Fall 2005

Agricultural Situation and Outlook Fall 2005

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# Agricultural Situation and Outlook Fall 2005
University of Kentucky Department of Agricultural Economics Extension

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U.S. Economic Outlook: The U.S. economy received two major hits this past summer in the form of two hurricanes (Katrina and Rita). The economic consequences of these two massive storms will be felt for years, but one immediate impact was sharply higher energy prices (oil and natural gas). Prior to the storms, the U.S. economy was humming along with a 3.5% annualized growth rate (Gross Domestic Product or GDP) which is respectable following the recession of 2001. While the hurricanes have caused significant job losses, long run economic growth will likely be higher as a result of the storms due to the extra $100 billion Federal spending and all the re-construction efforts along the Gulf Coast. GDP next year is forecast to increase at a 3.5-4.0% rate. Overall inflation remains relatively low, a result of rising productivity and “cheap” imports. But sharply higher energy prices raise the prospect for more inflationary pressures during 2006. The era of low interest rates ended last year and the Federal Reserve (FED) has now increased short term interest rates 11 times with the Federal Funds Rate now at 3.75%. The Federal Reserve is walking a tight rope between raising rates to keep inflation in-check without slowing economic growth, particularly the housing market. The rate of unemployment hovers around 5%. However, the quoted unemployment is likely “low” given the statistic does not reflect the number of marginally attached and discouraged workers. One drag on economic growth is the trade deficit which now accounts for 7% of GDP (a historical high). There is little expectation that the trade deficit will improve any time soon. The other deficit which has become a serious problem is the Federal budget deficit. Early estimates of the FY 2006 budget deficit were in the $300 billion range. Since the increase in government spending to rebuild following the hurricanes, the budget deficit is now projected to exceed $400 billion. One key tax policy issue to be debated in the context of more government (post-Katrina) spending will be whether to make permanent the tax reductions passed in 2001, an estimated $1.28 trillion cost to the U.S. Treasury. The prospect of increasing interest rates will escalate the cost of financing a $2.5 trillion budget deficit.

Kentucky Economic Outlook: The state’s economy has generally followed the basic national trends of revived growth following the “recession” of 2001 and relatively low unemployment. UK’s Center for Business and Economic Research (CBER) is forecasting strong economic growth into 2006 with modest job growth pushing the unemployment rate down below 5%. The primary job growth engine in the state will continue to be in the service sector.

Agricultural Economy: Earnings by U.S. farmers for 2005 are forecast to be nearly $72 billion. While this is down from 2004, it will be the second highest on record. The past two years have been the most profitable in a generation! Adding in government payments and rising land values, the farm balance sheet is in a very positive position. With the 2002 Farm Bill providing a safety net of commodity programs, crop insurance, and CRP, there is a worry that some parts of agriculture have expanded too much. One dark cloud on the horizon continues to be international trade for agricultural products. Food imports continue a five-year growth trend while exports have stagnated, resulting in a virtual disappearance of the positive trade balance in agriculture. In addition, the WTO has ruled that USDA domestic support programs for cotton have violated trade agreements. There is a concern that other crops and the LDP’s and counter-cyclical payments may be the next target of complaints before the WTO. As true for the rest of the economy, the potential for stubbornly high energy prices, coupled with rising interest rates, will cause production costs to increase and result in declining net farm income in 2006.
Are Farm Business Profit Margins Enough?

Craig D. Gibson

Since 1999, combined farm and non-farm incomes have been rather good for Kentucky Farm Business Analysis Program (KFBM) sole proprietorships. Although erratic, average farm incomes have ranged from $28,989 in 2002 to $76,774 in 2003. Non-farm incomes have been increasing and have ranged from $27,289 in 2002 to $36,213 in 2004. Figure 1 graphically illustrates the sources of income from 1998 to 2004.

Where has the income gone? A substantial portion has been spent for family living and income taxes. Family living expenditures have been increasing at a rate of about 3.8% per year. One major contributor to the annual increase is health insurance premiums. For example, from Ohio Valley Farm Analysis Group data, sole proprietorships, where neither spouse has medical insurance provided through off-farm work, paid an average of $7,555.67 per year for health insurance coverage during 2004. This amount is 16.8% higher than the 2003 level. Sole proprietors with supplemental health insurance coverage paid an average of $3,438.97 in 2004. The increases came while many individuals changed “plan deductibles” to maintain affordability.

Figure 2 shows family living and income tax expenditures from 1998 to 2004. Total family living expenses ranged from $40,742 in 1999 to $53,675 in 2004. Income taxes ranged from $11,109 in 2003 to $14,840 in 1998. According to the Economic Policy Institute, in their September 2005 Briefing Paper #165, the U.S. median family budget is now $39,984. However, there is a wide range in living costs in the U.S., dependent upon size of family and geographic location. KFBM data also has a wide variation in expenditures by family. As expected, there is a fairly high correlation in family living expenditures when compared to the total of farm and non-farm incomes (0.58) - the larger the income, the larger the living expenditures.

The difference between total income sources and family living and income tax expenditures leaves a balance that is available for business capital expenditures, off-farm investments, retirement contributions, or debt payments. We term this amount “capital available for debt payments” as it seems that debt payments would be a priority. Figure 3 illustrates this amount annually from 1998 to 2004. The amounts range from...
$-31,595 to $49,120 in 2004. Obviously, when the difference is negative, additional borrowing is necessary. When net cash availability is positive, the sole proprietor has choices. However, further analysis of Figure 3 shows the “choice” was not debt payment. Of the seven years shown, 1999 was the only year where debt was reduced, although in 1998, the increase in indebtedness was less than the cash deficiency amount. Total indebtedness increased an average of $12,271 per year through the seven years.

Now, if the average total indebtedness increased $12,271 per year and an average net cash amount of $21,393 per year was available, where did this money go? It went to capital spending for machinery and buildings. Figure 4 represents the average capital purchases made each year from 1998 through 2004. The average capital spending during the seven years is $38,623 and ranges from $23,960 in 1999 to $59,004 in 2004. During 2001 to 2004, capital spending averaged $17,383 per year above the average depreciation deduction of $25,633. There were also land purchases during the period, but the dollar amount is not available from the data. Neither is the amount contributed to retirement.

We have used the performance of the past seven years to lay the foundation in expressing concern in looking forward. Without adjustments in spending, projected 2006 expenditures for interest, farm operating expenses, and family living expenditures could increase as much as $47 per acre or $30,000 per family farm. Based on recent spending patterns, without more judicious capital spending, we project additional indebtedness of about $42,000 per sole proprietorship by the end of 2006, unless we realize additional income. This is unlikely, given the current supply situation in crops, although the likely price levels for 2006 crops are very appealing compared to current price levels.

Based on average data, it is doubtful that farm profit margins are sufficient to maintain spending patterns found during 1998 to 2004. It is necessary for sole proprietors to begin serious examination of their individual situations. The intent here is not to be an alarmist. The intent is to stimulate examination of future spending. Certain expenditures are a matter of choice.
Preliminary Issues Affecting the 2007 Farm Bill: Implications for Kentucky
Will Snell

Following the completion of the tobacco buyout, the next major national agricultural policy debate affecting Kentucky agriculture will be the upcoming farm bill. The farm bill is our nation’s most comprehensive piece of ag legislation which not only affects farmers, but also impacts agribusinesses, the environment, our rural communities and even consumers. The current farm bill, which was passed in 2002, is not set to expire until 2007. However, farmers, farm leaders, and policymakers are already beginning discussions related to the next farm bill. In fact, Secretary of Agriculture Mike Johanns visited Kentucky this past August as part of the USDA’s Farm Bill “listening” sessions.

The farm bill is usually divided into several different titles. The 2002 farm bill had titles for commodity programs, conservation, agricultural trade and aid, nutrition programs, farm credit, rural development, research, forestry and energy. But most of the political debate on the farm bill usually focuses disproportionately on the commodity program title.

As usual, there are always several economic and political factors that direct the early farm bill discussions. Obviously, policymakers will evaluate the financial conditions within agriculture as they unfold during the farm bill debate. While there have been certain commodities and regions that have faced difficult economic conditions in recent years, the overall U.S. agricultural economy has been characterized in recent years as one of record net farm income, expanding exports, and improved debt positions. But lower commodity prices, drought conditions in parts of the country, along with tropical storms will likely cause farm cash receipts to fall in 2005. Plus higher energy costs, among other factors, will elevate production costs for this year. Nevertheless, 2005 U.S. net farm income, accounting for cash receipts, production costs, and government payments, is expected to remain relatively high by historical levels. What will happen to the ag economy in 2006 -- a Congressional election year and also a year when a lot of the farm bill debate will occur, remains very uncertain, but obviously will have a lot of impact on shaping the 2007 farm bill.

While policymakers will be closely monitoring the financial well-being of farmers during the farm bill debate, certainly they will pay even greater attention to the federal budget situation. The 2002 farm bill was debated in a favorable environment of budget surpluses, which provided opportunities for policymakers to maintain, and even expand some programs. However, the current and anticipated escalating future budget deficit (in response to the ongoing war on terrorism, escalating cost of social and health programs, plus the cost of rebuilding the Gulf Coast following recent hurricanes) will likely affect future funding for most federal programs, including agriculture. The growing federal budget deficit is occurring during a period when farm program payments have also been increasing. Government payments are projected to increase to more than $21 billion in 2005, compared to an average of around $14 billion over the past ten years.

Another closely related issue that will affect the farm bill debate will be the ongoing multinational trade negotiations. Many lower income countries who make up the majority of the membership in the WTO, and whose governments cannot afford to subsidize their domestic farmers, claim that the U.S and other high income countries develop agricultural policies that unfairly depress world commodity prices, distort trade flows and drastically limit their ability to
earn valuable foreign exchange. Under existing trade agreements, the U.S. is committed to keep ag spending for certain designated trade-distorting programs under $19.1 billion. Currently there are debates within the international community on what is classified as trade-distorting and whether the U.S. has exceeded this level. Ongoing trade policy discussions as part of the Doha Round could further clarify this issue and limit future spending on ag programs in the United States. Despite what many countries claim was a reversal in the 2002 farm bill, the U.S. government claims to continue their support of liberalizing agricultural trade policy. However, the U.S. does not appear willing to reduce ag subsidies substantially until other countries provide greater access to their markets for U.S. ag products. Alternatively, other countries do not appear willing to open up their markets until the U.S. and some of the other higher income countries significantly reduce their subsidies. Thus, much uncertainty exists whether the Doha Round will be completed prior to the 2007 farm bill, and if so, will there be any “meaningful” reforms that will shape the parameters contained in the next U.S. farm bill.

Another issue that will likely play a role in the 2007 farm bill will be the solidarity among farm and commodity groups in the political process. Given the continuing declining farm-dependent population, along with the growing influence of consumer and environmental groups, U.S. farm and commodity groups have realized that unity and the willingness to compromise are vital in accomplishing many of their policy goals in Washington D.C. But ¼ of U.S. farmers do not directly benefit from commodity programs, with most of the payments going to relatively larger farms (who also take on relatively more risk). Consequently, there appears to be greater tension among some farm/commodity groups (and other outside entities) in recent years over the distribution of benefits (i.e., large vs small farmers, crop vs livestock, program crops vs non-program enterprises) which could affect the outcome of the upcoming national farm bill debate.

How will this affect Kentucky agriculture? Historically, Kentucky has not been a major beneficiary of government payments for agriculture. While ranking fourth in the number of farms and around 20th in ag sales, Kentucky typically is around 30th in terms of government payments. In recent years, government payments for agriculture have been around $150 million, approximately 10 to 15% of our net farm income. In fact since 1980, government payments have accounted for 11.8% of Kentucky’s net farm income, compared to nearly 27% of U.S net farm income coming from U.S. taxpayers. Of course these statistics reflect the type of farming in Kentucky where the average farm is about 1/3 of the national average farm size and the state’s top four agricultural enterprises, equine, cattle, poultry, and tobacco, have (other than for emergency disaster payments) typically received limited direct benefits from farm bill legislation. Alternatively, Kentucky Farm Business Management (KFBM) operations, comprised primarily of larger/commercial, grain farms, are much more dependent on government payments. Last year, nearly ½ of the net farm income earned by KFBM cooperators came from government payments, compared to 21% in 2003.

Historically most of the government payments evolving from the farm bill have been devoted to crops. But the 2002 farm bill increased conservation-related payments, which has tended to benefit a state like Kentucky. So far during the tenure of the 2002 farm bill, around ¼ of Kentucky’s government payments have been conservation-related compared to less than 15% nationally and around 11% during the 1996 farm bill. Given that conservation payments are

1 These data for Kentucky for 2005 and the next nine years will be skewed since tobacco buyout payments will be reported as government payments despite the fact that tobacco manufacturers and importers are the original source for these funds and not taxpayers.
viewed as acceptable within international trade negotiations, conservation programs could expand relative to commodity programs in the next farm bill. In addition, there will likely be continued efforts to push the adoption of risk management tools as a means to support agricultural income without violating international trade agreements and reducing U.S. taxpayer assistance to federal farm programs. Energy may also receive a lot of attention in the 2007 farm bill given the recent escalation in gasoline, diesel, and the prices for energy based inputs such as fertilizers and chemicals, which of course could benefit Kentucky grain farmers. And finally, the 2007 farm bill could place a greater emphasis on funding for rural economic development/rural infrastructure programs which some argue have more far-reaching economic impacts in supporting rural economies than commodity programs. While it still is 2005, the farm bill debate has started, and with all the external factors complicating the situation, it certainly promises to a very interesting debate as the next chapter in agricultural policy begins to unfold.
Shifts in consumer preferences towards a blended cigarette worldwide are creating opportunities for burley tobacco producers globally, despite overall declines in world tobacco consumption. This trend, coupled with more competitive pricing evolving from the tobacco buyout, does create renewed opportunities for U.S. and Kentucky burley growers, following a massive slide in production opportunities under the abolished federal program. However, to meet potential demand increases, the domestic burley sector must provide an adequate supply of leaf to both domestic and foreign buyers. It was very evident immediately following the buyout that many burley farmers in traditional areas would likely exit the industry due to a variety of reasons including operator age, anticipated post-buyout profit margins, a lack of trust in the tobacco companies, labor availability, and the condition of existing curing facilities. Of the remaining growers, most were reluctant, despite no production constraints, to expand acreage in the first year following the buyout given the uncertainty of a changing marketing environment for tobacco post-buyout (i.e., no safety net or secondary “guaranteed” market) and also limited barn space and cropland being available to rent from exiting landowners. Thus, it was not too surprising that March 2005 planting intentions for U.S. burley were down 30% compared to 2004 acreage. Somewhat concerned over the long-term supply availability in the U.S. market from traditional areas, some tobacco companies sought burley production outside of traditional burley growing areas in states like Pennsylvania, Maryland, Illinois, Mississippi, and even in the flue-cured regions of central and eastern North Carolina.

Despite some expansion in non-traditional areas, USDA crop reports indicated that burley farmers actually did plant around 30 percent less acres in 2005 compared to 2004 levels. Even with this drop in acreage, most industry observers believed that U.S. burley production for 2005 would fall by a smaller percentage as higher yields anticipated from the “better” growers remaining in the industry would likely offset some of the acreage losses. However, the 2005 U.S. burley crop was produced in many areas under some extremely difficult growing conditions with diseases and a lack of rainfall contributing to very disappointing yields. Production in non-traditional areas is generally being described as “pretty decent”, but uncertainty still exists on the quality outcome of the leaf in these areas given the curing conditions and facilities.

According to the October 1st crop report, U.S. burley production is forecast at 192.3 million pounds for 2005, 34 percent below last year’s level. (Kentucky’s burley forecast is 35% below the 2004 output). The average national burley yield projected for the 2005 crop actually fell to 1,826 pounds per acre – well below the anticipated 2,300 pound plus yield expected from post-buyout growers. (Kentucky’s forecast burley yield is even lower at 1,800 pounds per acre.) These observed yields coupled with some quality concerns will likely result in a significant number of burley growers losing money on the 2005 crop. Consequently, the U.S. burley sector could observe another noticeable exit of growers in 2006, which raises even more concerns about the potential supply and the number of remaining producers for the 2006 crop and beyond. Despite production shortfalls from the 2005 crop, the industry does have access to around 170 million pounds of pre-buyout loan stocks to draw upon to meet their needs during this adjustment period. Around ½ of these pool stocks have already been purchased by the trade to supplement the smaller 2005 U.S. burley crop and tightening world burley supplies. Worldwide
burley production is forecast to be off 10 percent in 2005, with several high quality grades of burley reportedly being in tight supply.

What about post-burley demand? U.S. burley disappearance has historically been in the 500 to 600 million pound range. However, in recent years disappearance has fallen below 350 million pounds, caused primarily by losses in the domestic market. U.S. burley exports did decline from their record highs in the 1990s, but following a period of stability, U.S. burley exports have been surprising strong in recent years. Trade data reveal that U.S. burley exports gained 40% in 2004, and increased over 25% during the first six months of 2005 compared to the same period last year. Suddenly Russia has evolved as the number one export customer for U.S. burley. However, the availability of pre-buyout import stocks, declining domestic cigarette consumption, and shifts in cigarette exports to overseas manufacturing facilities are causing some significant declines in domestic use of U.S. burley. USDA reports that domestic manufacturers used less than 100 million pounds of U.S. burley in the 2004 marketing season, with imports accounting for more than 62% of the domestic market. Collectively, U.S. burley disappearance may approach or could even fall below 300 million pounds in 2005, but should rebound in the coming years (if supplies are available) as both domestic and export markets adjust gradually to more competitively priced U.S. burley. Thus, opportunities should exist for the remaining U.S. and Kentucky burley growers to expand in the coming years. The question remains whether the price incentives offered by manufacturers will encourage additional production and will the sector see production continue to shift to non-traditional areas.

What about dark tobacco? The situation for dark is very different compared to burley. While grower prices for dark tobaccos are also anticipated to be lower following the buyout, the smokeless tobacco companies did provide large enough price incentives to entice an increase in 2005 dark fire-cured tobacco acreage, while 2005 dark air-cured acreage fell only slightly. Dark tobacco demand continues to improve in response to the sustained expansion in domestic smokeless tobacco consumption which is in its 18th straight year of growth. In addition to strong product demand, Kentucky dark tobacco growers continue to benefit from limited overseas competition of quality dark tobaccos, and the ongoing close relationship with domestic smokeless tobacco manufacturers.

Accounting for both burley and dark tobacco production, cash receipts for the Kentucky tobacco crop may be near $250 million in 2005 – compared to more than $400 million the past three years. Interestingly, the first year of buyout payments sent more than $240 million to Kentucky farmers in 2005. In addition to buyout payments, Kentucky tobacco farmers also received the final installation of the grower lawsuit and after a major legal and political debate, their last Phase II check. Dollars received as a result of the buyout will likely be substantially higher in 2006 as a large number of former quota owners and growers are expected to take the lump sum option. Consolidation in the number of growers will likely continue in 2006, with production continuing to shift to the areas that can consistently produce the quality attributes demanded by the companies at the lowest cost. While the future for those remaining in the sector remains very uncertain, production and cash receipts for the Kentucky tobacco sector does have the potential to expand in future years (in response to demand opportunities) if growers are encouraged to remain in production.
The Tobacco Buyout will contain two payments – Grower & Quota Owner Payment

- Kentucky will not tax tobacco buyout payments

Grower Payment: $3 / lb payable over 10 years

- Farmer:
  - Ordinary income subject to self-employment (FICA) tax
  - Income reported on Schedule F in the year payments are received
- Share Rent Landlord:
  - Ordinary income not subject to self employment (FICA) tax
  - Income reported on Form 4835

• Income is eligible for farm income averaging
• Part of each payment if taken over 10 years will be interest income.

Quota Owner Payment: $7 / lb payable over 10 years

- Difference between quota payment and basis taxed as long term capital gains
  - (unless quota owned less than 1 yr, then ordinary income)
- Quota Basis
  - Quota owners must make a good faith effort to calculate a basis value from historical information pertinent to their situation. Cannot simply pick a number that looks reasonable or “guess” at what the basis could be.
  - Capital gains income taxed at either 5% or 15%
    - Federal income tax bracket 15% or lower, subject to 5% capital gains tax
    - Federal income tax bracket of greater than 15%, subject to 15% capital gains tax
- Capital gains is not considered ordinary income, thus quota payment not subject to self employment (FICA) tax
- Not eligible for farm income averaging
- Part of each payment if taken over 10 years will be interest income taxed at ordinary tax rates.

Lump Sum Buyout: Points to Consider

- Grower payments will affect social security benefits
  - Grower payments could reduce the eligible benefit for those taking early social security. Taking a lump sum grower payment in 2005 may be advantageous for some by allowing them to retire and begin drawing benefits in 2006, without having the grower payment added into earned income.
- Effect of prior year operating losses and their expiration date
  - Prior year operating losses that are being carried forward could be utilized to offset the lump sum payment. However, the taxpayer will not have these losses to use against taxable income in the future.
- Normal Schedule F income level
  - Self-employment taxes capped at $90,000. Any amount over this escapes the 12.4% FICA part of the self-employment tax and is only taxed at the 2.9% Medicare rate. The benefit of this scenario depends how close to the maximum self-employment income the taxpayer is, and what their overall income tax rate happens to be. Farm income averaging may help with the overall income tax rate.
Note: Deadline to sign up for lump sum payment for remaining 9 payments has been extended to December 2, 2005. Also remember that this is not a final deadline. You can sign up later in 2006 and take a lump sum payment on the remaining 8 payments. This may be a better tax strategy as it defers the income tax one more year.

5 Mistakes to Avoid

1. **Failure to sign up**—Sign up is complete for the 2005 payment. If you have not already signed up, you have made mistake one. However, you may still sign up and receive the other nine payments scheduled to be made in 2006 through 2014. The deadline for this application is November 1, 2005.

2. **Getting in too big of a hurry**—When making a decision on whether to take your payment over 10 years or take a lump sum, many factors need careful consideration. All recipients must take the first annual payment this year. Take your time to get all the information before making an irrevocable decision. If you are considering taking a lump sum, be sure to compare discount rates and fees to make sure you are getting the best deal.

3. **Making poor investment choices**—When evaluating lump sum or annual payments, it is important to consider what you will do with the money.
   a. One suggestion to recipients is paying down debt. This is an excellent strategy for high interest debt. Taking a lump sum with a discount rate of 5.5% and paying off debt at 8% is a good deal. Taking the lump sum at a 6% discount rate and putting it in a money market account with a 2.5% return is not a good deal.

4. **Mental Accounting**—Mental accounting is a behavioral economics term that refers to the tendency of individuals to categorize and treat money differently depending on where it comes from (Example: Spending $20 dollars found in the parking lot with less thought than $20 dollars from your paycheck). Use of mental accounting can affect a person’s marginal spending rate, often exceeding one. This means that a person given $100 dollars as a gift may end up spending $150 dollars “justifying” purchases. Be aware of this tendency and try to manage and control them.

5. **Going it alone**—This last mistake could lead to making the previous four in addition to costing you extra in taxes. Everyone’s tax situation is unique. The importance of getting competent help with making decisions with lump sum options cannot be stressed enough. There are different tax treatments for different options. What is the best option and strategy for your neighbor or brother-in-law may not be your best option. Talk with your tax preparer, C.P.A, tax attorney, financial planner, or KFBM specialist to evaluate all your options and your best strategy.

For more information, please go to the UK Ag Econ web site. There is much information there and also links to other sites with helpful information. The web address is: www.uky.edu/Ag/TobaccoEcon/
2005 Summary
The resiliency of beef demand may have been the single most pleasant surprise for the beef industry in 2005. After six years of growth, many analysts were forecasting considerable weakening of consumer beef demand as interest in low-carb diets seemed to be waveri and mounting energy costs tugged at consumer disposable incomes. However, as we turn the page on the third quarter, beef demand appears have lost no more than a couple percent. This is very encouraging news and suggests that the strong demand levels of the last few years may be more stable than expected.

Fed cattle prices faired better than expected this year and will probably average slightly higher than 2004. Prices hovered around $90 per cwt. in the first two quarters of 2005, then dropped sharply throughout the summer, even dipping below $80 for a few weeks. Consequently, summer brought major red ink for cattle feeders; most cattle in feedlots now are still carrying breakevens in the $90’s. Prices rallied back in September, and at the time of this writing were in the mid-upper $80’s.

Much like 2004, the feeder cattle market was the strongest element of the beef complex this year. Tight supplies, good weather nationally, and another very large corn crop supported feeder cattle prices in 2005. Nationally, yearling prices should average between $105 and $110 per cwt. at year’s end. It seems like the beef sector has thrived in the last two years despite all the potential negatives out there such as BSE, loss of export markets, and rising energy costs.

After more than two years, Canadian live cattle imports resumed in July, which made mid-summer a volatile time for prices. However, the wall of Canadian cattle that many were expecting never materialized. Fed cattle imports have been coming into the United States at a much slower pace than expected, but the pace of feeder cattle imports have actually exceeded expectations. Also, Canadian feedlot placements have been stronger since the border opening which suggests greater imports of either fed cattle or boxed beef are likely in the future.

Elsewhere on the beef trade front, little has changed since last year. Shipments to Mexico continue to account for about two-thirds of US beef exports, and Canadian exports continue to lag behind pre-BSE levels. Progress to re-establish trade with Japan and South Korea seems slow to develop. Most analysts expect trade to resume with these countries in the first half of 2006, but most were also expecting trade to resume in 2005.

Outlook for 2006
Demand showed incredible resiliency in the face of many pressures in 2005, so hopefully the same will be true in 2006. As of fall 2005, higher gasoline prices have not had the damaging effect on demand that many were expecting. However, when substantially higher gas prices are combined with substantially higher winter heating bills the possibility definitely exists that disposable incomes will be affected enough to hurt beef demand. Steady to slightly weaker is the demand projection for 2006.
Increasing supply suggests that the 2006 cattle market won’t be quite as strong as 2005. The 2005 calf crop was a little larger than 2004, and most of these cattle will be slaughtered in 2006. We can also expect heavier slaughter weights in the face of cheap grain. And, increased beef imports from Canada are again possible as Canada continues to ramp up feedlot placements and increase its slaughter capacity. USDA estimates for increased beef production are moderate (3-4%) for the year.

Increasing 2006 beef supplies should put some downward pressure on fed cattle prices. ERS is forecasting a 7% decrease in live cattle prices, while the LMIC is looking for a decrease closer to 3%. Regardless, both are moderate price drops and suggest that feeder cattle prices should be weaker in 2006 as well. Both USDA and LMIC are projecting double digit price drops for feeder cattle in 2006.

Kentucky producers should prepare for the likelihood that prices will be weaker next spring than they were this spring. 1st quarter 2006 prices for 500-600 pound feeder steers may be comparable to 2005, but are not likely to rally to such high levels in quarter number two. A slow seasonal price decline is likely through summer and a low in fall somewhere around $1.05 to $1.15 per cwt. If correct, this would return us to a more familiar seasonal pattern.

Although it’s unlikely that prices will be as high in 2006 as they were in 2005, another good year is probably on the horizon for Kentucky producers. By good year, I mean that prices should remain at profitable levels for cow-calf producers. However, this is most likely the beginning of a multiple year downtrend in calf prices. This is the time that producers should be planning for leaner years that lie ahead.

All evidence suggests that herd expansion continued in 2005. More importantly, expansion seems to be occurring at a faster rate in 2005 than in 2004. Heifers are making up a smaller percentage of cattle on feed and the number of heifers being held for replacements in the mid-2005 inventory report was up again. Beef cow numbers will likely show an increase of more than 1% in January 2006, compared to 0.6% in 2005. If true, this means another increase in the size of the US calf crop, which means increased feeder cattle supply next year. But again, we are not talking about huge changes in numbers; at this point we are still seeing slow controlled expansion.

Expansion of cow numbers means that beef supplies should increase over the next several years, and that cow-calf managers should plan on lower prices. If prices follow the typical pattern, they will hit a bottom about 25% below current levels in four to six years. This much of a decline would still leave efficient producers with enough income to cover cash and total feed cost (purchased and home-raised). Strong demand, coming domestically or through exports could offset some of the increased supplies. The most likely negative factors would be a significant feed cost increase or a recession-induced drop in demand.
**JANUARY 1 TOTAL CATTLE INVENTORY**
U.S., Annual

![Graph showing January 1 total cattle inventory from 1945 to 2005](image)

**HEIFERS HELD AS BEEF COW REPLACEMENTS**
July 1, U.S.

![Bar chart showing heifers held as beef cow replacements from 1976 to 2003](image)

Sign of continued cow herd expansion

**KY Auction Prices**
700 to 800 lbs Steers (Med / Large #1)

![Graph showing KY auction prices for 700 to 800 lbs steers](image)

**KY Auction Prices**
500 to 600 lbs Steers (Med / Large #1)

![Graph showing KY auction prices for 500 to 600 lbs steers](image)
2005 Summary
Although not as good as 2004, 2005 was another generally profitable year for dairymen. As expected, production did increase in 2005 and is projected to be up about 3% from 2004 by year’s end. The number of milk cows in the US increased only slightly this year, about 0.5% according to USDA July 1 inventory estimates. But production per cow is likely to be up by 3% or more, explaining most of the growth in supplies. Strong demand has done an excellent job of supporting prices despite the growing supplies.

2005 mailbox prices exceeded year ago levels in the first quarter, but fell well below 2004 levels in the spring and summer quarters. Mailbox prices are likely to stay at or below 2004 for the remainder of the year. USDA is expecting the All Milk price to be $1 per cwt., or about 6%, lower in 2005 than it was in 2004. In the past, KY mailbox prices have been about $2 / cwt. higher than the class III price. This basis was much weaker in 2005 and this is a trend that is not likely to change in 2006.

Outlook for 2006
Expansion of the US dairy herd appears to have continued in 2005, but at a moderate rate. The number of heifers held for milk cow replacement was up 3% in the mid-year 2005 report. This coupled with strong replacement heifer prices continues to suggest that dairymen are looking to expand. Slow expansion is likely to continue in 2006.

Milk production per cow is projected to increase again in 2006 as availability of BST continues to improve. This, combined with more cows in production, has USDA projecting more than a 2% increase in milk production from 2005 to 2006. For this reason, most estimates are for milk prices to be off $1 to $2 per hundredweight in 2006. USDA projections for 2006 in the $13 to $14 per cwt. range suggest near breakeven price levels for many Kentucky producers.
Hog Market Situation
Lee Meyer

Based on data from Kentucky Farm Business Management (KFBM) program cooperators with hog enterprises, 2004 was a profitable year. This year will probably produce similar results. Hog prices over the past five years averaged about $43 per cwt. (live weight basis, about $58/cwt. on a carcass basis). Last year’s prices were the five-year high, with a national average of $52 per cwt., a $12/cwt. increase over the 2003 price.

The KFBM hog producers had an average total cost of production over the past five years of $38/cwt. Over the past five years, cost of production ranged from a high of $43/cwt. (2004) to $36/cwt. (2000). Though last year’s production costs were highest, higher market prices compensated to make it a very profitable year.

U.S. pork production has increased steadily in each of the past five years. The 2002 and 2003 increases were large enough to depress prices and resulted in losses for most producers. More modest production increases, coupled with dramatic increases in demand (both domestic and in export markets), have led to the increasing prices of the past three years.

The two charts of data from the September USDA Hogs and Pigs reports, (released on September 30) show little change in sow numbers or total inventory. With continued improvements in pigs per litter, production for 2006 will probably increase about 2% for the year. Farrowings are not expected to change much on a quarterly basis; farrowing expectations for the first quarter of 2006 are up only 1%. (Kentucky is now in the “other states” category, so Kentucky data are only available in the December annual report.) Therefore, while production is likely to be up, higher net exports (also shown in graphical form) are likely to keep per capita domestic supplies slightly lower than 2005 levels and provide price support.

Prices for 2006 are likely to be down $3 to $5 per cwt., dropping from a 2005 average of about $48 per cwt. to the mid to low $40s. Prices are expected to be somewhat higher in the first half of the year, before declining later and somewhat different from the typical seasonal pattern.

There is a large difference between forecasts based on fundamentals of supply and demand and forecasts based on futures markets. Converting the fundamental 2006 forecast of about $45 per cwt. to a carcass basis gives a carcass-based forecast of about $60/cwt. The Chicago Mercantile futures market contracts are trading from the upper $60s (for the October 2005 contract) to near $70 per cwt for the June 2006 contract. The July, August and October 2006 contracts show a declining pattern, dropping from $66/cwt. in July to $55/cwt. ($38 live weight basis) for October.

One potential reason for these different price expectations is demand, especially on the export side. Japan is the largest buyer of U.S. pork, and exports have been up 16% so far in 2005. Canadian exports are up 36 % and Korean exports have doubled. The USDA is projecting trade to continue at strong levels, with exports equaling about 13% of U.S. production and imports less than 5%.
The most important characteristic of goat markets is that they are poorly understood. Goat markets are driven by an almost entirely ethnic demand which traditional livestock marketers struggle to comprehend. Also, most goat markets in the U.S. deal in small numbers, most on a per head basis, and goats are bought and sold via gooseneck loads verses the traditional 50,000 pound tractor trailer. There are very few large national markets from which to gather data, leaving us with only general trends to use in market analysis. There are three dimensions to consider. One is the production/supply side, including the number of goats and trends in production. Second is the national market, and how national trends connect back to Kentucky. Demand is an important piece of this second part. The third is the efficiency of Kentucky markets.

**Production/Supply**

Meat goat numbers have expanded in Kentucky, according to all measures, from “windshield surveys” to the USDA’s formal reports. According to the USDA January 1, 2005 Sheep and Goat report, there were 63,500 goats in Kentucky at the beginning of 2005. Kentucky ranked 5th, behind Texas (1,010,000 goats), Tennessee (98,000), Georgia (77,000) and Oklahoma (65,000). Six of the top eight states are in the Southeast (Tennessee, Georgia, Kentucky, North Carolina, Arkansas and South Carolina).

Goat numbers in Kentucky, just based on casual observation, seem to be leveling off. Most enterprises are relatively small operations. Profitability is extremely variable depending on production systems and marketing decisions. Returns per doe for a well managed enterprise (1.5 to 1.8 kids per doe per year) have been $120 to $145 if marketed at approximately 60 lbs. through a graded sale. Feed costs can quickly eat away at these returns. Parasites remain a management challenge as the cost of parasite control is substantial and the negative impact on productivity is critical. If not properly managed, foot problems can reduce herd productivity and thus returns.

Nationally, meat goat numbers have not changed much since 2002, the USDA’s last “benchmark.” Then there were 1,939 thousand meat goats in the U.S., as of Jan. 1, 2005 the number had risen to 1,965 – an increase of just over 1%.

**Market Trends**

Given the lack of understanding of the national meat goat market, it is sometimes difficult to project prices. What we do know is that prices for meat goats, both nationally and in Kentucky, have risen steadily in recent years. In 2003, prices at Kentucky’s graded goat sales averaged $102/cwt. for the year. This number jumped to $125/cwt. for 2004 and has continued to climb to $134/cwt. thus far in 2005. This price increase occurred simultaneously with the growth increase that has currently positioned Kentucky 5th in the nation in meat goat numbers. This strongly indicates that the demand for Kentucky goats is growing faster than supply.

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2 Meyer and Hutchens are in the UK Departments of Ag. Econ. and Animal and Food Sciences, respectively. Caudill is a marketing specialist in the Ky. Department of Agriculture.
Evidently demand for goat meat has followed the increase in demand (i.e. “willingness to pay”) for all meats. As the U.S. ethnic population continues to grow, the goat meat market may continue to strengthen. However, like for other meats, goat meat demand for 2006 is likely to be hurt by increasing energy prices.

**Efficiency of Kentucky Markets**
In recent years Kentucky prices have tended to align themselves with Texas prices, and both are typically below prices at New Holland, PA, which lies in the closest proximity to the lucrative east coast markets. However, in 2005, Kentucky prices have inched closer to the New Holland estimates with September averages for Selection 2 40-60 lb. kids as follows; New Holland, PA 127.00/cwt., Kentucky Graded Sales 126.00/cwt., and San Angelo, TX 105.00/cwt. It is too early to determine whether this is a temporary situation, or if it is a market shift to compensate for the difference in transportation costs from Kentucky verses Texas. Tess Caudill, at the KDA, (tess.caudill@kyagr.com) can be contacted for more information on Kentucky’s graded sales.

Prices at regular (non-graded) Kentucky auction sales tend to average about 30% below the Texas market, however reported prices at Kentucky’s regular markets are extremely variable and depend on the number and quality of kids offered, what buyers are present, and the ability of the market reporter to accurately guess goat weights (most Kentucky non graded markets sell goats by the head).

**Outlook**
Meat goat prices for 2006 should remain high and in close proximity to 2005 prices. Trends from recent years might suggest 2006 prices will be higher than those of 2005, however, the increase in energy costs will likely prevent this from occurring. The graph below shows the average prices for Kentucky’s graded sale for the past three years. It is important to note the continuation of the seasonal price pattern association with goat markets. Further below is a similar diagram showing Texas goat prices for the same time period. It too reinforces the seasonal nature for meat goat prices.
Marketing Live Aquaculture Products from Kentucky
Siddhartha Dasgupta, Aquaculture Economics, Kentucky State University

Marketing challenges have been the bane of aquaculture production in the United States, particularly due to the influx of lower-cost, imported seafood and wild-harvested seafood products. Since the aquaculture industry in Kentucky is small scale, appropriate markets are necessary to realize farm-level profits. While this has traditionally meant that retail, restaurant, and direct markets were the only profitable outlets, some wholesale markets have recently been identified that hold considerable promise for the future.

Fish and shellfish products fetch a premium among customers who demand the products to be alive. Kentucky’s proximity to metropolitan areas with large live fish markets creates a natural advantage for the state’s aquaculture farmers. Currently, researchers and farmers have identified live markets for largemouth bass, and freshwater prawn. Table 1 outlines some of the characteristics of these markets.

**Live Markets for Largemouth Bass** - Kentucky has had a steady live market for largemouth bass during the last few years. Live haul trucks operated by seafood brokers in Toronto, Canada, regularly purchased largemouth bass (minimum size is a 1 lb. fish) at the pond bank at prices from $3.50-$5.50/lb. Farmers are paid for the fish upon harvest and do not have to undertake the risk of mortality during transit to Toronto. Since breakeven price of largemouth bass production is near $3.50/lb, when prices are high (typically early fall), Kentucky producers can make profits from $1,500-$5,000/ac. Arkansas is the main supplier of live largemouth bass to Toronto, and during late fall, Arkansas producers harvest their crop causing prices drop significantly. Since Kentucky is closer to Toronto than Arkansas, largemouth bass production in Kentucky could profitably expand in the near future by taking a greater market share away from Arkansas.

Although the largemouth bass market seems lucrative, producers are kept from entering it by its stringent management requirements. For example, producers usually purchase bass fingerlings from a commercial hatchery (e.g., Keo Fish farms, Arkansas) and grow them in ponds during the first year to produce stocker fish (0.25 lb). During the following year, the 0.25 lb bass are re-stocked in grow out ponds during early spring and harvested when they reach 1-1.5 lbs. during fall through winter of the same year. This 2-year growth cycle can be fraught with disease and water quality problems that farmers must be ready to combat.

Largemouth bass are transported in tractor-trailer type live haul trucks that require a load of approximately 2,000 lb per truck. Since the yield of largemouth bass is from 3,000-5,000 lb/ac/year, one truckload of fish could be obtained by harvesting a single ½ acre pond. Thus, culturing largemouth bass in multiple small ponds is efficient from both a marketing and risk-management perspective. Given that most aquaculture producers in Kentucky have small ponds (½ to 1 ac), increasing the culture of largemouth bass in Kentucky is entirely feasible.

**Live Markets for Freshwater Prawn** - No other aquaculture crop is more distinctive of Kentucky than freshwater prawn. This crop has experienced a mixture of success and failure among farmers. Typically producers with access to local restaurants and direct markets, including pond bank sales, had made a profit in this enterprise. However, considerable challenges, such as low yields and few buyers, have dogged some producers to the point of their withdrawing from prawn farming. The main problem facing the local industry is that prawns are...
not price competitive with respect to substitute products such as marine shrimp and imported freshwater prawn. However, if prawns were sold live at a premium, this product would not have to compete with fresh/frozen marine shrimp, and the higher price of live prawn might provide the break that Kentucky’s producers are seeking.

To this end, Kentucky State University and Kentucky Department of Agriculture had embarked upon two live transportation studies of prawn to seafood markets in New York City (NYC). Asian seafood brokers in NYC have expressed a strong interest in live freshwater prawn during the early fall months, when other live shrimp are unavailable. Results from the most recent study indicated the following:

- Live haulers paid farmers up to $5/lb for live prawns at the pond bank
- Seafood brokers in NYC would pay $8/lb for live prawns to the live hauler
- NYC brokers sell the prawn to several seafood retailers in Chinatown, where the retail price of live prawns were $12-$16/lb
- 720 lb of prawn were transported in a live haul truck, which resulted in a 5% weight loss during transit and a 2% mortality
- NYC buyers would pay only for the weight of live prawn, after discarding the dead prawns

While this market might be promising, there is an important caveat that was not discussed above. Unlike largemouth bass sales, there are no identifiable seafood brokers or live haul operators who would transport the prawns to NYC. For sake of the prawn transportation study, the researchers hired a live haul truck; however, commercial producers must have access to live transportation methods to succeed in this market. This might prove problematic because most Kentucky prawn farmers are small scale operators who might not want to undertake the risk of investing in live transportation of their product to NYC.

A potential solution to this problem is currently being investigated. Seafood brokers in NYC had indicated that they prefer using air transportation of a few hundred pounds of live prawns every week. This represents a demand-driven supply strategy where brokers will only purchase small amounts of prawn to satisfy the short term demand of seafood retailers. Air transportation would involve packing live prawns in moist excelsior, a sawdust-like material, and is projected to be less costly and less risky than ground transportation. If air transportation is a viable sales method for transporting hundreds of pounds of live product, individual farmers in Kentucky might have access to the seafood markets in NYC.

Jungle Jim’s in Cincinnati, OH, has recently emerged to be another live market for Kentucky’s freshwater prawns. Jungle Jim’s is a large retail grocer that features many international foods, including seafood. This store is frequented by ethnic buyers, many of whom prefer live seafood. Jungle Jim’s traditionally feature live fish such as tilapia, rainbow trout, hybrid striped bass, and are now experimenting with live prawns. During fall 2005, Jungle Jim’s purchased a small amount of live prawns (less than 200 lb), and paid producers $7/lb. Anecdotal evidence indicates that the live prawns were very well received by customers, which suggests that entrepreneurial producers should consider developing marketing contracts with Jungle Jim’s in the near future.

**Live Markets for Other Aquaculture Products** - Local live markets exist for tilapia, hybrid striped bass, and catfish. In a survey of Hispanic retail grocers in Woodford, Shelby and Jefferson counties, Kentucky State University researchers found that there is a live market for
tilapia (2 lb fish or bigger). Most retail stores were interested in featuring a live tilapia display tank and were willing to pay producers up to $2.50/lb for the fish. Since pond-raise tilapia cost, approximately, $2/lb, the Hispanic live market is a possible option for a few Kentucky producers.

While live tilapia is sold at larger seafood markets in Toronto, NYC, and other cities, the prices paid to suppliers (usually less that $2/lb) are typically too low to be profitable for tilapia producers in Kentucky. Similarly, Asian seafood markets are also interested in live hybrid striped bass; however, the prices paid to producers would also be too low to be profitable.

However, Asian seafood buyers from Toronto and NYC have expressed significant interests in sunfishes such as bluegill and rock bass. While the seafood buyers were satisfied with fish as small as 1 lb, bluegill’s growth rate is sufficiently slow to make this species unmarketable. However, there could be potential to culturing rock bass in Kentucky, which remains to be investigated in future.

Other Markets for Kentucky’s Aquaculture Products - While live markets are likely to be the ones paying the highest premium for Kentucky-grown seafood, a few other markets are also accepting local aquaculture products. Gone Fishin’ Catfish, a Morgantown based firm, is purchasing whole catfish for retail fillet sales. This retailer is vertically integrated with seafood processing facility, restaurant, and retail store. The proprietors are contracting with local producers for fresh catfish and, possibly, tilapia and freshwater prawns.

Fishmarket Seafood, a Louisville based processor and wholesaler, is currently purchasing whole freshwater prawn at a price of $4.50/lb. While this price might exceed the breakeven price of very efficient producers, most Kentucky farmers would discover that $4.50/lb would be sufficient to cover variable costs, but insufficient to cover total costs.

Table 1. Markets for live seafood available to Kentucky’s farmers.

<table>
<thead>
<tr>
<th>Species</th>
<th>Market</th>
<th>Prices paid*</th>
<th>Quantity demanded</th>
<th>Other information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Largemouth bass</td>
<td>Livehaul to Toronto</td>
<td>$4.50-5.00/lb</td>
<td>Unlimited**</td>
<td>Minimum size = 1 lb</td>
</tr>
<tr>
<td>2. Freshwater prawn</td>
<td>Livehaul to New York</td>
<td>$5.00/lb</td>
<td>Unlimited**</td>
<td>Live hauler needed</td>
</tr>
<tr>
<td>3. Freshwater prawn</td>
<td>Jungle Jim’s</td>
<td>$7.00/lb</td>
<td>40-50 lb/week</td>
<td>Farmer has to live haul</td>
</tr>
<tr>
<td>4. Tilapia</td>
<td>Hispanic retail grocers</td>
<td>$2.50/lb</td>
<td>100 lb/week/store</td>
<td>Farmer has to setup live tank in the store</td>
</tr>
</tbody>
</table>

* These prices represent the price received by the producer.
** The product demand in Asian live seafood market far outweighs Kentucky’s supply.
Corn: To say that 2005 has been an unusual corn production year would be a significant understatement. The planting season started early, with some concern about dry soils in Illinois, proceeded very rapidly and resulted in the most corn acres in the U.S. since 1985. Illinois, the number two corn producing state in the country, experienced a severe drought, yet it appears yield will be near the recent 5 year average. Additionally, Indiana, Missouri and parts of Kentucky had periods of drought while states in the upper Midwest and Western corn-belt appear to have experienced excellent production weather and yields may actually equal or exceed last season’s phenomenal yields. The current USDA estimate pegs the 2005 U.S. average corn yield at 146.1 bu/acre—the second best yield ever and 101 percent of trend yield (Figure 1).

Even though disappearance of corn during the 2004-05 marketing year was record large at nearly 10.7 billion bushels, last season’s harvest of 11.8 billion bushels resulted in a significant buildup in carryover stocks to add to this year’s large crop of nearly 10.9 billion bushels.

In total, corn supply for the 2005-06 marketing year is some 200+ million bushels larger than last season’s record setting level. This should result in weaker prices than last season and produce a new record setting rate of corn use (Figure 2). Corn use for ethanol production should continue to grow and in total, Food and Industrial uses of corn should significantly outpace U.S. corn exports (Figure 3).

Soybeans: It appears that rain came “just-in-time” for soybeans as early harvest results are consistently finding more soybeans than farmers and other market “experts” had been predicting. The current USDA projection places the 2005 U.S. average soybean yield at 41.6 bu/acre – up 2 bu/acre from the September estimate and 4 percent above trend yield (Figure 4). As recently as August USDA had been forecasting an average yield of only 38.7 bu/acre.

If the current production estimate holds up through the “final” crop production estimate (released in January each year) U.S soybean supplies will be large and allow for robust use near last season’s record level (Figure 5) while maintaining very adequate projected carryover stocks. Demand for U.S. soybeans by China and actual soybean production in South America will also be very important price factors. Prices should be somewhat weaker than during the past marketing year.

Wheat: The situation for wheat is nearly identical to last season; U.S. production slightly below use with imports from Canada making up the difference and holding ending stocks nearly constant. U.S. wheat exports are expected to be down slightly (currently they are ahead of the projected pace) and seasonal and average prices should mirror last year (Figure 6).
The basis for corn and soybeans is currently as wide as can be remembered in recent history. At this writing, grain terminal spot prices for corn and soybeans, along the Ohio River, are 50 to 55 cents below December and November futures contract prices, respectively. The current “carry” or price differential between the spot price and January 2006 delivery price is 58 cents and 69 cents for corn and soybeans, respectively. Paying commercial storage charges or using on-farm storage facilities are the only the alternatives “pocket” the price differentials. Paying commercial storage charges are quite expensive. This year is no different in that the commercial storage charges approximate the carry in the market. Grain producers without on-farm storage facilities are between the proverbial “rock and hard spot.” Those with on-farm storage facilities can capture the price differentials – to the extent of their on-farm storage capacity.

<table>
<thead>
<tr>
<th>Date</th>
<th>Off-Farm Storage</th>
<th>Total Available Storage</th>
<th>% of the Corn, Wheat, Soybean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rated Storage</td>
<td>Available Storage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Capacity (1,000 bu.)</td>
<td>Capacity (1,000 bu.)</td>
<td></td>
</tr>
<tr>
<td>December 1, 1996</td>
<td>57,820</td>
<td>247,820</td>
<td>107.49%</td>
</tr>
<tr>
<td>1997</td>
<td>59,250</td>
<td>222,740</td>
<td>121.57%</td>
</tr>
<tr>
<td>1998</td>
<td>58,870</td>
<td>217,809</td>
<td>110.87%</td>
</tr>
<tr>
<td>1999</td>
<td>59,200</td>
<td>209,231</td>
<td>121.04%</td>
</tr>
<tr>
<td>2000</td>
<td>58,030</td>
<td>208,194</td>
<td>90.88%</td>
</tr>
<tr>
<td>2001</td>
<td>58,650</td>
<td>196,076</td>
<td>95.22%</td>
</tr>
<tr>
<td>2002</td>
<td>61,500</td>
<td>192,563</td>
<td>112.60%</td>
</tr>
<tr>
<td>2003</td>
<td>62,500</td>
<td>208,028</td>
<td>93.82%</td>
</tr>
</tbody>
</table>

Kentucky Agricultural Statistics data.

Is there enough storage in Kentucky for Kentucky crops? Figure 1 shows that there is in more years than not, but not on-farm. The difference in rated storage capacity and available storage capacity is due to the carryover of grain stocks. In the years where available storage capacity as a percent of the combined corn, soybean, and wheat crop produced is greater than 100%, there is adequate storage. When less than 100%, there is inadequate storage. In years when yield levels and carryover stocks are large, the percentage availability falls. This is what we are experiencing in 2005.

Historically, there has normally been an opportunity to capture returns to storage. For example, corn producers had opportunities for on-farm returns to storage of 40 cents and 19 cents per bushel for the production years of 2000 and 2003, respectively. Soybean producers had opportunities of 46 cents and 15 cents per bushel for the production years of 2000 and 2003, respectively. Of course, in each respective year, commercial storage charges approximated the gross returns.

We can use Kentucky Farm Business Management Program (KFBM) data to measure performance of producers with on-farm storage. By comparing average selling prices at harvest to average selling prices of stored grain, we also incorporate marketing prowess.
Figure 2 and Figure 3 illustrate the results for corn and soybeans.

![Kentucky Corn Prices](image1)

![Kentucky Soybean Prices](image2)

The average gross returns to storage for the seven-year period are 10 cents and 37 cents per bushel for corn and soybeans, respectively. Although the returns are less than what is often available, it also serves to illustrate that one downside to on-farm storage is the danger in “holding too long.” Regardless, there is another advantage to on-farm storage that is not often discussed - the advantage of locking in a loan deficiency payment (LDP) when deemed optimal as opposed to accepting the rate when grain is delivered to the elevator. KFBM data indicates that LDPs from on-farm stored grain were 12 cents and 10 cents higher than those realized from field direct deliveries during 1998 to 2004 for corn and soybeans, respectively.

On-farm storage will pay large dividends this year. But what are the annual costs? Table 2 shows the annual costs, returns, and payback period dependent upon initial cost. Given the data, Table 2 suggests that the payback of a 30,000-bushel grain bin today could take slightly longer than it would take to repay the loan. This may be one reason bins are not built. However, a year like 2005 shortens the payback period by more than 2 years.

<table>
<thead>
<tr>
<th>Investment</th>
<th>Interest Rate</th>
<th>Loan Payment and Taxes</th>
<th>Gross Returns</th>
<th>Payback Period (Years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$42,000</td>
<td>7.4%</td>
<td>$8,112.25</td>
<td>$9,000.00</td>
<td>6.50</td>
</tr>
<tr>
<td>$45,000</td>
<td>7.4%</td>
<td>$8,691.70</td>
<td>$9,000.00</td>
<td>6.91</td>
</tr>
<tr>
<td>$52,000</td>
<td>7.4%</td>
<td>$10,140.32</td>
<td>$9,000.00</td>
<td>7.93</td>
</tr>
<tr>
<td>$52,000</td>
<td>7.4%</td>
<td>$10,140.32</td>
<td>$15,000.00</td>
<td>5.02</td>
</tr>
</tbody>
</table>

Another reason that grain bins may not be built is that more land is rented than owned. Do producers build storage for grain produced on rented land? Each grain producer must evaluate this dilemma. On-farm storage likely guarantees better return than much of the money spent for farm machinery. But that is another story. If producers have minimal on-farm storage, improved marketing plans appear to be the only alternate solution.
The 2005 Kentucky Land Situation and Outlook
Craig D. Gibson and Richard L. Trimble

According to the Center for Economic and Policy Research, since 1996, house prices have risen by more than 45 percent after adjusting for inflation. This may be the reason that some are now comparing the U.S. housing market to the eventual collapse of the stock market during 2000 and 2001. Like the U.S. housing market, U.S. farmland prices have continued to increase. Since 1996, farmland prices have risen by more than 47 percent after adjusting for inflation as shown in Figure 1.

**Land Values**

The value of all land and buildings on farms in the U.S. averaged $1,510 per acre on January 1, 2005. This was an increase of 11.0 percent from 2004. It is the largest percentage increase since 1981. The $150 per acre increase over the $1360 value for 2004 is the largest dollar increase ever recorded! The previous record was $109 recorded in 1980.

There were numerous factors driving this record increase in farm real estate values. The major factors included low interest rates, both good production and prices, and strong nonagricultural demand for land. The demand for land for development purposes appeared to be particularly strong during the past year.

Kentucky farm real estate values followed the national trend with an increase of 10.0 percent. The value increased from $2,000 per acre as of January 1, 2004 to $2,200 on January 1, 2005. All of the factors driving the national farm real estate market were also active in Kentucky. The one major factor present in Kentucky during 2004 which most of the rest of the U.S. did not experience was the Tobacco Buyout. The numerous uncertainties surrounding this program may have acted to inhibit larger increases in real estate values, since the terms of the program were not know for much of the year.

States surrounding Kentucky experienced similar increases in land values. The only major exception to this involved Virginia, which experienced an astonishing 21.9 percent increase, going from $3,200 to $3,900. The increase would have been even greater if the USDA had not “revised” their 2004 estimate upward from $2,850!

A survey of Kentucky County Extension Agents was conducted in October 2004 to supplement the USDA information. Results of that survey, shown in Figure 2., indicated that Kentucky farm real estate values may be higher than indicated by the USDA survey. The average value of Kentucky farmland was estimated to be $2,637 per acre. Regionally, the estimated values were: East Region - $2,192, Central Region - $3,133, and West Region - $2,432. The urban influence was apparent in the Central part of the Commonwealth. Also, the Agents expected land values to increase 2.4 percent over the next year, with the greatest increase in the Central part of the state.

**Crop Land Rental Rates**

The USDA also reported results of their crop land cash rental rates for 2005. The Kentucky crop land cash rental rate was estimated to be $73.00 per acre, a $1.00 increase from the $72.00 reported in 2004. No bordering state reported an increase of more than $3.00 per acre (Illinois and Missouri). All states experienced a decrease in cash rent as a percent of land value for 2005. Illinois experienced the largest decrease of 0.4%, going from 4.7% to 4.3%. The rate for Kentucky was 3.0%, down from 3.2% in 2004.

Results from the Agents survey also confirmed those reported by the USDA, as indicated in Figure 3. The average cash rental rate estimated by the Agents in the October 2004 survey was $70.24. Regionally, the estimated cash rents were: East Region - $53.71, Central Region - $70.18, and West Region - $99.00. The Agents indicated an expected decline in cash rents
during the next year. Specifically, they expected statewide cash rents to fall by 0.4%. Regionally, the expectations were quite mixed: East Region – decrease of 2.5%, Central Region – decrease of 0.9%, and West Region – increase of 4.9%. This is undoubtedly a result of the changes taking place in the tobacco sector. As indicated in Figure 4, cash rent as percent of value was consistent with that reported by the USDA.

The Upward Trend in Farmland Values Warrants Caution

Obviously, demand and supply situations drive market values. However, given a continual relatively “small” decline in farmland acreage in the U.S., what is driving the demand side of the market?

Falling interest rates could be one influence. Since 1982, interest rates have steadily declined through 2003. It is during the early 1980’s, when interest rates achieved a record high, that land values began to decline. Since the middle of 2003, some measures of interest rates have increased. For example, the prime rate has risen from 4% to 6.75%. However, the 10-year treasury notes and 30-year treasury bonds have hardly changed since January 1, 2005. Although fairly well correlated (negative), no influence on land values is apparent through January 2005.

Regardless of ownership entity, land typically generates annual income to the owner. When measured by gross cash rent, a comparable relationship may be shown with interest rates. Figure 5 compares the gross cash rents as a percentage of land values to the yield on 10-year treasury notes. It is interesting that rents as a percentage of land value are relatively more stable in relationship to yields on 10-year treasury notes. As interest rates moved higher during the first half of the 1980’s, average cash rent as a percent of land value moved lower. However, since then, their changes nearly mirror one another since 1986. Relative to history, each current measure is comparatively low. If interest rates move upward, will gross cash rents and land values adjust?

Gross income from crops is the final area of income that will be discussed that may explain a higher demand for land. Gross income is simply the mean U.S. average yield multiplied times the average price received. The average annual government payment is then added to the crop income. The respective gross incomes are then divided by the average annual land value to determine a percentage. Figure 6 illustrates the annual gross percentages. Since 1995, for corn and 1996 for soybeans, there have been measured decreases (2005 data are estimated based in the September USDA crop report). Only during 2002 – 2003 was there evidence that the percentage moved higher. Again, the relationship is at unprecedented lows.

Farmland values are “booming”. Short-term interest rates appear to be increasing. Gross incomes for corn and soybeans relative to land values are declining. Energy costs, which directly influence the cost of many farm inputs, are skyrocketing. Farm household spending has been on the rise. Still, the perception is that current farm credit conditions are “solid” and credit availability appears “plentiful”. This suggests the upward trend in land values is intact. However, it is very likely the trend will change with a change in behavior by lenders due to a perceived reduced capacity to service existing indebtedness or the expectation of erosion in the value of debt security interests (i.e., real estate).
Figure 1. Historical Land Values, US and Kentucky, 1961-2005.

Figure 2. Average Price, per acre, of Kentucky Agricultural Land, October, 2004

Figure 3. Typical Kentucky Crop and Pasture Land Cash Rental Rate, per acre, October, 2004

Source: Survey of participants in ESM Meetings, October, 2004
Figure 4. Typical Kentucky Crop and Pasture Land Cash Rent as Percent of Value, October, 2004

Source: Survey of participants in ESM Meetings, October, 2004

Figure 5. Cash Rent as a percent of Land Values vs 10-Year Bond Rates, 1977-2005.

Figure 6. Corn, Soybeans, and Government Payments as a Percent of Land Values, 1970-2005.
The Year in Review

Many Kentucky farmers who have diversified into some form of horticulture production found 2005 a make-or-break year. Although some shipping was disrupted from hurricane devastation in September, 2005 prices did not see the dramatic late-season fluctuations of 2004, when hurricane damage to the Florida tomato deal resulted in decade-high tomato prices. National prices were at or above average for all major Kentucky vegetable crops during Kentucky’s peak seasons. Late-season wholesale prices were up about 5-10% for most vegetables, which helped compensate for higher fuel costs.

Kentucky berry growers reported another strong year for fruit sales. Fresh berries continue to be a profitable crop for growers doing on-farm retail, Pick Your Own, and farmers’ market. There may also be an emerging blackberry processing market in Central Kentucky led by the expansion of a Kentucky blackberry jam manufacturer that has expressed interest in sourcing area blackberries. A dry summer affected tree fruit size and quality, but apple sales were still strong through the fall season.

Greenhouse and nursery crops continue to be aided by strong new home construction, and an overall healthy economy. During the last half of 2005, some ornamental producers observed a downturn in consumer spending, as purchases of decorative plants, cut flowers, and other ornamentals may tend to decrease as more disposable income is spent on energy and other rising costs. Kentucky’s green industry beat the record gross sales set in 2004 by $2 million, with over $77 million in total sales. Bedding plant and nursery stock for landscaping in new and existing homes were the leading sources of this increase.

Markets

A significant amount of produce continues to be sold through direct marketing channels in Kentucky. Recent marketing surveys continue show more than half of the fruit and vegetable growers sell at least some of their produce through direct markets.

Nearly 100 community farmers markets exist around Kentucky involving over 1,000 producers. On-farm retailing also continues to expand through programs like the Farm Bureau Certified Roadside Market Program. Many of these markets have incorporated significant agritourism aspects into their enterprise and sell substantial amounts of produce locally.

Four produce auctions operated in Kentucky in 2005. There were none 10 years ago. These markets provide nice options for sales and distribution to many of the small scale producers, as well as larger producers that are looking to sell odd lots. Sales continued to expand in this channel for both produce and flowers in 2005. Over 200 producers sold through the auctions in 2005. Weekly auction and selected farmers market prices continue to be posted on-line with the New Crop Opportunities Center and the Kentucky Department of Agriculture.

The wholesale produce cooperatives struggled somewhat as they have tried to adjust to find their role in the larger, competitive wholesale produce industry. Disease, weather, low volumes, and management challenges have resulted in lower than hoped for performance for these markets.
Good opportunities seem to exist for various commodities, especially in marketing partnerships with existing, experienced firms outside of Kentucky.

**Vegetables**

**Broccoli**
West Kentucky Growers Co-op plans to harvest 250 acres of broccoli in November for distribution into Eastern and Midwestern markets. Broccoli growers observed prices 20% higher than average in 2004. Those prices will not likely continue this season; the USDA/ERS estimates f.o.b. shipping point prices for broccoli will decline 17% in third quarter 2005 over third-quarter 2004 levels. Lower than expected prices for September indicate this decline will be closer to 20%. Broccoli prices 15% lower than 2004 are projected for fourth quarter 2005. Price adjustment is likely due to increases in California acreage, 31,600 acres, 4% above last year’s levels.

Barring unexpected weather hampering California’s harvest, growers can expect prices slightly above average for Kentucky’s November harvest. Broccoli prices have been supported by increased U.S. consumption, as well as increased exports. The outlook for 2006 is largely dependent on California production decisions; there are no current indications that broccoli acreage expansion will cease. Opportunities in Kentucky may be sustained, however, by high fuel and shipping costs associated with production on the West Coast.

**Pumpkins, Winter Squash and Fall Ornamentals**
Wholesale pumpkin production in Kentucky mainly occurs through co-ops, auctions, and direct store delivery. September mainline pumpkin volumes and prices were average, like 2004, with no changes expected for early October. Specialty (white) pumpkin volumes increased substantially at auctions this season. Specialty pumpkins, gourds, and other fall ornamentals (including straw and corn shock bundles) continue to auction at respectable price levels.

There are untapped regional markets, both at retail and wholesale levels, for winter squash production. Winter squash (butternut, acorn, kabocha, etc.) is suitable for cold storage and could be used to extend shipping seasons for co-ops and grower-shippers. Though not lucrative, winter/hard squashes prices are profitable, and might be used to extend positive cash flow for a co-op or grower. This market is expected to maintain or grow for 2006, with the most potential in specialty varieties and organic production.

Chrysanthemum production hit highs with earlier seasonal offerings in western Kentucky and Lincoln County. Auction markets appear to have sustained much heavier volumes of mums with stable prices to slightly decreasing. Average auction prices generally remain above the $2.00/plant range necessary for profitable field mum production.
**Peppers**
Bell peppers are one of the most profitable field crops available for Kentucky producers. Bell pepper prices remained strong in 2005, with wholesale spot markets (terminal markets) remaining above $9/box throughout the season (Figure 1a). Kentucky growers who were able to extend pepper production beyond mid-September captured a significantly higher market, due to hurricane damage in South Florida, which is the primary Eastern shipper at this time (Figure 2). Price should not have been a factor in pepper profitability for any U.S. growers during 2005. Pepper consumption should hold steady in 2006.

Consumption of chile peppers has increased by 40% in the past decade, from 4.3 pounds per person in 1994 to 6.0 pounds in 2004. This has been driven by changes in traditional consumer preferences, as well as the growth of the U.S. Hispanic population. Growth in chile pepper consumption is expected to stabilize in the 6.0-6.5-pound range through 2008. Profitability for chile varieties (jalepeno, anaheim, habanero) typically falls lower than bell pepper returns, but is still attractive for Kentucky producers with access to wholesale markets.

**Sweet Corn**
Consumption (per capita use) of sweet corn during 2005 met, if not exceeded, the record levels of 2004. F.o.b. shipping point prices for sweet corn during 2005 were bolstered by this higher demand, with early-season prices exceeding 2004 levels. Sweet corn consumption is not expected to decrease, and sweet corn production should continue to be a part of any Kentucky vegetable marketing program, whether at the wholesale or farmer’s market level. Similar sweet corn consumption and price trends are expected for 2006 (Figure 3).

**Cucumbers and Summer Squash**
Cucumbers and squash have been viewed as mainline or maintenance crops for Kentucky growers. These crops are demanded year-round by consumers, and growers should investigate season-extension techniques to capture higher prices before July and after August. While quantities demanded remain steady, both cucumbers and summer squash are unlikely to be profitable in Kentucky if marketed solely in July and August. No significant changes in these markets are expected for 2006.

**Melons**
Melon use declined for the third consecutive year in 2005. Consumer preference appears to be shifting toward smaller and seedless melons. However, Kentucky’s Fairview Produce Auction continued to move significant volumes of melons at above-average prices, suggesting there are profitable markets for certain levels of wholesale melon production in Kentucky (Figure 4). Properly marketed, both high-quality cantaloupe and watermelon production can remain profitable for Kentucky production in 2006, especially for growers willing to combine these with higher-margin specialty melon volume. Consumers continue to be interested in specialty and variety vegetables; a portion of the decline in consumption for the three main melons (cantaloupe, honeydew, watermelon) could be explained by preferences shifting to specialty melons (Sprite, Canary, etc.).

**Tomatoes**
2005 prices did not reach the late-season record highs of 2004, but 2005 season-average prices reached levels above average (Figure 5). This was mainly due to higher early-season prices; July and August prices were at average levels. Dry conditions in Kentucky throughout the summer had some impact on tomato quality; some growers marketed quality fruit in the later season far over breakeven prices.
Tomatoes are a prime crop for season-extension techniques; application of these techniques at all levels will aid producer profitability. Heirloom, organic, and value-added product development (salsa, etc.) may also be ways for producers to increase profitability for this crop in 2006.

**Potatoes**
U.S. potato acreage reached its lowest level since 1866 this year. Acreage reduction came as the result of a bid-buydown program, mainly in Idaho and North Dakota, by the United Potato Growers of America. This took more than 40,000 acres out of production, contributing to a 7% decrease in acreage. Higher prices resulted through the season.

Fresh potato use is off 6% since 1994, but all potato use is down only 2%--much less than predicted from any so-called “low-carb” effect. Contracts for processing potatoes exist, but processing potato prices typically have been borderline profitable for Kentucky growers. Higher transportation costs could introduce more profitable processing contracts for Kentucky producers to consider.

Sweetpotatoes remain a profitable niche market option in Kentucky for direct-to-consumer sales.

**Specialties**
Specialty vegetable production, with proper marketing, continues to be an attractive niche market for Kentucky growers. Asian and Hispanic vegetables, root and bulb crops, herbs, organic, and heirloom vegetables all generate profitable returns for some Kentucky growers each year. Additional niche vegetable markets remain open for those with the creativity and marketing prowess to carefully cultivate a customer base. Specialty markets will continue to expand.

**Fruit**
Blackberries, blueberries, and raspberries continue to be profitable for Kentucky growers with established stands. Berries continue to remain popular with consumers, and wholesale berry prices remained well above Kentucky breakeven prices throughout the entire season. Tree fruit size and quality were affected by a poor growing season, but direct marketers were able to mitigate these risks through a successful fall festival season and good marketing.

Many fruit growers continue to generate additional value through value-added product production. Jams, apple cider, and HB 391 home-processed goods are all generally profitable ways for developing niche fruit markets. Larger scale fresh-fruit wholesale efforts (berries) are possible, but will likely require producer cooperation.

Winegrape acres are coming into additional production, and Kentucky wineries appear to be able to support more acreage. Producers will need to follow the latest planting density guidelines from UK Horticulture in order to maximize the highly variable economic profitability from grapes. Dry weather yielded ideal winegrape growing conditions, and prices paid by regional wineries were strong in 2005. A regional price survey was completed recently, collecting ranges of prices paid for different grape varieties. This information is available through the New Crop Opportunities Center.
Green Industry

The green industry continues to expand in Kentucky as new market opportunities emerge in the Midwest, and as new production technologies are implemented. Nurseries, including the West Kentucky Nursery Cooperative, continue to explore various tree species, container options, and caliper options for market. Growth in landscaping businesses, retail garden centers, and wholesale nurseries have created new opportunities for Kentucky producers.

A regional demand study was recently completed and is available on-line at the New Crop Opportunities Center website. Highlights from that survey are presented in Table 1 showing demand indicated for various species and in Figure 6 demand for various containers and ball and burlap sizes.

A national study of the green industry was recently completed at the University of Tennessee and results are available at http://www.utextension.utk.edu/hbin/.

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<th>Table 1. Expected Regional Demand Table for Tree Varieties (2004-05)</th>
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<td><strong>Retailers</strong></td>
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Figure 1a. Atlanta Terminal Green Bell Pepper Prices, Jul-Aug. 2005

Figure 2. Atlanta Terminal Green Bell Pepper Prices, Sep. 2005

Figure 3. Sweet Corn f.o.b. Prices, National ($/cwt.)
Figure 4. Fairview Auction Cantaloupe Prices (per melon)

Figure 5. National f.o.b. Tomato Prices ($/cwt)

Fig. 1 Demand for Plant Sizes by Business Type
Educational programs of the Kentucky Cooperative Extension Service serve all people regardless of race, color, age, sex, religion, disability, or national origin.