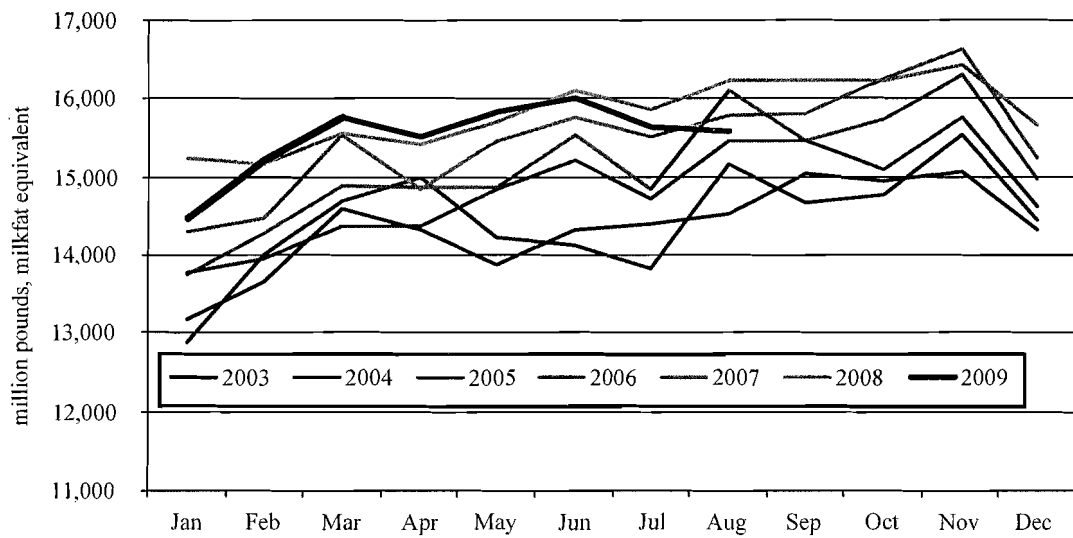
The All Milk data indicates that sales began declining in Fall 2008. Seasonal gains occurred in Spring 2009, but at levels comparable to 2008. During the Summer, sales softened further.

Among individual products, cheese markets have been a bit more generous. Although cheese sales were weak during the first half of 2009, they showed a strong recovery in July and August. This is an important number to watch through the Fall. There are some concerns that this is more downstream holding of stocks than actual sales, but this seems unlikely. Cheese has been cheap, which has spurred sales, but prices are returning to more average levels. This is especially important for cheese sales in Quick Serve and Casual Dining.

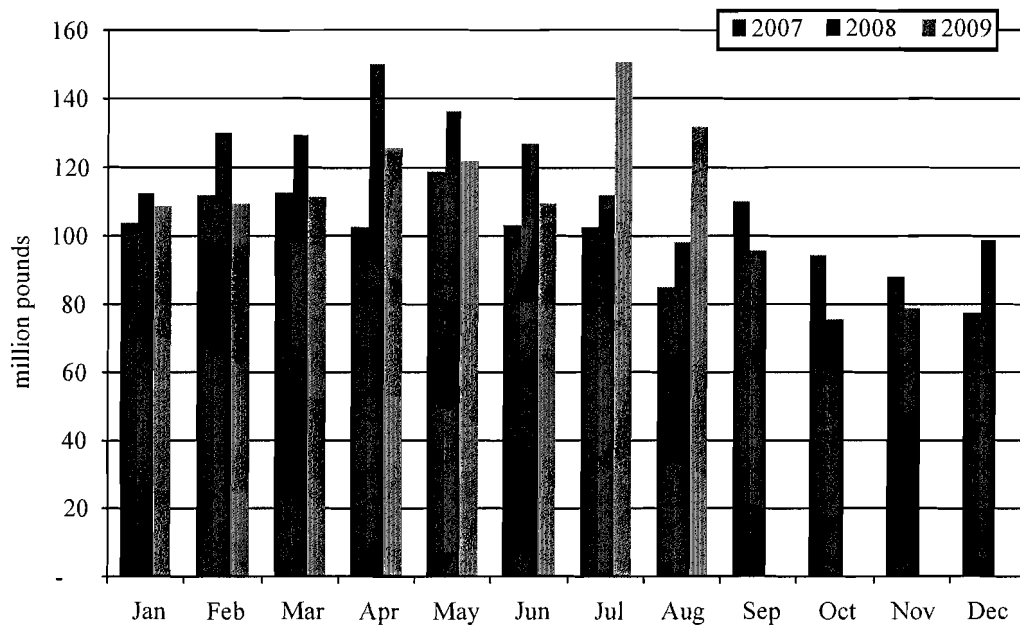
Butter was weak last Fall but made a rebound for the December holidays. This year sales have been about level with 2008, until a more serious slump estimated for August. This is an important factor in the overall commercial disappearance number.

NDM disappearance was weak the first half of 2009 but rocketed this summer. Skim solids have been cheap, and the rise in usage is a result of exports to less developed countries whose economies are in better shape than ours..

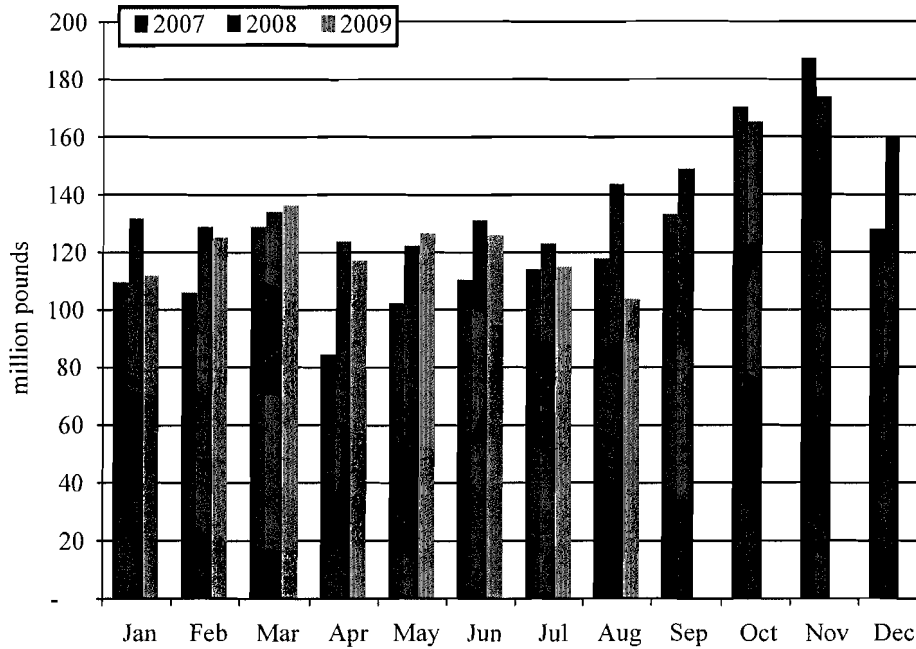
Commercial Disappearance, All Dairy Products .



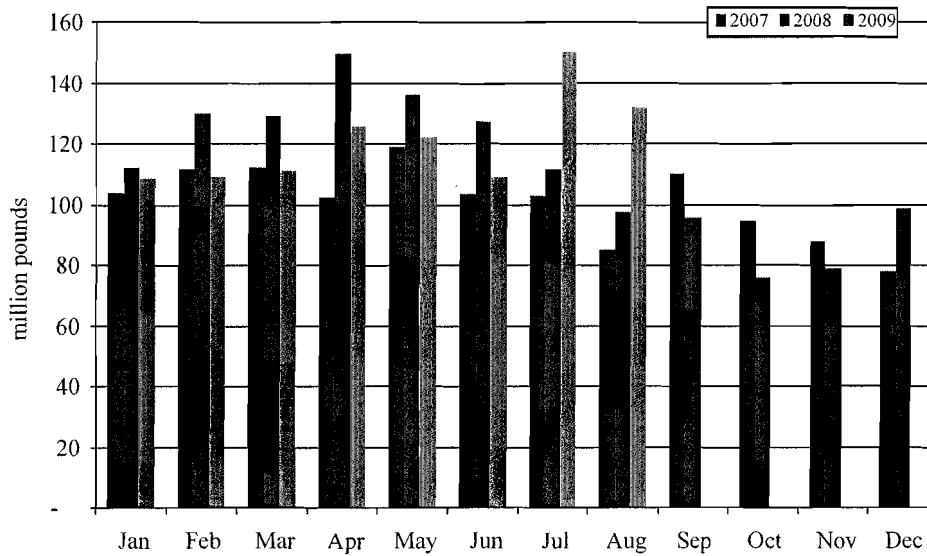
**Commercial Disappearance, All Cheese, 2007 to
(adjusted to 30-day equivalent)**



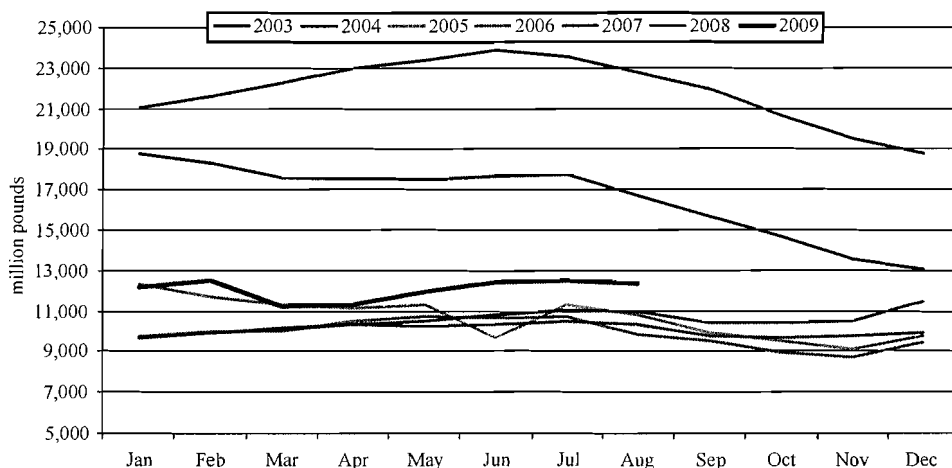
Commercial Disappearance, Butter, 2007 to (adjusted to 30-day equivalent)



Commercial Disappearance, Nonfat Dry Milk, 2007 (adjusted to 30-day equivalent)



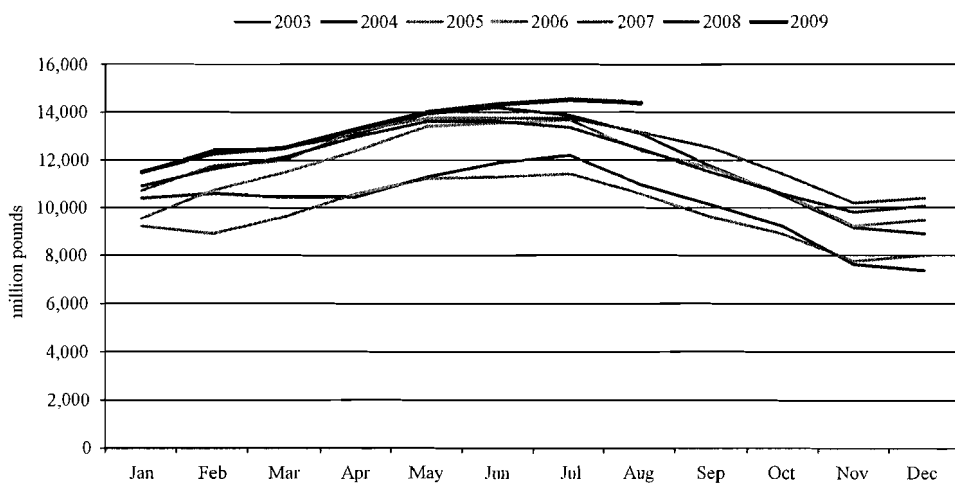
Total Ending Stocks of Dairy Products, skim solids equivalent



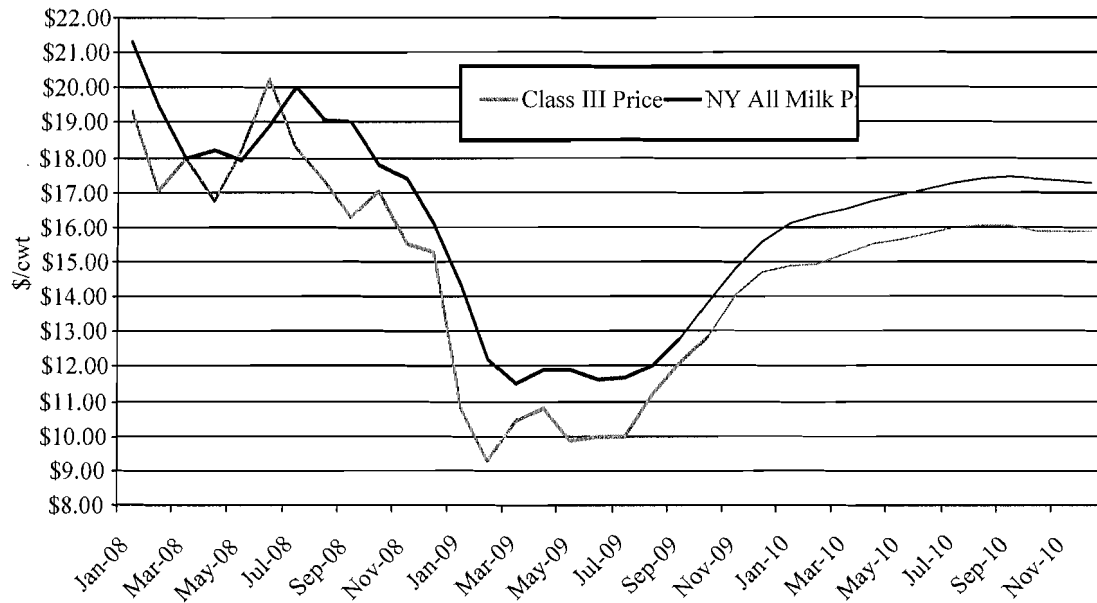
Stocks of dairy products, both commercial and government held, measured on a skim solids basis, are running well below the very high levels of 2003 and 2004. Nevertheless, 2009 has been running well above the more normal levels of the last four years. These stocks will have to be reduced before we can see much price strength.

When these same stocks are measured on their milkfat equivalent basis, the 2009 situation becomes even stronger. Although running about on level with 2007 and 2008 earlier in the year, milkfat based stocks increased this summer and are higher than at any point in the previous five years. These stocks will restrain price improvement.

Total Ending Stocks, milkfat milk equivalent



**Actual and Future Class III Price pl
Actual and Estimated NY All Milk Price, 20**



Following the November release of USDA's production estimate for October, the Class III futures prices on the Chicago Mercantile Exchange jumped for the last half of 2010. The most recent USDA forecast is also more bullish. If the CME futures prices proves to be correct, the implied average price of milk in New York will begin at about \$16.00 per cwt and rise to a high of about \$17.50. The 2010 average would be about \$17.00 per cwt.

Futures markets also suggest that the price of corn will run between \$4.00 and \$4.50 per bushel in 2010, with other input prices rising more gradually. On net, it seems certain that the worst is over and 2010 will be more like an average year for farm profitability. By the same token, it is unlikely that 2010 will be the year in which farmers regain equity and reserves lost in 2009.

Chapter 7. Dairy -- Farm Management

Wayne A. Knoblauch, Professor

George J. Conneman, Professor

Linda D. Putnam, Extension Support Specialist

Fireside Chat on Managing During a Dairy Crisis

We are in a dairy crisis now; low milk prices and negative margins. We have had dairy crises before. The crisis of the mid-1980's and in the early 1990's being the most serious in memory. Some dairy farmers will experience real pain and there could also be some big winners. I am going to focus on the pain component of the crisis. Significantly lower milk prices and therefore, dairy farm profits, combined with lower asset values, translating to reduced borrowing capacity, pose a serious threat to the survival of many dairy farms. This current crisis is different than those of the recent past in that the total economy is in difficulty. As a result, we may be facing a more prolonged period of low prices.

What should a dairy farmer consider and what actions should be taken in times of very low milk prices? Let's apply our proven management principles and economic theory to this situation. Economic theory tells us that we need to look at the individual farm situation using both a profit and a cash flow analysis. I will start with the profit approach and then discuss cash flow.

Profit

NOW: If cash receipts cover cash expenses, then continue to operate the dairy as long as there is some contribution to overhead. Cash expenses include items such as hired labor, veterinary fees and medicine, utilities, interest and purchased feed. Farm produced feed/forage is now, in my opinion, a fixed or sunk cost and should not be included as a cost in the **NOW** analysis.

If cash receipts don't cover cash costs, then cutting all costs possible without deteriorating the net profit margin, selling unprofitable cows or making other changes to the cost and revenue stream must be implemented quickly. There is no time to lose to make changes to the business.

PLANTING TIME: We must now include crop production costs as a cash cost in our analysis. To continue in production, the expected milk price over the next year should be such that it will cover all cash costs and generate some contribution to fixed costs. If that is not the result, then the **NOW** strategies previously discussed as well as some that may take a bit longer to adopt and reap the benefits, should be adopted if they can be expected to reverse this scenario.

NEXT TWO OR THREE YEARS: To continue in production, the expected milk price will need to cover the cost of production, including the value of operator labor and management. Remember, profitability is the key to long run business survival.

Cash Flow

NOW: If you are covering cash costs, but can't cash flow from operating, then consider these options. Refinancing, interest only payments, sell non-productive assets, borrowing, improving the business, etc. should all be considered. But, only consider improving cash flow if you can expect to have a profitable business after planting time. If you are not covering cash costs, and can't make changes to correct that situation, then liquidation or eating equity are the options. Eat equity only if there is a promise of significantly better days ahead. Remember, cash flow is the key to short run business survival. Note: eating

equity simply means that the net worth or equity of your business goes down as a result of continuing to operate the business.

PLANTING TIME: If you can project to cover cash costs, including those associated with growing crops; then refinancing, interest only payments, selling non-productive assets, borrowing, etc. should be considered. But, only consider improving cash flow if you can expect to have a profitable business after planting time and be able to cover scheduled debt payments and provide for family living. If you are not covering cash costs, and can't make changes to correct that situation, then liquidation or eating equity are the options. Keep in mind that liquidation or partial liquidation, and eating equity can have serious long term consequences for your business.

NEXT TWO OR THREE YEARS: A business must be profitable to be sustainable in the long run. If you cannot project profits over the next years, then you likely will be eating equity. The only exception is if asset values increase dramatically and your strategy is one of waiting to sell assets later at higher prices. However, you are then a speculator, not a business manager.

Preamble to Decision Making

Before discussing options, a reminder on what should be done before implementing any drastic changes in the business are as follows:

- (1) Meet with your lender and share your financial management analysis and cash flow projections. Communicate with your lender often and provide periodic updates regarding your financial situation.
- (2) Cash flow management is the key to surviving difficult economic times. Continually review and update cash projections and partial budgets.
- (3) Meet with suppliers to develop payment arrangements.
- (4) Communicate current financial situation often with management team/family members. Seek and welcome their suggestions and involve them in key financial decisions.
- (5) Seek management advice and analysis assistance from cooperative extension, consultants, FarmNet and others.
- (6) Seek personal counseling and advice from close friends, clergy, FarmNet and others.

Options to Consider

These options are listed in no particular order. They can be combined in part or in total with other options to best fit your situation. Which option(s), if any, are that best for you may be different from those that are best for other situations or other businesses. Also, there may not be sufficient equity in assets to make the options possible or the income tax implications are so large that too little cash remains. These options are drastic and may or may not enable the business to continue. Also, these options may be so dramatic as to be not acceptable to many. But first complete a production and financial management analysis of your business for 2009. Determine strengths, but most importantly, areas for improvement with immediate response and improvement in cash flow.

- (1) Sell field machinery. Lease or own only those items necessary to feed and care for the cows. Custom hire all crop related tasks or rent the crop land to others and buy back the feed as needed.

- (2) Sell the field machinery and cropland. Keep the house and buildings. Lease or own only those items necessary to feed and care for the cows. Purchase feed as needed.
- (3) Sell the cows. Raise crops for sale and to continue to feed the heifers. As heifers approach calving, market them, or reconsider entering back into the dairy business. Perhaps rent the buildings to someone else, custom board heifers, custom board milk cows, or house animals in some other means to utilizing the feed produced on the farm.
- (4) Sell all heifers. Focus on the milking herd, and buy replacements as needed.
- (5) Sell field equipment and lease back needed only needed items or have the field work done by a custom operator.
- (6) Declare bankruptcy, but only after discussing the legal and financial implications with a qualified attorney and tax accountant. Bankruptcy and its various chapters are too complicated to discuss in this fact sheet. Keep in mind that for bankruptcy reorganization, the plan to continue must reasonable and provide for restructured debt payments.
- (7) Determine if the creditor will write down the debt or allow interest only for a period of time.
- (8) Sell all of the farm assets, except for the cattle, and rent another facility.
- (9) Approach other dairy producers about creating a joint venture, and become affiliated with a dairy business that can provide liquidity, management, and other resources that may allow the business to thrive in the future.

Conclusion

Perform a complete analysis of both the current and future impacts of these or any other changes to the business that are being considered. Will these options allow the business to survive and prosper in the future, or will these changes just prolong the inevitable?

Evaluate these options for use in your business by determining the projected cash flow after debt repayment and income taxes for each option or combination of options. In order for the business to be successful, it must cash flow in the very near future. If it cannot cash flow, total liquidation may be the only option.

This crisis will also pass, as have other crises. However, this current crisis will be very painful for many farmers. These trying times will severely stretch and test the management skills of all dairy farmers. We should not react out of fear, or not react at all. Rather, we should do a careful analysis of where our business is and where we want it to go. Then do an analysis of the expected impacts of possible changes on both profit and cash flow before taking action. While difficult, we should also view this as a time to employ our financial management skills. Many professionals are available to help. Cooperative Extension, FarmNet and consultants as well as others can give assistance, identify alternatives and provide an objective outside view of available options.

Herd Size Comparisons

Data from the 224 New York dairy farms that participated in the Dairy Farm Business Summary (DFBS) Project in 2008 have been sorted into eight herd size categories and averages for the farms in each category are presented in Tables 7-1 and 7-2. Note that after the less than 50 cow category, the herd size categories increase by 25 cows up to 100 cows, by 100 cows up to 200 cows, by 200 cows up to 600 cows and by 300 cows up to 900 cows.

As herd size increases, the net farm income increases (Table 7-1). Net farm income without appreciation averaged \$28,655 per farm for the less than 50 cow farms and \$894,127 per farm for those with more than 900 cows. Return to all capital without appreciation generally increased as herd size increased.

It is more than size of herd that determines profitability on dairy farms. Farms with 900 and more cows averaged \$662 net farm income per cow while 50 cow dairy farms averaged \$735 net farm income per cow. The under 50 herd size category had the highest net farm income per cow while the 400 to 599 herd size category had the second highest net farm income per cow at \$692. Other factors that affect profitability and their relationship to the size classifications are shown in Table 7-2.

**TABLE 7-1. COWS PER FARM AND FARM FAMILY INCOME MEASURES
224 New York Dairy Farms, 2008**

Number of Cows	Number of Farms	Average Number of Cows	Net Farm Income without Appreciation	Net Farm Income per Cow	Labor & Management Income per Operator	Return to all Capital without Appreciation
Under 50	20	39	\$28,655	\$735	-\$1,675	-0.6%
50 to 74	27	60	27,724	460	-6,484	-1.2%
75 to 99	21	88	26,100	295	-10,759	-1.8%
100 to 199	44	143	56,278	393	-2,279	0.4%
200 to 399	30	285	183,409	644	55,224	5.6%
400 to 599	26	479	331,736	692	85,859	6.6%
600 to 899	23	725	484,910	669	158,932	7.5%
900 & over	33	1,350	894,127	662	203,189	7.6%

This year, net farm income per cow did not exhibit the usual increase as herd size increased. All herd size categories saw an increase in operating cost of producing milk from a year earlier (Table 7-2). Net farm income per cow will increase as farms become larger if the costs of increased purchased inputs are offset by greater and more efficient output.

The farms with more than 900 cows averaged more milk sold per cow than any other size category (Table 7-2). With 25,338 pounds of milk sold per cow, farms in the largest herd size group averaged 10.2 percent more milk output per cow than the average of all herds in the summary with less than 900 cows.

Note: All data in this section are from the New York Dairy Farm Business Summary and Analysis Project unless a specific source is specified. Publications reporting Dairy Farm Business Summary data for New York, six regions of the state, for large herds, small herds, grazing farms, and farms that rent are available from the Department of Applied Economics and Management website: <http://aem.cornell.edu/outreach/publications.htm>.

The ability to reach high levels of milk output per cow with a large herd is a major key to high profitability. Three times a day milking (3X) and supplementing with bST are herd management practices commonly used to increase milk output per cow in large herds. Many dairy farmers who have been willing and able to employ and manage the labor required to milk 3 times per day have been successful. Only three percent of the 68 DFBS farms with less than 100 cows used a milking frequency greater than 2 times per day. As herd size increased, the percent of herds using a higher milking frequency increased. Farms with 100 to 200 cows reported 11 percent of the herds milking more often than 2 times per day, the 200-399 cow herds reported 53 percent, 400-599 cow herds reported 69 percent, 600-899 cow herds reported 78 percent, and the 900 cow and larger herds reported 88 percent exceeding the 2 times per day milking frequency.

**TABLE 7-2. COWS PER FARM AND RELATED FARM FACTORS
224 New York Dairy Farms, 2008**

Number of Cows	Average Number of Cows	Milk Sold Per Cow (lbs.)	Milk Sold Per Worker (cwt.)	Till-able Acres Per Cow	Forage DM Per Cow (tons)	Farm Capital Per Cow	Cost of Producing Milk/Cwt.	
							Operating	Total
Under 50	39	18,989	4,386	4.1	7.5	\$14,735	\$13.84	\$24.05
50 to 74	60	18,296	4,725	3.5	7.9	11,580	15.34	23.33
75 to 99	88	18,638	5,734	2.8	9.2	10,661	16.81	23.62
100 to 199	143	20,313	7,151	2.9	9.2	10,178	15.84	21.74
200 to 399	285	22,672	9,529	2.3	8.1	8,752	15.14	18.89
400 to 599	479	24,219	9,487	2.4	9.5	9,289	15.10	18.71
600 to 899	725	24,361	10,800	2.0	8.0	8,939	15.58	18.70
900 & over	1,350	25,338	11,879	1.9	8.4	8,861	15.01	18.04

Bovine somatotropin (bST), was used to a greater extent on the large herd farms. bST was reported to be used consistently during 2008 on 7 percent of the herds with less than 100 cows, 11 percent of the farms with 100 to 399 cows and on 39 percent of the farms with 400 cows and more.

Milk output per worker has always shown a strong correlation with net farm income. The farms with 100 cows or more averaged over 976,920 pounds of milk sold per worker while the farms with less than 100 cows averaged less than 494,840 pounds per worker.

In achieving the highest productivity per cow and per worker, the largest farms had the fewest crop acres per cow and below average forage dry matter harvested per cow. However, the larger farms generally purchased more roughage per cow. The largest farms had the more efficient use of farm capital with an average investment of \$8,861 per cow.

The 33 farms with more than 900 cows had the lowest total cost of producing milk at \$18.04 per hundredweight. This is \$1.39 below the \$19.43 average for the remaining 191 dairy farms. The lower average costs of production plus a similar milk price gave the managers of the largest dairy farms profit margins (milk price less total cost of producing milk) that averaged \$0.94 per hundredweight above the average of the other 191 DFBS farms. All but the four lowest herd size categories averaged a positive profit margin in 2008.

Ten-Year Comparisons

The total cost of producing milk on DFBS farms has increased \$4.64 per hundredweight over the past 10 years (Table 7-3). In the intervening years, total cost of production increased in 2000 and 2001, fell in 2002, again increased in 2003 and 2004, decreased in 2005 and 2006, and increased in 2007 and 2008. It is interesting to note that costs of production decrease in low milk price years and increase in high milk price years. Over the 10 years, milk sold per cow increased 12 percent and cows per worker increased 8 percent on DFBS farms (Table 7-4). Farm net worth has increased significantly, while percent equity has been fairly stable.

**TABLE 7-3. TEN YEAR COMPARISON: AVERAGE COST OF PRODUCING MILK PER HUNDREDWEIGHT
New York Dairy Farms, 1999 to 2008**

Item	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<u>Operating Expenses</u>										
Hired labor	\$2.14	\$2.25	\$2.41	\$2.44	\$2.51	\$2.67	\$2.66	\$2.58	\$2.70	\$2.79
Purchased feed	3.96	3.91	4.25	4.10	4.29	4.88	4.37	4.30	5.21	6.17
Machinery repair, vehicle expense & rent	1.18	1.06	1.21	1.01	.91	1.09	1.07	1.04	1.27	1.24
Fuel, oil & grease	.24	.34	.32	.28	.33	.41	.53	.58	.67	.91
Replacement livestock	.24	.23	.20	.16	.15	.16	.11	.07	.07	.08
Breeding fees	.17	.17	.19	.21	.19	.21	.22	.23	.24	.26
Veterinary & medicine	.47	.51	.54	.56	.56	.59	.62	.65	.65	.68
Milk marketing	.49	.69	.63	.65	.69	.72	.76	.80	.80	.85
Other dairy expenses	1.13	1.16	1.26	1.25	1.30	1.27	1.32	1.29	1.41	1.52
Fertilizer & lime	.35	.29	.33	.27	.26	.30	.34	.31	.40	.47
Seeds & plants	.20	.19	.20	.20	.20	.24	.22	.23	.28	.33
Spray & other crop expense	.24	.22	.25	.22	.19	.20	.19	.19	.25	.25
Land, building & fence repair	.27	.21	.26	.19	.14	.21	.25	.22	.32	.34
Taxes	.21	.20	.21	.20	.21	.22	.23	.21	.23	.21
Insurance	.16	.16	.14	.16	.15	.16	.16	.17	.19	.18
Utilities (farm share)	.31	.32	.33	.34	.34	.36	.39	.41	.44	.43
Interest paid	.83	.95	.82	.61	.56	.57	.65	.78	.83	.54
Misc. (including rent)	.44	.45	.42	.44	.40	.43	.37	.45	.49	.49
Total Operating Expenses	\$13.02	\$13.31	\$13.98	\$13.27	\$13.39	\$14.67	\$14.54	\$14.51	\$16.46	\$17.77
Less: Nonmilk cash receipts	1.44	1.83	1.49	1.91	1.57	1.70	1.96	1.94	1.75	1.57
Increase in grown feed & supplies	.25	.11	.10	.12	.27	.17	.12	.22	.39	.66
Increase in livestock	.11	.06	.52	.23	.09	.22	.21	.27	.30	.33
OPERATING COST OF MILK PRODUCTION	\$11.22	\$11.31	\$11.87	\$11.01	\$11.46	\$12.58	\$12.25	\$12.08	\$14.02	\$15.21
<u>Overhead Expenses</u>										
Depreciation: machinery & buildings	\$1.14	\$1.20	\$1.30	\$1.39	\$1.23	\$1.32	\$1.32	\$1.26	\$1.32	\$1.38
Unpaid labor	.11	.10	.10	.08	.10	.07	.06	.07	.07	.04
Operator(s) labor ^a	.80	.79	.74	.74	.70	.67	.61	.63	.65	.58
Operator(s) management (5% of cash receipts)	.83	.76	.87	.75	.73	.90	.90	.79	1.07	1.10
Interest on farm equity capital (5%)	.86	.88	.91	.89	.85	.92	1.02	1.06	1.20	1.29
Total Overhead Expenses	\$3.74	\$3.73	\$3.92	\$3.85	\$3.61	\$3.88	\$3.91	\$3.81	\$4.31	\$4.39
TOTAL COST OF MILK PRODUCTION	\$14.96	\$15.04	\$15.79	\$14.86	\$15.07	\$16.46	\$16.16	\$15.89	\$18.33	\$19.60
AVERAGE FARM PRICE OF MILK	\$14.91	\$13.38	\$15.98	\$12.98	\$13.24	\$16.64	\$15.98	\$13.85	\$20.34	\$19.24
Return per cwt. to operator labor, capital & mgmt.	\$2.44	\$0.77	\$2.71	\$0.50	\$0.45	\$2.67	\$2.35	\$0.44	\$4.93	\$2.61
Rate of return on farm equity capital	4.7%	-4.4%	6.0%	-5.6%	-5.7%	6.0%	4.1%	-4.6%	13.4%	3.6%

^a1998 = \$1,600/month, 1999 = \$1,800/month, 2000 = \$1,900/month, 2001 = \$2,000/month, 2002 = \$2,100/month, 2003 through 2005 = \$2,200/month, 2006 = \$2,300/month, 2007 = \$2,400/month, and 2008 = \$2,500/month of operator labor.

**TABLE 7-4. TEN YEAR COMPARISON: SELECTED BUSINESS FACTORS
New York Dairy Farms, 1999 to 2008**

Item	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Number of farms	314	294	228	219	201	200	225	240	250	224
Cropping Program										
Total tillable acres	516	566	618	660	659	701	729	730	758	883
Tillable acres rented	234	262	290	337	323	345	365	360	385	446
Hay crop acres	248	274	302	323	321	339	361	366	364	421
Corn silage acres	186	192	210	232	233	245	246	249	258	297
Hay crop, tons DM/acre	2.9	3.3	2.8	3.1	3.2	3.5	3.2	3.2	3.0	3.5
Corn silage, tons/acre	16.3	15.1	16.5	15.4	17.2	17.7	18.8	18.4	18.9	19.9
Fertilizer & lime exp./tillable acre	\$32	\$27	\$32	\$27	\$28	\$31	\$33	\$30	\$40	\$49
Machinery cost/cow	\$502	\$513	\$554	\$520	\$497	\$565	\$624	\$618	\$708	\$800
Dairy Analysis										
Number of cows	224	246	277	297	314	334	340	350	358	414
Number of heifers	164	186	207	226	240	260	270	283	289	348
Milk sold, cwt.	47,932	52,871	60,290	66,177	70,105	73,767	78,250	80,862	82,315	99,884
Milk sold/cow, lbs.	21,439	21,516	21,762	22,312	22,302	22,070	22,998	23,083	22,983	24,115
Purchased dairy feed/cwt. milk	\$3.96	\$3.91	\$4.25	\$4.10	\$4.27	\$4.86	\$4.37	\$4.29	\$5.20	\$6.16
Purchased grain & concentrate as % of milk receipts	25%	27%	25%	30%	30%	27%	26%	29%	24%	31%
Purchased feed & crop exp/cwt.milk	\$4.75	\$4.61	\$5.03	\$4.79	\$4.92	\$5.60	\$5.12	\$5.02	\$6.13	\$7.23
Capital Efficiency										
Farm capital/cow	\$6,368	\$6,535	\$6,755	\$6,794	\$6,748	\$7,010	\$7,508	\$7,762	\$8,426	\$9,145
Real estate/cow	\$2,562	\$2,615	\$2,713	\$2,612	\$2,722	\$2,809	\$2,950	\$3,030	\$3,356	\$3,606
Machinery investment/cow	\$1,163	\$1,225	\$1,222	\$1,261	\$1,208	\$1,226	\$1,314	\$1,384	\$1,448	\$1,535
Asset turnover ratio	0.59	0.54	0.63	0.53	0.54	0.64	0.60	0.52	0.67	0.59
Labor Efficiency										
Worker equivalent	5.71	6.11	6.72	7.21	7.50	7.97	8.18	8.19	8.40	9.75
Operator/manager equivalent	1.76	1.83	1.94	1.82	1.86	1.64	1.60	1.63	1.62	1.72
Milk sold/worker, lbs.	839,432	865,325	897,167	917,854	934,733	925,553	956,698	987,530	980,234	1,024,799
Cows/worker	39	40	41	41	42	42	42	43	43	42
Labor cost/cow	\$653	\$674	\$706	\$725	\$738	\$752	\$765	\$757	\$784	\$823
Hired labor exp./hired worker equiv.	\$27,910	\$29,309	\$31,448	\$31,755	\$32,659	\$33,311	\$33,539	\$34,071	\$34,924	\$36,312
Profitability & Financial Analysis										
Labor & mgmt. income/operator	\$42,942	\$-2,908	\$45,479	\$-14,243	\$-15,360	\$78,061	\$64,745	\$-31,269	\$189,019	\$75,945
Farm net worth, end year	\$865,626	\$942,881	\$1,181,055	\$1,173,836	\$1,207,964	\$1,466,674	\$1,690,427	\$1,736,505	\$2,200,655	\$2,640,168
Percent equity	58%	57%	60%	57%	56%	60%	63%	62%	68%	68%

**TABLE 7-5. COMPARISON OF FARM BUSINESS SUMMARY DATA
Same 52 New York Dairy Farms, 1999 - 2008**

Selected Factors	1999	2000	2001	2002
Milk receipts per cwt. milk	\$15.17	\$13.46	\$15.94	\$13.00
<u>Size of Business</u>				
Average number of cows	310	328	350	370
Average number of heifers	235	244	265	287
Milk sold, cwt.	69,130	73,798	78,784	85,852
Worker equivalent	7.58	7.78	8.28	8.66
Total tillable acres	675	697	728	763
<u>Rates of Production</u>				
Milk sold per cow, lbs.	22,329	22,517	22,495	23,185
Hay DM per acre, tons	3.3	3.7	3.1	3.5
Corn silage per acre, tons	17	16	17	16
<u>Labor Efficiency</u>				
Cows per worker	41	42	42	43
Milk sold per worker, lbs.	912,007	948,565	951,498	991,359
<u>Cost Control</u>				
Grain & concentrate purchased as % of milk sales	24%	27%	24%	29%
Dairy feed & crop expense per cwt. milk	\$4.64	\$4.47	\$4.83	\$4.71
Operating cost of producing cwt. milk	\$11.09	\$11.22	\$12.13	\$11.03
Total cost of producing cwt. milk	\$14.09	\$14.20	\$15.22	\$14.04
Hired labor cost per cwt.	\$2.34	\$2.40	\$2.58	\$2.65
Interest paid per cwt.	\$0.73	\$0.85	\$0.74	\$0.57
Labor & machinery costs per cow	\$1,193	\$1,220	\$1,295	\$1,297
Replacement livestock expense	\$14,995	\$19,643	\$14,273	\$10,387
Expansion livestock expense	\$21,497	\$27,627	\$33,532	\$15,492
<u>Capital Efficiency</u>				
Farm capital per cow	\$6,540	\$6,623	\$6,693	\$6,795
Machinery & equipment per cow	\$1,265	\$1,310	\$1,315	\$1,326
Real estate per cow	\$2,504	\$2,464	\$2,465	\$2,490
Livestock investment per cow	\$1,530	\$1,582	\$1,690	\$1,787
Asset turnover ratio	0.61	0.56	0.65	0.55
<u>Profitability</u>				
Net farm income without appreciation	\$199,324	\$75,607	\$195,161	\$48,425
Net farm income with appreciation	\$240,013	\$123,792	\$303,145	\$98,533
Labor & management income per operator/manager	\$83,500	\$3,705	\$70,497	\$-16,956
Rate return on:				
Equity capital with appreciation	14.3%	4.5%	16.5%	2.2%
All capital with appreciation	11.2%	5.6%	12.6%	3.2%
All capital without appreciation	9.2%	3.4%	8.0%	1.2%
<u>Financial Summary, End Year</u>				
Farm net worth	\$1,304,501	\$1,325,633	\$1,527,260	\$1,512,518
Change in net worth with appreciation	\$127,953	\$23,307	\$198,470	\$-18,088
Debt to asset ratio	0.38	0.40	0.38	0.41
Farm debt per cow	\$2,576	\$2,585	\$2,607	\$2,720

Farms participating in the DFBS each of the last 10 years have increased size of business, labor efficiency and milk sold per cow (Table 7-8). All measures of profitability exhibit wide variability from year-to-year and are highly correlated with milk price received.

TABLE 7-5. COMPARISON OF FARM BUSINESS SUMMARY DATA (Continued)
Same 52 New York Dairy Farms, 1999 - 2008

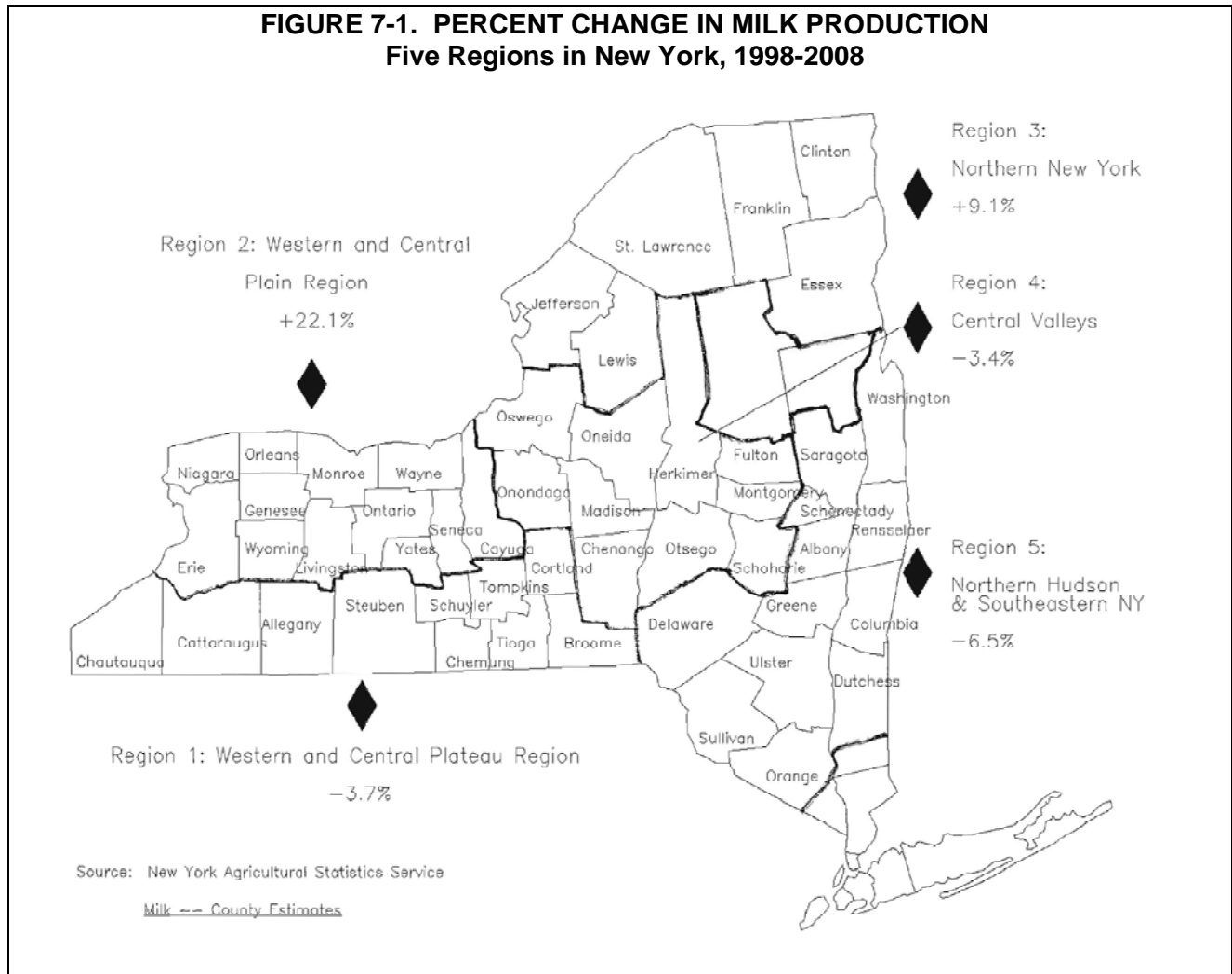
2003	2004	2005	2006	2007	2008
\$13.30	\$16.65	\$16.09	\$13.94	\$20.52	\$19.37
394	404	415	431	436	442
305	316	338	354	358	376
90,629	91,908	98,421	100,912	102,700	107,747
9.27	9.60	9.78	9.82	10.09	10.45
790	839	865	895	898	940
22,984	22,734	23,707	23,430	23,576	24,367
3.2	3.4	3.4	3.2	3.1	3.8
18	19	19	19	19	20
43	42	42	44	43	42
977,654	957,372	1,006,347	1,027,613	1,017,839	1,031,074
31%	27%	26%	29%	25%	31%
\$5.00	\$5.50	\$5.17	\$5.04	\$6.18	\$7.46
\$11.49	\$12.42	\$12.13	\$12.28	\$14.08	\$15.67
\$14.25	\$15.31	\$15.19	\$15.28	\$17.35	\$19.04
\$2.67	\$2.79	\$2.68	\$2.75	\$2.90	\$3.02
\$0.50	\$0.53	\$0.58	\$0.77	\$0.77	\$0.54
\$1,252	\$1,327	\$1,385	\$1,403	\$1,533	\$1,688
\$16,908	\$14,690	\$15,180	\$10,025	\$13,334	\$15,663
\$15,846	\$19,361	\$14,368	\$33,089	\$6,351	\$13,560
\$6,627	\$6,944	\$7,385	\$7,607	\$8,265	\$9,086
\$1,266	\$1,308	\$1,381	\$1,399	\$1,521	\$1,692
\$2,464	\$2,555	\$2,652	\$2,771	\$2,936	\$3,245
\$1,772	\$1,858	\$1,987	\$2,086	\$2,255	\$2,358
0.56	0.66	0.63	0.54	0.70	0.61
\$55,116	\$275,380	\$258,233	\$42,327	\$523,076	\$254,388
\$113,736	\$381,088	\$381,969	\$126,887	\$698,484	\$323,888
-\$16,641	\$120,682	\$97,277	-\$40,281	\$245,622	\$66,401
3.2%	18.6%	15.9%	2.5%	26.2%	8.9%
3.6%	12.9%	12.0%	4.0%	19.4%	7.5%
1.5%	9.2%	8.0%	1.4%	14.5%	5.7%
\$1,556,0514	\$1,828,276	\$2,087,319	\$2,086,926	\$2,633,327	\$2,823,518
\$39,407	\$279,865	\$266,149	\$2,914	\$530,566	\$167,553
0.42	0.38	0.35	0.38	0.32	0.32
\$2,865	\$2,692	\$2,653	\$2,883	\$2,833	\$2,904

Debt to asset ratio and debt per cow have remained stable while farm net worth more than doubled. During this time, crop yields have fluctuated, largely due to weather. Purchased grain and concentrate as a percent of milk sales varied only from 24 to 31 percent, with the high in 2003 and 2008, and the low in 1999 and 2001.

TABLE 7-6. COMPARISON OF DAIRY FARM BUSINESS DATA BY REGION
224 New York Dairy Farms, 2008

Item	Western & Central Plateau Region	Western & Central Plain Region	Northern New York	Central Valleys	Northern Hudson & South- eastern New York
Number of farms	38	55	34	28	69
<u>ACCRUAL EXPENSES</u>					
Hired labor	\$166,226	\$526,783	\$249,418	\$307,393	\$146,637
Feed	436,645	1,050,321	593,541	675,379	356,660
Machinery	141,783	338,371	234,792	256,169	129,972
Livestock	211,488	572,513	325,707	405,329	204,359
Crops	56,394	171,001	101,232	157,385	63,868
Real estate	57,131	136,493	75,382	110,040	43,716
Other	80,747	240,096	144,620	158,411	74,981
Total Operating Expenses	<u>\$1,150,415</u>	<u>\$3,035,579</u>	<u>\$1,724,692</u>	<u>\$2,070,105</u>	<u>\$1,020,193</u>
Expansion livestock	920	11,795	49,036	33,939	6,917
Extraordinary expense	415	53	339	2,039	771
Machinery depreciation	62,903	141,993	87,356	107,918	39,849
Building depreciation	32,070	94,437	71,194	68,978	18,040
Total Accrual Expenses	<u>\$1,246,723</u>	<u>\$3,283,856</u>	<u>\$1,932,617</u>	<u>\$2,282,979</u>	<u>\$1,085,771</u>
<u>ACCRUAL RECEIPTS</u>					
Milk sales	\$1,327,066	\$3,210,717	\$1,915,177	\$2,348,806	\$1,051,771
Livestock	98,188	205,605	159,471	198,680	78,609
Crops	35,831	155,691	60,703	101,907	50,854
Government receipts	11,515	30,971	11,198	17,775	12,728
All other	16,547	68,216	30,898	37,766	14,672
Total Accrual Receipts	<u>\$1,489,146</u>	<u>\$3,671,200</u>	<u>\$2,177,447</u>	<u>\$2,704,734</u>	<u>\$1,208,634</u>
<u>PROFITABILITY ANALYSIS</u>					
Net farm income (w/o appreciation)	\$242,423	\$387,344	\$244,829	\$421,955	\$122,863
Net farm income (w/ appreciation)	\$257,555	\$511,234	\$318,618	\$369,941	\$120,937
Labor & management income	\$134,502	\$192,500	\$122,616	\$255,837	\$32,309
Number of operators	1.63	1.90	1.80	2.03	1.47
Labor & mgmt. income/oper.	\$82,516	\$101,316	\$68,120	\$126,028	\$21,979
<u>BUSINESS FACTORS</u>					
Worker equivalent	6.84	15.17	9.87	11.06	6.43
Number of cows	288	691	416	499	227
Number of heifers	247	572	347	415	199
Acres of hay crops ^a	332	556	523	475	290
Acres of corn silage ^a	187	465	318	366	186
Total tillable acres	610	1,339	984	1,071	545
Pounds of milk sold	6,963,142	16,826,769	10,096,042	12,075,720	5,303,451
Pounds of milk sold/cow	24,156	24,352	24,249	24,182	23,330
Tons hay crop dry matter/acre	3.1	4.3	3.4	3.1	2.8
Tons corn silage/acre	21.3	20.8	18.0	20.1	18.7
Cows/worker	42	46	42	45	35
Pounds of milk sold/worker	1,018,003	1,109,092	1,022,557	1,091,508	824,691
% grain & conc. of milk receipts	32%	30%	30%	26%	33%
Feed & crop expense/cwt. milk	\$7.08	\$7.25	\$6.88	\$6.87	\$7.93
Fertilizer & lime/crop acre	\$43.59	\$60.06	\$42.74	\$52.72	\$46.00
Machinery cost/tillable acre	\$371	\$397	\$360	\$373	\$347

^aExcludes farms that do not harvest forages.



**TABLE 7-7. MILK PRODUCTION & AVERAGE COST OF PRODUCING MILK
Five Regions of New York**

Item	Region ^a				
	1	2	3	4	5
Milk Production^b	(million pounds)				
1998	2,078.7	3,343.6	2,255.4	2,643.3	1,429.0
2008	2,001.5	4,081.0	2,460.5	2,552.5	1,336.5
Percent change	-3.7%	+22.1%	+9.1%	-3.4%	-6.5%
2008 Cost of Producing Milk^c	(\$ per hundredweight milk)				
Operating cost	\$14.21	\$15.37	\$14.97	\$14.47	\$16.41
Total cost	18.20	18.54	18.64	18.14	20.23
Average price received	19.06	19.08	18.97	19.45	19.83
Return per cwt. to operator labor, management & capital	\$3.40	\$2.29	\$2.41	\$3.46	\$2.19

^aSee Figure 7-1 for region descriptions.
^bSource: New York Agricultural Statistics Service, Milk-County Estimates.
^cFrom Dairy Farm Business Summary data.

Farm Business Charts

The Farm Business Chart is a tool which can be used in analyzing a business by drawing a line through the figure in each column which represents the current level of management performance. The figure at the top of each column is the average of the top 10 percent of the 224 farms for that factor. The other figures in each column are the average for the second 10 percent, third 10 percent, etc. Each column of the chart is independent of the others. The farms which are in the top 10 percent for one factor would not necessarily be the same farms which make up the top 10 percent for any other factor.

The cost control factors are ranked from low to high, but the lowest cost is not necessarily the most profitable. In some cases, the "best" management position is somewhere near the middle or average. Many things affect the level of costs, and must be taken into account when analyzing the factors.

**TABLE 7-8. FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
224 New York Dairy Farms, 2008**

Size of Business		Rates of Production				Labor Efficiency	
Worker Equivalent	No. of Cows	Pounds Milk Sold	Pounds Milk Sold Per Cow	Tons Hay Crop DM/Acre	Tons Corn Silage Per Acre	Cows Per Worker	Pounds Milk Sold Per Worker
32.8	1,533	39,079,582	27,697	6.1	26	59	1,326,776
20.0	889	22,462,174	25,870	4.5	24	50	1,157,759
14.5	611	14,559,571	25,141	4.0	22	45	1,076,028
10.2	418	9,850,776	24,024	3.6	20	43	997,782
6.4	268	6,021,499	22,918	3.2	19	41	901,438

4.6	174	3,611,005	21,728	2.9	18	37	811,553
3.7	120	2,377,960	20,580	2.6	18	33	693,912
3.0	88	1,660,416	19,188	2.2	17	30	597,784
2.2	61	1,124,937	17,039	1.9	15	26	483,790
1.5	41	685,993	13,434	1.4	11	19	338,064
Cost Control							
Grain Bought Per Cow	% Grain is of Milk Receipts	Machinery Costs Per Cow	Labor & Machinery Costs Per Cow	Feed & Crop Expenses Per Cow	Feed & Crop Expenses Per Cwt. Milk		
\$634	19%	\$513	\$1,152	\$866	\$4.95		
959	24	622	1,380	1,201	6.06		
1,095	27	699	1,525	1,364	6.52		
1,203	29	745	1,601	1,501	6.97		
1,320	30	794	1,661	1,628	7.27		

1,369	32	854	1,735	1,719	7.60		
1,436	33	914	1,820	1,812	7.93		
1,531	35	975	1,958	1,914	8.29		
1,637	36	1,047	2,119	2,019	9.03		
1,825	44	1,279	2,502	2,227	10.86		

The next section of the Farm Business Chart provides for comparative analysis of the value and costs of dairy production.

The profitability section shows the variation in farm income by decile and enables a dairy farmer to determine where he or she ranks by using several measures of farm profitability. Remember that each column is independently established and the farms making up the top decile in the first column will not necessarily be on the top of any other column. The dairy farmer who ranks at or near the top of most of these columns is in a very enviable position.

TABLE 7-8. (CONTINUED) FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS						
224 New York Dairy Farms, 2008						
Milk Receipts Per Cow	Milk Receipts Per Cwt.	Operating Cost Milk Production Per Cow	Operating Cost Milk Production Per Cwt.	Total Cost Milk Production Per Cow	Total Cost Milk Prod. Per Cwt.	
\$5,365	\$21.41	\$1,884	\$11.32	\$3,081	\$16.12	
5,015	20.29	2,583	13.04	3,768	17.60	
4,821	19.82	2,899	13.89	3,987	18.32	
4,624	19.58	3,166	14.44	4,214	19.16	
4,431	19.39	3,291	15.10	4,454	19.83	

4,233	19.22	3,457	15.72	4,604	20.50	
3,978	19.05	3,641	16.39	4,761	21.63	
3,756	18.87	3,841	16.92	4,960	23.00	
3,294	18.64	4,132	17.66	5,192	24.67	
2,654	18.09	4,549	20.42	5,734	30.18	

Profitability						
Net Farm Income Without Appreciation			Net Farm Income With Appreciation		Labor & Management Income	
Total	Per Cow	Operations Ratio	Total	Per Cow	Per Farm	Per Operator
\$1,346,592	\$1,434	0.28	\$1,458,571	\$1,591	\$920,860	\$468,664
572,148	1,115	0.22	668,588	1,204	345,048	182,305
343,548	918	0.19	426,417	1,022	192,506	104,268
210,965	762	0.15	252,603	870	98,620	56,724
139,296	637	0.13	138,473	726	48,388	29,921

79,180	489	0.10	81,064	575	16,947	12,975
40,234	378	0.08	48,498	444	-1,848	-1,568
25,534	243	0.05	32,757	318	-23,654	-17,104
7,719	76	0.02	18,529	141	-55,848	-42,482
-77,207	-474	-0.15	-61,730	-421	-198,298	-132,376

Financial Analysis Chart

The farm financial analysis chart is designed just like the farm business chart on the previous pages and may be used to measure the financial health of the farm business.

TABLE 7-9. FINANCIAL ANALYSIS CHART 224 New York Dairy Farms, 2008							
Liquidity (repayment)							
Planned Debt Payments Per Cow	Available for Debt Service Per Cow	Cash Flow Coverage Ratio	Debt Coverage Ratio	Debt Payments as Percent of Milk Sales	Debt Per Cow	Working Capital as % of Total Expenses	Current Ratio
\$143	\$1,336	6.35	7.84	1%	\$148	50%	39.50
276	1,032	2.54	2.91	4	975	33	5.40
371	888	1.97	2.13	7	1,665	27	3.44
462	779	1.65	1.77	9	2,156	22	2.65
529	710	1.44	1.40	10	2,557	18	2.29
595	646	1.20	1.12	12	3,090	14	1.91
650	514	1.01	0.89	13	3,563	10	1.56
720	413	0.83	0.54	15	3,970	6	1.20
841	275	0.60	0.10	17	4,480	0	0.93
1,348	-175	-0.73	-1.26	25	6,127	-14	-0.10
Solvency				Operational Ratios			
Leverage Ratio ^a	Percent Equity	Debt/Asset Ratio		Operating Expense Ratio	Interest Expense Ratio	Depreciation Expense Ratio	
		Current & Intermediate	Long Term				
0.01	99%	0.01	0.00	0.64	0.00	0.02	
0.10	91	0.08	0.00	0.69	0.01	0.04	
0.20	84	0.16	0.01	0.73	0.02	0.04	
0.27	79	0.22	0.09	0.75	0.02	0.05	
0.36	75	0.26	0.19	0.78	0.02	0.06	
0.47	69	0.31	0.29	0.80	0.03	0.07	
0.58	64	0.37	0.39	0.82	0.03	0.07	
0.73	59	0.44	0.49	0.85	0.04	0.08	
0.94	52	0.53	0.61	0.89	0.05	0.10	
1.75	38	0.71	0.91	1.03	0.08	0.16	
Efficiency (Capital)				Profitability			
Asset Turnover (ratio)	Real Estate Investment Per Cow	Machinery Investment Per Cow	Total Farm Assets Per Cow	Change in Net Worth With Appreciation	Percent Rate of Return with Appreciation on:		
					Equity	Investment ^b	
0.81	\$1,557	\$708	\$6,228	\$777,839	23%	15%	
0.70	2,522	1,006	7,389	355,241	14	11	
0.65	2,865	1,261	7,985	200,304	10	8	
0.60	3,170	1,451	8,546	98,920	8	7	
0.55	3,579	1,670	9,149	45,034	5	5	
0.50	4,002	1,895	9,774	19,198	2	3	
0.45	4,584	2,097	10,751	4,250	0	1	
0.40	5,364	2,331	11,819	-13,122	-2	0	
0.34	6,416	2,668	13,177	-48,343	-5	-2	
0.23	12,244	3,784	19,391	-296,970	-16	-9	

^aDollars of debt per dollar of equity, computed by dividing total liabilities by total equity.

^bReturn on all farm capital (no deduction for interest paid) divided by total farm assets.

Dairy Operations and Milk Cow Inventory

TABLE 7-10. NUMBER OF DAIRY FARMS AND MILK COWS BY SIZE OF HERD New York State, 2008^{a, b}				
Size of Herd	Farms		Milk Cows	
Number of Cows	Number	% of Total	Number	% of Total
1 - 29	1,150	21.0%	11,500	1.8%
30-49	1,050	19.0%	40,000	6.4%
50-99	1,850	33.6%	130,000	20.8%
100-199	860	15.6%	114,000	18.2%
200-499	368	6.7%	120,000	19.2%
500-749	109	2.0%	65,000	10.4%
750-999	43	0.8%	35,000	5.6%
1000-1499	42	0.8%	46,500	7.4%
1500 - 1999	13	0.23%	22,000	3.5%
2000 or more	15	0.27%	42,000	6.7%
Total	5,500	100.0%	626,000	100.0%

^aThis information on number of farms and number of cows by size of herd is derived from several sources:

- Dairy Statistics as published by the New York Agricultural Statistics Services for 2008.
- CAFO (Concentrated Animal Feeding Operations) permit reports for 2008. Some small CAFO farms (farms with 200 to 700 milk cows) have not applied for or updated the permit. Estimates for these farms were made so as to reflect the total number of dairy farms in New York State; revision from Census in certain size categories.

^bThe author wishes to thank everyone who provided some data as well as providing valuable advice and perspectives: Jacqueline Lendrum and B. F. Stanton. However, any errors, omissions or misstatements are solely the responsibility of the author, Professor George Conneman, **e-mail GJC4@cornell.edu**.

In 2008, there were 5,500 dairy farms in New York State, and 626,000 milk cows. The table above was prepared based on the NYASS data plus the CAFO permit filing for additional herd size categories, and estimates from the 2007 Census.

Ninety percent of the farms (less than 200 cows per farm) had 47 percent of the milk cows. The remaining ten percent of the farms had 53 percent of the cows.

About 4 percent of the farms (those with 500 or more cows) had 34 percent of the cows.

Farms with less than 50 cows represent 40 percent of all farms but kept only 8 percent of the cows.

Farms with 1,000 or more cows represent about 1.3 percent of the farms but kept nearly 18 percent of the cows.

Prices Paid by New York Dairy Farmers and Values of Inventory Items

The prices dairy farmers pay for a given quantity of goods and services has a major influence on farm production costs. The astute manager will keep close watch on unit costs and utilize the most economical goods and services. The table below shows average prices of selected goods and services used on New York dairy farms.

TABLE 7-11. PRICES PAID BY NEW YORK FARMERS FOR SELECTED ITEMS, 1994 - 2008

Year	Mixed Dairy Feed 16% Protein ^a (\$/ton)	Fertilizer, Urea 45-46%N ^a (\$/ton)	Seed Corn, Hybrid ^b (\$/80,000 Kernels)	Diesel Fuel ^a (\$/gallon)	Tractor 50-59 PTO ^b (\$)	Wage Rate All Hired Farm Workers ^c (\$/hour)
1994	181	233	73.40	0.853	19,800	6.96
1995	175	316	77.10	0.850	20,100	6.92
1996	226	328	77.70	1.020	20,600	7.19
1997	216	287	83.50	0.960	21,200	7.63
1998	199	221	86.90	0.810	21,800	7.63
1999	175	180	88.10	0.750	21,900	8.12
2000	174	201	87.50	1.270	21,800	8.74
2001	176	270	92.20	1.260	22,000	8.72
2002	178	232	92.00	1.028	21,900	9.26
2003	194	283	102.00	1.516	21,300	9.93
2004	207	299	105.00	1.400	21,500	9.96
2005	190	365	111.00	2.018	23,400	9.88
2006	207	403	118.00	2.349	23,700	10.35
2007	239	480	133.00	3.355	24,300	10.49
2008	300	598	165.00	3.773	25,000	10.96

SOURCE: NYASS, New York Agricultural Statistics. USDA, NASS, Agricultural Prices.

^aNortheast region average. ^bUnited States average. ^cNew York and New England combined.

Inflation, farm profitability, supply and demand all have a direct impact on the inventory values on New York dairy farms. The table below shows year-end (December) prices paid for dairy cows (replacements), an index of these cow prices, an index of new machinery prices (U.S. average), the average per acre value of farmland and buildings reported in January, and an index of the real estate prices.

TABLE 7-12. VALUES AND INDICES OF NEW YORK DAIRY FARM INVENTORY ITEMS, 1994 - 2008

Year	Dairy Cows		Machinery ^a		Farm Real Estate ^b	
	Value/Head	1977=100	Value/Head	1977=100	Value/Acre	1977=100
1994	1,100	222	249	249	1,260	215
1995	1,010	204	258	258	1,280	218
1996	1,030	208	268	268	1,260	215
1997	980	198	276	276	1,250	213
1998	1,050	212	286	286	1,280	218
1999	1,250	253	294	294	1,340	228
2000	1,250	253	301	301	1,430	244
2001	1,600	323	312	312	1,520	259
2002	1,400	283	320	320	1,610	274
2003	1,300	263	325	325	1,700	290
2004	1,580	319	351	351	1,770	302
2005	1,690	341	377	377	1,900	324
2006	1,550	313	397	397	2,020	344
2007	1,930	390	416	416	2,180	371
2008	1,900	384	456	456	2,350	400

SOURCE: NYASS, New York Agricultural Statistics and New York Crop and Livestock Report. USDA, ASB, Agricultural Prices.

^aUnited States average; 1995 - 2008 are estimated due to discontinuation of 1977=100 series.

^bNew York average for 2000 - 2008 excludes Native American reservation land.

Chapter 8. Current Labor Issues and Their Impact on New York Agriculture

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Introduction

In 2010 agricultural labor supplies in New York State appeared to be adequate or more than adequate in most sectors of New York agriculture. The primary reason for adequate labor supplies has been a relatively high unemployment rate over the last two years. Some farm employers found that due to high unemployment in construction and other sectors there were more workers available for agriculture. While agricultural labor supplies appear adequate or better, there remains a great deal of uncertainty over immigration enforcement and the legal status of immigrant workers. Enforcement activities in New York State agriculture appear to have increased in 2009 as indicated by reports from farm managers, farm worker representatives, and the media. As a result of ongoing immigration enforcement activities, farm employers and their immigrant employees continue to advocate for a workable immigration reform policy. Many are hoping that the immigration reform efforts in Congress will begin again early in 2010. A second policy issue facing New York's agricultural employers is the Farmworkers Fair Labor Practices Act. Provisions in this bill concern agricultural employers because they would mean increased regulation, potentially increased labor costs, and the possibility of collective bargaining rights for farm workers. All of these issues shape the outlook for agricultural labor in 2010.

H-2A Workers in New York Agriculture

The H-2A program is a long standing national program that allows farmers to employ immigrants for seasonal agricultural jobs and is often used by fruit and vegetable growers. The major advantage of the H-2A program is that it provides an opportunity for some farm employers to recruit and hire legally authorized workers. Currently only a small percentage of seasonal workers in New York agriculture come through the H-2A program. Many farm employers have traditionally been reluctant to participate in the program because of the substantial paperwork and high wage rates required by the program. However, it is important to note that numbers of workers in New York's H-2A program have been rising steadily by several hundred workers each year. This is likely due to the fact that employers do not want to risk having unauthorized workers deported or detained during the busiest times of the year. Increasingly farmers report that they need to apply for the program earlier due to backlogs and delays in the system.

Immigration Enforcement and Agricultural Labor Uncertainty

Following the change of Administration in January, the nature, volume and relative intensity of immigration law enforcement activity across upstate New York continue to weigh heavily on farm businesses that hire farm workers seasonally for fruit and vegetable production and year-round for dairy operations. Farm managers and their employees managed again in 2009 to complete growing and harvesting activities, as well as daily milking and livestock care tasks with adequate labor supplies. This essential work, however, proceeds under severely uncertain conditions. Increased status verification requirements imposed on farmers, shifting and re-shifting H-2A program regulations, and the likelihood and reality of workplace raids and worker detentions carried out by U.S. Immigration Control and Enforcement (ICE) agents take an unmeasured economic toll on New York farm businesses, their employees and rural communities.

Given frequent anecdotal complaints by farmers that ICE enforcement operations appear to be drawn inordinately toward farm operations in central and western New York, better data on local enforcement trends is needed. The U.S. Department of Homeland Security Office of Immigration Statistics provides information on “apprehensions of deportable aliens” in its 2008 Yearbook of Immigration Statistics. Nearly all (97.4%) of the nation’s 723,840 apprehensions in 2008 took place in southwestern sectors of DHS jurisdiction. Since 1999, trends in apprehensions have been decreased nationally and in the southwest by an average of about 7% per year. The Buffalo, New York office reports average annual *increases* in apprehensions of almost 30%; more than doubling since 2006, to 3,338 detentions in 2008. New York State is regarded by federal authorities to be a border state worthy of added enforcement attention. Through experience, growers have learned that ICE follows guidelines to provide enforcement within a 30 mile zone of US borders. Farmers indicate that this mandate includes not only western NY but also the Lake Champlain and greater New York City regions.

The atmosphere surrounding farm employers and workers in dairy, fruit and vegetable operations continues, in the words of the Washington Post, to be “ripe with tension”. One grower interviewed for the Post’s September story on apple harvest conditions along Lake Ontario went further, saying “We have essentially a war going on in Wayne County.” National media have weighed in and congressional representatives have stepped in to address troubling issues related to the role of state and local police in immigration law enforcement, racial profiling, and disparaging remarks about Hispanic workers allegedly made last summer on public websites by federal agents using computers in their places of work.

Prospects for Immigration Reform

As they have been for the past decade or more, the prospects for changes in immigration laws that could brighten the economic outlook for agriculture and agricultural labor are uncertain. Farmers and their advocates will need to follow and work hard to influence political developments over the next six months, while paying close attention to opportunities presented by evolving labor-saving technologies, changes in crop enterprises that could reduce dependence on labor, anticipated capital and credit availability, and trends toward moving fruit and vegetable production resources overseas.

U.S. Senator Charles Schumer of New York chairs the Senate Immigration Subcommittee and will write immigration reform proposals to be considered by the Congress in 2010. Mr. Schumer promised a proposal by Labor Day 2009, but missed that deadline in the midst of the health care reform debate, which continues as of this writing. Senator Schumer did lay out seven “principles for reform” in a speech to the 6th Annual Immigration Law and Policy Conference in June 2009:

1. *Illegal immigration is wrong, and a primary goal of comprehensive immigration reform must be to dramatically curtail future illegal immigration.*
2. *Operational control of our borders--through significant additional increases in infrastructure, technology, and border personnel--must be achieved within a year of enactment of legislation.*
3. *A biometric-based employer verification system—with tough enforcement and auditing—is necessary to significantly diminish the job magnet that attracts illegal aliens to the United States and to provide certainty and simplicity for employers.*
4. *All illegal aliens present in the United States on the date of enactment of our bill must quickly register their presence with the United States Government—and submit to a rigorous process of converting to legal status and earning a path to citizenship—or face imminent deportation.*
5. *Family reunification is a cornerstone value of our immigration system. By dramatically reducing illegal immigration, we can create more room for both family immigration and employment-based immigration.*
6. *We must encourage the world’s best and brightest individuals to come to the United States and create the new technologies and businesses that will employ countless American workers, but must discourage*

businesses from using our immigration laws as a means to obtain temporary and less-expensive foreign labor to replace capable American workers; and finally

7. *We must create a system that converts the current flow of unskilled illegal immigrants into the United States into a more manageable and controlled flow of legal immigrants who can be absorbed by our economy.*

Various political players with divergent interests in the outcomes of this debate define the need for immigration reform in vastly different ways. For example, some very vocal, well-organized groups firmly believe that reform should entail only stricter *enforcement* action against workers and employers, border fences and even deportation of the 11.9 million undocumented immigrants now in the United States. For other activists, the reform movement stems from a belief that current laws don't work and should be rewritten to reflect nationally held principles regarding *justice and human rights*. Such principles include the reunification of immigrant families, tuition assistance for children of immigrant workers (e.g. the federal Dream Act and a number of state variations), and better working conditions and higher wages for farmworkers. A plethora of activist organizations have pursued these and other objectives for decades. Some are amenable to working with farm groups. For example, most farmworker advocacy groups, including Farmworker Justice and United Farm Workers express strong support for AgJobs legislation. Successful consensus on AgJobs was hard earned over several years of negotiation and compromise. Similar investment of time and effort among these very different organizations will be needed to create the consensus necessary to pass meaningful reform in 2010.

Given the prevailing enforcement environment and current immigration law, farm employers cope with stark economic risks associated with the agricultural labor force every day. Economics in the milking parlor and in the field shape farmers' views of immigration reform, hence farm lobbying organizations work from the belief that current laws don't work and should be rewritten to reflect *economic realities*. Put another way, New York farmers place a high priority on legally securing, now and in the future, an adequate, reliable supply of labor to help grow and harvest perishable crops, care for livestock, and produce milk. In this context, appropriate immigration reform would incorporate accurate estimates of demand for future agricultural labor supplies into the provisions of legislation that would so significantly influence the flow of labor into the United States.

Senator Schumer's principles reflect a set of political calculations and a resultant attempt to respond, in varying degree, to all three of these public perceptions of reform. In this calculation, enforcement and high tech verification of citizenship appear to receive special emphasis; economics are only addressed vaguely. Congressman Luis Gutierrez of Illinois, an energetic leader of immigration reform efforts in the House of Representatives, presented explicit plans and principles for reform in October 2009. Among ten other principles, Mr. Gutierrez's list of priorities includes explicit reference to AgJobs legislation, the legislative product most closely aligned with agriculture's economic needs.

During the short window of political opportunity, farmers and farm advocates will need to assess the wide, complicated array of "principles" upon which reform legislation will be based and build effective alliances to influence the crafting, then support the passage of legislation most in tune with, or least harmful to a prosperous, less uncertain agricultural economy.

The essence of political prospects for immigration reform in this Congress and guided by the new Administration can be summarized as follows:

1. Can such inevitably contentious reform legislation find a place on the calendar with the end game for health care reform, climate change legislation, and financial regulation before the election season puts a halt to major legislative initiatives in 2010?

2. Will legislators be able to stick to the kinds of principles discussed above in the face of a political onslaught from those passionately focused on enforcement and border security and still pass meaningful new laws?
3. If comprehensive reform fails, will targeted legislation such as AgJobs garner enough support to pass as an alternative?

In mid-November, Department of Homeland Security Secretary Janet Napolitano, in a major speech at the Center for American Progress, strongly reaffirmed Administration intentions to move proposed reform legislation forward through the Congress early in 2010.

Economics, Technology, and Strategic Decisions on the Farm

The prolonged period of uncertainty associated with the supply of agricultural labor prompted on-farm management decisions and assessments of the future that are distinct from the political choices related to immigration reform described above.

One western New York vegetable grower commented on the risks inherent in the current agricultural labor and enforcement climate and its impact on decisions contemplated in this family business:

It is possible that we could get a program that is even worse than what we have now. Mandatory e-verify with no adjustment of status and an H-2A program like what we currently have would probably cause us to very significantly cut back on our fresh vegetable acreage. We would want to work with a much smaller crew. We are old enough that we could do this and still manage, but someone trying to start out and build a business like we did would have a much more difficult time without access to a workable program.

A Hudson Valley fruit grower offered observations on a slightly different set of options:

Ag Labor is the biggest issue for the apple industry since currently the situation is so precarious and lack of willing and able workers puts us out of business. Our decisions are impacted by reduced investment in our business as well as any possible labor reduction methods we can employ. We even consider looking at future investment towards production outside of the US.

Ongoing debates about the appropriate measures (e.g. trends in wages paid, production levels of labor-intensive crops over time, relative international market shares for fruits and vegetables) to determine whether or not labor shortages in agriculture exist and their subsequent impact on the competitive standing of U.S. fruit and vegetable growers in global markets neglect important business dynamics suggested by the New York producers above. First, *whether or not measurable shortages are occurring*, farmers are making decisions based on their analysis of current and future labor supply uncertainty and the likely impact of that circumstance on the future financial performance of their businesses. Second, bankers are making their own assessments of what labor uncertainty means for likely returns to capital investments in particular farm businesses and in agriculture generally. While more study of trends is needed, it is becoming increasingly clear that the impact of the chronically unsettled agricultural labor situation falls on choices to grow fresh or processing crops, bank decisions about future access for farmers to capital and credit, major decisions about investments in agricultural resources abroad and the next generation's view of whether or not farming is a promising place to invest their own human and management resources.

In this climate, the development of new technology and the paths followed by dairy, fruit and vegetable farmers to adopt new equipment and practices in order to reduce dependence on labor (reduce labor risk) grow in importance.

Traditionally, economists have observed varying incentives to develop labor saving agricultural technologies depending on the relative cost of farm labor. Relatively low labor costs over the past decade, it is argued, have tended to impede investment in new technologies for agriculture. Chronic, continuing uncertainty about labor supplies in recent years, however, has been one driver in placing higher priority on new technology projects and has moved a number of farmers to mechanize labor intensive production systems in order reduce the need for hired workers. For example, the largest funding award in the first round of the USDA Specialty Crop Research Initiative in 2008 went to the Comprehensive Automation of Specialty Crops program, led by the Carnegie-Mellon Robotics Institute. Recent progress in mechanization to improve efficiencies in thinning tasks in stone fruit orchards, the evolution of ever more labor-efficient, intensive apple orchard production systems, improved harvesting systems for fresh-market vegetables, and the adoption of robotic milking systems by large as well as small dairy farms has been notable. Improved analysis of trends in the development and adoption of new technologies related to labor supply uncertainty would provide much needed definition of future labor and capital needs and challenges facing agriculture in New York and across the nation.

The Farmworkers Fair Labor Practices Act

In early 2009, the New York State Assembly passed the Farmworkers Fair Labor Practices Act and in the summer this legislation gained a great deal of support in the New York State Senate. While the bill has not yet come to a vote in the Senate, farm employers and Farm Bureau representatives were concerned that the bill proposing numerous changes for agricultural employers would pass the Senate. It now appears unlikely this legislation will pass the Senate in 2009; but many agricultural employers are concerned that some version of the bill will likely resurface in the near future. The Farmworkers Fair Labor Practices Act addresses the following seven issues: collective bargaining rights, a day of rest, overtime pay, unemployment insurance, workers compensation insurance, work agreements, and a sanitary code for worker housing.

Similar pieces of legislation have been introduced in the State Legislature numerous times over the last three decades. Agricultural employers are concerned that there may be sufficient political support to pass these measures soon. Consequently, New York Farm Bureau and agricultural employers have intensified their efforts to provide feedback to the State Legislature on this bill. The provisions of the Farmworkers Fair Labor Practices Act and their implications for farm managers are outlined below.

Collective Bargaining Rights- This provision would grant collective bargaining rights to farm laborers. At the present time agricultural workers are not protected under the law if they engage in union activities. Fourteen States currently allow agricultural workers the right to collective bargaining. One issue often raised by agricultural employers regarding collective bargaining rights for farm workers is the need for a "no strike" provision. Many farm employers feel that any law regarding collective bargaining should take into consideration the uniqueness of food production; specifically the perishability of agricultural products and the around-the-clock care required for farm animals. One of the greatest concerns farmers have regarding collective bargaining is that a specialty crop farmer could face a strike at harvest time or that dairy cattle might not get milked fed or cared for, specifically because of a strike.

If passed, such a law would no doubt lead to an increase in union activity affecting agricultural businesses in New York. However, New York agriculture is still small scale and dispersed compared to California. Organizing would be costly and time consuming for limited potential membership.

Day of Rest - This provision states that every farm laborer will be allowed at least 24 consecutive hours of rest each calendar week. The bill indicates that 24 hours spent at rest because of weather or crop conditions would constitute the rest required. Under the proposal a farm laborer can voluntarily refuse the rest required by this paragraph of the legislation. The impact on farms is likely to be minimal because employees can voluntarily work as much as they want. Immigrant/migrant workers typically work long hours and are likely to voluntarily work a longer work week.

Overtime Pay - The proposed law states that after eight hours of work, farm laborers will be provided overtime at the rate of 1 ½ times the worker's normal wage. This is one of the most contentious provisions in the proposed legislation because of its potential to substantially raise farm labor costs. Farm employers, who have calculated the increase in their labor costs if they paid overtime in the proposed manner, report that such costs will increase between 15 and 25% at a time when many New York farmers are facing lower product prices. It is highly likely that farm employers facing such significant cost increases would look for legal alternatives to paying overtime. Many nonfarm employers in the US currently limit hours worked by their full-time employees so they don't have to pay overtime.

Unemployment Insurance - This provision makes the unemployment insurance law applicable to all farm laborers. Larger farms (those with \$20,000 in payroll for a calendar quarter) are already required to pay unemployment insurance. The net result of this provision if passed would be to increase costs and paperwork for small and midsize farms.

Work Agreement - This provision defines the term "work agreement" and mandates the use of one. Existing agricultural labor laws in New York already require a work agreement.

Sanitary Code for Labor Camps – This provision gives the New York State Health Department more authority to inspect farmworker housing.

Workers' Compensation – Workers' Compensation is already required for farm employers with more than \$1200 in payroll. This provision would make workers' compensation required for farms with less than a \$1200 payroll, substantially raising their labor costs. This provision also makes it unlawful for an employer or crew leader to fire a worker because the worker files or attempts to file a Workers' Compensation claim or requests a claim form.

Implications of the Farmworkers Fair Labor Practices Act for New York Agriculture

This legislation, if passed, is unlikely to dramatically change the work life of most current farm employees. It would moderately raise labor costs for some farmers. However, if overtime pay is mandated, labor costs will rise substantially. The bill would also increase paperwork and compliance activities on many farms. New York farmers are concerned that too many labor cost increases would make them less competitive with farmers in some other States. Finally, it leaves in question the future of union activity in New York agriculture.

If this bill does not pass the Senate in 2009, most observers think similar legislation will be introduced in the future. As a result of the current strong political support for this bill, policy discussions with farm employers will likely to include discussions of a "middle ground" on these issues.

The New York Agricultural Labor Outlook for 2010

All of the aforementioned issues will continue to evolve as we look at an agricultural workforce issues in the year ahead. We anticipate the following conditions as we look ahead to 2010.

1. Labor supplies are likely to be adequate or better primarily as a result of continued high unemployment. While unemployment rates may improve in 2010 the improvement is likely to take place slowly. As long as construction and other similar industries continued to struggle there will be an increased number of employees looking for work in agriculture.
2. Immigration enforcement activities in New York State are likely to continue. Border Patrol and ICE have a very large presence in upstate New York and they are likely to continue to be aggressive with workplace inspections, including farms. In addition the Obama administration has made it clear and that workplace enforcement will be a critical part of its efforts to reform immigration policy.
3. The use of the H-2A program by agricultural employers in New York has grown steadily in recent years because it is a way to help ensure that workers are legally authorized to work in the United States. This trend is not likely to continue. Agricultural employers have concerns over delays in the system but seem likely to continue to use the program to recruit increasing numbers of workers for seasonal agricultural work.
4. The Farmworkers Fair Labor Practices Act could still be passed in the New York State Senate in 2009 and signed into law despite opposition from agriculture. If this legislation is not passed in 2009 it is very likely that similar legislation will resurface in 2010. There is likely to be increasing pressure on agriculture to find an acceptable approach to resolving issues like overtime pay and collective bargaining.
5. The Obama administration, and elected officials such as Senator Charles Schumer from New York indicate that immigration reform will be taken up by Congress early in 2010. The policy process is likely to be as divisive as it has been in the past. Agricultural employers in New York will continue to push hard for an immigration reform policy that includes a path to citizenship for immigrant workers and a reform of the H-2A program to include dairy producers.

Chapter 9. Agriculture and the Environment: Trends in Land Use and 50 Years of Farmland Protection Effort in New York State

Nelson Bills, Professor Emeritus

Over the past 50 years, several different types of publicly sponsored programs have been devised by the New York State Legislature to encourage landowners to protect farmland and maintain their property in an agricultural use. First-generation programs were developed beginning in the late 1960s with legislation centered on the provision of direct cash benefits via reduced property tax levies on farm real estate. Second generation legislative initiatives keyed to farmland preservation/protection have evolved since the 1970s; an extensive menu of voluntary, incentive-based approaches has been created, usually with development rights purchase or conservation easements as their centerpiece. Development rights purchases were pioneered in Suffolk County New York, and easement programs centered on farm real estate now operate at both the state and local levels.

Policy interest in poorly timed or excessive conversion of farmland to developed uses is a “baby boomer” issue and evolved out of settlement patterns witnessed after World War II. Those years generated population spillovers from urban cores and residence in new suburbs and rural territory. Those developments created a perfect storm for many rural communities in New York State. An immediate pressure point was the local property tax, a lynchpin source of funds for public services in the Region. New rural residents, along with the courts, pressured local governments to upgrade their property assessment procedures and update the market values assigned to farm real estate for taxing purposes. Tax levies also increased dramatically to fund growing public service needs.

In response, property tax savings with a 10-year exemption on new or newly constructed farm buildings was enacted by the legislature in 1969. That legislation preceded a landmark 1971 Agricultural Districts Law which featured provisions for tax reductions on farmland as well. Over the years, reduced farmland assessments, usually based on use-value farmland assessment, have become commonplace throughout the Nation. In the mid-1990s, the New York State legislature provided for additional tax relief with a refundable state income tax credit for a portion of property tax levies for local schools.

The purpose of this year’s chapter is to showcase this half century effort to employ property tax relief measures to foster farmland protection policy initiatives in New York State. To begin the discussion, the following section reviews broad statewide trends in land use by updating some information provided in this chapter in years past.

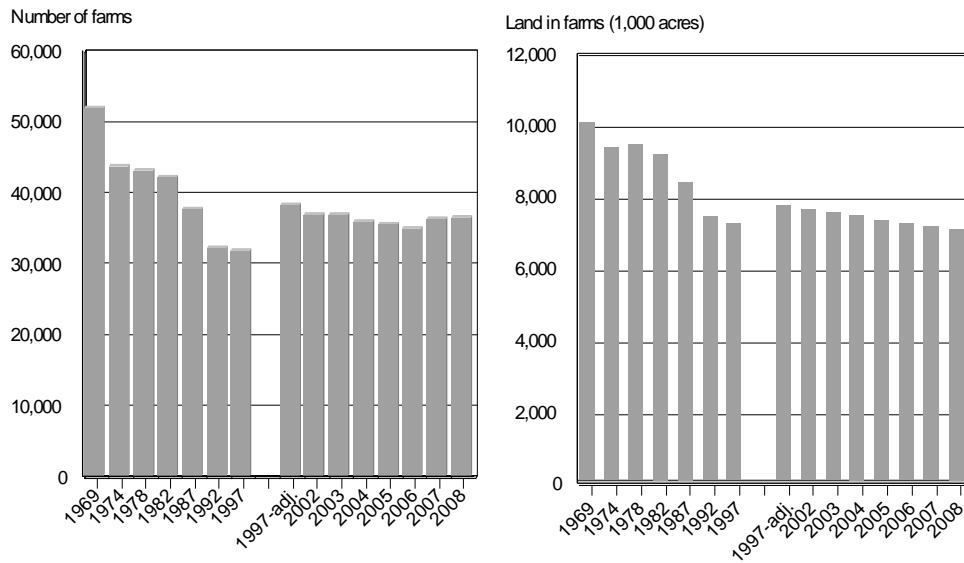
I. Agricultural Land Use in New York

New York's land resources are key ingredients for agricultural commodity production. Crop and livestock production has always been a predominant feature of the New York State landscape. After the American Civil War, New York State led the nation in farmland acreage. As late as a century ago, about three-fourths of the State land base was counted as land in farms. But during much of the twentieth century, agricultural lands in New York, indeed throughout the Northeast, have slowly been converted or reverted to alternate uses and, due to consolidation and other socio-economic trends, the number of farms has declined. Some of the acreage released from farm use has been converted to a developed use, but

millions of acres sprouted brush, then small trees and, over time, woodland that can again reclaim the title of forest.

Corresponding trends in farm numbers and farm acreage in New York are shown in Figure 9-1. For 2007, the USDA farm estimate for New York is 34,200 farms, down 800 farms from the number reported in 2006. The farmland base--acreage used for crops, pasture, and support land—was pegged at about 7.5 million acres early in this decade with modest decreases estimated year to year across New York State in recent years.¹

FIGURE 9.1 FARMS AND LAND IN FARMS, NEW YORK, 1969-2008



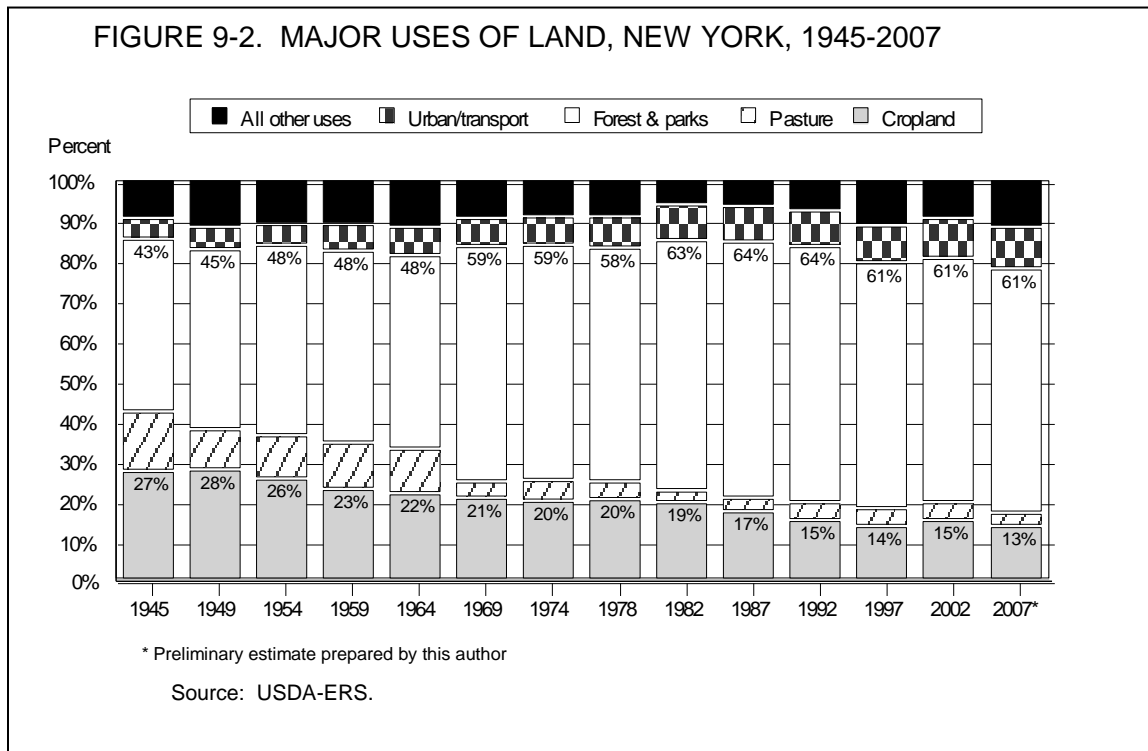
Source: 2007 Census of Agriculture and NYS Agriculture Statistics Service

The value of crops and livestock produced on these farms hovered in the \$3 Bil. range during the 1990s and into this decade with some variation due to fluctuating milk and crop prices. Since 2000, total receipts have trended upward, with gross farm income increasing sharply to \$4.5 Bil. in calendar 2007, largely fueled by increased commodity prices. In 2008, falling prices for fluid milk generated reductions in sales of livestock products but robust revenues from crops pushed gross farm income above 4.6 Bil. Farm businesses also support industries that process raw farm commodities and supply inputs needed for commercial farm production. In 2007, the value of gross output originating on New York farms and with businesses classified as agricultural services or food/beverage manufacturing totaled \$31.2 billion.

New York State has not conducted a comprehensive inventory of land uses since the late 1960s, making for a good deal of uncertainty over the status of overall land use. Two USDA

¹ Some of these land-use developments are masked by changes in data management. Beginning with the 2002 Census of Agriculture, the USDA adopted new measures to correct for under-counting of farm operations. As indicated in Figure 9-1 these adjustments led to a 20% increase in the estimated number of farm operations and a corresponding, but lesser, increase (8%) in estimated farm acreage.

agencies—the Economic Research Service (ERS) and the Natural Resources Conservation Service (NRCS)—attempt to fill that void with published estimates of land use and land cover. Because of budget considerations, the Federal land-use estimates are either dated, published only for multistate areas, or both. Widely circulated trend data estimated in a consistent manner by ERS since the late 1940s. USDA estimates and a provisional update for 2007 are shown in Figure 9-2. They show that, as in years past, forest cover predominates for New York State as a whole; more than six of every 10 acres are classified as forest by the USDA. USDA crop and pasture estimates track the census data reported above and show marginal decreases in both categories moving into this decade. For 2007, crop acreage is pegged at 13% of the total land base, down from 27% after World War II. This USDA data series uses conservative urbanized land estimates, using Census definitions. Urbanized land by Census definition includes incorporated cities and villages with a population of 2,500 or more and adjacent densely populated territory. In 2002, slightly more than 2.5 million acres fell into this urban land category as shown in Figure 9-2. USDA estimates from the 2003 NRCS National Resources Inventory (NRI) are more expansive in definition and put urban and built-up acreage in the range of 3.7 million acres five years ago.



II. Public support for New York Agriculture in Perspective

These broad land use trends, along with adjustments in New York's commercial farm sector and population growth in rural territory, are mirrored in evolving public policy. Initial focus was on the local property tax, a growing pocketbook issue for landowners as public service costs-local schools in particular-escalated while revised property assessment practices transferred more annual levies to farm real estate. Legislation proposed in two consecutive sessions of the state legislature in the mid-1960s to grant farmland owners a reduced property tax bill through assessing land at use value rather than market value were vetoed by the Governor. This outcome was in sharp contrast to political results obtained in several other states, who were mimicking Maryland's path-breaking use-value assessment law, passed in 1957.

Similarly, a proposal to institute state-level planning, reversing the State's deference to local "home rule" authority on land use controls in a substantive way, were unacceptable to elected public officials in the state legislature. To break this impasse while dealing with the growing concern over the future viability of New York agriculture, a Temporary Commission on the Preservation of Agricultural Land was established. The Commission was instrumental in proposing property tax exemptions for new or newly constructed farm buildings and refining the concept of an agricultural district. The agricultural districts were advanced as the cornerstone to an effective and politically feasible approach to farmland retention in New York. At the same time, observers readily admitted that the district proposal was a compromise, an effort to strike a balance between forces who were focused on property tax relief for farm real estate and those who were interested in mechanisms to promote the wider public interests in farmland protection and in promoting the viability of New York's farming industry.

New Farm Buildings Exemptions

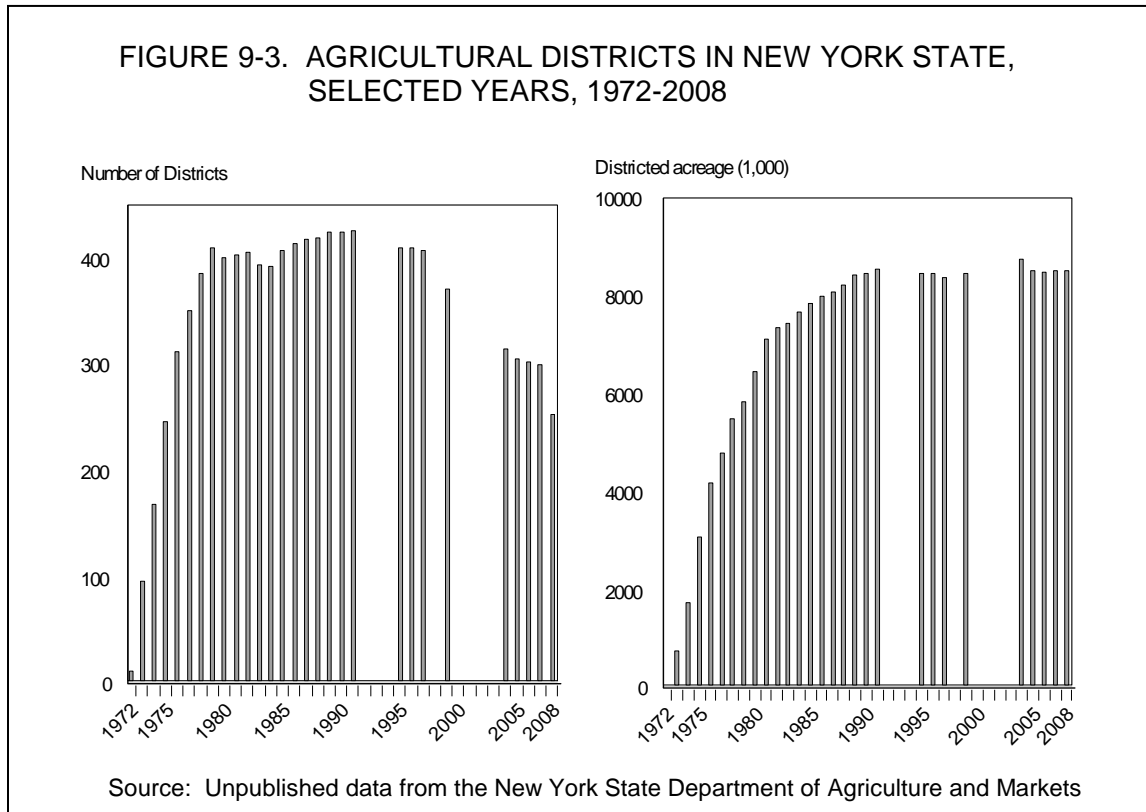
Under legislation first initiated in 1969, New York's Real Property Tax Law allows a 10-year property tax exemption on newly constructed or reconstructed agricultural structures. Landowners must apply for the exemption must be made within one year after construction is completed. The agricultural structures and buildings are exempt from any increase in the property's assessed value resulting from the improvement. Once granted, the exemption continues automatically for ten years. The law provides for early termination of the exemption if (1) the building or structure ceases to be used for farming operations, or (2) the building or structure or land is converted to a nonagricultural or nonhorticultural use.

Agricultural Districts and Agricultural Assessments

The Commission's recommendations, combined with input from farm organizations and state agencies, led to enactment of the Agricultural Districts Law in 1971. This legislation is the focal point for farm protection efforts in New York. The Law recognizes that viable agricultural land is one of the State's most important and irreplaceable environmental and economic resources. The declaration of legislative intent states that many of the State's agricultural lands are in jeopardy of being lost for agricultural purposes due to nonfarm development. The purpose of the Agricultural Districts Law is to provide a locally initiated mechanism for the protection and enhancement of agricultural land for agricultural production, and as valued natural and ecological resources which provide needed open space for clean air and aesthetic purposes.

These broad objectives are promoted through the formation of agricultural districts. The process of creating an agricultural district is initiated with a proposal by interested landowners to the

county legislature. Owners forwarding a proposal must collectively own at least 500 acres or 10 percent of the



land proposed for a district, whichever is greater. The proposal must include a description of the district boundaries and a recommendation on whether the district, once approved by the county legislature, should come under review after 8, 12, or 20 years. The steps required for creating an agricultural district are spelled out in detail and are designed to maximize the participation of farmland owners, state agencies, local units of government and the general public.

While the law restricts district size to no fewer than 500 acres, landowners and county legislatures are granted considerable latitude on the configuration of lands included within the boundaries of an agricultural district.² The law requires that steps be taken to determine that the district consists predominantly of viable agricultural land and is consistent with state and local comprehensive plans, policies, and objectives.

Agricultural districting has proved to be popular with farmers in New York. After nearly four decades, as evidenced by the data in Figure 9-3, the districts program is a mature program. Acreage committed to districts crested in the late 1980s and has remained relatively stable at about 8.5 million acres since that time. Today, New York's districted land base of 8.53 million acres represents 28% of the

² A 2003 amendment establishes an annual 30-day period during which a farmer can submit proposals to include viable land within an already certified agricultural district. This provision is designed to accommodate new, start-up farm operations who wish to access the benefits of district participation. According to unpublished data obtained from the NYS Department of Agriculture and Markets, since 2003, the Commissioner has approved proposals that add 138,500 acres to the district program.

total New York land area. Some nonfarm acreage is in districts because farmland is typically co-mingled with rural residential, forest, and other open space lands in most rural communities. The NYS Department of Agriculture and Markets estimates that about 6 million acres or 71% of all districted acreage is farmed by 21,600 farm operators. For comparative purposes, the USDA estimates that 7.1 million acres are presently owned or leased by 36,600 farms in New York (see Figure 9-1).

In sharp contrast to districted acreage, the number of agricultural districts has declined from nearly 430 districts in the early 1990s to 254 in calendar year 2008 (Figure 9-3). Most of this change in district numbers is attributable to administrative adjustments in conjunction with periodic reviews of district boundaries. To manage the administrative load and streamline administrative costs, concerted efforts have been made in several counties to consolidate districts. The consolidations better reflect the facts on the ground while affording local officials opportunities to more effectively manage the district reviews prescribed by State law.

The Agricultural Districts Law contains six major provisions designed to facilitate the retention of agricultural land:

- District authority may supersede local ordinances designed to regulate farm structures or practices beyond the normal requirements of public health and safety.
- The right of government to acquire farmland by eminent domain is modified.
- The right of public agencies to advance funds for construction of public facilities to encourage nonfarm development is modified.
- State agencies must modify their administrative regulations and procedures to facilitate the retention of agricultural land.
- Special-use districts that overlap the boundaries of a district are restricted in the imposition of benefit assessments or special *ad valorem* levies on farmland within the district.
- Owners of 7 or more acres which have generated gross farm product sales averaging at least \$10,000 over the preceding two years can apply for an agricultural assessment; operators with fewer than 7 acres may apply if yearly sales are \$50,000 or more. Nonfarmers can qualify if they meet the acreage requirement and have a written rental agreement with an active farmer.

Not unexpectedly, agricultural assessments are a high profile provision of the law. As noted above, the agricultural district legislation was motivated, in no small part, by a growing concern with agriculture's exposure to the property tax. Initial requirements were for 10 or more acres which have generated gross farm product sales of at least \$10,000 per year during the preceding two years; 2002 amendments to the agricultural district law reduced the acreage requirement to seven acres. In addition, the law has been amended on several occasions to clarify the type of agricultural operations that qualify for an agricultural assessment. The general effect of these amendments has been to expand the scope of the law and make agricultural assessments more inclusive for the farm community.

Farmers School Tax Credit

For tax years beginning after 1996, an eligible farmer may be entitled to an income tax or corporation franchise tax credit for the school district property taxes the farmer pays. The credit is allowed only for school taxes paid on land, structures, and buildings owned by the farmer that are located

in New York State and used or occupied for agricultural production. An eligible farmer may be a corporation or an individual or married couple. Also, an eligible farmer may be entitled to the credit if the farmer is a partner in a partnership or a shareholder a corporation that owns property used in agricultural production. Finally, an estate or trust or the beneficiaries of an estate or trust may also be eligible for the credit.

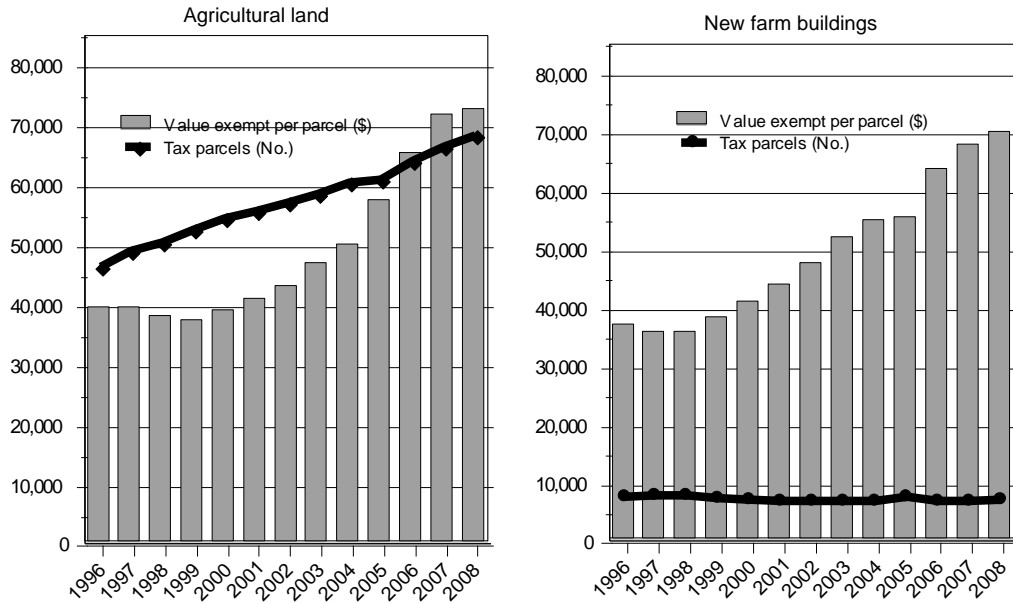
The tax credit benefit is confined to a base acreage defined by law. For tax years between 1997 and 2006, the base acreage was capped at 250 acres. For tax years beginning in 2006, the base acreage is increased to 350 acres. The law also defines an eligible farmer. Beginning in 2003, the statutory definition of an eligible farmer was expanded. Taxpayers will meet the definition of eligible farmer if their federal gross income from farming for the tax year is at least two-thirds of their excess federal gross income; or if average federal gross income from farming for the tax year and the two consecutive tax years immediately preceding that tax year is at least two-thirds of their excess federal gross income. For tax years beginning in 2006, gross income from farming also includes gross income from commercial horse boarding operations and gross income from the growing of Christmas trees under a managed Christmas tree operation.

The farmers' school tax credit provides school property tax relief, but unlike the exemption on new farm structures or agricultural assessments on land, the credit is fully funded by the State and does not affect the revenue received by local school districts. Similarly, the tax credit does not prompt any shifts in local property tax burdens by removing taxable value from the property tax roll.

III. Property Tax Benefits for Farmland Owners in New York State

Understanding the cumulative impact of these property tax programs is a challenge. Administration is not in the hands of a single state agency and, while part of the public record, the necessary data are not readily accessible. Many of those problems are overcome in this section and information is provided on enrollment and the likely impact of all three major property tax reduction programs statewide. First, drawing on records dating to the early 1980s, exemptions for new or newly constructed farm buildings and agricultural assessments for New York State farmland for tax years between 1996 and 2008 are shown in Figure 9-4. Data for these years mirror longer-lived trends and show a relatively stable number of tax parcels receiving a partial 10-year exemption for new or newly reconstructed farm buildings. The number of tax parcels in that category has fluctuated between 6,900 and 7,900 since the mid-1990s (see second panel in Figure 9-4). The dollar value of property exempted from the local property tax, however, has increased materially during this decade. It is not possible to determine the contribution of each, but the increase is attributable to amounts of new farm building investments and increases in local property tax levies. Working together, these factors pushed the amount exempt in 2008 above \$70,000 on average.

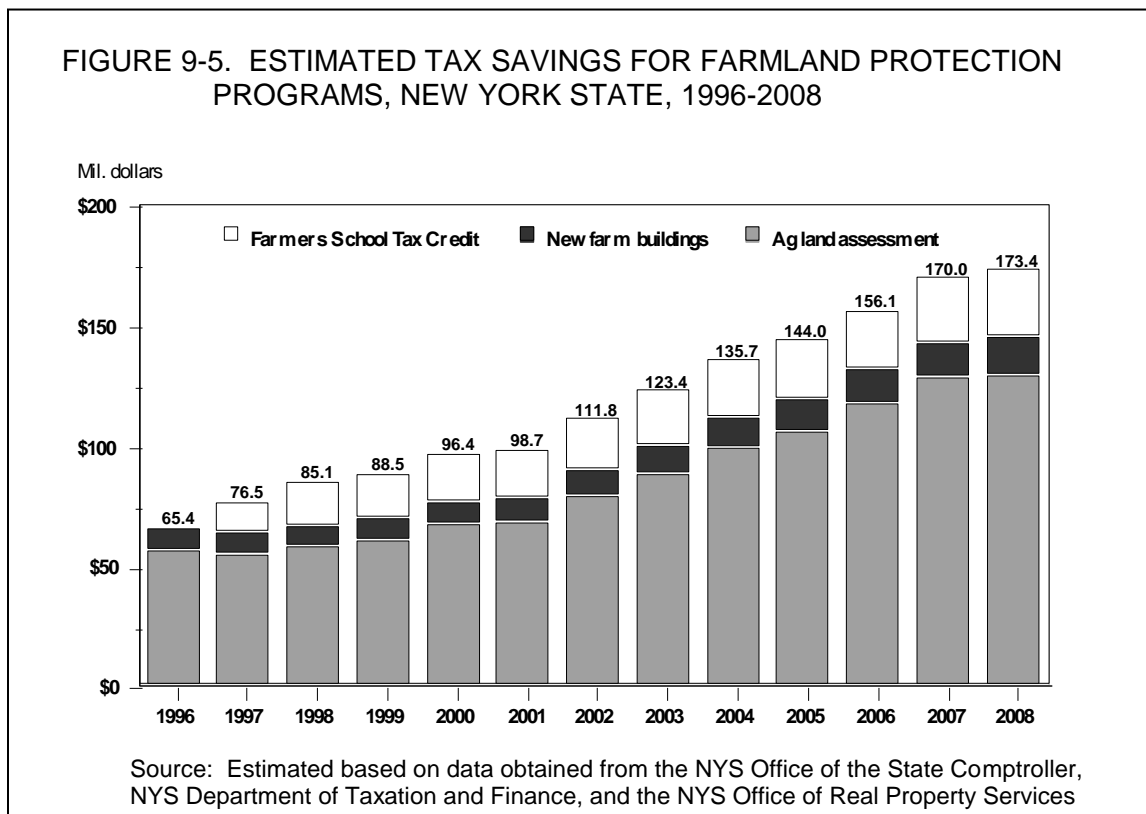
FIGURE 9-4. ENROLLMENT IN PREFERENTIAL ASSESSMENT PROGRAMS FOR AGRICULTURAL LAND AND NEW OR NEWLY RECONSTRUCTED FARM BUILDINGS, NEW YORK STATE, 1996-2008



Source: NYS Office of Real Property Services.

This substantial increase in average amount exempted also holds for agricultural assessment on land, as shown in the first panel of Figure 9-4. Average amounts exempted to do agricultural assessments on land topped \$70,000 per enrolled tax parcel for the 2007 tax year according to data obtained from the NYS Office of Real Property Tax Services. In contrast to buildings exemptions, however, the number of tax parcels granted an agricultural assessment has also increased rapidly over the past decade. In 1996, about 46,400 tax parcels were granted a preferential agricultural assessment on land. In 2008, nearly 60,500 parcels had this status, an increase of 47% over this 12 year period.

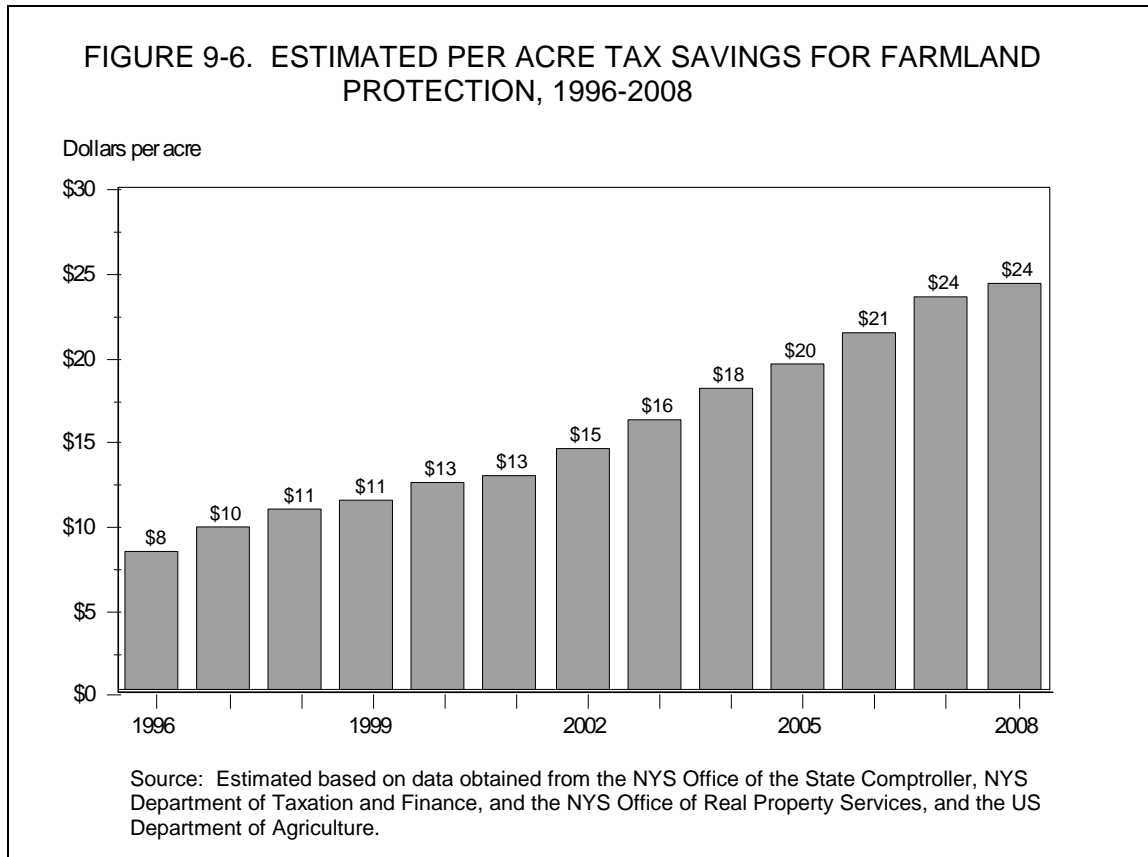
Factors driving the increase in tax parcel numbers are not clear. It's possible that increasing numbers of landowners are educated on their taxing options and are more attentive to annual applications for an agricultural assessment on their property. Another influential factor is the continued parcelation of larger farm parcels. Smaller tax parcels are higher valued by the land market on a per acre basis than larger ones. Finally, overall increases in assessed values and local property tax levies are evident in recent years. Both provide new incentives for requesting an agricultural assessment on property once commanding a market value closer to its agricultural value.



Tax savings for any single landowner on any single tax parcel depends on the property's location. Only at this level can one precisely deal with variations in tax levies and differences in local assessment practices. Because of these factors, tax rates vary materially from one jurisdiction to the next reflecting varying degrees of dependence on property taxes to fund services and the availability of state aid—for local schools in particular. For purposes here, annual tax savings are approximated at county level by estimating the average countywide effective tax rate (total tax levies as a percentage of the full or market value of the taxable property) and applying it to the value of property exempted due to new farm buildings or an agricultural assessment on land. In 1996, the new farm buildings exemptions and agricultural assessments on land resulted in an estimated \$65.4 million tax reduction (see Figure 9-5). Spearheaded by increases in the value of agricultural assessments on land, the estimated amount of property taxes saved statewide increased to \$144.8 million in 2008. The increase over the 12-year span was more than twofold or about 18% per year on average.

The Farmers School Tax Credit was implemented for the 1997 tax year. According to an analysis by the New York State Comptroller, the initial amount of state income tax revenue displaced by this tax provision stood at \$12.4 million. That is, income tax credits for some school property taxes paid by qualified farmers topped \$12 million in the first program year; for the 2008 tax year, the amount of state income tax revenue displaced approximately doubled and increased to \$28.5 million.

Taken together, reduced local property tax payments and reduced state income tax payments generated an estimated \$173.4 million in tax benefits for New York State farmland



owners in 2008. It is important to note that the identity of these benefit recipients is not known with certainty. It is clear that tax savings from property tax holidays on new farm investments and the farmers school tax credit accrue to bona fide farm operators. Agricultural assessments, on the other hand, accrue to farm operators and their landlords. Rented land plays an absolutely critical role in the New York State farm and food industry. Most of the larger New York State farms depend on ready access to rented land to grow their business and achieve necessary economies of size in commodity production.

To put the estimated total tax reductions attributable to farmland protection programs in New York State in perspective, the totals were weighted by the USDA's annual estimate of total land in farms to calculate an estimate of overall tax savings per acre. Results are shown in Figure 9-6, and suggest that overall tax relief afforded for land protection in New York State has increased threefold since the mid-1990s—from \$8 to \$24 per acre per year. These numbers reflect the cumulative impact of sharp increases in tax benefits and continued moderate decreases in the amount of land committed to agricultural use statewide.

IV. Some Concluding Comments

Increasing tension can be expected around issues for agriculture and the real property tax in New York State. On the one hand, the local property tax is a critically important source of revenue for local governments. Increased tax levies are certain in the years ahead. The financial benefits accruing to farmland owners receiving property tax concessions are clearly demonstrated in this chapter. Proponents

of property tax relief measures point out that reduced property tax bills will ensure more equitable taxation and greatly enhance the prospects for promoting effective management of open space land.

On the other hand, other observers argue that these programs convey financial benefits to landowners but do not assure farmland protection on development-prone farmland in the longer term. That is, the incentives provided may not be large enough to divert a landowner's attention from conversion to a higher valued use. Enrollment is year-to-year and no promises on future land uses are exacted from participants. This means that, whatever effects the program might have on a landowner's decision for using the property, such effects will not necessarily be permanent. Permanency, indeed maintenance of open space into perpetuity, has emerged as a highly prized feature in the land use policy debate. This helps explain the movement, especially in the northeastern part of the US, to development rights and conservation easement purchases for farmland protection. These public outlays guarantee a perpetual open space use for the real estate. But, acquisitions are limited because of the sizable capital requirements involved. The New York State Department of Agriculture and Markets has operated a development rights purchase program since 1996. This program is perennially over subscribed, with development rights on 29,000 acres acquired to date, according to the 2009 New York State Open Space Plan; acquisitions by local governments (primarily on Long Island and in the New York City watershed) add another 46,300 acres to the State total.

While impressive in absolute terms, the trajectory of farmland development rights/conservation easement purchases means that such programs will be important to some landowners in some localities but will have a modest impact on the larger farm and food industry statewide. Instead, going forward, we expect that the deeply ingrained property tax relief programs highlighted in this chapter, with demonstrably large annual financial benefits, will continue with only minor tweaking in the years ahead.

However, it is also likely that more discussion of enhanced options for affording landowners property tax relief will occur. One possible avenue at State level could involve consideration of additional property tax benefits in return for term (less than perpetual) development easements. A program enhancement of this type might alleviate concerns with the uncertain the open space benefits associated with further reductions in property tax bills.

Chapter 10. Specialty Crops

Miguel I. Gómez, Assistant Professor and Bradley J. Rickard, Assistant Professor

Specialty crops are an important component of New York State's agricultural economy. In 2008 the total farm value of all agricultural products produced in New York was approximately \$4.7 billion. The value of agricultural commodities produced in New York State was lower in 2009 compared to 2008, and this was driven by decreased prices and quantities in 2009. However, fruit and vegetable crops accounted for nearly 25% of the total value of agricultural production in New York State and another 5% was generated from production of ornamental crops. Horticultural commodities are an important component of agriculture in New York State and we continue to see a significant quantity of fruits and vegetables produced in the State. Apples and grapes are the two highest revenue fruit crops in New York while cabbage, sweet corn, snap beans, and onions have been the four highest revenue vegetable crops in recent years; the value of production for all six commodities has consistently been greater than \$50 million.

Below we divide specialty crop markets into four categories and take a closer look at market conditions in each category. We examine patterns, and provide an outlook, for fruit and berries, vegetables (fresh and processing) grapes and wine, and ornamental products in New York. In each case we review production and price data between 2006 and 2008, provide some thoughts about market conditions in 2009, and then provide an outlook for 2010.

10.1 Fruit and Berry Outlook

Market conditions for major fruit crops in New York State were, overall, less favorable in 2009 compared to 2008. Here we take a closer look at domestic prices and production values, consumption patterns, and international market conditions for major fruit crops in 2008. In addition, we outline some factors that are expected to influence fruit markets in the short to medium run (between 2010 and 2012). Similar to last year, we examine grapes as a separate fruit category and discuss market conditions for grapes in section 10.3. Overall, the total production of fruit (including grapes) in New York in 2008 was 806 thousand tons, down from the 10-year high reached in 2007. The value of all fruit produced in New York in 2008 was \$345 million; it was down 8% from the value in 2007 yet remains the second highest valued fruit crop experienced in New York State. Prices for many fruit crops were higher in 2008 compared to earlier years, and the lower total values in 2008 can be attributed to lower production levels in 2008. In 2009 we expect to see annual aggregate statistics that show a decrease in the total value of fruit produced in New York compared to 2008. Much of the expected decrease in crop values in 2009 is related to lower levels of production driven mostly by weather-related events.

Relative to other states, New York continued to be a major national producer of apples in 2008 and 2009. As shown in Table 10-1, U.S. apple production in 2008 was 232 million bushels, and it is expected to be approximately 236 million bushels in 2009 based on conditions in late-July according to the USDA, NASS, New York Field Office. The 2009 forecast is up 1.7% from 2008 and down 2.4% over the five-year period between 2004 and 2008. Washington State typically produces approximately 55 to 60% of the U.S. apple crop and New York State is the second largest producer growing about 15% of the national crop. Washington State is forecasted to produce 135 million bushels in 2009 which is approximately 2.5% less than both the 2008 crop and their five-year average between 2004 and 2008.

New York apple production in 2008 was 29.7 million bushels and valued at \$255 million; the overall value of the 2008 crop was down relative to the 2007 crop, yet the value of apples used for processing was up

significantly in 2008. The New York apple crop is expected to rise slightly to 30 million bushels in 2009 but it is widely expected that the value of the crop will fall to levels observed in the early- to mid-2000s due to lower prices in 2009. The most recent *USDA Fruit and Tree Nuts Outlook* shows that the national average price for fresh market apples in fell from \$0.54 per pound in August 2008 to \$0.26 per pound in August 2009; this represents a 52% decrease in fresh market apple prices. Prices for other fresh fruit products such as grapes, pears, and strawberries also fell between 2008 and 2009.

Table 10-1 shows that the price of apples used for processing purposes increased sharply in 2008 compared to earlier years. The average price for New York apples used in processing market was \$260 per ton in 2008, and this was significantly higher than the five-year average of \$147 per ton between 2003 and 2007. Much of this price increase was due to the increased share of apples purchased by processors; it increased from 47% in 2007 to 55% in 2008. The price of apples used for processing purposes is also expected to fall in 2009. Processing apples are used to produce juice as well as cider, applesauce, and frozen products in New York State.

In addition to apples, New York State is also a top producer of several other tree fruit and berry crops. Pear and stone fruit (cherries and peaches) production was approximately 15% lower in 2008 versus 2007; in 2008 New York produced over \$7.4 million in cherries (\$3.9 million was tart cherries and \$3.5 was sweet cherries), \$4.8 million in peaches, and \$4.7 in pears. Berry production (including strawberries, blueberries, and red raspberries) was higher in 2008 versus 2007, and much of this increase was in blueberries. Table 10-1 shows that sweet and tart cherry production in New York decreased in 2008 relative to 2007 and prices for both were higher in 2008. Similar market conditions held for pears and peaches with a notably higher price for peaches in 2008. The *USDA Fruit and Tree Nuts Outlook* reports higher prices for peaches and lower prices for pears in 2009. Retail prices for apples dropped in 2009 compared to 2008; a large apple crop in Washington State in 2008 led to increased quantities of apples held in storage through the first half of 2009. Similar to the trends observed for producer prices of peaches, the *Outlook* shows higher retail prices for peaches in 2009 compared to 2008.

TABLE 10-1. COMMERCIAL NONCITRUS AND NONGRAPE FRUIT PRODUCTION AND PRICES IN NEW YORK STATE

	Production			Prices		
	2006	2007	2008	2006	2007	2008
	----- Thousand tons -----			----- Dollars per ton -----		
Apples	625	635	625	400	426	418
<i>Fresh</i>	345	340	265	604	682	624
<i>Processed</i>	280	310	345	152	174	260
Tart Cherries	5.2	6.5	4.8	622	672	826
Pears	16.0	11.2	10.3	429	497	504
Peaches	6.7	6.3	5.5	667	634	922
<i>Fresh</i>	3.1	3.0	-	784	754	-
<i>Processed</i>	3.6	3.3	-	570	525	-
Sweet Cherries	1.0	1.2	1.1	2290	2980	3520

Sources: [New York Agricultural Statistics](#), 2009.

Production of apples was not greatly affected by the cool wet weather experienced in the Northeast during the early summer months in 2009 (the weather had much greater negative effects for vegetable crops), and there were no significant hail storms that affected the apple crop in New York State in 2009. However, the cool wet weather is expected to increase the probability of postharvest physiological issues (*e.g.*, internal browning) for apples harvested in 2009, and this continues to be a major marketing concern for producers and packers of apples in New York State.

TABLE 10-2. VALUE OF NONCITRUS AND NONGRAPE FRUITS
NEW YORK AND UNITED STATES

	New York			U.S.		
	2006	2007	2008	2006	2007	2008
	----- Million dollars -----					
Apples	250.0	270.5	255.2	2255.9	2410.2	2285.6
<i>Fresh</i>	208.4	231.9	165.4	-	-	-
<i>Processed</i>	42.6	53.9	89.7	-	-	-
Tart Cherries	3.2	4.4	3.9	57.0	67.5	-
Pears	6.9	5.5	4.7	334.3	345.8	-
Peaches	4.6	3.9	4.8	423.2	352.6	-
<i>Fresh</i>	2.4	2.2	-	-	-	-
<i>Processed</i>	2.2	1.7	-	-	-	-
Sweet Cherries	2.3	3.6	3.2	476.6	592.4	-
Total	266.9	287.9	271.8	3546.9	3768.6	-

Sources: [New York Agricultural Statistics](#), 2009; [USDA Agricultural Statistics](#), 2008.

Table 10-2 highlights the values of tree fruit crops in New York between 2006 and 2008; we also show the total value of these crops nationally in 2006 and 2007 (USDA Agricultural Statistics data for 2008 had not been released when the *Outlook Handbook* was being prepared). However, Table 10-2 does highlight that New York apples and tart cherries are important nationally, pears and peaches are important for the state but have less of an impact on those markets nationally, and sweet cherries are a relatively small industry in New York State. The value of both the U.S. and New York's apple crop increased from 2006 to 2007, and then fell in 2008 to levels seen in 2006. It is expected that the value of the New York apple crop in 2009 will decrease from the level reached in 2008 to values closer to those experienced in the early- to mid-2000s. Trade in fresh and processed fruit continues to be important to suppliers in the United States and in foreign markets. Imports of fresh apples in the United States reached a high of 472 million pounds in 2003/04 but have fallen recently; they were 363 million pounds in 2008/09 and are expected to be 356 million pounds in 2009/10. Exports of fresh apples from the United States have continued to grow over time and are expected to reach 1,810 million pounds in 2009/10. Imports of processed apple products have grown over the past fifteen years yet the value of each imported unit has fallen over this time, and this will continue to present challenges to U.S. processors of apple products.

U.S. consumption patterns for fresh, frozen, and canned fruit products between 2002 and 2007 are shown in Table 10-3. Overall, we see that per capita consumption rates for most fresh and processed fruits have been relatively stable over this time. Consumption rates have been very stable for frozen fruit products and show a slight decline for many canned products. Per capita apple consumption rates in the United States have been stable between 2002 and 2007, have been below per capita consumption rates for bananas, and both of these observations reflects a larger trend over the last two decades.

TABLE 10-3. U.S. CONSUMPTION PATTERNS FOR SELECTED
NONCITRUS AND NONGRAPE FRUIT PRODUCTS

	Consumption					
	2002	2003	2004	2005	2006	2007
	----- pounds per capita -----					
<u>Fresh</u>						
Apples	16.0	16.9	18.8	16.8	17.7	16.4
Bananas	26.8	26.2	25.7	25.2	25.1	25.9
Cherries	0.7	0.9	1.0	0.8	1.1	1.3
Grapes	8.4	7.6	7.8	8.6	7.6	8.0
Peaches	5.2	5.2	5.1	4.8	4.6	4.5
Pears	3.1	3.1	3.0	2.9	3.2	3.1
<u>Frozen</u>						
Apples	0.4	0.6	0.4	0.5	0.4	0.4
Cherries	0.4	0.6	0.6	0.6	0.7	0.7
Raspberries	0.3	0.4	0.4	0.4	0.4	0.4
Blueberries	0.3	0.4	0.2	0.4	0.3	0.3
Strawberries	1.6	1.9	1.7	2.1	1.9	1.3
<u>Canned</u>						
Apples	3.2	3.5	3.6	3.4	3.4	3.1
Apricots	0.3	0.3	0.3	0.2	0.1	0.2
Cherries	0.1	0.2	0.1	0.2	0.1	0.1
Peaches	4.6	4.0	4.3	4.0	3.5	4.2
Pears	2.6	2.7	2.5	2.3	2.4	2.3
Plums and Prunes	0.1	0.1	0.1	0.1	0.1	0.1

Sources: [Apple Crop Statistics & Market Analysis](#), Michigan Agricultural Cooperative marketing Association, Inc., 2009.

Several economic and marketing issues that have been important to producers and packers of fruit crops in New York State will continue to be key concerns over the next two to five years. Important and ongoing issues include food safety concerns, country-of-origin labeling requirements, labor availability, crop insurance rates, and competition with foreign suppliers. Two other important issues that have received less attention, but may have strategic implications for fruit growers in New York State, include i) economic implications of employing generic produce promotion efforts, and ii) the market potential for “club” apple varieties.

Many fruit and vegetable producers support commodity-specific promotional efforts in an attempt to increase overall demand for their products. Many of these programs began as voluntary programs, but over time they have become mandatory to avoid the “free rider” problem. There are also a number of state-specific promotion efforts (*e.g.*, NY Pride and Jersey Fresh) and generic produce promotional efforts (*e.g.*, Five-a-Day and Fruit and Veggies: More Matters) that attempt to increase the total market share for produce items. Furthermore, generic produce promotion efforts are larger in Canada and this may be one contributing factor to the higher consumption rates of produce in Canada (although prices and incomes are important factors, too). Many industry stakeholders feel that commodity-specific efforts compete with each other and essentially have a zero-sum effect, whereas generic produce programs might have the ability to increase the overall demand for fruits and vegetables at the expense of other food items such as grains or meats. As shown in Table 10-3, the per capita consumption levels of many fruit (and vegetable) products appear to have

become stable. More information about the relative effects of various promotional efforts would be useful for producers of specialty crops.

A second outlook issue is the introduction of “club” apple varieties. Susan Brown, a Professor in the Department of Horticultural Sciences at the Geneva Campus recently published a paper in the *New York Fruit Quarterly* that describes some key production and marketing considerations for “club” apple varieties. The article reviews organizations that manage such varieties and reviews over thirty varieties that are currently being managed in some capacity in different parts of the world. One example is a cooperative based in Minnesota that was recently formed and includes members from many states and Canadian provinces growing small quantities of the MN 1914 apple. These varieties provide an interesting opportunity for producers to manage the supply of new and exciting apple varieties. The producers’ objective here is to stimulate additional demand for new apple products, manage the supply of these varieties such that price premiums can be achieved, and receive higher net returns per acre. However, the management of “club” varieties is not a straightforward marketing exercise and much thought needs to be spent regarding market size, pricing strategies, and promotional efforts. Research that examines consumers’ willingness to pay for “club” varieties would be very beneficial to apple growers as they consider this upcoming marketing opportunity. Furthermore, any research in this area should consider different consumer market segments as the market potential for “club” varieties will certainly be tied to consumer attributes such as age, income, education level, and current purchasing patterns of fresh fruit products.

10.2 Vegetable Outlook

Total land planted to vegetables in New York State fell from 139,700 acres in 2007 to 129,300 in 2008; planted acres of both fresh and processing vegetables were down in 2008. However, the value of New York vegetable production (including principal vegetables for fresh and processing markets but not including potatoes and dry beans) increased from \$422 million in 2007 to \$468 million in 2008. Fresh market vegetables contributed \$406 million to the total in 2008 (up from \$321 in 2007) while processed market vegetables contributed \$62 million in 2008 (up from \$39 million in 2007). The decrease in planted acreage of vegetables in 2008 was largely due to record high prices for other field crops such as corn and soybeans, and the decreased supply was the major factor driving higher prices and crop values for vegetables in 2008.

Preliminary market conditions reported in the *USDA Vegetables and Melons Outlook* suggest that demand and prices for fresh vegetables will be down from 2009 compared to 2008. Lower prices in 2009 have been driven by greater production nationally (although this was not the case in the Northeast) and a decreased demand for fresh vegetables in the food service sector. Prices for many vegetable crops will only be slightly less in 2009 relative to prices in 2008, yet prices for onions, snap beans, cucumbers, sweet corn, and tomatoes are expected to be up from 2008. The U.S. is projected to see greater import volumes of vegetable products from Mexico and Peru, and prices for vegetables at the retail level will be lower in 2009 compared to 2008. At the same time, U.S. exports of vegetables are expected to fall in 2009; a large share of vegetable exports are shipped to Canada and the USDA expects that traded quantities to Canada will fall by 5% in 2009 due to the global recession and decreased demand for imported vegetables in key Canadian markets. However, the Canadian dollar has become very strong in late-2009, and as the recession begins to ease the volume of vegetable exports to Canada is anticipated to increase in 2010.

New York continues to be a significant producer of onions, cabbage, snap beans, and sweet corn; for each of these commodities, New York State has consistently produced crops that have a value of \$50 million or more. Here we focus on recent economic conditions, and provide some outlook, for nine fresh vegetable products and four processed vegetable products that are important markets in New York. Table 10-4 shows production patterns for key vegetables in New York between 2006 and 2008. Data describing trends in fresh vegetable markets are shown at the top of Table 10-4 and trends for processing vegetables are shown on the bottom portion of Table 10-4. Much of the most recent information for processing vegetables is not available from New York Agriculture and Markets given the small number of producers and the proprietary nature of the data.

New York production and prices for many fresh vegetable products were up in 2008 relative to 2007; recent USDA information indicates that national production levels were higher again in 2009 and prices are expected to be lower in 2009 and 2010. New York was the nation's largest producer of cabbage in 2008 as this sector experienced substantial yield growth in 2008. Processed cabbage represents less than 10% of the value in New York State's cabbage sector, and nearly all of the recent growth has been for fresh cabbage. Snap bean production (fresh and processed) and onion production also have a large presence in New York, and both sectors saw an increase in production in 2008. Of the other five fresh vegetables that are listed in Table 10-4, production patterns have remained relatively constant in recent years with the exception of squash which experienced greater production levels in 2008. Production of sweet corn and snap beans used in the processing market were higher in 2009 and prices for these crops are expected to be slightly lower in 2009 and then be lower again in 2010.

Given the trends in production and prices in Tables 10-4, it should come as no surprise that the values of key vegetables in New York were higher, and in some cases substantially higher, in 2008 relative to 2007 (see Table 10-5). Table 10-5 also highlights the national importance of many (fresh and processed) vegetables. Lower yields and prices are expected to reduce the 2009 value of vegetable crops in New York State to levels observed in the early-2000s.

**TABLE 10-4. COMMERCIAL VEGETABLE PRODUCTION AND PRICES IN
NEW YORK STATE**

	Production			Price		
	2006	2007	2008	2006	2007	2008
Fresh	----- Thousand cwt -----			----- Dollars per cwt -----		
Sweet corn	2,628	2,700	2,863	23.50	22.00	25.80
Cabbage	4,092	5,152	5,605	15.70	17.70	19.20
Onions	3,102	3,780	4,141	19.40	11.10	16.80
Snap beans	467	437	482	82.00	89.80	84.10
Cucumbers	627	574	468	34.70	34.30	34.50
Tomatoes	400	432	513	76.90	75.20	84.00
Pumpkins	798	1,152	1,062	23.60	19.70	36.20
Squash	630	595	760	37.40	38.90	42.80
Cauliflower	42	38	34	42.00	34.10	52.40
Processing	----- Thousand tons -----			----- Dollars per cwt -----		
Sweet corn	115	-	-	77.30	-	-
Snap beans	74	-	78	204.00	-	278.00
Green peas	39	-	-	345.00	-	-
Cabbage	72	72	-	55.10	61.60	-
Sources: New York Agricultural Statistics , 2009.						

Many of the outlook issues identified for fruit crops in section 10.1 also have implications for vegetable products. Food safety concerns, traceability issues, country-of-origin labeling requirements, international trade, and generic promotion efforts will certainly affect vegetable markets, and in some cases the effects in vegetable markets may be different from the effects in fruit markets. There are two additional outlook issues that may be particularly important to vegetable markets in New York State over the next two to five years. First is the planting restriction provision in the current Farm Bill legislation, and second is a bill that was proposed by Representative Sam Farr titled “The Children’s Fruit and Vegetable Act of 2009”. Both of these topics represent policy issues that will be subject to further debate as we enter discussions about the 2012 Farm Bill.

There has been a lot of interest in provisions included in recent Farm Bills that address issues that are important to specialty crops. Many of these provisions have been included in an effort to increase market opportunities for fruits and vegetables as they are considered healthy food choices. Such provisions are also popular with consumers as they are thought of as mechanisms that achieve nutritional goals and directly address the obesity epidemic in the United States. The legislative bill that was proposed by Representative Sam Farr titled “The Children’s Fruit and Vegetable Act of 2009” is a very recent example of a policy aiming to stimulate demand for fruits and vegetables, and this bill specifically targets salad ingredients including tomatoes, cucumbers, and leafy greens. It is widely expected that discussion leading up to the 2012 Farm Bill will include ideas similar to the Farr bill that propose various ways to increase consumption of specialty crops. Additional research is needed here to assess how such policies will influence produce consumption and consider the efficacy of various mechanisms that might be used to stimulate demand. Furthermore, economic research will be able to shed some light on how these type of policies might affect markets for domestically produced fruits and vegetables relative to imported fruits and vegetables.

TABLE 10-5. VALUE OF COMMERCIAL VEGETABLE PRODUCTION
NEW YORK AND UNITED STATES

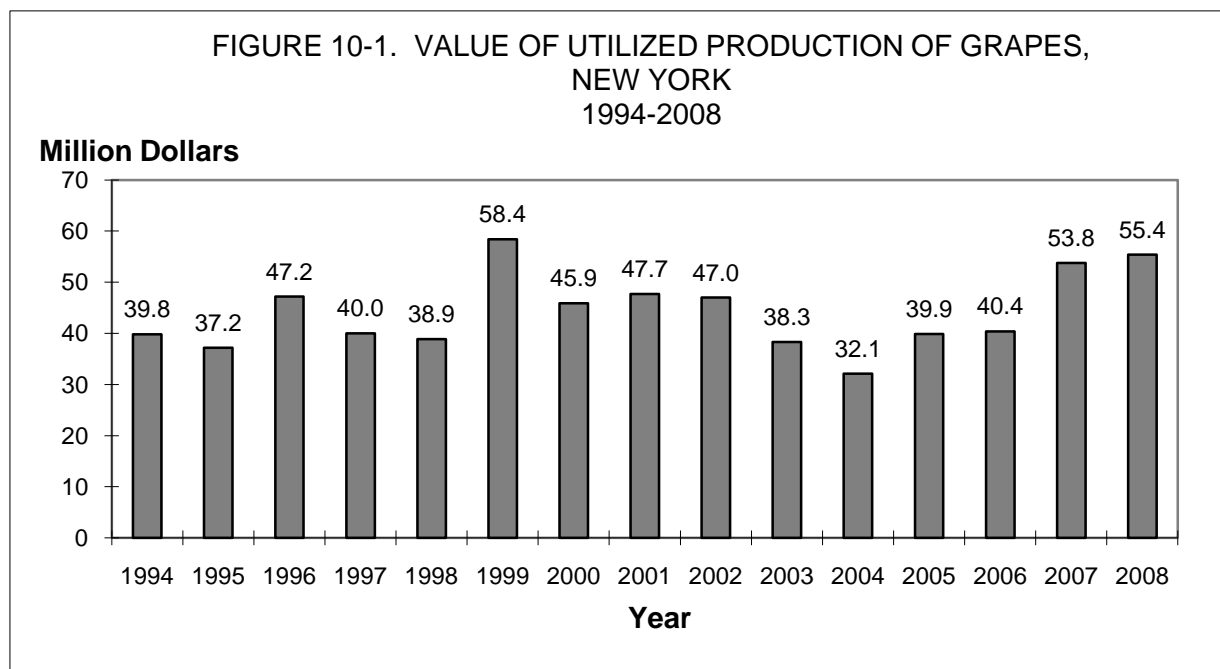
	New York			U.S.		
	2006	2007	2008	2006	2007	2008
Fresh ----- Million dollars -----						
Sweet corn	61.7	59.4	73.9	611.2	626.8	-
Cabbage	57.8	84.8	101.2	350.0	423.5	-
Onions	40.4	38.6	58.9	782.6	359.2	-
Snap beans	38.3	39.2	40.5	321.4	391.1	-
Cucumbers	21.8	19.7	16.1	245.6	228.2	-
Tomatoes	30.8	32.5	43.1	1,619.2	1,277.6	-
Pumpkins	18.8	22.7	38.4	102.3	117.2	-
Squash	23.6	23.2	32.5	223.2	227.2	-
Cauliflower	1.8	1.3	1.8	220.9	237.7	-
Processing						
Sweet corn	8.9	-	-	206.1	237.0	-
Snap beans	15.1	-	21.5	123.4	129.8	-
Green peas	13.5	-	-	99.6	111.6	-
Cabbage	4.0	4.5	-	-	-	-
Sources: <u>New York Agricultural Statistics</u> , 2009; <u>USDA Agricultural Statistics</u> , 2008.						

Public policies are applied to agricultural markets for various reasons and they often lead to unintended consequences; policies that affect horticultural markets are no exception. Recent Farm Bills have included provisions that encourage fruit and vegetable production and consumption, while other provisions have provided incentives to not produce fruits and vegetables. For example, current farm legislation considers the effects of farm subsidies applied to grain, cotton, and oilseed crops (also known as program crops) on acreage decisions for fruit and vegetable crops. Currently program crops are eligible for income subsidies but there are restrictions on fruit and vegetable plantings on base acres eligible for program crop subsidies. The income subsidies for farmers producing program crops would be lost if they use their base acreage to plant fruits, vegetables, tree nuts, or wild rice. The rationale here is that land traditionally used to produce program crops should not be used to produce specialty crops due to policy changes. In fact, it was producers of fruits and vegetables that pushed for this provision as they were concerned that any new supply of specialty crops would lead to lower prices.

The conventional wisdom is that the planting restrictions have had negligible effects on fruit and vegetable markets in the United States and abroad, but recently a complaint about this policy was introduced to the World Trade Organization. WTO members felt that the policy provides an incentive for U.S. farmers to overproduce program crops and this would lead to lower prices of program crops in outside markets. As a result, this is a policy issue that will be carefully reviewed prior to the 2012 Farm Bill. In most cases, fruit crops do not compete for land that traditionally produces program crops, but vegetable crops (such as beans, potatoes, and processing vegetables) are more likely to compete for land with program crops. In 2008 the Planting Flexibility Pilot Program was authorized and will allow various processing vegetables to be planted on base acres between 2009 and 2012. Research is needed here to better understand the effect of planting restrictions fruit and vegetable markets in the United States and elsewhere. Ideally, research in this arena would include regional analyses to understand how the effects would differ across production regions in the United States.

10.3 Grapes and Wine

According National Agricultural Statistical Service, the 2009 New York grape crop is forecast to be 140 thousand tons, which is about 19% lower than last year's production of 165 thousand tons. Climatic conditions impacted grape production in major producing regions across the state. Spring hard frosts (particularly on May 18-19) affected a considerable number of growers in the Lake Eire fruit region and caused leave damage and killed primary buds. Rainy conditions and cool temperatures during summer slowed the progress of the remaining grapes and contributed to disease. Growers in the Finger Lakes region and in Long Island escaped frost, but are dealt with a very wet and cool year, which delayed ripening and caused disease problems. Indeed, the latest report from *Veraison to Harvest* from Cornell Cooperative Extension indicates that the year was full of challenges the challenges and degree days were not: winemakers and vineyard managers used all of the tools at their disposal to focus on producing high-quality cool climate wines. The New York crop value has increased in the past four years from \$38.5 million in 2005 to \$55.4 million in 2008 (Figure 10-1). Crop values for 2009 are not available yet, but they may be slightly lower than 2008 crop values due to reduction in tonnage produced.



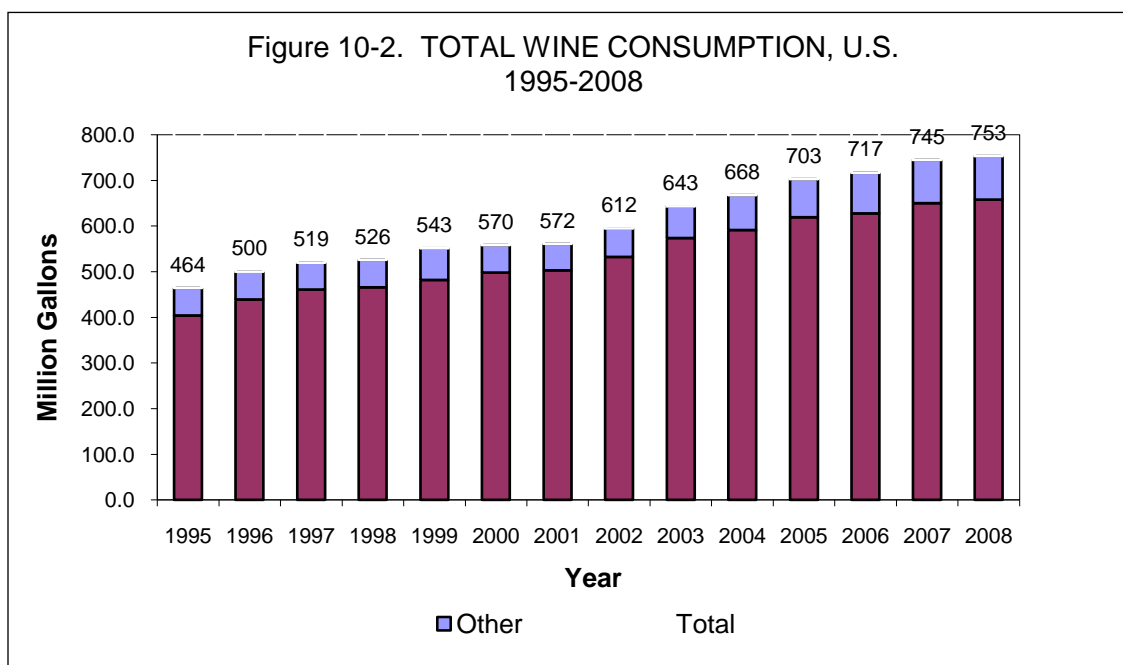
Source: New York Agricultural Statistics, 2009.

The National Agricultural Statistical Service (NASS) forecasts a U.S. grape crop of 7.03 million tons in 2009, or 4% below the 2008 crop. California's estimated grape crop is 6.25 million tons or 89% of the total production. NASS also forecasts that Washington growers will harvest 395,000 tons, up 13 percent from 2008. ERS Outlook reports that grape prices have maintained high levels and grape exports have been reduced.

Wine

The U.S. wine industry continues its expansion, although somehow slower than in previous years, driven mostly by increased table wine consumption (Figure 10-2). According to the Wine

Institute, volume sales between 2007 and 2008 increased but the dollar sales values decreased slightly. Shipments into U.S. trade channels of wine from California, other states and foreign suppliers reached 753 million gallons, a 1% increase compared to the previous year. At the same time, the retail value reached nearly \$30 billion after distributor and retailer/restaurateur mark ups was slightly down. Table wine sales led wine sales in 2008 with 658 million gallons, while dessert and sparkling wines accounted for 64 and 32 million gallons, respectively. California wine accounted for a 62% share of total wine sales in the country. In 2008, U.S. wine exports continue expanding and reached 130 million gallons in 2008, an increase of 8% relative to 2007. These exports represented \$1 billion an increase of 6% compared to 2007. The fastest growing export market is Canada with an increase of 11% in volume between 2007 and 2008.



Source: Wine Institute; Department of Commerce; Gomberg, Fredrickson and Associates, 2009

Grapes and Prices in New York State

Relative to 2007, grape prices changes were up for the most important native varieties, a mixed bag for French-American hybrids, and lower for *Vitis Vinifera* (Table 10-9). Average listed prices for major native varieties such as Concord and Niagara increased by 11% and 16% between 2007 and 2008, respectively. In contrast, the average list price for *Vitis Vinifera* varieties dropped from \$1,714 per ton in 2007 to \$1,581 per ton in 2008, a reduction of about 8%. Nonetheless, the average price for *Vitis Vinifera* varieties in 2008 is higher than the 2006-2008 average. Prices for French-American hybrids changed depending on the variety. Between 2007 and 2008 there were price increases for Aurore (1.4%), de Chaunac (13%) and Rougeon (6.4%). On the other hand, substantial price declines were recorded for Cayuga White (13.2%) and Seyval Blanc (3.2%).

Concords are the predominant variety grown and processed in New York (Table 10-10). There were 127,000 tons of Concords New York-grown grapes processed in 2008, down 3% from 2007 and above the 2004-2008 average. Over the past five years, in average Concords comprised 75% of total tonnage utilized in the state. The second leading variety is Niagara followed by Catawba. About one fifth of the total tonnage of Concord and Niagara grapes is used for wine production. *Vitis Vinifera*, with an annual average of 5,238 tons utilized over the past five years, accounted for 3.2% of the NY crush over the last five years. However, *Vitis Vinifera* production has increased substantially in the past four years, from 3.5 thousand tons in 2005 to 7.2 thousand tons in 2008.

Variety	2006	2007	2008	3-Year Avg.
<u>American Varieties</u>				
Catawba	219	266	262	249
Concord	217	223	253	231
Delaware	290	377	374	347
Niagara	227	235	280	247
<u>French American Hybrid</u>				
Aurore	373	405	411	396
Baco Noir	327	546	546	473
Cayuga White	376	558	484	473
de Chaunac	384	515	592	497
Rougeon	299	484	517	433
Seyval Blanc	276	661	499	478
<u>Vitis Vinifera</u>				
All varieties	865	1,714	1,581	1,387

Source: Survey of Wineries and Grape Processing Plants New York, 2009.

Variety	2004	2005	2006	2007	2008	5-Year Avg.
----- tons -----						
Catawba	4,760	5,000	4,412	4,930	3,670	4,554
Concord	99,300	137,100	108,600	131,000	127,000	120,600
Delaware	300	375	510	430	470	417
Niagara	19,800	18,000	18,500	21,000	15,000	18,460
Aurora	2,225	1,600	3,300	2,480	3,320	2,585
Baco Noir	375	400	350	430	520	415
Cayuga White	625	500	1,020	1,090	1,460	939
de Chaunac	160	130	110	180	180	152
Rougeon	175	440	320	270	380	317
Seyval Blanc	425	430	650	430	760	539
Vitis Vin. (all)	4,550	3,500	5,200	5,770	7,170	5,238
Other varieties	<u>7,175</u>	<u>7,625</u>	<u>7,320</u>	<u>7,890</u>	<u>8,070</u>	<u>7,616</u>
Total, all varieties	140,000	175,000	150,000	176,000	168,000	161,800

Source: New York Agricultural Statistics, 2009

Recent trends suggest that demand for grapes in NYS is driven by the increased number of small wineries across the state. Growers selling to such wineries are likely to be in a stronger position relative to growers focusing on grapes for the juice market. The challenge for NYS grape growers is to identify appropriate product portfolios to seize market opportunities in the appropriate market channels. That is, growers focusing on grape juice should focus on strategies to be lowest-cost suppliers while growers selling to small winemakers should focus their production efforts on quality.

Outlook

New York grapes are employed mostly in either wine or juice production, while a very small percentage is allocated to table grapes. According to USDA's Economic Research Service, the quantity of grapes to be crushed for wine will increase slightly in 2009-2010, in light of the forecast higher wine grape production in California and Washington. This will put downward pressure on farm gate prices of grapes during the 2009-2010. The season-average price increased from \$548 per ton in 2007-2008 to \$574 per ton in 2008-2009. Overall crush volume for wineries will also be moderated by forecast production declines in New York, Pennsylvania, and Ohio.

Considering the grape fruit market, New York, Michigan and Washington produce over 85% of grapes employed by the juice industry. The Economic Research Service forecasts suggest that the market for juice grapes likely to soften in 2009-2010, relative to the previous season. According to the report, the reason is the expected large grape crops in Washington and Michigan. Most grapes in these states are utilized for juice production and these two States are more than half of the nation's grape juice production. After the 2006-2007 low production, processor demand for domestic juice grapes has grown substantially in the past two years. Grape production utilized by juice processors increased 44 percent in 2007-2008, reaching 573,400 tons while the season-average price for growers increased 11 percent. In contrast, in the 2008-2009, the quantity of grapes utilized by juice processors declined 16 percent from the previous year resulting in price increases of 21 percent relative to the previous season.

Fresh-market grapes are expected to be in short supply for 2009-2010 and, consequently, their prices are likely to remain strong. The ERS's forecast suggest smaller table grape crop in California. California comprises the majority of the fresh-market crop but expected smaller crops in New York and Pennsylvania will contribute to smaller fresh-market production for 2009-2010.

Table 10-11 shows forecasts for the period 2010- 2012 from the National Food and Agricultural Policy Project (NFAPP), prepared in 2009. According to NFAPP, total grape output will grow steadily driven primarily by increased acreage. The additional output is likely to be for wine and table grapes, as indicated by moderate increases in per capita consumption of these two items. The juice grape projections present a pretty stable outlook, perhaps due to the fact that the projections do not take into account the cycles that exist in the processing sector, as explained earlier.

TABLE 10-11. ECONOMIC OUTLOOK FOR GRAPES, 2010-2012

	U.S. (unless noted otherwise)		
	2010	2011	2012
Total			
Acres (1,000)	979	979	974
Yield (tons per acre)	8	8	8
Total U.S. Production (1,000 tons)	7,575	7,635	7,643
Total Production Outside California (1,000 tons)	811	828	850
Table Grapes			
Production (million pounds)	1,983	2,004	2,023
Farm Price (dollars per ton)	739	738	758
Retail Price (dollars per pound)	2.29	2.31	2.38
Exports (million pounds)	818	855	885
Imports (million pounds)	1,321	1,384	1,443
Per capita consumption (pounds)	7.98	8.06	8.13
Wine			
Production (million gallons)	620	625	632
Farm Price (dollars per ton)	604	622	650
Retail Price (dollars per gallon)	29.86	30.46	31.41
Exports (million gallons)	127	127	127
Imports (million gallons)	230	245	259
Per capita consumption (gallons)	2.32	2.36	2.41
Raisins			
Production (million pounds)	660	667	673
Farm Price (dollars per ton)	213	216	218
Retail Price (dollars per pound)	NA	NA	NA
Exports (million pounds)	332	343	343
Imports (million pounds)	43	43	46
Per capita consumption (pounds)	1.68	1.66	1.64
Grape Juice			
Production (million gallons)	92	93	94
Farm Price (dollars per ton)	324	327	331
Retail Price (dollars per gallon)	4.89	4.56	4.64
Exports (million gallons)	23	25	23
Imports (million gallons)	75	77	80
Per capita consumption (gallons)	0.46	0.46	0.47
Sources: National Food and Agricultural Policy Project , 2009.			

10.4 Ornamentals

The 2007 Agricultural Census show a decrease in the number of nursery, greenhouse, floriculture, and sod farms in New York, while the value of sales increased. This indicates an increase in concentration in the ornamental sector. According to the Census, in 2007, there were 2,009 farms that reported growing nursery, greenhouse, floriculture, or sod crops in New York, down 21 percent from the 2002 level of 2,552 farms. In contrast, the value of sales increased by 13 percent between 2002 and 2007.

TABLE 10-12. GROWER CASH RECEIPTS OF FLORICULTURE AND NURSERY CROPS, NEW YORK, 2002-2008

	2003	2004	2005	2006	2007	2008
	--- Million dollars ---					
Floriculture ^{a, b}	194.9	183.0	200.6	203.5	209.1	202.1
Nursery ^c	159.6	172.4	181.3	205.5	NA	NA
Floriculture and nursery crops	354.5	355.4	381.9	409.0	NA	NA
^a Includes growers with \$10,000 or more in floriculture sales. ^b Includes ornamental plants without woody stems, grouped into bedding/garden plants, cut cultivated greens, cut flowers, potted flowering plants, indoor foliage plants, and propagative floriculture material. ^c Includes ornamental plants and trees with woody stems, including broadleaf evergreens, coniferous evergreens, deciduous shade trees, deciduous flowering trees, deciduous shrubs and other ornamentals, fruit and nut plants for home use, cut and to-be-cut Christmas trees, and propagation material or lining-out stock. Also includes other ornamental crops not classified as floriculture. NA Not available						
Source: Floriculture and Nursery Crops Situation and Outlook Yearbook, Economic Research Service, USDA, various years; Floriculture Crops 2008 Summary, National Agricultural Statistical Service						

TABLE 10-13. GROWING AREA FOR FLORICULTURE CROPS IN NEW YORK^a, 2002-2007

Year	Total greenhouse cover	Shade and temporary cover	Total covered area	Open ground	Total covered & open ground
	-- 1,000 square feet --			--- acres ---	
2004	24,457	708	26,165	934	1,536
2005	24,743	573	25,320	800	1,382
2006	25,121	507	25,628	942	1,531
2007	24,231	613	24,848	838	1,409
2008	23,318	528	23,846	1,184	1,732
^a Includes operations with \$10,000+ in annual floriculture sales. Crops include cut flowers, cut cultivated greens, potted flowering plants, potted foliage plants, bedding and garden plants, and propagative materials. Total may not add due to rounding. ^P Preliminary. Source: Floriculture Crops, NASS, USDA, various years.					

In 2008, the commercial sales value of New York floriculture production totaled \$202 million, a 3 percent decrease from the year before, ranking New York 7th in the nation (Table 10-12). Unfortunately, data on nurseries is not available after 2006, due to changes in data collection procedures at the National Agricultural Statistical Service, thus this situation analysis considers only floriculture. Table 10-15 indicates

that bedding and garden plants are the number one component with total value of sales at \$107 million. Potted flowering plants were second with a value of sales of \$41.6 million, a slight decrease relative to 2007. Propagative materials were third at \$19.5 million, a decrease of 6 percent from the previous year (Table 10-15). During 2008, there were 824 growers and the open ground area used to produce floriculture crops increased by 11 percent (1,184 acres) in New York (Figure 10-13). The sales of greenhouse operators exceeding the \$10,000 sales level decreased by 9 percent to total 23.3 million in 2008.

An important distinction in floricultural production is the size of operation. According to NASS reports, the U.S. value of floriculture production was \$4.2 billion in 2008, a slight decrease compared to 2007 (Table 10-14). The value of production for large growers decreased by 2% whereas the value of production from small growers increased by 18%. These statistics indicate that the industry reversed the process of concentration that has occurred in the past years. The value of production from small growers is larger in New York in comparison to the national market. Small growers' share of production in New York is 10.9%, which is high compared to the 3.7% in the U.S. In New York, the value of production from small growers exhibit modest decreases in 2008 relative to 2007; and the value of production of large operators decreased by 3.1 percent.

When reading the published U.S. floriculture and nursery crop statistics, it should be noted that only 15 states were surveyed by the USDA in 2006 and thereafter, compared to 36 states prior to 2006. Consequently, the 2002-2005 data in Tables 10-12 to 10-15 were adjusted to include only the 15 states surveyed in 2007 and 2008 for comparison. The 15 states selected in the USDA survey accounted for about 75 percent of cash receipts received by greenhouse and nursery crop farmers in 2008. Bedding and Garden plants wholesale value of bedding and garden plants, at \$1.84 billion, is up 1 percent from the previous year. Potted flowering plants for indoor or patio use are valued at \$698 million, down 1 percent from 2007. The value of 2008 foliage plant production, at \$630 million, is down 4 percent from the previous year. Value of cut flowers, at \$403 million, is down 5 percent, while cut cultivated greens, at \$93.5 million, is down 5 percent from 2007.

TABLE 10-14. WHOLESALE VALUES OF FLORICULTURE PRODUCTION, BY GROWER SIZE^a, NEW YORK AND UNITED STATES, 2005-2008^b

	New York			U.S.		
	2006	2007	2008	2006	2007	2008
	----- Million dollars -----					
Small growers	21.7	27.2	26.3	160.7	153.5	182.0
Large growers	181.8	181.9	175.8	3,866.5	4,132.4	4,038.0
All growers	203.5	209.1	202.1	4,027.2	4,285.9	4,220.0

^a Small growers have between \$10,000 and \$100,000 in annual floriculture sales; large growers have at least \$100,000.
^b Wholesale value of sales of growers with at least \$10,000 in annual floriculture sales. Growers are located in the 36 surveyed states.
^p Preliminary.

Source: Floriculture Crop, National Agricultural Statistic Service (NASS), USDA, 2008.

TABLE 10-15. VALUE OF FLORICULTURE PRODUCTION BY PLANT CATEGORY,
NEW YORK, 2002-2008

	2003	2004	2005	2006	2007	2008	5-yr. avg. 2002-2008	2008 vs. 5-yr. avg.	2007 vs. 2008
	--- Million dollars ---							%	%
Bedding/garden plants ^a	107.5	101.1	110.0	107.6	111.8	107.4	107.6	0%	-4%
Potted flowering plants ^a	43.1	40.2	49.9	48.9	41.4	41.6	44.2	-6%	0%
Cut flowers ^a	5.0	4.7	2.7	2.9	4.6	3.1	3.8	-19%	-33%
Foliage Plants ^a	4.1	3.5	3.1	5.1	3.3	4.2	3.9	8%	27%
Propagative materials ^a	9.0	8.2	12.3	17.4	20.7	19.52	14.5	34%	-6%
Grower sales \$10,000-\$99,999 (Unspecified crops)	26.3	25.3	22.6	21.6	27.1	26.2	24.9	5%	-3%
Total^b	194.9	183.0	200.6	203.5	209.1	202.1	198.9	2%	-3%

^a Sales by operations with annual sales of \$100,000 or more.
^b Total reported crops includes categories not listed – cut cultivated greens and propagative materials.
^p Preliminary.
Source: Floriculture and Nursery Crops, Situation and Outlook Yearbook, Economic Research Service, USDA, various years.

Outlook

Overall, if one year ago we were at the “edge of the cliff”, it is likely that we now reached the bottom of the economic slump and economic indicators will not continue falling. Although the macroeconomic indicators appear to be more stable now but it is hard to believe that we will experience a period of steady sustained growth. Most likely the will experience a period of sluggish growth with a slow recovery. The implications for the nurseries and landscape industries are mixed, when looking at leading indicators relevant for Nurseries and Landscapers.

The good news is that the rate of investment in new residential structures stopped falling, it even increased by small percent in latest reports. Adding to this, private investment existing residences is not declining. This is good news as new and current home owners may spend in the beautification of their properties. Local and state governments may become a more important customer to the industry, but this depends on the industry’s ability to promote the importance of trees and landscape as a strategy to reduce energy use and to store carbon. Devaluation of the US dollar is also helping the industry as those products that are imported (e.g. cut flowers) become more expensive and consumers search for alternative options in terms of ornamentals and the main cost item to business (labor) is not likely to increase and be more available.

The not-so-good news arise from declining private investment in commercial structures, which lags the investments in residential structures by about eighteen months (because these projects tend to be large and therefore require a longer planning period). Consequently, the industry private should expect that the rate of investment in commercial real estate will fall through 2010. And this may a hard hit to the industry because these are generally bigger projects.

What is the role of marketing in the face of such macroeconomic trends? Firms in this industry should reflect on whether they are marketing-oriented, as opposed to product-oriented, to anticipate the changing market. Marketing-oriented firms understand the broader scope of their businesses -they sell enjoyment, beauty and environmental services, among others, and not merely trees and plants. A critical question for marketing-oriented firms is: what should be the target market segments and what the best strategies are for meeting these segments' needs? Given the outlook for next year and the increasing preoccupation of governments with greenhouse gas emission, business should think about should focus on expanding their products and services markets as sources of healthy environments though local and state governments. In addition, the industry should pay close attention to their retail operations including a strategy to attract younger generations

Landscape and Nursery managers should re-think the scope of their business: they are not in the business of selling plant and landscapes, but rather in the business of providing enjoyment to consumers and important environmental services, all at the same time. Such broader scope of the business can allow firms to seek and focus on emerging consumers and to solve two conundrums. How to strengthen retail operations; how to increase business with younger consumers that are likely to increase consumption in the near future; and how to promote their products and services to local, state and federal government agencies.

OTHER A.E.M. EXTENSION BULLETINS

EB No	Title	Fee (if applicable)	Author(s)
2009-19	Fruit Farm Business Summary, Lake Ontario Region New York, 2008		White, G., DeMaree, A. and J. Neyhard
2009-18	2009 Federal Reference Manual for Regional Schools, Income Tax Management and Reporting for Small Businesses and Farms	(\$25.00)	Bouchard, G. and J. Bennett
2009-17	2009 New York State Reference Manual for Regional Schools, Income Tax Management and Reporting for Small Businesses and Farms	(\$25.00)	Bennett J. and K. Bennett
2009-16	Bedded Pack Management System Case Study		Thurgood, J., Bagley, P., Comer, C., Flaherty, D., Karszes, J. and M. Kiraly
2009-15	Dairy Farm Business Summary, Northern New York Region, 2008	(\$12.00)	Knoblauch, W., Putnam, L., Karszes, J., Murray, P., Vokey, F., Ames, M., Deming, A. and J. Prosper
2009-14	Dairy Farm Business Summary, Central Valleys Region, 2008	(\$12.00)	Knoblauch, W., Putnam, L., Karszes, J., Murray, D., Radick, C., Wickswat, C., Manning, J., Collins, B., Balbian, D., Allhusen, G. and S. Buxton
2009-13	Dairy Farm Business Summary, Northern Hudson Region, 2008	(\$12.00)	Conneman, G., Putnam, L., Wickswat, C., Buxton, S., Smith, R. and J. Karszes
2009-12	Dairy Farm Business Summary, Southeastern New York Region, 2008	(\$12.00)	Knoblauch, W., Putnam, L., Kiraly, M., Walsh, J., Hulle, L. and C. Wickswat
2009-11	Dairy Farm Business Summary, Intensive Grazing Farms, New York, 2008	(\$16.00)	Conneman, G., Karszes, J., Grace, J., Beck, R., Staehr, A., Benson, A., Murray, P., Glazier, P., Carlberg, V., Anderson, J. and L. Putnam
2009-10	Dairy Farm Business Summary, Western and Central Plain Region, 2008	(\$12.00)	Knoblauch, W., Putnam, L., Karszes, J., Hanchar, J. and K. Getty
2009-09	Census of Agriculture Highlights, New York State, 2007		Bills, N. and B.F. Stanton
2009-08	Assessing the Success of Farmers' Markets in Northern New York: A Survey of Vendors, Customers, and Market Managers		Logozar, B. and T. Schmit

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