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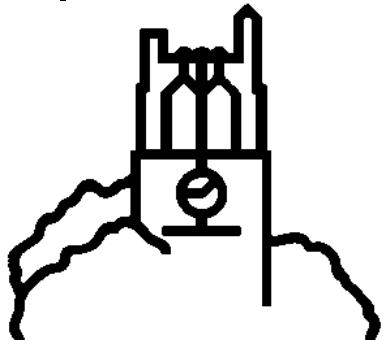
Staff Paper

2003 ANNUAL AGRICULTURAL OUTLOOK

**Coordinated by
Jim Hilker**

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**Coordinated by
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40 pages

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GENERAL ECONOMIC OUTLOOK

Les Manderscheid and Bob Myers

The U.S. economy entered a mild recession in March 2001. Most economists believe that the recession ended in late 2001, but the organization that dates recessions has yet to declare an official end. The sluggishness and volatility of the economy in 2002 were a major reason why no official end to the recession has been called. While personal income has increased, unemployment has been rising rather than decreasing as might be expected in a recovery. Employment lags economic growth because firms are reluctant to hire until they are certain to "need" the employee. They don't want to incur hiring costs if growth does not eventuate.

Economic activity in the U.S. during 2003 is expected to expand, especially in the second half of the year. The present uncertainties concerning the Middle East cause hesitation on the part of investors. Income growth is expected to accelerate once the Middle East situation is resolved but a prolonged conflict could restrict economic activity for some time.

Current media attention is focused on the "economic stimulus" packages being discussed in Washington, but the real economic policy actions in 2003 will be in the states. Most states face red ink, with 10 states facing projected deficits of over 17 percent of their budget according to the *Wall Street Journal*. Alaska and California face projected deficits of over 30 percent of their budget. Texas and Oregon face projected shortfalls of over 26 percent. Michigan faces a projected deficit exceeding 15 percent when calculated on the same basis. Most states, including Michigan, have exhausted their "rainy day funds" and other "quick fixes" and are faced with hard choices.

What happened? The stock market produced large capital gains for investors in the late 1990's that increased state revenues from the income tax. This was especially pronounced in states with a progressive income tax. Even states without an income tax found revenues increasing because people felt wealthier and increased spending and sales tax revenues. Many states responded by increasing spending on programs deemed to be of high priority. The declining stock market of the last three years erased the "wealth effect" and the capital gains.

Michigan is a state that faces hard choices. Should revenues be enhanced? If yes, how? One could raise the income tax or expand the coverage of the sales tax (to services such as advertising, legal services, etc.) or some other way. Should state expenditures be reduced? If so, how? Some 50 percent of state employees now work in the Department of Corrections. Should prison populations be reduced? Should higher education expenditures be reduced with a probable shift to increased tuition? Iowa has increased tuition at its major public universities by over 50 percent in three years, including next year's 17+ percent increase. Should revenue sharing with local governments be curtailed? Should K-12 foundation grants be held constant or reduced?

Simple solutions such as raising revenue or across-the-board spending reductions are possibilities. The more politically difficult choice is to decide what Michigan citizens want in

terms of the size of government and the priorities for expenditure reductions and revenue enhancement. These are difficult tradeoffs. The turnover in the Governor's Office and the Legislature means some of the institutional memory of the 1959, 1981 and 1991 "crises" has been lost. Hopefully, Michigan citizens will participate vigorously in the debates and we will find good solutions. No set of solutions will be universally agreed to, but a process of rational deliberation and involvement may gain general acceptance of the outcome.

What are some implications for Michigan agriculture? Interest rates should begin to rise if the forecasted pick-up in economic activity eventuates in late 2003 and 2004. Oil prices should remain volatile and high until the Middle East situation becomes stable, and may remain high even longer if the dollar continues to weaken. Consumer prices seem to remain under control and so mild inflation is expected to continue (around a 2.5 percent annual rate), except for energy prices. A continued weakening of the dollar would put upward pressure on U.S. export prices, including prices for agricultural exports, which will hopefully provide some relief to battered farm commodity prices. Also, the Michigan budget debate will include revenue enhancement and spending cut proposals that will affect agriculture. For example, The Mackinac Center has proposed eliminating the Agriculture Commission and the Marketing and Bargaining Board. They also propose the elimination of state funding of fair boards and fairs, with subsequent privatization of fairs. Their report recommends a number of other expenditure reductions with a total reduction of 35 percent. However, looking at the details reveals that less than 15 percent of the spending cuts come from General Fund/General Purpose Funds (income tax, sales tax, single business and insurance taxes). Budget cuts, both state and federal, may also mean less public spending on agricultural research and information systems, which will eventually translate into reduced future productivity growth in agriculture.

INTEREST RATES SHOULD REMAIN STABLE IN 2003

Steve Hanson and Bob Myers

The continued sluggishness in the general economy allowed interest rates to drop even further during 2002 from their already historically low levels. Table 1 shows the September 2002 rates for operating, feeder cattle, and real estate loans from commercial banks in the Seventh Federal Reserve District (Illinois, Indiana, Iowa, Michigan, and Wisconsin). The weighted average interest rate charged on operating loans dropped over 1 percent to 6.83 percent and the weighted average rate across all types of real estate loans fell to 7.17 percent, down slightly from the previous year. No results were reported separately for loans rates by commercial banks in Michigan, but these rates typically run slightly above Seventh District average.

Recent interest rates offered by GreenStone Farm Credit Services for Michigan loans suggest a leveling off in short-term rates. Table 2 presents current rates for select loan products where the range in rates is based on the credit quality of the loan. Operating loans are currently available at fixed rates ranging from 5.00 to 6.50 percent, which is slightly below the corresponding rates for the same period a year ago. However, 30-year fixed rate loans for farm real estate dropped nearly 1 percent from the previous year and now range from 7.6% to 8.85%.

Interest rates for the general economy are shown in Table 3. Short-term rates fell marginally last year as the Federal Reserve Bank continued to use low interest rates to try and jumpstart the economy. Long-term rates also showed similar small declines during the year. The federal funds rate, the interest rate the Federal Reserve Bank charges member banks to borrow funds, dropped from 1.74 to 1.23 percent. The prime rate, which is the loan rate that banks charge to their best customers followed the federal funds rate dropping from 4.75 to 4.25 percent. Both the federal funds rate and prime rate are short-term borrowing rates.

Interest rates on government securities are important "benchmarks" because they represent the borrowing rate for loans with different maturity lengths when repayment of the loans is essentially guaranteed. In particular, the T-bill rate is often cited as the "risk-free" borrowing rate. Because there is little risk of default, a major cause of differences between the rates on government loans with different maturity lengths is the expected level of inflation over time. In late January, if you compare the short-term rates on 90-day T-bills (1.19 percent), the intermediate-term rates on the 1-year T-note (1.45 percent), and the long-term rate on the 10-year T-note (4.03 percent) you see that the "yield curve" has an upward slope indicating that the interest rate increases with time to maturity. This suggests that investors (lenders) believe inflation will stay relatively constant during the upcoming year and then begin to increase in future years. However, the relatively "flat" yield curve (and corresponding historically low long-term interest rate) suggests that, even over the longer term, U.S. inflation rates are expected to be moderate.

As the general economy continues to stabilize and begins to recover, look for the Federal Reserve to initially hold short-term rates near their current levels, but eventually begin to increase them as the economy picks up steam. Although current rates are favorable and lenders

generally have funds to lend, continued pressure on farm incomes will cause some lenders to exercise caution and not extend themselves too far. However, farmers with strong earnings potential and a proven repayment history should continue to enjoy access to capital at historically low cost levels for at least the remainder of 2003.

Table 1. Commercial Bank Loan Rates

Loan Type	End of September 2001	End of September 2002
<i>Seventh Federal Reserve District</i>		
Operating Loans	8.01%	6.83%
Feed Cattle	8.07	7.23
Real Estate	7.47	7.17

Source: Federal Reserve Bank of Chicago (www.chicagofed.org).

Table 2. Farm Credit Services Loan Rates

Loan Type	Late January 2002	Late January 2003
Operating Loans (fixed)	5.20-7.20%	5.00-6.50%
Intermediate Loans		
5-year (adjustable)	7.25-9.25	6.55-8.05
5-year (fixed)	6.55-8.55	5.85-7.35
Real Estate Loans		
1-year (adjustable)	4.55-6.05	4.25-5.50
3-year (adjustable)	5.70-7.20	4.70-5.95
30-year (fixed)	8.55-10.05	7.60-8.85

Source: GreenStone Farm Credit Services (www.greenstonefcs.com).

Table 3. Key U.S. Interest Rates

Rate Type	Mid-January 2002	Late-January 2003
Federal Funds Rate	1.74%	1.23%
Prime Rate	4.75	4.25
90-Day CD	1.65	1.34
90-Day T-Bill	1.58	1.19
1-year T-Note	2.03	1.45
10-year T-Note	4.92	4.03
30-year T-Bond	5.37	5.01
Corporate Bonds (AAA)	6.47	6.21
Conventional Mortgages	6.83	6.05

Source: Federal Reserve Bank of Chicago (www.chicagofed.org).

TRADE AND POLICY OUTLOOK

David B. Schweikhardt, Associate Professor, and

Sandra S. Batie, Elton R. Smith Professor of Food and Agricultural Policy

The continued slow growth of the worldwide economy, combined with a continued strong value of the dollar against other currencies, is expected to dominate the outlook for U.S. agricultural exports again in 2003. Slow economic growth in Japan, Europe, and most developing countries is expected to continue at least through the first several months of 2003, and perhaps through the entire year. This slow growth will limit the growth in worldwide demand for agricultural exports, including U.S. exports. Canada and Mexico are expected to increase both their purchases of U.S. food products and their shipments of food products to the United States in 2003.

U.S. Agricultural Trade Outlook

Total U.S. agricultural exports are expected to increase to \$57 billion in 2003, an increase of \$3 billion over 2002 (Figure 1). The changes in export volumes are expected to be mixed for several commodities compared to 2002. The export volume of wheat is expected to remain steady at 25 million tons in 2003. Corn exports are expected to increase to 56.8 million tons for 2003, compared to 53.4 million tons in 2002. Soybean and soybean meal exports are expected to decrease to 33.7 million tons, compared to 40.2 million tons in 2002. Beef and pork exports are expected to increase by \$300 million to \$5 billion in 2003. Poultry exports, at \$2.4 billion, and dairy exports, at \$1.2 billion, are expected to increase by \$100 million each in 2003. Fruit and vegetable exports are expected to increase by \$200 million to \$11.3 billion.

Total U.S. agricultural imports are expected to increase to \$42 billion in 2003, a level \$2.1 billion higher than 2002. Horticultural products are expected to experience the largest change, with an increase of \$900 million to a projected total of \$18.4 billion. Canada (\$10.2 billion) and Mexico (\$5.4 billion) are projected to continue as the two largest suppliers of U.S. agricultural imports.

The destination of U.S. exports continues to evolve, with an increasing share of U.S. exports being sold in countries of the Western Hemisphere. For the first time, the Western Hemisphere (\$21.7 billion) is projected to gain a slight edge over the Asia (\$20.9 billion) as the largest regional market for U.S. exports. Decreased income growth has damaged U.S. exports to Asia, with the value of U.S. agricultural exports to the Asian region declining from \$26 billion in 1996 to \$18.4 billion in 1999. The level of total U.S. exports to the region has recovered to \$19.4 billion in 2002.

Lead by increasing exports to Canada and Mexico, a larger share of U.S. exports are now destined for markets in the Western Hemisphere. For the first time in recent history, U.S. exports to Canada (\$8.6 billion) surpassed U.S. exports to Japan (\$8.3 billion) to become the largest customer for U.S. agricultural exports. Mexico (projected to be \$8.1 billion in 2003) is gaining on Japan and could soon become the second largest market for U.S. agricultural

exports. This trend continues the growth of U.S. agricultural exports to the Western Hemisphere since the implementation of the North American Free Trade Agreement (NAFTA). U.S. exports to Mexico were \$3.6 billion in 1993, the year prior to the approval of NAFTA, and have increased in each of the last 7 years. In addition, U.S. agricultural exports to Mexico are now greater than the value of U.S. exports to the entire European Union (projected at \$6.7 billion in 2003).

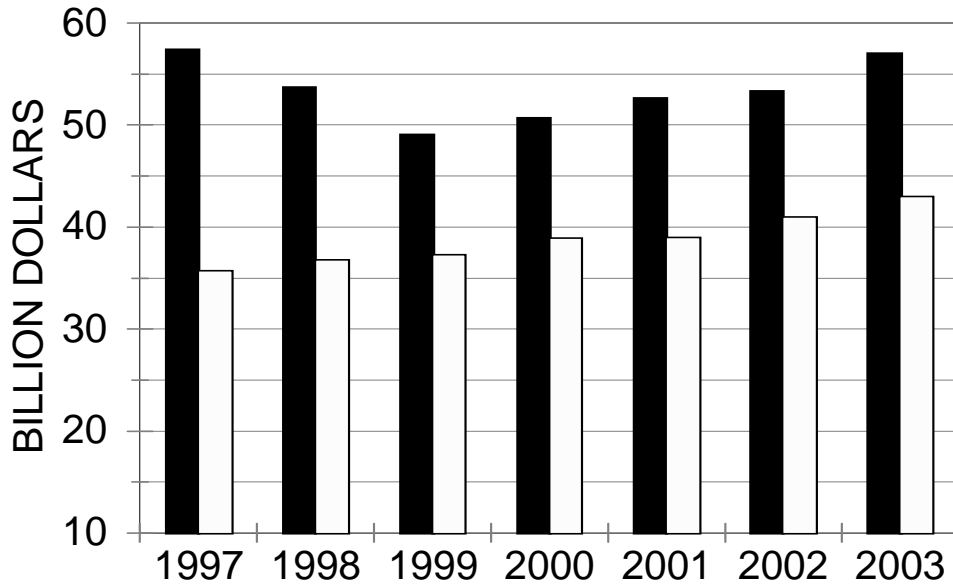
Trade and Domestic Policy Outlook

After completing the Farm Bill in 2002, a number of important implementation decisions will be made in 2003. First, new planting decisions will be made for the first time under the 2002 Farm Bill. Second, implementation decisions will be made on a number of environmental programs (e.g., EQIP, WRP, and CSP). Given the complex environmental conditions in many regions of Michigan, the decisions made to implement these programs will have a more significant impact on Michigan than on many other states.

On the international front, the condition of agricultural trade depends on the condition of economic growth in the general economy. The estimates included in this report were issued by USDA in November 2002 and assumed a modest recovery in economic growth. Since that time, we have witnessed a continued slowing of income growth in the United States and other countries. Assuming that estimates of economic growth for 2003 will be revised downward, then estimates of agricultural trade are also likely to be revised downward.

Figure 1.

U.S. AGRICULTURAL TRADE, 1997 - 2003



Source: USDA

■ Exports □ Imports

2003 OUTLOOK FOR PRODUCTION INPUTS

Chris Peterson

For the most part, the 2003 outlook for production inputs projects relatively little change in availability and pricing from last year. The lone exception revolves around the highly uncertain area of energy which unfortunately could have a potentially negative influence on fuel and the nitrogen component of fertilizer. Otherwise, few supply or price problems appear on the short-term horizon, and a continuation of one of the most competitive marketplaces in years will likely lead to a acceptable cost environment for most producers.

Fertilizer

Nitrogen supplies are adequate for the most part. However, some limits in transportation capacity into the state could cause some spot shortages as we move toward spring. Prices are up and likely to remain strong. The real cause here is the upward shift in petroleum prices given the unsettled political situation in Venezuela and the possible war with Iraq.

No problems with the supply of phosphates and potash appear on the short-term horizon. Prices of both components appear to be stable to slightly up. The weak profitability of this sector in recent years and the resulting industry consolidation leave only a few players in these markets. The players that are left will likely move to improve pricing in order to reestablish their own long-term economic viability.

Demand for fertilizer appears to be up from last year. A good fall application season was experienced in the state. That will likely mean little early season pressures on supply. However, demand will likely expand as the season progresses and we see a shift toward corn and wheat in the proportion of crops for this year.

Longer-term, the more limited production capacity that has evolved in recent years and the consolidation of this capacity into the hands of a few firms will keep upward pressure on prices. In addition, growing environmental concerns about phosphates and their regulation may put more pressure on this market. Homeland security concerns have been raised concerning anhydrous ammonia, and it may be more heavily regulated in the future as a result.

Chemicals

Supplies of ag chemicals are more than adequate with prices remaining relatively stable for non-glyphosate products. Generic supplies of glyphosates are of growing availability, putting downward pressure on these prices. Specialty chemicals for crops such as sugar beets and dry beans will likely see some price increases. As with fertilizers, the demand for ag chemicals is stable to up in most parts of the state.

Longer-term, we have seen capital flight form the ag chemical industry as environmental, liability and profitability concerns have grown. As a result, there are relatively few new

chemicals in development to replace the aging product base of today. This may prove to be a major problem in the future.

Seeds

Seed supplies and prices appear stable for this year. The only note of concern is that supplies of particularly popular varieties may be tight as the season progresses. There appears to be a substantial expansion in the use of Round-Up Ready corn. Ongoing GMO concerns appear to be a less critical issue for Michigan producers given that much of our grain is used in-state.

Energy

Energy prices are clearly up with substantial uncertainty about where they go from here. Supply does not appear to be a issue for now. However, as noted earlier, the upward shift in petroleum prices has arisen from the unsettled political situation in Venezuela and from the possible war with Iraq. The cold winter has also had an impact. The real driver though is unquestionably the outcome of the situation with Iraq.

Overall Outlook

The bottom line appears to be relatively small changes from last year except for the energy and related nitrogen situations. The longer-term outlook for producers and inputs suppliers alike will be driven by regulatory and profit pressures.

FARMLAND PRICES IN 2003 -- WHERE TO FROM HERE?

Gerry Schwab and Steve Hanson

Land values are important for many reasons. Real estate is often the largest asset on a farm's net worth statement and changes in the price of land can have a huge wealth effect. Michigan farmland prices continued to increase in 2002. The most recent downtrend in land prices occurred in the early 1980's reaching bottom in 1987. Since that time, land prices have increased each year. Can this phenomenal trend continue? Last year in our outlook article, we wrote that land values could plateau and possibly decrease if the economy did not express some recovery from the economic recession that officially began in March 2001. We may eventually be correct in our expectations, but not so in 2002.

According to our data collected via survey in Spring 2002, Michigan land values have continued to increase. Our survey data indicated the following averages for Michigan:

Land Category	Price (\$/acre)	Change (%) from Previous Year	Cash Rent (\$/acre)	Change (%) from Previous Year
Field crop - tilled	2,110	+11.3	83	0.0
Field crop - not tilled	1,858	+12.7	57	-5.0
Sugar Beet crop land	2,128	+11.7	121	+4.0
Irrigated crop land	2,333	0.0	128	+2.0
Recreational	3,278	+40.0	--	
Residential	8,713	+20.6	--	

Consistent with our data, the Federal Reserve Bank of Chicago reported a 10 percent increase in Michigan land values from October 1, 2001 to October 1, 2002. The USDA reported in its "*Agricultural Land Values*," published in August 2002, that Michigan agricultural crop land values had increased over nine percent (9.5%) in the last calendar year to an average value of \$2,300 per acre.

Will this upward trend in land prices continue in 2003? To predict future agricultural land values, think about what drives these values and in what direction these drivers are going. Annual cash rents paid by growers to land owners would be one driver of agricultural land

values. However, during recent years, the average increase per year in cash rents has been less than the average increase in land price. The resulting increase in the 'value to rent' ratio implies that the annual rate of return to land has declined with the higher prices. Is the increase in land price caused by something other than projected agricultural returns from the land?

Government program provisions included in the Farm Bill can influence land values and cash rental rates. The "Farm Security and Rural Investment Act of 2002," passed in May 2002, provides for continuation of agricultural programs through 2007. If the certainty and amount of income from agricultural land is increased, this change is often capitalized into higher land values. Consider a farm with proven base yields of 135 and 45 bushels per acre of corn and soybeans, respectively. This farm with half corn and half soybeans in a corn-soybean rotation would realize almost \$25 per acre per year from the direct payment provision. Income increases of this nature are often capitalized into land values resulting in higher land prices.

The reality in Michigan is that agricultural land prices are strongly influenced by demands from non-agricultural sectors. Amenities provided by land in a rural setting are in demand as more people try to satisfy their needs and wants associated with owning land. Satisfaction and life style that can be met by using land for non-agricultural purposes results in higher prices not only for land purchased for such uses, but also for that remaining in agriculture. The most important amenities as determined in our 2001 survey were for home building sites and hunting access. Identifying the economic characteristics that drive this non-agricultural demand for space would be helpful in predicting land prices.

A high, predictable stream of earnings enables consumers to effectively demand space to satisfy their needs and wants. If the economic recovery from recession occurs in 2003, then unemployment rates will decline and average annual incomes would increase. Discretionary dollars remaining after satisfying basic necessities could then be used to improve life styles associated with space in the country and land prices would continue to increase. The converse situation would apply if economic recovery does not occur. One major item of concern associated with economic recovery is energy prices and the shock impact of potential conflict in the Middle Eastern countries. Conflict would increase uncertainty, raise energy prices, and probably lower non-agricultural demand for land and space.

Land can be considered an investment. The fact that the price of land has increased since 1987 might suggest to some that land is a much better investment than other alternative investments which have lost value. If economic recovery occurs and consumer confidence is regained in the stock market and other investments, some demand pressure on land prices might be alleviated as other more attractive investments are sought. Another driver of land prices is interest rates. Low interest rates enable higher amounts of debt and thus potentially higher bid prices for land. If interest rates are raised in the event of strong economic recovery, the potential increase in non-agricultural demand for land might be dampened.

Current prices for much of the agricultural land in Michigan are being driven by non-agricultural factors and are reaching price levels that make it very challenging for agriculture to

compete. If the economy makes a slow recovery without huge shocks associated with international conflicts, and interest rates are increased as the economy revives, we continue to believe that increases in land prices used for agriculture will be moderate. We do not yet see a downturn or correction in land prices as was experienced 20 years ago. It is important to keep in mind that land is not a homogeneous asset. Each piece of land is unique and it is difficult to make general predictive statements applicable to all land types across the state.

2003 ANNUAL CROP OUTLOOK

Jim Hilker

Corn

Corn prices are expected to average \$2.35 for the September 1-August 31, 2002-03 corn marketing year and \$2.20 for the 2003-04 corn marketing year. The numbers used in this corn outlook can be seen in Table 1 below, the Supply/Demand Balance Sheet for Corn. While these prices are much better than we saw the previous four years, which averaged \$1.89, they are still only long-run average prices at best. Trend yields or better over the next few years could put us right back in a low price scenario. However, in the meantime, it would not take a yield much under trend in 2003 to see some very nice prices. A repeat of this year's yield and prices would skyrocket.

The 130 bushel per acre average corn yield in 2002 was 8 bushels under trend. And, even though 3.3 million more acres were planted than the previous year, only a half million more acres were harvested due to the poor growing conditions in many parts of the country. Other than Iowa and Minnesota, yields across the country varied greatly over fairly small distances. State yields across the Corn Belt ranged from 165 bushels per acre in Iowa to 88 bushels per acre in Ohio. Michigan averaged 115 bushel per acre statewide, but the variance across the state was large.

The 2002-03 beginning stocks were 300 million bushels smaller and production 500 million bushels smaller than 2001-02. This left total 2002-03 supply down 800 million bushels. The 10.6 billion bushel total supply is the lowest since 1997-98, but is still a lot of corn.

Total 2002-03 use is also projected to be down at 9.695 billion bushels, 1.3 percent. Feed use, the largest use of corn, is expected to be down 4.7 percent. Cattle on feed are down, hog numbers will dip a bit, poultry numbers won't expand much, and so far feeding conditions have been fair to good, ie, good conversion rates mean less feed per pound gained.

Food, seed and industrial use growth is the exciting one. While most of the uses under this category are up marginally, it is corn used to make ethanol that makes up most of the 9.3%, 191 million bushels, increase from 2001-02 to 2002-03. Of course, the main driver for this increase is the switch from using MBTE to ethanol in California to get the proper level of oxygenate in the gasoline for lower pollution. The new ethanol plant that opened in Caro, MI, this fall will let Michigan get in on some of the action.

Exports are expected to be down 2.1 percent, and the pace will have to pick up considerably to reach that projection. China and the former Soviet Union countries had very good feed grain crops and have provided more than enough competition. The sum of these three use categories makes up the 9.695 total use figure.

Projected ending stocks is 924 million bushels, down from last year's 1.596 billion bushels. This lowered the ending stocks-to-use ratio from 16.3 percent to 9.5 percent. An ending stocks-to-use ratio would indicate an average annual corn price of around \$2.35.

In order to forecast the 2003 corn price we must also look at the 2003-04 corn marketing year. Acres planted to corn are expected to increase about 1.3 million acres. This is due to higher expected returns relative to soybeans, and the evening out of corn and soybean loan rates. Harvested acres is expected to return to a more normal 7.1 million acres less than planted, where silage is expected to make up around 6.1 million acres.

Given a trend yield of 139.5 bushels per acre, 2003-04 corn production would be 10.225 billion bushels, up 13.6 percent, 1225 million bushels. However, with beginning stocks expected to be down around 670 million bushels, total supply is only expected to be up about 540 million bushels.

Feed use is expected to grow a little bit as cattle numbers stabilize, and hog and poultry numbers grow a bit. There will be another strong growth in FSI use, but not as strong as this past year. Exports are projected to increase some given a trend yield in China in 2003. This puts total use for 2003-04 at 9.985 billion bushels, up 3 percent.

This would put ending stocks at 1.175 billion bushels, 11.8 percent of use. This would suggest prices in the \$2.15 range for 2003-04.

Wheat

Over eight months into the June-May 2002-03 wheat marketing year, and it appears the annual average country price will be up sharply at \$3.65. All numbers are shown below in Table 2, the Supply/Demand Balance Sheet for Wheat. This will put the Michigan average price around \$3.20. Soft red and white winter wheat sell at a discount to hard red winter and spring wheat.

U.S. 2002 wheat production was down 340 million bushels, 17.3 percent. The average yield was about six bushels below trend and harvested acres were down, both due largely to the severe drought in the hard red winter wheat areas, such as the high plains. Beginning stocks were also much lower; this left total supply down 16 percent, 470 million bushels.

Use is projected to be down due do sharply lower feed use and lower exports. Food use is expected to be up marginally. At first glance, lower exports seems odd as Canada and Australia, primary competitors, had terrible wheat crops. However, Europe and the Former Soviet Union countries had very good crops. Total use is expected to be down 5.2 percent.

This puts ending stocks at 418 million bushels, the lowest since 1995-96. Ending stocks-to-use would be 20.4 percent compared to the previous year's 35.9 percent. Thus, the higher prices.

Planted wheat acres for the 2003 crop are projected to be 62.5 million, up 2.1 million. Winter wheat planted acres is up 2.6 million, but spring wheat acres are expected to be down some. Using an average percent harvested and a trend yield 2003 production is expected to be around 2.2 billion bushels, up 36 percent. Total supply is expected to be up 10.1 percent as beginning stocks will be down sharply.

Total use in 2003-04 should grow as feed use will likely return to more normal numbers and exports grow a little. Overall, total use is expected to be up 125 million bushels, 6 percent. This would put ending stocks at 545 million bushels, 25.1 percent of use. This should put U.S. prices at around \$3.30 and Michigan prices at around \$2.90.

Soybeans

Fewer acres, lower yield and lower beginning stocks adds up to fewer soybeans. Fewer soybeans means higher prices in a world with a growing demand for soybeans. Table 3 below, the Supply/Demand Balance Sheet for Soybeans, gives you the forecast for the 2002-03 and 2003-04 soybean September-August marketing years.

Planted acres dropped 300,000 in 2002 as the loan rates were corrected, we had a better spring overall for planting corn, and relative prices suggested corn. Yields at 37.8 bushels per acre were about 1.7 bushels under trend as yields varied across regions and within regions dramatically. Iowa averaged 48 bushels per acre, and Ohio averaged 30 bushels per acre. Michigan averaged 38.5 bushels per acre, about 1.5 bushels below trend.

Harvested acres were an extra half million acres below planted relative to a normal growing year. Production was 2.730 billion bushels, down 161 million bushels from 2001. Total supply was down 201 million bushels as beginning stocks were down as well.

Crushings are down as export demand for soy oil and soy meal has been slow, but domestic use of each will be up. Exports are expected to be down 133 million bushels, 12.5 percent. However, given the higher prices and the huge crop to come out of South America this spring, it is pretty good. Total use is expected to be down 183 million bushels at 2.750 billion bushels.

Ending stocks are expected to drop for the fourth year in a row. Ending stocks of 190 million bushels is only 6.9 percent of use. This would indicate an annual average 2002-03 U.S. price of about \$5.45, much better than the 2001-02 average price of \$4.38.

Most forecasts show expected 2003 soybean acres to be down nearly 1-3 million acres. This forecast puts planted acres at 72 million, down 1.8 million acres. With a trend yield of 40 bushels per acre, 2003 production would be 2.836 billion bushels, up 106 million from 2002 despite the fewer acres.

Total use in 2003-04 is expected to struggle as crush is expected to make only a small rebound and export competition from an even bigger than expected South American soybean crop will be huge. However, total use is expected to be up about 70 million bushels at 2.820 billion.

This would put 2003-04 ending stocks at 210 million bushels, 7.4 percent of use. This should put prices at around \$5.20 for the year.

Table 1.
Supply/Demand Balance Sheet for Corn

	Estimated 2001-02	Projected 2002-03	Hilker 2003-04
(Million Acres)			
Acres Planted	75.8	79.1	80.4
Acres Harvested	68.8	69.3	73.3
Bu./Harvested Acre	138.2	130.0	139.5
(Million Bushels)			
Beginning Stocks	1899	1596	924
Production	9507	9008	10225
Imports	<u>10</u>	<u>15</u>	<u>11</u>
Total Supply	11416	10619	11160
Use:			
Feed and Residual	5877	5600	5700
Food, Seed and Ind. Uses	<u>2054</u>	<u>2245</u>	<u>2335</u>
Total Domestic	7931	7845	8035
Exports	<u>1889</u>	<u>1850</u>	<u>1950</u>
Total Use	9820	9695	9985
Ending Stocks	1596	924	1175
Ending Stocks, % of Use	16.3	9.5	11.8
U.S. Loan Rate	\$1.89	\$1.98	\$1.98
U.S. Season Average Farm Price, \$/Bu.	\$1.97	\$2.35	\$2.15

Source: USDA and Jim Hilker.

Table 2.
Supply/Demand Balance Sheet for Wheat

	Estimated 2001-02	Projected 2002-03	Hilker 2003-04
(Million Acres)			
Acres Planted	59.6	60.4	62.5
Acres Harvested	48.6	45.8	53.0
Bu./Harvested Acre	40.2	35.3	41.5
(Million Bushels)			
Beginning Stocks	876	777	418
Production	1957	1617	2200
Imports	<u>108</u>	<u>75</u>	<u>102</u>
Total Supply	2941	2469	2720
Use:			
Food	926	940	940
Seed	82	86	85
Feed and Residual	<u>195</u>	<u>100</u>	<u>200</u>
Total Domestic	1203	1126	1225
Exports	<u>961</u>	<u>925</u>	<u>950</u>
Total Use	2164	2051	2175
Ending Stocks	777	418	545
Ending Stocks, % of Use	35.9	20.4	25.1
U.S. Loan Rate	\$2.58	\$2.80	\$2.80
Season Average Farm Price			
U.S. \$/Bu.	\$2.78	\$3.65	\$3.30
Michigan \$/Bu.	2.45	3.20	2.90

Source: USDA and Jim Hilker.

Table 3.
Supply/Demand Balance Sheet for Soybeans

	Estimated 2001-02	Projected 2002-03	Hilker 2003-04
(Million Acres)			
Acres Planted	74.1	73.8	72.0
Acres Harvested	73.0	72.2	70.9
Bu./Harvested Acre	39.6	37.8	40.0
(Million Bushels)			
Beginning Stocks	248	208	190
Production	2891	2730	2836
Imports	<u>2</u>	<u>2</u>	<u>4</u>
Total Supply	3141	2940	3030
Use:			
Crushings	1700	1655	1685
Exports	1063	930	970
Seed, Feed and Residuals	<u>170</u>	<u>165</u>	<u>165</u>
Total Use	2933	2750	2820
Ending Stocks	208	190	210
Ending Stocks, % of Use	7.1	6.9	7.4
U.S. Loan Rate	\$5.26	\$5.00	\$5.00
U.S. Season Average Farm Price, \$/Bu.	<u>\$4.38</u>	<u>\$5.45</u>	<u>\$5.20</u>

Source: USDA and Jim Hilker.

MICHIGAN SUGAR BEET OUTLOOK FOR 2003

John "Jake" Ferris

The 2002 Farm Act reauthorized the non-recourse loan program through fiscal 2007 at 22.9 cents per pound for refined beet sugar. This is the same level that was in effect under the 1996 Farm Bill. Loan rates can be reduced, at the discretion of the Secretary of Agriculture, if foreign producers reduce export subsidies and support levels below their current World Trade Organization (WTO) commitments.

"Non-recourse" means that the U.S. Department of Agriculture is obligated to buy sugar from processors at the loan rate (adjusted by area) should that be an attractive alternative to the market price. Tariff-rate quotas (quotas for a volume of imports at a favorable tariff) are set to restrict imports to the point that forfeitures to the government are unnecessary. As in previous programs, the 2002 Farm Act dictates that, to the extent possible, the sugar loan program operates at no cost to the federal government.

Michigan sugar beet prices are, of course, strongly correlated with the refined beet sugar price. The loan program helps to provide a floor under the sugar market. The major variation of sugar beet prices from the refined sugar market is the sucrose content of the beets.

From harvest of the 2002 sugar beet crop in Michigan through January 2003, the price of refined sugar at Midwest markets (as reported in *Milling and Baking News*) was averaging 5-6 percent over the previous year. Sucrose content was around 18 percent which is toward the high end of recent levels in the industry. This would point to higher sugar beet payments per ton for the season, although processing costs are being spiked by high natural gas prices. The sugar industry has concerns about the potential for large sugar imports from Mexico under NAFTA and the potential of other bi-lateral treaties with sugar exporters such as Australia.

Michigan growers harvested 178 thousand acres in 2002, up 7 percent from the previous year and yields of 18 tons per acre were about a ton under trends. The total output was 3,204 thousand tons, about the same as in 2001 and the average of the past five years. Farmer returns per acre over variable costs for the 2002-2003 season are expected to be above 2001 and above average for the past five years.

FARM MANAGEMENT IMPLICATIONS FOR CASH CROP PRODUCERS

Gerry Schwab

Learning from the past:

Each year provides some memorable learning experiences. The year 2001 showed us that some of the best soils in Michigan can produce zero yields if drought occurs. The year 2002 again reemphasized the risk of low yields when early "hot" weather in April, followed by later frost, resulted in some Michigan fruit trees bearing no fruit. The learning point being that risk of low yields can create financial risk and should convey the need for using some risk management tools.

Although Michigan was moisture deficient throughout much of the 2002 growing season, timely but spotty rains, combined with improved drought tolerant varieties, enabled impressive yields for some farms. Average Michigan yields in 2002 according to Michigan Agricultural Statistics Service¹ were:

	Yield/Acre
Corn	115 bu.
Soybeans	39 bu.
Sugar Beets	18 ton
Potatoes	305 cwt.
Wheat	67 bu.

Because of the variability across locations of weather and other production-related factors as pest incidence, etc; state-wide average yields are not very useful for an analysis of your farm business, but may provide one helpful benchmark. The learning point here is the need for records, records, records as a data base for business analysis and also for proving yields for government programs to be discussed briefly in a paragraph to follow.

Prices determined in the marketplace for many Michigan-produced commodities illustrate another source of risk and opportunity presented to grain producers. At this time last year, crop prices were somewhat dismal with corn well under \$2.00 per bushel, soybeans coming close to \$4.00 per bushel, and wheat in the \$2.50 per bushel neighborhood. Prices for each of these crops rallied strongly with calendar year high attained in mid-September for corn and wheat,

¹*Agriculture Across Michigan*, Michigan Agricultural Statistics Service, Volume 24, Number 1, January 17, 2003.

and mid-August for soybeans. Now we cannot know when the high price occurs until after the price turns and never reaches that high again. How many of us captured some of those pricing opportunities for both old and new crop? The learning point is that decision-making is difficult, much easier to talk about than do, but pricing commodities at profitable levels for however brief a time was possible in 2002. I have little doubt that some profitable pricing opportunities will again present themselves in 2003. A marketing plan is needed to help trigger establishing price. Some claim that two-thirds of the commodities are sold in the bottom third of the pricing opportunities made available. Where will you be? Have a plan to be profitable! Know what price you need to be profitable!

Planning for 2003:

Most Michigan grain and soybean producers are in the commodity business. The most profitable farm businesses will be the low-cost producers who are also good marketers. Profit is the margin between your price received and your cost of production. The current price forecast for grains and soybeans does not provide much of a foundation for optimism. So what to do in 2003?

Consider conducting a strategic planning session for your farm business. Strategic planning is a term used to describe an analytical thought process to decide what business you want to be in. With continued growth in South American production, the cash grain and soybean commodity business will continue to be under supply pressure that will limit the upside on expected prices. Ask yourself whether your farm can compete on the cost side with this global competition. Some Michigan producers are wise in seeking alternatives that are perceived to be more profitable than commodity agriculture.

Update your crop acreage and yield base! The "Farm Security and Rural Investment Act of 2002," commonly referred to as the Farm Bill, contains some provisions that should be helpful in sustaining farm income and providing a safety net for risk management. You now have the opportunity to update your crop history in terms of yields and acres. This opportunity has not been available since the early 1980's. Do not miss this opportunity. If you have not yet done so, make an appointment now (before April 1) with your Farm Service Agency (FSA) office. Be prepared to substantiate your position on historical crop yields and acreage planted in 1998, 1999, 2000 and 2001. Work with FSA and other knowledgeable resource people; e.g. MSU Extension, consultants, etc., to evaluate your alternatives. The previous Farm Bill had support prices that made the soybean price about 2.7 times the price of corn. Soybean harvested acreage increased during recent years and surpassed corn grain acres harvested in the U.S. The new current Farm Bill reduces support prices for soybeans relative to corn resulting in a soybean to corn price ratio of approximately 2.5. Corn acreage may now be relatively more profitable.

Evaluate crop insurance alternatives as a risk management tool that should be in your tool box. There are a bevy of alternative crop insurance policies that are available to you depending on the crop in question and your county location. March 15 is the deadline for signing up for crop

insurance for spring planted crops. There are multi-peril policies available in addition to named peril; e.g. hail, policies. There are policies where the potential indemnity is triggered by yield shortfalls on your farm e.g. multi-peril crop insurance (MPCI); or by yield shortfalls in your county; e.g. group risk plan (GRP). There are also policies triggered by income shortfall on your farm; e.g. crop revenue coverage (CRC); or by income shortfall in your county; e.g. group revenue income policy (GRIP). The alternatives and details are too numerous to be discussed here. If you have not yet done so, contact a competent crop insurance representative who can provide the details and cost for each alternative policy available for your farm. Know how much financial risk you can carry based on your balance sheet versus how much risk that you need to transfer for a cost to someone else.

Develop a marketing plan for 2003, for 2004. If marketing is not your thing, consider employing a commercial firm or consultant to provide some assistance. There are a host of pricing tools and new generation grain marketing contracts available to you. Know your bottom line on costs and the prices required to enable profitability on your farm. Establish specific and attainable goals; e.g. avoid selling two-thirds of your crop in the bottom one-third of the prices. Prepare a written plan. Making a commitment on paper may help in making the pricing decision if and when the pricing opportunities are presented in the marketplace.

Stay on the information highway. A more informed decision-maker may not always have better results, but the odds are improved. The College of Agriculture and Natural Resources through the Extension service at Michigan State University has a mission that includes serving and promoting the food and agricultural system. Improving the knowledge base is part of that mission as we all attempt to stay on the information highway.

2003 ANNUAL LIVESTOCK OUTLOOK

Jim Hilker

Beef and pork demand seems to be off a little in 2002, but I would argue it was due to large amounts of competing meats. The demand drop we saw from the late 1970's through about 1998 was due to factors other than competing meats and incomes. People were just not willing to pay as much for red meat, given all other factors constant. It was probably some combination of health concerns and convenience. For the past three years, meat demand changes seem to have been explained by other meat supplies and income. This is good because now when we cut back on meat production or increased incomes go up, we get a price increase. Poultry production is expected to be up less than 1 percent, lower than I have ever seen.

Cattle

All cattle and calves were down 1 percent on January 1, 2003 as compared to the same date a year earlier. Beef cows were also down 1 percent. However, beef replacement heifers were up 1 percent. The 2002 calf crop was down slightly. Steers over 500 pounds were down 1 percent and calves under 500 pounds were down the same. Other heifers over 500 pounds were down 2 percent. Cattle on feed January 1, 2003 were down 7 percent; however, feedlots are expected to be turning the cattle over much quicker than a year ago. Beef cow and heifer retention is expected to increase over the next year with the good feeder calf prices cow/calf operations have seen over the past few years. Slaughter weights are expected to be about the same to up 1 percent.

Beef production in 2003 is expected to be down 3-5 percent. Per capita beef consumption is expected to be down 2-4 percent as a draw down in the huge stocks number is expected and net imports are only expected to grow slightly. Both imports and exports are expected to be up marginally.

First quarter beef production looks like it will be down 2-3 percent. Steer prices look like they will average in the high \$70 range, up \$8-10 per cwt. compared to a year earlier. This strong price response corresponds with decent beef demand and lower pork and poultry production.

Production in the second quarter is expected to be down 2-3 percent. Prices are expected to be in the \$72-79 range. Prices averaged \$65.58 in the second quarter of 2002. Third quarter production is expected to be down 5-7 percent, as last year's weights hurt us. Prices are expected to be in the \$71-78 range; this compares to \$63.29 in 2002. Competing meats will also be down.

Beef production in the fourth quarter is expected to be down 5-10 percent. Why the big range? Questions about slaughter weights, cow slaughter and heifer retention for breeding. This will give us an expected price range of \$72-80. Fourth quarter average steer prices this past year were \$69.10. Poultry production is expected to make somewhat of a comeback in the last quarter of 2003.

Feeder prices are expected to improve in 2003 as compared to 2002. Feeder steers in the 700-800 pound range are expected to average in the mid \$80's and 500-600 weights are expected to average in the mid to high \$90 range for 2003.

Hogs

Hog production is expected to be down about 1.5 percent for all of 2003 and per capita consumption about 2.5 percent. The larger decrease in the amount each individual eats is due to the larger population. Barrow and gilt prices average \$34.92 in 2002 and are expected to average in the \$38-41 range for 2003.

First quarter production is expected to be down less than 1 percent and prices are expected to average around \$36-37 per cwt. Last year, we averaged \$39.43 for the first quarter, but we were coming off higher prices and lower stocks.

Second quarter production is expected to be down nearly 3 percent. Prices are expected to average in the \$40-43 range, compared to \$35.03 in 2002. Third quarter production is expected to be down nearly 3 percent. The average price is expected to be in the \$39-43 range compared to third quarter prices last year of \$33.86.

Fourth quarter pork production is expected to be down 1-2 percent. This should give us barrow and gilt prices in the \$36-39 range. This compares to the 2002 price of \$31.34. Hog slaughter is expected to continue to decrease in the first half of 2004, but even marginal weight gains could offset it.

LIVESTOCK SITUATION: MANAGERIAL CHALLENGES AND OPPORTUNITIES

Gerry Schwab

The year 2002 is now in the rear view mirror and 2003 is upon us. The livestock meat production industry had some remarkable production successes in 2002. As evidenced in the charts below, the U.S. beef production industry in 2002 produced a record 27.1 billion pounds. Not to be outdone, the U.S. pork production industry in 2002 also set a production record at 19.7 billion pounds. Please note that the beef production record was achieved with fewer cows; and the pork production record was attained with almost the same number of sows and farrowings.

The record level of production can be attributed to increased production efficiency and to heavier carcass weights per animal harvested. Improved genetics, combined with relatively cheap feed, results in heavier animal weights at harvest time. One message to the individual livestock producer is to continually improve just to keep up with the increasing production efficiency.

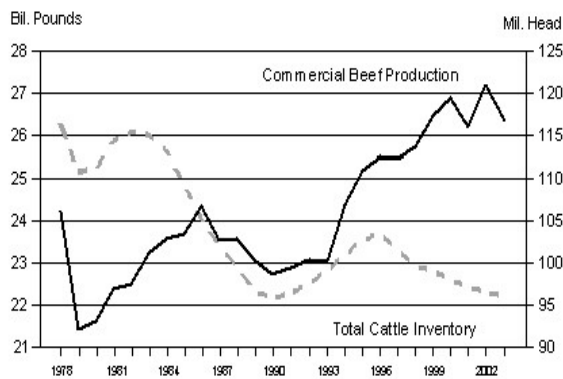
Increased production is often associated with lower prices unless effective demand in the form of consumption, exports, etc. offset the increased amount on the market. That was indeed the case for both cattle and hog prices in 2002. Average cattle prices received in U.S. were almost \$73.00 per hundredweight (cwt.) in 2001, but declined to about \$67 per cwt. in 2002. Average live hog prices received in U.S. were almost \$46 per cwt. in 2001, but declined to the \$35 per cwt. neighborhood for 2002. The expected modest one percent reduction in both sow and beef cow numbers should be supportive to prices. U.S. per capita consumption of red meat and poultry set a record in 2002. Can we continue to eat more meat? The trade situation will be important to future success of the livestock industry!

Some challenges and opportunities that will change how we do business include:

- Continued consolidation and mergers in the food supply chain will limit the number and availability of markets to livestock producers. Coordination of the supply chain starting with genetics in order to provide what the consumer wants is an increasing trend.

BEEF PRODUCTION vs CATTLE INVENTORY

Inventory January 1, U.S.

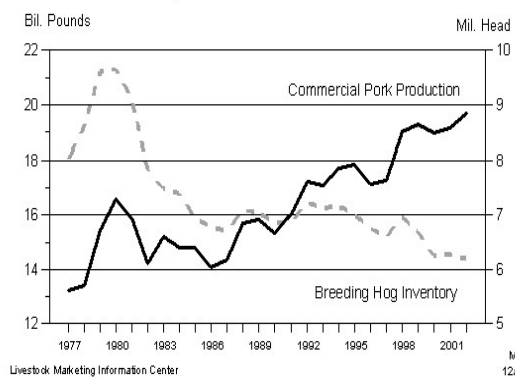


Livestock Marketing Information Center

11-S-23
02/03/03

PORK PRODUCTION vs BREEDING HOG INVENTORY

Inventory December 1 of Prior Year, U.S.



Livestock Marketing Information Center

M-S-24
12/16/02

Marketing contracts with packers have become more common both to guarantee access to market and as a risk management tool. Part of the challenge here is finding a market partner with whom to form an alliance that will benefit all parties. Finding a win-win situation with a partnering firm that is well managed and financially stable will be a challenge.

Producer development of their own New Generation Cooperative is another strategy to address the profitability and market access issues. One on-going discussion in Michigan relates to the formation of the Great Lakes Pork Cooperative with other pork producers in Indiana and Ohio. Another example of producers taking charge of their fate is the Michigan Turkey Producers, Inc. The profit challenge here goes beyond managing a farm for animal production to managing a factory and marketing the food being produced. Venture capital is required from farmers to become members and some decision-making has to be transferred to off-farm management. Potential farm members need to evaluate carefully the benefits, costs and risks associated with these new ventures that may be in less than familiar territory.

- The pork industry continues to consolidate resulting in fewer but larger firms and farm businesses. According to the December 2002 USDA *Hogs and Pigs* report, 110 farms have almost 50 percent of the U.S. hog inventory. The industry has evolved to having a very limited number of farm businesses owning farrowing operations. Being a low cost producer remains one key to success. Smaller farms desiring to participate in pork production need to consider servicing a higher valued niche market, contract grower for a farrowing firm, or participating with other producers in some type of an alliance.
- Cow-calf producers, a long-time bastion of independent production systems, may need to consider alliances with seedstock producers to make more uniform the calf being produced. Avoidance of a bad eating experience is paramount for consumers and is a concern that will continue to be fed back to the foundation of the beef industry – the cow-calf producers. If high forage prices and the drought situation continues in the western U.S., cow numbers will not be rebuilt in 2003. Profitable price levels should continue for cow-calf producers who are producing uniform calves in demand by the feedlots.
- Environmental concerns are increasingly important to livestock producers. As our rural neighborhoods become increasingly populated by non-farm neighbors, livestock producers will be increasingly scrutinized. Having in place a comprehensive nutrient management plan is one important step. Participating in educational programs conducted by partners in the Michigan Agricultural Environment Assurance Program should be helpful in improving your knowledge base. Knowledge can be a very effective risk management tool.
- The need to be informed for better decision making is paramount to conducting a successful business. Let us all improve and work towards having a profitable Michigan livestock industry.

DAIRY OUTLOOK

Christopher Wolf

Dairy farm profit-margins are currently the tightest in many years with dismal milk prices combined with feed prices that climbed following summer droughts. The result is the lowest milk/feed price ratio in a decade. Perhaps the only saving grace of the past year was the Milk Income Loss Contract (MILC) payments courtesy of the 2002 Farm Bill. Low milk prices lead to large MILC payments. With higher feed prices tightening margins, the MILC payments may make the cash flow difference some producers require to remain afloat.

National milk production momentum, combined with floundering dairy product consumption, due to the continued economic doldrums, leads to pessimism about a significant price recovery before late summer 2003. Even then, price recovery may require a weather event or other supply shock to result in a significant price increase.

2002 Review

Following high milk prices in three of the previous four years (1998, 1999, and 2001), coupled with several years of low feed prices, there was a great deal of supply momentum in 2002. Milk cow numbers averaged 9.139 million head for 2002, an increase of 0.3% from 2001. The increased milk cow numbers were largely in Western states--up 7.3 percent in New Mexico, 3.6 percent in California and 3.4 percent in Idaho from December 2001 levels. In the Upper Midwest and Northeast the cow numbers were mostly unchanged to down slightly (with a 4 percent decline in Minnesota as the exception). The long-term trend, prior to the higher milk prices in recent years, was a steady decline in milk cows.

The 2002 Farm Bill, passed and signed into law in May, removed most of the policy uncertainty that was over-hanging the dairy markets a year ago. For the first time, milk production is subsidized by deficiency payments. The MILC program pays farmers a deficiency payment equal to 45 percent of the amount the Boston Class I minimum price is below \$16.94 per hundredweight (cwt.). As the Boston price is the advance milk price plus \$3.25 per cwt., we can track the payments by the higher of Class III and Class IV prices. When this price is less than \$13.69 per cwt., \$16.94 less the \$3.25 differential, these payments were postdated to December of 2001 milk production and continue through September 2005. The production cap for payment purposes is set at 2.4 million pounds per fiscal year (October 1 through September 30). The payments to date are displayed in Table 1. For 2002, the MILC payment averaged \$1.206 per cwt. (assuming that milk marketed totaled less than the 2.4 million pound annual limit).

Large non-fat dry milk surpluses prompted a post-election November support price tilt. This tilt lowered the support price for non-fat dry milk and increased the butter support price. A major surplus remains but will be partially removed using the Dairy Export Incentive Program. With the production incentives provided by the MILC payments, the continued existence of the

Price Support and Dairy Export Incentive Programs were crucial to maintain a floor under milk prices.

Table 1. MILC Payment Rates to Date

Month	MILC Base Price*	Advance Price**	Difference	Payment rate***
			(\$/cwt)	
December 01	13.69	11.98	1.71	0.7695
January 02	13.69	11.96	1.73	0.7785
February 02	13.69	11.95	1.74	0.7830
March 02	13.69	11.62	2.07	0.9315
April 02	13.69	11.47	2.22	0.9990
May 02	13.69	11.26	2.43	1.0935
June 02	13.69	11.03	2.66	1.1970
July 02	13.69	10.62	3.07	1.3815
August 02	13.69	10.48	3.21	1.4445
September 02	13.69	10.46	3.23	1.4535
October 02	13.69	10.15	3.54	1.5930
November 02	13.69	10.60	3.09	1.3905
December 02	13.69	10.52	3.17	1.4265
January 03	13.69	10.56	3.13	1.4085
February 03	13.69	10.23	3.46	1.5570

*The "Base" price here is the Boston Class I minimum trigger of \$16.94/cwt less the fixed differential for the region (\$3.35/cwt).

**The advance price is basically the higher of the Class III or Class IV price at mid-month.

***The payment rate is calculated as 45 percent of the difference between the base and advance prices.

Supply Situation and Forecast

In the US dairy market, the quantity of product supplied is composed of three parts: stocks, production and imports. For the most part, imports are very minor and do little to market price. Production has been increasing steadily since October 2001. For 2002, total milk production was 2.6 percent higher than 2001. Milk production has increased that much or more in only five of the last 20 years. Stocks, especially those of non-fat dry milk, are high to start 2003.

The long-term trend has been a two or three percent annual increase in milk per cow. With a depressed milk/feed price ratio and questionable forage quality in some places, it is possible that the increase will fall off trend for 2003, but this is unlikely to happen across the U.S. If production can be maintained until the new forage crops are available, increases should be on

trend. Any significant change from the current supply momentum is likely to come from a decline in cow numbers.

All of the market signals indicate a slow-down is on the horizon, but the timing is uncertain. Perhaps the only signal encouraging milk production at the current time is the MILC payment. The MILC pay rate may average \$1.20 per cwt. for 2003 depending on the timing and magnitude of the price recovery. These payments are aiding farm cash-flow situations and are likely helping some farms stay in business that might otherwise exit.

Demand Situation and Forecast

A sluggish economy contributed to a small increase in commercial milk sales -- up only one percent for 2002 compared to 2001. Commercial use for January through November was up 0.7 percent over the previous year. Per capita consumption has been flat and the increase has largely come from population increases. Total consumption will increase in 2003, the question is, will it catch up with supply? If the economy recovers, as some analysts are predicting by the third quarter of 2003, then the consumption may increase at a significant enough level to aid milk prices.

2003 Price Forecast

Milk prices in 2003 will be better than 2002. Of course, that is not a very bold statement given the fact that prices are, and have been for several months, sitting right at the price support level. Market signals are encouraging a slow-down in production: the milk price is low while feed prices are relatively high. However, until total US milk cow numbers start declining a significant price recovery is unlikely.

The prediction here is for milk prices to remain low through spring and into summer. However, the low to negative profit margins will dictate a slow-down in supply by summer which should coincide with an economy that is heating up. If this scenario evolves, Class III milk price may reach \$12 in summer and be above \$13 per cwt. for September. With Class III prices recovering, the Michigan mailbox milk price (which means exactly what you think -- it's the price on your check) is forecasted to average between \$12.50 and \$12.75 per cwt. for 2003.

The low milk prices mean that the MILC payment will average just over \$1 per cwt. with \$1.30 to \$1.40 the norm in the early months of the year and tapering off as milk price recovers. Adding the MILC payment (and assuming that the 2.4 million pound limit is not reached) the forecast is for the Michigan mailbox plus MILC payment to average between \$13.50 and \$13.75 per cwt. The net forecast, then is for a better, but not good price year. We cannot rule out a great price year, as the milk market often surprises, but it is not apparent on the horizon at this time.

ISSUES AFFECTING FRUIT PRODUCERS

Suzanne Thornsbury

Juice and juice products have long been important to many of Michigan's fruit industries. In today's world of rapidly changing consumer-oriented agriculture, it is useful to reflect on trends in the markets for these products.

Of course, no discussion of juice would be complete without an update on Chinese production and marketing trends. After 20 years of growth, the steep increase in Chinese fruit production may have leveled off. Apple output was reported at 20.8 million MT in 1999, 20.4 million MT in 2000, 21 million MT in 2001, and estimated to be 18 million MT in 2002. Although China remains the largest producer and exporter of concentrated apple juice (CAJ) in the world, less than 10% of total apple production is reported to be processed. The dramatic increase in volume of CAJ on world markets appears to be having some negative impacts in the Chinese industry as well as the industries of their competitors. Processing capacity, estimated at 300,000 MT was reported to be underutilized by up to 33 percent in 2001-02, with several manufacturers looking to divest themselves from facilities citing increased competition, low international prices, and minimal profit margins. In addition, lower than expected production in 2001-02 led some Chinese processors to over-sell CAJ and default on delivery under contracts for higher acid concentrate. This is a trend to watch, as loss of confidence may send some buyers back to more certain supplies.

Cherry juice imports to the U.S. (tart and sweet) increased in 2002, to levels comparable with those of the late 1990's. A difference is that 2002 imports were sourced primarily from Eastern Europe in contrast to the trade with Canada and Germany that dominated during 1998. In the face of the 2002 short crop, it is not clear if this change might signal a new trading pattern, or simply compensation for a short Michigan crop. Worldwide shortages of cherry juice were reported late in the season.

On the demand side, the outlook for fruit juice and juice drink products remains positive, although total volume of sales has grown slowly. U.S. per capita consumption of fruit juice averaged 7.55 gallons (single strength equivalent) between 1980 and 1985, 7.85 gallons between 1986 and 1991, 8.73 gallons between 1992 and 1997, and 8.89 gallons between 1998 and 2001. While orange juice remains the leading juice flavor purchased by consumers, fruit juice products important to Michigan show similar trends. Both apple and cranberry juice have seen slow growth in per capita consumption since 1998. Grape juice indicates a slight downward trend, although it is too soon to say if this will continue or reverse itself. Similar data is not available in other sectors but a comparison of fruit beverage sales revenue between 1998 and 1999 by Mintel (an international consulting group; www.mintel.com) shows a 21.4 percent increase for apricot juice, 8.1 percent increase for cider, and 6.2 percent increase for cherry juice. Although the percentage increase is large in apricot juice, absolute levels of consumption are still lower when compared with the other juices.

**Table 1. Average U.S. Per Capita Consumption
of Selected Fruit Juices**

	Apple	Grape	Cranberry	Total fruit juice
Gallons (single strength equivalent)				
1980-1985	1.27	0.26	n/a	7.55
1986-1991	1.57	0.29	n/a	7.85
1992-1997	1.65	0.38	0.17	8.73
1998-2001	1.79	0.35	0.21	8.89

Source: *USDA ERS Fruit and Tree Nut Situation and Outlook Yearbook, 2002*.

Even with an increased number of products available at retail, juice as a category retains a noticeable amount of shelf space throughout the store. In 2000, sales of fruit juice accounted for 3 percent of store sales among supermarkets and supercenters with annual sales greater than \$2 million. Location in the store remains a critical variable in juice marketing. Over 90 percent of sales value comes from either shelf-stable (approximately 51 percent) or refrigerated single-strength (approximately 38 percent) juice products. Consumers usually report perceiving beverages requiring refrigeration as more natural or fresh.

New juice products continue to be introduced, although at a slower rate after the relative explosion during the 1990's when high-end products such as smoothies became popular. Today's products tend to focus on health trends, new fruit and/or vegetable drink combinations, organic, natural, or functional foods. The 2002 World Juice innovation award went to a company that featured new combinations such as a blueberry and maple yogurt smoothie. Drinks fortified with vitamins and minerals are increasingly popular among consumers looking to boost their nutrient intake. Some new products are also fortified with herbal ingredients. These fortified products were initially offered in European markets, but can increasingly be found on U.S. shelves. Still other new products are marketed to consumers looking for a particular functionality, like increased stamina, immune system function, or other health benefits. Many single serve beverage products are used by consumers as daily "doses" of a particular vitamin, mineral, antioxidant, or all three.

In this regard, fruit juice and fruit drinks continue to capitalize on the increased health-consciousness of U.S. consumers. They are normally viewed as a fresh and more natural alternative to colas (thus enjoying increased purchases among households with children). The 2000 Mintel survey of U.S. households found that almost 25 percent of households with children consumed apple juice, compared with only 12 percent of households without children. More juice drink products on the store shelves have captured some market share from 100 percent juice products among children even as total consumption increases.

Table 2. Share of Supermarket Sales,* 2000

Category	Volume	Share of Store Sales
	Million dollars	Percent
Shelf stable juice	6,124	1.6
Refrigerated, single strength juice	4,099	1.1
Frozen juice	982	0.3
Fruit, canned	1,611	0.4
Fruit, dried and snacks	934	0.2
Fresh produce	37,325	9.7

Source: *USDA ERS AER-811, 2002.*

*Supermarkets and supercenters with annual sales of \$2 million or more.

Grape and cranberry juice and juice products have been particularly popular among women; cranberry juice has been reported to reduce bladder bacterial infections and both have antioxidant properties that may prevent the oxidation of bad cholesterol. Tart cherry juice has been available as a product in the food industry for years, but is enjoying a significant increase in consumer interest due to its reported health properties. Research has identified antioxidants, including some powerful anthocyanins, in cherry juice that may help fight cancer, heart disease, and the pain associated with arthritis and inflammation. Cherries, particularly Montmorency, have also been found to contain high levels of melatonin, an anti-inflammatory antioxidant and an important substance in regulating the body's natural sleep patterns (Cherry Marketing Institute, Cherry Advantage newsletter).

The trend among U.S. consumers to seek out more convenience in their food purchasing and dining habits can be well served by the fruit juice industries. In addition to the health benefits already noted, more juice products are being packaged in single serving containers and made available through convenience outlets and/or vending machines. Juice consumption at the point of sale is increasing. Although total consumption of fruit juice has grown slowly, consumers have tended to shift their purchases towards higher priced products: premium or enriched flavors, new products, and alternative packaging.

MICHIGAN FARM INCOME OUTLOOK FOR 2003

John "Jake" Ferris

Gross and net cash farm income in Michigan declined in 2002 with the net down to levels that were the lowest since the early 1970's. This is in nominal terms, not in inflation deflated terms. In real terms, the year 2002 was the lowest ever in my data base which goes back to 1960. The results were mixed as common in such a diverse agriculture as in Michigan. Margins were near historical lows on milk, hogs and fruit, while returns on other crops were at or above recent averages.

In reviewing the 42 year period from 1960 to 2002, gross cash receipts increased slowly in the 1960's, along with cash expenses, and net cash income inched upward along with general inflation. The 1970's were very robust and Michigan farmers, along with those in other states, enjoyed a very profitable period particularly beginning in 1973. The decline in gross and net cash returns in the early 1980's was very stressful for farmers in general, a period of high inflation. Gross receipts recovered into the mid 1990's, and net cash farm income was maintained near the billion dollar level through 1996.

After enactment of the 1996 Farm Bill, cash grain and soybean prices fell sharply and emergency supplemental federal legislation was enacted to help offset the unexpected decline in farm profits. After four years of such emergency legislation, a new Farm Bill was crafted in 2002 which, in essence, built in a level of support comparable to what was provided in the combination of the 1996 Farm Bill and the supplemental legislation. A major change was a counter-cyclical feature that was introduced in which subsidies declined if farm prices increased.

Estimates for 2002

The year 2002 was a year of rising prices on the program crops of corn, soybeans and wheat. This essentially cut out payments under the flexible or counter-cyclical sector of the program as well as the Loan Deficiency Payments (LDP's) for 2002 crops. Fortunately, Michigan crop yields on corn, soybeans and wheat were near trend levels, and farmers could reap the benefits of higher prices, an opportunity not available to many other producers in the U.S. Cash receipts for calendar year 2002 were up noticeably on soybeans and wheat (Table 1). While receipts on corn were down somewhat; this was because of the small 2001 crop sold in 2002.

The much larger dry bean crop in 2002 compared to 2001 boosted receipts even though prices dropped sharply. On sugar beets and potatoes, the crops in 2001 and 2002 were not particularly large, but prices in those two years were above average for recent years, and gross receipts from those crops were higher in the 2002 calendar year than in 2001 (Table 1). Returns from vegetables in 2002 were very close to the level of 2001. On fruit, however, 2002 was a disastrous year particularly with cherries, apples and peaches. Heavy frost damage and drought contributed to unprecedented losses in production. Higher prices did not offset the sharp reduction in production, and gross receipts fell 32 percent in 2002 from 2001. With a slow

economy accompanied with import competition, ornamental sales have leveled off from a rapid growth in the 1990's. Without official data, an estimate is that sales in 2002 were close to the \$500 million level in 2001 (Table 1).

With the notable exception of fruit, crop sales in 2002 were generally higher or near the level for 2001. Gross receipts from crops for 2002 were estimated at \$2,018 million, 2 percent higher than in 2001. Gross receipts from livestock in 2002, however, were estimated at \$1,268 million, down 15 percent from 2001. Most of the drop was in milk sales, down 18 percent, on hogs, down 25 percent and on cattle and calves, down 6 percent. This was in spite of an increase in quantities of milk, pork and beef sold by Michigan farmers.

Average prices received by dairy farmers were about \$12.15 per hundredweight (cwt.), nearly \$3.00 lower than in the previous year. The 2002 Farm Bill provided for a dairy market loss assistance program which has a deficiency payment system related to the Class I price in Boston, MA. Since this price was below the target level of \$16.94 in 2002, Michigan dairy farmers received payments in 2002 which roughly amounted to \$.53 per cwt. to partly offset the market price decline. With higher feed prices, real (inflation adjusted) gross margins over feed and other variable costs per cow dropped sharply in 2002 to the second lowest level of the past 15 years.

On hogs, the real gross margins over feed and other variable costs per hundredweight (cwt.) were the lowest in the past 15 years. Hog prices averaged about \$30.50 per cwt. in 2002, slightly higher than the low of \$29.80 in 1999, but feed costs have been higher this past year.

Numbers of cattle and calves sold from Michigan farms increased slightly in 2002, based on early estimates, but steer and heifer prices and cow prices dropped 8 and 6 percent, respectively, from 2001 levels. Margins on cattle feeding declined sharply from 2001.

Poultry returns were somewhat higher in 2002 with increased receipts from turkeys more than offsetting a decline in egg gross income. Lower egg prices reduced sales even though production increased. Increased turkey production and stable prices brought gross receipts up by about 9 percent.

The grand total of cash receipts from farm marketings in 2002 is estimated at \$3,286 million, 5 percent below 2001 (Table 1). Adding marketings to government payments, farm related income and an imputed rental value of farm dwellings as shown in Table 2, a total of \$4,012 million was derived. Not only were marketings lower in 2002, but also a sharp drop in government payments was posted. This is attributed to the drop in LDP's, the counter cyclical feature of the 2002 Farm Bill and the absence of the supplemental legislation. Payments for conservation programs increased about 15 percent.

Cash expenses leveled off in 2002 and remained at about \$3.5 billion. Lower energy, fertilizer and interest costs offset higher costs of seed and labor. Feed prices increased in the last half of

the year. Net cash income was estimated at \$511 million in 2002, down about 40 percent from 2001 and just over half of the average for the previous five years (Table 2).

Outlook for 2003

Milk production in Michigan, which increased about 1.5 percent in 2002, will likely continue to increase in 2003 as dairy cow numbers on January 1, 2003 were 1 percent more than in the previous year. With milk prices projected to drift lower in 2003, dairy receipts will continue at a reduced level, but somewhat above 2002 (Table 1). Also, larger payments under the dairy market loss assistance program will enhance farmers' incomes. Recovery in cattle and hog prices should pull up market receipts in those industries even though hog producers intend to cut spring farrowings by 11 percent. While the number of steers 500 pounds and above, plus heifers not for milk or beef replacement, was slightly lower on January 1, 2003 than the previous year, the number of beef cows was up 22 percent. Higher egg and turkey prices should also push up gross returns on those industries in 2003.

Assuming trend yields on 2003 crops, gross market receipts on 2002 crops sold in 2003, and 2003 crops sold in 2003, should increase for the calendar year on corn, soybeans, wheat and dry beans. Higher prices and a favorable fall season prompted Michigan wheat producers to seed 680 thousand acres of wheat last fall, a 36 percent increase over the relatively low 500 thousand acres planted in the fall of 2001. With planting flexibility continuing under the 2002 Farm Bill, farmers' planting decisions will be guided by their expected market prices and the respective loan rates on the program crops. Outside of wheat, acres are not expected to change much in 2003 although a continued shift to soybeans and some reduction in corn and dry bean plantings may develop.

With normal weather, fruit sales should increase substantially in 2003 with vegetable marketings about the same as in the past two years (Table 1). Similarly, sales of greenhouse and nursery products are forecast to remain near \$500 million.

In total, cash receipts from farm marketings in Michigan are projected to increase to \$3,513 million in 2003, 6.9 percent more than in 2002. Government payments are projected to increase to \$246 million reflecting increases in the variable part of the Production Flexibility Contract Payments and conservation programs (Table 2). Increases in supplemental funding is assumed, although not to potential levels. Adding farm related income of \$194 million and \$340 million for the imputed rental value of farm dwellings, the gross income projected for 2003 is \$4,293 million, up 7.0 percent from 2001.

Cash expenses, which were relatively level in 2002, are expected to increase to \$3,616 million in 2003, up 3.3 percent from 2002. The increase can be traced to higher feed and energy prices. The rising crude oil market eventually is reflected in prices of fertilizer and pesticides in addition to the more immediate impact on fuel prices. Interest rates will remain relatively low.

Net cash farm income is then forecast at \$677 million, up 32.5 percent, or nearly a third, from 2002, however, still low by historical standards. While the income flow has been modest or at nominal levels, farmland prices in Michigan have been buoyant and farm equities have increased. In 2002, the Michigan Agricultural Statistics Service reported the average price of farmland at \$2,500 per acre, up 63 percent from five years earlier, and up 126 percent from 10 years earlier. The robust non-farm economy in the 1990's was supportive of this development. The subsequent slow economic growth and decline in net cash farm income will likely attenuate the inflation in farmland prices, near term.

**Table 1. Cash Receipts from Farm Marketings in Michigan,
Calendar Years 2001 Actual, 2002 Estimated, and 2003 Forecast***

Enterprise	2001 Mil \$	2002 Mil \$	2003 Mil \$
<u>Livestock</u>			
Dairy	881	722	736
Cattle and calves	228	215	234
Hogs	211	159	185
Eggs	61	59	64
Turkeys	57	62	66
Other	51	51	51
Total Livestock	1,489	1,268	1,336
<u>Field Crops, Vegetables and Other</u>			
Corn	338	321	358
Soybeans	299	351	372
Wheat	85	111	121
Dry Beans	27	47	60
Sugar beets	101	139	135
Potatoes	87	96	94
Hay	52	30	35
Vegetables	245	246	246
Other	31	30	30
Total	1,265	1,371	1,451
<u>Fruit</u>	214	146	225
<u>Greenhouse/Nursery</u>	501	501	501
Total Crops	1,980	2,018	2,177
GRAND TOTAL	3,469	3,286	3,513

*Data for 2001 were obtained from the Michigan Agricultural Statistics Service, Michigan Department of Agriculture, and the Economic Research Service, USDA.

**Table 2. Cash Farm Income in Michigan, Calendar Years,
1997-2001 Actual, 2002 Estimated, and 2003 Forecast***

Item	1997	1998	1998	2000	2001	2002	2003
	<u>Million \$</u>						
Gross Cash Income							
Farm Marketings							
Crops	2,258	2,181	2,133	1,987	1,980	2,018	2,177
Livestock	1,363	1,320	1,328	1,334	1,489	1,268	1,336
Government Payments	121	211	401	381	353	192	246
Farm Related Income	141	148	140	133	194	194	194
Dwelling Rental Value	282	292	328	345	340	340	340
Total	4,165	4,152	4,342	4,180	4,356	4,012	4,293
Cash Expenses	3,304	3,221	3,148	3,272	3,489	3,501	3,616
Net Cash Income**	861	931	1,194	908	867	511	677

*Data for 1997 to 2001 were obtained from the Michigan Agricultural Statistics Service, Michigan Department of Agriculture, and the Economic Research Service, USDA.

**Including the imputed rental value of farm dwellings.