UK COOPERATIVE EXTENSION SERVICE
UNIVERSITY OF KENTUCKY — COLLEGE OF AGRICULTURE

Agricultural Situation and Outlook

Fall 2003

ESM-29 October 2003

Department of Agricultural Economics
University of Kentucky
400 C.E. Barnhart Building
Lexington, KY 40546-0276
Phone: 859-257-5762
Fax: 859-323-1913
URL: http://www.uky.edu/Ag/AgEcon/

AGRICULTURAL SITUATION AND OUTLOOK
FALL 2003
ESM-29 OCTOBER 2003

Editors
Linda Inman, Timothy Woods, Matt Ernst

Table of Contents Page

FOREWORD

This publication is prepared by the faculty and staff of the Department of Agricultural Economics, University of Kentucky, with an additional contribution from Kentucky State University. These articles present information on the economic situation and outlook for Kentucky agriculture and are intended to assist farmers, agribusiness professionals, Extension field staff, and others with interest in agriculture and agribusiness. Information presented here is based on the most recent information and research available. However, the rapidly changing economic and policy conditions for agriculture limit the usefulness and life span of conclusions and recommendations cited here. Decision makers should keep these facts in mind. Feel free to use the information included in this publication for other uses, but please provide professional citation about the source. The papers contained in this publication are published without formal review and the views expressed are those of the author and do not necessarily reflect the views of the University of Kentucky, the Agricultural Experiment Station, or the Cooperative Extension Service. If you need additional I information or if you would like to provide comments or suggestions, contact the author or the editor. A list of authors (in alphabetical order) and contact information is provided below.

Kenneth H. Burdine	859-257-7272 x 229	kburdine@uky.edu
William L. Crist	859-257-7543	wcrist@uky.edu
Matthew Ernst	859-257-7272, x 223	mernst@uky.edu
Craig D. Gibson	270-827-1395	cgibson@uky.edu
Heath Hoagland	859-257-6527	hhoagland@kccd.info
Terry Hutchens	859-257-2465	thutchen@uky.edu
Gregg Ibendahl	859-257-3616	gibendah@uky.edu
Craig L. Infanger	859-257-7274	cinfange@uky.edu
John T. Johns	859-257-2853	jtjohns@uky.edu
Larry D. Jones	859-257-7289	ljones@uky.edu
A. Lee Meyer	859-257-7276	lmeyer@uky.edu
Steven K. Riggins	859-257-7256	sriggins@uky.edu
Larry Snell	270-763-8258	lsnell@kccd.info
Will Snell	859-257-7288	wsnell@uky.edu
Timothy Woods	859-257-7270	tawoods@uky.edu
Lionel Williamson	859-257-1637	lwilliam@uky.edu
William A. Wurts	270-365-7541, ext. 200	wwurts@uky.edu

Macroeconomic Situation and Outlook
Fall 2003

Craig L. Infanger and Larry D. Jones

Introduction:

The U.S. economy has been showing modest economic growth since the recession ended in late 2001. Economic growth in 2003 will likely average approximately 3%, a modest improvement over 2002. Major macroeconomic trends this year included:

- modest economic growth early in the year, but increasing during the second half.
- historically low interest rates (in real terms)
- record numbers of home re-financing which has helped fuel household buying
- continued rise in unemployment rates reflecting a "jobless" economic recovery
- dramatic increases in the federal budget deficit
- large trade deficit
- inflation that was at times so low that there was speculation of a deflationary spiral

Economic Growth:

The U.S. economy experienced modest growth during 2002 with Real Gross Domestic Product (GDP) increasing 2.4%. This was less than expected following the stock market "crash" and the recession which officially ended November 2001. It now appears that the recession was serious but short-lived. GDP growth in the second quarter surprised most observers with a strong 3.1% growth rate, meaning GDP may be $9.625 trillion for the year. There is now an emerging consensus that GDP will continue to grow around 2.5% to 3% for 2003 with continued mild expansion into 2004.

The U.S. economy has shown remarkable resilience to major shocks. First, the aftershock of 9/11/01 continued to be a drag on the economy. The War in Iraq added a great deal of world economic uncertainty. Regional energy distribution disruptions drove up oil and gasoline prices significantly in mid-year. Natural gas prices continued to rise dramatically through 2003 with tight international and domestic supplies. All these forces created a great deal of uncertainty. But the economy has bounced back from these adverse events.

Economic growth during 2003 was led by increases in consumer spending. Lower interest rates, increases in personal income, the 2003 round of tax cuts, and the surge in house refinancing all have encouraged increased consumer spending. Nonresidential business spending and investment, however, remains disappointingly low despite the recovery. Sharply higher spending by the Federal government for the war and reconstruction of Iraq and Afghanistan is the other major source of growth. We also typically see counter cyclical government spending when economic growth is slow as it has been the past several years. But one drag on the economy is international trade and the trade deficit. The continuing trend of negative net exports is slowing domestic economic growth.

Inflation:

After years of implementing monetary policy designed to fight inflation, the Federal Reserve Bank seems to have succeeded. In fact, over the past 12 months there has been more concern about "deflation" (falling prices) than the traditional concern about inflation. For 2002 the Consumer Price Index (CPI) was 2.4%, above the CPI for 2002 but well within recent range for inflation. Despite sharply higher energy prices in 2003, the general CPI for the 12 months ending in July was 2.1%. If energy prices remain high through the second half of the year, then the CPI for 2003 will probably be slightly above 2002. USDA is projecting the CPI for food in 2003 to be 1.5% to 2.5%, below CPI for all items. Thus, the outlook for inflation into 2004 is continuation of the current historical trend, barring some major unforeseen energy shock or other economic disruption in the economy.

Interest Rates:

The most dramatic change in financial markets in since World War II was falling interest rates during 2001-2002. In a desperate attempt to get the economy growing, the Federal Reserve Bank has lowered the Federal Funds rate to from 6.5% in the summer of 2000 to only 1% this September as a way of easing credit within the banking system. As bank interest rates fell, the housing market boomed and consumers undertook a wave of refinancing in the last 24 months. However, lower interest rates have not spurred business investment and have also reduced the incomes of those families dependent on bond and CD interest payments.

In early summer the bond market signaled the end of low interest rates. With the perception that interest rates had bottomed, an improving economy, and massive projected federal budget deficits, the bond market began a retreat with prices declining. In the last 90 days longer-term interest rates have been up significantly with T-Bill rates up a point and both corporate bonds and 30-year mortgage rates up over ¾ of a point.

Unemployment: A Jobless Recovery?

As a result of the recession, the nation lost 2.7 million jobs over the last three years, but most of these losses were in the manufacturing sector. But even the service sector rate of job creation has been basically flat the past three years. With the exception of four months in the fall of 2002 and January of 2003, the economy has lost jobs every month since March 2001. As of August there were 137.6 million employed persons but 8.9 million unemployed, down slightly from a ten-year high of 9.3 million in June. The length of unemployment rose to an average of 19 weeks during this past summer, the highest level in 20 years. In percentage terms the U.S. unemployment rate hit a low of 3.9% in the last month of 2000, but steady job losses have driven the rate up to above 6.1% for the U.S. Unemployment in Kentucky has largely mirrored the national trend, although the jobless rate has continued a slow rise in 2003 and will probably continue to rise this year.

Although economic growth is underway the economy is still shedding jobs, especially in the manufacturing sector. Factory jobs have declined while service sector jobs reached an all-time high of 107,000,000 jobs in 2001. Since the recession ended in November 2001, the job situation has led some to describe our current situation as a "jobless recovery," meaning job growth has seriously lagged in this economic recovery. But labor productivity continues to increase at more than 2% per year which has also modestly help pare the workforce.

International Trade:

Over the last thirty months, U.S. exports of goods and services have declined while imports have continued at high levels. This has created the largest trade deficit in U.S. history. The difference between the exports and imports during 2002 was almost $500 billion. This trend continued during the first quarter 2003 with a trade deficit of $136 million. The U.S. continues to see sluggish export growth with our major trading partners in Europe and Japan. But imports from China continue to increase dramatically. Last year $120 billion of the $500 billion trade deficit was accounted for by trade with one country: China.

Part of the problem with U.S. exports is the strong dollar of recent years. On a trade- weighted basis, the dollar gained strength against the currencies of our major trading partners for most of the last six years. Since early 2002 the dollar declined in strength about 10% making U.S. exports more competitive, while moderating the upward trend in imports.

Federal Budget Deficit:

We have returned to an era of twin deficits: The trade deficit and the budget deficit. This year has produced the most rapid turn-around from budget surplus to deficit in U.S. budget history. From four years of significant budget surpluses (1998-2001), we have rather quickly returned to an era of what appears to be extended massive budget deficits. When President Bush sent his proposed budget to Congress early this year, the predicted deficit for FY2004 was $307 billion. This has quickly worsened. In August the CBO estimated the FY04 deficit at $480 billion – a third more than the Administration estimate of only eight months earlier. However, it seems highly likely that the budget deficit situation will worsen further if Congress, as expected, passes a Medicare prescription benefit and if the cost of the war and re-construction in Iraq continues to climb.

An important question is, "What impact will the massive federal budget deficits have on the economy?" Since World War II the deficit has averaged about 1.6% of GDP. The most recent estimates of the deficit by both OMB and CBO indicate current and expected deficits at about 4% of GDP, twice the historical norm. The highest deficit as a percent of GDP since World War II occurred in 1983 at 5.7%. As recently as 1992 the deficit as a percent of GDP was 4.7%. Although the deficit is increasing, it is not expected to approach the record of 1983 as long as the U.S. economy continues to grow. The deficit situation is a source of a concern particularly if government borrowing begins to put upward pressure on interest rates, but the current deficit appears manageable for an expanding economy. However, as deficits accumulate this means total federal debt will grow quickly to over $4 trillion, requiring significantly higher debt service costs. Already interest costs to the Treasury are the #2 item in the federal budget, just below social program entitlements and above defense spending (USDA is #4). Interest rates are projected to rise in the near term and debt service costs will likely rise dramatically.

The rising deficit, total debt, and debt service costs will have two immediate impacts on the economy. First, interest rates will rise significantly in the coming 24 months. Long-term rates are already on the rise in anticipation of more borrowing. Over half of all federal debt last year was sold to foreigners. Only as long as these buyers are confident in our economy and political situation, will they continue to buy U.S. bonds in the coming years. Second, a huge federal deficit limits the choices the Congress and the President can make on all other federal spending. We now have little room for any more fiscal stimulus should the economy not continue its current expansion. Deficits will crowd out our fiscal ability to address issues in the public infrastructure, public safety, education and other programs.

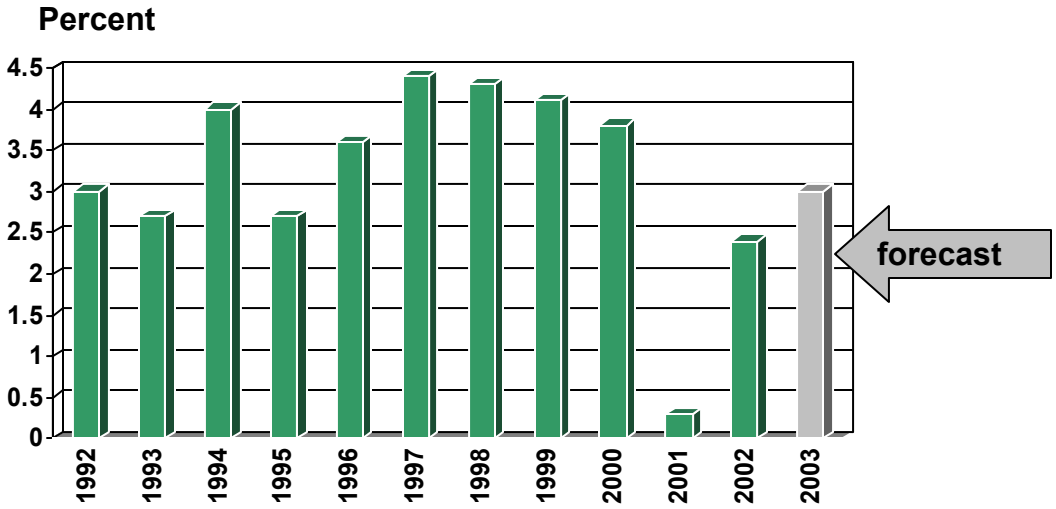
Conclusion:

We expect the economy to grow around 3% in 2004 which would be at a slightly lower rate compared to the average of the 1990's. Inflation is expected to remain moderate at 2-2.5%. The rate of unemployment is a lagging indicator and some further modest increases in the unemployment rate are expected even as economic growth continues. The trade deficit will remain large in 2004 due to a strong dollar, economic weakness among our major trading partners and the continued strong emergence of China as a world economic player. Lastly the budget deficit is increasing. The key to predicting the deficit in the coming year is how fast the economy might grow with the resulting increase in tax receipts to the federal treasury as well as what the cost is for the Medicare drug benefit and the reconstruction of Iraq and Afghanistan.

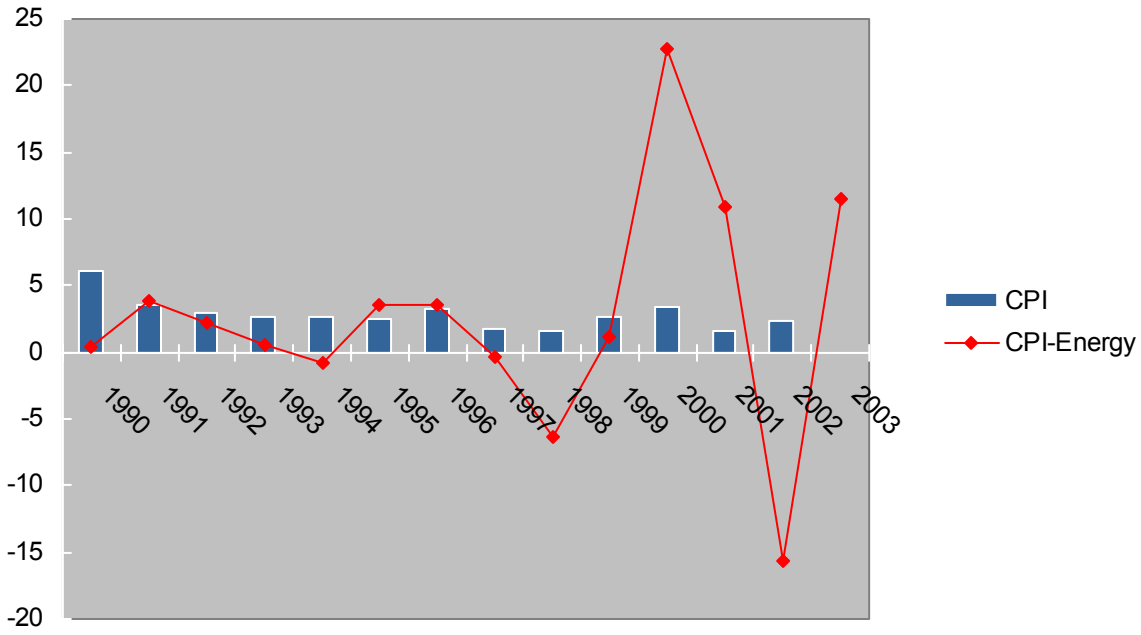
Major risk factors that could impact the economy in the coming year include:

- how fast world economic growth picks up, especially for our major trading partners
- no further major hikes in already high energy prices (oil and natural gas)
- interest rates could increase faster than expected helping curtail economic growth
- the very remote possibility of a deflationary spiral.

U. S. Economic Growth
Annual Change in Gross Domestic Product

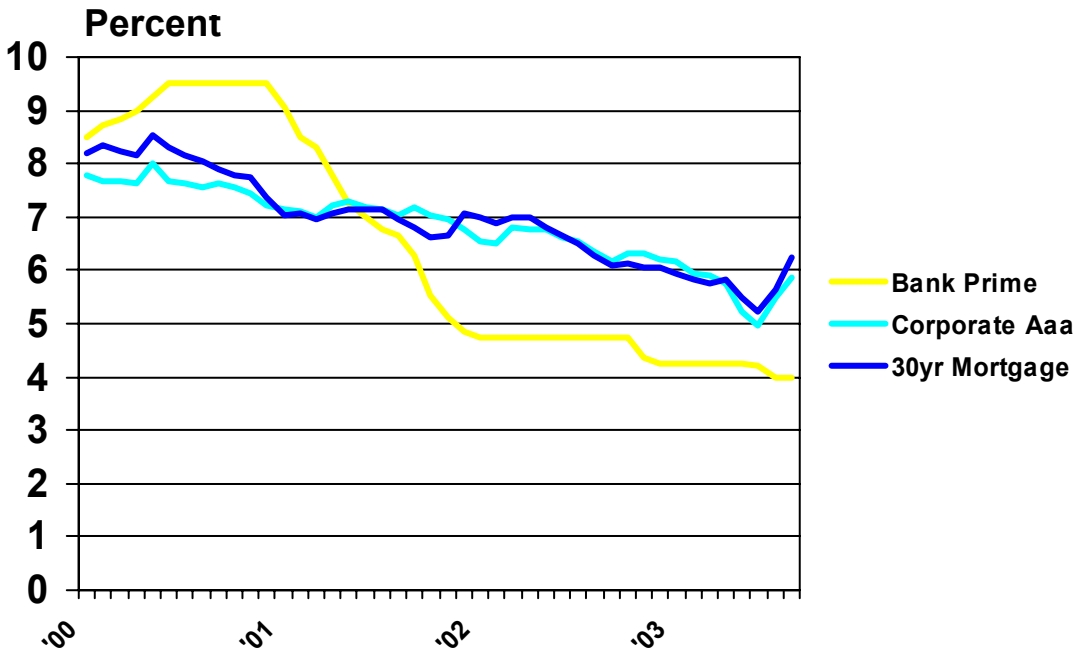


CONSUMER PRICE INDEX
ALL ITEMS AND ENERGY



Source: BLS

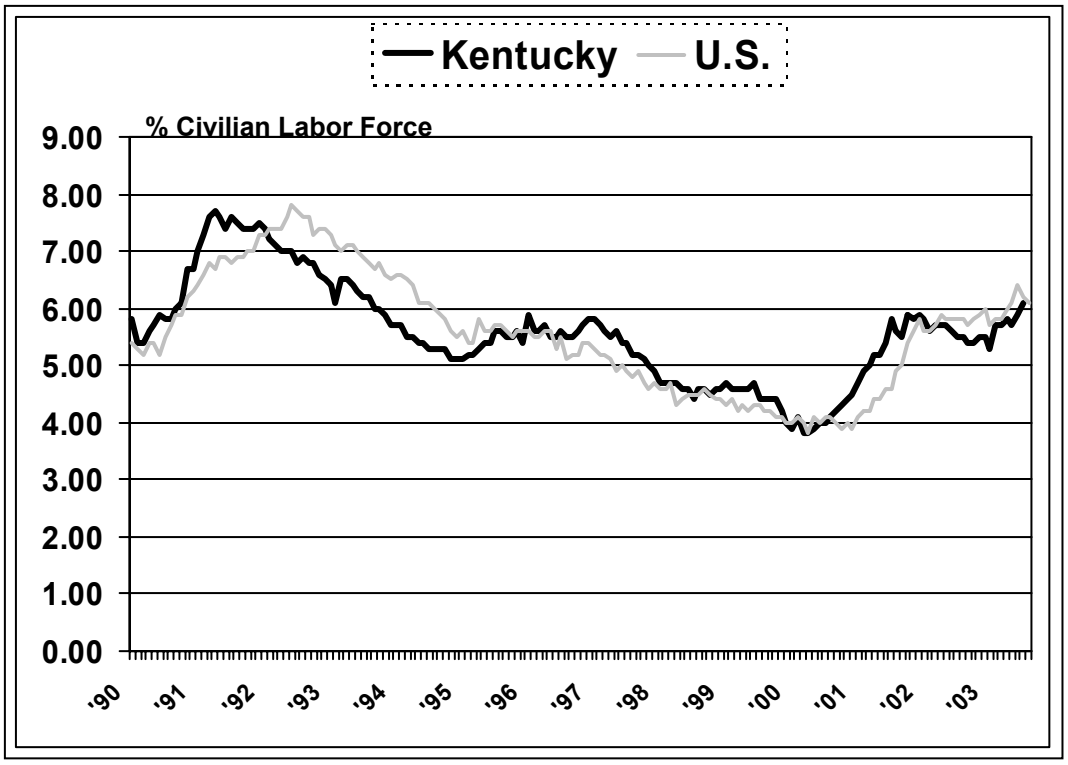
Interest Rate Trends, 2000-2003



Source: Federal Reserve Bank

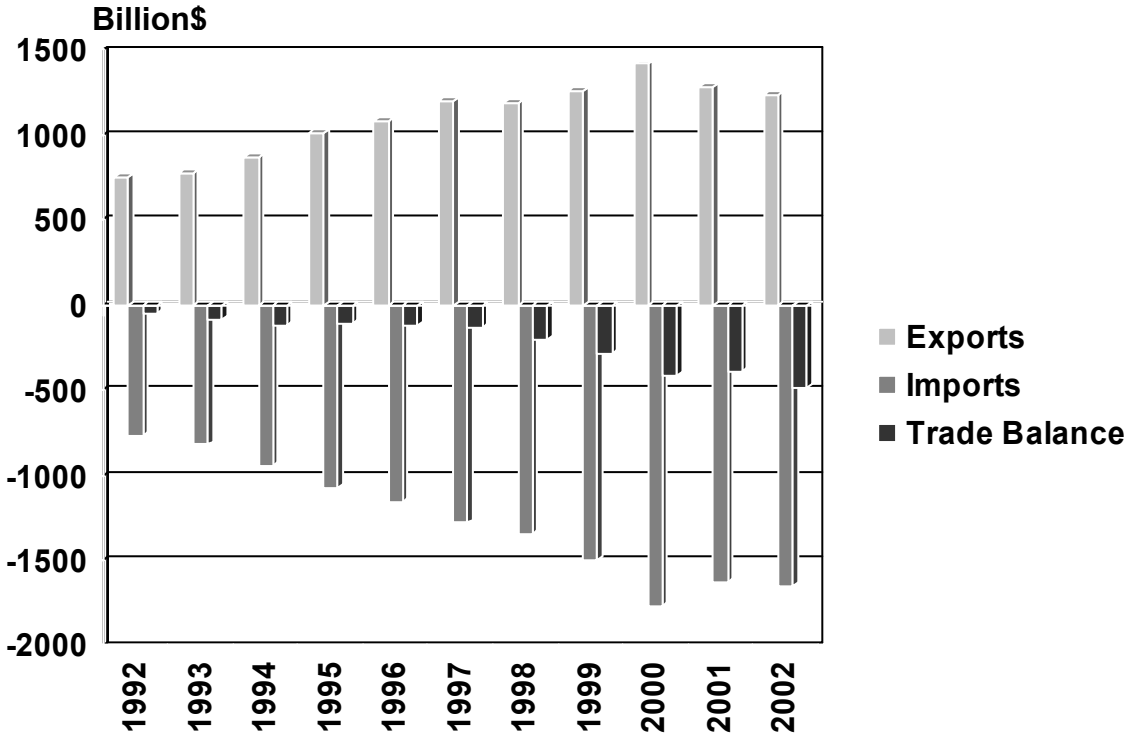
Unemployment Rates

U.S. and Kentucky Monthly Rates



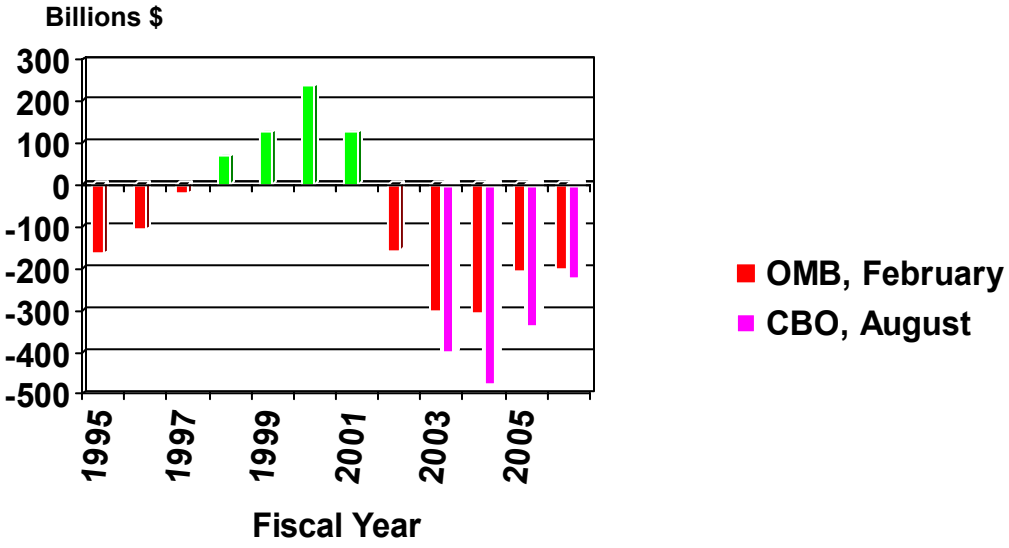
Source: U.S. Dept. of Labor

U.S. International Trade Balances



Source: Dept of Commerce

Actual and Projected Federal Budget Surplus and Deficits, 1995-2006



Source: OMB and CBO, 2003

Agricultural Economic Outlook

Larry Jones, Gregg Ibendahl and Craig Infanger

U.S. Cash Receipts and Farm Income

U.S. farm cash receipts were nearly $193 billion during 2002 with crops representing 52% of the total and livestock the remaining 48%. Cash receipts at this level represented the average of the past decade. Compared to year-earlier figures, crop receipts were relatively flat while livestock receipts fell nearly 14%, led by meat animals, dairy and poultry. Cash receipts for the current year (2003) are projected to rebound 6.5% to nearly $206 billion with both crops and livestock showing increases.

Net cash income for 2002 (gross cash income minus cash expenses) declined 16% falling more than $10 billion from 2001 levels. The majority of the decline reflected declining direct government payments. Net cash income for 2003 is projected to increase to $60 billion, which would be 6% above the average of the past decade. Both farm cash receipts and cash expenses are projected to increase. Again, a major reason for the increase in net cash income is a projected increase in direct government payments.

Net farm income for the U.S. last year (2002) fell $15 billion from 2001 which represented more than a 25% decline. Significant reasons for the decline included declines in not only government payments, but also declines in gross cash receipts. Net farm income for 2003 is projected to increase to nearly $53 billion which would exceed the $47.4 billion average of the past decade.

Kentucky Net Farm Income

Net farm income in Kentucky in 2002 fell from $1.3 billion in 2001 to less than $750,000 in 2002. The decline is largely explained by declining value of production for both crops and livestock and lower government payments. Net farm income for 2003 should rebound significantly, following the national trends with higher receipts and larger direct government payments. Higher net farm income for the Commonwealth in 2003 would reverse a two-year decline putting net farm above the average of the past decade.

Government payments during 2002 represented nearly half of net farm income for the state and the nation. Again, Farm Business Analysis data suggests that for some farms government payments represent 85% of net farm income.

Financial Situation

Farm balance sheets continue to be in good shape. Real estate values have not only held up, but have increased the past decade, unlike the financial distress of the 1980's. Farm equity has now increased 12 years in a row. Farm debt continues to increase since the mid 1980's, but non-real estate debt has increased more rapidly than real estate debt. Total farm debt in 2002 did finally surpass the peak that occurred in 1983. The financial ratios of debt/equity and debt/assets continue to look good both nationally as well as for Kentucky's farms. Of course, many farm households continue to survive financially on off-farm income earned by one or more family members. Off farm employment provides not only a supplemental source of income, but also access to benefits such as health care and retirement.

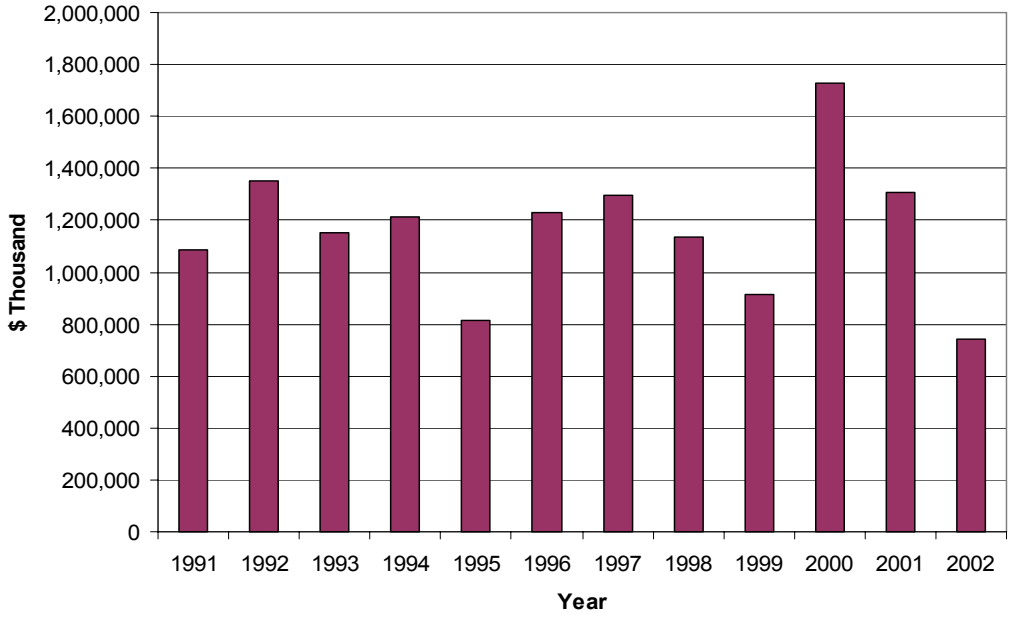
Agricultural Trade

The U.S. Department of Agriculture recently noted that, "with the productivity of U.S. agriculture growing faster than domestic food and fiber demand, U.S. farmers and agricultural firms rely heavily on export markets to sustain prices and revenues." The other aspect is, of course, agricultural trade activities have significant linkages throughout the rest of the U.S. economy. The fastest growing U.S. exports are so-called high value commodities, which now represent 65% of total U.S. exports.

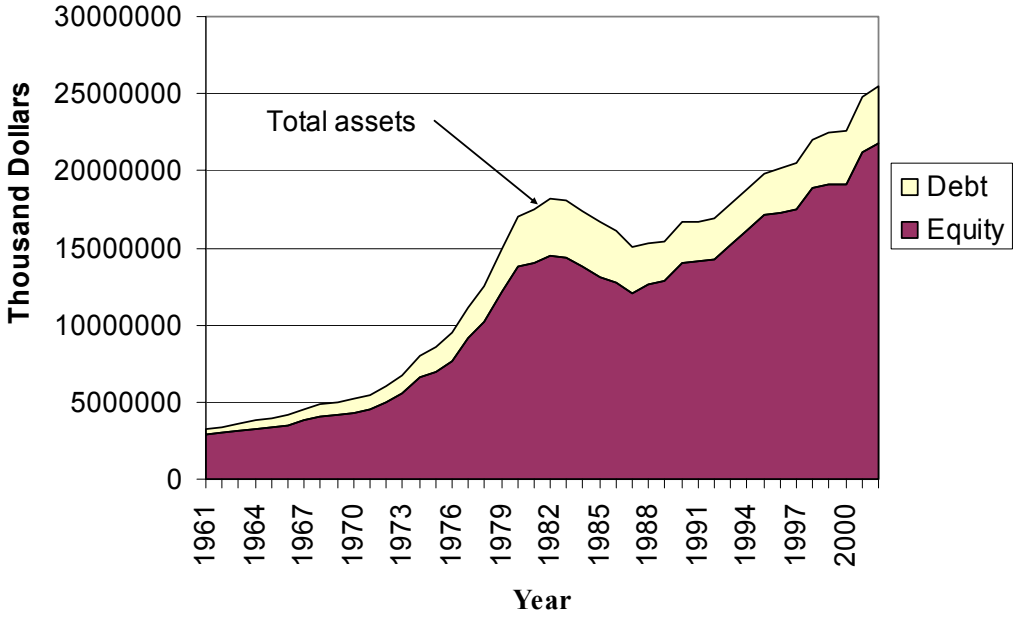
Agricultural exports during FY 2003 totaled $55.5 billion, up 4% over 2002 levels. FY 2004 exports are projected to have increased an additional 2.7%. Meanwhile imports of food and fiber have increased to more than $47 billion in FY 2004. The trade surplus (exports minus imports) for FY 2004 is projected to be $9.5 billion, which is somewhat lower than we experienced in FY 2001 and FY 2002.

Limiting factors for increased U.S. exports of bulk and high-value commodities include the exchange rate and slower economic growth with our major trading partners in Asia and Europe.

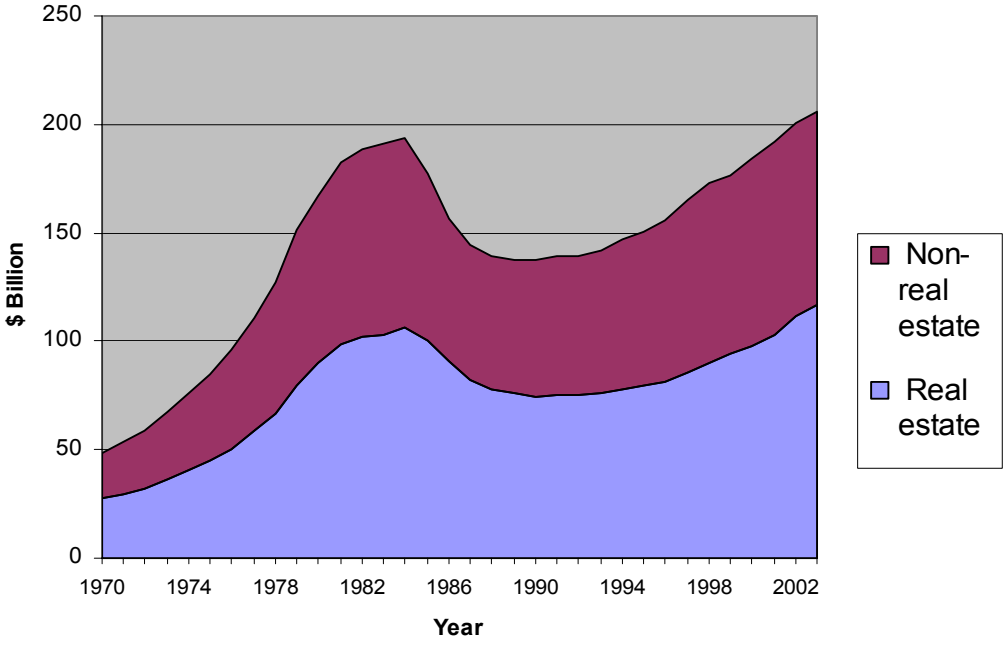
Net Farm Income--Kentucky



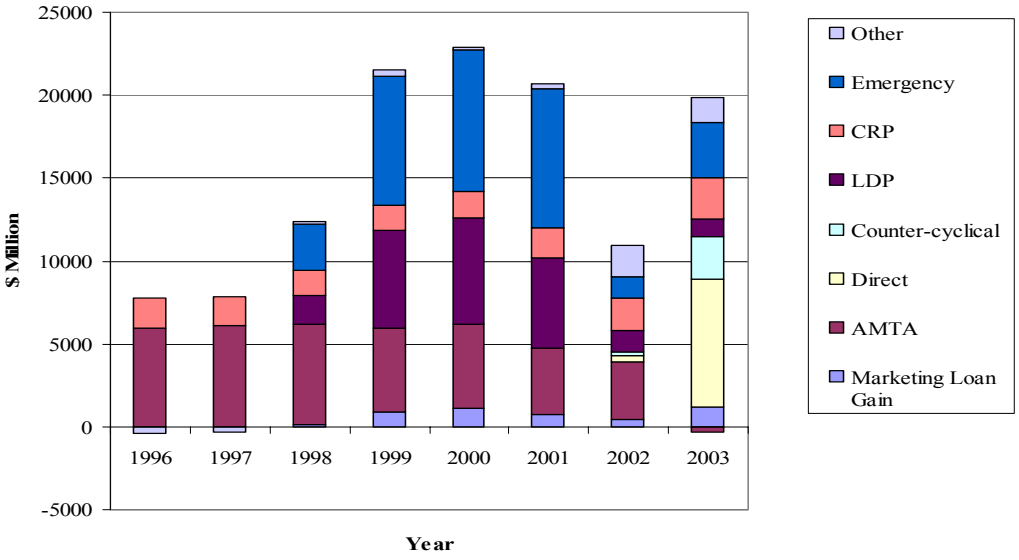
Farm Balance Sheet--Kentucky



Farm Debt in Kentucky



U.S. Government Payments to Ag.



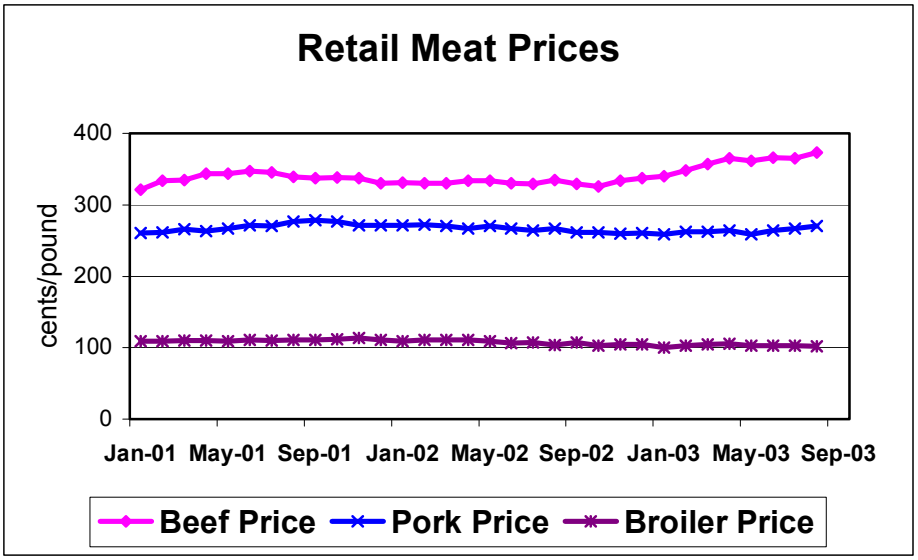
Livestock Market Situation and Outlook – 2003-04

A. Lee Meyer

Consumers can expect increasing prices at grocery stores and restaurants for meat products over the next year. Almost everyone in North America has heard about the BSE ("mad cow disease") case in Canada during May. That situation was a catalyst for the U.S. beef market. Supplies had been adequate for demand. But, the immediate elimination of three percent of our supplies of beef and of slaughter cattle caused a fundamental shift in the marketing patterns of feedlots. As price went up, feedlots quickly sent cattle to market because they expected prices to come down in the near future. As a result, cattle went to market at lighter weights and at lower quality grade. The reduction in supply further added to cattle prices. Prices went from $75 per cwt. up to $90 from July to mid September.

These higher cattle prices are being supported by higher wholesale and retail prices. Wholesale beef prices are up 40% from last year's level. Retail prices in August were 17% over the 2002 level. There is anecdotal evidence that retail prices increased 10% in September. It seems that consumer demand – in terms of willingness to pay, remains strong, allowing much of the increased wholesale price to be passed on to consumers. Over the next year, prices are likely to stay at high levels, and consumers are likely to shift at least some of their purchases to other meats, and perhaps reduce total meat consumption. The USDA is predicting a three pound per person drop for 2003 beef consumption, with another 2 pound decline for 2004 – as a result of lower production, NOT due to weak consumer demand.

Modest reductions both pork and chicken supplies expected for the next year mean that consumers will not find an abundant alternative product in the meat case. Since May, retail pork prices have gone up four percent, with chicken prices holding steady.



Tight Slaughter Cattle Supplies will Support a Profitable Feeder Cattle Market

The only way to understand the current beef market is to think in terms of both demand and supply. While most of the data available focus on beef and cattle supplies, demand appears to be just as

important as supply in understanding what is driving the market toward the current record high prices levels.

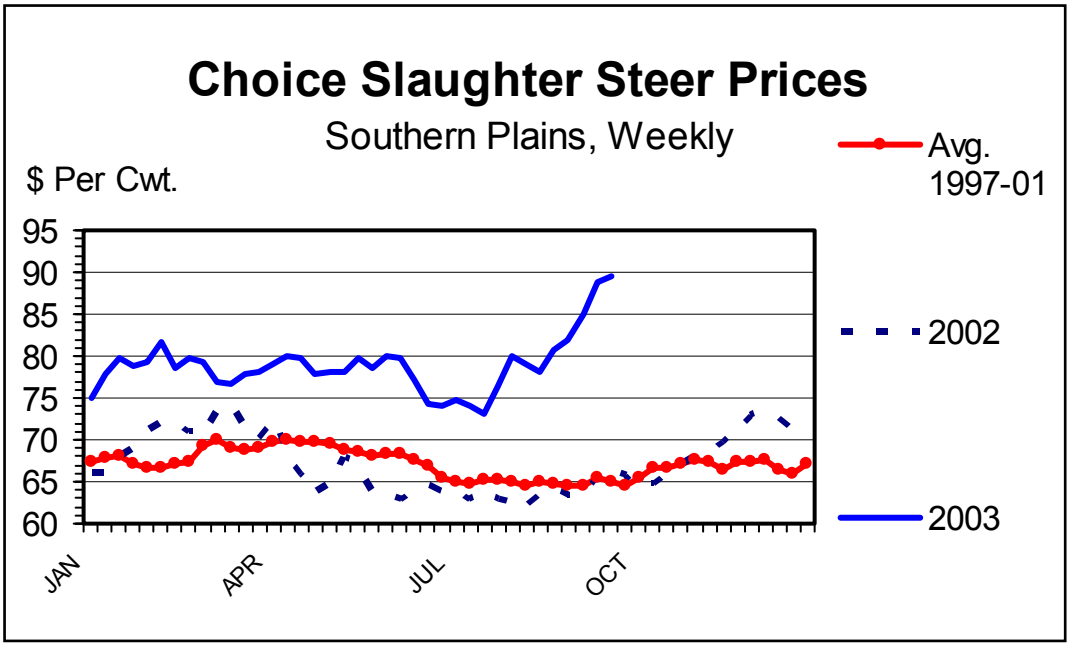
According to analysis of retail prices and product movement (conducted by Dr. Wayne Purcell and the Research Institute of Livestock Pricing at Virginia Tech), demand (that is, the relationship between prices and pounds consumed) was up 4 percent during the second quarter of 2003. Because of delays in the release of retail price information, there is a two month delay in demand data. Still most evidence suggests that demand remains extremely strong. The impact of strong demand is that the quantities of beef that consumers take home are not being greatly affected by the increasing retail prices described in the introduction. Consumers are eating slightly smaller quantities of beef at substantially higher prices.

There is not clear evidence yet on just what is fueling the strong demand. Research has focused on expenditures, but also shows that the development of convenient products and food safety are keys. Many believe that basic attitudes about the role of beef in a healthy diet are changing, but that has yet to be documented.

Trade is an important component of demand. The U.S. exports about 9 percent of its production. Japan, Mexico and South Korea are the number 1, 2, and 3 destinations. Together they account for more than 80 percent of exports. Exports are being distorted by the Japanese "Safeguard" tariff and the Canadian BSE situation. Most forecasts are based on the assumption of "normal" trade flows for 2004.

Snapshot of the Slaughter Cattle Situation – Slaughter cattle prices were below breakeven prices for most of 2002. Feedlots kept placing cattle on expectations of higher prices, which just didn't materialize. Even though slaughter was only up one percent for the year, production increased by almost 4 percent as average dressed weight hit a record high level of 758 pounds (equivalent to a 1200 live weight at a 63% dressing percentage). Coming into 2003, feedlots were becoming more cautions with their placements and the number of cattle on feed was below year earlier levels.

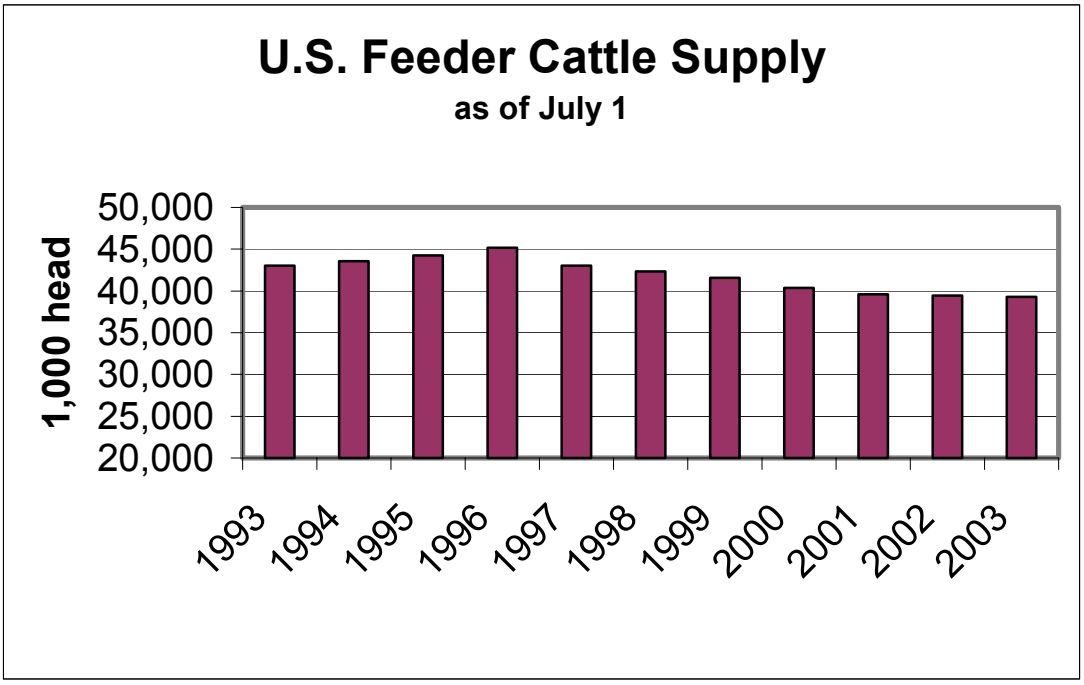
During the summer, the situation began to change dramatically. The Canadian BSE situation was the spark, but is being given too much credit for the record high prices. About 3 percent of the U.S. beef supply comes from Canada. The U.S. also imports about 3% of its slaughter cattle from Canada. The reduction in these beef sources has helped increase cattle prices. But, just as significantly, domestic beef supplies have been declining because of a 20 pound (3 percent) drop in average carcass weights because of marketings being so current. This trend will result in longer term strength in cattle prices, because as cattle go to slaughter there are fewer cattle coming out of the feeder cattle system to replace them. The September USDA Cattle on Feed report indicated that the inventory is down 3 percent, even though placements were up 7 percent. Expectations of profits and drought in the Great Plains encouraged the high level of movement into feedlots.



Source: Livestock Marketing Information Center

Slaughter cattle prices in September will most likely have exceeded the previous record high month (August, 1990 - $77.18/cwt.). Prices are likely to decline, but are still likely to end the year with a fourth quarter average in the low $80s. For 2004, the Canadian situation will be important. Even if the northern U.S. border is not opened to cattle imports from Canada, Canada is likely to push a larger number of cattle through its own facilities and export beef to the U.S. The net effect will be a longer run, but declining impact of BSE in Canada on U.S. markets. Prices for slaughter cattle in 2004 are likely to average in the upper 70s. But, because supplies will be tight, if bad weather significantly hurts the performance of feedlot cattle, prices could easily return to the $90s.

Feeder Cattle are Coming Along for the Ride – Feeder cattle prices have been pulled along by the strong slaughter cattle prices, but may still not be at their tops. There is a strong expectation/worry that the opening of the Canadian border will cause slaughter cattle prices to fall. Futures markets clearly reflect this situation. The October contract is trading in the upper $80s, but the April04 contract price is $78 (as of Sept. 24, 2003) and the June04 contract is at $72. Feedlots are bidding according to the futures prices. If the fundamental factors do keep the market for slaughter cattle in the low $80s, feeder cattle prices will be bid up above the current levels.



This strong demand for feeder cattle is confronting an increasingly tight supply for feeders. The number of feeder cattle estimated outside of feedlots is 13 percent under the level of 1996. This is a consequence of the cattle cycle. The U.S. is in the longest cattle cycle known – and it is likely to be 2 to 3 years before expansion, in terms of a larger cow herd, shows up in inventory reports.

The strong demand and tight supply provide reasons for very profitable prices through 2004. Feeder steer prices (4-5 wt.) are likely to continue to sell around $100/cwt. Steers in the 6-7 wt. class will be roughly $90/cwt. Last winter, because of high expectations for slaughter cattle for February sale, heavy yearlings were selling at about the same prices as calves 200 pounds lighter. This same situation could happen this winter.

The backgrounding enterprise is expected to be profitable if price slides follow normal patterns, which is not very likely this year. Typically a steer calf purchased in October will be sold as a yearling in March with a $13/cwt. negative slide. If so, backgrounding could return $80 to $100 per head over cash expenses. However, if prices follow current futures markets, those yearlings will be sold at breakeven levels.

Long Run Prospects – Because there is no evidence yet of rebuilding the North American cattle herd, most analysts expect tight supply factors to hold feeder cattle prices at high and profitable levels. It appears that the number of cows in the Southeast is increasing, but the drought in the West is holding back expansion beyond the Mississippi. Initial efforts to expand will pull heifers out of the beef chain, leading to even higher short term prices until the calves from those heifers eventually reach the consumer.

In spite of all the good news, the Canadian experience with BSE is a real world reminder that disaster can strike quickly and with broad consequences. Producers, especially those without high levels of equity, may want to use tools such as options, to protect against unlikely but major prices crashes, such as those which hit Canada due to the BSE case.

High prices can be an excuse to slack off on management improvement. However, it can also be a time to use the added income to improve productive efficiency through strategic investments. Such an approach can lower costs and prepare the enterprise for longer term profitability.

Lamb Prices are Strong in a Declining Industry

Increasingly tight supplies are driving lamb prices up. Choice slaughter lambs averaged $72 per cwt. in Texas during 2002, they are likely to average near $90 this year, and are expected to be even slightly higher in 2004.

As of July 1, 2003, the U.S. sheep and lamb inventory was 4 percent below last year's level – following a trend of declining numbers. Drought in the West, along with uncertainty of markets and strong competition from Australia are key reasons for the decline. For the first half of 2003, lamb and mutton production was down about 12 percent.

Imports now make up about 45% of the U.S. consumption. A 9 percent decline in imports has contributed to the higher prices. Drought is not only a problem in the Great Plains region of the U.S. – it is also leading to flock reductions in Australia. As a result, imports will continue to decline and support a strong U.S. lamb market through 2004.

Hogs Prices are Expected to Be at Profitable Levels

The hog industry has made remarkable changes over the past 10 years in structure and productivity. Firms like Smithfield and Tyson have become large processors. The size of production units have changed dramatically. According to the U.S. Pork Industry Structure Study of 2001 (led by the University of Missouri), in 1991, 43 percent of the hogs marketed annually came from operations selling fewer than 2,000 hogs per year, while only 9 percent came from the 50,000 and up head per year operations. By 2000, the smaller category only accounted for 9 percent of the marketings while the largest size category produced 51 percent.

U.S. Pork Industry Structure Study, 2001

U.S. Marketings by Producer Size

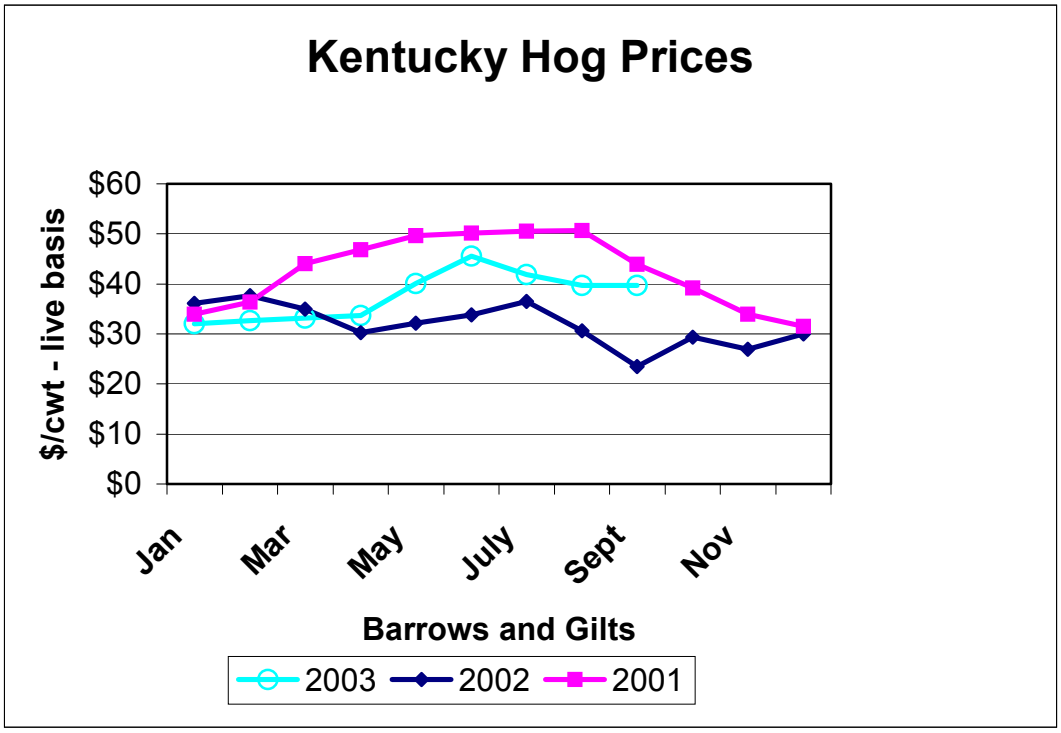
Hogs marketed annually	1988	1991	1994	1997	2000
Under 1,000	32%	23%	17%	5%	2%
1,000-1,999	19	20	17	12	7
2,000-2,999	11	13	12	10	5
3,000-4,999	10	12	12	10	7
5,000-9,999	9	10	12	10	10
10,000-49,999	12	13	13	16	18
50,000 & up	7	9	17	37	51

University of Missouri, Iowa State University, National Pork Board, Pork magazine, PIC, Land O'Lakes, Dekalb Choice Genetics, and Research Institute for Livestock Pricing

Productivity improvements have followed. In the past 20 years, pigs per litter have gone up to 8.7 compared to 7.2 and litters per sow per year have gone from about 1.6 up to more than 2. Finally, carcass weights have risen to 197 pounds compared to 170 in 1980. The result has been a combined annual rate of productivity growth (measured in pounds of pork produced per sow per year) of 4 percent. With demand increasing about 1.5 percent annually, it is obvious that the number of sows (and the number of increasingly large operations) needed to meet consumer demand is declining.

Market hog prices averaged about $35/cwt.during 2002, slightly below the cost of production. The losses led to cuts in the size of the sow herd and lower production. Total pork production for 2003 is expected to be about 19.5 billion pounds, a drop of about 1 percent. The September Hogs and Pigs report gives an indication of production levels for the next year. With a breeding herd down 2 percent, the stage is set for even lower production and a continuation of profitable prices. Fall farrowings (producing the pigs that will be harvested in early 2004 are predicted to be 2 percent under the year earlier level.

Trade, especially with Canada, significantly complicates the situation. The simplest way to describe it is that the net amount of pork (meat) imported from Canada is equal to about 4 percent of U.S production and that the 5.7 million hogs imported from Canada add about 6 percent to U.S slaughter. The bottom line is that about 10% of the U.S. pork industry has Canadian origins. However, about 7 percent of total production is exported to countries other than Canada (Japan and Mexico take two-thirds), significantly balancing the international trade equation.



For 2004, producers should expect prices in the mid $40s, roughly $3 to $5 per cwt. over the cost of production. Seasonally, prices are expected to average in the low $40s into summer and then increase into the mid $40s. Obviously, there is more uncertainty the later in the year, but production may increase pushing prices down near the breakeven point.

Broiler Industry is Adjusting to Lower Exports

In 2001, about 18 percent of broiler meat was exported. Historically, the U.S. consumes large amounts of white (breast) meat and a large amount of dark meat (leg quarters, etc.) is exported. Led by Russia bans in 2002, exports dropped by 17%, putting the equivalent of 3 percent more broiler meat on the domestic market. The result has been flat broiler prices. Still, the USDA estimates that the industry will remain profitable.

Forecasts for the next year are for small increases in broiler production. Increasing demand will help boost prices by 3 to 6 percent over the next year as consumers and the food service industry substitute chicken for increasingly expensive beef. At the same time, exports may increase and add to demand if Mexican trade increases as expected.

Kentucky production is expected to continue expanding, as one of the major processors expands processing capacity and adds 100 to 200 more broiler houses. As a result, production levels in Kentucky may expand more than the national industry.

Situation and Outlook for Corn, Soybeans and Wheat: 2003-04

Steven K. Riggins

Corn

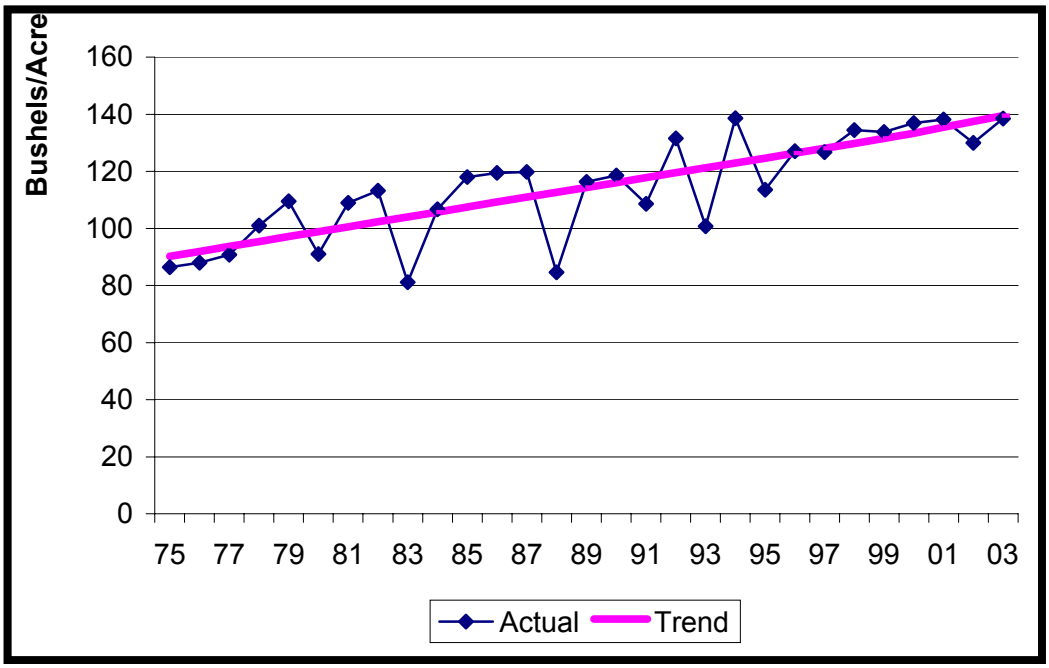
Production Prospects

In the September Crop Production Report USDA pegged U.S. planted corn acres at 79.1 million, harvested for grain acres at 71.8 million, yield at 138.5 bu/acre and total crop size at 9.944 billion bushels. The yield projection and the total crop size number are the second best ever for U.S. corn production. These numbers indicate the vastly better production weather experienced this growing season compared to last year=s crop of only 9.008 billion bushels with a yield of 130 bu/acre (nearly 9 bu below trend yield) on a harvest of 69.3 million acres.

A simple linear trend yield projection, based on 28 years of data, indicates yield potential should have been nearly 139 bu/acre this year. USDA uses a somewhat longer data set that indicates trend yield should be about 139.5 to 140 bu/acre for the 2003 harvest. This year=s corn crop is clearly much better than last season's. However, a late July/August drought and heat wave has hurt corn production significantly in the major corn producing states west of the Mississippi River. In a reversal from last year when record corn yields in Iowa and Minnesota offset problems in Illinois, Indiana, Ohio, Michigan and Kentucky this year's corn production in the eastern corn-belt appears to have more than offset the losses in the west.

Since 1975 the U.S. corn crop has experienced 11 years, counting this year, of yields below trend. When calculated as the deviation below trend, 1988 is the poorest crop yield over the time period examined, with a deviation of 24.9 percent below trend. Other years with very poor yields included 1983-- down 22%, and 1993 – down 16.9% compared to trend yield. If USDA's September number proves to be reasonably accurate this year's corn yield will be only fractionally below trend yield. However, it will be the first time since the mid to late 1970's that U.S. corn yield was below trend-line yield for two or more consecutive years (Figure1).

Figure 1: U.S. Corn Yield



It is difficult to get a very precise definition of crop size in September. Early harvest results reflect the wide range of weather conditions experienced by this year's corn crop and do not provide much confidence in judging final crop size. It is not uncommon for the USDA's final@ yield estimate to change from the September figure by 4 bu/acre or more. Last year's USDA September yield forecast indicated an average yield of 125.4 bu/acre while the current estimate for the 2002 corn yield is listed at 130 bu/acre. This, in combination with changes in the harvested acreage figure, resulted in an increase in the crop production number from last September, compared to the current estimate by USDA, of 159 million bushels. In addition to possible yield changes, this year's severe weather in the western corn-belt has already caused USDA to lower their estimate of harvested corn acres by a total of 200,000 acres over the past two monthly crop reports due to expected abandonment of acres not worth the harvesting expense. It is quite likely, based on the last 20 years of USDA crop production forecast data that final corn production for the 2003 crop, from a combination of yield and harvested acres changes, could change, up or down by 200-400 million bushels between the September and January reports.

Domestic Demand

Even though the corn export market grabs most of the attention from grain market participants it is the domestic livestock industry and the derived demand for feed that is the foundation of the corn market. Over the past 25 years feed use of corn has accounted for 58-63 percent of the total disappearance of corn for all uses 21 times. The worst corn yield year in modern history – relative to trend, 1988, resulted in very short supplies and high prices and choked back feed use to only 54 percent of total disappearance during the 1988 and 1989 crop years. Likewise, the very poor crop and high prices of 1995 combined with the best U.S. corn export year in the past 13 years resulted in a modest use of corn as feed of only 55 percent of total uses. For the 2003-04 marketing year USDA is currently projecting corn for

feed use at only 57 percent of total disappearance. Part of the reason for the relative low percentage of corn used as feed has to do with the age structure of the U.S. beef cattle herd.

Beef cattle on-feed are the number one group of livestock as far as corn consumption is concerned. USDA is projecting total livestock feed use of corn to decline for the second year in a row as cattle-on-feed numbers continue to decline. As of the August USDA report, on-feed numbers for beef cattle in major feedlots were down 5 percent compared to one year earlier and they were down 12 percent compared to August 1, 2001.

Hogs and Poultry are also important consumers of corn for feed. Poultry output has typically increased in the 3-4 percent range each year, even though growth in that category was minimal during 2001 and increased at only a slightly faster pace during 2002. Data from the poultry industry indicate that output has increased somewhat more during 2003 and should return to a more normal expansion rate over the next year. On balance, it appears that corn for livestock feed use by these two groups will exceed last year's slightly reduced levels as hog numbers also expand. However, the small expected increases in consumption of corn by hogs and poultry will not be sufficient to make up for the reduction in cattle-on-feed numbers. Even with very strong cattle prices and modest corn prices, feed use of corn should drop due to lack of cattle.

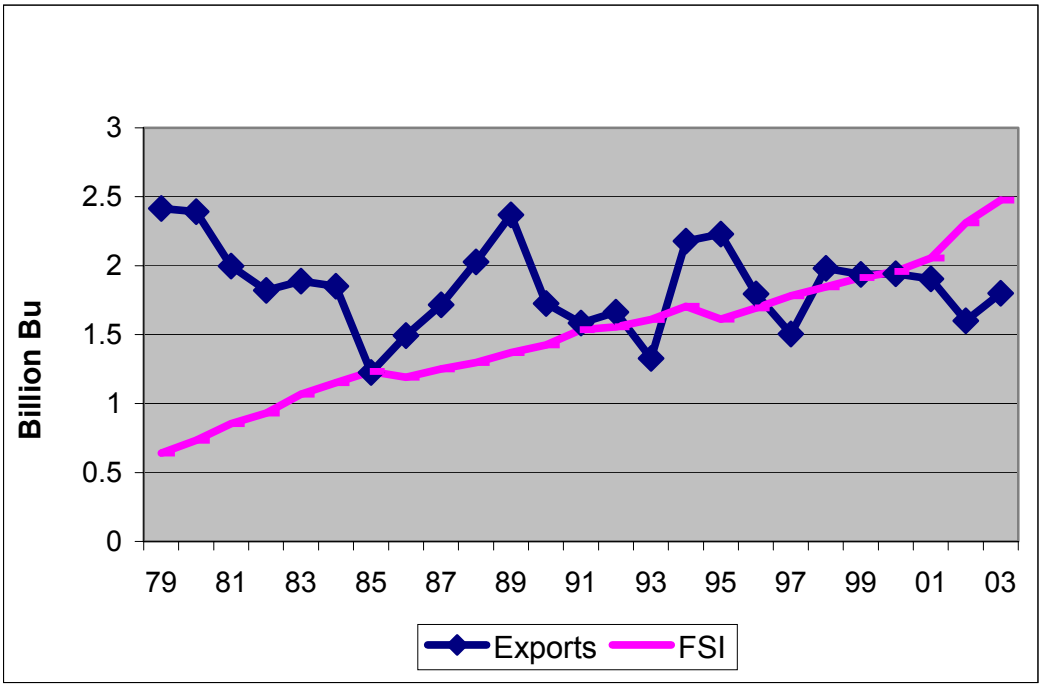
In total, USDA projected, in the September WASDE, annual livestock feed/residual use for the 2003-04 marketing year of 5.625 billion bushels compared to 5.7 billion bushels for the prior year and the record large use during the 2001-02 marketing year of 5.861 billion bushels. Livestock feed use of corn was also near record large for the 2000-01 marketing year at 5.842 billion bushels.

Unfortunately there are only 4 data observations per year that can be used to get a handle on feed use. These reports (the Quarterly Stocks Reports) are released by USDA in January, March, June and September of each marketing year. They report the quantity of grain on-hand as of December, 1--- March 1,--- June 1, and September 1. The stock level is compared to the supply total to arrive at disappearance during the prior quarter. Farmers need to stay alert for these reports and anticipate their impact on the seasonal price pattern.

The remaining category of domestic use of corn is for food/industrial purposes. The two primary uses of corn in this catchall category are for corn sugar --- used to sweeten soft drinks and many other foods, and as ethanol in motor fuel production. Higher energy costs and the MTBE issue have produced a significant expansion in ethanol production facilities (13 new facilities last year) and it is not surprising that USDA has forecast another significant increase in use of corn in the food/industrial category of 165 million bushels. This follows last year's record one-year increase in this category of 256 million bushels. This tremendous surge of corn used for industrial purposes is another reason that livestock feed use of corn is a slightly smaller percent of total disappearance than has been the case much of the past 25 years.

Many grain analysts used to claim, and some still do, that exports would be the salvation of American farmers. This has not appeared to be the case for corn over the past 25 years. Record U.S. corn exports occurred in 1979 at 2.415 billion bushels. That year exports accounted for about 32 percent of total corn disappearance, livestock feed uses accounted for 60 percent and food/industrial uses represented only 8 percent of total uses. If the USDA's current projection is reasonably accurate food/industrial uses this year will account for 25 percent of total uses, livestock feed use will account for another 57 percent and export shipments will have dropped to represent only 18 percent of total annual corn disappearance (Figure 2).

Figure 2: U.S. Corn Exports and Food/Industrial Uses



Exports

USDA is projecting a recovery in total marketing year U.S. corn exports from an abysmally low 1.6 billion bushels to a modest level of 1.8 billion bushels. The export pace from early in the season is not a very good indicator of eventual total exports, however, the pace during the first three weeks of the new season are somewhat encouraging as weekly sales and export inspection data indicate a good chance of hitting the USDA projection if these rates are maintained or exceeded.

It is clear that two sources of competition from last season's global feed/coarse grain markets will not be present this season. Russia and Ukraine have much smaller wheat crops this year and will not be able to provide even half of the feed wheat exports they sold into the world market last season.

Even though corn production in China is projected down slightly this year compared to last season (118 mmt vs. last year's 121 mmt) this will be the 3rd year in a row of good corn harvest. USDA is currently projecting Chinese corn exports at 8.5 mmt for the 2003-04 marketing year. This is about equal to their exports from two years ago, but is down significantly from last season's huge export number of 14.5 mmt (571 million bushels).

In spite of the fact that China has joined the WTO it seems clear they will aggressively export corn. China has traditionally carried a massive inventory of corn and wheat. Just two years ago USDA projects that China held 49 percent of ending world corn supplies of 129 mmt while the U.S. accounted for 31 percent of the total. China's recent strong export pace appears to be bringing their stock holding position to a lower level than in the past. At the end of last season China held 45 percent of global corn stocks of 98 mmt and the U.S. held 26 percent. The current forecast by USDA places China's ending stocks at only 34 percent of the world total (now down to only (74 mmt) and the U.S. at 36 percent. This

will keep them in position to make sales at the expense of the U.S. to nearby Asian customers, but it raises the question of how much longer they will choose to continue this aggressive export strategy.

Like China, Brazil is also expected to provide competition for the U.S. in the world corn market this year. Brazil appears to have harvested another good crop, even though it is somewhat smaller that last year's (38 mmt vs. 45 mmt). USDA pegs Brazilian corn exports this season at a modest 3 mmt. Last year Brazil is estimated to have exported 6 mmt of corn into the world market.

Major U.S. corn customers will, as usual in recent years, include Japan, Mexico and Southeast Asia. However, sales to Korea from the U.S. have about dried up as they have been making purchases from China. The Starlink problem may have cost the U.S. another customer, at least in the short-run.

Farmers need to track weekly export sales and export shipments of corn from the U.S. These reports (one on Monday and one on Thursday) give the data compared to the prior week and to the prior year=s total as of the same date. Since USDA is looking for only a 200 million bushels increase in total annual corn exports from the U.S. (about 4 million bushels per week) it will be very easy to compare the weekly data to that from one year earlier and have some idea if USDA=s prediction of the total annual export projection is holding up.

Price Prospects

Exports at 1.8 billion bushels coupled with a domestic use projection of 8.1 billion bushels produce a new record equaling total disappearance for the 2003-04 marketing year of 9.9 billion bushels. This leaves a projected ending corn stock figure of 1.064 billion bushels, which is only slightly larger than last season's ending stock figure of 1.009 billion bushels. USDA is using a price range of $2.10-$2.50 for the 2003-04 marketing year average in their September WASDE. They are also indicating a season's average price for the marketing year that just concluded of $2.30.

The situation seems to indicate a second consecutive year of stronger prices than farmers have seen since the 1997 crop year. The demand side seems pretty solid. However, the market will require proof that livestock feed demand is not dropping more than 75 million bushels and that corn exports and domestic ethanol use of corn are increasing. Farmers need to watch the weekly export numbers and the quarterly stock numbers for an indication of the pace of corn use.

The actual size of the U.S. corn crop for 2003 is the most important unknown that will effect the season=s average U.S. corn price and the seasonal price pattern. What China does in the corn export market is also an important consideration. The very modest U.S. projected carryover stocks number in combination with a very tight world stock situation for both corn and wheat should cause enough concern about sufficient corn supply for this year and sufficient corn acres for next year to provide a stabilizing force for the market.

History suggests that USDA's September corn production number is correct within plus or minus 300 million bushels. As long as the final actual crop size number remains within those bounds U.S. corn prices should probably weaken as harvest picks up speed and then make a modest recovery over the winter storage season. Spring and summer weather and farmers planting decision will then drive the market and should provide a pricing opportunity next spring to finish any remaining "old-crop " sales and get a respectable percentage of next year's production forward priced on rallies by mid summer. Using option strategies should also prove to be beneficial as they were this year.

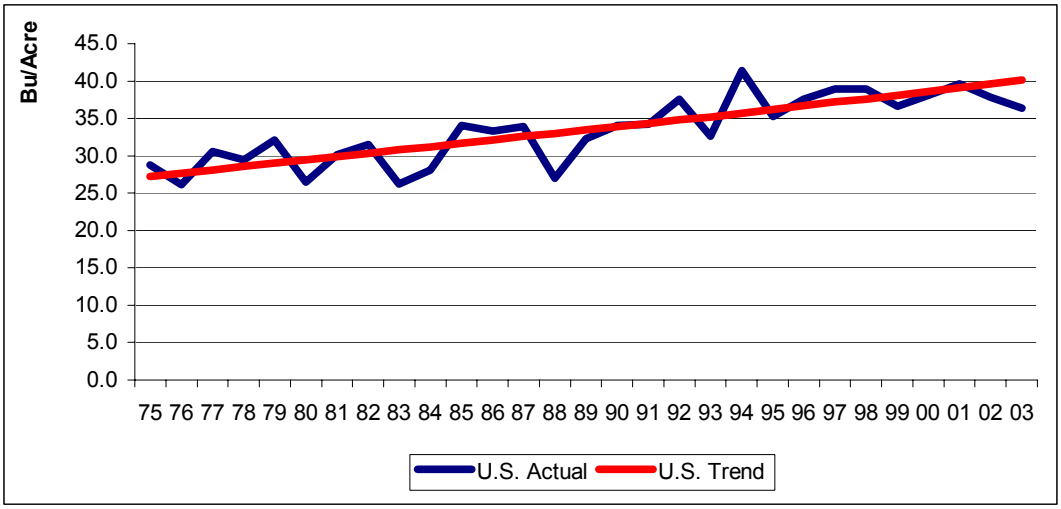
Soybeans

Production Prospects

In July virtually all soybean market watchers, experts and the USDA believed that U.S. soybean farmers were in the process of producing a near record large soybean yield and record total production. In the July WASDE, soybean yield was projected, using a regional statistical trend yield model based on data from 1978- 2001, at 39.4 bu/acre while total production was listed at 2.885 billion bushels, essentially equal the record crop of 2001-02. It was common in the farm news media to see and hear projections of crop size in excess of 3 billion bushels. By late July it was starting to get hot and dry in several western soybean producing States. However, the August 12 WASDE still projected soybean yield for this season at 39.4 bu/acre, based on the first objective farm level data from measured plots, and it listed total production at 2.862 billion bushels. The only real recognition of the emerging drought in the West was a reduction of 100,000 acres in the projection of harvested soybean acres.

By mid-August it was evident that heat and drought stress on soybeans were taking a serious toll on soybean yields. In the September WASDE the yield projection was lowered to 36.4 bu/acre, a 9 percent reduction below projected trend-line yield. Any yield loss that exceeds 8 percent of trend is typically considered a serious drop in yield (Figure 3). Total crop size is currently projected at only 2.643 billion bushels, the smallest crop since the 1996-97 marketing year.

Figure 3: U.S. Soybean Yield



Market watchers are waiting on combine results to help them judge what actual crop size will turn out to be. Early results from several of the Western States as well as Northern Illinois are indicating severe yield loss. History indicates that a change of 100 million bushels, plus or minus, between the September forecast and the final estimate in January is a common occurrence. However, with such a large area of the U.S. soybean production region affected it is likely that production estimates will vary by more than average historical amounts. An additional complication is what appears to be excellent soybean yields in the States of Ohio, Indiana, Kentucky and Michigan and several of the minor Southern soybean producing States. These crops are late in development and make crop size assessment even more difficult. Currently the market is behaving as if production in these States will fail by a significant degree to compensate for yield loss elsewhere.

Usage Prospects

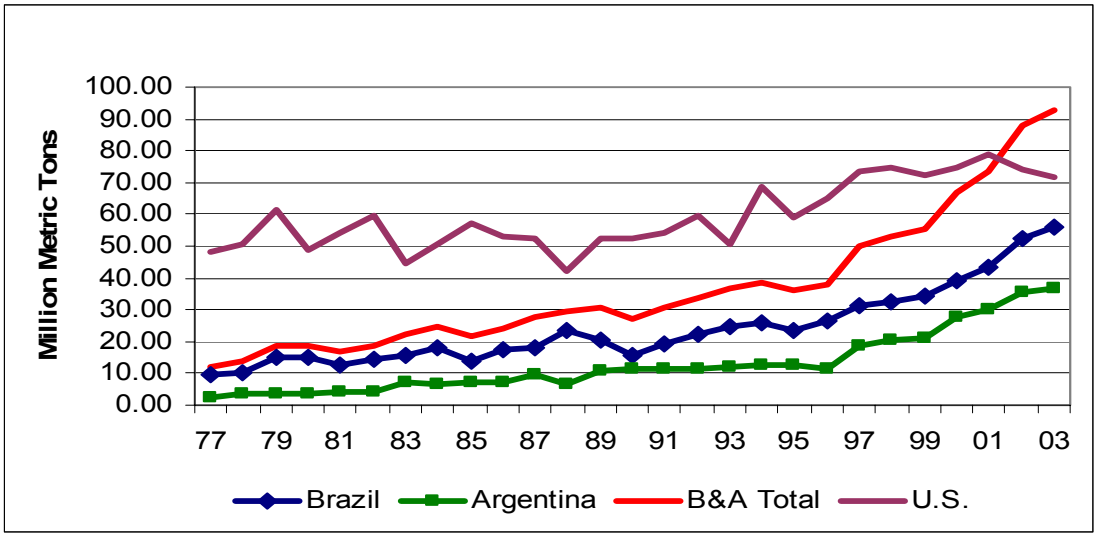
Soybean crop size, plus last year's very small carryover stocks, is already expected to be insufficient to meet market needs for the 2003-04 marketing year. If the crop continues to get smaller, projection of soybean usage will have to decline. Currently USDA is projecting total use of U.S. soybeans at 2.652 billion bushels, down 150 million bushels from last season and down more than 280 million bushels from the record use set during the 2001-02 marketing year of 2.933 billion bushels.

USDA expects higher prices to curb soybean oil exports for the second year in a row, dropping from 2.5 billion lbs. in 2001-02 to 2.25 billion lbs. last year and declining all the way to only 850 million lbs this season. Soybean meal exports from the U.S. are also expected to be down from 7.5 million tons two years ago to 6.15 million tons last season to 5.3 million tons this year.

Exports of whole soybeans are expected to drop by 100 million bushels compared to last year as domestic use for both meal and oil will remain strong, even at higher prices, and foreign needs will be more nearly filled by expected record large supplies from South America.

The current WASDE projection places total annual exports for the 2003-04 marketing year at 940 million bushels. This level of U.S. exports assumes that Brazil will produce a record crop of 56 mmt (2.058 billion bushels). This is a projected increase of 3.5 mmt or 6.7 percent over last year's record output. It seems quite likely that USDA will revise their projection upwards in coming reports as soybean prices are much higher currently than when USDA issued their last figure. It is possible that Brazil could increase output by more than 10 percent. They increased soybean production by 20 percent from the 2001-02 crop to last season's harvest. It would be difficult for them to clear that much new land quickly but they will try and it is a near certainty that they will produce a new record output unless weather intervenes. USDA forecast the Argentine soybean crop for 2004 at 37 mmt (1.36 billion bushels), up 1.5 mmt, and also a new record yield (Figure 4). These soybeans are not yet planted.

Figure 4: Soybean Production in U.S., Brazil & Argentina



The major importers of whole soybeans are expected to remain the European Union (EU) EU C 18.6 mmt, China, C 19 mmt, and Japan 5.2 mmt. The major soybean oil importers should be China and India, while the EU is expected to be the dominant world soybean meal importer.

Price Prospects

As mentioned above, U.S. soybean crop size currently appears inadequate to meet the needs of the market place based on recent prices and supplies. Prices are rising to ration available supplies. Based on September data it looks like use of U.S. produced soybeans will have to decline at least 150 million bushels from last year's strong level. If the crop gets smaller as harvest progresses use will have to decline by a like amount. It is unlikely the market will allow projected carryover stocks to drop much, if any, below 100 million bushels. Currently USDA projects carryover stocks at 135 million bushels. Therefore, it might be possible for the projected crop size to drop by about another ½ bushel /acre and have only a small additional price surge. Any drop in yield beyond that level should generate a more vigorous price response.

Until crop size is clearer the market will very volatile. South America planting decisions await and the export demand picture is just beginning to unfold. In September the USDA projected a season=s average price for the entire 2003-04 soybean marketing year to fall within a range of $5.25 - $6.15 per bushel. Average soybean prices for the past two crop years have been $4.38 for 2001-02 and $5.55 for the just concluded 2002-03 season. Given the damage that appears to have occurred to much of the crop since the last WASDE report it seems highly probable that USDA will increase their projected season's average price range in the October report. However, that will be revealed on October 10. The market is anxious for this set of data.

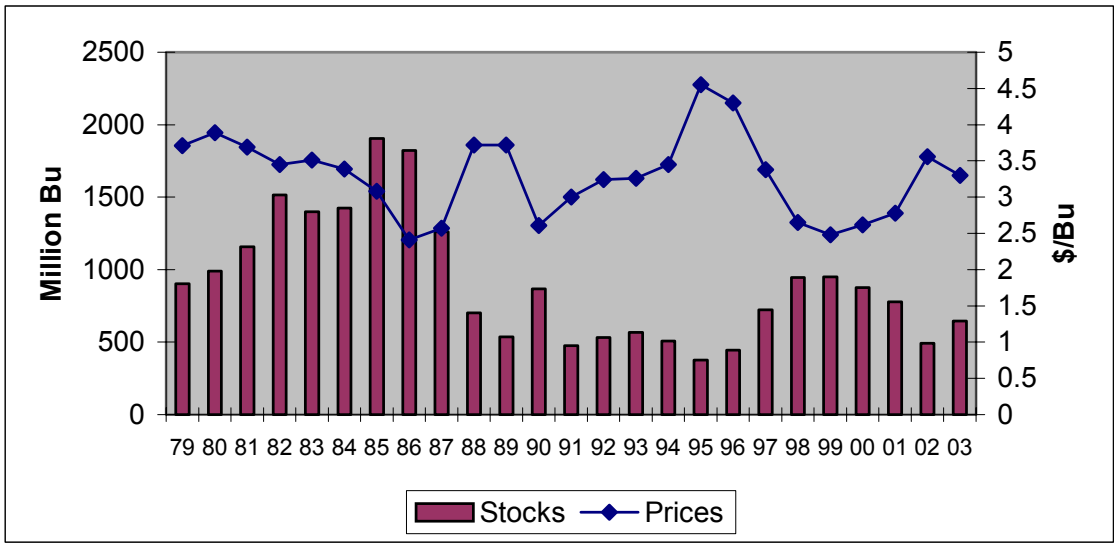
Clearly, prices are going to be strong again this season, for the second consecutive year, compared to prices seen since the 1997-98 season. However, with use having to be cut due to lack of supply much depends on the expected production from South America and on import decisions by China. If South America fails to produce this new record crop, larger than any crop ever produced in the U.S. for the second year in a row, prices could go much higher. However, if China doesn't import many soybeans from the U.S. and the South American crop comes in as forecast, and the U.S. crop is not hurt as much as many currently seem to believe, global supplies will be more than adequate and prices need not rally much, if any, beyond recent highs and the market would be subject to a serious sell-off.

It is difficult to do so but farmers should sell into a rally of this nature. Sell a small percentage each time the market makes a new leg-up and have a reservation price in mind on what to do if the market starts to fall sharply before all desired sales are achieved. The market is not paying any carrying charges and is telling farmers to price their soybeans for immediate shipment. If a farmer wants to gamble on a modest percentage of production it might make some sense to replace a portion of sales with the purchase of call options. This would limit the cost of this strategy to no more than the call premium. This would probably be preferable than holding the soybeans in storage.

Wheat

After four consecutive years of very low wheat prices U.S. wheat producers are looking at the distinct possibility of a second consecutive year of strong wheat prices (prices above $3.00). This appears to be the case even though wheat production has returned to a much more normal U.S. level of nearly 2.3 billion bushels – compared to the last two year's production of 1.62 billion bu. and 1.96 billion bushels, respectively. Strong prices appear to be the case even with the U.S. in a stock- rebuilding phase (Figure 5).

Figure 5: U.S. Wheat Stocks and

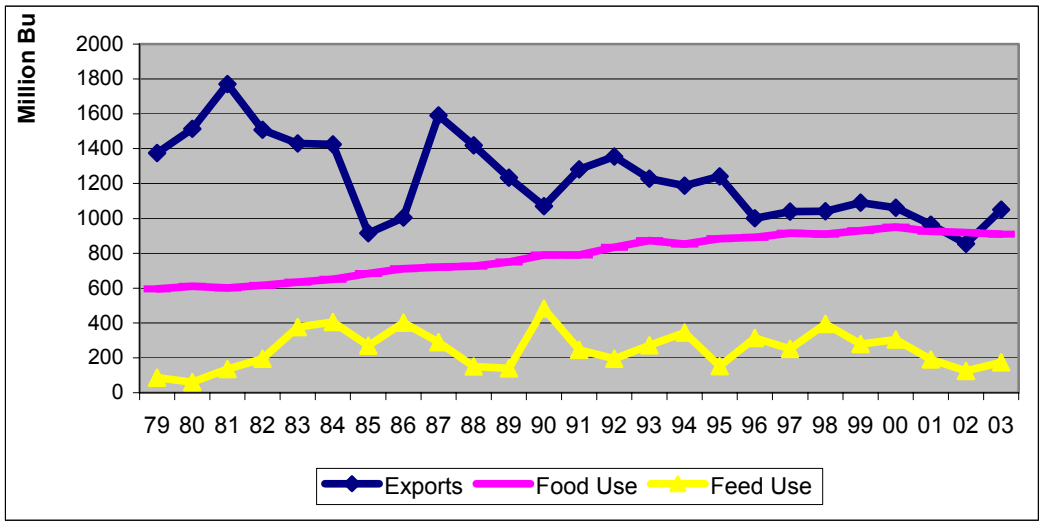


The main factors supporting U.S. wheat price prospects are a continuation of a recent trend of tightening world wheat supply/demand balance with a continued drop in carryover stocks and a U.S. dollar that has weakened compared to our major competitors, Canada, Australia, Argentina, and the European Union (EU). An additional contributing factor this marketing year is the dramatic reduction in wheat production and consequent ability to export wheat in the former Soviet Union nations of Russia and Ukraine.

World wheat production has dropped from 581 million metric tons (mmt) in the 2001-02 marketing year to 564 mmt last year and is currently projected by USDA to total only 547 mmt for the current 2003-04 marketing season that began on June 1, 2003. Even though world wheat production has lagged the past three seasons, world wheat consumption continues at a very robust pace. World wheat use totaled 584 mmt in 2001-02, 597 mmt last year and is projected to drop back to 582 mmt this marketing year. This tightening of global wheat supplies is projected to lead to a drop in wheat exports by Russia of nearly 10 mmt, Ukraine 6 mmt, Eastern Europe 3 mmt, and India 2.5 mmt. These non-traditional wheat exporters provided the supplies needed in the world market last season due to the shortfall in production that occurred in the traditional wheat exporting nations of Canada, Australia, and U.S. and to some extent Argentina. The EU was the only traditional world wheat exporter with a normal or above normal wheat harvest last season.

The reduced supplies in the non-traditional exporting nations and the cheaper U.S. dollar provide a solid basis for USDA to forecast a turnaround in U.S. wheat exports after the very weak performance of the past two years – annual exports below 1 billion bushels (Figure 6).

Figure 6: U.S. Wheat Uses



However, the U.S. will not have the global market all to itself. Wheat production appears to have made a very strong recovery in Australia – 24 mmt compared to last year's 9 mmt. Wheat production is also much improved in Canada with estimates for this year currently placed at 21 mmt while last year's output is listed at only 16 mmt. Argentine production is forecast to also be above year-ago levels, but only by 1 mmt. The EU is the only member of the traditional wheat-exporting group that has a smaller crop this season compared to last year's harvest, down nearly 10 mmt, due to the major heat-wave/drought that devastated much of Europe this summer.

USDA is currently projecting that the traditional exporters, minus the U.S., will increase their net exports roughly 10 mmt above last year's total. Additionally, USDA is projecting that last year's "non-traditional" wheat exporting nations will decrease their annual shipments collectively by slightly more than 20 mmt. This leaves plenty of room for USDA to project that U.S. wheat exports will rise by a little over 5 mmt (854 million bushels to 1.05 billion bushels).

As of late September, nearly 1/3 of the way through the 2003-04 wheat marketing year, U.S. wheat exports are 15 percent ahead of last year's weekly export shipment pace. Weekly numbers have averaged 21 million bu for the first 15 weeks of the 2003-04 year and need only average 20 million bushels the remainder of the year to hit USDA's projection. Given this encouraging situation it might seem surprising that wheat prices have recently dropped as strongly as they have from their mid-August high.

Traders are clearly very aware of the above statistics. They are also aware of stagnant domestic food uses of wheat (refer back to Figure 6). It seems likely that expectations of all market participants are that U.S. and global wheat acres will expand, perhaps sharply, in the coming year in both hemispheres. The global supply/demand balance is very tight by any historical measure. This will serve to underpin the market very well until larger supplies are much more assured than they are currently. Prices should probably recover somewhat from their recent sell-off, but weekly U.S. export sales and shipments must remain very robust and provide the support for ideas that U.S. wheat exports will actually exceed the USDA's current figure of 1.05 billion bushels. The other item farmers should look to for an indication of price direction is the Winter Wheat Seedings Report that USDA will publish in early January 2004.

It may be prudent for wheat producers (if they have not already done so) to take advantage of any price rallies this winter to begin pricing a portion of next year's crop. As an example, if weekly export sales remain very strong, prices should recover, farmers can then sell a small percentage for every 3-5 cents rally in the market. This way they might get 30-50 percent of next year's expected production priced before the wheat acreage report comes out in January. This report and the cumulative weekly export data will provide direction on whether to speed up sales or take a go-slow approach with any remaining wheat.

Kentucky Tobacco Situation and Outlook

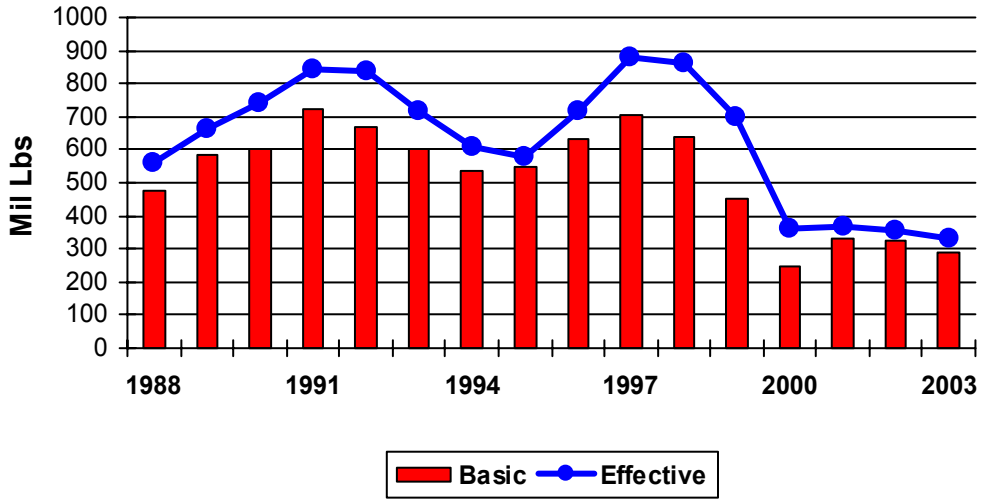
Will Snell

The current tobacco situation and outlook in Kentucky continues to be dominated by discussion over a potential quota buyout. Will there be one? If so, when? Will a production control/safety net national tobacco policy exist in the future? If so, how volatile will prices/production be with under a modified program? How will the economic structure of tobacco production change in terms of location and size of production following a potential buyout and potential FDA regulation? And, of course, what happens if there is no buyout or no program following a buyout? The question of whether there will be a buyout or not may be answered in the coming weeks, but if it does occur, it could be years to determine the implications of the buyout as both manufacturers and growers will have to adjust to a dramatic change in the U.S. tobacco policy that has existed for the past 65 years. Despite almost all the attention directed to this one issue, Kentucky farmers still have a crop to market this fall and production/management decisions to make for the 2004 crop year -- with or without a buyout. This paper provides an overview of the current supply/demand balance for Kentucky burley and dark tobaccos along with some observations regarding the current status of the buyout as of late September 2003.

2003 Burley Quota/Production

Following a two-year period of relatively stable quotas, the 2003 burley tobacco basic quota was reduced 11%, primarily in response to an 18% drop in purchase intentions. The 2003 U.S. burley effective quota totals 332 million pounds, 5% lower than the 2002 level. Production of the 2003 burley crop was certainly challenged by poor growing conditions during periods of the season. Excessive spring rains delayed planting and adverse weather conditions during the growing season often resulted in disease pressures on the crop. But timely rains ultimately resulted in a much better crop than originally anticipated. According to the September 2003 crop report, U.S. burley production is projected to total 290.5 million lbs, 3% below last year's crop and 88% of the 2003 national effective quota.

Figure 1: U.S. Burley Quotas



U. S. Burley Demand

U.S. burley demand is dependent on U.S. cigarette production, leaf exports, and imports. In recent years all three of these have had a major negative impact on U.S. burley demand.

- U.S. cigarette production has declined by more than 25% from its record level in 1996 and is 20% lower since the signing of the Master Settlement Agreement (MSA) in 1998. While settlement-induced price increases for domestic cigarettes, along with higher state excise taxes, and wholesale price increases have caused a noticeable drop in domestic cigarette consumption, down 12% since the MSA, the largest factor reducing cigarette output in recent years has been the significant decline in U.S. cigarette exports – down nearly 50% since its 1996 peak. In addition to the slumping U.S. cigarette export level, the biggest issue with respect to product demand has been the dramatic change in the distribution of cigarette sales in the U.S. market. While U.S. cigarette consumption has reverted back to its traditional 2-3% annual decline, sales by U.S. cigarette manufacturers have dropped considerably in 2002 and 2003 as importers and deep discount domestic brands have taken a large share away from the majors. Recent estimates indicate that the non-major, price competitive brands now account for 10-15% of the U.S. market, with projections that they could approach 15-20% in the near future. According to industry experts, most of these imported and deep discount brands contain very little, if any U.S. tobacco.

Figure 2: U.S. Cigarette Production, Consumption, and Exports

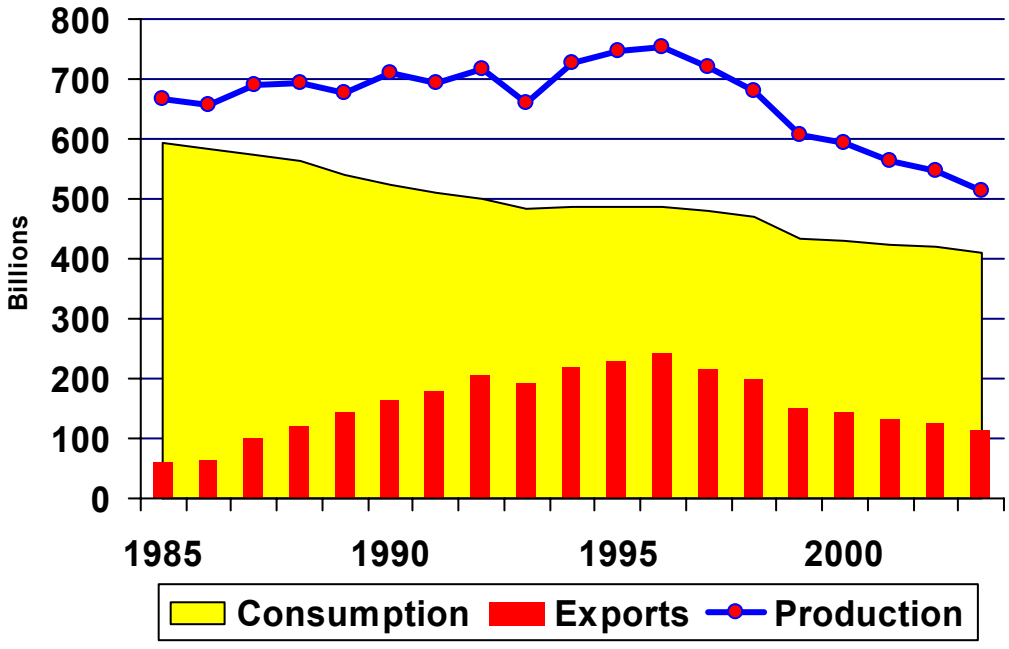
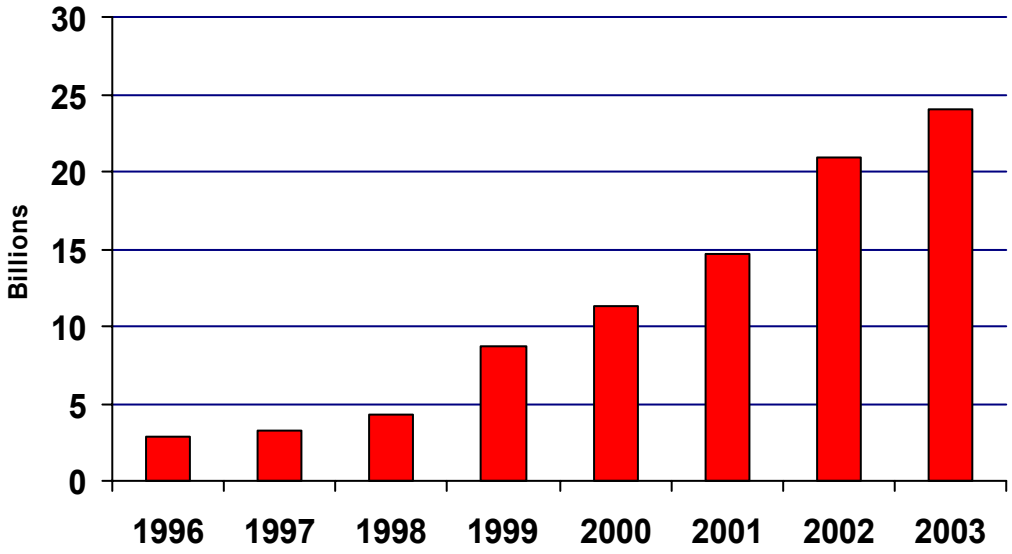


Figure 3: U.S. Cigarette Imports



- U.S leaf exports peaked in 1996 at 209 million pounds, but in recent years have been in the 135-140 million pound range as ample, lower-priced foreign burley has displaced U.S. burley in foreign markets. The Burley Cooperative was successful this year in making a first-time sale of U.S. burley to China. While the modest sale to the world's largest cigarette market was encouraging, the outlook for future significant sales remains uncertain.

- Following several years of increasing shipments of foreign burley to the U.S (despite declining U.S. cigarette production), imports have declined in 2003 as manufacturers draw down stocks amidst declining cigarette production. Currently, imports account for approximately 50% of domestic leaf usage.

Collectively these factors have resulted in U.S. burley demand falling by approximately 50% in recent years. While the 405 million pound burley and flue-cured annual commitment made by the participating manufacturers for the next 10-12 years as part of the anti-trust tobacco lawsuit agreement made earlier this year will provide a floor, this, by itself, will not boost U.S. quotas in the near future. With no apparent rebound in site, increased pressures exist on farm group leaders and policymakers from tobacco states to successfully complete a buyout to not only compensate tobacco farmers, but also to improve the U.S. competitive position in the world tobacco market.

2003 Burley Market Outlook

Increased international price competition, a rapidly changing U.S. cigarette market, along with buyout politics collectively will affect U.S. tobacco markets in 2003. But due to the structure of the U.S. price support system, the volatility will occur on the demand side and not on market prices. Prices for the 2003 U.S. flue-cured market have been relatively stable compared to last year, with contract prices averaging a little more than 10 cents/lb higher than auction sales. Flue-cured loan intake on a percentage

basis though has been considerably higher this year, totaling around 70% of auction marketings. However, given that around 85% of the U.S. flue-cured crop is contracted, only around 10% of the entire crop has gone under loan as of late September.

On paper, the current domestic and worldwide supply/demand balance for burley appears favorable entering the 2003-2004 burley marketing season. However, a slumping and changing U.S. cigarette market coupled with a non-competitive U.S. price structure does raise concerns for this market, despite lower U.S. burley supply levels. On top of the economic concerns, it is unclear how buyout politics will impact the 2003 market. If a buyout occurs prior to the opening of the market, will buyers postpone 2003 purchases for anticipated lower prices evolving from a post-buyout period? Another concerning issue will be whether the traditionally largest U.S. auction purchaser, Philip Morris, will decide (as they did for this year's flue-cured market) to not participate on the 2003 burley auction market. Despite these unknowns, the structure of contract prices and auction prices, assuming a good quality crop, should result in U.S. burley prices remaining near recent record high levels. Loan intake from auction sales could be relatively high on a percentage basis, but similar to flue-cured, given that around 80% of the burley crop may be sold via contracts, the loan intake on a volume basis should not be too excessive. However, this will add to the 88 million pounds currently under loan and thus continue to add downward pressure on quotas for 2004 (assuming a quota system remains in place for 2004).

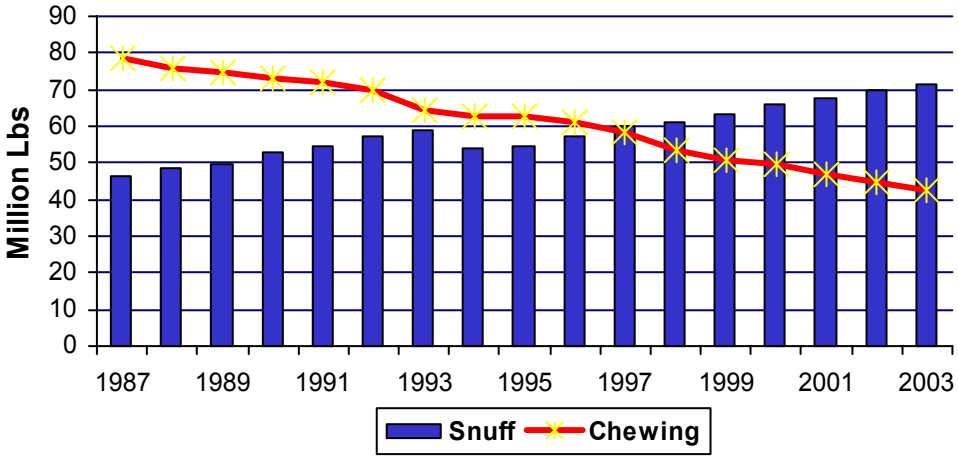
2004 Quota Outlook

If a buyout materializes, the quota formula will likely become obsolete. However, given the uncertainties of a buyout, it becomes necessary to evaluate the quota formula components. While the export average component may stabilize at recent levels, it is unlikely that the industry will see any improvement in the purchase intention level or the reserve stock adjustment. Consequently, additional pool intake from the 2003 crop, coupled with anticipated lower purchase intentions will likely lead to additional quota cuts for 2004.

Dark Tobacco Outlook

Dark tobacco is used primarily in smokeless tobacco products. Over the past two decades, chewing tobacco sales have continued to spiral downward, but the dark tobacco industry has benefited from increasing domestic snuff consumption. Snuff sales have increased steadily since the mid 1980s, elevating domestic demand. However, increasing foreign competition has reduced the export demand for dark tobacco in recent years.

Figure 4: U.S. Snuff Consumption



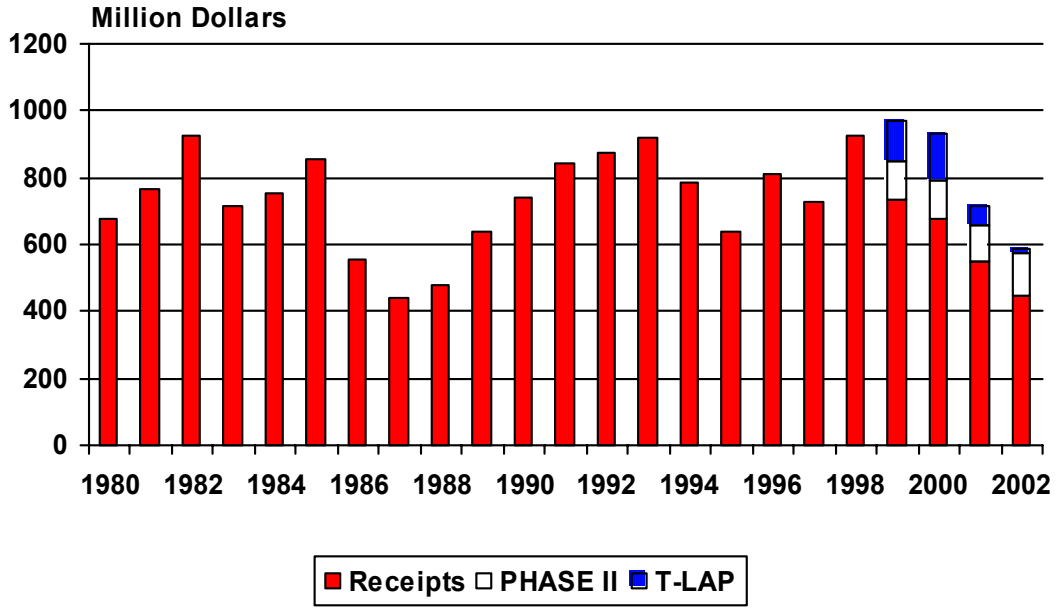
During the latter 1990s, U.S. dark tobacco supply and demand were fairly well in balance with production closely tracking disappearance levels of approximately 35 to 40 million pounds for dark fire-cured and 8 to 10 million pounds for dark air-cured. However, extremely large crops (due primarily to yield advancements) relative to demand in both 2000 and 2001 resulted in noticeable pool intake during these two years. Consequently, dark fire-cured allotments were reduced by around 20 percent in both 2001 and 2002, while dark air-cured allotments were also cut by a double-digit percentage in both 2001 and 2002. However, a more favorable supply/demand balance resulted in dark fire-cured allotments being boosted 2% in 2003, while dark air-cured increased 5%.

According to the September 1st crop report, U.S. dark fire-cured (types 22-23) production for 2003 is projected to total 32 million pounds, or 4% below the 2002 crop. Dark air-cured (types 35-36) is pegged at 10.2 million pounds, compared to production of 10.6 million pounds in 2002. Current production estimates for the 2003 dark tobacco crops are projected to be near or slightly below recent disappearance levels, which on paper should result in minimal dark tobacco loan stock intake for the 2003-04 marketing year. However, as is the case with burley, the outcome of the buyout could dramatically affect company purchasing behavior for the 2003 crop.

Tobacco Income

Kentucky's tobacco income has certainly been affected by the recent slide in tobacco quotas. Kentucky cash receipts for tobacco peaked at $924 million in 1998, before slipping to $737 million in 1999, $674 million in 2000, $566 million in 2001, and $443 million in 2002. Sales of horses, which include stud fees, along with the poultry (broilers and eggs) sector have recently overtaken tobacco as the state's top agricultural cash receipt enterprises. Despite the significant decline in tobacco sales, Phase II tobacco settlement payments coupled with federal Tobacco Loss Assistant (T-LAP) payments cushioned the decline in tobacco sales during the 1999-2001 period. Total tobacco income (sales, Phase II and T-LAP) actually exceeded $900 million for the 1999 and 2000 crops, and was more than $700 million for the 2001 crop. However, additional quota cuts and reduced T-LAP income resulted in total tobacco income to fall below $600 million in 2002 (despite higher Phase II funds), with no anticipated rebound expected for 2003.

Figure 5: Kentucky Tobacco Sales, Phase II and T-LAP Payments



What about the buyout?

The fate of the buyout may have been determined by the time this article is printed. But as of late September, no one had a clear notion of what would materialize in the short time remaining in the 2003 Congress. In reality, there has been a lot of discussion, both positive and negative on the buyout in Washington DC this year, especially in recent weeks. The year began with both Congressmen Fletcher and McIntyre reintroducing their buyout bills from last year. A couple other House members also introduced buyout bills. The Senate decided early on to not have competing bills, but pledged to work together for a single Senate bill. A group of tobacco-state Senate staffers worked for months gathering input from farm groups, tobacco companies, and health groups along with gauging the political environment for a buyout among their Senate colleagues. In late July, Senator McConnell along with 12 other tobacco-state Senators introduced the Tobacco Market Transition Act of 2003. This $13 billion buyout bill, with $11.4 billion for growers and quota owners, was based on $8/$4 per pound buyout for quota owners and growers, with 2002 serving as the base year. The bill allowed for production controls to remain in place with a non-transferrable production right for traditional growers and a privatized price safety net at a level considerably below the current price support level.

While the Senate bill was being formulated, the House continued to debate various buyout bill versions. The House Ag Committee heard from tobacco farmers, health groups, and tobacco companies about their viewpoints on a quota buyout in a hearing held in late July. Most of the attention in the hearing focused on Congressman Fletcher's and Congressman McIntyre's buyout bills. At that point, it became clear that even the farmer-friendly House Ag Committee had some serious reservations about the cost of the buyout bills, the impact of the buyout/FDA regulation on the smaller manufacturers, the funding mechanism, and the post-buyout program. What was even more apparent was that the Committee wanted to see more unity among the tobacco states being onboard a single buyout bill. Thus, during the August recess farm leaders and policy makers worked together on crafting a unified bill that had a post-buyout policy that was much different from the current program and Fletcher's original post-buyout policy, and at a lower cost to the manufacturers (approximately $15 billion vs Fletcher's original bill of more than $19 billion). What evolved was the Fletcher, Etheridge, McIntyre, and Goode buyout

bill (Tobacco Reduction, Accountability, Community Enhancement Act of 2003, that had a relatively large number of the tobacco state representatives signed on as co-sponsors. The bill was structured much like the Senate bill, with the major exception being that quota owners and growers would be compensated based on their average of 1997-2002 quotas instead of the Senate's 2002 base year. **(For a more thorough review of all the House and Senate bills and other articles dealing with tobacco policy go to:**
http://www.uky.edu/Agriculture/TobaccoEcon/policy.html.

As for the Senate, attention in late September shifted to the mark-up of a FDA bill, with the possibility of it moving parallel with Senator McConnell's buyout bill. In addition to gaining united support among the tobacco states for the buyout bills in both chambers, effort shifted in September to gain a greater level of support from non-tobacco states. Tobacco-state policymakers were busy trying to convince their non-tobacco state colleagues that the buyout provides them with an opportunity to eliminate the current controversial federal tobacco program, provide their constituents with public health benefits, and perhaps reduce their anticipated losses of MSA payments to their states due to the escalating volume of cigarettes being sold outside of the MSA. In addition, this policy vehicle may be able to continue to provide some degree of support to existing tobacco farmers, just like the farm bill did for other commodities, but without the use of any taxpayer funds. Several major tobacco companies continued to express their concerns in late September that they felt threatened by FDA regulation and argued that buyout payments would result in a tremendous financial burden on their company. Consequently, as of late September, the buyout remained a possibility for 2003, but still had to overcome a tremendous amount of political challenges for it to become reality.

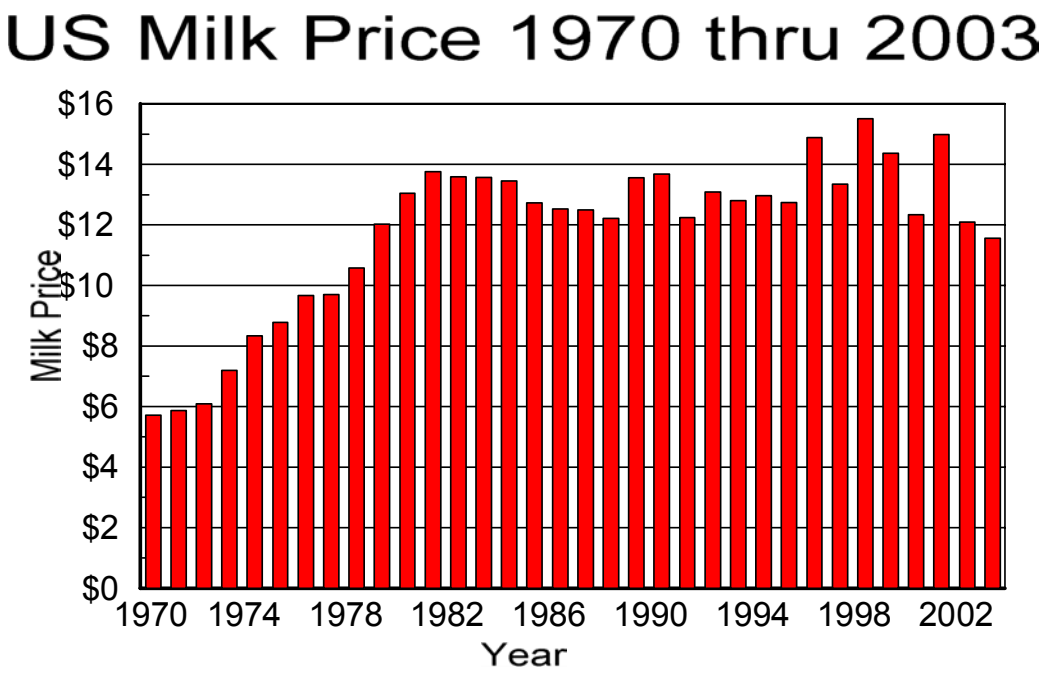
If a buyout does occur, based on the present bills it could generate between $3 and $4.3 billion of direct payments to Kentucky quota owners and growers over the next 6-7 years. Thus, a successful buyout will present farmers with some critical decisions on how to invest these funds. Furthermore, if a buyout becomes reality, Kentucky agriculture can expect some major structural changes in terms of the number of tobacco farms, the size of tobacco farm operations, their location, and possibly how the crop is produced. If a buyout does not occur, quotas will likely continue to fall, lease prices will remain at or near record levels and the overall outlook for the tobacco economy and tobacco-dependent counties will remain very depressed. As a result, farm group leaders will be forced to take a step back and review the structure of the existing tobacco program in order to make some policy adjustments (likely outside of a buyout) to improve the deteriorating competitive position of U.S. tobacco in the world marketplace. Obviously, the latter option is one that is not very well spelled out at the present time and one that will likely not be very popular to Kentucky tobacco farmers.

Dairy Situation and Outlook

Bill Crist

US Milk Price

Milk price is the big news in the dairy industry. Average US price has not been above $14.00 per hundredweight since November, 2001, 21 months ago. March and April this year saw the low price of $11.00. You have to go back to 1978 to find a lower monthly milk price. Currently the projected average price for all of 2003 is $11.55. Again, 1978 was the last time the average US milk price was below $12.00 as can be seen in the chart below.



The good news is that milk price is finally going up. The class III or cheese price increased a record $4.05 per cwt in two months from $9.75 in June to $13.80 in August. Farmer price increased from $11.10 in June to $13.00 in August. Kentucky producers will see a big part of this class III milk price increase when they receive their pay check for September milk.

Milk Price Outlook

The question is whether or not higher milk prices can hold. Reduced milk production and recovering sales of cheese led to the higher cheese prices. What happens to these two factors, production and sales, in the coming months will determine if the milk price can hold.

USDA is projecting the average US milk price for all of 2003 to be similar to 2002's average of $12.19 per cwt. This is about $2.00 below the 1997-2001 average. Milk prices in 2004 are expected to be near this year's levels. Market adjustments leading to stronger prices could start to make a difference by late in 2004, but at least the first half of the year threatens to be a lot like 2003.

Kentucky Milk Price

Kentucky milk price averages about $1.00 above the U.S. price. In 2002, Kentucky price was $13.17 compared to the US average of $12.09. The government milk income loss contract (MILC) payments also helped our small Kentucky dairy farmers. The table below gives the Kentucky milk price and the government payments for 2002 and to date in 2003. Kentucky producers, who did not ship over the 2.4 million pounds limit, received an average government payment of $1.21 in 2002 and $1.68 to date in 2003. There will be no payments in September and October because the class I base price is above the $13.69 limit, which is good news for dairy farmers.

KY Milk Price & Gov Payments

2002	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Average
KY Price	$14.30	$13.90	$13.50	$13.40	$13.00	$12.80	$12.80	$12.80	$12.70	$12.90	$13.00	$12.90	$13.17
GovPay	$0.78	$0.78	$0.93	$1.00	$1.09	$1.20	$1.38	$1.44	$1.45	$1.59	$1.39	$1.43	$1.21
Total	$15.08	$14.68	$14.43	$14.40	$14.09	$14.00	$14.18	$14.24	$14.15	$14.49	$14.39	$14.33	$14.37

2003	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Average
KY Price	$12.80	$12.40	$12.00	$11.70	$12.10	$12.00	$12.50						$12.21
GovPay	$1.41	$1.56	$1.75	$1.72	$1.79	$1.78	$1.76	$1.22	$0.00	$0.00			$1.68
Total	$14.21	$13.96	$13.75	$13.42	$13.89	$13.78	$14.26	$1.22	$0.00	$0.00	$0.00	$0.00	$13.90

The milk futures (Class III) price can be used to estimate the future milk price to dairy farmers. The milk futures price is constantly changing but it is a good estimate of future milk price at any given time. If you compare the average Kentucky milk price each month with the Class I base price for 2002, you find the Kentucky price averaged $2.16 higher as can be seen in the table below.

Difference between Class I Base Price and Kentucky Milk Price

2002	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Average
Class I Base	$11.96	$11.95	$11.62	$11.47	$11.26	$11.03	$10.62	$10.48	$10.46	$10.15	$10.60	$10.52	**$11.01**
KY Price	$14.30	$13.90	$13.50	$13.40	$13.00	$12.80	$12.80	$12.80	$12.70	$12.90	$13.00	$12.90	**$13.17**
Differ-ence	$2.34	$1.95	$1.88	$1.93	$1.74	$1.77	$2.18	$2.32	$2.24	$2.75	$2.40	$2.38	**$2.16**

This difference or "basis" can be used to estimate future milk price. The table below uses the milk futures prices on September 24, 2003, an estimated $2.00 per cwt higher Kentucky price or basis, and the

calculated government payment based on the milk futures. The result is an estimated average milk price for Kentucky each month. Individual dairy farmers can do the same calculations for their farms. It would be best to calculate the difference between a farm's milk price and the Class I base price for a two year period of time to get the farm's "basis".

Predicted Milk Price Based on Milk Futures Price

2003		July	Aug	Sept	Oct	Nov	Dec
Futures	9-24-3			$14.25	$13.82	$12.70	$12.10
Your difference		$2.00	$2.00	$2.00	$2.00	$2.00	$2.00
Govt pay				-$0.25	-$0.06	$0.45	$0.72
Your price				$16.00	$15.76	$15.15	$14.82

2004		Jan	Feb	Mar	Apr	May	June
Futures	9-24-3	$11.56	$11.25	$11.20	$11.23	$11.21	$11.82
Your difference		$2.00	$2.00	$2.00	$2.00	$2.00	$2.00
Govt pay		$0.96	$1.10	$1.12	$1.11	$1.12	$0.84
Your price		$14.52	$14.35	$14.32	$14.34	$14.33	$14.66

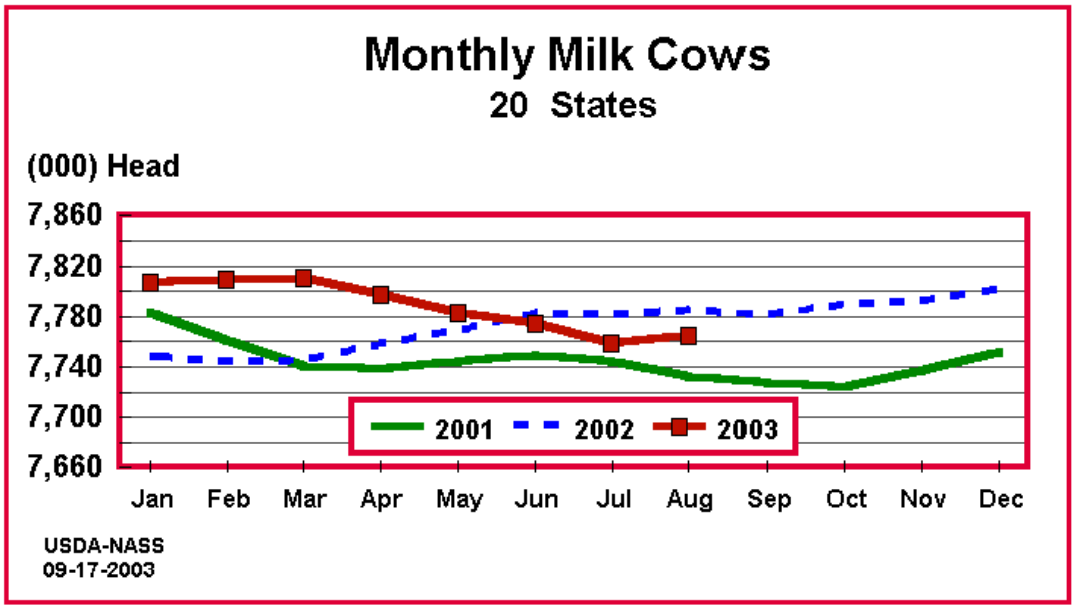
Influence of MILC Payments on Pay Price

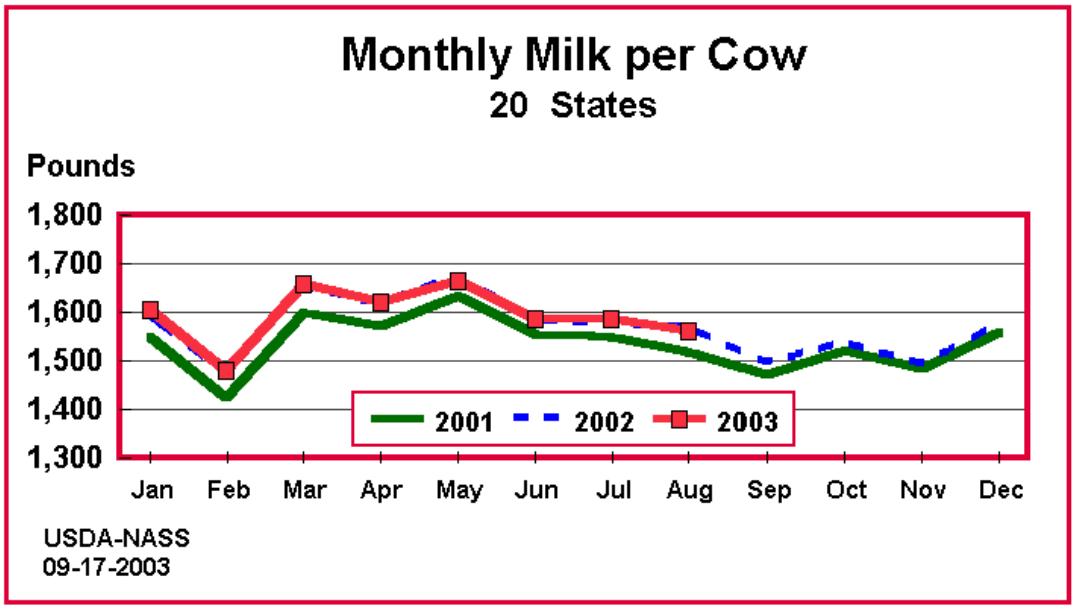
The table below shows that as the class I base price for milk goes below $13.69, government payments make up about 45% of the difference. For example if the class I base price goes from $13.00 to $12.00 the government payment goes from $0.31 to $0.76, an increase of $.45. Therefore, as milk price drops, the small farmer looses about $0.55 out of every dollar. Once a producer is over the 2.4 million pound limit, he receives no government payment.

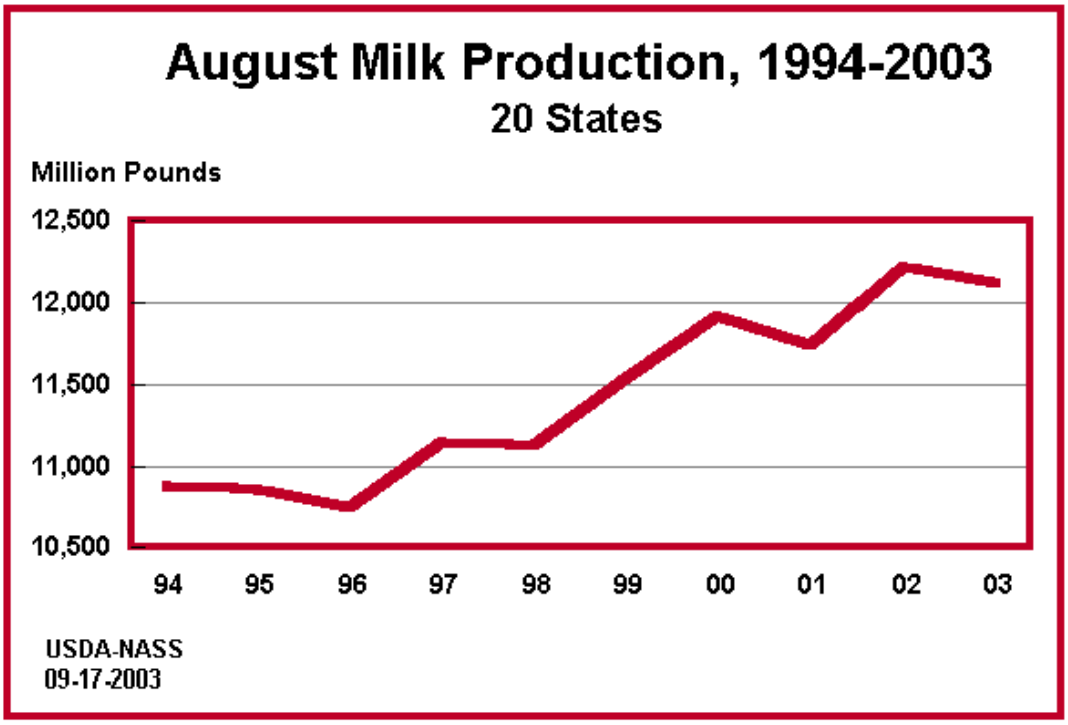
Influence of MILC Payments on Total Pay Price						
						May 03
Class I base price	$13.69	$13.00	$12.00	$11.00	$10.00	$9.71
$13.69-Class I base	$0.00	$0.69	$1.69	$2.69	$3.69	$3.98
Times 45% (govt pay)	$0.00	$0.31	$0.76	$1.21	$1.66	$1.79
If your pay price averages $2.00 above the Class I Base Price						
Your pay price	$15.69	$15.00	$14.00	$13.00	$12.00	$11.71
Gov payment	$0.00	$0.31	$0.76	$1.21	$1.66	$1.79
Total received (Cwt)	$15.69	$15.31	$14.76	$14.21	$13.66	$13.50
	If pay price goes from $12 to $15					
	Govt payment goes from $1.66 to $0.31					
	Total pay you receive goes from $13.66 to $15.31					
For every $1.00 pay price goes up,						
Total pay price goes up by approximately $0.55						

Supply and Demand Causing Milk Price Increase

Milk production per cow and the number of cows have finally taken a downward turn as can be seen in the graphs below.


Monthly Milk Cows
20 States
(000) Head
7,860
7,820
7,780
7,740
7,700
7,660
2001
2002
2003
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
USDA-NASS
09-17-2003


Monthly Milk per Cow
20 States
Pounds
1,800
1,700
1,600
1,500
1,400
1,300
2001
2002
2003
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
USDA-NASS
09-17-2003



Intense heat in western dairy states the last two weeks of July appeared to damage milk production in August. Arizona was hardest hit with a 120 pounds per cow drop while California saw a 70 pounds per cow drop.

Cow numbers in the top 20 dairy states fell 26,000 head in August to 7.76 million, which is also 6,000 head less than July. Cow numbers should continue to decline for the remainder of the year and into next year.

The cooperatives working together (CWT) program estimates about 33,000 cows will be "retired" through the herd-reduction portion of the program, pulling 580 million pounds of milk out of the national pipeline. The CWT milk-production-reduction program is expected to remove another 89 million pounds of milk over the next 12 months.

Expansion by stronger dairy producers has finally slowed, in part because of the low returns and in part because the funds from the "good" years, 1998-2001 finally appears exhausted. In addition, producers now have the option of expanding by buying discounted capacity of existing farms rather than adding new facilities.

Demand

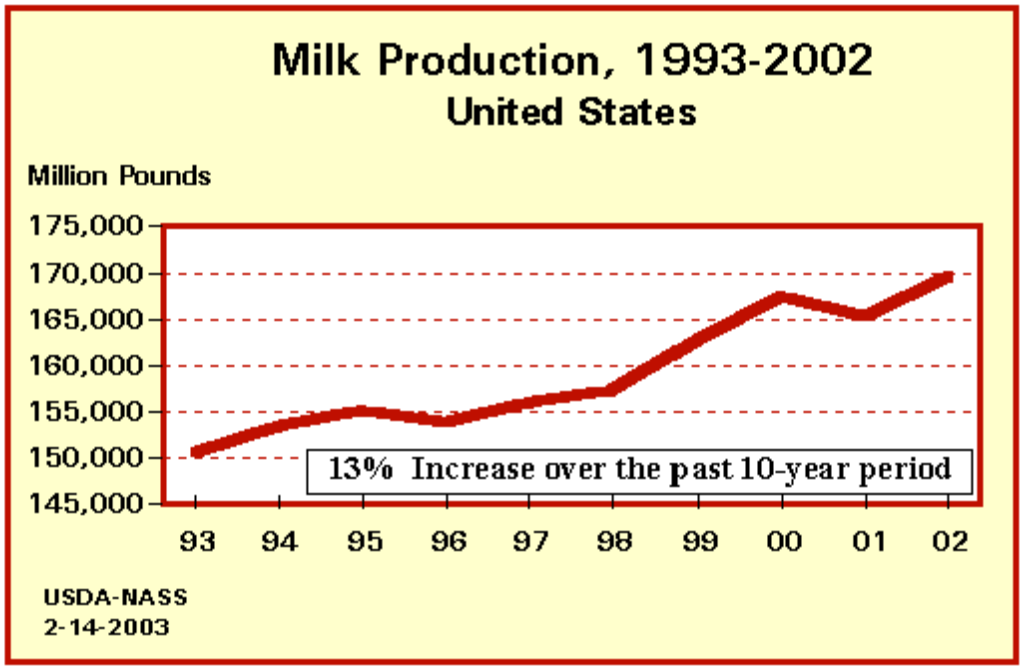
Commercial disappearance of milk in all products was about flat in May and June before jumping about 4 percent in July from a year earlier. The July surge was almost entirely the result of brisk cheese movement as buyers scrambled to fill pipelines in a rising market. Sales of dairy products are expected to grow at a slightly faster rate in late 2003 and 2004.

Trends in Kentucky Dairy Industry

Changes in the Kentucky Dairy Industry since 1981 can be seen in the table below

Trends in Kentucky Dairy Production					
Year	Farms (No.)	Cows (No.)	Pro/cow (lbs/yr)	Total Prod. (bil. lbs.)	Milk (mil. $)
1981	6,233	242,000	9,426	2.28	310
1987	4,661	218,000	10,725	2.34	302
1988	4,661	214,000	10,874	2.33	293
1989	4,107	212,000	10,684	2.27	295
1900	3,804	206,000	10,947	2.26	296
1991	3,670	195,000	11,231	2.19	311
1992	3,466	184,000	11,685	2.15	295
1993	3,212	179,000	11,857	2.12	284
1994	3,047	168,000	11,946	2.01	279
1995	2,799	162,000	12,469	2.02	273
1996	2,526	153,000	12,157	1.86	286
1997	2,377	145,000	12,517	1.82	249
1998	2,164	140,000	12,214	1.71	265
1999	2,076	133,000	12,368	1.65	253
2000	1,932	132,000	12,841	1.7	233
2001	1,831	128,000	12,969	1.66	269
2002	1,742	122,000	13,230	1.61	213
2003	1,541				

From 1993 to 2002 number of dairy farms in Kentucky declined 46 percent from 3212 to 1742. This seems like a dramatic drop but is nearly the same as the national decline of 41% over the same time period. Kentucky production per cow increased 11.6% from 1993 to 13,230 pounds in 2002. This is a far cry from the 18,571 pounds average for the US and the rate of increase in Kentucky is below the 18% national average. The most disturbing trend is the 24% decrease in production in the last 10 years from 2.12 billion pounds in 1993 to 1.61 billion pounds in 2002. This compares to a 13% increase in milk production in the United States.


Milk Production, 1993-2002
United States
Million Pounds
175,000
170,000
165,000
160,000
155,000
150,000
145,000
93
94
95
96
97
98
99
00
01
02
13% Increase over the past 10-year period
USDA-NASS
2-14-2003

Meat Goat Economic Outlook
Where are we now? …Good!

Terry Hutchens
University of Kentucky & Kentucky State University
And
Tess Caudill, Goat Marketing Specialist, Marketing Division,
Kentucky Department of Agriculture

Growing Pains for a Developing Goat Market

Few other commodity introductions have captured the state of Kentucky's interest quite like the meat goat industry. The Boer goat breed was introduced into the US in 1991 via Australia and New Zealand. Boer goats moved from Texas to Okalahoma, Louisiana, Georgia, North Carolina, Kentucky and the Eastern US in 11 years. The top three goat producing states are reported to be Texas, North Carolina and Kentucky respectively.

For Kentucky farmers to be successful meat goat producers, they must be aware and secondly take advantage of all appropriate marketing opportunities. Unlike many well-established livestock markets, there is little room for halfhearted attempts at marketing this product. This statement can be supported by the fact that it is almost impossible to purchase goat meat in mainstream meat outlets or restaurants; therefore goat meat is not yet readily available to the consumer.

However, in 1977, some 45,000 goats were slaughtered in US federally inspected plants. By 2000, the number had climbed to 548,736 goats, a 12-fold increase. The total number of goats unofficially slaughtered in the US may be in excess of 1 million yearly. This is a small number when compared to beef or lamb, however among the three sources of red meat, only goat numbers have shown a statistical increase from 1980 through the 1900's. During this same period, the US became a net importer of goat meat (Australia and New Zealand, 2001, 12.6 million tons) rather than an exporter. These industry changes are in response to changes in US demographics. More and more Americans were born outside the US (presently at least 10% of US population was born in another country). Fifty one percent of these are from a Latin country of origin and the remainder is made up of people form many countries of Asia and Africa and is of the Muslim faith.

Australian and New Zealand supply a major portion of the goat meat sold commercially in the US. The market has been growing at an annual rate of greater than 30% since 1990 and has been able to piggyback on the Australian and NZ lamb export industries. Australia and NZ have been able to develop highly professional, centralized in-country slaughterhouses specifically for lamb export purposes. Both countries have successfully captured export markets in British Commonwealth countries such as Jamaica and India. It is without a doubt that the expanding US goat meat market is on the planning agenda of these successful exporters. Why is the US not evolved in this export market? One reason is that we don't have a powerful lamb industry infrastructure to carry us to these markets and secondly, the consistent strength of the US dollar puts US farmers at a disadvantage on the global market when compared to Australia, New Zealand and even Canada. Many domestic industry leaders are now asking the question, why should US retailers buy the home grown meat when they can import frozen carcasses and cuts at half the in-country price?

A few likely answers to this question is that most emigrant families do quite well in the US economy and are considered upwardly mobile in a financial since and therefore they like to splurge on a

"farm fresh", locally slaughtered goat for weddings and other festive events. At the same time, many new residences wish to eat goat on a weekly bases in stews and soup dishes. Therefore, much of the focus of farmers, Extension workers and the US goat industry must focus on finding ways to make the consumer and processors access to goat meat much easer than it has been in the past. Quality products must be available year round. Furthermore, the US meat goat industry must make certain that the children of new Americans are nurtured in their ethnic culinary traditions. It is by all means counterproductive if goat meat is available only sporadically, and if specific carcass preferences are ignored which includes the desire for meat void of drugs, growth stimulates and physical blemish caused by bruising or injection site necrosis. Issues of purity and blemish free are serious issues for many cultures. Ethnic people must be made to feel welcome to visit farms and farmers having a field full of marketable goats. We do not need to totally limit marketing of goat and goat products to the "ethnic" market. There is a developing and potential domestic market for goat meat, milk and cheese.

Some Marketing Strategies for Kentucky Farmers

Pooling: Pooling or co-mingling of animals into graded grouped livestock marketing packages has a long history in Kentucky Agriculture. Kentucky is noted for graded feeder calf and lamb sales. Animals are generally received form small farms yielding small numbers of animals, they are graded and grouped and sold in large packages making them more marketable on the regional or national level.

On the regional as well as local level, Kentucky goat farmers have benefited from loosely organized to a more formal organization of marketing associations. The purpose of these organizations is to market jointly, graded groups of like weights, age and type slaughter kids that are sold to buyers, processors and distributors of the product. Kentucky has successfully developed a type of informal organization operating regionally, by marketing kids through the Kentucky Department of Agriculture, Marketing Division's Tel-O-Auctions and graded slaughter kid sales. These sales have shown to be financially advantages to farmers who have participated in these activities. Farmers who have participated averaged $11.88 /head above those marketing independently at the same time period.

Pooling Direct Farm Sales: Other Kentucky farmers have pooled small groups of slaughter kids and have successfully sold them direct to consumers. This process takes a bit more planning and work because these farmers must seek out the consumer and make a clear agreement well in advance of the initial sale. These farmers report that once the trust is built, subsequent marketing is simple. The farmers group animals having the desired weight (60-80 lbs intact male goats) having purity of appearance such as no bad eyes, feet, legs, abscesses or too fat. They are inspected by the Imam (priest, elder, or male head of house) and the purchase is made. The farmers transport the animals for the owner to the custom slaughterhouse where they are slaughtered by Halal tradition. The meat is transported and distributed to families and friends of the Imam. In this case, approximately 30 animals are sold each month. The farmers receive $1/Lb of live weight regardless of time of year. Most Asian Americans want to spend $100 per animal. Therefore, when calculating the price per pound, the processing cost should be considered ($20-$35/head) in the total price.

Pooling On-Farm-Slaughter: On-farm-slaughter marketing is similar to the above with the exception that following the live animal sale to the customer, the new owners slaughter the animals and carries the meat and offal away. In this case, farmers should provide a site suitable for slaughter and offal management.

Goat meat marketed in this manner is generally used in daily servings of stews and soups. Stew goats should be thin enough that fat is not visible during the boiling process. This would translate in to a grade 2-3. Desirable weights are 60-80 lbs with the exception of the Meat Feast (Eid-Holin) celebration when a 70-90 lb intact male, 10 to 11 months of age is used in the feast.

Many Hispanic customers have learned the value of the Boer genetics and are willing to go up to 100 Lbs of live weight. To a lesser extent, they are interested in the Cabreto (20-30 Lbs live weight veal goat) and the Chevo (broken mouth goat weighing 100-150 Lbs). The Chevo is more goat for the buck. Farmers report that Hispanic customers are to some degree less concerned with the flawlessness of the goat.

Pooling Goats For Cosmopolitan Gourmets And The Health Set: In addition to horses and bluegrass, Kentucky is becoming a wine producing state. Many wine producers have found ways to entice the gourmet seeking Kentuckian into local wineries for the purpose of drinking wine and tasting exotic food. Many such Kentuckians have traveled to countries where goat is served and they have tasteful memories of that experience lingering on their pallet. Some Kentucky goat farms have pooled resources and have cooked and served ground goat meat and chops at such events. Goat burgers are generally priced at $3.50 and chops $5.50. However, some producers have reported prices of $10.00/lbs for this type of clientele.

Goat meat is high in protein and low in saturated fat. Goat meat may be on the list for the desirable American low fat diet. However, for this to develop substantially, goat must become a mainline food item and as easy to purchase as skinless chicken.

This type of marketing requires investments of time, equipment as well as having to make arrangements for slaughter, transportation, and communication with the winery owners and compliance with health requirements. The same is true for those farmers selling specialty cuts to restaurants. It is important to count all costs involve in this type of operation.

Kentucky Processing of Halal Goat Meat: A west Kentucky processor, Kentucky Specialty Meats, Princeton, Kentucky will go on line this fall (2003) processing goat meat for the retail market. In addition to sales to individuals, goat will be made into barbecue, packaged and sold in retail outlet stores. Secondly, Farm Specialty Meats has a proposal for establishing a processing plant in Pine Knot, Kentucky. If funded, the facility would concentrate on the traditional cut meat trade as well as the production of a Halal caned stew that will be marketed to Asian American student attending schools in the US.

Improving Accessibility

How can product be made available year around? Currently, we are probability lucky to have the Australian meat to fall back on. However, distributors may become more dependent on the on the imports due to availability and dependability. If there is further expansion of the national herd, there is a need to develop a bases of individuals willing to manage their herd more intensively either through accelerated breeding cycles (breeding on 8 month cycle) or staggered kidding (break the herd in to breeding groups and kid several times per year) in order to provide product on a year round bases. This is difficult to do and would be an extensive educational as well as an organizational undertaking. There would be a need for the industry infrastructure to offer some financial adjustment for farmers willing to intensively manage goats in order to sell them on a lower market. This type of management activity is also applicable to local and direct off the farm operations. As stated above, many cultural groups want to eat goat on a daily basis and not just during the holiday times.

How can farmers make goat product easy for ethnic groups to find? Kentucky farmers and farmer associations must become more assertive as well as creative in finding new ways to contact different ethnic groups. A group of Kentucky farmers have been asking for meetings with mosques and/or Hispanic church groups while others are making appointments with college and university foreign student

associations. Still others hand out business cards at goat auctions, stockyards and local ethnic events and festivals.

Furthermore, the national industry has a need for a web based marketing service directory that cuts across states and regions identifying meat goat dealers, distributors, packers, processors and transporters. Furthermore, small USDA certified slaughterhouses willing to process sheep and goat are decreasing due to the high cost of business and environmental considerations for disposal of small ruminant offal. Cooperating facilities should be publicized and patronized by the industry insuring continuation of processor viability. Finally, there is a need to consolidate the industry across the US by encouraging livestock auctions to market goats by the pound rather than by the head. This would consolidate and make clear the pricing structure for slaughter kids and utilities. This would be equally beneficial for both the seller and the buyer.

Improving Desirability of Goat Product

It is commonly stated by the goat industry that there is a buyer for every goat on the market. The tricky part is the identification of the buyer, and to further determine when the buyer needs the product. This is true on the National level, but it is most important when trying to build a local market. Farmers must educate themselves on the customs and holidays associated with each potential buyer. This would direct the producer to have on hand various products for particular seasonal events. Secondly, it is also important for the producer to communicate with the buyers regularly thus making sure that accurate description of the product is being given to the buyer. Otherwise, everyone involved in the process may find themselves in a disappointing set of circumstances.

Moreover, producers have a personal investment in educating the consumer about the Kentucky grown, product by communicating production techniques as well as clarifying the attributes of the Boer X goat that weighs 100 lbs at 6 to 8 months of age. Knowing how to contact and communicate effectively with the buyer is the first step toward meeting costumer desires.

2003 Tel-O-Auction and Graded Sales

Thus far in 2003, we have proven our ability to effectively market numbers of quality meat goat kids. With four delivery locations for the Kentucky Goat and Sheep Tel-O-Auction scattered across Kentucky and three regional graded sales on a monthly or semi-monthly basis, we are pooling hundreds of slaughter kids per month from all parts of Kentucky. The common denominator for all graded markets is quality with one regular buyer claiming Kentucky goats as the highest quality he has found anywhere. Quality has improved over 2002 as we are now seeing more selection one goats marketed and fewer selection three's.

The ideal weight for slaughter kids is in the 50-70 pound range, as this weight produces the most desirable sized carcass for the ethnic market. Goats less than 40 pounds are typically sold as feeder kids due to the absence of a slaughter market in the area for these small kids. A year ago these kids were of little value, but more farmers are beginning to recognize the opportunity that exists in purchasing these lightweight kids for feeding and their value is increasing. Once goat kids reach a weight of over 80 pounds, they are considered too heavy for some markets and they are typically docked $.10 - .20 per pound.

Goat markets have a definite seasonal nature and this seasonality has held true thus far in 2003. Typically goat kid prices are highest from November through May, with a peak in late winter or early spring. Prices during this time of year generally range from the mid $.90's too as high as $1.20 per pound. Prices begin to drop for the summer/fall around June or July and usually stay depressed until around November. This summer, prices for slaughter kids held longer than expected with prices still near

$1.00 per pound in late June, and since then have ranged from the low $.80's to mid $.90's per pound. This seasonal price shift is largely due to the more plentiful supply of 40-80 pound slaughter kids during the summer and fall months, and the scarcity of available kids in late winter and spring.

Kentucky has not had the opportunity to market enough numbers of cull does and bucks to obtain a clear picture of these markets, but prices seem to follow the same seasonal pattern as kids. This winter and spring cull does in good body condition were worth around $.50 per pound and cull bucks were worth around $.65 - .70 per pound with some selling just prior to Christmas for over $1.00 per pound. Locating a buyer even interested in bidding on culls this summer has been difficult at times and prices have dropped considerably for both groups.

Regardless of time of year or weight range, the grouped and graded sales, including Tel-O-Auctions, have considerably outperformed the Kentucky per head markets. In 2003, graded markets surpassed per head sales by an average of $11.88 per head with a range of $6.30 to $19.70 per head.

With the growth of the goat industry in Kentucky, we should see larger numbers of slaughter kids entering the market in the future. This number will continue to climb as the industry stabilizes and fewer doe kids are kept as replacements and instead enter the meat market. Even with continued growth, the future market for meat goats in Kentucky looks strong with no indications that we are in danger of over supplying the current market, as demand continues to outstrip supply. In fact, competition for Kentucky kids is likely to increase in the future for two reasons: the addition of a western Kentucky goat processor into the market, and the education of new buyers that Kentucky has numbers of quality kids available.

The seasonal price pattern for market kids will probably continue due to the natural breeding season of goats, which results in most kids reaching market weight in the summer and fall months. Over time, some producers will manage breeding seasons to take advantage of the higher winter and spring prices, but it is doubtful it will be enough to change the price pattern.

1. Current trends in goat production in the United States, 2002: Sherman, S. M. DMV, New England Animal Health Institute, Dept. of Food and Agri. Comm. Of Mass. Boston, MA.

2. Export potential, market outlook, and value-added processing of meat goats and meat goat products, 2003: Staton, Tatiana, Northeast Sheep & Goat Marketing Program, Cornell Univ., Ithaca, New York

Farm and Family Living Income and Expenditures

Craig D. Gibson

Farm families enrolled in the Kentucky Farm Business Management Program (KFBM) have traditionally received comparative analysis reports that offer an opportunity to compare production and financial measures of the farm business. Many are not aware that farm families also have the opportunity to compare family living expenditures. These data are available annually. The 2002 data averages follow and are compared with data assembled from Kansas and Illinois farm management associations.

Table 1. Family Living Income and Expenditures For 2002

	Kentucky	Kansas	Illinois
Number of Families	130	460	1,216
Age of Operator	53	N\A	51
Number in Family	2.9	3.2	3.2
Net Farm Income	$28,989	$9,748	$32,168
Net Non-farm Income	27,289	35,579	24,716
Total Income	$56,278	$45,327	$56,884
Family Living Expense:			
Contributions	$3,042	$2,278	$1,454
Medical	6,358	7,166	6,335
Life Insurance	1,461	2,121	2,590
Expendables	32,471	24,029	34,096
Total Non Capital Spending	$43,332	$35,594	$44,475
Capital	2,844	1,041	4,380
Total Living Expenses	$46,176	$36,635	$48,855
Income & Self-employment Tax	14,693	6,900	9,867
Net new Savings & Investments	7,453	N\A	9,421
Net Position over Earnings	($12,044)	N\A	($11,259)
N\A - Not Available			

Kentucky and Illinois results appear very similar. Clearly, Kansas has the lowest total living expenses. However, Kansas also has the lowest net farm income, but the highest net non-farm income. The table illustrates that Kentucky and Illinois each show negative positions over earnings. Unfortunately, data limitations do not allow the "net position over earnings" to be determined for Kansas.

The reason that "net position over earnings" is not a net cash position is that determination of net farm income includes a deduction for depreciation. Depreciation is not cash expenditure. Machinery and building purchases are cash expenditures. Had there been no machinery and building expenditures, the term "living off depreciation" might be appropriate as total income was not sufficient to cover living expenditures and income and self-employment tax.
Kentucky data are examined in more detail in Table 2. These data show income and expenditures for 1998 to 2002. Net farm income shows a large degree of variability, especially compared with net non-farm income. Medical expenditures, which include health insurance, show a continued increase from 1998 through 2002.

Table 2. Average Kentucky Family Living Income and Expenditures for 1998 - 2002.

	1998	1999	2000	2001	2002	Five-year Average
Number of Families	142	143	133	157	130	
Age of Operator	49	51	50	52	53	51
Number in Family	3.1	3.0	3.1	3.0	2.9	3.0
Net Farm Income	$2,758	$39,710	$74,529	$52,686	$28,989	$39,734
Net Non-farm Income	21,796	35,649	29,840	30,126	27,289	28,940
Total Income	$24,554	$75,359	$104,369	$82,812	$56,278	$68,674
Living Expense:						
Contributions	$2,217	$2,324	$2,406	$2,512	$3,042	$2,500
Medical	4,567	5,454	5,291	5,542	6,358	5,442
Life Insurance	2,099	1,878	1,871	1,677	1,461	1,797
Expendables	30,289	28,340	31,877	31,284	32,471	30,852
Total Non Capital Spending	$39,172	$37,996	$41,445	$41,015	$43,332	$40,592
Capital	2,137	2,746	2,283	2,678	2,844	2,538
Total Living Expense	$41,309	$40,742	$43,728	$43,693	$46,176	$43,130
Income & Self-employment Tax	14,840	12,588	11,583	13,536	14,693	13,448
Net new Savings & Invest	11,816	5,420	13,243	8,693	7,453	9,325
Net Position over Earnings	($43,411)	$16,609	$35,815	$16,890	($12,044)	$2,772
Percent Change in Total Living		-1.4%	7.3%	-0.1%	5.7%	2.9%

The average annual increase in total living expense is 2.9%. Each of the non-capital spending categories shows gradual increases from the 1998 level except life insurance. This trend will likely continue. The real question rests with whether the combination of farm and non-farm income will sufficiently increase. Assuming that capital replacement of machinery and buildings somewhat approximates depreciation expense, there is precious little available to service the principal portion of any term debt payment. The five-year average of the KFBM data suggests $2,772.

For 2002, total living expense per "operator acre" was $59.78. Operator acres are the number of acres from which the operator receives revenue. By adding income and self-employment tax and subtracting non-farm income, the farm business would have to generate $49.72 per operator acre to meet family living and income tax needs. If farm and non farm incomes were used to fund net new savings and investment obligations before becoming available for family living and income tax needs, the farm business would have to generate $63.21 per operator acre to meet requirements. This level is equal to about 14.6% of 2002 total farm receipts.

With all of the free advice about funding retirement and college savings plans, retiring personal indebtedness, and saving for that special rainy day, planning family living needs and wants is a necessity. It's no different from farm business planning. The operative word is prioritizing.

2003 Fall Horticulture Market Summary

Timothy Woods and Matthew Ernst

Overview

The horticulture industry continues to expand nationally and in Kentucky. Strong demand for locally sourced produce and light processing has opened new doors of opportunity for Kentucky producers. Significant investments have been made from the Ag Development Fund to build packing, cooling, and distribution infrastructure for produce and nursery cooperatives around the commonwealth. These investments, in the presence of a need for tobacco producers to diversify, appear to be the driving the expansion of acreage and new on-farm investments.

Prices for most horticultural commodities were very strong during 2003 with a few exceptions, such as cantaloupe. The four major cooperatives continue to go through growing challenges, working out issues of management, new producers, and new business partners. The promotion of Kentucky produce by the KY Department of Agriculture has focused on a Kentucky Fresh campaign that has supported both wholesale and direct market produce and other agricultural products.

Consumption

Per capita vegetable and melon consumption is projected to rise slightly in 2003, from 439 in 2002 to 445 pounds per person. Interestingly, some fresh market vegetable crops leading this rebound are those important in Kentucky's commercial horticulture sector: cantaloupe, cucumbers, sweet corn, bell peppers, and tomatoes. Consumption of cole crops (broccoli, cauliflower, and cabbage) is also expected to rebound from lower consumption due to lower production in 2002.

Fresh fruit demand remains strong. Most Kentucky fruit production is marketed directly to consumers or to local wholesale outlets. Record per capita consumption of berries, especially blueberries, and continued interest in fresh tree fruits has guaranteed profitable production for established acreage. Wine grape production in Kentucky also continues to expand as wine consumers continue to express interest in local specialty productions.

The green industry sector (nursery and greenhouse) has been relatively flat nationally due to a weak U.S. economy in the 2000s. These products are very sensitive to changes in disposable consumer income. Cut flower purchases are down and sales of nursery stock are flat due to purchases of cheaper imported products.[1] Kentucky green industry production had been decreasing with grower consolidation; however, the large greenhouses as well as total nursery acreage increased in 2002 and continue to expand in 2003. New plantings in connection with the West Kentucky Nursery Cooperative have continued in anticipation of stronger regional markets over the next few years. An improving economy will directly impact opportunities for Kentucky producers.

[1] Alberto Jerardo, *Floriculture and Nursery Crops Situation and Outlook Yearbook*, June 2003.

Vegetables and Melons

Pumpkins

A normal pumpkin production season is expected in 2003. Prices per pound this season will range from under $0.05/pound (Illinois) to $0.10/lb (Tennessee) in states neighboring Kentucky.[2] Tennessee continues to be a major production area with additional significant acres in Ohio, Indiana, Illinois, and Michigan. Kentucky producers are expecting prices in the $0.065 to $0.080 range during October. Kentucky pumpkin acreage is steady at about 950 acres, with a 60-acre block of production beginning in Jackson County this season. Some quality problems relating to a wet growing season are reported in early pumpkin harvest in Kentucky and elsewhere. Some coop managers have reported that producers have not invested much in management this year, expect lower yields and sizes, despite very strong markets. All four of the cooperatives are marketing at least some acres of pumpkins.

Cole Crops (Cabbage & Broccoli)

Kentucky's produce co-ops increased cabbage and broccoli production by 50 acres in 2003. Yields were good, but cabbage prices were weaker than expected throughout the season due to strong production from all other areas except NY. Cabbage acreage in the southern part of the state has expanded steadily each of the last four years. Some producers are exploring double cropping fall broccoli over summer squash on plastic. Fall broccoli appears to be a good opportunity for Kentucky selling into local wholesale markets.

Summer Vegetables: Peppers, Tomatoes, Sweet Corn, Melons

Peppers

Bell peppers continue to be one of the most profitable commercial vegetable crops for Kentucky producers. Some producers received record returns received from marketing bell peppers at prices 5-10 percent above 2002 prices. Market prices were exceptionally strong during Kentucky's market window. "Hot" pepper varieties (jalapeño, anaheim, poblano, serrano) also remain profitable options for commercial producers willing to work for higher volume markets.

Tomatoes

Tomato prices were at near all-time highs for the entire 2003 season. Weather conditions affected yields and quality of tomatoes in all major production areas. This drove national f.o.b. shipping point prices to record highs in June and five-year highs in July. Record strong prices continued through August creating highly favorable markets for all Kentucky production. In most cases, quantities were short out of Kentucky to meet pre-season commitments and take full advantage of new opportunities with these strong prices.

The USDA provides national aggregated data on prices by month for shipping points. These prices reflect what producers in the ***major*** shipping points were observing during the summer. It does not necessarily reflect what markets looked like for Kentucky, a minor and distant (from California and Florida) shipping point. In selected cases, such as cantaloupe and sweet corn, prices were established through pre-season marketing commitments with major marketing partners in Florida. Open market price

[2] Pumpkins Marketing Profile. *The Packer*, 1September 2003, pg. C7-C9.

fluctuations in nearby wholesale or terminal therefore do not always reflect actual prices realized by Kentucky producers. Price patterns observed for cantaloupe in the Atlanta terminal market, for example, are probably a more accurate reflection of the relative price patterns observed by Kentucky producers, but are also generally higher than shipping point.

Table 1. Percent Changes in Fresh Vegetable f.o.b. Shipping Point Prices, 2002-03

Crop	Percent Change, Second Quarter	Percent Change, July	August Price Report
Cantaloupes	9.5	36.2	Average to below average
Sweet Corn	-20.7	-36.6	Continued lower
Cucumbers	16.6	-0.4	Steady average
Tomatoes	1.1	34.0	Near record highs

Source: Price Table 2, USDA/ERS *Vegetables and Melons Outlook*, Aug. 21, 2003

Sweet Corn

Per capita sweet corn consumption is expected to rebound in 2003 after production problems in major producing areas limited fresh sweet corn consumption in 2002.[3] Sweet corn f.o.b. shipping point prices were 21 percent lower in the second quarter of 2003 than 2002 and 37 percent lower for the month of July. Western Kentucky Growers Cooperative reports that their sweet corn deal to process tray pack and crate sweet corn is continuing with the partner growers in Florida and Georgia. The sweet corn deal has been a useful way to hedge against strictly a commodity crate corn market. The value-added products help bring in important additional revenues that otherwise would not be realized for sweet corn.

Melons

Consumer cantaloup demand remains to increase nationally. Wet weather in the southeast delayed 2003 Georgia cantaloupe plantings significantly, while high temperatures in the west hastened early season harvest and made way for planting later season melons. This resulted in a supply glut of cantaloupes during the traditional marketing window for Kentucky, from late June to late July/early August. Strong supply from Central California (Figure) pushed cantaloupe prices to barely breakeven prices for Kentucky commercial producers between July 6 and August 3.

[3] Gary Lucier and Charles Plummer. *Vegetables and Melons Outlook*. 20 June 2003. USDA/ERS Publication VGS-297, pg. 4.

Watermelon prices stayed steady through the season. The Green River co-op marketed 20 acres of watermelons with success this season. There is particular interest in seedless varieties.

Tree Fruit

Kentucky's apple harvest is running 7-10 days earlier this season. The state's 1,800 apple acres suffered some losses from early frost, but fruit size and color are excellent due to a cool growing season and high rainfall. Fruit quality is reported as excellent.

Approximately 500 acres of peaches and 50 acres of pears were harvested in 2003. High rainfall presented some challenges but also contributed to excellent yields. Kentucky's fruit growers widely report a successful season.

Almost all of the tree fruit is being marketed through direct or on-farm channels. Marketing programs like the KY Farm Bureau Certified Roadside Market and the KDA Kentucky Fresh program have helped provide a boost to these marketing efforts. Very strong prices continue in these direct markets where producers are able to deliver fruit.

Small Fruit

Berry production in Kentucky continues to increase. Mature berry acreage totals less than 400 acres in Kentucky but contributes at least $2 million in farm receipts ($5,000 per acre). Led by blueberries and blackberries, berry acreage will increase again in 2004. Blueberry growers, in particular, are pursuing opportunities to market together and share on input costs such as boxes.

Kentucky strawberry acreage increased in 2003 for the first time in a decade. Strawberry growers reported good yields with the heavy spring rains.

The state produced approximately 35 acres of blueberries in 2003 with an additional 15 acres expected to begin production in 2004. Blueberry expansion is occurring primarily in south central Kentucky. Producers in other areas of the state face outstanding market potential for fresh blueberries.

Bramble harvest (blackberries, red and black raspberries) was about a week behind throughout the state but yields were outstanding. High moisture levels contributed to large fruit size and excellent quality for all brambles. Producers in northern Kentucky report exceeding popularity for black raspberries among all market channels.

Again, most of the small fruit is being sold through U-Pick, farmers markets, or other direct selling venues. Some sales through the Fairview Produce Auction and selected area supermarket chains were observed for blackberries and blueberries. There appears to be strong interest from local retailers to feature locally grown small fruit.

Green Industry

Green industry production increased in Kentucky in 2002 with total wholesale receipts totaling $32.9 million, a 4.4% increase over 2001 levels. Total greenhouse area decreased in 2002, although

several very large new operations were constructed in Central Kentucky. In 2003, larger greenhouses continued to expand production area and greenhouse area in Kentucky may hold steady in 2003 for the first time in several years. Total reported nursery acreage in Kentucky also increased in 2002. This acreage has increased again in 2003. Growth in Kentucky's green industry in 2003 is expected to be well above the 1 percent growth experienced by the industry nationally in 2002.

Table 2. Green Industry Changes in KY, 2001-2002

	2001	2002
Total Growers	166	151
Total Expanded Wholesale Value	$31,503,000	$32,865,000
Total Greenhouse Cover (sq. ft.)	5,004,000	4,816,000
Shade and Temporary Cover (sq. ft.)	100,000	141,000
Open Ground (acres)	51	62

Source: USDA/NASS

Summary

Horticultural opportunities continue to be a main focus of attention in the diversification efforts in Kentucky. Considerable resources have been committed to develop modern packing and distribution systems and to develop producer skills necessary to deliver quality products to the market place. Producer numbers continue to grow, but Kentucky remains a very small player in the national and even regional marketing scene. Niche opportunities abound, but producers must always be mindful of the changes in the production and marketing environment around them.

Millions of dollars are being invested from the Ag Development Fund and producers themselves to develop these infant opportunities. While some producers have already seen decent returns, there remains a lot of infrastructure, skill, marketing, and capacity to be developed before Kentucky becomes a serious and sustainable source of supply for the primary marketing channels.

Figure 1. Cantaloupe Shipments, 2003

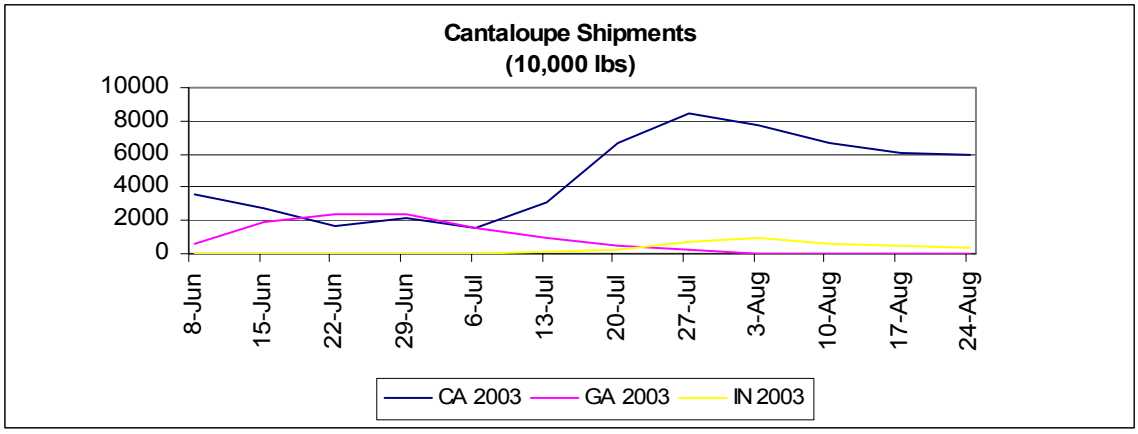
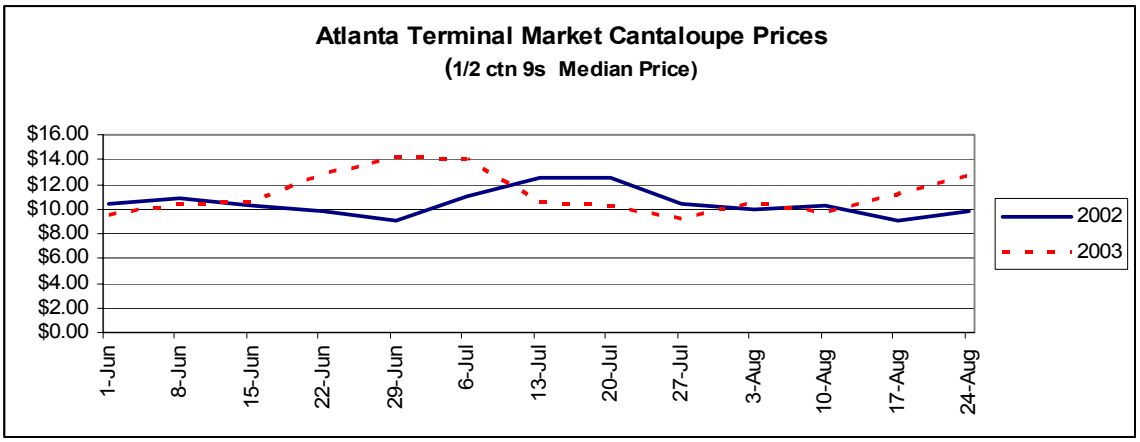


Figure 2. Terminal Market Cantaloupe Prices, 2003



2003 Summary of the Five State Beef Initiative in Kentucky

Kenneth H. Burdine, John T. Johns, and A. Lee Meyer

The Five State Beef Initiative continues to be a successful program among Kentucky producers. A large number of calves born in 2001 were tagged with electronic identification tags and tracked in the feedlot and on the rail. This data continues to show that Kentucky feeder cattle perform quite well and in most situations are above industry average as reported in the 2000 Fed Cattle Audit. This information is beneficial to cow-calf producers, providing them with the information that they need to make genetic changes and target specific markets for their cattle. Additionally, the project has also provided a unique opportunity to develop a large database of feedlot and carcass performance on Kentucky feeder calves.

Over the course of late 2002 and early 2003, carcass data were received on 1598 feeder calves born in 2001 and marketed in fall 2001 and spring 2002. The majority of these calves (68%) came from five CPH sales in two locations. Another 17% came from independent producers who were able to market uniform load lots on their own. Finally, 15% came from two county producer groups who marketed directly to feedlots. Of the 1598 sets of carcass data that were received, 58% were steers and 42% were heifers.

As was the case in 2001, these calves represent a broad sample of Kentucky feeder cattle from various geographic, genetic, and pre-weaning management backgrounds. However, all calves were managed, post weaning, according to Kentucky's CPH-45 program.

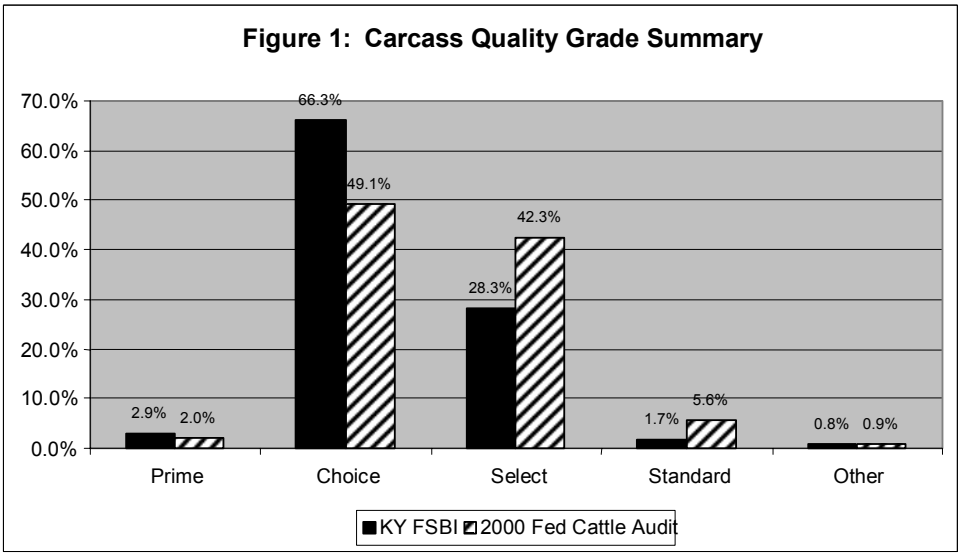
Table 1 below shows the average, minimum, and maximum for all 1598 sets of carcass data received in 2003. Notice that on average, calves did quite well, grading low Choice, Yield Grade 3. The average Ribeye Area was right on target for the average hot carcass weight of 827 pounds. An average backfat value of 0.57 inches is quite reasonable and would give a preliminary Yield Grade of 3.25. However, note the wide range of values in all areas.

Table 1: 2003 Carcass Data Summary

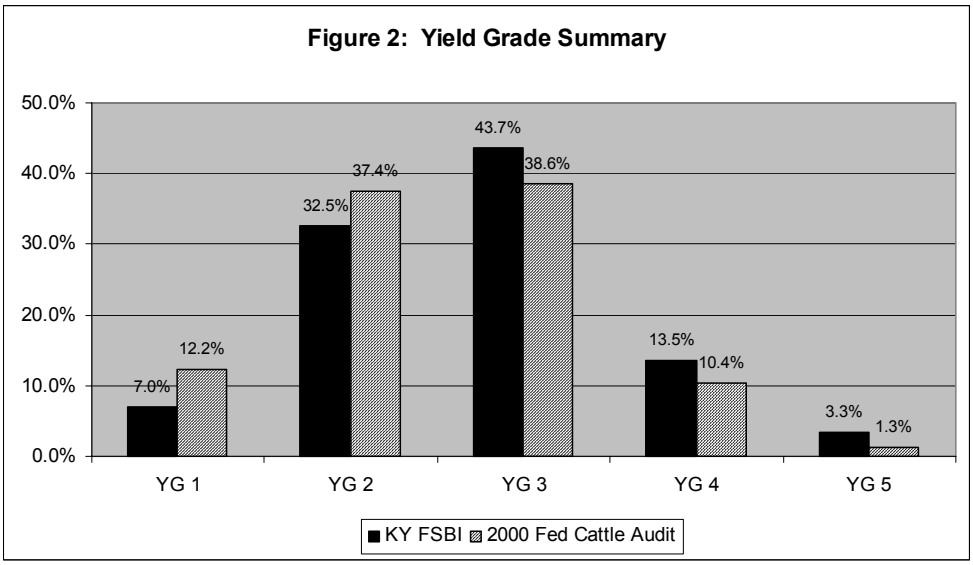
	Hot Carcass Wt.	Backfat	Ribeye Area	Yield Grade	Quality Grade	Marbling Score
Average	827	0.57	13.6	3.22	Choice-	SM 60
High	1173	1.60	24.8	6.44	Prime	MDA 20
Low	536	0.08	8.3	0.08	Standard	TR 0

Carcass quality and yield grades for KY FSBI cattle are compared to data from the 2000 Fed Cattle Audit in the following two figures. Figure 1 compares the Quality Grades of Kentucky FSBI cattle to the 2000 Fed Cattle Audit. Kentucky FSBI cattle produced more Prime and Choice carcasses while producing fewer selects and standards. The "other" category is used to catch undesirable quality grades such as Commercial or Utility. These quality grades are usually the result of dark cutters, blood splashes, or an animal being called a "C" maturity.

Over 69% of the Kentucky calves graded Choice or better; this is compared to a national average of just over 50%. At the same time, Kentucky calves produced only 1.7% Standard carcasses, while the national average is well over 5%.

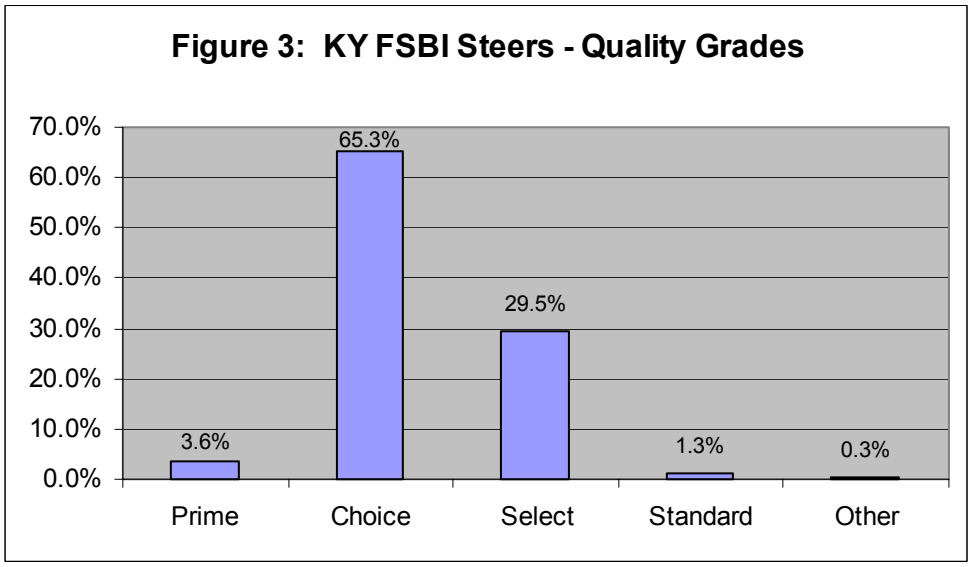


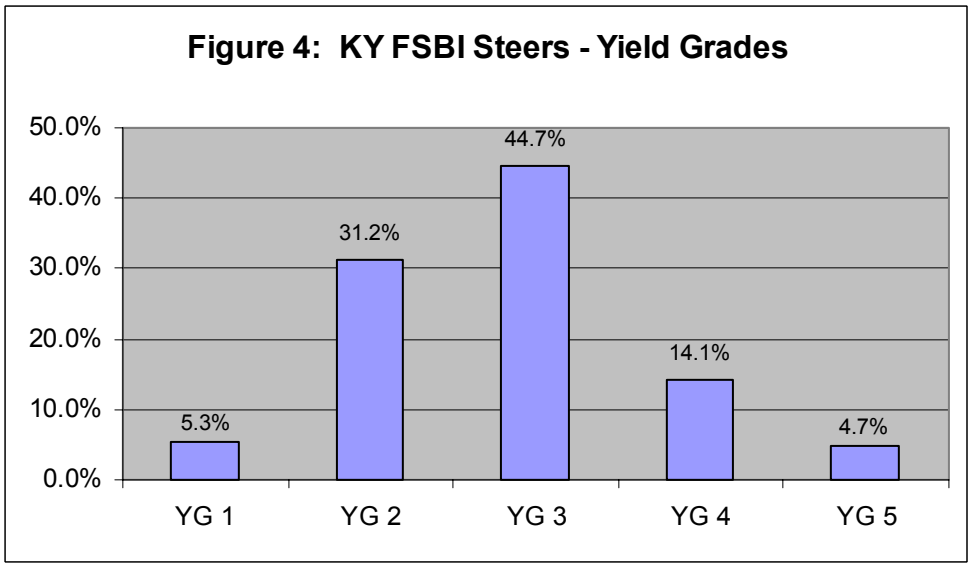
The yield grades of Kentucky calves are also compared to the 2000 Fed Cattle Audit in Figure 2. On average, Kentucky calves produced carcasses with higher yield grades. Notice that Kentucky FSBI cattle produced fewer yield grades 1 and 2 carcasses while producing more yield grade 4 and 5 carcasses than the Fed Catttle Audit. Calves fed and slaughtered in 2002 were pushed harder and therefore saw both higher quality grades and yield grades. However, Kentucky calves still produced 85% yield grade 3 or better carcasses.



Finally, it is interesting to examine how many calves would have qualified for premiums such as CAB or Sterling Silver. In order go into these programs and earn the premiums associated with them, a given carcass must grade in the upper two-thirds of the choice grade and receive a yield grade no higher than three. In 2002, over 19% of Kentucky Five State calves would have qualified for such a program.

Steers and heifers were finished quite differently in 2003; figures 1 and 2 grouped the two sexes together. Figures 3 and 4 show the Quality and Yield Grade distributions for Kentucky FSBI steers. Steers graded over 69% Choice or better, with hardly any standards. However, yield grades were considerably higher as almost 19% of the steers were Yield Grade 4's and 5's.





Heifers also performed well in 2003. Quality grades were comparable to those for the Steers with over 69% of the carcasses grading Choice and Prime. However, there were a few more Standard and Utility heifer carcasses. The Yield Grades on the heifer carcasses were considerably better than their male counterparts, grading 45% yield grade 1's and 2's, and just over 14% yield grade 4's and 5's.

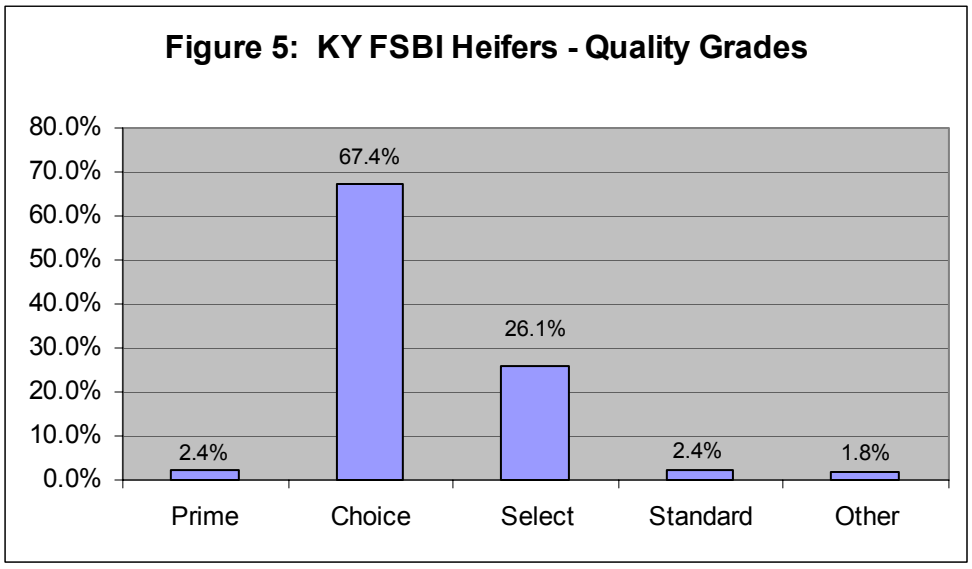


Figure 5: KY FSBI Heifers - Quality Grades
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
67.4%
26.1%
2.4%
2.4%
1.8%
Prime
Choice
Select
Standard
Other

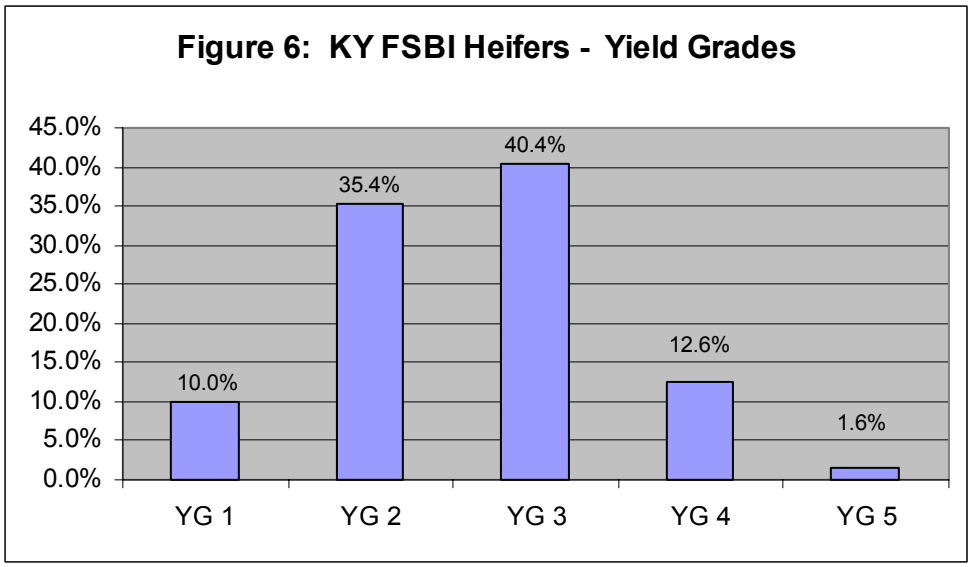


Figure 6: KY FSBI Heifers - Yield Grades
45.0%
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
40.4%
35.4%
12.6%
10.0%
1.6%
YG 1
YG 2
YG 3
YG 4
YG 5

Low-input Shrimp Farming

William A. Wurts, Richard Herron, and Shawn D. Coyle*

State Specialist for Aquaculture*
Kentucky State University Cooperative Extension Program

Over the past few years, freshwater shrimp farming has become very popular in Kentucky. Aerators, pond-side electricity, substrate, and high stocking densities are used to raise shrimp intensively. The majority of people contacting extension specialists for information about shrimp production do not have or can not afford the resources needed for intensive culture practices.

During the 1970s and early 1980s, farmers and researchers typically produced freshwater shrimp without aeration and could grow 300-900 lb/ac. Harvest yields were related to the number and size of shrimp stocked. The data indicated that bigger animals could be grown if ponds were stocked at lower densities, or with larger juveniles rather than 7-day post larvae.

With high stocking densities, aggressive feeding schedules, and no aeration; the risk of low oxygen concentrations and the loss of a shrimp crop is high. However, it is generally accepted that poor water quality and low oxygen are uncommon when daily feeding is no more than 25 lb/acre. To demonstrate low-input shrimp farming practices, a 0.5-acre pond in Hopkins County, Kentucky was stocked with 4000, 0.5-g freshwater shrimp (8,000 shrimp/acre). The pond was fertilized with 125 lb (250 lb/ac) of alfalfa meal 14 days before stocking. Juvenile shrimp were released into the pond on June 13, 2002. Daily feeding began at 10 lb/acre but did not exceed 25 lb/acre. Aeration was not used.

The pond was harvested on September 28 -- 107 days after stocking. Approximately 200 lb of shrimp (400 lb/ac) were captured. The average size of each animal was 35.2 g, or 13 shrimp to the pound (13 count). Shrimp were fed a 35% protein, sinking pellet and a total of 723 lb. The food conversion ratio was 3.6 (lb feed/lb gain). Survival was 64%. It seems likely that harvest yield and shrimp size would have been significantly larger if the juveniles had been stocked before June 1 rather than on June 13.

Water quality was measured during August and September when feeding, temperature and oxygen demand were greatest. The dissolved oxygen concentration averaged 6.8 mg/L (temperature, 76-81F) with the lowest value at 4.8 mg/L. Total ammonia nitrogen concentration was never higher than 0.3 mg/L and pH ranged from 7.8-8.5. Total alkalinity and total hardness were 27 mg/L and 230 mg/L, respectively.

Assuming a price of $7.00-8.00/lb for 400 lb of shrimp and subtracting the costs of food, fertilization, and juvenile shrimp (Table 1), the value of shrimp harvested by this cooperator was between $1,695 to $2,095/acre. The farmer in this project owned a pond that already contained water, possessed the equipment and supplies needed, and had family help for harvest. A potential producer must consider additional expenses such as: loan financing, pond construction, liming, pumping, mowing, harvest labor, nets, purging tanks, and ice. However, with low-input farming, there are no costs associated with installing electric power on pond banks, the purchase of aeration equipment and substrate, or electricity to operate aerators.

Table 1. Stocking, fertilization and feeding costs (per acre) for a low-input freshwater shrimp farming demonstration in Hopkins County, Kentucky -- 2002.

Item	*Quantity*	*Price*
Juvenile shrimp	8,000	$ 800
Alfalfa	250 lb	$ 35
Feed	1450 lb	$ 270
Total		**$1105**

Poor water quality can cause the death of a crop and the loss of an investment (juvenile shrimp, feed, fertilizer, etc.). Low oxygen levels could occur using intensive or low-input methods, with or without aeration. While the risk is small for low-input farming, oxygen problems are possible, especially in ponds greater than 6 feet deep. Nonetheless, low-input practices may provide an opportunity for farmers with limited resources, or ponds in remote locations, to profit from freshwater shrimp farming.

Kentucky Expands Cooperative Support

Heath Hoagland, Lionel Williamson, and Larry Snell

Introduction

Changes in the tobacco program have led a number of Kentucky's farmers to evaluate alternative enterprises as a means of offsetting income lost from tobacco. Anticipating this change, several individuals, representing a number of institutions and agricultural agencies intensified their efforts to identify alternative markets and marketing structures. Resulting from these efforts, the recognition that farmers need to join together and work cooperatively in purchasing production inputs and marketing their products. Past experiences in working with small farmers suggest that their needs cut across several areas including capital accumulation, management, and marketing. The cooperative model evolved as a practical vehicle that could be useful to this group of farmers. This work has led to the formal development of the Kentucky Center for Cooperative Development.

Kentucky Center for Cooperative Development (KCCD)

The Kentucky Center for Cooperative Development (KCCD) is a 501 c(3) organization designed to facilitate cooperative development in Kentucky. KCCD works in collaboration with the University of Kentucky College of Agriculture, Kentucky Department of Agriculture, Kentucky Agricultural Development Board and the USDA Rural Development. This partnership provides development and maintenance support to cooperatives in the state of Kentucky through outreach and education.

KCCD Mission:

The Kentucky Center for Cooperative Development will provide educational, technical, and financial resources for groups and organizations seeking to enhance opportunities through cooperatives.

Current Funding Status

The Kentucky Center for Cooperative Development is currently finishing a $205,000 USDA RCDG awarded in 2001. An USDA RCDG awarded in 2002 for $269,500 will begin in the first quarter of 2004. KCCD was recently awarded a $314,525 USDA RCDG in September 2003. This grant will allow the Center to operate until 2006. In addition to USDA grants, the Center has also received funding from the Kentucky Agricultural Development Board. The first award in 2001 was for $400,000 for two-years. In September 2003, KCCD received another ADB grant to match the USDA RCDG for two-years. The Kentucky Department of Agriculture and the University of Kentucky College of Agriculture provide some financial assistance. The University's primary contribution is through "in-kind" assistance of County Extension Agents and specialists who devote a percentage of their time to cooperative development.

Feasibility study money is also a concern for KCCD. Due to the increase in farmer groups interested in forming and expanding cooperatives, traditional assistance available for conducting feasibility studies is diminishing, leaving some groups without needed feasibility studies and business plans. Such funds are now available, on a matching basis, through the Kentucky Center for Agricultural Development and Entrepreneurship. The USDA also provides a matching grant program called the Value Added Producer Grant Program that can be used for feasibility studies and business plans.

Center Personnel

KCCD employs four people to carry out its' mission and programmatic activities. Larry Snell is the Executive Director for KCCD. KCCD employs two cooperative development specialists and an administrative assistant to assist the Executive Director in cooperative development activities in Kentucky.

KCCD assisted in the development and incorporation of the **Kentucky Produce and Aquaculture Alliance (KPAA)**. The KPAA began operations in February 2003. KPAA goals are to operate as a "Cooperative of Cooperatives" and reduce alliance members' costs for production and marketing supplies by purchasing them directly from the manufacturer. KPAA has a five-member board of directors and an Executive Director. KPAA's mission is to *unify member efforts by networking to promote our products, explore new market opportunities and ensure quality to maximize our economic well being.*

KPAA is an integral part of the KCCD organization. The KPAA Executive Director is housed in KCCD's main office at the Nolin RECC building in Elizabethtown. KPAA is currently funded through a grant from the Kentucky Horticulture Council. KCCD is the administrator of the funds for KPAA. KPAA is an integral part of KCCD's desire to increase communication and cooperation among cooperatives in Kentucky.

KCCD Programmatic Areas

Cooperative Development activities focus on the issues involved with groups and organizations discovering the need to develop a business organization. KCCD attends numerous informational/ planning meetings for groups interested in forming cooperatives. Many times these meetings do not develop into an actual cooperative business due to unforeseen circumstances. KCCD provides technical assistance at these meetings and shares information about cooperative development, roles of governmental agencies, differences in business structures, grants, feasibility studies, business plans, and etc. KCCD educates and begins groups on the steps in cooperative development at the outset of the informational meetings. It is very typical for informational planning meetings to continue for several months to several years before an organization is realized. Many times projects will not work out even after several planning meetings.

Cooperative Maintenance programs are designed to begin once the last step of the development process is accomplished. The cooperative development process sets the organization up properly, but further assistance is needed to provide assistance with decision-making and activities. Many boards of directors and managers are not initially comfortable with operating a cooperative business. KCCD tries to work closely with established cooperatives to assist with the decision-making fundamentals required to operate an effective and efficient cooperative business operation. KCCD participates in many activities to assist existing cooperatives.

KCCD implemented in 2002 a **management and operations analysis program** to assist existing cooperatives. The management audit and analysis program is a comprehensive study of business operations at a cooperative. The program's purpose is to provide the management and board of directors with information and materials that will help in planning and decision-making. Strengths, weaknesses and opportunities are made with alternative courses of action. This study also provides the cooperatives with benchmark materials from which to measure progress and growth during the next few years. KCCD conducted three management analyses in 2002– Purchase Area Aquaculture Cooperative, Cumberland

Farm Products and West Kentucky Growers' Cooperative. KCCD is planning to conduct more management and operations analysis programs in 2003.

The program is currently offered free of charge to in-state cooperatives. An out-of-state fee based program is being considered. Several cooperative development organizations are interested in implementing this program within their state. KCCD is investigating the opportunities of this program as an income generating activity for the Center.

Education programs provide cooperatives with other opportunities to learn about cooperative development and operating a cooperative business. KCCD provides several educational programs to assist cooperatives. Additionally, the programs provide a venue for educating the general public on the cooperative form of business.

KCCD provides educational opportunities through the **Cooperative Winter School Program** to cooperatives and others interested in cooperative development. The Cooperative Winter School is designed to give board of directors'and managers' resources and tools for their cooperative business. The program is conducted annually in coordination with the University of Kentucky, Kentucky Department of Agricultural, Kentucky USDA state office, and the Kentucky Agricultural Development Board. This program is very successful (according to participant evaluation instruments) and provides a venue for farmers to share ideas and learn about other cooperatives. KCCD provides a resource manual of educational material, coordinates all accommodations, speakers and logistics. The Cooperative Winter School Program offers additional educational opportunities for cooperatives through board education, tax planning and tax management, developing more informational financial statements, legal concerns and issues, and board and management communication.

KCCD markets and promotes its activities through a variety of sources. KCCD's website is www.kccd.org KCCD publishes a quarterly newsletter called *The Kentucky Cooperator*. KCCD also publishes and updates a tri-fold informational pamphlet to showcase KCCD activities and programs. KCCD attends many educational exhibitions to discuss state and national cooperative activities. KCCD also is a member of CooperationWorks! (CW) a national organization for Cooperative Development Centers. CW provides KCCD with a national forum to gather and share information about KCCD activities.