

# **Kentucky's Near-Term Comprehensive Plan for Agricultural Development**

**Prepared for**

**The Kentucky Agricultural  
Development Board**

**December 15, 2000**

**Governor Paul E. Patton, Chair  
Commissioner Billy Ray Smith, Vice-Chair  
John-Mark Hack, Executive Director/CEO**

## Preface

The Kentucky Agricultural Development Board submits this plan for public consideration in fulfillment of the requirements of KRS 248.709. This plan is intended to offer general guidelines for investment decisions by the board and the County Agricultural Development Councils. These guidelines represent the board's short-term direction and investment priorities for the next 24 months, and are offered to county councils as a guide to their activities over the next 2 years. **The board reserves the right to alter, amend and revise this plan as necessary.**

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# State Agricultural Economic Overview

## State and National Trends in Agriculture

The number of farms and farmland acreage has been in steady decline both in Kentucky and nationally since the 1950s. Kentucky ranked fourth nationally in the number of farms behind Texas, Missouri, and Iowa in 1999. Farm numbers are estimated based on \$1,000 or more in agricultural sales during the year. The structure of tobacco production and its importance in Kentucky certainly has contributed to the relatively large number of farms registered according to this definition.

There were approximately 120,000 farms with burley tobacco quotas in Kentucky in 1999. The USDA census of farms in the state with at least \$1,000 in sales was approximately 91,000. Only 39,000 of these farms had sales exceeding \$10,000 (KASS, 2000). Compared to many other major agricultural states, Kentucky has a proportionally larger number of small farms.

***Kentucky has consistently ranked in the top 20 states in terms of total net farm income, but has been near the bottom (40<sup>th</sup> in 1996) in net farm income per operation.***

Certain agricultural sectors have consolidated considerably over the last 15 years across the country. Cattle, dairy, swine, and sheep farms have diminished in number while the value of these livestock enterprises has generally increased to over \$2.16 million in cash receipts from livestock in 1999, up from the \$1.39 million observed in 1985 (KASS, 2000). The highest rates of growth have occurred among farms producing horses and mules.

Tobacco accounts for the largest share of cash receipts in Kentucky among the crops. Kentucky (\$784 million) accounted for 33% of the nation's tobacco value in 1999, despite losses in quota and reductions in purchases by major cigarette manufacturers (KASS, 2000). Corn (\$266 million), soybeans (\$120 million), and wheat (\$53 million) also made significant contributions to 1999 crop values in the state.

Average cash receipts per farm in Kentucky have increased sharply since 1970, although net returns per farm have been highly volatile. Net farm income in the state peaked at about \$15,000 per farm in 1990, but has bounced around sharply in correlation with low commodity prices. Kentucky has consistently ranked in the top 20 states in terms of total net farm income, but has been near the bottom (40<sup>th</sup> in 1996) in net farm income per operation.

A big factor behind this phenomenon is the high number of part time farmers in Kentucky, as evidenced by the fact that 57% of Kentucky's 91,000 farms had less than \$10,000 gross value of sales. This trend is reflective of farming across the United States, as 54% of U.S. farms had less than \$10,000 in gross sales in 1999.

While farm numbers have gradually declined in Kentucky over the past 20 years, the biggest percentage declines have been observed in layers and pullets, hogs, dairy, and corn. Hay-alfalfa, tobacco, and beef cattle are by far the most widely represented commodities among Kentucky farms (Kentucky Ag Census, 1978, 1997).

## Asset Inventory

### Analysis of established commodities

This section provides an analysis of established commodities, drawing on the trends in production and marketing observed in reported statistics and supplemented with input from the respective commodity groups and agencies that work with them.

Major commodity groups were asked to provide the Agricultural Development Board with a presentation of the following:

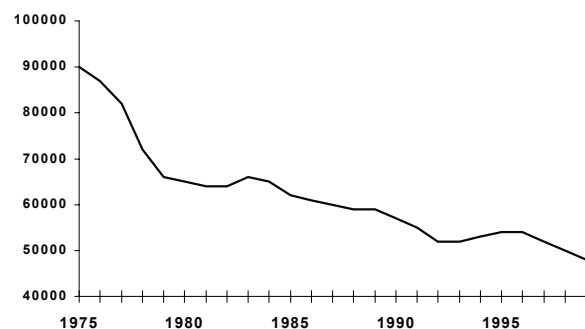
1. The short-term goals for the particular industry in the state of Kentucky stating what key things need to happen in the next twelve months to move the particular industry in a direction consistent with statewide goals.
2. Provide a broad overview of the long-term plan for the individual industry in Kentucky.
3. Enumerate infrastructure and marketing needs of the particular industry that are key to its success in the Commonwealth.
4. Provide any suggestions for implementation that are available.
5. Provide the Board members with a concise executive summary, no longer than two pages in length, that contains all of the items presented and contact information for the board members

### BEEF CATTLE<sup>1</sup>

Despite declining numbers of cattle farms and numerous challenges in marketing and production faced by Kentucky cattle producers, the situation looks reasonably good for this sector. Prices through mid-2000 have been the highest in three years, especially for calves. Beef consumption has been increasing

### KENTUCKY CATTLE FARMS

Number of Operations

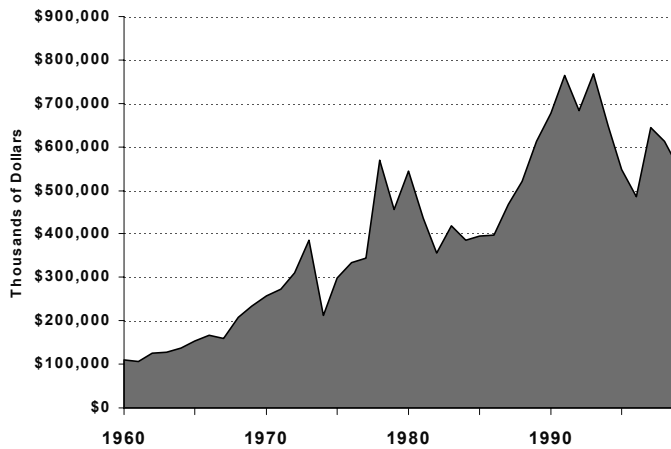


<sup>1</sup> Part of this discussion is contributed by Dr. Lee Meyer, Extension Livestock Marketing Specialist, Department of Agricultural Economics, University of Kentucky

since 1994 and is projected to be at an average of 70 pounds per person in 2000. There are currently 48,000 farms with cattle, including 41,000 operations with beef cows.

### *Opportunities*

## Kentucky Cattle Receipts



USDA

The advent of individual animal identification for management and market segregation, e-commerce, video auctions, and aggressive new product development for meat products will open new opportunities for livestock production in general. Kentucky's forage base and market proximity provide several comparative advantages. Some marketing experts in Kentucky suggest the production and marketing of top quality feeder cattle has the greatest potential for the beef industry.

The entrance of eMerge, an on-line marketing outlet, and comparable systems is opening the doors to rapid change that did not exist even six months ago. Producers need assistance in rapidly adapting to the new technologies of electronic identification tags (EID), computerized record keeping, and industry standard health programs. These adaptations will be started through a current five-state initiative that includes Kentucky, but needs to be much more extensive. Investments in demonstrations, the development of collaborative marketing efforts, and cost-share programs for key asset purchases will greatly speed the adoption of practices Kentucky cattle producers need to participate in the modern feeder cattle marketing system.

There are 48 custom exempt processors and 18 federally inspected processors in Kentucky. Their capacity is not yet fully utilized, but markets relying on these processors are growing. A key need at this point is technical, management, and marketing training. Modernization will also improve the competitiveness of these processors to the benefit of local beef cattle producers. Product development resources and programs that can be shared may also be a valuable resource to encourage further value-added processing and new products.

Kentucky consumers have stated that they will buy locally produced products (beef, pork, goat, lamb), and at profitable prices, but that they have trouble finding the products. A recent study shows that producers can sell at prices that generate significant net returns, but on a relatively small scale. Direct marketing can add \$200 per head of cattle for 5-10 head per year. This may double net returns for small operations. The key need for developing this opportunity is marketing support, especially technical help in labeling, promotion, and brand/image development.

## HAY AND FORAGES

Kentucky harvested 250,000 acres of alfalfa hay yielding 725,000 tons in 1999. All other hay amounted to 2.15 million acres yielding 4.08 million tons. Total hay harvested and yield per acre have increased steadily over the last 20 years, with yields and total acreage harvested more than doubling during this period. The value of all hay, according to KASS, was \$440 million in 1999 and \$491 million in 1998. The actual sales transacted between producers of hay, hay seed, and silage is considerably less than the total of what is produced. The 1997 Ag Census indicated hay sales to be about \$58 million. A significant amount of product harvested is utilized on the farm in support of other farm enterprises. The most active forage areas parallel closely with the top tobacco areas, as both commodities thrive under similar growing conditions. Improvements in forages lead to improvements in beef cattle, dairy, and equine in addition to adding more income resulting from direct sales.

### *Opportunities*

Technology is impacting even the hay production business. Bale wrappers can now help minimize bale deterioration, preserving quality and marketability. Additional forage management methods have promise to improve yields for a region that already is among the best areas for forage in the country.

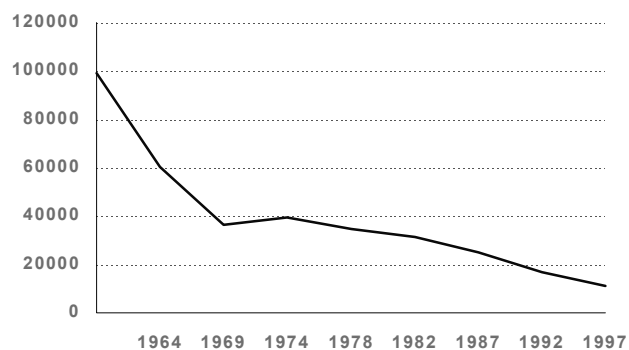
It is difficult to examine the impact of increased forage sales using certain methods such as the IMPLAN model because of the very high incidence of internal use as opposed to selling all product grown. The nature of the product, however, would suggest improvements in hay that did lead to higher sales would have one of the highest impacts on the increased sales of other agricultural enterprises related to forage production.

Many marketing opportunities exist. Compressed bales that minimize the cost of more distant delivery may have promise. The use of alfalfa as a biomass energy source has been successfully developed in other states with a similar forage base.

## GRAIN<sup>2</sup>

Kentucky ranked 14<sup>th</sup> in the United States in corn for grain production in 1999. Large crops in 1999 and 2000 nationally have depressed corn prices, but have led to very active export markets. Corn yields have driven steadily upward over the last 50 years as production technology has advanced. The acreage in the state dedicated to corn has been

### Number of Farms with Corn in Kentucky

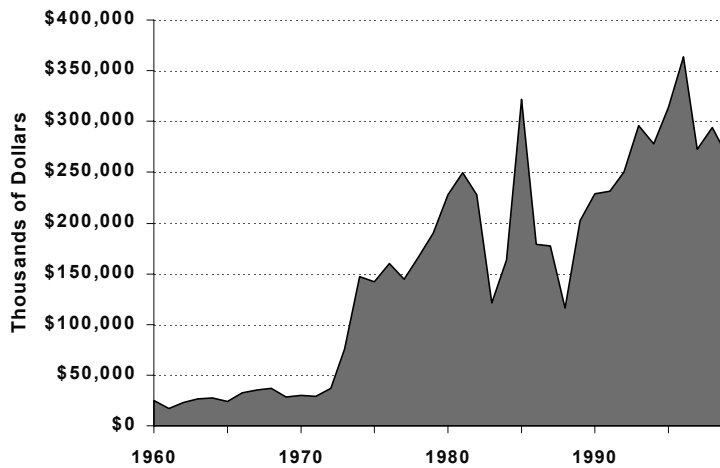


<sup>2</sup> Parts of this section were provided by Steve Riggins, Department of Agricultural Economics, University of Kentucky



fairly stable for the last 12 years at around 1.2 million acres.

## Kentucky Corn Receipts



USDA

also relatively important in value as a Kentucky grain crop. Corn (43.8%), soybeans (43.8%), and wheat (11.2%) together made up the largest sources of grain receipts in the 1997 crop year and continue as the major grain enterprises. Small amounts of sorghum, barley, and oats are also produced.

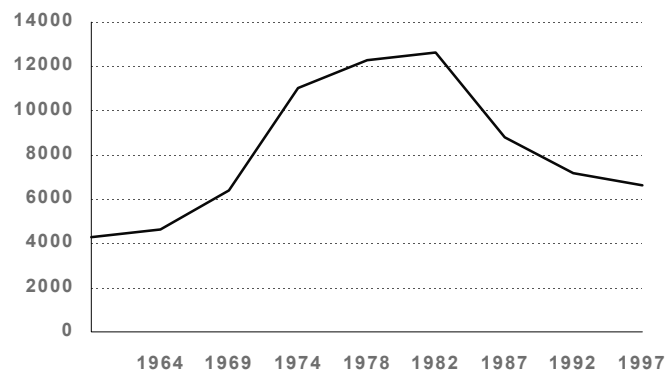
The number of soybean farms, much like corn, has been in steady decline in Kentucky since peaking in 1982. Very low soybean prices nationally, combined with very poor growing conditions and yields in Kentucky have led to significant declines in total production and total value for soybeans in the state. The 1999 season price was the lowest in 25 years at \$4.95 per bushel.

Acres devoted to wheat production nationally continues to decline. U.S. yields, however, have been excellent. In Kentucky, winter wheat production has been up, hovering at around 25 million bushels in recent years. Yields in the state have also been steadily increasing and were near record levels in 1999.

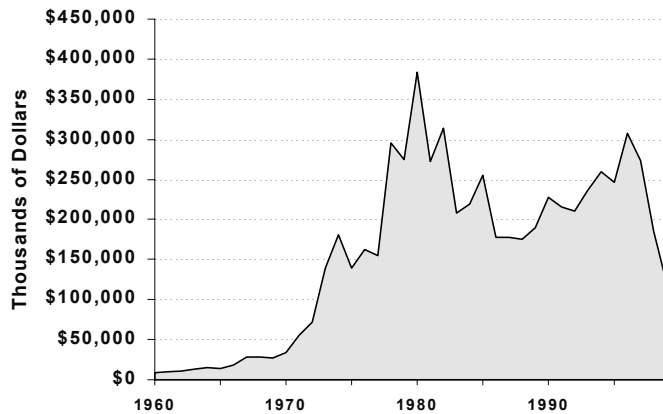
The number of farms growing corn has declined with each Ag Census over the last 25 years, falling to 11,021 farms in 1997 from 39,495 farms in 1974. Corn sales in the state have grown over the last three Census periods, despite the declining farm numbers and erratic prices. Sales grew from \$346 million in 1987 to \$512 million in 1992 to \$624 million in 1997.

Kentucky ranked 17<sup>th</sup> nationally in soybean production in 1999 with 24.15 million bushels of production. Wheat is

## Number of Farms with Soybeans in Kentucky



## Kentucky Soybean Receipts



### *Opportunities*

Corn farmers in western Kentucky continue to benefit from the rapidly expanding poultry industry there. Each of the four major poultry production firms consumes around 9 million bushels per year. Rough estimates suggest this growth in local demand has added somewhere around 5 to 10 cents per bushel to the bottom line of the western Kentucky corn producer.

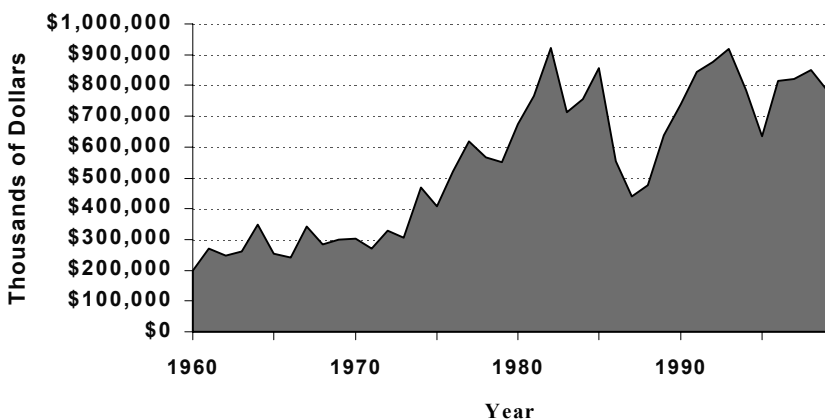
Some of the greatest opportunities for expansion would appear to be connected with the establishment of an ethanol plant in the area. A plant operating in the Ohio Valley area uses an estimated 40 to 50 million bushels of corn every year. Increased demand for poultry products, an apparent upturn in the demand for beef, and an energy environment that makes exploring renewable fuels energy alternatives attractive again presents a variety of new opportunities for western Kentucky grain farmers.

Biotechnology and identity preserved (IP) grain has become an established driving force within the grain industry. Areas of need likely to emerge in the very near future for Kentucky farmers will be establishing IP storage capacity and delivery, implementing technology for IP verification and assurance, and developing markets and marketing partnerships that pursue IP grain opportunities in a way that is profitable for the farmer.

## TOBACCO<sup>3</sup>

Tobacco has traditionally been the state's most valuable agricultural commodity, generally accounting for around one-fourth of Kentucky's gross farm income and approximately one-third of the state's net farm income. Nearly 45,000 of Kentucky's farms grow tobacco, averaging just over five acres of tobacco production per farm. Tobacco is grown in 117 out of Kentucky's 120 counties, averaging over \$1 million of sales for more than 100 Kentucky counties during the 1990s.

**Kentucky Tobacco Receipts**



<sup>3</sup> This section is provided by Dr. Will Snell, Department of Agricultural Economics, University of Kentucky

Although burley tobacco production dominates tobacco sales in Kentucky (over 90% of sales), dark tobacco represents a major enterprise for a significant number of farmers in regions of western Kentucky. Besides contributing directly to farmers, a significant portion of these “tobacco dollars” have traditionally been used to pay off debt, support agricultural diversification efforts, and purchase goods and services in the local economy. Thus, tobacco has historically been the backbone for much of rural Kentucky. Consequently, the tobacco production and marketing infrastructure has been extensively developed over the years to support this industry as well as the active participation of several very influential farm organizations. Currently, the tobacco industry continues to face a multitude of legal and political challenges that generates much uncertainty about the future of this industry. In response to this environment, burley-marketing quotas have plummeted to record low levels in 2000. Tobacco farm income losses have been cushioned by an influx of tobacco settlement dollars and federal emergency disaster assistance. The future status of these income supplements, however, remains questionable.

### ***Opportunities***

The quota outlook for 2001 has improved somewhat with pool stock sales and the forgiveness on the loan for 1999 pool stocks. An improved outlook beyond 2000 will depend greatly on the movement of additional pool stocks, opening of new markets, program changes to improve competitiveness, and a calming of the political and legal environment facing the U.S. tobacco industry. Domestic demand for U.S. burley will continue to be adversely affected by abundant stock levels, imports, and the retail product price increases associated with legal costs facing the industry. economic may begin in

***While the opening of the Chinese market does present some opportunities for U.S. tobacco growers, tobacco dealers are unsure of both the short-term and long-term effects.***

tobacco  
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international

markets, rebounding of U.S. tobacco exports of leaf and tobacco products may be slow to materialize. In fact, leaf exports in the short-run will likely fall in response to abundant world supplies and limited available supplies from the 2000 burley market. Based on recent import patterns, projected export levels, and anticipated cigarette production levels, current demand for U.S. burley may be more in the range of 350 to 400 million pounds, compared to traditional (pre-tobacco settlement) annual demand levels of 600 million pounds.

As for dark tobacco, increasing sales of smokeless tobacco products will likely result in maintaining a viable base for many western Kentucky tobacco growers. Consequently, annual Kentucky tobacco sales in the post-tobacco settlement era may be more in the neighborhood of \$500 to \$600 million, compared to more normal levels of \$800 to \$900 million. Although a smaller tobacco sector is likely to be sustained, a major concern focuses on the possibility that tobacco dollars will be concentrated among fewer farmers and across fewer geographic regions. The degree of concentration over time will also hinge greatly on potential changes in the federal tobacco program and tobacco marketing.

China is often identified as the potential solution for burley demand to rebound back to more traditional levels. Recently, China agreed to remove its trade restrictions on U.S. leaf and the U.S. Congress has granted China permanent normal trade relation (PNTR) status. While the

opening of the Chinese market does present some opportunities for U.S. tobacco growers, tobacco dealers are unsure of both the short-term and long-term effects. China accounts for around 30 percent of world cigarette consumption. Although cigarette consumption has reportedly peaked in China, demand for American-blended cigarettes continues to grow in this market. As the Chinese economy rebounds, and as the growing middle and upper income classes continue to emerge, opportunities will likely exist to move some U.S. burley into this enormous market. But this market will evolve slowly over time and will not likely be the immediate answer to the industry's short-term problems.

Another potential area for expansion for Kentucky tobacco farmers may be in the area of alternative uses for tobacco. Tobacco has been engineered as a new production system for many potential products including enzymes, bio-plastics, vaccines and other pharmaceuticals, just to mention a few. Such entirely new applications for tobacco have the potential to create captive new markets for

***Another potential area for expansion for Kentucky tobacco farmers may be in the area of alternative uses for tobacco. Tobacco has been engineered as a new production system for many potential products including enzymes, bio-plastics, vaccines and other pharmaceuticals, just to mention a few.***

Kentucky growers. Commercialization is already underway. In Kentucky we have an industry leader which has constructed the world's first bio-processing facility for the purification of high-value proteins from engineered tobacco. This company is now establishing regulatory guidelines and is scaling-up production. With continued technology advances, and efforts to develop additional commercial enterprises, there is significant potential for this emerging agricultural sector to grow here in Kentucky. As an illustration, a company located in another tobacco producing state estimates their acreage requirements for genetically engineered tobacco will be as much as 70,000 acres within 15 years.

Finally, the adoption of new production systems to address some of the health risks associated with smoking may continue to emerge in Kentucky. In crop year 2000, Star Scientific placed around 100 curing barns in Kentucky to experiment with a different curing system to potentially reduce the nitrosamine levels in tobacco. Presently, it remains unclear how this and other initiatives will impact the industry.

Kentucky tobacco producers must continue to improve the quality advantages that they currently possess in the world burley and dark tobacco markets. Given much lower labor costs overseas, our competitors are able to sell their tobacco 50 to 75% lower than Kentucky tobaccos. Also our political and potential production stability represents another advantage domestic growers have over their competitors.

## **POULTRY**

Poultry production has expanded at a remarkably rapid rate in western Kentucky. Broiler production has grown in the state from less than 3 million birds to 188 million birds in 10 years. The value of production has grown from less than \$5 million to \$363 million in 1999. This rapid

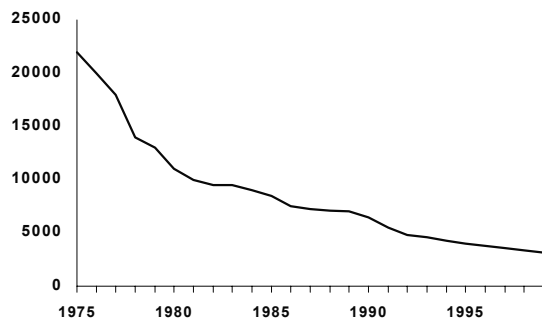
expansion has generated opportunity for grain producers as well as those directly associated with poultry production.

Poultry demand has also grown very quickly. Chicken promises to pass beef in consumption per capita in 2000 or 2001 and it continues to increase. A number of production and environmental management challenges face the industry currently. These issues, along with labor concerns, are among the most important challenges facing the industry in Kentucky today.

While poultry and eggs are in a rapid growth stage, they have slightly lower economic impact multipliers than other agricultural sectors in terms of sales stimulated outside its own sector. It does have one of the highest job creation multipliers among agricultural sectors, but the jobs created have not been without some controversy, including the employment of large numbers of undocumented migrant workers.

## DAIRY<sup>4</sup>

### KENTUCKY DAIRY FARMS Number of Operations



There were 1,958 KY dairy farms as of May 2000. Some data suggests there may be a few more farms with milk cows, but by any measure, the number of dairy operations has been in steady decline in Kentucky for many years. The state lost 151 Kentucky dairy farms (7.2%) between January 1999 and May 2000. Kentucky dairy production is most concentrated in Barren and Adair Counties. Other counties with over 75 dairy farms are Hart, Fleming, Lincoln, and Metcalfe. The average herd size in Kentucky is approximately 68 cows. 1998 average milk per cow in Kentucky was 12,214 pounds,

compared to the national average of 17,192 lbs.

Prices have been lower than the 5-year average during every month of 2000. Between 1996 and 1999, prices were characterized by unprecedented volatility. Expansions initiated after the high prices of 1998 and 1999 have boosted U.S. supply to the point that upward price potential is severely limited for the foreseeable future (i.e., late 2001) despite strong demand. The U.S. milk supply is growing very rapidly in the West, where production costs are under \$11/cwt. versus Kentucky production costs exceeding \$14/cwt.

Kentucky has what is called a high Class I utilization rate. About 75% of raw milk in Kentucky is used for fluid milk, as opposed to cheese, butter, and other products. Milk used for fluid milk is more valuable than milk used for manufactured dairy products. Most milk in Kentucky is marketed through major dairy cooperatives under the Federal Milk Marketing Order system. Isolated examples exist of producers who add value by processing their own cheese and

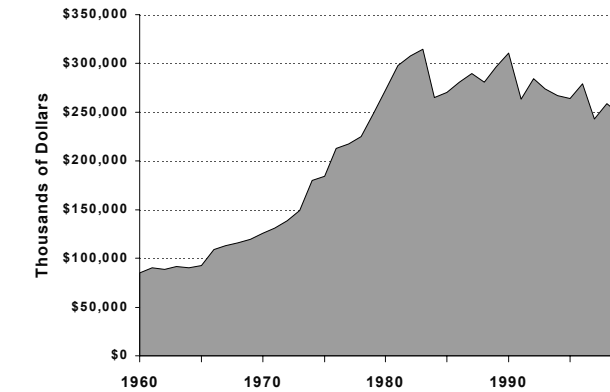
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<sup>4</sup> Much of this presentation can be attributed to the efforts of Dr. Leigh Maynard, Department Agricultural Economics, University of Kentucky

other dairy products. Fluid milk consumption, however, has been steadily in decline over the past 15 years, down from 241 pounds per capita to 218 pounds in 1998.

The University of Kentucky provides the majority of dairy research and extension services in Kentucky, particularly through the Animal Science department and to a lesser extent through the Agricultural Economics department. The USDA recently made the Dairy Option Pilot Program (DOPP) available in Barren and Adair Counties. DOPP provides price risk management training and heavily subsidizes producers' hedging activities for one year. Participation is very limited, though no more so than in other states. The USDA will also offer a Forward Pricing Pilot Program, another price risk management tool.

## Kentucky Dairy Receipts



KASS

Kentucky Department of Agriculture's Value-Added Grants Program has provided funding for items such as purchase of a bulk milk truck, publicizing and exploring value-added alternatives, and doing the groundwork for commercializing high-CLA dairy products that help prevent cancer. The Kentucky Milk Producers Association is proposing to supply infrastructure support in areas such as resource coordination, capital supply, environmental quality assurance, promotion, and management training.

### *Opportunities*

Individual farmers have demonstrated that value-added cheese processing can be successful, but it took several years to slowly build up. A group of goat milk producers are actively pursuing local production of cheese from goat milk. An agri-tourism project is being explored that includes a demonstration mini-dairy where producers can process dairy products and launch entrepreneurial ventures at reduced capital cost and risk.

Other opportunities for enterprise development and expansion for dairy producers would include intensive rotational grazing, organic and/or bST-free production, high-CLA milk production and/or processing (CLA is linked with reducing cancer risk), certification and promotion of high-quality dairy products with a local/regional identity, tall fescue eradication and/or forage quality enhancement, raising heifers, and management practices that reduce mastitis and somatic cell counts and increase milkfat content

There are a number of key limiting factors that currently restrict growth in this sector. These include the availability of trained labor, reluctance or inability to practice proven, modern management techniques, a lack of critical mass to sustain dairy infrastructure and specialty

services. Dairy farmers have a reluctance to make risky investments when the government annually issues loss assistance payments.

Milk per cow consistently ranks lower in Kentucky than in any of the 20 major dairy states. Improved forage programs and genetics programs can help significantly but would require extensive industry commitment and coordination. In the short-run, nationwide expansions will keep pressure on prices, forcing some high-cost Kentucky dairy farms out of business.

There are some definite comparative advantages in place for Kentucky dairy producers that provide unique opportunities for dairying relative to other areas. These include good forages, a mild climate, and access to large portion of U.S. population within one day's truck haul. Further, the deficit milk regions in the Southeast are gaining population. Kentucky also has inexpensive farmland relative to most states. Producers are not under the environmental pressures faced by the producers with immense herds in California, New York, and Wisconsin.

## **HORTICULTURE**

Horticulture is a complex sector that involves a wide variety of specialized, high-input, high-value enterprises. Floriculture (\$27.4 million in sales), nursery crops (\$19.8 million in sales), vegetable crops (\$40 million in sales), fruit crops (\$13.3 million), and landscape, interior, and nursery sales and service (\$136 million) all contribute to total agriculture sales in Kentucky.

Horticulture has not been as big a sector in Kentucky as in neighboring states. Kentucky fruit and vegetable production is less than 20% of that observed in Indiana or Tennessee, states with very similar natural resources.

Horticulture has had a commercial presence in Kentucky for many years. It has only been more recently that this sector has experienced some growth. A number of cooperatives have been developed within the past several years to receive, pack and grade, and distribute a wide variety of produce items. A considerable amount of direct marketing takes place with these products as well.

The demand for each of these horticultural crops continues to climb as more value-added products are becoming available, as healthier diets become a central part of many life-styles, and as people have more discretionary income to spend on flowers, nursery, and home landscaping.

### ***Opportunities***

There are considerable opportunities for expansion with each of the above-mentioned horticultural sectors. Light processing of fruits and vegetables, branding, developing local products for local markets, growing nursery products and providing landscaping services for a growing population, all present immediate opportunities. A number of the vegetable cooperatives have formed partnerships with producer organizations in other parts of the country in an effort to provide year around supply of products to key buyers.

The differentiation of products through higher quality, organic production systems, labeling, and integrating into producer-owned cooperatives present opportunity for producers to enhance farm incomes through these kinds of enterprises. Many of the horticultural enterprises complement tobacco production systems and resources. These enterprises can readily supplement farms that have intensively focused on tobacco production but now face quota cuts.

Infrastructure and technical expertise is a major constraint to growth currently. The management requirements on the part of producers is significant and, while significant returns on investments can be achieved, they may have to work through a period of frustrating and expensive losses as market and production issues are worked out over time. Quality is difficult to keep up with in other areas. Small-scale production limits the attractiveness of Kentucky as a place of supply for the larger buyers.

### ***Sources of comparative advantage***

For many horticultural products, proximity to market is critical. Transportation of a highly perishable product is expensive. The climate in Kentucky is highly favorable to many horticultural crops, including tomatoes, pumpkins, green peppers, sweet corn, cantaloupes, cabbage, broccoli, cauliflower, small fruit, grapes, and certain nut crops. Many enterprises fare well when started early or extended in the season through greenhouse production. The greenhouse system is a familiar one to many tobacco producers, although the management intensity for certain crops requires a different level of investment.

The proximity to several very large buyers that distribute throughout the east coast and the south presents certain opportunities for growth. Product quality and supply reliability are critical factors in relationships with these potential buyers.

## **FORESTRY**

Forest land comprises 12.5 million acres in Kentucky or 50% of the land area. Ninety-three percent of this area is owned by over 400,000 individual land-owners for an average of approximately 30 acres each. Ninety-three percent of this resource is comprised of hardwoods and 7% conifers. The predominant species are oaks and hickories with good quantities of yellow poplar, ash, maple, beech, walnut and other species. While this area is the third largest hardwood forest in the country, past management has resulted in a resource base that is comprised of a resource mix that is 72% grade 3 or worse (where grade 1 is best, grade 2 next, then grade 3, grade 4 and cull). This situation means that on an average acre having 100 mature stems, 72 of them are low grade that yield predominantly materials unsuitable for high grade products.

The wood industry is comprised of over 950 companies located across the state. The primary production segment is comprised of 391 individual businesses with 560 secondary utilization enterprises contributing value added production to the materials generated by the primary processors from the state and other locations. These companies employ over 7,100 individuals in the primary sector and approximately 16,000 in the secondary. The market size for the industry is estimated at \$4.3 billion annually and increasing. Since 1994 an additional



7,250 new jobs have been created. Sixty percent of this increase has been a result of existing plant expansion. The other 40% has occurred with the establishment of 50 new plants of which one-half relocated here from out of state. These new plants reported an investment of 286 million dollars.

### *Opportunities*

The growth of the industry since 1994 illustrates the potential that can only increase with training and improved management of the Commonwealth's most abundant renewable natural resource. During the process of the Ag 2000 Project, it was recognized and widely accepted that the wood industry possessed the greatest potential for value-added production of any commodity evaluated.

The total value-added concept for the wood industry must begin on the ground level. With a resource base comprised of 72% grade three or worse, the input base must be improved. With good management systems, a landowner should be able to reverse the present situation and produce mostly high-grade trees. High-grade trees produce material that is more consumer-acceptable and thus yields a more valuable end product.

Value-added wood products can generate excellent returns back to the farmer/ landowner, but the focus needs to be on development of existing products and markets. Direct assistance to the farmers related to forestry activities is a recognized need. There is a need for additional technical assistance to meet present demands and increased capacity to protect and enhance the present resources. Quality resource production can be enhanced through direct cost share programs through existing structures to improve forests or maintain long term productivity through proper water quality management.

For growth potential and quality improvements to impact the landowner, education must be relied upon to play a pivotal role. The farm community needs to be educated relative to forestry activities and potential farm income. The wood industry must continue to seek value-added opportunities to improve returns back to the farmer. Such an undertaking would require an educated work force. Community College programs working with the Wood Utilization Center at Quicksand could be expanded to support the educational needs of the industry and the landowner.

Forests are a large renewable natural resource in Kentucky. They are producing an estimated \$4.3 billion to the state's economy on an annual basis by a work force that lacks thorough training. Improved management practices initiated as a result of improved educational opportunities could increase the economic value many times. Additionally such a strategy would also improve water quality and quantity, enhance wildlife habitat and add to the recreational opportunities of the state at both the personal and commercial sectors.

**Economic Impact of a \$100,000 Increase in Sales  
Within Selected Current Commodities in Kentucky**

Commodity	Indirect Sales Impact	Induced Sales Impact	Total Sales Impact	Related Commodities Impacted	Ag Jobs Created	Total Jobs Created
Beef Cattle	34,497	68,880	207,377	Hay & pasture, Feed grains	3.6	4.8
Poultry	32,312	43,483	175,794	Food processing, Oil bearing crops	1.0	1.8
Pork	45,413	49,807	195,220	Hay & pasture, Feed grains, Food processing	2.5	3.5
Dairy	17,316	79,912	197,228	Hay & pasture, Feed grains, Food Processing	1.5	2.8
Tobacco	34,999	57,255	192,254	Ag services, warehouses	3.7	4.9
Oil Bearing Crops	16,616	81,183	197,799	Food processing, Ag services	2.5	3.9
Feed grains	18,042	77,924	195,966	Food processing, Ag services	2.0	3.3
Food grains	20,073	76,662	196,735	Food processing, Ag services	2.8	4.1
Equine	30,176	60,919	191,095	Hay & pasture, oil bearing crops, feed grains, ag services	2.0	3.1

Indirect effects measure impacts on upstream and downstream economic activity within each sector. Induced effects measure increased economic activity within the local economy outside of the commodity marketing channel. A summary of the indirect and induced effects within each of the general sectors by commodity is available upon request from the Governor's Office of Agricultural Policy.

Source: Analysis based on IMPLAN multipliers using 1997 Bureau of Economic Analysis data. For more information regarding IMPLAN, contact the Governor's Office of Agricultural Policy.

## ANALYSIS OF NEW AND EMERGING PRODUCTS

Many new and emerging products are being explored in Kentucky. Many of these enterprises involve small-scale production targeted to smaller niche markets. There are common enterprise development resources often employed by farmers working in these product areas. Success on a small scale can also lead to greater opportunity for other farmers that also want to participate.

It is difficult to provide a comprehensive listing of the many enterprises produced on a small scale. Production costs, market information, sources of competitive advantage, and prospects for growth is also more difficult to measure historically. A list of selected new and emerging enterprises are listed in the following table. It is not at all a comprehensive list; rather, it suggests the diversity of enterprises currently in commercial production. Many others are being explored.

### **Selected New and Emerging Commodities Currently Being Produced in Kentucky**

Chestnuts	Specialty peppers
Paw paws	Specialty produce
Pecans	Organic produce
Christmas trees	Ginseng, goldenseal
Wine grapes	Medicinal herbs
Table grapes	Edible soybeans
Blackberries	Sorghum
Raspberries	Floriculture
Freshwater shrimp	Native landscaping material
Trout	Sod
Catfish	Meat goats
Paddlefish	Dairy goats
Large mouth bass	Pastured poultry
Hybrid Stripped bass	Premium and organic beef

While there are many new enterprises that offer potential for wider-scale production in Kentucky, efforts toward wider production requires coordination and the development of key shared assets. Technical production expertise, market development, supply chain support, and value-adding infrastructure need to be developed along with the expansion of these new and emerging enterprises. Efforts designed to expand the commercialization of these different commodities needs to be evaluated for potential farmers impacted, net income potential per farm, short-term and long-term growth potential of the sector, and the sustainability of wider-scale production.

## **FOOD PROCESSING AND VALUE-ADDED CAPACITY**

The production of food and related products is one of Kentucky's major industrial activities, ranking fourth in employment among the state's major manufacturing industry groups. The 1998 *Kentucky County Business Pattern* lists 279 food-processing establishments in the state with 20,359 employees. This sector accounted for 6.5 percent of the state's total manufacturing employees.

The meat products industry had the largest number of employees, approximately 33 percent of the Kentucky food industry's total employment. Major components of the meat products industry include meatpacking plants, the production of sausages, hams and bacon, and poultry processing. With 26 percent of the food industry's total employment, the industry's second largest employer is the bakery products industry. The baked goods industry includes breads, cookies, frozen cakes and pies, pasta and tortilla manufacturing. Following the baked goods industry in employment are the beverage industry, preserved fruits and vegetables, and dairy products.

The baked goods industry had the largest number of establishments, followed by meat production, the beverage industry, miscellaneous foods, preserved fruits and vegetables, sugar and confectionary, dairy products, and grain mill products. From 1987 to present, the Kentucky Economic Development Cabinet announced 13 new food processing plants locating in the state, along with 67 plant expansions. This growth in the food processing industry, representing an investment of over \$200 million, is expected to create over 1,900 new jobs in Kentucky.

Adding value to Kentucky grown products before they leave the state is key to generating more income for our farmers and food processing workers. Value-added food activities create opportunities for our Kentucky farmers to generate more profits and develop a lasting and sustainable farm enterprise, especially in the absence of tobacco. As part of the University of Kentucky's "Ag Project 2000", a number of recommendations to bolster value-added production were developed across several commodity areas.

Establishing linkages between the different commodities so that they can supply one another with the needed feeds and inputs from sources within the state is a common objective that has very good potential of being realized. These kind of efforts would place Kentucky producers closer to the end user of a particular product and return more value to the producer by reducing production and transportation expenses. Opportunities to expand profitability exist in almost every commodity area by adding value to a Kentucky agricultural product or by locating or expanding a food processing industry within the state and supplying the necessary food item from Kentucky producers.

Investments in value-added food enterprises hold a very high potential for greater profitability and can serve to create stronger linkages between the state's farmers. There is especially high potential for certain investments based on production strengths among Kentucky producers. Investments in cattle slaughtering and packaging, or vegetable washing, grading, packing, and cold storage facilities are two examples.

## **Analysis of Educational Assets**

One of the state's most vital assets for agricultural development and entrepreneurial capacity building is its educational system. Secondary vocational-agricultural programs, community colleges, and Kentucky's regional network of universities lend instruction, research, technical assistance, and outreach to the Commonwealth's agricultural community. What follows is a summary of each of these institution's individual assets in terms of faculty, facilities, students and cooperative extension and outreach.

### ***Eastern Kentucky University***

Agriculture instruction has played a significant role in academic programs at Eastern Kentucky University since the first farm was purchased in 1905. This farm served as a learning laboratory for the campus, and provided food for students. Job ready graduates have the knowledge and work ethic to become an immediate asset to an employer.

The Department of Agriculture offers degrees in both Agriculture and Horticulture at the two-year Associate of Science (AS) and four-year Bachelor of Science (BS) degree levels. The majority of students continue for the BS degree after completing the AS degree with no loss of credit. The AS degree offers six different options for areas of agriculture-based emphasis. BS degrees are offered in Agriculture and Horticulture, with many curriculum options as well.

Eastern Kentucky University maintains support facilities to provide the required laboratory and practicum training. The horticulture program has access to five greenhouses, turf plots, a golf course, nursery area, plant specimen arboretum, an orchard and a tissue culture laboratory.

The Agriculture farms and laboratories provide for a soils laboratory, three agriculture machinery shops, surveying and GPS equipment, a 60-cow registered Holstein herd, 140 commercial brood cow enterprise, 400-head stocker program, a 1000-head farrow-to-finish swine operation, a small flock of sheep and crop enterprises to support these activities. All of these enterprises are ultra modern to provide the best training possible. The work experience practicum program and the Cooperative Education requirement are vital links in the program that introduce students to the real world.

### ***Kentucky State University***

The Kentucky State University Land Grant Program (KSULGP) has existing infrastructure to conduct educational and technical assistance outreach services in all of Kentucky's 120 counties. Primarily through the Cooperative Extension Program (CEP), and in cooperation with the Community Research Service (CRS), the KSULGP reaches both rural and urban Kentucky residents. As part of the Kentucky Cooperative Extension System, KSU is connected to all counties with a particular emphasis on educational and outreach efforts targeting small, limited resource, minority, and women farmers, limited resource families, and traditional farm families with the emphasis on rural economic and community development.

Along with traditional modes of communication, KSULGP is equipped with facilities for broadcasting and interactive video that enhance our program delivery capabilities and enable us reach a diverse audience in an efficient manner. The two primary outreach programs of Extension are the Family Development and Management Program and the Small Farm Program. These two programs (along with the associated Nutrition Education Program and the Small Farmer Outreach Training and Technical Assistance Project) deliver one-on-one educational outreach to traditional and non-traditional audiences in various Kentucky counties, including many that are heavily dependent on tobacco. Additionally, the “Third Thursday” Sustainable Agriculture Workshop series reaches many farm families from across Kentucky. Over 1,200 farmers from over 60 Kentucky counties have attended this series, with a core group of over 85 who regularly attend. These farmers are interested in learning and using alternative farming practices, the production of alternative agricultural enterprises, and they are active in their communities and farmer organizations.

### ***Morehead State University***

MSU offers 2 and 4-year degrees in the Department of Agricultural and Human Sciences in agricultural technology, veterinary technology, pre-professional training in forestry and veterinary medicine, agricultural education, and the agricultural sciences.

MSU owns a 327-acre University Farm Teaching Laboratory that is used to support the various programs and also serves as a source of support for various activities related to agriculture. The facility includes four greenhouses, a vineyard, an apple orchard, and various horticultural crops and plants both in the greenhouses and in the field. Tobacco, corn, and various forages are also produced on the farm. Horses, beef cows, swine, sheep, and goats are included among the livestock enterprises on the farm.

Every other year MSU works with the county extension agents in the ten-county Licking River Area to put on a Field Day to demonstrate current agricultural production technology. MSU also works closely with all the local school systems and the Kentucky Department of Agriculture to conduct various livestock shows, horse shows, judging contests, and the Kentucky Livestock Expo East. MSU recently finished a value-added grant from the Kentucky Department of Agriculture in which they worked with the marketing of meat goats and played a role in the starting of the Kentucky Dairy and Meat Goat Association. One faculty member is still actively involved with goat activities throughout the state.

### ***Murray State University***

The School of Agriculture is a new academic unit at Murray State University, but the tradition of agriculture at Murray is long-standing. Agricultural student enrollment has dramatically increased by over 10% per year for the last twelve years and now includes over 600 students.

The School of Agriculture offers associate, baccalaureate and masters degrees in agriculture. Areas of specialization are offered in agronomy, agribusiness economics,

agricultural education, agricultural mechanization, horticulture, agricultural science, agricultural communications, animal/equine science, animal health technology and pre-veterinary medicine.

Through the use of state-of-the-art technology in the classroom and at our related instructional sites, including the Breathitt Diagnostic Center, E.B. Howton Agriculture Engineering Building, Equine Instructional Facility, A. Carman Animal Health Technology Pavilion and Pullen Agronomy and Horticultural Complex, students in agriculture have the opportunity to keep stride with modern agriculture. Each agriculture student gets a comprehensive education with career related experiences at the university farm laboratories and in the agriculture industry through student internships.

Recent agricultural diversification and development efforts have been made in our academic laboratory areas to support instruction and provide practical research/demonstration efforts for our service region in areas such as:

- *Viticulture* – conducting of the Kentucky Grape Vineyard Assistance Program under the coordination of the Commonwealth Viticulturist;
- *Emerging Agricultural Technologies*-such as Precision Agriculture and Agricultural Telecommunications.
- *Animal Waste Management* – demonstration unit (Organic Pasteurization Plant) for instructional, demonstration, and practical research efforts pertaining to an environmentally responsible method of disposing of animal waste.
- *Breathitt Veterinary Diagnostic Laboratory* – this diagnostic laboratory serves a vital role in the regional and statewide animal agriculture industry and provides quality instruction for our AVMA accredited Animal Health Technology Bachelor Degree Program, one of only 11 accredited programs in the nation.

Future University plans for the School of Agriculture include the construction of a new state-of-the-art Agricultural Technology and Telecommunication building that will house academic programs and provide services to the western agricultural region in the form of a one-stop agricultural service center.

### ***University of Kentucky, College of Agriculture***

The University of Kentucky College of Agriculture is charged with the responsibility for providing statewide programs in agricultural instruction, research, extension and public service. Several federal and state laws grant this responsibility. By virtue of these acts the College maintains academic programs at the baccalaureate, master's and doctorate degree levels; a comprehensive research program for the scientific discovery and development of technology; a wide range of service programs encompassing regulatory, diagnostic, testing, and information delivery functions; and a statewide extension education program to transfer this technology to producers and consumers. The College of Agriculture is led by the Dean of the College who also serves as the Director of the Agricultural Experiment Station and Director of the Cooperative Extension Service.

The College of Agriculture is one of eleven Colleges at the University of Kentucky Lexington campus. A multi-disciplinary core curriculum in the College of Agriculture provides students with the ability to integrate knowledge across disciplines, increase their ability to solve problems, and increase their oral and written communications skills.

The current enrollment in the UK College of Agriculture is nearly 1,100 undergraduate students and 360 students in graduate programs. Students enrolled in the college represent all areas of the state and more than 20 percent of total enrollment is out-of-state students. The college offers degrees in 13 undergraduate majors, and graduate degrees in the following areas: Agricultural Economics, Animal Sciences, Biosystems and Agricultural Engineering, Crop Science, Entomology, Forestry, Plant and Soil Science, Plant Pathology, Soil Science, and Veterinary Science.

### ***Research***

The Kentucky Agricultural Experiment Station has been providing research results to farmers and rural residents for more than 100 years. Research encompasses more than 300 projects, which involve the efforts of 175 faculty representing 10 different academic departments. More than 300 graduate research assistants, more than 100 undergraduates, and 25 postdoctoral research associates work in laboratories and on Experiment Station farms.

The primary research activities are conducted in Fayette, Woodford, Caldwell, Breathitt, and Owen Counties with other research projects carried out directly on farms throughout the Commonwealth. On the main campus in Lexington, there are laboratories and specialized equipment for all research program areas.

There are four research farms in Fayette County; Coldstream, Maine Chance, Spindletop, and South Farm, where many of the animal and crop research activities are conducted. In Woodford County the development of the first Phase of a state-of-the-art food animal research facility is near completion.

In Caldwell County, the Research and Education Center facilities and the West Kentucky Substation Farm are devoted to research on livestock and crops most typical of Western Kentucky. The Robinson Station in Breathitt County, is home to research on crops most suited to Eastern Kentucky, plus forestry management and wood utilization. At the Eden Shale Farm in Owen County, experimental and demonstration studies are conducted on forage crops, tobacco, horticulture, and beef management.

### ***Extension***

The Kentucky Cooperative Service is a partnership between federal, state, and local governments along with Kentucky State University. It serves as a link between the counties of the Commonwealth and the state's land grant universities to help improve individual's lives through an educational process focused on their issues and needs. Programs are delivered through four primary areas: agriculture and natural resources, family and consumer sciences, 4-H/youth development, and rural and economic development.



There are Extension offices in each of Kentucky's 120 counties. In 1999, employees of the Extension Service made more than 6 million contacts with Kentucky citizens. This total includes the more than 240,000 young people who participate in 4-H programs annually.

One of Extension's real strengths is its grassroots council system. These advisory groups in each of the 120 counties help identify local needs and conduct programs to meet those needs. There are county, area, and state councils made up of volunteer leaders who make sure Extension programs are locally defined, current, and useful.

### ***Public Services***

The College of Agriculture is responsible for a wide range of service programs encompassing regulatory, diagnostic, testing, and information delivery functions. The Division of Regulatory Service administers the Kentucky Commercial Feed Law, the Kentucky Fertilizer Law, the Kentucky Creamery License Law, and the Kentucky Seed Law. During 1999, Division inspectors made nearly 6,000 official visits to Kentucky establishments. Division laboratories made more than 285,000 determinations on feed, fertilizer, milk, seed, and soil samples.

The Plant Disease Diagnostic Laboratory is responsible for the proper diagnosis of plant diseases. In 1999, 4,400 plant specimens and 2,400 soybean cyst nematode specimens were examined at laboratories on the University of Kentucky, Lexington campus and the University of Kentucky Research and Education Center at Princeton, Kentucky.

The Livestock Disease Diagnostic Center in Lexington is operated by the Veterinary Science Department of the College of Agriculture. The Center is charged with the diagnoses of animal disease and performance of tests that safeguard the health of the animal population in Kentucky. The Center will have between 60,000 and 70,000 accessions annually.

Agricultural Communications Services offers several internal and external services. Some of the services provided include an award winning distance-learning program. Also, Agricultural Communication Services publish and maintain more than 1,500 Extension and Experiment Station publications.

Other services offered by the College of Agriculture include; an Agricultural Weather Center, crop performance variety testing, insect and weed identification, along with many student, 4-H/youth, and family and consumer sciences programs.

To operate programs within the College of Agriculture there are five different sources of income.

<b>Source</b>	<b>Percent of Total Income*</b>
State appropriations	69%
Federal appropriations	18%
County appropriations	8%
Fees generated from public service programs	4%
Farm Sales	1%

\*The College of Agriculture received nearly \$8 million in extramural funding that is not included in the above totals.

For the budget year 1999 – 2000 funding was allocated approximately as follows:

<b>Budget Item</b>	<b>Amount (millions)</b>
Instruction	\$5
Agricultural Experiment Station operations	\$29.3
Cooperative Extension Service*	\$44.7
Public service program operations	\$7.4

\*Approximately 61% of the income is provided by state appropriations, 23 % from federal appropriations, and 16 % from county appropriations.

The Council on Postsecondary Education has identified 19 public research universities to develop a benchmark comparison with the University of Kentucky. Twelve of the 19 are Land Grant institutions so further comparison can be made with the College of Agriculture. The College of Agriculture ranks 10/13 in state appropriations (Agricultural Experiment Station and Cooperative Extension Service) and 12/13 in state appropriations to the Agricultural Experiment Station.

### ***Western Kentucky University***

Western Kentucky University's Department of Agriculture is a diversified program with primary missions of providing education for BS and MS students, conducting applied agricultural research, and creating outreach and service to a regional constituency. The primary focus of the agricultural research program at WKU is forage management within the framework of beef and dairy production and turf grass management through the turf and golf course management program. WKU's Agricultural Research and Education Complex (AREC) consists of 783 acres with an inventory of approximately 75 dairy cows and 150 beef cows.

The primary emphasis within each one of these animal units is to provide an outlet for education. However, the units are managed in a "real world" setting such that profitability is a primary goal while simultaneously providing application of new technology and management tools for producers.

Recent accomplishments at the beef unit include demonstration of intensive grazing utilizing winter and summer annuals, creation of new merchandising avenues, and involvement in retained ownership. A primary emphasis at the beef unit is placed upon seeking methods to

increase profitability for beef cattle operations. Additionally, accomplishments from the dairy herd during the past year include completion of a project of measuring the range of accuracy of an electronic heat detection system using lactating cows and heifers on intensive grazing plots. The dairy herd has also been used for teaching continuing education courses to graduate veterinarians. The dairy herd is also used for teaching laboratories in animal science, livestock evaluation, reproduction, and management.

The Department of Agriculture at Western Kentucky University (WKU) along with specialists from the UK Extension (UK) service and marketing experts in the Kentucky Department of Agriculture (KDA) are providing leadership for the development of a nutrient-processing center owned by poultry producers in western Kentucky. WKU, UK and KDA will provide education, research, marketing analysis and organizational service to the poultry farmer owners of the nutrient-processing center. WKU's Business School will assist in developing marketing information and other departments in WKU's Ogden College of Science and Technology may provide chemical, biological or engineering services for the nutrient-processing center.

### ***Community Colleges***

The agricultural technology program within the Kentucky Community and Technical College System trains students for a wide variety of agricultural jobs. The two-year program results in an Associate in Applied Science degree. Three community colleges currently offer this program in Hazard, Owensboro, and Hopkinsville.

### ***High School Vocational and Agricultural Education Programs in Kentucky***

During the 1999-2000 school year, 146 high schools in the state of Kentucky listed agriculture departments among their educational divisions and 27,000 students were enrolled in one or more course offerings from that pool of programs and courses. The introduction to agricultural science and technology course had the largest enrollment of all course offerings in Kentucky (grades 7-12), listed in the chart below

### Kentucky High School Vocational Agriculture Programs

Course	Grade Level					
	7	8	9	10	11	12
Agriscience Exploration	*	*				
Intro to Agricultural Science & Technology		*				
Agriscience			*	*		
Plant and Land Science			*	*		
Animal Science			*	*		
Farm Management				*	*	
Crop Technology				*	*	
Equine Science				*	*	
Animal Technology				*	*	
Soil and Water Conservation			*	*	*	
Advanced Placement Agriculture					*	
Small Power Equipment			*	*	*	
Agricultural Electrification			*	*	*	
Agricultural Construction Skills			*	*	*	
Agricultural Structures and Designs			*	*	*	
Equipment Operation and Maintenance			*	*	*	
Agricultural Power and Machinery			*	*	*	
Landscaping			*	*	*	
Turf and Garden Management			*	*	*	
Nursery Technology			*	*	*	
Floral Design			*	*	*	
Greenhouse Technology			*	*	*	
Vegetable and Fruit Production			*	*	*	
Agricultural Sales and Marketing			*	*	*	
Agricultural Business Management				*	*	
Agricultural Employment Skills			*	*	*	
Food Technology			*	*	*	
Small Animal Technology			*	*	*	
Forestry			*	*	*	
Environmental Technology			*	*	*	

## **Transportation Assets**

In 1997 Kentucky transported over \$18 billion in agricultural products via land, rail and water that totaled over 21 million tons. The average distance traveled per shipment was 328 miles. Water transport in the agricultural sector is composed almost exclusively of cereal grains. Waterborne commerce classified as Food and Food Products originating in Kentucky for 1998 totaled over two million tons, with 85% bound for Louisiana and only 3.8% being transported intrastate. Rail transport of agricultural and food products is comprised almost exclusively of alcoholic beverages and cereal grains.

The vast majority of agricultural products originating in Kentucky utilize the state's roads as their primary means of transport. In 1997 road transportation accounted for over 96% of the total value of agricultural goods transported and averaged 106 miles per shipment. The average distance per shipment by road is the lowest of the three major modes.

### ***Implications for Future Planning***

- Kentucky's extensive network of roads provides Kentucky's producers with a readily available and already highly utilized pathway for distribution of their farm products.
- Kentucky's position at the center of over 182 million people living between the Great Lakes, the Gulf of Mexico, and the Atlantic Ocean, is an ideal location for the fast and efficient distribution of food and other agricultural products to over 67% of the nation's population.
- The presence of the UPS international hub in Louisville and a DHL hub in Northern Kentucky are certainly resources that have only begun to be tapped in terms of food and agricultural transport both domestically and globally.

## **Technology Assets**

Governor Paul Patton has recognized that high-tech firms will drive the American economy of the 21st Century. Just as capital and machinery-intensive industries drove growth during much of the last two centuries, knowledge production firms will be the growth engines of the emerging economy. Their most important asset consists of intellectual resources, or human capital. The Governor believes that "The key to wealth and job creation in Kentucky is knowledge, innovation and technology." This is why Governor Patton is crafting an economic development human capital strategy: a policy designed to grow, attract and retain the talent that will fuel the knowledge-based economy in the Commonwealth.

Governor Patton put this new strategy in motion with the passage of Postsecondary Reform in spring of 1997. This reform transformed the way we educate our workforce. It clearly defined the missions of our Postsecondary institutions. By tying funding to these goals our institutions-from the local tech schools to research universities-such as the University of Kentucky, we will be able to meet the lifelong learning needs of the Commonwealth's population. To increase access to Postsecondary education, the governor lead the way in 1998 to enact legislation transferring part of the lottery funds to the Kentucky Education Excellence Scholarship Fund, so that students with high achievement can earn up to \$2,500 annually toward

their college education. The remainder of the lottery funds is earmarked for financial aid so that the cost of tuition and books will no longer be a barrier to students from low-income families who wish to pursue their postsecondary education.

In 1998 and again in 2000 the Governor proposed and secured funding for the Endowment Match or “Bucks for Brains” program. Through the infusion of \$460 million of public/private dollars to our research universities, this program provides universities with matching funds necessary to attract first-class minds to the Commonwealth. “Bucks for Brains” will help Kentucky build the intellectual infrastructure necessary to establish and nurture research and development capacity fundamental to the incubation of high-tech firms. The University of Kentucky received the lion’s share of these dollars: \$266.8 million (\$133.4 million in public funds) in private/public endowment funds. The Governor plans to include another round of state funding in the Executive Budget recommendation that he submits to the next Regular Session of the General Assembly in 2002.

During the 2000 legislative session, the Governor enhanced his human capital strategy further with the passage of HB 572, or the Kentucky Innovation Act. This legislation is designed to spur the growth of high-tech or knowledge-based industry in Kentucky. Combined with a \$55 million-plus budget commitment, HB 572 will enable the Commonwealth to improve high-tech workforce training, attract high-tech firms to Kentucky and to grow our own New Economy firms through a program that will help Kentucky university researchers convert their ideas to commercially viable products of benefit to Kentucky.

## **Agriculture and the General Economy**

**G**rowth in Kentucky agriculture leads to significant growth in many other sectors of the economy. The production of any good involves an inter-connected set of economic activities. Various inputs are produced to create an output. A good that is an output to one producer may be an input to another producer. Upstream (activity creating inputs to a specific sector) and downstream (what happens to the output) economic activity is, in many cases, greatly impacted by growth within a particular link of the supply chain. Additionally, the increase in personal incomes resulting from growth within a sector (and impacted sectors) leads to further economic activity (increased sales) in other sectors.

This section specifically explores some of the trends and linkages to agriculture in transportation, manufacturing, banking and finance, retail trade, and tourism/entertainment. Initiatives evolving from the Phase I efforts that lead to growth in the agriculture sector will have far-reaching impacts on these and other sectors of the economy.

Impact measurement tools are available that can estimate the impact of the growth in one sector on other sectors of the economy. IMPLAN (IMpact analysis for PLANning) is one tool commonly employed by regional economic developers. Kentucky economic data from 1997 (the most recent available) evaluated through this model suggests that for each \$1,000,000 increase in sales in agriculture \$2,020,000 increase in sales throughout the Kentucky economy.

Job impacts can also be evaluated in a similar manner. The IMPLAN model estimates that for each \$1,000,000 increase in agricultural sales in Kentucky 46 jobs are created. This includes 30 jobs directly in agriculture (direct), 5 jobs in the agricultural supply chain (indirect), and an additional 11 jobs resulting from sales growth coming from new personal spending (induced).

## **Agriculture & Forestry's Economic Impact on the Kentucky Economy<sup>5</sup>**

Kentucky's regional economy is a highly interdependent system of industries. Changes in economic activity in any individual sector may 'ripple' through many others. For example, changes in the agricultural input supply industry may affect not only farmers, but also the employment and profits of downstream food manufacturers, wholesalers, brokers, food retailers, and non-agricultural businesses as well. To understand the full economic importance of an industry, it is critical to quantify the direct employment, personal income, and gross state product (the direct effects) within that industry and its extensive 'multiplier' effects too.

Direct effects are observed employment, personal income, and gross state product associated with an industry. We estimate the 'multiplier' effects for Kentucky's agricultural and forestry industries using standard regional economic modeling techniques.<sup>1</sup> Agricultural economists define 'multiplier' or 'ripple' effects to be the sum of indirect and induced economic impacts; indirect impacts quantify the purchases of an industry's suppliers and their suppliers and so on, while induced impacts quantify the purchase behavior of those households that are in some way linked to the industry being analyzed. The sum of direct and 'ripple' effects comprise the total economic impact of a particular industry or set of industries.

Our estimates of the total economic impact of Kentucky's agriculture and forestry industries are given in Table 1. Gross state product, personal income, and employment are given as three measures of economic impact. Gross state product is the sum of personal income, property income, and indirect business taxes; this measure of value-added is essentially sales net of the cost of intermediate inputs. Gross state product is considered to be the best measure of economic impact because it avoids the knotty problem of double-counting economic activity as is the case with commonly used measures like total cash receipts or sales. Personal income equals employee compensation plus proprietor income. Employment is a count of the number of jobs.

Agriculture (crop and livestock production) accounts for 6.3 percent of Kentucky's 2.2 million workers, 2.9 percent of the state's personal income, and 3.3 percent of gross state product. Adding in the direct, indirect, and induced effects of the agricultural input industry (feed, fertilizer, etc.), agricultural processing (poultry processing, cheese manufacturing, etc.),

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<sup>1</sup> A computerized IO (input-output) model of the Kentucky economy was built using the Minnesota IMPLAN Group, Inc. input-output software, IMPLAN Professional 2.0.1011, and the latest available regional economic data for Kentucky. The model contains 454 separate industries, 79 of which were classified as agriculture and forestry. A complete list of industries is included in the Technical Appendix and is available upon request from the authors: Steve Vickner and Larry Jones

and forestry (sawmills, furniture manufacturing, etc.) means that this broader definition of agriculture accounts for 11.5 percent of employment, 8.4 percent of personal income, and 11.4 percent of the state's total economic activity. If food retailing is included in the analysis the total economic impact of the food and fiber industry in the Commonwealth comprises 20.8 percent, 13.4 percent, and 16.4 percent, respectively, of employment, personal income, and gross state product.

How does Kentucky's agricultural economy stack-up to that of other regions? Comparisons of this type are difficult to make given different methods of analysis, measures of economic impact, time periods of analysis, and the variation in agricultural mix by region, to mention just a few. In a 1996 study of the California agricultural economy, agricultural production and processing comprised 8.7 percent of employment, 8.5 percent of personal income, and 7.9 percent of gross state product. In a 1996 study of the Mississippi economy, agricultural inputs, production, processing, food retailing, and forestry accounted for 28.1 percent of employment and 25.3 percent of gross state product. More recently, in 1998 agricultural economists at the USDA-ERS estimated the entire US food and fiber system comprised 17.0 percent of our nation's employment and 13.1 percent of gross domestic product (GDP).

One final word of caution is given to avoid misuse of this economic impact study. There are regional differences in production patterns not precisely captured in this aggregate, state-level model. Agricultural production is less extensive in eastern Kentucky, while forestry is less prevalent in western Kentucky. Similarly, food processing appears to be concentrated in urban areas, whereas agricultural production has a greater presence in rural areas. Thus, there are many stakeholders in the agricultural and forestry economy, but the economic impact may vary by area.



**Direct, Indirect, and Induced Economic Impact of Kentucky's  
Agricultural and Forestry Industries<sup>a</sup>**

Sector <sup>b</sup>	Measures of Economic Impact		
	Jobs <sup>c</sup>	Personal Income <sup>d</sup> <i>(thousands)</i>	Gross State Product <sup>e</sup> <i>(thousands)</i>
KY State Total	2,188,577 <sup>f</sup>	\$80,435,215 <sup>g</sup>	\$100,076,000 <sup>g</sup>
Production Agriculture	137,443	\$2,332,621	\$3,332,531
Percent of KY State Total	6.3%	2.9%	3.3%
Ag Inputs Production Processing & Forestry	251,905	\$6,724,384	\$11,428,679
Percent of KY State Total	11.5%	8.4%	11.4%
Ag Inputs Production Processing Forestry & Food Retailing	455,224	\$10,786,362	\$16,452,494
Percent of KY State Total	20.8%	13.4%	16.4%

<sup>a</sup> Estimated using the Minnesota IMPLAN Group, Inc. input-output software, IMPLAN Professional 2.0.1011, and the latest available regional economic data for Kentucky.

<sup>b</sup> Detailed sectoral definitions are given in the Technical Appendix.

<sup>c</sup> Number of employees.

<sup>d</sup> Sum of employee compensation and proprietor income.

<sup>e</sup> Sum of personal income, property income, and indirect business taxes. This measure of value-added is also equivalent to sales less the cost of intermediate inputs.

<sup>f</sup> Source: U.S. Department of Labor, Bureau of Labor Statistics.

<sup>g</sup> Source: U.S. Department of Commerce, Bureau of Economic Analysis.

## ***Transportation***

Transportation and warehousing are significant sectors of Kentucky's economy. The 1997 Economic Census estimated 2,919 establishments in this sector employed 49,545 employees in 1997 and generated revenue of \$6.3 billion. As indicated earlier in this report, the transportation infrastructure contributes significantly to the marketing and distribution of agricultural commodities produced in Kentucky. Businesses within this sector are commonly aggregated under transportation, communication, power, and utilities. Growth in agriculture impacts this sector. Each \$1 million increase in agriculture sales creates an additional \$75,930 in sales within this sector.

## ***Manufacturing***

Manufacturing has been steadily expanding through the last decade both nationally and in Kentucky. The number of manufacturing establishments nationally grew from 370,912 in 1992 to 377,776 in 1997, according to the 1997 Economic Census. Sales grew by 33% during that time to \$4.0 trillion and included 17.6 million paid employees.

Food and kindred products represented 5.5% of the number of manufacturing firms but 12.1% of total manufacturing sales nationally. In Kentucky, the 1997 Economic Census reported 245 food-manufacturing firms out of 4,218 total manufacturing concerns (5.8%) and \$5.6 billion in value of shipments (6.4% of total). The number of manufacturing employees grew from 276,985 (23,676 in food & kindred products and tobacco) in 1992 to 290,665 (27,831 in food & kindred product and tobacco) in 1998. Wood product manufacturing, paper, and furniture and related products are also important sectors in manufacturing in Kentucky.

Growth in agriculture can be expected to translate into a certain amount of growth in manufacturing. IMPLAN estimates suggest that each \$1,000,000 increase in sales in the agricultural sector would stimulate an additional \$149,120 increase in manufacturing sales.

## ***Banking and Finance***

Banking and financial activities are commonly aggregated with financial depository and non-depository institutions, insurance, security and commodity brokers, and real estate. Growth in agriculture can be expected to lead to growth in this sector, as well. The IMPLAN analysis suggests that each \$1,000,000 increase in sales in the agriculture sector stimulates a \$128,490 increase in sales within this sector.

In 1992, 6,703 finance, insurance, and real estate establishments in Kentucky employed 64,128 employees. This sector grew to 8,656 establishments employing 78,581 employees in 1998 (County Business Patterns, 1993, 1998). This sector plays an important role in facilitating asset development and trade within agriculture. The capitalization of new commodity ventures, cooperatives, and new processing will be an important dimension to the growth of agriculture in the near term. Risk management tools will also need to be developed.

## ***Retail Trade***

Retail trade involves a wide range of establishments, including food stores, furniture stores, garden and supply stores, and eating & drinking establishments. This sector has generally consolidated since 1992, both nationally and in Kentucky. Food and beverage stores declined in number along with the number of general merchandise stores. The number of garden and building supply stores, however, increased from 1,224 in 1992 to 1,698 in 1998 (County Business Patterns, 1993, 1998).

The 1997 Economic Census indicated 17,369 retail establishments in Kentucky generated \$33.3 billion in sales and employed 212,189 employees. Food and beverage stores (15.2%) and building materials & garden equipment & supplies (10.5%) contributed to significant portions of total retail sales in Kentucky in 1997.

Growth in agriculture does impact this sector, as well, although most of the impact is realized through the effects of increased personal income spent in retail establishments. Still, each \$1 million increase in sales within the agriculture sector translates to an additional \$89,690 in retail sales and another \$68,390 in wholesale sales.

## ***Tourism and Entertainment***

Tourism is a large and growing sector of the Kentucky economy. The most recent data from the Kentucky Department of Tourism shows nearly 19 million tourists visiting Kentucky in 1999 generating an economic impact of \$8.2 billion. A significant opportunity exists for a stronger relationship between growth in direct marketing of agricultural products and the strong tourist activity in Kentucky.

<b>Year</b>	<b>Visitor numbers</b>	<b>Economic impact of tourism (\$ million)</b>
1997	18,223,522	\$7,449
1998	18,654,590	\$7,798
1999	18,988,507	\$8,191

Source: Kentucky Department of Tourism, 2000

Growth in agriculture in the current economic environment in Kentucky has little bearing on growth in tourism, at least within an IMPLAN analysis. Each \$1 million increase in agricultural sales translates to only a \$6,000 increase in the tourism sector. A number of recent direct marketing initiatives, however, including the Kentucky Farm Bureau Roadside Market Program, promotional support for community farmers markets (located in approximately 70 communities across Kentucky), programs striving to encourage direct marketing of livestock, and retailers pursuing the promotion of local products for local markets, all suggest some opportunity for growth.

Interest in attracting more tourist dollars through the establishment of more permanent farmers market facilities and expanded promotional programs continues to increase nationally, and states surrounding Kentucky have realized considerable success in this area. The 1997 Census of Agriculture indicated Kentucky ranked 43<sup>rd</sup> in direct sales per farm (\$2,723 per farm)

and 31<sup>st</sup> in total direct marketing sales (\$4.7 million) reported for the state, despite a very high level of tourist activity.

State-Level Direct Marketing Activity						
	Farms		\$1,000		Average per Farm	
	1992	1997	1992	1997	1992	1997
Rhode Island	127	135	1,578	2,323	12,426	17,210
Massachusetts	1,080	1,226	14,982	19,825	13,872	16,170
Connecticut	666	774	6,348	10,980	9,531	14,186
New Hampshire	511	690	4,174	8,653	8,169	12,541
California	5,229	5,901	35,967	73,179	6,878	12,401
Delaware	144	154	1,906	1,864	13,237	12,102
New Jersey	1,508	1,636	11,159	17,993	7,400	10,998
New York	3,453	4,038	32,321	40,088	9,360	9,928
Pennsylvania	4,862	5,508	35,806	48,745	7,364	8,850
Hawaii	435	525	2,469	4,586	5,675	8,735
Maryland	1,268	1,133	7,424	8,667	5,855	7,650
Maine	1,006	1,177	5,521	8,314	5,488	7,064
Michigan	4,019	4,339	21,093	28,720	5,248	6,619
Florida	1,863	1,954	20,725	12,547	11,124	6,421
Vermont	673	983	3,934	6,302	5,845	6,411
South Carolina	997	966	4,556	6,080	4,570	6,294
Virginia	1,789	1,713	7,036	10,594	3,933	6,184
Utah	1,010	1,036	3,666	6,269	3,629	6,051
Alabama	1,355	1,373	5,227	5,401	4,675	5,915
Ohio	4,698	4,877	21,580	28,221	4,593	5,787
Wisconsin	3,159	3,843	13,899	21,866	4,397	5,690
Illinois	2,338	2,204	10,586	12,307	4,528	5,584
North Carolina	2,134	2,176	7,113	11,628	3,333	5,344
Georgia	1,516	1,471	7,274	7,294	4,798	4,959
Arizona	513	431	2,956	3,288	2,837	4,900
Arkansas	1,017	1,084	2,794	5,107	2,748	4,711
Indiana	2,820	2,767	10,893	12,953	3,863	4,681
Minnesota	2,771	3,145	9,434	14,198	3,404	4,515
Nevada	184	149	450	668	2,445	4,485
Washington	2,933	3,055	10,863	13,700	3,704	4,485
New Mexico	919	873	3,963	3,819	4,312	4,374
Alaska	76	102	216	500	3,858	3,934
Colorado	1,523	1,752	7,461	6,611	4,899	3,773
Iowa	2,235	2,174	5,382	7,475	2,408	3,438
Louisiana	903	888	2,392	3,033	2,649	3,415
Tennessee	2,035	2,294	6,118	7,643	3,007	3,332
Texas	4,972	5,526	12,188	17,379	2,451	3,145
Oregon	4,263	4,594	10,323	14,287	2,422	3,110
Mississippi	907	787	2,530	2,441	2,789	3,101
North Dakota	500	470	890	1,453	1,780	3,091
Missouri	2,655	2,943	7,346	8,774	2,767	2,981
South Dakota	531	579	1,092	1,720	2,056	2,971
<b>Kentucky</b>	<b>1,785</b>	<b>1,748</b>	<b>4,276</b>	<b>4,761</b>	<b>2,340</b>	<b>2,723</b>
Nebraska	1,000	966	2,169	2,519	2,169	2,607
Idaho	1,120	1,205	2,107	3,047	1,881	2,529
Kansas	1,432	1,492	3,324	3,663	2,321	2,455
West Virginia	869	1,100	2,082	2,663	2,396	2,421
Wyoming	351	376	750	849	2,138	2,257
Montana	774	910	2,179	1,942	2,815	2,134
Oklahoma	1,504	1,898	3,643	4,009	2,422	2,112

Source: 1997 Census of Agriculture

# **Vision of the Future for Kentucky Agriculture**

## ***The Values of Kentucky Agriculture***

**T**he value of Kentucky agriculture both includes and transcends the economic contributions made across the Commonwealth by farm families. Producers from all sectors of the farm economy produce nearly \$30 billion worth of economic activity every year, facilitating prosperity for hundreds of rural communities and thousands of farm families.

The intangible values of Kentucky agriculture though are just as if not more important than the economic value. A strong work ethic, a confident sense of independence, good decision making and commitment to family and community are all traits displayed and honed better within agriculture than in any other venue. Kentucky's agricultural heritage connects to every citizen of the Commonwealth, defining in large part what it means to be a Kentuckian.

The values of Kentucky agriculture can be best nurtured through a diverse, sustainable farm economy that maximizes producer profits, ensures stability for related services and businesses, and involves high levels of environmental stewardship. Given the relative scale of production in Kentucky agriculture, it will be necessary to aggressively seek ways to add value to Kentucky farm products, identify new and emerging opportunities for Kentucky farmers, and stimulate new and expanded markets for Kentucky agricultural products.

Kentucky's new farm economy will involve more direct farmer participation in the marketing of farm products, a shift from a commodity-based economy to a product-based economy, and the full integration of the most advanced production, marketing, and communications technology. This new farm economy will provide safer, fresher, and more nutritious food supplies to the citizens of the Commonwealth and across the globe. The tobacco settlement provides an historic opportunity to begin taking the steps to make such a vision the reality in the Kentucky of the 21<sup>st</sup> century.

## ***Investment Philosophy for Board Action***

The Kentucky Agricultural Development Board will invest monies from the Kentucky Agricultural Development Fund in innovative proposals that increase net farm income and affect tobacco farmers, tobacco-impacted communities and agriculture across the state through stimulating markets for Kentucky agricultural products, finding new ways to add value to Kentucky agricultural products, and exploring new opportunities for Kentucky farms and farm products.

## ***Guiding Principles for Board Investment***

The following statements represent the Agricultural Development Board's initial principles for investment and are provided for consideration by applicants in the process of proposal development:

- The Board cannot solve all the problems or take advantage of all opportunities presented to it at once.
- The Board should invest in programs on a pilot basis to prove or disprove the advisability of promoting a particular program statewide.
- The board should focus on facilitating success in areas with the potential to reach the most farmers.
- Pilot programs should be large enough to be commercially viable. The emphasis must be on doing what we do well.
- The Board believes that clusters of a particular type of activity large enough to be economically viable and support the infrastructure necessary for the success of the program offers the best opportunity to develop new or better self-sustaining agriculture activity.
- The Board believes that farmer-owned cooperatives will be an important vehicle to promote and sustain new and/or improved farm activity.
- The Board will consider proposals submitted by individuals that have high potential for growth and potential to include other farmers in the future.
- An emphasis for county programs should be the support of on-farm investment consistent with priority areas designated by state and county comprehensive agricultural development plans.
- Counties should be encouraged during the planning process to consider plans that generally follow the following investment philosophy:

The Kentucky Agricultural Development Board will invest monies from the Kentucky Agricultural Development Fund in innovative proposals that increase net farm income and effect tobacco farmers, tobacco-impacted communities and agriculture across the state through stimulating markets for Kentucky agricultural products, finding new ways to add value to Kentucky agricultural products, and exploring new opportunities for Kentucky farms and farm products.

- The Board may provide some support for on-farm investments in cooperation with a county council.
- The object of the board is to develop self-sustaining programs. Therefore, the Board will not support long-term subsidy of production.

- The Board prefers capital investments. However, the Board will consider temporarily subsidizing operating costs provided the business plan provides for the phase out of the subsidy.
- The Board believes that processing, storing and marketing new products is the area where the farmer needs a substantial amount of help on a start-up basis, but business plans must provide for the eventual elimination of assistance in these areas.

### ***Call for Proposals***

- The Kentucky Agricultural Development Board requests proposals for the use of state funds for projects in the following established commodities:
  - Forage-based production
    - Beef cattle
    - Dairy
    - Equine
    - Cash Forages
  - Horticulture
  - Tobacco
  - Cash Grains
  - Other livestock, including swine and poultry
  - Forest products
- The Kentucky Agricultural Development Board requests proposals for the use of state funds for projects in the other following areas:
  - New and emerging enterprises
  - Value-added processing
  - Direct marketing infrastructure
  - Technical services
  - Other areas related directly to the growth and expansion of agricultural economic development activity in the Commonwealth



# Agricultural Development Board Quarterly Calendar of Proposal Review for County and State Funds

[Contingent on a rollout of the official application packet around 01/05/01]

## 2001

### 1<sup>st</sup> Quarter

- January 9      Deadline for applications seeking **county** funds for January review (1/19)  
                    Deadline for applications seeking **state** funds for January review (1/19)
- January 19      ADB Meeting: review and funding decisions on **county** and **state** projects
- February 6      Deadline for applications seeking **county** funds for February review (2/16)  
                    Deadline for applications seeking **state** funds for February review (2/16)
- February 16     ADB Meeting: review and funding decisions on **county** and **state** projects
- March 1         Deadline for applications seeking **state** funds for April review (4/20)
- March 6         Deadline for applications seeking **county** funds for March review (3/16)
- March 16        ADB Meeting: review and funding decisions on **county** projects

### 2<sup>nd</sup> Quarter

- April 1          Deadline for applications seeking **county** funds for April review (4/20)
- April 20         ADB Meeting: review and funding decisions on **county** and **state** projects
- May 1            Deadline for applications seeking **county** funds for May review (5/18)
- May 18          ADB Meeting: review and funding decisions on **county** projects
- June 1            Deadline for applications seeking **county** funds for June review (6/15)  
                    Deadline for applications seeking **state** funds for July review (7/20)
- June 15         ADB Meeting: review and funding decisions on **county** projects

### 3<sup>rd</sup> Quarter

- July 1            Deadline for applications seeking **county** funds for July review (7/20)
- July 20          ADB Meeting: review and funding decisions on **county** and **state** projects
- August 1         Deadline for applications seeking **county** funds for August review (8/17)
- August 17        ADB Meeting: review and funding decisions on **county** projects
- September 1    Deadline for applications seeking **county** funds for September review (9/21)  
                    Deadline for applications seeking **state** funds for October review (10/19)
- September 21   ADB Meeting: review and funding decisions on **county** projects

### 4<sup>th</sup> Quarter

- October 1        Deadline for applications seeking **county** funds for October review (10/19)
- October 19      ADB Meeting: review and funding decisions on **county** and **state** projects
- November 1     Deadline for applications seeking **county** funds for November review (11/16)
- November 16    ADB Meeting: review and funding decisions on **county** projects
- December 1     Deadline for applications seeking **county** funds for December review (12/21)  
                    Deadline for applications seeking **state** funds for January review (1/18/02)
- December 21    ADB Meeting: review and funding decisions on **county** projects

ALL DEADLINES ON THIS CALENDAR REFER TO SUBMISSION TO THE STATE BOARD, MEANING THAT COUNTY FUNDING REQUESTS WILL HAVE TO BE SUBMITTED TO COUNTY COUNCILS WITH ENOUGH TIME FOR COUNCIL REVIEW AND PRIORITIZATION OF PROPOSALS IN ADVANCE OF THE DEADLINES LISTED ON THIS CALENDAR. COUNTY COUNCILS ARE ENCOURAGED TO ESTABLISH THEIR OWN SCHEDULE OF OPERATION, NOTING THAT ALL STATE BOARD REVIEW WILL OPERATE ACCORDING TO THIS CALENDAR.

# 2002

## 1<sup>st</sup> Quarter

- January 1 Deadline for applications seeking **county** funds for January review (1/18)  
January 18 ADB Meeting: review and funding decisions on **county and state** projects  
February 1 Deadline for applications seeking **county** funds for February review (2/15)  
February 15 ADB Meeting: review and funding decisions on **county** projects  
March 1 Deadline for applications seeking **county** funds for March review (3/15)  
Deadline for applications seeking **state** funds for April review (4/19)  
March 15 ADB Meeting: review and funding decisions on **county** projects

## 2<sup>nd</sup> Quarter

- April 1 Deadline for applications seeking **county** funds for April review (4/19)  
April 19 ADB Meeting: review and funding decisions on **county and state** projects  
May 1 Deadline for applications seeking **county** funds for May review (5/17)  
May 17 ADB Meeting: review and funding decisions on **county** projects  
June 1 Deadline for applications seeking **county** funds for June review (6/21)  
Deadline for applications seeking **state** funds for July review (7/19)  
June 21 ADB Meeting: review and funding decisions on **county** projects

## 3<sup>rd</sup> Quarter

- July 1 Deadline for applications seeking **county** funds for July review (7/19)  
July 19 ADB Meeting: review and funding decisions on **county and state** projects  
August 1 Deadline for applications seeking **county** funds for August review (8/16)  
August 16 ADB Meeting: review and funding decisions on **county** projects  
September 1 Deadline for applications seeking **county** funds for September review (9/20)  
Deadline for applications seeking **state** funds for October review (10/18)  
September 20 ADB Meeting: review and funding decisions on **county** projects

## 4<sup>th</sup> Quarter

- October 1 Deadline for applications seeking **county** funds for October review (10/18)  
October 18 ADB Meeting: review and funding decisions on **county and state** projects  
November 1 Deadline for applications seeking **county** funds for November review (11/15)  
November 15 ADB Meeting: review and funding decisions on **county** projects  
December 1 Deadline for applications seeking **county** funds for December review (12/20)  
Deadline for applications seeking **state** funds for January review (1/17/03)  
December 20 ADB Meeting: review and funding decisions on **county and state** projects

ALL DEADLINES ON THIS CALENDAR REFER TO SUBMISSION TO THE STATE BOARD, MEANING THAT COUNTY FUNDING REQUESTS WILL HAVE TO BE SUBMITTED TO COUNTY COUNCILS WITH ENOUGH TIME FOR COUNCIL REVIEW AND PRIORITIZATION OF PROPOSALS IN ADVANCE OF THE DEADLINES LISTED ON THIS CALENDAR. COUNTY COUNCILS ARE ENCOURAGED TO ESTABLISH THEIR OWN SCHEDULE OF OPERATION, NOTING THAT ALL STATE BOARD REVIEW WILL OPERATE ACCORDING TO THIS CALENDAR.

## ***Initial Agricultural Board Investment Priorities***

The Agricultural Development Board has established certain criteria for the near-term investment of the Agricultural Development Fund. These criteria are used as one of the mechanisms to prioritize investment opportunities. The Board, in an effort to provide some guidance and coordination of investment proposals coming from different groups, and in keeping with the economic development objectives laid out in House Bill 611, has developed these criteria to establish broad categories from which near-term investments are most likely to achieve the HB 611 intended objectives.

Three general investment strategies have emerged from the Board's deliberations and interactions with commodity and farm groups. These include the following:

1. **Building the competitiveness of current selected agricultural sectors** that are already major or growing sectors of the current agricultural economy in Kentucky.
2. **Support the development of new and emerging farm-based opportunities.** This area includes enterprise diversification efforts, related market development, technology development, entrepreneurial initiatives, and new cooperative ventures.
3. **Develop local value-added processing of Kentucky agricultural products.** This includes helping producers explore the means to participate more directly in some of the value-adding activities.

Implicit in the support of each of these areas is the assembly of appropriate technical support, developing grower and business leadership, and expanding the institutional support necessary to ensure sustainable benefits to the agricultural community and Kentucky.

Many different investment options are possible and the need for resources is evident in many quarters of the agricultural economy in Kentucky. HB 611 provides fairly wide latitude with respect to innovative investment approaches for both state and local county investment. The Agricultural Development Fund represents a significant level of investment, but it will be inadequate to meet the full range of investment opportunities. HB 611 provides much of the criteria that allow some focus of investment. The Agricultural Development Board has determined the guiding principles for Board action, noted in the previous section. Additionally, there are standard financial performance criteria that apply to any investment framework.

The criteria for prioritizing investments is outlined in the following:

- **Number of farmers involved** – investments that benefit more farmers will receive priority over more narrowly targeted projects. The level of investment required should be proportional to the number of producers benefiting or potentially benefiting.

- **Impact on net farm income** – investments that can demonstrate a high potential for directly increasing net farm income will receive priority. Projects that can lead to sustainable higher incomes for farmers are especially desired.
- **Impact on tobacco dependent communities** – HB 611 focuses considerable attention on developing projects that can help tobacco farmers and communities dependent on tobacco income to develop additional enterprises.
- **Potential for clustered activity** – given limited resources and the need to ensure success of state-wide programs, the Agricultural Development Board is especially interested in projects that can be developed on a pilot basis in a geographic area and then expanded as impacts from the pilot investment become more certain. Such projects will ideally be initially developed in areas that exhibit the greatest chance for success.
- **Payoff horizon** – investments with long periods before generating positive returns or involve greater risk need to generate relatively greater benefits to offset the deferred or riskier payoffs.
- **Growth potential** – investments that can demonstrate relatively higher growth potential, both in terms of return per producers and in terms of number of producers benefiting, will be more aggressively pursued. Projects may need to take in to account a longer planning range to demonstrate when and how significant growth may occur.

<b>State-Level Investment Priorities</b>	<b>Investing FY 2000-01 Funds</b>
Developing Established Ag Sectors: Forage-based production (beef cattle, dairy, equine, cash forages) Horticulture Tobacco Cash Grains Other livestock: swine, poultry Wood products	Up to 30% of available funds
New and Emerging Enterprises	Up to 20 % of available funds
Value-added processing	Up to 15% of available funds
Direct marketing infrastructure	Up to 10% of available funds
Technical services support	Up to 5% of available funds
Selected projects in other ag sectors	Up to 20% of available funds

## *Kentucky's Model for Competitive Advantage*

Maintaining competitive advantage is a common point of focus for leaders and management within individual firms. There are specific strategies that can be employed for these leaders, with authority to organize and allocate resources, to help their firm achieve competitive advantage. Initiatives in pursuit of such advantage, however, become more challenging in an entire sector. This difficulty remains despite the evidence that firms within a sector face similar competitive pressures, share similar resources, and are impacted by similar exogenous economic variables.

Sectors, including those in agriculture, have not been completely lacking in effort to collaborate for their mutual benefit. Kentucky actually has several sectors that exhibit strong competitive advantage, where collaboration over time, in combination with some other factors, has led to the establishment of world-class production sectors in equine and tobacco.

The equine industry in Kentucky, specifically the thoroughbred industry, has been a world leader. Numerous champions have emerged from the state. Horses raised and bred in the Bluegrass area of Kentucky are sold all over the world, commanding premium prices. The genetics and continued success of horses from this area are very difficult to duplicate elsewhere. A big part of the success can be attributed to a history of careful breeding, natural resources in the water and pastureland, and the evolution of support that has emerged around this sector. The Gluck Equine Research Center at the University of Kentucky is one of the leading research centers of its kind in the world. Racetracks, such as Churchill Downs and Keeneland, have continued to keep a high profile in the world of horse racing and auctions. Thoroughbred sales have grown consistently for decades and are approaching \$800 million for 2000.

The tobacco industry in Kentucky has experienced similar success. Again, climate and other environmental factors contribute to the suitability of this crop for the state. The yields and quality of burley tobacco produced in Kentucky are superior to most other places in the world. Tobacco manufacturers have continued to draw heavily on Kentucky for burley tobacco, and producers capture a very high price relative to other burley markets around the world. The sophistication of production has developed over the years around the local industry to provide growers with the best quality seed (Rickard Seed produces over 80% of world's burley tobacco seed), extensive technical support for agronomic practices through the University of Kentucky, a network of accessible marketing warehouses, and aggressive policy agencies, such as the Burley Tobacco Growers Cooperative and the Kentucky Farm Bureau. Although quotas are down and the future of tobacco is uncertain in the shadow of a highly litigious environment, the competitive advantage of Kentucky tobacco production remains.

The competitive advantage exhibited within each of these sectors would seem to suggest a model for development for other agricultural sectors. The key components contributing to this advantage for each sector would include (1) the sophistication of production, (2) presence of an efficient marketing and support business infrastructure, (3) technical, science-based support, (4) natural resource advantages, (5) clustering of resources, (6) and industry leadership.

The development path for the equine and tobacco industry has required a fair amount of time for each to achieve the current competitive advantage. Long-term investment strategies for other sectors should be able to eventually facilitate the development of key resources that can result in similarly favorable positions. Other agricultural sectors, both established and emerging, possess selected components necessary for achieving a high degree of competitive advantage, but lack certain elements.

New and emerging sectors are typically at the starting gate with each of these components. Such a model can serve as a framework for balanced asset development for these sectors and can suggest limited roles for various institutions that might facilitate the development of key assets needed to build competitive advantage.

## **Plan Implementation Responsibilities**

### ***Agricultural Development Board and Staff***

The primary responsibilities for implementation of this plan rest with the Agricultural Development Board in general and its staff in particular. The Board will distribute application forms and conduct an aggressive communications campaign to ensure the highest possible level of public awareness of the availability of opportunities from the Agricultural Development Fund. The Board and its staff shall receive and evaluate all proposals for state funds. The Board shall also work closely with the County Councils to ensure that all proposals for county funds receive appropriate evaluation.

The Board is also responsible for the development and implementation of the Kentucky Center for Agricultural Development and Entrepreneurship. The Center will provide technical feasibility, business planning, finance, business management, and marketing and promotion services to all parties interested in agricultural economic development.

The Board will maintain ultimate authority and accountability for the use of both state and county funds. The Board will maintain thorough communication with all county councils and the Legislative Oversight subcommittee on the use of funds. Through its committee structure, the Board will also develop policies for the development of technology and infrastructure, access to capital, assistance in marketing and entrepreneurship, and other areas the Board deems relevant to agricultural economic development in Kentucky.

The Board and its staff shall also work closely with agricultural organizations, the General Assembly, and the public at large to monitor the impacts and identify necessary modifications to the plan. The Board shall receive regular reports from successful applicants and will regularly evaluate project progress.

### ***County Agricultural Development Councils***

The agricultural development councils located in each county shall be responsible for raising public awareness of this plan in their communities. The councils shall also work with area

farmers to clarify their understanding of the application and evaluation process and provide direction when needed on the development of project proposals.

Councils shall also receive and evaluate proposals for county funds, and shall prioritize and budget the funds earmarked for each county. The council shall rely on the application and evaluation tools provided by the state board. The councils will also be responsible for initiating multi-county and regional projects to provide the greatest possible leveraging of county funds.

Councils shall regularly report their activities and decisions to the Agricultural Development Board. Councils shall also abide by all rules and regulations pertaining to the agricultural development fund prescribed by the Agricultural Development Board. The Councils shall also maintain regular contact with successful project applicants to help ensure that funds are being used appropriately.

### ***Legislative Oversight Committee***

House Bill 611 created a permanent subcommittee of the Legislative Research Commission to be known as the Tobacco Settlement Agreement Fund Oversight Committee. The subcommittee will be composed of 12 members, including six House members and six Senators. The subcommittee will include members of the minority party as nearly proportional to their membership in the General Assembly as mathematically possible.

The Legislative Research Commission shall appoint members for a period of two years. The appointed members will elect one of their numbers to serve as Chair. The subcommittee will meet monthly, or at the call of the chair.

The subcommittee will review each project submitted to the Agricultural Development Board. In reviewing the projects, the subcommittee will determine whether the criteria or requirements of House Bill 611 are met and whether any other requirements have been met. If the subcommittee determines that any of the criteria have not been met, then the subcommittee may, by majority vote, recommend to the board in writing that a project not be approved. If the subcommittee determines that all relevant criteria are met by any proposal, then they may, by majority vote, recommend to the board in writing that the project be approved. If the Agricultural Development Board approves a project that the subcommittee has recommended not be approved, or the board does not approve a project that the subcommittee recommended for approval, the board shall provide a written explanation to the subcommittee explaining the reasons for the board action.

Every County Agricultural Development Council shall provide its comprehensive agricultural development plan to the state board. If the state board recommends changes in the county plan with which the council does not concur, then the council may take the plan before the subcommittee, which shall provide a forum for discussion and possible resolution of differences between the board and the affected party. If differences are not resolved, then the subcommittee may recommend a course of action in writing. The same process is applicable to individual project proposals submitted to the board but not approved for funding.

The authority of the subcommittee is limited to review and recommendations for action. The subcommittee cannot alter decisions of the board or compel the board to action without the board's consent and approval.

### **Kentucky Center for Agricultural Development and Entrepreneurship**

The Kentucky Center for Agricultural Development and Entrepreneurship (KCADE) seeks to advance statewide efforts to diversify the basis of our agricultural economy by providing:

- Technical assistance in the development of business plans and feasibility assessments for new and expanded areas of production;
- Farmer entrepreneurs with information about professional service providers in their part of the state that are available to them as resources;
- Financial incentives, in the form of cost-share grants, to farmers seeking to diversify their current operations, facilitate cooperative development, research new products or market Kentucky agricultural products; and
- Capacity-building education and hands-on training for farmers statewide.

The three-fold scope of operations for KCADE will offer a variety of educational programs for farmer-entrepreneurs across the state via the Small Business Development Centers, the Cooperative Extension Service and the regional universities. Educational activities are designed to build overall entrepreneurial capacity. Assistance for farmers in business plan development and identification of technical expertise available to the agricultural community of the Commonwealth is the second major area of work for the Center. Connecting farmers and agricultural businesses with technical service providers to meet the specific needs of their business and making them aware of the different capitalization options available is the main thrust of this second area of work. The final duty of the KCADE is to administer a grant program to help leverage funds for agricultural business feasibility assessment.

The grant program targets farm diversification as a way to explore new and emerging opportunities for agricultural prosperity in the Commonwealth. The pool of funds allocated for this purpose would fund feasibility studies to investigate the merits of different farm-based business ideas for new product development, marketing assistance, and cooperative development.

### **Farmland Preservation**

According to the Census of Agriculture, one-third of the nation's agricultural products are produced in metropolitan counties adjacent to large cities. Another one-fourth of these agricultural products are produced in counties adjacent to significant urban populations. Historically, American settlements were located in areas where the land was the most productive. As a result, some of the nation's most valuable and productive farmland is located in urban and developing areas.



This national trend is recognizable in Kentucky as well. Some of the Commonwealth's most highly productive agricultural lands are located adjacent to urban areas and rapidly expanding suburban developments. These areas are continually threatened by rapid development and urban sprawl.

While the gross acreage of farmland converted to urban development is startling, it is not necessarily the most troubling concern. A greater cause for concern is the quality and pattern of farmland being converted. In Kentucky, it is estimated in some areas that prime farmland is being converted at 2 to 4 times the rate of other less-productive land. Most of the development occurring on these lands is sprawl rather than managed growth. Continued development places additional environmental, economic, and social pressures on other agricultural areas as agrarian and urban interests converge.

For the agricultural producer, increased costs of production and liability risks are negative side effects of urban development. Land-rich, cash-poor farmers often find it difficult to make ends meet as property values soar. In some areas, producers are also induced by development pressure to farm remaining acreage more intensively, thereby generating adverse impacts on water quality and soil health. For city residents, the loss of open space and issues related to agricultural production such as pesticide use, animal nutrient odors, dust and noise are conflicting concerns.

In Kentucky, some of our most threatened lands also happen to be within some of the signature areas of the state. Tourism and business development are both enhanced by the scenic beauty and high quality of life offered nearby and within agricultural areas. There is therefore an important state interest in the protection of farmland. Once developed, productive farmland with rich topsoil is lost forever, environmental quality is permanently compromised and historic landscapes, equally important for their scenic beauty, are blighted with development.

The Farmland Preservation Bond Fund, created by the General Assembly and the Agricultural Development Board, should provide a basic financial foundation for the development of effective farmland preservation efforts in the Commonwealth. By assembling a balanced effort of locally administered Purchase of Development Rights programs with a statewide program to purchase conservation easements, the Agricultural Development Board is taking the appropriate steps to preserve some of our most precious common assets.

Purchase of Development Rights and Agricultural Conservation Easements should become an important tool in the agricultural economic development of the Commonwealth. Improving the cash flow for farmers in highly threatened areas will keep future generations on our most productive soils, contributing to our food and fiber supply, the scenic beauty of our landscape, and an agricultural heritage that involves us all. The \$25 million Farmland Preservation Fund, created with a \$2.5 million annual payment for debt service from the Agricultural Development Fund, will provide an adequate foundation on which the Commonwealth may build its future farmland preservation efforts.

## **External Funding Resources**

Many resources external to the Kentucky Agricultural Development Fund are available both within the state and outside its borders. Loans, grants, and cost-share opportunities for agricultural development abound from both public and private sources.

The Small Business Administration is among several lending institutions that serve to help new businesses amass the capital necessary to make their business ideas a reality. Foundation funding and venture capital are two private sources of funding available that offer many different opportunities to farmer entrepreneurs as well. The Kentucky Economic Development Cabinet and the Kentucky Department of Agriculture offer different programs for financial leverage in business startup for both farm and non-farm ventures.

Grant programs through the United States Department of Agriculture provides many different options for agricultural development through its many divisions that provide some level of funding for almost any agriculture opportunity imaginable. USDA Rural Development, the Farm Service Agency, the Foreign Agriculture Service, and Agricultural Marketing Service all provide different and multiple grant offerings for everything from new idea startups to research to global marketing assistance.

## **The Kentucky Agricultural Development Fund**

The purpose of the fund is to invest 50% of the moneys received from the Master Settlement Agreement between the states and the major cigarette manufacturers. \$37 million has been allocated from these funds to supplement Phase II Trust Fund payments to tobacco farmers suffering from declines in tobacco quota. Of the remaining funds, 35% was divided among counties on the basis of their tobacco income dependence for agricultural economic development investments as determined by County Agricultural Development Councils. The remaining 65% was allocated for projects throughout the state. Investment of these funds in agricultural economic development projects across the Commonwealth to promote economic growth within Kentucky agriculture, rural communities and the Commonwealth in general is the overall purpose of these funds.

The following pages provide a detailed breakdown of both the county and state funds made available for agricultural development by the Fund.

**HB 611 DISTRIBUTION OF MSA (Phase I) PAYMENTS TO AGRICULTURE**

35% of Dollars Allocated to Counties

ALLOCATION	100%	Money Transferred to					TOTAL
		Date	Jan-01	Apr-01	Jan-02	Apr-02	
		\$10,894,816	\$6,556,604	\$11,958,972	\$6,588,510	\$15,622,319	\$51,621,221
1 Adair	1.28%	\$138,959	\$83,627	\$152,531	\$84,034	\$199,256	\$658,406
2 Allen	0.94%	\$101,981	\$61,373	\$111,942	\$61,672	\$146,233	\$483,202
3 Anderson	0.76%	\$82,910	\$49,896	\$91,008	\$50,139	\$118,886	\$392,837
4 Ballard	0.74%	\$80,711	\$48,572	\$88,594	\$48,809	\$115,733	\$382,419
5 Barren	2.27%	\$246,973	\$148,631	\$271,096	\$149,354	\$354,140	\$1,170,192
6 Bath	1.62%	\$176,960	\$106,496	\$194,245	\$107,015	\$253,747	\$838,463
7 Bell	0.001%	\$158	\$95	\$173	\$95	\$226	\$747
8 Boone	0.65%	\$71,294	\$42,905	\$78,258	\$43,114	\$102,230	\$337,802
9 Bourbon	2.02%	\$220,188	\$132,511	\$241,695	\$133,156	\$315,732	\$1,043,282
10 Boyd	0.01%	\$1,430	\$861	\$1,570	\$865	\$2,051	\$6,777
11 Boyle	0.87%	\$95,264	\$57,331	\$104,569	\$57,610	\$136,601	\$451,376
12 Bracken	1.79%	\$195,087	\$117,405	\$214,143	\$117,977	\$279,740	\$924,352
13 Breathitt	0.40%	\$43,464	\$26,157	\$47,709	\$26,284	\$62,324	\$205,939
14 Breckinridge	1.71%	\$185,870	\$111,858	\$204,025	\$112,403	\$266,523	\$880,678
15 Bullitt	0.30%	\$32,350	\$19,469	\$35,510	\$19,564	\$46,388	\$153,281
16 Butler	0.30%	\$32,912	\$19,807	\$36,127	\$19,903	\$47,194	\$155,943
17 Caldwell	0.40%	\$43,777	\$26,345	\$48,053	\$26,473	\$62,773	\$207,421
18 Calloway	0.31%	\$33,569	\$20,202	\$36,847	\$20,300	\$48,135	\$159,053
19 Campbell	0.19%	\$20,402	\$12,278	\$22,394	\$12,338	\$29,254	\$96,666
20 Carlisle	0.28%	\$30,260	\$18,211	\$33,216	\$18,299	\$43,390	\$143,376
21 Carroll	0.86%	\$93,499	\$56,269	\$102,632	\$56,542	\$134,070	\$443,012
22 Carter	0.82%	\$89,038	\$53,584	\$97,735	\$53,845	\$127,674	\$421,875
23 Casey	1.66%	\$181,105	\$108,991	\$198,794	\$109,521	\$259,690	\$858,100
24 Christian	1.25%	\$136,042	\$81,871	\$149,330	\$82,270	\$195,074	\$644,587
25 Clark	1.32%	\$143,634	\$86,441	\$157,664	\$86,861	\$205,961	\$680,561
26 Clay	0.69%	\$75,620	\$45,509	\$83,006	\$45,730	\$108,433	\$358,299
27 Clinton	0.80%	\$87,501	\$52,659	\$96,047	\$52,915	\$125,469	\$414,591
28 Crittenden	0.02%	\$1,709	\$1,029	\$1,876	\$1,034	\$2,451	\$8,099
29 Cumberland	0.90%	\$97,754	\$58,829	\$107,302	\$59,115	\$140,171	\$463,171
30 Daviess	1.29%	\$140,734	\$84,695	\$154,481	\$85,108	\$201,802	\$666,820
31 Edmonson	0.55%	\$60,272	\$36,273	\$66,160	\$36,449	\$86,426	\$285,580
32 Elliott	0.94%	\$102,309	\$61,571	\$112,302	\$61,870	\$146,704	\$484,757
33 Estill	0.44%	\$47,756	\$28,740	\$52,421	\$28,880	\$68,478	\$226,275
34 Fayette	1.63%	\$177,135	\$106,601	\$194,436	\$107,120	\$253,997	\$839,290
35 Fleming	1.85%	\$201,055	\$120,997	\$220,693	\$121,585	\$288,297	\$952,626
36 Floyd	0.002%	\$253	\$152	\$277	\$153	\$362	\$1,198
37 Franklin	0.94%	\$102,106	\$61,448	\$112,079	\$61,747	\$146,412	\$483,792
38 Fulton	0.001%	\$108	\$65	\$119	\$65	\$155	\$513
39 Gallatin	0.66%	\$72,002	\$43,332	\$79,035	\$43,543	\$103,246	\$341,157
40 Garrard	1.63%	\$177,471	\$106,804	\$194,806	\$107,324	\$254,480	\$840,884
41 Grant	1.28%	\$139,748	\$84,102	\$153,398	\$84,511	\$200,387	\$662,145
42 Graves	0.42%	\$45,850	\$27,593	\$50,328	\$27,727	\$65,745	\$217,242
43 Grayson	1.02%	\$111,105	\$66,864	\$121,957	\$67,189	\$159,316	\$526,431
44 Green	1.63%	\$177,222	\$106,654	\$194,532	\$107,173	\$254,123	\$839,704
45 Greenup	0.47%	\$51,029	\$30,710	\$56,014	\$30,859	\$73,172	\$241,784
46 Hancock	0.61%	\$65,942	\$39,685	\$72,383	\$39,878	\$94,556	\$312,443
47 Hardin	0.96%	\$104,277	\$62,755	\$114,462	\$63,060	\$149,525	\$494,078
48 Harlan	0.002%	\$207	\$124	\$227	\$125	\$296	\$979
49 Harrison	1.88%	\$205,288	\$123,544	\$225,340	\$124,146	\$294,367	\$972,685
50 Hart	1.97%	\$214,267	\$128,948	\$235,195	\$129,575	\$307,242	\$1,015,227
51 Henderson	0.22%	\$24,280	\$14,612	\$26,651	\$14,683	\$34,815	\$115,040
52 Henry	1.91%	\$207,960	\$125,152	\$228,273	\$125,762	\$298,199	\$985,346
53 Hickman	0.06%	\$6,724	\$4,047	\$7,381	\$4,066	\$9,642	\$31,861
54 Hopkins	0.12%	\$13,188	\$7,936	\$14,476	\$7,975	\$18,910	\$62,485
55 Jackson	0.94%	\$102,698	\$61,805	\$112,730	\$62,106	\$147,262	\$486,600
56 Jefferson	0.12%	\$12,665	\$7,622	\$13,902	\$7,659	\$18,161	\$60,009
57 Jessamine	1.29%	\$140,608	\$84,619	\$154,342	\$85,031	\$201,621	\$666,223
58 Johnson	0.22%	\$23,867	\$14,364	\$26,198	\$14,433	\$34,224	\$113,086
59 Kenton	0.33%	\$36,036	\$21,687	\$39,556	\$21,793	\$51,673	\$170,745
60 Knott	0.00%	\$0	\$0	\$0	\$0	\$0	\$0
61 Knox	0.29%	\$31,729	\$19,095	\$34,828	\$19,188	\$45,497	\$150,338
62 Larue	0.82%	\$89,822	\$54,056	\$98,595	\$54,319	\$128,798	\$425,590
63 Laurel	1.07%	\$116,888	\$70,344	\$128,305	\$70,687	\$167,609	\$553,834
64 Lawrence	0.25%	\$26,725	\$16,083	\$29,336	\$16,162	\$38,322	\$126,628
65 Lee	0.26%	\$27,985	\$16,842	\$30,718	\$16,924	\$40,128	\$132,597
66 Leslie	0.03%	\$3,043	\$1,832	\$3,341	\$1,840	\$4,364	\$14,420
67 Letcher	0.001%	\$62	\$37	\$68	\$37	\$89	\$293
68 Lewis	1.25%	\$136,665	\$82,246	\$150,014	\$82,647	\$195,967	\$647,540
69 Lincoln	1.53%	\$166,176	\$100,006	\$182,407	\$100,493	\$238,283	\$787,365
70 Livingston	0.01%	\$717	\$432	\$787	\$434	\$1,028	\$3,398
71 Logan	0.97%	\$105,155	\$63,283	\$115,426	\$63,591	\$150,784	\$498,238
72 Lyon	0.24%	\$26,450	\$15,918	\$29,034	\$15,995	\$37,927	\$125,325
73 Madison	1.82%	\$198,356	\$119,372	\$217,730	\$119,953	\$284,426	\$939,838

## HB 611 DISTRIBUTION OF MSA (Phase I) PAYMENTS TO AGRICULTURE

35% of Dollars Allocated to Counties

ALLOCATION	100%	Money Transferred to Date					TOTAL
		Jan-01	Apr-01	Jan-02	Apr-02		
		\$10,894,816	\$6,556,604	\$11,958,972	\$6,588,510	\$15,622,319	\$51,621,221
74 Magoffin	0.58%	\$62,791	\$37,788	\$68,924	\$37,972	\$90,037	\$297,512
75 Marion	1.22%	\$133,119	\$80,112	\$146,121	\$80,502	\$190,882	\$630,737
76 Marshall	0.19%	\$20,433	\$12,297	\$22,429	\$12,357	\$29,299	\$96,815
77 Martin	0.0003%	\$37	\$22	\$41	\$22	\$53	\$176
78 Mason	1.64%	\$179,037	\$107,746	\$196,524	\$108,270	\$256,724	\$848,301
79 McCracken	0.29%	\$31,943	\$19,224	\$35,063	\$19,317	\$45,804	\$151,351
80 McCreary	0.03%	\$3,396	\$2,044	\$3,728	\$2,054	\$4,870	\$16,091
81 McLean	0.52%	\$56,239	\$33,845	\$61,732	\$34,010	\$80,642	\$266,466
82 Meade	0.47%	\$51,051	\$30,723	\$56,038	\$30,873	\$73,203	\$241,888
83 Menifee	0.61%	\$66,200	\$39,840	\$72,666	\$40,034	\$94,926	\$313,665
84 Mercer	1.35%	\$147,453	\$88,738	\$161,855	\$89,170	\$211,436	\$698,652
85 Metcalfe	1.55%	\$168,869	\$101,627	\$185,364	\$102,122	\$242,145	\$800,127
86 Monroe	1.02%	\$111,103	\$66,863	\$121,955	\$67,188	\$159,314	\$526,424
87 Montgomery	1.25%	\$136,355	\$82,060	\$149,673	\$82,459	\$195,522	\$646,070
88 Morgan	1.16%	\$126,659	\$76,224	\$139,030	\$76,595	\$181,619	\$600,128
89 Muhlenberg	0.31%	\$33,556	\$20,194	\$36,833	\$20,292	\$48,116	\$158,991
90 Nelson	0.97%	\$106,113	\$63,860	\$116,477	\$64,170	\$152,157	\$502,777
91 Nicholas	1.52%	\$165,401	\$99,540	\$181,556	\$100,024	\$237,172	\$783,693
92 Ohio	0.72%	\$77,982	\$46,930	\$85,599	\$47,159	\$111,820	\$369,491
93 Oldham	0.28%	\$30,675	\$18,460	\$33,671	\$18,550	\$43,986	\$145,343
94 Owen	2.01%	\$219,177	\$131,903	\$240,585	\$132,545	\$314,283	\$1,038,493
95 Owsley	0.78%	\$85,214	\$51,282	\$93,537	\$51,532	\$122,190	\$403,755
96 Pendleton	1.23%	\$134,367	\$80,864	\$147,492	\$81,257	\$192,672	\$636,652
97 Perry	0.02%	\$2,114	\$1,272	\$2,321	\$1,279	\$3,032	\$10,018
98 Pike	0.00%	\$0	\$0	\$0	\$0	\$0	\$0
99 Powell	0.29%	\$31,761	\$19,114	\$34,863	\$19,207	\$45,542	\$150,486
100 Pulaski	1.57%	\$171,355	\$103,123	\$188,092	\$103,625	\$245,709	\$811,904
101 Robertson	1.45%	\$157,548	\$94,814	\$172,936	\$95,275	\$225,911	\$746,485
102 Rockcastle	0.87%	\$95,304	\$57,355	\$104,613	\$57,634	\$136,659	\$451,566
103 Rowan	0.45%	\$49,299	\$29,669	\$54,114	\$29,813	\$70,691	\$233,586
104 Russell	1.00%	\$109,105	\$65,660	\$119,762	\$65,980	\$156,448	\$516,955
105 Scott	1.78%	\$194,458	\$117,027	\$213,452	\$117,596	\$278,838	\$921,372
106 Shelby	2.02%	\$219,794	\$132,274	\$241,263	\$132,918	\$315,168	\$1,041,416
107 Simpson	0.54%	\$59,293	\$35,683	\$65,085	\$35,857	\$85,022	\$280,939
108 Spencer	1.07%	\$116,405	\$70,054	\$127,775	\$70,395	\$166,916	\$551,544
109 Taylor	1.09%	\$118,719	\$71,446	\$130,315	\$71,794	\$170,234	\$562,508
110 Todd	0.90%	\$98,162	\$59,075	\$107,751	\$59,363	\$140,757	\$465,108
111 Trigg	0.59%	\$63,769	\$38,377	\$69,998	\$38,564	\$91,440	\$302,147
112 Trimble	1.13%	\$123,654	\$74,416	\$135,732	\$74,778	\$177,311	\$585,892
113 Union	0.01%	\$597	\$359	\$655	\$361	\$856	\$2,828
114 Warren	1.26%	\$137,723	\$82,883	\$151,176	\$83,287	\$197,485	\$652,553
115 Washington	1.61%	\$175,225	\$105,452	\$192,341	\$105,965	\$251,260	\$830,243
116 Wayne	0.85%	\$92,355	\$55,580	\$101,375	\$55,850	\$132,429	\$437,589
117 Webster	0.15%	\$15,931	\$9,588	\$17,487	\$9,634	\$22,844	\$75,485
118 Whitley	0.19%	\$20,695	\$12,455	\$22,717	\$12,515	\$29,675	\$98,057
119 Wolfe	0.69%	\$75,627	\$45,513	\$83,014	\$45,735	\$108,444	\$358,334
120 Woodford	1.69%	\$184,395	\$110,971	\$202,406	\$111,511	\$264,408	\$873,690
<b>COUNTY TOTAL (35%)</b>		<b>\$10,894,816</b>	<b>\$ 6,556,604</b>	<b>\$ 11,958,972</b>	<b>\$ 6,588,510</b>	<b>\$ 15,622,319</b>	<b>\$ 51,621,221</b>
<b>STATE TOTAL (65%)</b>		<b>\$20,233,230</b>	<b>\$ 12,176,549</b>	<b>\$ 22,209,518</b>	<b>\$ 12,235,805</b>	<b>\$ 29,012,878</b>	<b>\$ 95,867,980</b>
<b>COUNTY AND STATE TOTAL</b>		<b>\$31,128,046</b>	<b>\$ 18,733,153</b>	<b>\$ 34,168,490</b>	<b>\$ 18,824,315</b>	<b>\$ 44,635,197</b>	<b>\$ 147,489,201</b>
<b>Phase II Payment</b>		<b>\$ 40,000,000</b>					<b>\$ 40,000,000</b>
<b>TOTAL MSA (Phase I) PAYMENTS TO AGRICULTURE</b>		<b>\$71,128,046</b>					<b>\$ 187,489,201</b>

**Agricultural Development Fund Calculations Over the Biennium**

	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>Biennium Total</b>
MSA Phase I Funds (50%)	\$71,235,573	\$52,901,644	\$63,459,513	\$187,596,730
Direct Phase II payments	\$40,000,000	as needed	as needed	\$40,000,000
<b>Balance after Phase II Payment</b>	<b>\$31,235,573</b>	<b>\$52,901,644</b>	<b>\$63,459,513</b>	<b>\$147,596,730</b>
<i>ADB Direct Appropriations</i>				
Environmental Cost Share		\$9,000,000	\$9,000,000	\$18,000,000
Rural Water Line Debt Service			\$5,031,000	\$5,031,000
Farmland Preservation Bond Fund Debt Service		\$1,258,000	\$2,516,000	\$3,774,000
Administration		\$500,000	\$600,000	\$1,100,000
<b>ADB funds after direct appropriations</b>	<b>\$20,303,122</b>	<b>\$23,628,069</b>	<b>\$24,101,683</b>	<b>\$68,032,875</b>
<b>Total Funds subject to approval by ADB</b>	<b>\$31,235,573</b>	<b>\$42,143,644</b>	<b>\$46,312,513</b>	<b>\$119,691,730</b>
County Allocated Funds (35%)	\$10,932,451	\$18,515,575	\$22,210,830	\$51,658,856
Ag Development Board Funds (65%)	\$20,303,122	\$34,386,069	\$41,248,683	\$95,937,875
<i>Additional Revenue</i>				
Rural Development Bond Fund		\$25,000,000		\$25,000,000
Rural Water Line Extension Bond Fund			\$50,000,000	\$50,000,000
<b>Total Funds with ADB Oversight</b>	<b>\$31,235,573</b>	<b>\$67,143,644</b>	<b>\$96,312,513</b>	<b>\$194,691,730</b>

## ***Impact Assessments***

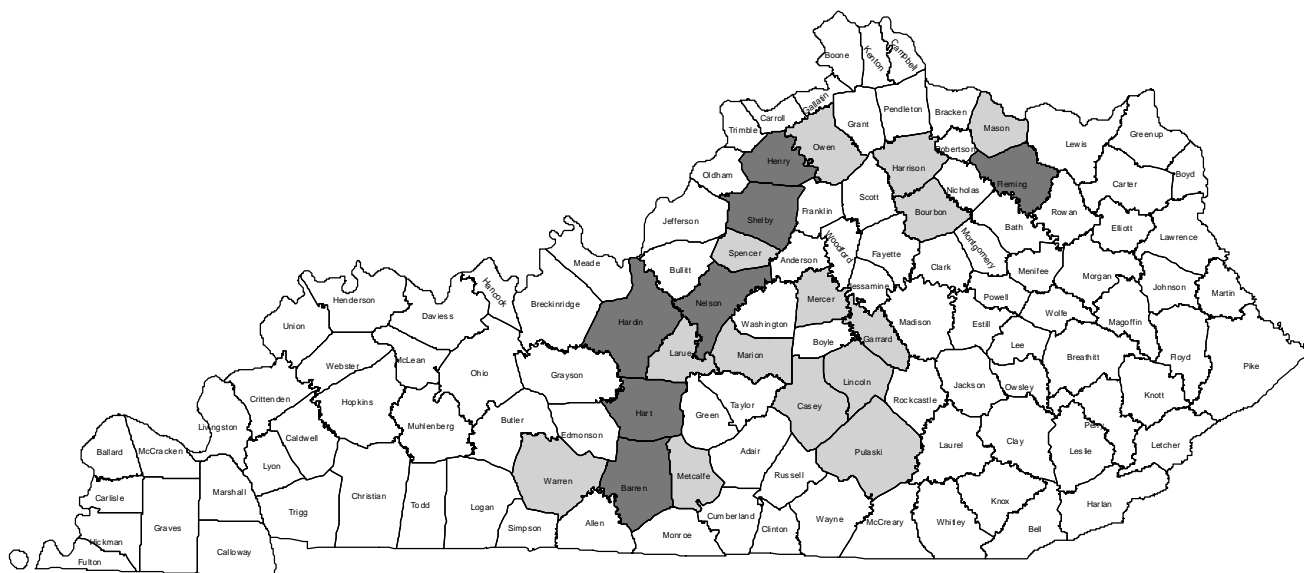
The presence of effective tools for measurement of impact as a result of fund investment from the very beginning is essential to a solid effort. Internal and third-party evaluation are both critically important to ensure that dollars invested are achieving meaningful ends. Possible impact measures for the program include:

- Number of people educated or trained
- Number of farmers taking advantage additional and previously under-utilized services
- Business plans developed
- Feasibility studies completed
- Grants awarded
- Quality of proposals generated
- Hours of direct counsel received by farmers
- Job Creation
- Number of new agribusiness start-ups

A reporting system must be put in place that requires annual reports to be issued by all fund recipients to the Board. Quarterly progress reports will be required of all county, regional and state investments made. All county investments require separate reports to the county councils and the Ag Development Board. Regional and state investments require quarterly reports to the state Board only, when no county funds are allocated to the project. The first annual report is due 12 months from the day the grant is first issued.

The Board must report to the Governor, the Legislative Oversight Committee, the Legislative Research Commission, and the Commissioner of Agriculture annually by September 1, allowing ample time for review of the annual report before the legislature convenes during the winter months.

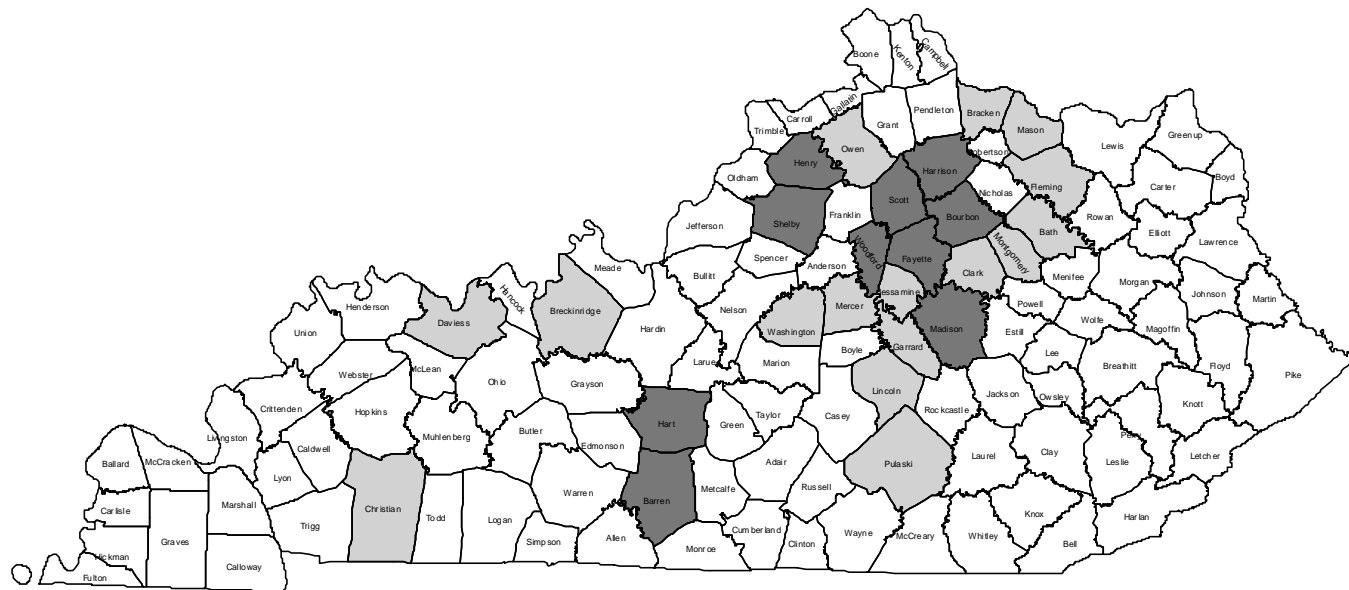
# Kentucky Alfalfa Production - 1999







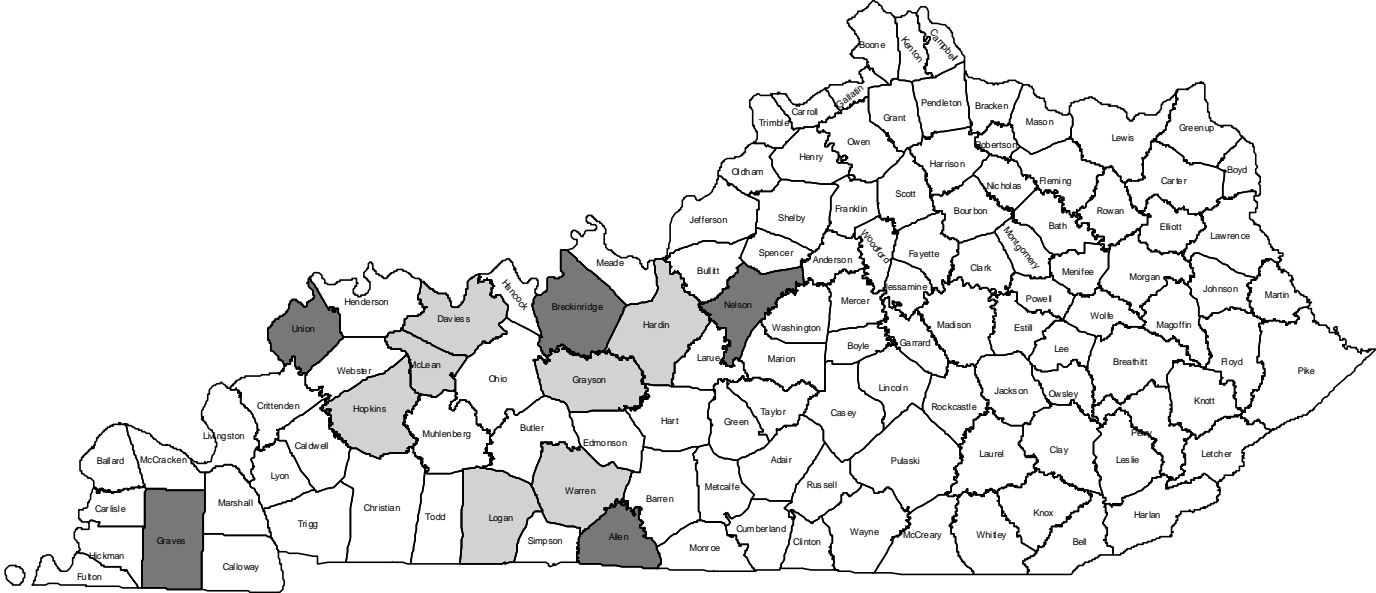
# Kentucky Burley Tobacco Production - 1999



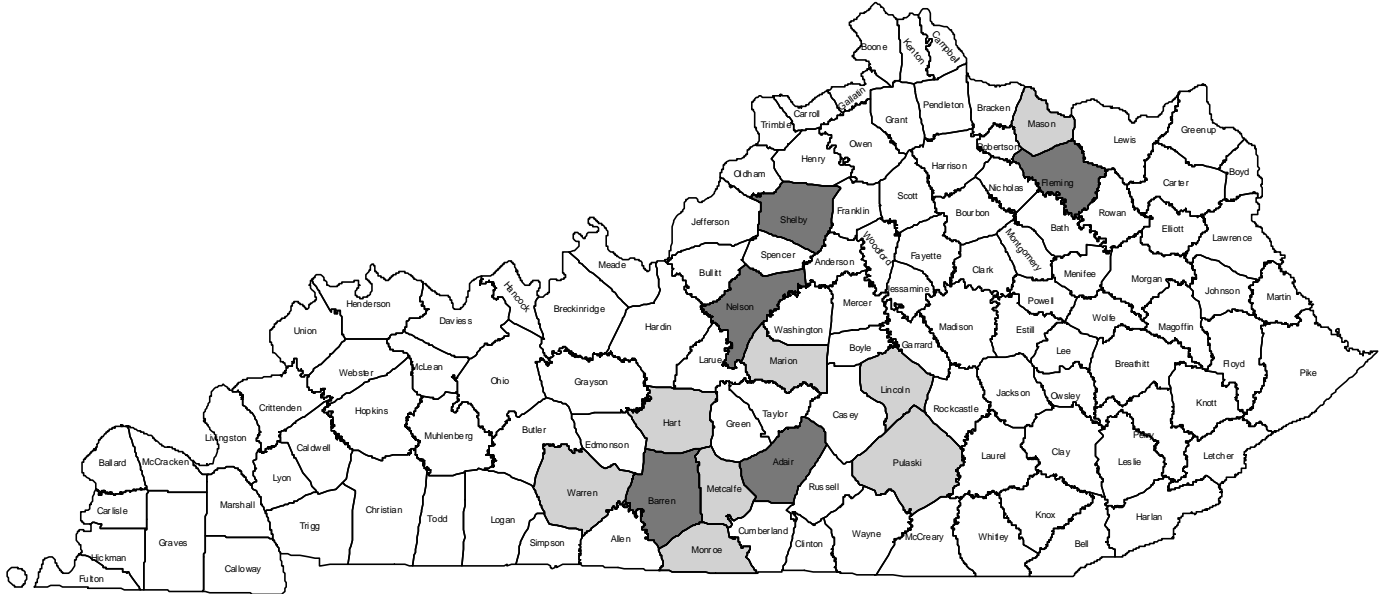




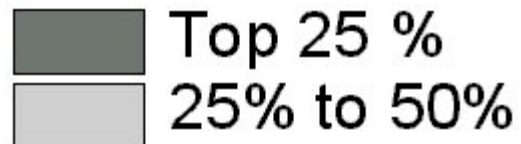
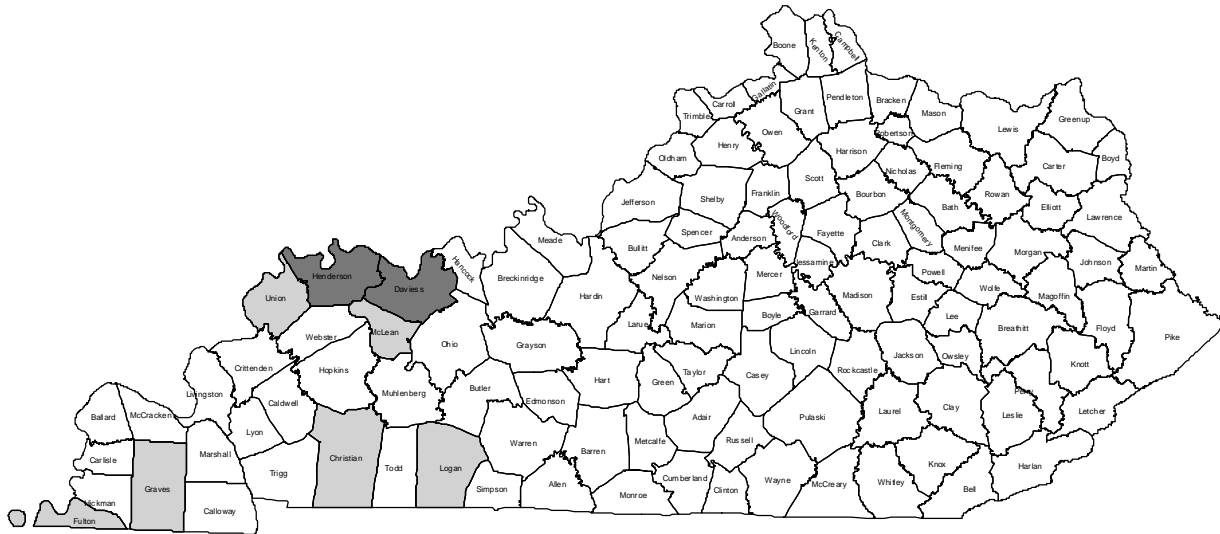
# Kentucky Hog Production - 1999



# Kentucky Milk Production - 1999

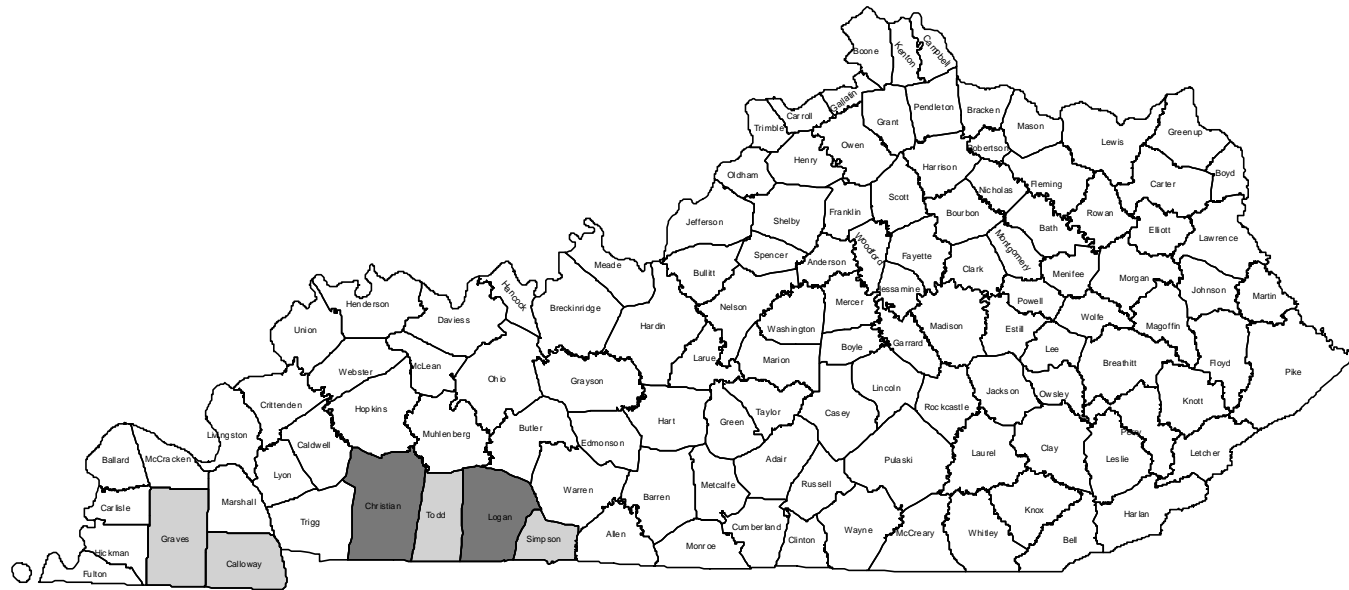


# Kentucky Soybean Production - 1999





# Kentucky Wheat Production - 1999





Cash Receipts from Established Commodity Farm Marketings 1987-1997

(Counties arranged by Extension Area and all figures in \$1000)

COUNTY	Cattle & Calves			Dairy Products			Hogs			Poultry			Misc. Livestock			Grains			Tobacco			Market value of ag products sold			Total Production Expenses			Net Cash Return from Ag Sales			Gov't Payments			
	1987	1992	1997	1987	1992	1997	1987	1992	1997	1987	1992	1997	1987	1992	1997	1987	1992	1997	1987	1992	1997	1987	1992	1997	1987	1992	1997	1987	1992	1997	1987	1992	1997	
<b>BLUEGRASS AREA</b>																																		
Bourbon	71,394	79,410	89,869	1,121	887	728	1,804	1,268	1,655	6	1	8	35,334	23,955	39,877	1,730	2,876	2,517	14,707	26,278	23,293	71,394	79,410	89,869	53,529	59,494	49,152	16,418	21,778	38,877	875	263	351	
Clark	12,672	14,847	14,537	441	307	22	815	171	D	2	2	3	1,886	1,057	D	604	555	915	8,320	14,918	14,284	26,173	32,445	35,471	18,361	22,891	20,926	7,218	9,346	13,105	322	151	176	
Esll	1,419	1,312	1,118	D	D	D	273	142	81	7	D	D	58	27	51	216	405	301	1,564	2,961	2,499	3,933	5,181	4,520	2,407	3,813	3,065	916	1,111	1,626	137	39	98	
Fayette	8,491	10,296	8,486	D	D	D	8,491	10,296	8,486	D	D	D	104,921	91,312	107,676	863	1,265	1,262	13,499	19,518	16,902	131,441	126,077	139,292	131,998	93,356	76,690	-2,232	32,403	57,152	369	197	218	
Harrison	7,775	10,342	6,924	1,631	914	536	549	439	334	9	48	54	501	233	211	519	954	814	10,140	19,193	18,947	21,882	33,224	28,984	14,271	20,070	17,859	8,373	13,295	11,719	339	183	153	
Madison	18,548	21,397	21,336	803	1,010	874	610	226	224	0	3	291	138	506	255	467	341	10,671	21,393	19,095	31,939	46,158	44,288	22,072	29,554	27,740	9,600	16,226	17,641	233	161	117		
Nicholas	4,819	4,805	4,004	527	363	392	145	79	69	D	D	2	D	8	80	6,063	11,058	10,467	13,625	18,096	16,024	8,421	10,090	10,622	5,058	6,616	5,225	75	69	66				
Powell	570	577	569	D	D	D	165	53	D	D	D	2	157	86	54	227	234	202	948	1,757	1,462	2,239	2,819	2,558	1,996	1,771	1,697	-19	760	997	56	26	68	
Scott	9,174	9,572	10,852	322	291	D	711	341	30	4	10	D	15,317	12,533	27,876	546	407	883	12,870	21,076	22,387	40,436	46,060	65,483	25,794	25,683	34,961	14,211	18,608	31,325	503	104	107	
<b>TOTAL</b>	<b>134,862</b>	<b>152,558</b>	<b>157,695</b>	<b>4,845</b>	<b>3,873</b>	<b>2,225</b>	<b>13,563</b>	<b>13,015</b>	<b>10,879</b>	<b>28</b>	<b>61</b>	<b>72</b>	<b>158,465</b>	<b>129,641</b>	<b>176,698</b>	<b>5,069</b>	<b>7,347</b>	<b>7,315</b>	<b>78,782</b>	<b>138,152</b>	<b>129,336</b>	<b>343,062</b>	<b>389,470</b>	<b>426,489</b>	<b>278,849</b>	<b>266,722</b>	<b>244,712</b>	<b>59,543</b>	<b>120,140</b>	<b>177,667</b>	<b>2,909</b>	<b>1,193</b>	<b>1,354</b>	
<b>FORT HARROD AREA</b>																																		
Anderson	3,790	4,658	3,208	1,875	2,094	1,603	85	59	63	1	D	D	657	110	322	657	110	322	3,526	6,035	5,446	10,473	13,659	11,397	7,284	9,799	8,401	2,656	2,932	3,647	330	93	128	
Boyle	9,398	12,067	14,810	1,580	2,248	1,045	419	420	278	D	3	11	512	736	372	453	1,156	735	4,335	8,929	8,788	17,471	26,219	27,040	13,358	20,388	17,622	3,588	7,102	8,364	214	128	94	
Franklin	3,693	4,108	3,844	228	204	249	D	71	D	1	2	16	421	176	423	263	291	322	6,117	10,749	9,811	11,282	16,563	15,871	7,978	10,075	9,970	4,154	6,442	5,371	116	49	72	
Garrard	12,236	13,581	12,069	2,994	2,004	2,540	839	320	130	D	D	D	128	129	241	112	209	231	6,814	13,864	13,796	23,886	30,731	29,852	16,553	18,920	19,115	7,590	11,496	9,336	273	92	98	
Jessamine	5,568	6,403	5,073	248	293	444	118	32	D	2	4	D	6,465	3,497	45,363	234	340	354	7,375	14,167	12,930	20,690	25,784	66,452	13,431	16,896	26,837	8,393	7,855	39,388	149	38	62	
Lincoln	14,044	14,769	13,917	8,080	7,520	7,418	846	189	58	D	D	10	44	53	174	917	1,878	2,604	6,331	13,150	13,000	31,799	38,933	38,573	23,271	27,003	24,923	7,485	10,405	12,514	708	224	344	
Mercer	9,817	11,623	10,141	5,475	5,763	4,187	497	249	17	D	28	6	2,318	1,776	1,252	925	1,031	578	7,600	13,776	13,163	27,228	35,662	30,601	20,786	26,598	23,583	6,230	8,790	7,516	456	166	151	
Woodford	9,003	9,863	8,773	D	D	D	379	100	D	D	D	3	53,823	43,977	85,166	757	792	975	12,615	20,152	19,781	77,314	75,660	115,401	42,603	46,843	82,317	33,524	28,423	35,044	354	134	177	
<b>TOTAL</b>	<b>67,549</b>	<b>77,070</b>	<b>72,735</b>	<b>20,480</b>	<b>20,126</b>	<b>17,486</b>	<b>3,183</b>	<b>1,440</b>	<b>546</b>	<b>4</b>	<b>38</b>	<b>46</b>	<b>64,368</b>	<b>50,454</b>	<b>133,316</b>	<b>4,318</b>	<b>5,807</b>	<b>6,121</b>	<b>54,713</b>	<b>100,822</b>	<b>96,715</b>	<b>220,143</b>	<b>263,211</b>	<b>335,187</b>	<b>145,264</b>	<b>176,522</b>	<b>212,768</b>	<b>73,620</b>	<b>83,465</b>	<b>121,180</b>	<b>2,600</b>	<b>924</b>	<b>1,126</b>	
<b>GREEN RIVER AREA</b>																																		
Davies	3,081	3,531	3,799	1,762	1,924	1,484	2,155	3,253	4,049	3	D	3,321	104	95	70	28,431	40,559	42,544	8,382	14,482	13,615	45,168	66,957	71,279	29,502	41,235	47,282	15,126	25,557	23,946	4,331	1,235	1,779	
Hancock	1,202	1,541	1,613	0	21	D	1,336	1,616	1,954	2	D	D	32	10	21	2,871	3,615	3,985	2,222	4,263	4,123	7,760	11,027	12,088	5,308	6,585	8,057	2,354	3,127	4,112	530	200	276	
Henderson	3,368	2,842	2,215	0	D	D	1,253	1,135	1,059	D	D	D	72	277	151	21,209	33,150	37,476	1,043	2,347	1,506	27,315	40,073	50,142	20,574	29,933	35,303	6,634	10,275	12,898	4,310	1,125	1,703	
McLean	908	988	1,160	D	158	D	3,945	5,113	5,355	D	D	20,491	13,160	21,524	23,367	1,827	4,069	3,008	2,039	4,069	3,008	20,139	32,135	53,771	15,073	21,503	41,375	5,998	10,411	12,652	2,499	1,077	1,173	
Ohio	2,637	3,699	3,324	159	126	154	1,342	1,616	459	2	2	19,577	7,978	10,195	9,355	2,558	4,916	3,301	15,010	21,009	36,990	10,090	14,248	26,971	4,213	6,154	9,802	1,540	650	832				
Union	6,580	5,338	3,954	0	D	D	9,861	7,375	5,840	D	D	D	25,331	36,413	47,476	14	31	21	42,127	50,030	58,623	30,716	34,814	38,710	10,999	14,477	20,307	5,556	1,766	1,857				
Webster	2,049	3,323	3,006	D	D	D	1,418	1,354	414	4	0	5,122	12,944	18,001	21,349	675	1,446	1,401	17,374	24,442	31,584	12,799	17,529	22,160	4,954	6,528	10,542	2,958	1,090	1,205				
<b>TOTAL</b>	<b>19,825</b>	<b>21,262</b>	<b>19,071</b>	<b>1,921</b>	<b>2,229</b>	<b>1,638</b>	<b>21,310</b>	<b>21,162</b>	<b>19,130</b>	<b>9</b>	<b>2</b>	<b>48,511</b>	<b>317</b>	<b>470</b>	<b>461</b>	<b>111,924</b>	<b>163,457</b>	<b>185,552</b>	<b>16,721</b>	<b>31,554</b>	<b>26,875</b>	<b>174,893</b>	<b>245,673</b>	<b>314,467</b>	<b>124,062</b>	<b>165,847</b>	<b>219,848</b>	<b>50,278</b>	<b>76,529</b>	<b>94,250</b>	<b>21,724</b>	<b>7,143</b>	<b>8,825</b>	
<b>LAKE CUMBERLAND AREA</b>																																		
Adair	5,630	7,226	6,963	9,783	9,964	11,117	987	526	298	D	D	7	36	154	187	743	1,172	683	5,051	8,606	9,204	23,248	28,543	29,640	16,144	17,893	19,434	7,261	8,511	9,331	558	294	321	
Casey	5,867	6,117	6,918	4,478	5,589	5,203	1,558	1,550	1,758	D	259	D	7	32	61	157	1,071	579	1,028	6,198	9,858	11,984	20,971	25,418	28,805	5,820	8,571	10,094	5,820	8,571	10,094	339	258	354
Clinton	3,075	2,747	4,493	1,528	1,513	1,376	923	374	230	D	D	D	184	140	171	2,481	4,027	4,048	8,763	9,709	10,978	5,547	6,965	6,932	3,221	3,378	4,299	1,744	87	108				
Cumberland	1,854	1,766	1,704	769	759	1,132	684	205	40	D	D	2	8	9	25	2,381	237	257	2,448	4,428	3,937	6,329	7,705	7,611	3,795	4,423	4,845	2,145	3,017	2,623	229	145	177	
Green	5,230	6,035	5,661	4,491	5,913	5,163	731	389	71	1,790	482	D	42	D	78	924	873	923	6,233	10,161	10,894	20,087	24,755	23,858	13,423	15,327	14,739	7,283	9,209	9,159	407	197	298	
McCreary	218	301	318	0	D	D	20	D	D	D	D	D	7</																					

Cash Receipts from Established Commodity Farm Marketings 1987-1997 (continued from page 1)

[Counties arranged by Extension Area and all figures in \$1000]

COUNTY	Cattle & Calves			Dairy Products			Hogs			Poultry			Misc. Livestock			Grains			Tobacco			Market value of ag products sold			Total Production Expenses			Net Cash Return from Ag Sales			Gov't Payments		
	1987	1992	1997	1987	1992	1997	1987	1992	1997	1987	1992	1997	1987	1992	1997	1987	1992	1997	1987	1992	1997	1987	1992	1997	1987	1992	1997	1987	1992	1997	1987	1992	1997
<b>MAMMOTH CAVE</b>																																	
Allen	8,176	6,667	15,061	1,414	1,636	1,353	6,348	7,979	10,420	5	38	9	139	126	266	1,141	717	832	3,023	5,853	5,907	21,351	24,523	35,124	16,638	18,042	30,366	5,228	5,851	4,847	559	257	471
Barren	12,811	15,167	16,981	15,034	14,964	16,071	1,452	1,509	259	1	1	3	118	128	992	2,200	3,893	3,117	11,751	19,484	19,940	44,856	57,365	59,789	29,322	39,494	41,360	15,468	18,164	17,454	889	420	636
Butler	2,195	2,770	5,471	424	541	458	2,558	2,042	3,290	Z	D		15	12	D	4,651	6,414	6,660	787	1,851	1,482	11,010	13,995	21,536	8,419	11,681	16,911	2,326	2,793	2,506	1,329	637	742
Edmonson	2,763	3,090	2,880	1,945	2,395	2,095	1,023	2,341	835	670	137	467	9	22	20	894	954	911	1,906	3,490	2,952	9,538	12,910	10,713	7,173	9,875	7,180	2,063	1,857	2,633	411	352	348
Hart	6,086	7,355	7,082	9,305	8,361	8,039	1,255	841	24	3	5	4	104	247	189	639	734	841	1,123	16,441	17,400	26,367	35,702	35,089	26,367	35,702	35,089	8,851	13,543	12,797	556	346	409
Logan	6,111	7,338	7,130	4,996	6,389	6,711	5,310	4,604	1,768	D			105	51	28	19,218	30,147	34,699	6,618	11,360	11,844	43,730	61,197	63,634	30,255	40,991	42,281	12,192	20,118	20,964	4,672	1,926	2,237
Metcalfe	4,143	5,650	7,192	8,081	8,829	6,806	822	365	1,783	3	2	2	D			5,684	9,759	9,384	19,866	24,165	24,993	13,785	15,544	16,326	6,309	9,906	8,814	515	177	189			
Monroe	6,329	7,675	9,220	6,203	8,453	6,929	873	271	92	2	D	D	19	28	36	480	622	599	4,092	6,779	7,090	18,902	24,753	25,602	12,120	18,351	17,593	6,319	6,749	5,910	355	206	185
Simpson	2,559	2,929	2,816	2,398	1,689	2,146	1,648	2,171	2,143	D			26	25	226	12,100	17,003	19,638	2,575	4,095	4,120	21,884	28,457	32,107	15,885	19,997	22,050	6,632	7,770	8,903	2,644	1,149	1,140
Warren	9,475	20,706	26,797	5,800	7,148	7,577	3,205	3,256	4,049	1	2	1,250	467	707	851	6,660	9,875	12,815	4,810	10,624	9,379	32,390	54,503	65,241	23,980	41,228	45,998	7,456	13,406	16,650	1,722	687	952
<b>TOTAL</b>	<b>60,628</b>	<b>78,997</b>	<b>100,630</b>	<b>55,600</b>	<b>58,405</b>	<b>58,275</b>	<b>24,494</b>	<b>25,379</b>	<b>22,943</b>	<b>685</b>	<b>263</b>	<b>2,651</b>	<b>1,002</b>	<b>1,384</b>	<b>2,651</b>	<b>48,483</b>	<b>70,814</b>	<b>80,625</b>	<b>49,369</b>	<b>89,736</b>	<b>89,498</b>	<b>249,894</b>	<b>337,570</b>	<b>373,828</b>	<b>183,944</b>	<b>250,905</b>	<b>275,144</b>	<b>72,844</b>	<b>100,157</b>	<b>101,478</b>	<b>13,652</b>	<b>6,157</b>	<b>7,309</b>
<b>NORTHEAST KENTUCKY</b>																																	
Boyd	711	791	1,075	D	0	D	9	D	D	D	2,448	1	101	82	432	18	35	40	51	124	96	4,235	4,504	2,271	3,793	3,244	1,922	546	1,354	275	10	5	28
Carter	1,913	1,881	1,762	337	477	437	73	27	66	D	2,217	662	418	82	D				172	151	129	3,166	6,283	5,638	8,431	10,025	9,373	2,033	2,814	2,561	54	49	31
Elliott	759	837	735	D	0	0	8	D	3	D	D		22	9	5	45	70	8	1,993	3,330	3,147	2,978	4,404	4,041	1,876	2,570	2,014	1,135	2,187	1,851	2	5	5
Floyd	89	116	54	0	0	0	14	D	D	D			41	44	61	22	4	D				706	611	508	540	558	523	136	52	-14	11	D	0
Greenup	1,526	1,766	2,265	240	445	524	85	32	2	1,165	D		55	154		354	418	336	1,953	4,351	4,123	5,817	8,724	8,303	4,570	6,993	4,704	1,244	3,562	3,078	154	52	104
Johnson	180	314	218	0	29	D	40	30	4	D			6	D		6	36	25	472	904	716	790	1,532	1,259	548	922	933	111	571	346	D	3	42
Lawrence	665	736	461	D	105	D	D	20	D		2,208	776	0	10	D	48	39	34	635	1,463	1,267	3,798	3,306	2,009	3,444	2,412	1,269	378	659	519	27	24	25
Magoffin	306	344	235	0	D	D	30	2	1	Z	D		84	74	56	1,434	2,110	2,282	1,940	2,646	2,682	1,002	1,540	1,191	1,083	817	1,191	1,083	817	1,251	26	14	7
Martin	79	125	D	0	0	0	D	D	D	D	D		0	D	0	444	610	50	507	1,236	65	0	0	0	0	0	0	-63	-626	-15	0	D	0
Pike	55	95	99	0	0	0	7	D	D	D	D		0	D	D	115	254	176	132	223	228	132	223	228	-16	30	-52	2	0	0	0	0	
<b>TOTAL</b>	<b>6,283</b>	<b>7,005</b>	<b>6,904</b>	<b>577</b>	<b>1,056</b>	<b>961</b>	<b>266</b>	<b>111</b>	<b>79</b>	<b>5,590</b>	<b>3,886</b>	<b>420</b>	<b>221</b>	<b>169</b>	<b>596</b>	<b>768</b>	<b>884</b>	<b>726</b>	<b>9,736</b>	<b>18,577</b>	<b>17,269</b>	<b>29,254</b>	<b>36,616</b>	<b>30,672</b>	<b>22,311</b>	<b>26,091</b>	<b>19,154</b>	<b>6,887</b>	<b>11,420</b>	<b>9,800</b>	<b>286</b>	<b>152</b>	<b>242</b>
<b>NORTHERN KENTUCKY</b>																																	
Boone	2,604	2,678	2,229	1,188	922	940	357	194	109	8	15	7	908	291	641	642	908	827	3,183	6,172	6,888	11,270	13,983	15,856	8,394	9,320	11,339	3,339	4,303	4,493	255	174	159
Campbell	1,160	1,476	1,506	442	251	180	144	114	67	3	3	2	42	51	471	85	142	170	664	1,835	1,723	3,445	4,721	5,441	2,584	4,310	4,647	471	1,068	2,215	26	19	14
Carrroll	1,450	1,454	1,324	424	251	322	147	234	D	D	D		34	D		12	643	211	3,700	6,211	6,215	6,623	8,744	8,693	3,923	4,629	4,769	2,565	3,408	3,382	196	52	48
Gallatin	805	779	778	525	452	634	47	D	D	Z	D		2	2	14	483	499	570	2,467	3,991	4,114	5,167	6,149	6,746	4,349	4,410	3,508	2,184	2,014	2,498	92	28	44
Grant	3,259	3,501	2,862	734	598	609	121	97	D	D	5	3	153	74	160	187	147	92	5,777	10,960	10,708	10,790	16,055	15,554	7,977	10,140	9,563	2,274	4,554	5,231	149	49	63
Kenton	1,306	1,246	1,320	526	608	424	100	41	D	D	D		14	49	129	47	96	42	1,598	2,744	2,417	4,724	5,548	5,094	3,796	4,954	3,512	980	2,074	1,228	29	23	58
Owen	4,360	4,408	4,637	2,783	2,243	1,069	14	D	D	Z	D		43	61	32	8,418	13,790	15,486	8,418	13,790	15,486	16,507	21,588	22,337	10,084	12,507	12,841	7,487	9,849	8,502	165	124	76
Pendleton	3,620	3,539	3,056	1,431	1,099	750	149	151	D	D	1	6	D			305	296	569	5,170	9,545	9,275	11,236	15,259	14,793	7,485	9,100	8,439	3,790	5,753	5,561	71	33	104
<b>TOTAL</b>	<b>18,564</b>	<b>19,081</b>	<b>17,712</b>	<b>8,053</b>	<b>6,424</b>	<b>4,928</b>	<b>1,079</b>	<b>831</b>	<b>176</b>	<b>17</b>	<b>27</b>	<b>12</b>	<b>1,232</b>	<b>548</b>	<b>1,577</b>	<b>10,810</b>	<b>16,242</b>	<b>17,967</b>	<b>31,067</b>	<b>55,248</b>	<b>56,826</b>	<b>69,762</b>	<b>92,047</b>	<b>94,514</b>	<b>48,592</b>	<b>59,370</b>	<b>56,618</b>	<b>23,090</b>	<b>33,015</b>	<b>33,110</b>	<b>983</b>	<b>502</b>	<b>566</b>
<b>PENNYRILE AREA</b>																																	
Caldwell	2,898	3,532	3,172	1,824	1,374	1,210	3,850	2,448	2,199	9	7	D	56	56	148	5,016	7,960	10,643	1,602	3,431	4,007	15,594	19,241	22,631	12,274	14,393	16,764	3,487	5,149	5,015	1,698	1,431	1,845
Christian	6,237	9,911	9,460	213	603	3,550	3,410	2,942	4,347	D	D	1,823	71	47	187	16,452	29,292	43,718	8,793	14,894	17,401	6,978	19,522	82,557	29,099	44,192	57,441	6,941	15,995	24,004	5,282	3,134	3,503
Crittenden	3,317	3,595	4,211	630	486	338	1,417	1,058	219	7	6	7	2	104	123	2,261	3,353	4,110	14	D	D	8,203	9,244	9,884	6,968	7,034	7,622	1,246	1,702	2,276	1,		