



Case Study Report

Berks County, Pennsylvania

One of 15 Case Studies for the Research Project

Farm Viability in Urbanizing Areas

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Section I: Summary

Farm Market Value of Agricultural Products and Numbers of Farms: Agriculture is an important economic sector for Berks County. Total farm market value for all products increased 71% from 1987 to 2002, with all commodities except grains experiencing increased market value. Poultry and eggs and nursery products in particular have expanded substantially in comparison to other commodities. In 2002, the majority of farms in Berks County fell between 10 to 179 acres in size. The notable trends in regard to farm size since 1987 include an increase in the percentage of farms in the 10- to 49-acre size category and decreases in the percentage of farms in the 50- to 179-acre and the 180- to 499-acre categories.

Farmer Satisfaction with Markets: Based on a survey of 123 Berks County farmers, respondents overall seem only moderately satisfied with the accessibility and competitiveness of their marketing outlets. Respondents were less satisfied with the profitability of the markets. Exceptions include grain producers and those selling relatively more agricultural products locally—they were more likely to be satisfied with the accessibility of their markets. Those involved in vegetable production and older respondents were more likely to be satisfied with the profitability of their markets.

Production Inputs: Based on the same survey, respondents seemed to have few problems with access to production inputs. The most used inputs (goods and services from implement dealers, seed suppliers, family labor, and farm chemicals) were available most of the time. Interviews with agricultural leaders in the county brought out some of the specific concerns with production inputs, including consolidation of equipment and chemical dealers.

Land for Farming: In 2002, Berks County had almost 216,000 acres in farmland, and about 40% of land was leased. The county may have lost nearly 28,000 acres in farmland since 1987. Survey respondents overwhelmingly thought that purchasing farmland in the county was not affordable; the respondents were more mixed in their views of the affordability of leased land. Interviews with agricultural leaders reinforced the results of the survey, and leaders were split about the sufficiency of land to farm in the future. Some believed there would be an adequate land base; many noted that they thought it would be adequate because of the farmland preservation programs in place. Others felt that farmland was already inadequate and would only diminish.

Support for Farmland Preservation: The county has over 50,000 acres preserved through the county and state purchase of conservation easement program and 154,000 acres in Agriculture Preservation Zoned Areas. An overwhelming majority (80%) of survey respondents felt that the purchase of development rights program in the county was at least somewhat helpful (and many felt it was very helpful). A little over three-quarters (76%) felt the agricultural tax assessment programs were at least somewhat helpful, while fewer (69%) felt the same about the right-to-farm laws, and the least (64%) about zoning restrictions.

Farmers' Plans for the Future: Under half of the survey respondents (41%) said they were planning to be farming in the county 10 years from now (27% either were not sure or did not respond to the question). We also found that most survey respondents do not have plans for

changing much about their farm operations over the next five years; the largest percentage of respondents reporting a planned increase were those mentioning the number of livestock and separate crops grown. Regression analysis of those planning to stay 10 years showed that respondents reporting some dairy cattle or owning farmland in the southeast part of the county were less likely to be farming in the county 10 years from now. Finally, 68% of survey respondents said they have no plans to develop any of their lands, including most of the larger farms in the sample.

Predictions of Agriculture's Viability 20 Years into the Future: The 123 surveyed farmland owners tended to be mixed in terms of their outlook for the future of agriculture in the county. Half believed that agriculture in Berks County had a “bright” or at least “modest” future, while 40% felt the future of agriculture in Berks County was “dim.” In the regression analysis, other things being equal, respondents were more likely to believe the future of agriculture in the county to be bright or modest if at least some of their owned land was in vegetable production, if they had a succession plan for the farm, or if they felt that the agricultural zoning policies in the county were very helpful in maintaining an adequate supply of farmland. On the other hand, respondents were less likely to be optimistic if they felt that local authorities sided with nonfarmers in controversies between farmers and nonfarmers. Agricultural leaders interviewed were generally optimistic about the future.

Section II: Geographic, Historical, Agricultural, and Policy Contexts in Berks County

Location, Size, and Urban Influence

Berks County is part of Pennsylvania's southeast region, an area that produces the state's highest-value agriculture products. The county seat, the city of Reading, is 56 miles northwest of Philadelphia. Despite its closeness to the Philadelphia metropolitan area, it is considered part of Pennsylvania Dutch Country. The county is a diamond-shaped area of 864 square miles and is linked to other major cities such as New York (125 miles) and Baltimore (97 miles) through major highways. Sections of the Blue and South mountains, two ridges of the Appalachian Mountain chain, form its northern and southern boundaries.

Berks County is within the Reading, Pennsylvania, metro area, and in 1990, Berks County was classified as under a great deal of urban sprawl influence: 25% of the county was subject to “high urban influence” or sprawl potential, 42% was subject to “medium urban influence,” and the remaining 33% of land to “medium-low urban influence” (Table 1). In 2003, the county was classified as a metro area with fewer than 1 million residents.

Rate and Location of Population Growth, Household Demographics

Although population growth has slowed over the last five years, Berks County's population grew 11% from 1990 to 2000 (from almost 337,000 to almost 374,000). In 2005, almost 383,000 residents lived in Berks County (Table 1). The county's median household income in 2005 was \$50,871 and the median value of owner-occupied single-family homes was a little over \$138,000.

Indicators	2006	2000	1990
Population	401,149	373,638	336,523
Percent increase, 2000–2006	7.4%		
Percent increase, 1990–2000		11.0%	
Median household income, 2006	\$50,039		
Median value of owner-occupied single-family home, 2006		\$149,700	
County seat	Reading, PA		
Metro area	Reading, PA		
Extent of urban influence in county: 1990 measure	25% of the county subject to “high urban influence” or sprawl potential, 42% to “medium urban influence,” and 33% to “medium-low urban influence”		
Extent of urban influence in county: 2003 measure	Small—in a metro area with fewer than 1 million residents		

Source: U.S. Census Bureau, 2005 American Community Survey; U.S. Census Bureau, American Fact Finder; USDA, Economic Research Service.

Historically, the centers of concentrated development were the city of Reading and the larger rural boroughs. Topographical barriers defined the limits of the city, forcing development north, southeast, and west across the Schuylkill River and shaping suburban development in Muhlenberg, Exeter, and Spring townships, along with the urban-area boroughs.¹

Today, Reading is still the county’s largest municipality; other municipalities include 29 boroughs and 44 townships. About half these boroughs lie within the Reading Urban Area (the city and the municipalities immediately surrounding the city). The land-use development pattern since 1973 reflects continued suburban expansion outward from Reading, in-fill development, as well as development that has leapfrogged over land close to the city to take place on rural lands beyond the suburban areas in agricultural areas, especially in the direction of Philadelphia, Allentown, and Lancaster. As transportation corridors have developed linking the county to Philadelphia and New York, residential development proliferated throughout the wooded areas in eastern and southern Berks County. In addition to higher residential growth, the suburban and rural areas experienced greater nonresidential activity in the development of suburban industrial and office parks. During the late 1980s and 1990s, this development started to migrate toward the interstate interchanges.

The most concentrated area of residential land is located within the city of Reading and the municipalities immediately surrounding the city. This is medium- to high-density housing, and lot sizes are relatively small. Areas showing significant suburban residential subdivision activity during the 1990s were Amity, Exeter, Spring, Maiden creek, and Muhlenberg townships, along with the portions of Lower Heidelberg and South Heidelberg townships that are served by public sewer and water. Significant lower-density residential growth has also spread into portions of these townships and are not served by public sewer and water, as well as municipalities formerly considered rural, such as Bern, Cumru, Washington, Robeson, Tilden, and Rockland townships.

¹Berks County Planning Commission, 2002, *Berks Vision 2020: A Comprehensive Plan for the County of Berks* (Reading, PA: Berks County Planning Commission).

These areas are characterized by low-density growth typically featuring single-family detached dwellings on large lots with on-site sewage disposal and water supply, and with little or no land retained as open space. Many of these developing areas also lacked adequate road capacity and other support services, thereby straining the economies of municipal and school operations. Furthermore, much of this development occurred on environmentally sensitive land, spurring concern for the protection of natural resources. Residential growth in these areas appears to be fueled by the continued outward movement of residents from the Reading Urban Area, as well as development pressure emanating from the New York, Allentown, Lancaster, and Philadelphia regions.

The western part of the county, along with the townships bordering along the Blue Mountains, primarily consists of farms with scattered rural residences on a variety of lot sizes. Most of the townships in these areas are among those with the lowest residential density figures in the county.

Growth trends in the past several decades indicate that the county should continue to grow at a moderate rate. It is the county's goal to promote a more consolidated development pattern instead of the scattered pattern currently occurring, encouraging growth within natural service areas of existing and proposed public water and sewer systems, where higher densities and greater variety can be provided.²

Growing Season, Soils, Rainfall, and Water Availability for Agriculture

In Berks County, 5,500 acres of land are classified with Class I soils, 141,400 are Class II, 151,800 are Class III, and 63,600 are Class IV. Class I and Class II soils are often the first to be developed, and the county is concerned about this trend.³

The Schuylkill River and several of its main tributaries drain almost the entire county. The mean annual temperature is 54.3 degrees Fahrenheit. The fall and winter average is 38.9 degrees; the spring and summer average is 74.8 degrees. Average annual rainfall is 41.4 inches, and average annual snowfall is 30.6 inches. The growing season is 170 to 214 days (also reported elsewhere as an average of 194 days).

Interviews with agricultural leaders in the county found no major physical constraints to development of the agricultural land (such as floodplains or inadequate groundwater supplies). In fact, the opposite problem was noted: the Class I–III soils used for agriculture are also the best soils for development.

Brief History of Berks County

Berks County was originally settled by Swedes, followed by Quakers, German Amish, French Huguenots, Mennonites, and the English. Most of the county's eastern section was settled by people migrating inland from the Philadelphia area. In 1752, Berks County was incorporated from parts of Lancaster, Chester, and Philadelphia counties. Berks County was named for Berkshire, England, home of William Penn's family.

²Berks County Planning Commission, *Berks Vision 2020*.

³Berks County Planning Commission, *Berks Vision 2020*.

Reading's early growth was largely influenced by the Schuylkill River and Canal, which was navigable for flat-bottomed boats to carry products, mainly agricultural, to the markets of Philadelphia, and later by the county's early lead in steam railroad growth. Reading's industrial complex attracted a considerable amount of immigrant labor during the late 19th and early 20th centuries.

The Berks County economy is broad-based, characterized by a diversity of industry. The county's favorable climate, location, and topography fostered the growth of agriculture, resulting in a robust food and kindred products industry. Berks County is a top agricultural county in the state, with a variety of agricultural commodities produced, including mushrooms, fruit, vegetables, dairy, swine, and poultry. Certain specialized portions of the industry, particularly mushroom production, are of national significance.

Berks County is also an important industrialized county. The early industries included manufacturing of iron and its products. Over the years, metal production and fabrication became a major industry. During the Industrial Revolution, the county also became a leader in the manufacture of textiles and apparel. Both industries remain important in the county's economy. Also contributing to the county's economic diversity is retail trade. Recent trends indicate decentralization, as retail establishments have shifted from downtown Reading to several shopping malls in the Reading Suburban Area. The continued growth of the outlet complexes has helped promote Berks County as the "Factory Outlet Capitol of the World" and has cultivated a strong tourism industry.

Basic Traits of Agriculture in Berks County

To some degree, agriculture is found in each of the townships in Berks County. However, the largest concentration of farmland is in the western portion of the county.⁴ Other large areas of concentrated agricultural use are in the northeast, with a band of farmland through Maiden creek, Richmond, Maxatawny, and Longswamp townships; the Perry, Greenwich, Windsor, Albany, and Oley Valley areas; and a smaller band through Hereford and Washington townships. The farming activity of these areas extends into agricultural areas of counties adjacent to Berks, especially Lancaster, Lebanon, Montgomery, and Lehigh.

Agriculture is an important economic sector for Berks County, as it ranks third in the state for farm market value of agriculture products sold and second for average market value of products. According to 2002 Census of Agriculture data, approximately 39% of the county's almost 550,000 acres in land is devoted to agriculture, and there were 1,791 farms with an average size of 120 acres each. The agricultural sector is diverse, with livestock and poultry accounting for 58% of farm market value and crops accounting for 42%. In 2002, the top four commodities were (1) nursery, greenhouse, floriculture, and sod (this includes mushrooms, a high cash commodity); (2) poultry and eggs; (3) milk and other dairy products from cows; and (4) cattle and calves.

Much of the land in Berks County is still being directed toward the traditional crops of the area (including cash grains and dairy), but there is much diversity in terms of products and marketing schemes in the county as well. Many agricultural leaders interviewed for this study talked about

⁴Berks County Planning Commission, *Berks Vision 2020*.

the increase in direct marketing and niche agricultural products raised by farmers in the county. Many noted, however, that the dollar amount for these alternative options in comparison to traditional agriculture is insignificant. The food-processing infrastructure was noted by agricultural leaders as being good; major products processed in Berks County include mushrooms, pretzels, snacks, milk, meat and poultry, flour, baked goods, candy, and pies. Direct-marketed processed products include jams, jellies, vinegar mixes, baked goods, and meat and poultry.

Farmers in Berks County have access to three major metropolitan markets within 150 miles: Philadelphia, Baltimore, and New York City. The surrounding counties, which exclude these cities, account for 2.8 million residents (Table 2).

County	Estimated 2006 population
Berks	401,149
Chester	482,112
Lancaster	494,486
Lebanon	126,883
Lehigh	335,544
Montgomery	775,688
Schuylkill	147,405
Total	2,763,267

In 2002, the majority of farms in Berks County fell between 10–49 acres in size (36% of all farms) and 50–179 acres in size (32% of all farms) (Table 3). Only 13% of farms were nine acres or smaller, and 20% were 180 acres or larger, with only 1% in the largest category (1,000 acres or more). The notable trends in regard to farm size since the 1987 Census of Agriculture include an increase in the percentage of farms in the 10- to 49-acre size category (from 26% in 1987 to 36% in 2002); a decrease in the percentage of farms in the 50- to 179-acre category (from 40% to 32%); and finally a decrease in the percentage of farms in the 180- to 499-acre size category (from 20% to 15%).

The percentage of total land in farms that was leased into farm operations has remained relatively stable since 1987, ranging from 40% to 48%. Per acre average market value of land and buildings has increased from \$2,595 in 1987 to \$5,527 in 2002. Average market value of all machinery and equipment per farm has increased from \$52,045 to \$63,509.

Total farm market value for all products has increased 71% from the 1987 Census of Agriculture to 2002. Although there have been some changes in the top four commodities since the 1987 census, all commodities, with the exception of grains, have increased market value since 2002. Poultry and eggs and nursery products in particular have expanded substantially in comparison to other commodities; poultry expanding from \$16 million in 1987 to \$71 million in 2002 and nursery products expanding from \$58 million in 1987 to \$97 million in 2002.

Trait	2002	1997	1992	1987
Acres in farms	215,679	239,810	221,981	243,260
County's approximate total land area (acres)	549,683	549,683	549,901	549,901
Percentage of total county's land in farms	39%	43.6%	40.4%	44.2%
Number of farms	1,791	2,073	1,558	1,809
Average size of farms (acres)	120	116	142	134
Number of farms 1–9 acres (percentage of total farms)	227 (13%)	234 (11%)	170 (11%)	197 (11%)
Number of farms 10–49 acres (%)	640 (36%)	744 (34%)	410 (26%)	467 (26%)
Number of farms 50–179 acres (%)	573 (32%)	701 (34%)	574 (37%)	721 (40%)
Number of farms 180–499 acres (%)	271 (15%)	314 (15%)	325 (21%)	355 (20%)
Number of farms 500–999 acres (%)	67 (4%)	68 (3%)	62 (4%)	55 (3%)
Number of farms 1,000+ acres (%)	13 (1%)	12 (1%)	17 (1%)	14 (1%)
Harvested cropland in acres	154,108	177,695	166,884	174,147
Acres in pasture or grazing	10,513	16,843	13,802	15,316
Percentage of total land in farms that was leased into farm operations	40%	44%	48%	43.8%
Per acre average market value of land and buildings	\$5,527	\$3,655	\$3,216	\$2,595
Per farm average market value of all machinery and equipment	\$63,509	\$64,770	\$63,917	\$52,045

Three-quarters of Berks County farms had gross sales less than \$100,000 in 2002 (Table 4). Another 13% had between \$100,000 and \$249,999, while 6% had between \$250,000 and \$499,999, and almost 5% over \$500,000. There have been some notable changes in gross sales for farms in the county since the 1987 Census of Agriculture. Most significant is the increase in the percentage of farms with gross sales less than \$2,500, from 17% of farms in 1987 to 32% in 2002. There has been a slight decrease in the percentage of farms with gross sales between \$10,000 and \$24,999, from 14% to 11.5%. More significant decreases have occurred in those farms with gross sales between \$25,000 and \$49,999 (from 10% in 1987 to 5.6% in 2002) and between \$50,000 and \$99,999 (from 13% to 8.5%). Finally, a small increase in the farms grossing over \$500,000 seems noteworthy; while the percentage of farms has only increased from 3% in 1987 to 4.7% in 2002, the number of farms has increased from 52 to 85 farms.

Of special note to the agricultural sector in Berks County is the presence of a large Mennonite population. A recent study of Mennonite farming operations in eastern Pennsylvania found the farms averaged in size from 200 to 300 acres.⁵ These farms are worth noting for a number of reasons, many of which were described by agricultural leaders interviewed for this study. One example is that some of the Mennonites in the county will not participate in the farmland easement programs. Another issue is that many of these farms have access to family labor that most non-Mennonite farmers do not have.

⁵Forrest L. Moyer, 2007, "We Are Still Farming: A Report on Mennonite Agriculture Today in Eastern Pennsylvania," *Mennonite Historians of Eastern Pennsylvania Quarterly* 10 (1): 2–11.

Table 4. Berks County—Farm Gross Sales and Farm Market Value of Agricultural Products				
Measures of sales	2002	1997	1992	1987
Total market value of products—all farms (in thousands of dollars)	286,978	261,106	237,695	167,757
Average market value per farm	160,233	125,955	152,564	92,735
Number of farms	1,791	2,073	1,558	1,809
Numbers of farms grossing <\$2,500 (percentage of farms)	581 (32%)	458 (22%)	202 (13%)	311 (17%)
Farms grossing \$2,500–4,999 (%)	170 (10%)	189 (9%)	156 (10%)	200 (11%)
Farms grossing \$5,000–9,999 (%)	140 (8%)	263 (13%)	162 (10%)	205 (11%)
Farms grossing \$10,000–24,999 (%)	206 (12%)	284 (14%)	253 (16%)	255 (14%)
Farms grossing \$25,000–49,999 (%)	100 (6%)	194 (9%)	149 (10%)	182 (10%)
Farms grossing \$50,000–99,999 (%)	153 (9%)	191 (9%)	174 (11%)	237 (13%)
Farms grossing \$100,000–249,999 (%)	240 (13%)	295 (14%)	298 (19%)	279 (15%)
Farms grossing \$250,000 to \$499,999 (%)	114 (6%)	112 (5%)	96 (6%)	88 (5%)
Farms grossing \$500,000 or more (%)	85 (5%)	87 (4%)	68 (4%)	52 (3%)
<i>Market value of total crops including nursery and greenhouse (in thousands of dollars)</i>	<i>\$119,961</i>	<i>\$131,515</i>	<i>\$121,349</i>	<i>\$76,646</i>
Grains	10,203	21,713	15,013	11,077
Vegetables, melons, potatoes, and sweet potatoes	2,312	1,213	1,024	771
Fruits, tree nuts, and berries	4,436	4,545	3,663	3,106
Nursery, greenhouse, floriculture, and sod	96,809	85,544	96,987	57,907
Hay, silage, and field seeds	4,924	5,384	4,531	3,597
<i>Market value of total livestock, poultry and their products (in thousands of dollars)</i>	<i>167,017</i>	<i>129,590</i>	<i>116,346</i>	<i>91,111</i>
Poultry and eggs	70,845	46,310	34,515	15,802
Cattle and calves	18,252	15,589	17,072	17,565
Milk and other dairy products from cows	59,970	53,679	51,903	47,862
Hogs and pigs	13,460	12,290	11,662	8,791
Sheep, goats, and their products	166	30	NA	NA
Horses, ponies, mules, burros, and donkeys	477	NA	NA	NA
<i>Total value of agricultural products sold directly to individuals for human consumption</i>	<i>\$2,080</i>	<i>\$2,813</i>	<i>NA</i>	<i>NA</i>
Market value of recreational services	4	NA	NA	NA

NA = not available.

Public Policy Context

Berks County is governed by three at-large commissioners elected to four-year terms. The Board of Commissioners constitutes the chief governing body of the county and performs the executive and legislative functions of county government. The county seat, Reading, is governed by a mayor (elected), city manager (appointed), and seven council members (six elected by district and one at-large council president).

The county consists of 74 incorporated municipalities, including the City of Reading, 29 boroughs, and 44 townships. Each is responsible for establishing and administering municipal financial budgets and tax rates and for providing general services and road maintenance.

Municipalities are also responsible for land-use controls, such as zoning and subdivision regulations and building permits.

Section III: Viability of Berks County's Agricultural Sector (2005–2006): Results of a Survey of Landowners and Interviews with Agricultural Leaders

This section focuses on information obtained from interviews with agricultural leaders and surveys of landowners in Berks County, as well as ancillary information.

Interviews with Experts: Interviews with 25 agricultural experts were completed from April 2005 through February 2007. Interviews included personnel from all the major USDA offices in the county (Extension Services, FSA, NRCS); from the county's Planning Commission, and private-sector agricultural input and marketing service businesses, including personnel from livestock, machinery and equipment dealers, agricultural chemical dealers, and agricultural credit businesses; representatives from the county commissioners; and staff from agricultural, environmental, and smart growth groups. The interviews with these experts were not recorded and transcribed. Thus, the material presented in this report represents the authors' best efforts to capture what was said, based on extensive notes taken during the interviews.

Survey Respondents: In the survey of farmland owners that we conducted during the summer of 2006, the participants totaled 123 owners of land that, according to them, was farmed the previous year.⁶ The mean number of acres owned by the respondents was 74 acres, with a median of 46 (ranging from 6 to 500 acres). The 2002 Census of Agriculture shows that most Berks County farms range from 10–49 to 40–179 acres, indicating that the respondents' mean is in line with the census data with one exception—no respondents had farms over 1,000 acres (Berks County has 1% of farms over 1,000 acres). Respondents' gross farm sales in 2005 centered on low sales: 49% reported gross sales below \$10,000, 26% between \$10,000 and \$49,999, and another 5% between \$50,000 and \$99,999. Approximately 12% had sales between \$100,000 and \$249,999, and only 8% reported sales over \$250,000 (see Appendix Table 3). These numbers are fairly in line with the census data from 2002. Six respondents (5%) currently have farmland under easement.

⁶ The surveyed landowners were randomly selected from a public list of owners of parcels in Berks that under Pennsylvania's Clean and Green Law qualified for property-tax assessment based on their agricultural or forestry use rather than on their full market value. In urbanizing counties like Berks, the value of open-space land on the real estate market is likely to incorporate the parcel's potential for residential or other developed uses. We removed from the list all the owners who lived outside of Berks County because we were seeking to survey persons likely to know about agricultural operations on their land in the county. Also removed were owners (72) who, in responding to the mailed survey, indicated that their land was not farmed in 2005. Finally, not included were the six cases of owners who, by the time of our initial mailing, had moved out of the county or whose mail from us could not be forwarded. The remaining owners totaled 373. Of that number 123 participated in the survey, and three refused to take part. We received no communication or undeliverable mail back from 247 cases, and we assumed that proportionally as many of them did not have any land farmed in 2005 as among those from whom we did hear (36.4%). Accordingly, we deducted 90 cases from the 247 and added the resulting number (157) to the 123 participants plus the three refusals, leaving us with 283 cases where the land was farmed or likely to have been in agricultural use during 2005. The response rate is therefore 123 completions divided by the 283 likely eligible cases, or 43.5%.

Of the total 123 landowners, 56 (or 46%) were operators of at least some of the owned farmland and another 37 (30%) were not operators but had detailed information about how the farmland is operated. Most of the information provided within this case study is based on the responses of these 93 respondents. The other 29 respondents said they were neither operators of the land nor had detailed knowledge about how the farmland is operated; their answers are reported for demographic characteristics, opinions of policy tools that affect agriculture and farmland, and opinions about the future of agriculture in the county.

Demographics of Survey Respondents: Almost half (47%) of the survey respondents were between the ages of 45 to 64, 20% were between 65 and 74 years old, and another 17% were 75 years old or above (the Census of Agriculture reported that the average age of farm operators in Berks County in 2002 was 53); 82% were male; and 34% had completed high school, while another 55% had at least some college experience (12% had graduate degrees). Of those responding to the question, 18% indicated that farming was their principal occupation (much below the 2002 census number of 63% for the county); 37% reported farming full-time. More than one-tenth (11%) reported that 100% of the household income came from the farm operations, while 14% reported zero household income. Almost half (48%) reported that between 1% and 24% of the household income came from the farm (see Appendix Table 4). Finally, about a third had farmland located in either the northeast and southeast parts of the county, a quarter had land in the northwest part, while only 5% had land in the southwest part.

A. Marketing Outlets for Berks County Agricultural Products

Survey respondents reported using wholesale markets for an average of 60% of total farm gross sales (Table 5); the significant markets within the wholesale category include private grain elevators (17%), processors (13%), and other wholesale markets (20%). The respondents use direct-to-consumer markets to a significant degree, with an average of 21% of their total farm gross sales coming from these markets, with a focus on direct on-farm, farm-stand, or U-pick (12%) markets. Direct-to-retail markets made up 2% of gross sales while sales from “other agricultural enterprises” made up only 4% of total gross farm sales. In regard to distances marketed, 49 respondents reported selling 77% of their products within a one-hour trip from the farm, while 14% was sold more than one hour away.

Type of market (<i>n</i> = 48)	Average percentage of farms' total gross sales
<i>Wholesale markets (total)</i>	60
Private grain elevator	17
Processor	13
Livestock feed company	6
Grower's cooperative	3
Distributor, broker, or handler	1
Other wholesale markets	20
<i>Consumer-direct (total)</i>	21
Direct on-farm, farm stand, U-pick	12
CSA or subscription	2
Other consumer direct	7
<i>Direct-to-retail (total)</i>	2
<i>Other agricultural enterprises (agritourism, horseback riding, etc.)</i>	4

Note: Total does not equal 100% because not all respondents totaled answers to 100%.

Satisfaction with Berks County Marketing Outlets: When asked about their satisfaction with marketing outlets, survey respondents overall seem only moderately satisfied with the accessibility of marketing outlets (only 38% were very or moderately satisfied, while 20% were somewhat or not at all satisfied) (Table 6). Similar results were found for satisfaction with the competitiveness with the markets (28% very or moderately satisfied, while 7% were not at all satisfied). Respondents are even less satisfied with the profitability of the markets (17% were very or moderately satisfied, and 17% were not satisfied at all).

Table 6. Berks County—Respondents’ Satisfaction with Accessibility, Competitiveness, and Profitability of Marketing Outlets			
Response options (N = 93)	Accessibility	Competitiveness	Profitability
Very satisfied	14	3	4
Moderately satisfied	24	25	13
Somewhat satisfied	15	20	20
Not at all satisfied	5	7	17
Not sure or did not answer	42	45	45

Analysis of Survey Results—Accessibility: We used logistic regression analysis to look for determinants of these measures of satisfaction with marketing outlets.⁷ Our hypotheses included that respondents’ evaluations of their markets’ *accessibility* varied with the percentage of their total 2005 sales achieved through direct marketing, with the percentage of total sales transported to points of sale “within a one-hour trip from your farm,” and with the respondents’ ages. We also used total acres being farmed, overall gross farm sales, and the types of marketing outlets used in 2005, and of the farm products raised on owned land that year. The statistically significant regression findings⁸ were that, other things being equal:

- Respondents with more acres in grain production (e.g., corn or soybeans, wheat, barley, oats, rye, sorghum) or those who transported relatively more agricultural products within a one-hour trip from their farm to points of sale (based on gross sales) were more likely to be “very” or at least “moderately satisfied” with the accessibility to markets.
- On the other hand, those with at least some owned land in vegetable production and those who strongly supported the purchase of development rights were significantly *less* likely to be “very” or “moderately satisfied.”

Analysis of Survey Results—Competitiveness: In our analysis of the likelihood of being at least “moderately satisfied” with the markets’ *competitiveness*, we used the same hypotheses outlined above. We found a number of statistically significant relationships based on markets, products, inputs for agricultural production, and geography:

- Respondents with vegetable production on their land were much less likely to be satisfied with the competitiveness of their markets, even taking into account differences in crops and livestock raised on their land.
- Respondents that marketed more than 50% of their products through wholesale outlets were much less likely to be at least moderately satisfied.
- Owning farmland in the northwestern portion of the county also made the respondent less likely to be at least moderately satisfied with the competitiveness of the agricultural markets.
- Finally, in regard to inputs for agricultural production, those that used nonfamily labor were much more likely to be at least moderately satisfied with the competitiveness of the markets.

⁷Logistic regression—see Scott Menard, 2002, *Applied Logistic Regression Analysis*, 2nd ed. (International Oaks, CA: Sage Publications), 111 pp.

⁸To qualify as a significant determinant of the likelihood of the respondent being at least “moderately satisfied,” an independent variable had to be statistically significant in a Wald test at the 0.1 level or better.

Analysis of Survey Results—Profitability: For explaining the likelihood of being “very satisfied” or “moderately satisfied” with the *profitability* of market outlets, we tested for the effects of the same hypothesized causal variables. In this round of regression analysis, we found a number of statistically significant relationships:

- Those respondents with more acres in vegetable production were more likely to be at least moderately satisfied with the profitability of the markets.
- Those respondents who used nonfamily labor and who had access to family labor “most” or “all” of the time were much more likely to be at least moderately satisfied with the profitability of the markets, while those who used the services of large-animal veterinarians were less likely to be at least moderately satisfied.
- Finally, older respondents were more likely to be at least moderately satisfied with the profitability of the markets than younger ones.

Table 7 provides a contingency table comparing the satisfaction levels of the groups of respondents that the regression analysis indicated were more or less satisfied with their markets to all survey respondents.

Interviews with agricultural leaders revealed that they generally thought that access to markets was good, although some concern was raised about choices for dairy and grain markets. Access to population centers was noted a few times as very good⁹.

Well, there is some choice [in markets]. But it depends on the type of person. If you are just into farming, you may not want to do sales. There is a lot more pressure in terms of time when you are doing the marketing and the farming. I feel, though, for the person that wants to do it, there are opportunities available. You have to look for them. For example, farmers’ markets are opportunities. Dairy, of course, is a different story since you can only market to a cooperative.

I believe we have a satisfactory choice of ways to market our products. We are so close to a thriving metropolis (Philly), and the processing infrastructure is very good.

⁹ As noted earlier, since these interviews were not recorded and transcribed, the material presented here represents the authors’ best efforts to capture what was said, based on extensive notes taken during the interviews.

Table 7. Satisfaction with the Accessibility, Competitiveness, and Profitability of Marketing Outlets for Surveyed Owners' Farm Goods			
Dimensions evaluated and groups of respondents	Very satisfied	Moderately satisfied	Either very or moderately satisfied
	-----Percentage-----		
Accessibility of markets			
All respondents (<i>n</i> = 94)	13.8	23.4	37.2
Acres in grain production (<i>n</i> = 53)	15.1	28.3	43.4
Acres in vegetable production (<i>n</i> = 19)	—	26.3	26.3
Respondents transporting agricultural products to points of sale within an hour of the farm (<i>n</i> = 45)	22.2	44.4	66.6
Competitiveness of markets			
All respondents (<i>n</i> = 94)	3.2	24.5	27.7
Vegetable production on their land (<i>n</i> = 19)	—	15.8	15.8
Marketed more than 50% of products to wholesale outlets (<i>n</i> = 29)	24.1	41.4	65.5
Used nonfamily labor (<i>n</i> = 45)	4.4	37.8	42.2
Owned farmland in the northwestern part of the county (<i>n</i> = 25)	4.0	8.0	12.0
Profitability of markets			
All respondents (<i>n</i> = 94)	4.3	12.8	17.1
Vegetable production on their land (<i>n</i> = 19)	—	15.8	15.8
Used services of large-animal veterinarian (<i>n</i> = 54)	1.9	11.1	13.0
Use nonfamily labor (<i>n</i> = 45)	6.7	17.8	24.5

[Market access] depends on the commodity. We have a lot of tailgate markets here, but they are not successful in my opinion. I have a choice of milk cooperatives. And I know my sister elsewhere only has one. So I think we are better off than farmers in most other counties. The choice remains the same for scale [of farm]; it doesn't matter. I sometimes think that newer farmers actually have the edge because they have the time to devote to market analysis. Older farmers are too busy to do new things. And most of the older farmers don't know about the educational programs that are available.

The dairy farms either have to sell to the cooperatives, which have a lot of power, or to someone like us. No one is going to do direct marketing in dairy—there may be a few in Berks County left, but it isn't the trend. You either go to a processor or to a cooperative.

Yes, farmers have good access to markets, because the markets are right here. The soybean market is not as great as the others because the processing capacity is not in the Mid-Atlantic. But the choice is as good as you are going to get, and the profitability is as good as you are going to get. For smaller farmers it is probably not as good. It is really all volume in grains.

[Marketing choices] are as good as any place really, and better than some. For instance, in New Jersey, they don't have many choices.

For dairy, no [good marketing outlets are available]. Because raw milk has to go to a processing plant and these are very limited here. The cooperatives have a lot of control here. So they don't have a lot of choice. On a broader basis, I am not so familiar with

other crops. The newspaper has recently covered some topics such as niche farming and organic, and these seem to be doing well.

[Marketing outlets] are not good at all. I think the state's efforts at branding Pennsylvania agriculture are not sexy enough. More support for farming cooperatives would be good. We also need to study what the major population centers need now and in the future.

Development presents more consumers closer to the farmer, and more markets. I think farmers are basically trying to increase revenue and are open to trying new things. Not many are taking these products far to market, though. Most are doing it locally.

Because of the choice of outlets they [smaller farms] have, it is fine for them. Maybe it isn't as convenient or cost effective for them as for the larger farms, but they have milk pickup if they want it, slaughterhouses, direct markets, etc. [For newer farmers] the options are there for them, like with the smaller farms, but the issue is their experience using the markets, [which] is not there. Experience is an issue.

In terms of wholesale and contracts, not much has changed. It may have gone down, but it hasn't gone up. The wholesale orchards are always complaining that they are losing markets. And we don't have much wholesale veggies. Maybe there is some increase in pumpkins and Indian corn and other things like that under contract for markets like Wal-Mart, but the value is insignificant compared to traditional agriculture. I don't see a change in contracting, but I don't deal with those people much. In terms of food processing, I don't see much of a change. It is fairly significant in the county. Economic Development sees it as a growth area and they've been talking for a long time about a food-processing park. We do a lot of processing for out-of-state products so the infrastructure is good. The dominant processing in the county are pork, dairy, and mushrooms.

[In terms of choices for livestock producers], yes, they have adequate outlets. I also hadn't mentioned the Leesport auction, and many auctions in Lancaster County. My only concern would be that we would like to have more integrators [processors] in eggs—we used to have five in the county, and now we are down to three. Veal is also an issue. In broilers we are still good. From a size standpoint, from the integrators' view, we have good avenues for large producers because they like to deal with the larger producers. Poultry, veal, swine—they have good integrators. But if a small producer wants to do small livestock, we do have the slaughtering facilities and on-farm slaughter options here. So we do have options for all size farms. We are not an island [unto] ourselves. We are tied into all of southeastern Pennsylvania agriculture—Lancaster and Montgomery counties. We are all tied together for agriculture. And we have good markets in the cities.

Alternative Agriculture and Marketing in Berks County: Because alternative agricultural products and marketing arrangements were mentioned so frequently by interviewees, here we provide their comments regarding these venues. There were mixed reactions to the increase in alternative forms of marketing. Some saw good opportunities with it, while others were more pessimistic about its impact on the agricultural sector.

What I have seen—I've seen little spurts for locally grown [products] but not anything significant. But our customers are finicky. There have been a few initiatives for locally grown. For example, the Sheraton in Reading called us and is focusing on foods from

Berks County. Some other businesses with local owners are also interested, but other than that, there isn't much. Participation in the local farmers' market is declining and going down each year. It is about the lack of convenience. People want to shop at Wal-Mart and get everything at one place—even though we have meats, fruits and vegetables, and lots of other things at the farmers' market. Our customers at the farmers' market are very old. There are no younger people; they are looking for the convenience. The county commissioners wanted a food-processing park and it didn't work. They had bought the land even. We already have a lot of processing here, though. We process our own goods, but the regulations have really tightened up. I get a lot of calls from people who want to do their own processing, and I tell them to call the health department first before starting. It is hard for farmers to start up in small processing—most don't make it.

In terms of direct marketing, the dollar market is insignificant in comparison to the traditional agriculture. It is expanding a bit, both those farmers doing it already are expanding and new farmers are starting this way. I'm not talking about tailgate markets here—some take their products to farther-away tailgate markets (Philly, Washington, DC). I'm talking mostly about on-farm marketing and stands. I think it has been hard to expand traditional farms because of the limitation on acreage. So farmers are looking for alternative markets. But also, people new to agriculture are attracted to the direct marketing.

[In terms of what products could be successful], organic comes to my mind first, but in my area, no one requests organic. We don't even have people asking for hormone-free milk. So that isn't necessarily true.

We promote “buy locally”—we should do more of this and I think that will come as a natural progression. My father's generation did not think about marketing. My generation of farmers thought a little bit more about marketing. Today's generation needs to think a lot about marketing. And, with the population closer, more direct marketing is done. This progression will happen. It will come naturally.

[In terms of the regulatory environment for alternative enterprises], this is starting to be a challenge. Nonfarm neighbors may view on-farm retail as okay, but when someone does hayrides and pumpkin patches, and to get people parking to come, then my nonfarm neighbors may question whether I am a farmer. And questions start to be raised about zoning there. I think some of the agricultural tourism—nontraditional types of marketing—may see problems like this in the future. Food safety is in a pretty good spot in terms of regulations. We do a lot in this county that they cannot do in other counties and in other states.

I am involved in the Kutztown Produce Auction. The purpose of the auction is so that smaller farmers can bring their goods together to sell to buyers. It makes it more attractive for the buyers to buy from us then. Not many stores are buying at the auction. I do take some product over to the auction—stuff that I can't sell at the store. It is really hard to grow everything you have to grow in order to have a store/produce stand. So it is a place where farmers can bring their stuff, and buy other farmer's stuff for their stands. A lot of farmers are buying the produce. The auction determines the price. We have been doing produce, but we are starting to go into nursery crops, hay, straw, stuff like that. Not animals. I estimate several hundred are listed as consigners at the auction, but maybe 30–40 are large volume. Maybe about 50 grow specifically for the auction.

Many animals (hogs, chickens) in the area have gone to contract, and there really isn't much room for the smaller farmer in that area. We used to have tobacco here, but that went out, of course. So we invested in produce and direct marketing. Not a lot of direct marketing was going on when my parents moved here 50 years ago, but there were some farm stands. The public is looking for produce from the farm—the freshness, etc. If you do specialty-type markets in animals, it is okay. Organic is trending. Some of that is perception, really, more than reality. Land prices are too high to make cash grains work.

Marketing Programs Operating in Berks County: Interviews with agricultural leaders in the county detailed a number of programs underway that promote or assist farmers with marketing (note that this is not an exhaustive list since it was developed by interviews only). These include USDA's Cooperative Extension, which is working with both traditional and direct-marketing groups, nonprofit groups (e.g., Pennsylvania Association for Sustainable Agriculture, or PASA, and Rodale Institute), Pennsylvania Department of Agriculture (with financing programs and its Center for Dairy Excellence), as well as multiple private companies providing services in the area.

Interviewees were asked about the effectiveness of the marketing and financing assistance programs in Berks County. They also addressed support for these programs in general. Here are some of the responses:

In terms of support for marketing programs, marketing has been a hot-button item over the last several years. All levels have been supportive; it is just a matter of actually doing the work that is the problem.

I feel very supported by the local agricultural community. Anytime I ask farmers to participate, growers tell me what they like and what they don't like. I really rely on that.

Rodale has a very narrow focus on organics and not very focused on Berks County. PASA has had a bigger economic impact for farmers than Rodale but they focus mainly on sustainable agriculture and tend toward training. There is room for growth with them.

Well, some of the nonprofits (PASA and Rodale) have programs but they are so segmented. These groups are either so left or so right, it is hard to participate for most farmers. We have the opportunity to participate in these educational programs, but they are so slanted. And often they are politicized as well, and we don't want to be lectured to.

We do take part in Extension. And we help them, too. We work with [the Extension agent] quite a bit on IPM, the Produce Auction, sweet-corn meetings, and with the training part. Certainly Cooperative Extension has been there. Our regional agent has been successful. What I'd like to see in addition is a branding program for the county's products.

MADMAC (Mid-Atlantic Direct Marketing Conference) is fabulous. We go every year and gain a lot out of that. That is a great educational program. And we think the marketing and educational programming coming out of Cooperative Extension is also helpful and timely.

We try to use the Chamber of Commerce events. And the Professional Dairy Managers have programs, but they are more on management and not so much on marketing.

I think that Extension is doing their job. The grain people are getting stuff from Extension—they seem to be doing okay.

In the last two years, agriculture has become eligible for the economic development funds. I think \$100 million was earmarked for agricultural development for things like retailing, buying cows, things to get your product to market. I think it has gotten a lot of people talking, but I don't know anyone who has used it. The process is very cumbersome and there is a long wait list. We had started the process but it was too complicated and we decided to go through commercial credit. We were already behind schedule.

The governor's initiative to add agriculture to small business programs is a great help. Agriculture, though, operates under the radar screen. When we say agriculture is the number one industry in Berks County, people look stunned. They don't understand that it is [from the] farm gate to the table and the clothes, everything. We are not getting through enough to people.

Extension has done most of that. I don't think they have done much. They are pointing everyone toward niche marketing, but it is niche for a reason. They want everyone to get into it, but you cannot do that. They are doing as much as they can, but I don't see their purpose in life as helping farmers market their products. Farmers need to develop that skill themselves.

The Center for Dairy Excellence, out of the Pennsylvania Department of Agriculture, has recently created Dairy Task Forces. They are trying to stem the decline of dairy in Pennsylvania. They have put together a lot of programs to help with this. A lot of processors have left the state because of the decline in the supply of milk. The "profit teams" they've developed for farmers are made up of a vet, the farm's financial person (like a banker), farm personnel, and often a dairy consultant. The team results so far have been impressive. So far, 25 farms have gone through. The increase in profitability per farm has averaged \$70,000. Every farm has seen an increase over 24%. My objective is to get the program offered to everyone in the county. I have an institution that is offering low-interest loans, and I think I will offer this to any of my farms that sign up for the program.

There are [marketing financing] programs out there, but finding out about them is challenging.

We have seen some interest—broadly from public and private—in doing more direct marketing and organic. We welcome that, but we also have to have traditional markets as well. I think we have a nice mix of markets and support services for all different types and sizes of farms. Which I think means a bright future for agriculture here. We have to service all the different needs of the different consumers. Extension is one of the groups that has addressed this issue. But my concern is that federal funds are being cut in this area. The integrators of course have their own services, but they rely on us for such things as odor and fly issues. This worries me—maybe down the road we will not have the support here for them. But my major concern is more for small and mid-sized farms. The Department of Agriculture has put a lot of emphasis on dairy but not on other livestock. I would like to see more emphasis on other livestock.

Another indication of the availability and use of marketing programs in the county is revealed in the survey of landowners. Agricultural landowners were asked about their perceptions and use of possible marketing assistance programs in the county (Table 8). The large percentage of respondents that are “not sure” or not responding to the questions (ranging from 57% to 75%), along with those reporting not using the programs (ranging from 4% to 9%), suggests that these programs are not broadly provided to or used by the farmers in the county. Of the marketing programs that are operating in the county, survey respondents found programs focused on marketing directly to consumers and marketing to wholesale the most useful (25% and 23%, respectively, said they were either very useful or moderately useful). No other program was rated very useful or moderately useful by more than 12% of respondents.

When asked whether these same marketing programs should be provided to assist farmers (regardless of whether or not they are currently provided), the highest response from survey respondents was for programs that assist farmers in marketing directly to consumers and directly to retail outlets (54% and 51%, respectively) (Table 9). Many respondents felt the entire range of programs should be provided; only one program, developing value-added products, garnered support from less than one-third (31%).

Table 8. Berks County—Agricultural Landowners’ Perceptions of Assistance Programs						
Assistance program	Not operating in county	Very useful	Moderately useful	Some-what useful	Not at all useful	Not sure or did not answer
<i>N</i> = 93	-----Percentage-----					
Marketing directly to consumers	7	10	15	7	4	58
Marketing directly to retail markets (stores, restaurants)	9	4	8	12	9	59
Marketing to wholesale markets	7	10	13	8	7	57
Developing other ag enterprises (e.g., agritourism)	8	1	8	5	9	70
Diversifying or adding new products	5	3	5	9	8	70
Developing value-added products (bagging, packaging, bundling, precutting, etc.)	7	1	1	5	11	75
Processing crop or livestock products the farmer raises	4	7	5	10	5	69

Opinions about the Future Adequacy of Market Outlets in Berks County: Finally, we asked agricultural leaders their opinion of how adequate agricultural marketing outlets will be 10 years from now, or in 2015. Most felt that the marketing outlets would remain adequate, and some mentioned that they are strong, especially those for direct marketing. There was some concern raised for farmers in the more traditional farming sectors such as dairy and grain.

It will be quite adequate [two respondents].

Marketing outlets will be more than adequate. Processors (e.g., chicken, eggs, milk) are willing to stay. We have direct-marketing opportunities. The big question is whether processors will procure from farther away and substitute the local production. But I don’t think they will.

Table 9. Berks County—Agricultural Landowners’ Preferences for Whether Assistance Programs Should Be Operating in the County*				
Assistance programs	Yes	Maybe	No	Not sure or no response
<i>N</i> = 114	-----Percentage-----			
Marketing directly to consumers	54	11	1	35
Marketing directly to retail markets (stores, restaurants)	51	16	0	33
Marketing to wholesale markets	46	17	3	33
Developing other ag enterprises (e.g., agritourism)	37	18	3	42
Diversifying or adding new products	40	20	2	38
Developing value-added products (bagging, packaging, bundling, precutting, etc.)	31	18	7	44
Processing crop or livestock products the farmer raises	47	11	3	39

*Text of question: “Whether or not these programs are operating in the county or functioning effectively, do you believe that in Berks County there *should* be programs to assist farmers with...?”

I think there will be more. I see a growth in direct marketing (i.e., direct to institutions). The processing infrastructure will still be there.

Between mergers and buyouts, there are fewer and fewer dairies. But there is good demand here from the population, so there will be outlets, although maybe less choice. It should stay strong. The markets are pretty much established.

We need to do better with these. There is an initiative in York and Lancaster to market county products. [This should be facilitated] in Berks.

Markets will be adequate as long as we have the Pennsylvania Dairy Marketing Board, which gives small farmers opportunities. Dairy farmers and consumers are very stable and protected—it keeps the independent dairies open.

They will be adequate because of the population density. There is an awakening of buying local, buying fresh. And I think it will supersede organic.

This will always be good. We are in a perfect location. Interstate 78 is the corridor for transport—we have New York, Washington, DC, and Philly. We are surrounded by hubs.

Some markets will be adequate, if you are looking at the smaller-type operations, and especially if they are working together. Once you get into the bigger farms, I don’t think so. If you look the support industry, that will be the problem.

These are going to be super. But do we have the product to meet the markets? That is another question.

I think they will be adequate. I live close to the Kutztown Produce Auction, which is growing. I think this will be a coming thing (e.g., small produce auctions). Many farmers are direct marketing as well. I have four vegetable growers in my state that are grossing

over \$50,000 or above. They market sweet corn, for example. Some will find markets in Philadelphia; others will have niche farming.

We couldn't be positioned any better—we have New York, Philly, Baltimore, and Washington, DC. If we don't take advantage of them, it's our own fault.

Markets are still going to be a struggle. But it will be sufficient. There are still options for milk, poultry; processing is good.

I think these are growing by leaps and bounds. But you have to look for them. Now, if you are talking about traditional things like grain elevators, that is decreasing. But for those looking at direct marketing, the potential is huge.

This is hard to predict. You are talking about wholesale, retail outlets, and consumer interests. A lot will depend on how well we can educate consumers about the viability of the farm sector and why it is important.

In dairy, the dairies will be there but you will have to truck it farther. Some of the feed mills will be here, but some will not. There will have to be more on-farm storage.

They will be better than in the west because we are close to the population centers.

B. Inputs for Agricultural Production in Berks County

Current Adequacy of Inputs for Agricultural Production in Berks County: One of the areas of interest for farm viability is the issue of inputs (e.g., credit, chemicals, machinery) for agricultural production and whether they are readily available for producers in the county. Of survey respondents using various inputs outlined below, few landowners seemed to have problems with their availability in general (Table 10). The most used inputs were available most of the time by respondents; these included goods and services from implement dealers (90% of those that used this input reported that they were available most of the time or always) seed suppliers (88%), family labor (74%), and farm chemicals (79%).

Type of input	Percentage of respondents (N = 93) using input in 2005	Availability			
		Always	Most of the time	Some of the time	Rarely or never
		-----Percentage among users-----			
Bank or other credit	37	44	44	12	--
Family labor	84	45	29	22	4
Nonfamily labor	49	9	28	37	26
Seasonal labor	29	22	22	37	19
Year-round labor	23	43	24	29	5
Farm chemicals	81	55	24	13	8
Goods and services from implement dealers	85	62	28	9	1
Goods and services from seed suppliers	85	65	23	9	4
Veterinarian services	59	64	24	11	2
Water for crops or crop irrigation	57	87	8	4	2

Labor (nonfamily and seasonal) had the highest percentages of respondents reporting that it was available only some of the time, rarely, or never (95% and 64%, respectively, of those using the input). Nonfamily labor seems the most critical problem given that almost half (50%) of the respondents used this input and most found it available, at the most, some of the time. Census of Agriculture data from 2002 show that approximately 31% of farms in the county hired at least one hired worker. However, few farms had many hired workers; 14% had at least three hired workers and only 4% had at least 10 workers.

We also asked agricultural leaders about these inputs. Credit and choice of credit sources were generally viewed as adequate, although with qualifiers. Vulnerabilities were perceived for some types of farmers, particularly start-up farmers.

It is all based on debt . . . what is crippling farmers is the debt load. And it is all economies of scale. I have large dairy farmers having a problem meeting their debt load—as many as smaller farmers. So it isn't about differences in size. Start-up farmers are going to have a more difficult time because they don't have the equity. Some are 100% financed. Not to say that there are not established farmers with major problems.

They have less choice because there are fewer agriculture lenders. I am talking about true agricultural lenders. There are banks that will do commercial loans but not at the same agricultural rates. It hasn't hurt the quality, though, and the choices are still good.

I think [banks and credit sources] are more flexible about what they think farming is now. They will look at direct marketing and CSA [community-supported agriculture, i.e., farms marketing through subscriptions]. Farmers are becoming inventive and banks are starting to look at it. It's still small but it used to be that if you were a dairy, no one looked at you.

In eastern Pennsylvania we have adequate credit sources. We have quite a few banks willing to lend into Berks County. In comparison, places like Montgomery and Bucks, they struggle.

Smaller farms can meet their credit needs as well. They have different challenges, though. They are different types of smaller operations. We'll look at some loans that are just agricultural loans, with no off-farm income. Others have part-time work going on elsewhere. The newer farmers struggle without support. If you don't have the history in agriculture, it is a roadblock to getting credit. And the capital needs are so high. Unless you have real estate or something, it is hard. Also, most of the start-ups fail in my experience. I made four loans in the last year; only one is there still and they are fairly new. They don't last long, either. We are typically looking for another source of money (support) when we fund a start-up.

Equipment dealers, chemical dealers, and other services (such as large-animal veterinarians and services specifically for livestock operations) were also reported as adequate, although with some concern about consolidation.

These are centralizing—you have to drive a bit farther or plan ahead now.

Yes, they get [the chemicals] they need. The farmers would probably like a little more competition, but they get what they need. There are a lot fewer [chemical dealers than 10 years ago]. The more local, full-line dealers have consolidated. About four dealers have consolidated into two. We have some smaller suppliers, but not many. Some others—like feed mills—that used to provide it, don't any more. I wouldn't say it has been a huge difference over the last 10 years, but a noticeable one. You lose customers [due to the development], so you will need to consolidate your locations. So we've seen some consolidation in the service centers as well. It is really no different than what you see with consolidation of equipment dealers, and the need to go farther distances to get to them.

Well, let's just say that at one time there were five John Deere dealers, and today there is one. The decline in [equipment] dealers is the trend. But the availability of parts, service, etc., is better than it was 10 years ago. We are able to meet the farmers needs, and the needs of smaller farmers and farmers of alternative crops.

[The choice of chemical dealers is adequate.] We have a lot of independent folks selling fertilizers and chemicals. The choice is better than 10 years ago. We have a distinct difference in this county because we have Mennonite farmers, and they will set up a small dealership on their farm with chemicals and seeds. They are not equipped to deal with fertilizers. They do chemicals and seeds. I would say that things are better now. I would say the service is better, too. We have two large companies in the county that are becoming more sophisticated. We are doing better training and we are providing better services.

[Regarding development's impact on chemical services], we have to notify more people when we spray now and that is becoming a hassle. There are more people due to the development. It is becoming more regimented.

Most people in the focus groups said the support industry is strong but slowly moving away. They say it is only 20–30 miles away in Lancaster County, but for the Mennonites, that is a long buggy ride. The new staff at the hardware stores are not as good as they used to be on service—they don't know anything.

One important input for farming operations not asked of survey respondents was the number of new or young farmers entering the sector. Interviewees raised some concerns about the future generation of farmers.

There are very few younger farmers. There are some programs that match younger farmers with older farmers in this state. I don't know if it's been effective at all because no one has done it here. Sometimes, I heard, it is hard to get older farmers, sometimes younger.

There are not very many. I have been seeing more of an exodus of people—for example, moving to the midwestern states.

The audience is out there. The newer generation looking at farming may even be more successful at it than we are. They are not inheriting the land, and they can build their own plans for what they want to do.

New farmers are almost extinct. We don't deal with new farmers. We do get the next-generation younger farmer.

As a beginning farmer, you would get into farming differently. It is virtually impossible to buy land, cows, and machinery—the capital needed is high. You may have to start gradually and work for a farmer, then lease land. When I talk to folks, I tell them to work for a farmer, rent land, buy machinery and cows, build up the equity that way and then purchase land.

For a young person to start out, you are not seeing that too much. I have seen some guys that are not farmers, trying to become farmers. Still, it is a part-time thing for them. That is the only type of farmer I see starting from scratch—part-time with other income.

Opinions about the Future Adequacy of Inputs for Agricultural Production in Berks County:

Although we did not ask survey respondents about their opinion of the future adequacy of the agricultural inputs in 10 years (or in 2015), we did ask agricultural leaders for their opinion. Below are their responses.

- (1) Equipment, chemical, and other dealers providing inputs and services to the county were seen, overall, as consolidating more in the future. Some noted that while dealers may be adequate, they were unlikely to be handy for farmers, because they would be farther away.

These are fewer and fewer. They are available but they are farther away than before. We are lucky because we have farming counties next door with these services. It will still be adequate.

We worry about that. They are being pressured to get bigger. This goes back to figuring out how many farms we need. They won't be as local if they start to consolidate. It is critical to have a minimum number of farmers for this.

We are already seeing consolidation in the seed and chemical businesses, and then there will be the lack of competition. We haven't talked about nutrient management regulations. If these drive the animal people out of business, this will affect the support industry. Another question I have when it comes to agricultural chemicals is that you can go online and order anything and have it delivered. I would be more concerned, however, with implement and machinery service if it happens.

In 10 years, it all depends on the need. Farmers may have to drive farther and some local places will close down.

There will still be enough there, but not as dense. We have lost smaller dealers. And we see more farmers using UPS to get their parts. Dealers are adapting, too, like sending out maintenance trucks for service.

We struggle with dealerships now. These are consolidating in Berks County just like they are everywhere else in the nation. It is gonna be a tough one. It is already hard to move around machinery because of the traffic.

This will continue to consolidate. It will be harder to get quick access. The Internet will help but you cannot get repairs on the Internet. You will have to drive farther.

We are starting to see a problem now. It is going to become more like Wal-Mart than Ace Hardware. There will be a greater distance to go. But we may have a greater diversity of products.

They will be adequate, just not handy. You'll have to travel farther.

It will decrease, but will be adequate.

They will consolidate. They will be there, but there will be fewer dealers.

There will be a decline in chemical dealers because of environmental regulations. With equipment, it will be adequate.

We have plenty of vets here for now. I think it will be okay.

In Berks County, the chemical dealers will be adequate. The implement dealers will not be. We already have to drive to Lancaster or Schuylkill counties. All of these are gone. There used to be three right around us and they are all gone. It is hard to keep stock, and people who need the expensive stock are fewer.

- (2) Most interviewees felt that labor would be very challenging, and the responses were mixed as to whether it would be adequate. The issues of migrant labor, and the expense, access to, as well as skill level of that labor, were key issues described. Mennonites were noted as an exception to labor problems because most have family labor that is readily available.

I believe it will be adequate. It is not possible to pay the kid next door two dollars an hour anymore. You may need to learn Spanish and pay more money.

This is always a factor. I do believe that more of the "English" folks [non-Mennonite] are leaving agriculture and more of the "Plain" folks [Mennonite] are taking over those lands. The Plain people have family labor and the English do not, and often don't want to deal with hiring people. In addition, the English may be looking for a style of living that is a lot higher than the Plain people.

This is the biggest bill on the farm. It is a huge issue. I think it will be difficult but it isn't static. There is a continuing trend to hire immigrants. Those that have capital can do that. Labor is really a pressure on the middle-sized farm; they can't find part-time help and they don't have family members to help. They will have to cut labor.

Depends on George Bush, and open borders. The mushroom industry needs that. If that gets cut back, it is going to be a problem. Most of the labor on the big farms is Mexican. You cannot get kids here to work on farms.

It will be here. Our county is trying to locate an agribusiness park here. So regular labor is stable here and has been. Of the plants leaving, food processing is not leaving.

Most of the farms use Mexican labor now. We use our own labor or a local kid in the evening to milk. Labor is an issue, and Hispanics are not the saving grace. It is hard to find enough to train adequately. I'm not sure it will be adequate.

It will not be adequate.

This is a huge problem already and will stay a huge problem.

This is a difficult issue. If we go more into vegetables here, we are going to need more migrant workers. Lots of dairies already hire Mexicans.

This will be a major problem in the future. People don't want to do this work. We have a healthy immigration population here, and even for those, agriculture is at the bottom of the barrel. This may drive what we can produce.

This is going to be a tough item. We do have a large influx of Hispanics, which will continue.

It has been tight for the last five to eight years already. It had been summer people, but labor has been scarce. But the money isn't there. Farmers are becoming more efficient but working longer hours—it is a rat race.

It is already very tight and it will only get worse.

It is challenging already. In the feed business, a few of the bigger customers are getting Mexicans and that is okay. The smaller ones tend to be Mennonite and they have kids.

This would stay the same. It may improve actually with an increase of Hispanics.

There will be less of it, but there will be less need for it. Farms are getting bigger and more automated.

It will only be adequate among the Mennonites. The rest will have to look elsewhere for labor—Mexicans are currently doing the labor here in dairy.

- (3) Although there were some concerns for credit, especially around the issue of consolidation of banking options, credit was mostly seen as being adequate in the future.

Yes, it will be adequate. [Five respondents]

I think we'll have certain streams of credit. You have a lot of competition now, and the institutions are making agricultural loans. It may not be the little banks anymore, but maybe regional banks. What will drive it is the new farms and the horse farms because they are coming in with assets. But we'll lose the animal farms that are highly capitalized and this may force consolidation. What I've noticed from farm credit in the county is that one-half of their portfolios are small farms.

In the last couple of years, this has really changed. Banks went out of business and this trend will continue, but more slowly. Some banks will continue agricultural lending, but in 20 years, maybe only half of those doing it will be doing agricultural lending.

I didn't appreciate our banking options when we went to get credit last, until I talked to my brother and sister in northeast Pennsylvania who only have one banking option

(FSA). Even their local banks won't write an agricultural loan. We have several options. Although I think it will be a challenge.

We have lots of these. And, we have long-term businesses here that have been around for 100 years.

This depends on what the interest rates do.

You will continue to see commercial banks exit out; the issue is whether there will be the volume for the banks. Credit as a whole has been changing.

I don't know. I do know that most farmers in Berks are okay right now because of the equity they have on the land. Land prices are so high; this is a good and bad thing. Good for farmers' equity, but young people cannot afford to buy the land.

Like any small business, credit will be there if the profitability is there.

It will be available for good producers.

Definitely, there is an incentive from the equipment dealers' standpoint to provide financing.

I think so because banks will get into agricultural loans more. Farm Plan is also here.

- (4) There were mixed answers to whether there would be new or young farmers willing to be farm operators 10 years from now. Some thought it would be adequate, although many questioned whether they'd have the financial resources needed to purchase the land. Mennonites were noted as one of the exceptions.

In the late '80s and early '90s, I was concerned about this, but I think this has changed. I see more interest from younger people. It is very positive.

There are more than enough.

This is a problem because all signals are there in the education system. People don't want to be farmers. But maybe when they are 50, they'll wake up and want to be farmers, like a midlife crisis. I know some farm parents don't want their kids to be farmers, though. Kids want to make big money right out of college, and the agricultural industry still has room for professionals.

Obviously fewer and fewer, because of the amount of capital needed and the return on investment. These are the issues that they think about. Kids growing up on farms want to go to college and get a different life. I only do about three or four loans a year to the new generation of farmers, compared to a dozen or so awhile back.

This will be adequate. [Three respondents]

Hopefully they will be there. I was just looking at the breakdown of ages and we keep creeping up, but we've been holding around 52 years. When I look at the breakdown, there is a good portion that is older, but some are younger. As long as the profitability is

there, they will be there. Farming operations, however, will become bigger and lots are leasing farmland.

This is not going to be adequate unless there is a way for them to make more money.

There will be some, there are always some. It is kind of a trend now, but most of them don't really want to farm, they want to live on a farm. I don't know if it will be adequate, that is hard to say. The competition from off-farm jobs is high.

There appears to be a good core of young people interested in it and see a promise in it. We have not run out of people entering, but [they are] people with cash to enter.

This is extremely adequate. A lot of people want to be farmers. What is stopping them is access to land and costs to land.

I think it is a strong possibility that they will be there. But a question remains as to what will happen with the Mennonites; if they can hold their culture together, then it should be okay.

I don't see a lot of young people starting, and it is going to decline. In the next 10 years, we will be okay. After that, not so good, with the exception of Mennonites.

No, I don't think it will be adequate. The average person I deal with is 58–62 years old. There are very few next-generation farmers ready to take over.

I think it will be adequate. Young people are still interested. It will be another type of farming, though—eight hours a day farming, with something else going on. The Mennonites, though, are quite different again with this.

C. Land for Farming and Agricultural Land Preservation Programs in Berks County

Current Situation—Land for Farming in Berks County: In 2002, Berks County had almost 216,000 acres in farmland, and about 40% of land was leased. From the survey, it is clear that the county's farmland owners feel that purchasing county farmland is not affordable; only 9% said it was either affordable or very affordable and 58% found it not very or not at all affordable (Table 11). In terms of rented land, more survey respondents found it affordable, but the responses were mixed: 25% found rented land either very affordable or affordable, while 27% found it not very or not at all affordable. Many did not respond or were not sure of the affordability of the land.

Table 11. Berks County—Survey Respondents' Assessment of the Affordability of Farmland to Buy and Rent in 2005					
Groups of respondents	On the whole very affordable	Affordable	Not very affordable	Not at all affordable	Not sure/no response
<i>N</i> = 93	-----Percentage-----				
Farmland to purchase	1	8	28	30	33
Farmland to rent	5	20	20	7	47

Interviews with agricultural leaders clearly reinforced the survey responses. The most important attributes of the land seem to be location (i.e., whether there is development pressure or not), zoning, what is next to the land, and water and sewage access. Agricultural land with no easements and development pressure seems to be selling for \$8,000 to \$10,000 per acre. Preserved lands or shale soils might go from \$5,000 to \$7,000 per acre, although some parcels are higher than that. Prices have increased the most in the Oley Valley area. In terms of leased land, prices can be between \$50 and \$160 per acre depending on soil quality. One interviewee noted that small parcels are available to rent sometimes for free; the owner wants to maintain the land but it is hard to do so with large machinery.

Below are some comments agricultural leaders made about the current availability and affordability of farmland (the adequacy of farmland for farmers). Most noted a decrease from 10 years ago, with affordability problems.

We are in a much better position than some other counties (those to our east). We got in at the right time with the easement program and with the zoning. We are positioned okay there. It is stable for now, but we cannot stop our efforts.

There are fewer [acres available than 10 years ago]. This is what happens unless all the land is tied up in agriculture, though. Land is always taken out of agriculture. What is interesting is that the CREP [Conservation Reserve Enhancement Program] program has affected the situation; it has been a negative because farms that would have been rented out before are in CREP and this has increased the price of rentals.

There are a lot less [acres available than 10 years ago], and it has gotten much more expensive.

Well, I'm biased because I'm from [a different region of the country]. They farm stuff here that we would never farm back home, for example, land with lots of rocks. The availability of land is increasingly becoming a problem.

There are opportunities for any size operation. It may be harder for larger farms, really—they cannot expand because there is no land to buy. To start a 1,000-cow dairy farm today, you would have to buy multiple farms to get started. It is probably easier for the small to medium-sized farms.

There are fewer [acres available than 10 years ago], no doubt about it. The boom for development started in 1990s and it went nuts from 1995 on.

[The quality of land from 10 years ago] is about the same because development has been scattered all over. It is happening on both good and bad soils, and the reduction is proportional.

The quality [of land from 10 years ago] has improved—there is a lot of help out there, for example Extension. We are doing stream banks/fencing of creeks, putting up pavilions to control runoff, grass swails, stuff like that.

I would think that it is harder for the smaller guys because it is difficult to raise the money for the land. The bigger guys have more leverage; they can borrow or sell something. My perception at least is that it is hard for the smaller operations. [For beginning farmers], it is the same as for the smaller operations. I know a young family that has been waiting for the real estate market to drop. But they recently resigned themselves to buying 30 acres. And they rent a lot of ground as well.

Programs to Support Farmland in Berks County: Berks County uses a number of programs to protect farmland, including easements, zoning, tax benefit programs for farmland owners, and programs addressing nuisance issues.

(1) Agricultural easements. The Agricultural Conservation Easement (ACE) program is a jointly funded state, county and federal program. Funds from the state are from the Growing Greener Program and a percentage of cigarette sales tax. Funds from Berks County are from a \$30 million bond that was awarded in 1999 by the Berks County commissioners, as well as a recent \$36 million in 2005, while federal funds come out of the Farm and Ranch Lands Protection Program (FRPP). Since 1990 (and until December 31, 2006), the ACE and FRPP programs have preserved 46,011 acres on 406 farms. Over \$95 million has been dedicated to easements so far. Although the county's goal of preserving 200,000 acres of agricultural land seems a lofty one, it is expected that, by 2009, over 68,000 farmland acres will be preserved in Berks County.

The Berks County Agricultural Land Preservation Board (ALPB) oversees the program. Its nine members are appointed by the county commissioners to three-year terms. The program is a separate department within county government, reporting directly to the county commissioners. To qualify for an easement (which provides a maximum of \$2,000 per acre), the farmland must be located in an agricultural security area (see program description below); consist of at least 50% soils that are available for agricultural production and are of capability Classes I–IV; contain the greater of 50% or 10 acres of harvested cropland, pasturelands, or grazing lands; be at least 35 contiguous acres in size, unless a minimum of 10 acres is of a unique crop, or be adjoining to an attached perpetual agricultural conservation easement.

Donated easements can also be made through the land trust, Berks County Conservancy. The conservancy aims to preserve farms close to the other preserved farms that might not meet the county's criteria. The tax benefits for landowners can come in over 5–6 years. At the time of the interviews, the conservancy had 5,000 acres in donated acres on about 73 properties. Approximately half of the acres consist of farmland while the rest is open space, mainly wooded areas.

(2) Zoning: The authority for all municipal and county zoning comes from the Pennsylvania Municipalities Planning Code (MPC), Act 247, as amended. Zoning for agriculture is

specifically mentioned in two places in the MPC. Section 603(5) authorizes zoning provisions for “the protection and promotion of natural resources and agricultural land and activities.” One of the purposes of zoning listed in Section 604(3) is the preservation of “prime agriculture and farmland considering topography, soil type and classification, and present use.”

The Agricultural Zoning Incentive Program (A-ZIP) was established in 1995. The objective of this program is to implement the agricultural element of the Berks County Comprehensive Plan. In return for successful adoption of effective agricultural zoning by any municipality in Berks County, the County Community Development Office will reimburse up to \$6,000, the costs to the municipality associated with amending or revising the municipality’s zoning ordinance. In addition, the ordinance provisions must be consistent with the county’s comprehensive plan. Municipalities that wish to participate in A-ZIP must have a comprehensive plan that clearly supports effective agricultural zoning. The municipality must also demonstrate that agriculture is an important aspect of its economy, and that the agricultural zoning is necessary to sustain the agricultural industry. At the time of the writing of this case study, 11 municipalities had taken part in the A-ZIP program, placing 52,000 acres in agricultural preservation zoning.

Of the total of 74 municipalities, 24 have agricultural zoning, with approximately 154,000 acres in zoning. Agricultural zoning varies in the county. Some townships have done 1/20 (a minimum of 20 acres in order to qualify to build one dwelling unit). More recently it has been on a sliding scale, averaging out to 1/20 or 1/30. The sliding scale allows that the larger the property, the less residential area per total acreage.

(3) Tax benefits program: The Clean and Green Act of 1974 was established to preserve farmland, forestland, and open space by taxing land according to its use rather than the prevailing market value. The program is administered by the Berks County Assessment Office. The program is voluntary and generally requires that a 10-acre minimum remain in designated use (agricultural use, agricultural reserve, and forest reserve). Parcels of less than 10 acres and capable of producing \$2,000 annually from the sale of agricultural products are eligible for the agricultural use designation. Land taken out of the permitted use becomes subject to a rollback tax (i.e., paying back the land taxes that had been avoided), imposed for up to seven years, and an interest penalty. As of 2004, approximately 258,000 acres were in the Clean and Green program. The total acres were assessed at \$546 million under the Clean and Green program versus the total market value of \$1.3 billion.¹⁰

(4) Laws covering nuisance issues include the Agricultural Security Area program, right-to-farm laws, and a new Agricultural, Communities, and Rural program.

The Agricultural Security Area program began in 1981 as a tool for strengthening and protecting agriculture in Pennsylvania. Key features of Agricultural Security Areas (ASAs) are as follows: (1) initiated by petition of farm landowners; (2) minimum area of 250 total acres; (3) includes nonadjacent farmland parcels; (4) township- or borough-level program; (5) seven-year period, during which reviewed parcels may be added at any time; (6) voluntary participation by landowners; (7) use of land is not restricted; (8) participants receive special consideration

¹⁰Berks County Planning Commission, 2004, *2004 Berks County Data Book*, 33rd revision (Reading, PA: Berks County Planning Commission).

regarding local ordinances’ impact on farming activities and nuisances, state agency rules and regulations, review of proposed farmland condemnation by state and local government agencies, review of state-funded development projects affecting farmland in a Security Area; and (9) participants in areas with 500 or more acres are eligible to sell agricultural conservation easements. The local government unit may not impose ordinances that unreasonably restrict farm structures or practices within the ASA, nor may normal farming operations and practices be deemed nuisances in a nuisance ordinance.

Pennsylvania has ACT 133 of the 1982 “Right-to-Farm Law” covering agricultural operations and nuisance actions.

The Agriculture, Communities, and Rural (ACRE) program of 2005 significantly impacts agriculture and rural communities by coordinating existing laws and regulations, primarily the “Right to Farm” Law and the Nutrient Management Act, with several new initiatives. The main purposes of ACRE are to ensure that local governments enact ordinances regulating normal agricultural operations that are consistent with authority given them by the laws of the Commonwealth to protect citizens’ health, safety, and welfare; provide timely review of potentially unauthorized local ordinances that may unduly restrict farming operations; replace the Nutrient Management Act (Act 6) by retaining most of the current law and regulations and by adding manure setback and buffer requirements; and require certain farms to develop odor management plans.

Opinions about Farmland Programs in Berks County: Farmland owners were asked their opinions of the various policy tools in Berks County affecting agriculture and farmland in the survey. The “purchase of development rights” program received support of 80% of the respondents, with respondents split among those believing it is somewhat (30%), moderately (27%), or very helpful (23%) (Table 12). Only 10% felt the policy was not helpful, and 2% had never heard of it.

Table 12. Berks County—Survey Respondents’ Assessment of Policies Affecting Agriculture and Farmland

Type of policy and goal	Never heard of policy	Policy not helpful	Policy somewhat helpful	Policy moderately helpful	Policy very helpful	Not sure or did not answer
<i>N</i> = 122	-----Percentage-----					
Purchase of development rights	2	10	30	27	23	8
Agricultural tax assessment	7	9	22	17	37	8
Right-to-farm law	15	3	25	23	21	13
Zoning restrictions	6	21	36	16	12	10

Agricultural leaders were asked their opinion of the effectiveness of the agricultural easement program to assist in keeping agricultural viable in the county. There was definitely a mixed reaction from the interviewees. Even those who supported the easements had some questions about whether the program would be able to “preserve” farms and farmers on the land into the future, given the price of land with easements on them.

In Berks County, we have over 200 applicants waiting to get into the land programs. They cannot get in. We had a \$35 million bond program a few years back, but the money is running out. And some townships (for example, Center Township) have their own preservation programs. These programs are trying to be proactive. If it were not for these programs, there would be no hope for farming here in the future.

The jury is still out on this one. My sense is that it is effective. We know that we've preserved the land resource for the agricultural industry. But what will it do for preserving farmers? That is what the jury is still out on. What will happen if the agricultural economy goes down? I think it has overall been successful. But if the farmers go, my question is whether we will become a Bureau of Land Management then?

I think Berks just passed Lancaster in the number of acres preserved. But for me as an individual, and I wouldn't say this in my professional position, I don't understand the value of the preservation program. I don't see it as key to the economic viability of farms in Berks County.

Agricultural preservation is not hitting where it should. We may be saving ground, but not farmers. Farmers will not survive. Look, we have preserved land but it is still selling for so much money. Preservation programs are missing the mark.

[One limitation of easements in Berks County is that] the Mennonites on the eastern side [of the county] don't participate, but the western-side Mennonites do. The western-side Mennonites are okay with it, but they are different sects. Either they directly take the money or they roll the money into another piece of real estate so they don't have to take the money directly. The eastern-side Mennonites are not coming to us, but they are starting to get concerned and educated about it. Our effort will be to contact them by some means, probably by a male board member. In that area, there are holes in the donut, so to speak—where the Mennonites are. We would like to have those lands protected to get a good number of contiguous acres.

The farm preservation programs are making a difference. That land will be preserved, and while it may not be farmed by the current farmer, someone will be farming it in my future.

Easements are proving to be valuable because it affects the market for real estate to some extent. Older farmers are the ones seeking easements and they want to continue their legacy. They are using the easement revenue to support themselves at the end of their farming career. It is beneficial to the next generation because it helps them bid for the land. The land is still expensive but less expensive because they are not bidding against developers. Even those who buy it not to farm may rent it out to another farmer, so that is beneficial, although not ideal. The land base needs to be there to keep traditional agriculture alive, so that those farms have access to the land to build their acres. You do see some farmers who use the easement money to buy adjacent farms to increase their economic viability.

These programs may help some people, but I'm not that big on them. With the customers, I don't say what I think. But on our farm, when we are doing farming, we will sell it. With PDR, they take the money and then they don't do much with the farm. It really isn't a lot of money. This is my personal opinion, of course. There are certainly some strong

opinions about those programs out there, though. I don't think a lot of farms have been preserved in Berks County, though.

I feel strongly that agricultural zoning and agricultural easements go hand in hand. In order to have areas preserved, we have to do effective zoning.

I don't know the total effects of the farmland preservation program. I know that Berks County sits in a good position compared to our neighbors. We are fairly undiscovered by others—which can be a good thing—unlike Lancaster, and we have great access to markets. We have an aging population, which means we are at a crossroads. We would like to see the land go to younger farmers, but we have to offer them economically viable options for farming if we are to succeed.

But I have to say, the \$2,000 an acre doesn't work on the eastern side of the county, closer to Philly, due to the high land values. That is one of the main problems with the program long-term, and they can change that. That area has some prime farmland. Another concern for the program is the impact of preservation and how that will play out in the future for use by corporate farms. The easement language doesn't address that potential concern. Corporations could buy those farms and put blocks together. That would make it hard for the next generation to farm.

Zoning restrictions were seen as the least helpful policy tool of those listed by the survey respondents, although many still felt the policy was helpful (Table 12): 28% reported that zoning restrictions are either very helpful or moderately helpful, 36% said they are somewhat helpful, while 21% said they are not helpful. The interviews with the agricultural leaders supported the mixed survey results. Agricultural zoning is seen as helpful in areas that support farming and have the zoning, in that it has decreased development pressure. In areas with less support of farming, some perceive higher development pressure.

Both zoning and easements have been important. I didn't anticipate 10 years ago the amount of pressure we would have, but there has been a rush on the land in the last five years. What we did 10 years ago is helpful. It is hard to put agricultural zoning in once the developers are at the door. What I see in communities that put in agricultural zoning years ago is that they don't have as much development pressure. I compare this to places that didn't decide to go with zoning—they now have several large developments coming up. Whereas in the other communities, the developers focus on land that is zoned for development, and they don't challenge the zoning as much. In communities with agricultural zoning, we had prominent support from farmers and a consensus that farming should continue. In those without, the soils are not as good. They are close to Reading, and there wasn't as much agricultural leadership.

In most cases, it has been very successful. We have had some communities that have development setbacks that won't allow for farming. But overall it has been successful.

When I think about it, we started the A-ZIP program at the right time. In 1995 we only had the Reading developers to worry about. If today, we would have to go up against the developers from Philly—and they are so strong and have so much money. I don't think we'd be as successful. We started it at the right time.

We studied whether agricultural zoning has been effective. Some areas have effective zoning, while others need better zoning. We need to talk about acreage that can be preserved in ways other than through the easement program.

One challenge I have seen is that most farmers are mostly leery of the preservation programs or zoning programs because their retirement money is tied up in the land. So they don't all speak as one voice, and that is a problem.

Farmers are supportive for the most part. There are always some that don't want it. But if the majority didn't want it, [zoning] wouldn't be adopted. The majority are for it. We are having some problems in some townships.

It has been a good program. The county has pushed it and it has been very successful. It has been helpful to agricultural businesses, especially those with development going on around them.

I think the one reason the A-ZIP program has been so successful is because it gives the farmers extra points to qualify for the easements. Lots of farmers needed more points—and you get 10 points for the zoning—to get the easements.

This is really difficult because it is a township by township issue. Bern Township, for example, has tried to rezone a lot of the land around the township as commercial. So the farms surrounding it are seeing their taxes increase. It is really whether your township is friendly to farming. A lot of pressure is from development next to farms, and the nuisance issue.

Survey respondents also felt that the right-to-farm laws have been helpful in protecting farmers against unfair nuisance complaints (Table 12): 69% reported them as at least somewhat helpful and only 3% said they are not helpful at all. Agricultural leaders interviewed for this study rarely talked about the right-to-farm laws, and none of their comments are used here. However, many thought that nuisance issues were important, and that any lawsuits or township issues that address nuisance problems will be important in considering whether certain types of agriculture (e.g., concentrated animal operations) would continue in Berks County in the future. Specifically, many interviewed felt it important to watch the impact of the ACRE program on the county and local townships. One interviewee specifically mentioned a farm that many others mentioned as well, placing the issue in the context of farmland preservation and farm viability:

The farm has been in the hog business since 1950s. [The farmer] bought one portion of the farm (his father's farm) and he expanded the hog portion 10 years back without permits. And since that time, the community/township support has eroded. How this affects easements is that the public thinks public funding shouldn't go into land that then goes into "factory farms," whatever that means. This farm is a farm with easements, and the township is supposedly pro-agriculture, but they've come out against the expansion. [The farmer] has every stewardship award and he is a good farmer. The township position is that with farmland preservation, it is about preserving the land and you shouldn't put buildings on it. But around here, animals are very important. He provides manure to his neighbors; gives it to farmers that need it. Getting to the nuisance issue here because we are alleging that the township is violating the Right-to-Farm and nutrient management and municipality planning codes. We have a lot of Right-to-Farm issues moving toward the county courts. It does affect the easement program, though, and the

future economic viability of those lands. Many farmers are concerned. There is also a farmer who wants to put up a broiler house in Richmond and he is meeting a lot of resistance. It seems like the board of supervisors doesn't want any animal expansion—the impact is high for the future of agriculture here.

More than three-quarters (76%) of survey respondents felt that agricultural tax assessment laws (the Clean and Green program) are helpful policies, with 37% of these feeling the policy was very helpful (Table 12). Only 9% said they are not helpful. Agricultural leaders interviewed for this study did not discuss these laws.

Opinions about the Future Adequacy of Farmland in Berks County: Agricultural leaders were asked their opinion about whether they thought farmland would be adequate 10 years from now, or in 2015. The interviewees were split on whether it would be adequate or not; many that reported it would be adequate thought it would be so because of the preservation programs. Many also reported that the adequacy of land depends on numerous factors, of which farmland preservation program and zoning were often mentioned.

This will only be available if we protect it in the next five years.

[Land for farming] will relate to the continuation of agricultural zoning. We have attempted to get all the municipalities with large amounts of agricultural land into agricultural zoning. Three townships haven't. If the zoning stands up in the courts. It is also related to the continuation of agricultural easements programs. Five years ago, the agricultural commission put \$30 million in bonds into the program and took it to the next level. Now we are at a crossroads for local funding for easements. Limiting development is also important. Sprawl is not everywhere yet. There are places with good agricultural zoning and good easements, that don't have sprawl.

There will be a little bit less. Some townships are not zoning correctly and some are zoned for development. But it will still be adequate.

This will diminish, of course, depending on how many farms are left. Lots of farming is on rented land now. Development is going to be the biggest key.

It will not be adequate in Berks County. We only own 240 acres ourselves, and we need 350 acres to grow forage. We rent the rest of the land. This is a real concern. There will be pockets of preserved land, however.

Hopefully, it will be adequate, if we can continue with the zoning and the easements. I thought we were at a crossroads 10 years ago, but now I'm looking at the developers from Philly and we are at a crossroads again. We could be challenged now with the agricultural zoning. If it survives, we'll have the land. We'll lose some but [still] have a good core. Berks County cannot survive by itself, though. Lebanon, Lancaster, and other neighbors need to be there, too. We will either live or die together.

It will be adequate if the land preservation program continues. If it doesn't, the land will go to developers.

No, it won't be adequate. It will be an issue because of the cost of land.

With the amount of preservation, yes, it will be adequate. It will continue. We will continue to preserve more and more, too. When you look at the numbers nationally, we rank very high.

This depends on your situation, but basically not. We are already tightening in the land. We need to keep what is here already in agriculture. And the land is prime farmland.

I think there are a lot of intelligent people working to ensure this. But if we are not careful as an entire community, it could go the other way. We have the potential to save the land, but the farms have to change what they are doing. Our farms are too small to compete against such big farms elsewhere, including farms internationally.

I would think it will be adequate. But should it be approached on a county-by-county basis, or should it be more regional, with Montgomery and Lancaster counties, all these counties in the region? With the farmland preservation efforts and agricultural zoning, we have a long way to go to 200,000 acres, but there is some effective zoning out there.

It will be stressed to a certain degree, but if we can continue with the farmland preservation program and educate the public, we can maintain.

This will continue to diminish. There will continue to be successful farms, but they will diminish in number. In places like Montgomery County, most of the agriculture is gone, but there are still some good agricultural businesses. The land base and whether processors stay will dictate if agriculture stays. A question is whether farmers will get frustrated by busy streets, complaints, those kinds of things. There has been an adaptation to that—for instance, [farmers] getting a trailer to haul machinery, and one farmer has a tractor that can do 35 mph. If the business is big enough, they will adapt in those ways.

We have preserved a lot. I think if the farmer can see the profit to be made, we will have people who love farming and will stay. We might also see [that] we will get the big investors from New York who buy the land, especially preserved land, and then turn it around and lease it out. But the land will be there.

It will be tight.

It isn't adequate already. Rents are already high in Berks County. We have seen great increases in rents.

It will be adequate.

I would think [it will be adequate] because of both conservation programs and the preservation programs. I don't think a lot of the CREP program, though. Some of that will phase out slowly over the 10 years. Some farmers just keep their CREP land in bushes and weeds.

Section IV: Future of Agriculture in Berks County: Results of Survey of Landowners and Interviews with Agricultural Leaders

We asked the survey respondents and the interviewees a number of questions to gauge optimism or pessimism about the future of agriculture in the county and their own plans with farming.

Survey Respondents’ Plans for the Future in Berks County: When asked about plans for farming into the future, 41% of surveyed owner-operators said they were planning to be farming in the county 10 years from now, 10% were not planning to be farming, while 27% either were not sure or did not respond to the question. Six respondents (5%) currently have farmland under easement.

Most respondents do not have plans for changing much about their farm operations over the next five years (Table 13), with the number of livestock and separate crops grown having the largest percentage of respondents reporting a planned increase, 24% and 23% respectively. A little over half the respondents reported one or more investments on their land.

Aspects of farm operation	Increase	Decrease	Stay about the same
<i>N</i> = 93 (valid percentage reported)	-----Percentage-----		
Farmed acres owned	11	6	83
Farmed acres rented	16	10	74
Numbers of livestock	24	8	68
Number of separate crops grown	23	6	71
Number of separate kinds of livestock	14	6	81
Change in at least one of the five ways above	33		17
Erecting, replacing, or enlarging farm buildings			33
Building or extending farm fences			28
Installing or improving conservation or irrigation facilities			27
Other investments			8
At least one type of investment			58

Analysis—Characteristics about the Likelihood to be Farming in 5–10 Years: We used regression analysis again to look at what conditions would increase the likelihood that a respondent would continue farming five or 10 years from now.

In terms of the analysis for *five years* from now, four significant predictors were found. Other things being equal:

- Respondents with at least some owned land in production in grains were more likely to expect to be farming in the county five years from time of the survey.

- Not surprisingly, those planning at least one kind of agricultural investment on their farm over the next five years were more likely to be farming in Berks County in five years.
- Much more peculiar is that those using water for livestock or irrigation are much more likely to be farming in the county in five years, while those who found the services of large-animal veterinarians always or most of the time available when they needed them were much less likely to be farming in the county five years hence.

The results of the regression analysis for respondents reporting that they would continue to farm for at least another *10 years* are that:

- Those respondents with some dairy cattle on the farm were less likely to be farming in the county 10 years from now (not surprisingly, given the feedback about dairy farms in the county). Those using nonfamily labor are more likely to be farming in 10 years.
- Not surprisingly, as age of the respondent increases, the respondent is less likely to be farming in the county 10 years hence.
- Those owning farmland in the southeast section of the county are also less likely to be farming in the county 10 years from now. This is not surprising, given that this area is under the most development pressure.
- Finally, those respondents finding credit available always or most of the time, and those believing that the programs developed for helping farmers to process crop or livestock products very or moderately useful, are much more likely to be farming in 10 years.

Another indicator of farm turnover is whether the county's farmland owners have succession plans developed for their agricultural land in Berks County. In our survey, 18% said they have plans, 10% reported that a plan was under consideration, and 72% said no plan was developed. Survey respondents were also asked who will likely farm the land in Berks County once they retire from farming: only one-third said some type of relative would be farming the land, and this would be a son, daughter, grandson, or granddaughter (31%) or some other relative (3%); another 9% said someone outside the family would be farming the land, while 25% were not sure.

Survey respondents were asked about their plans for developing their farmland 10 years from now (Table 14). Most of those responding to this question owned relatively small acreage, less than 180 acres. Over two-thirds (68%) said they have no plans to develop any of their lands, including most of the larger farms in the sample. Another 10% said that only 1% to 24% of the land would be developed. Only 4% responded that 100% of the land would be developed, while 12% were not sure whether any land would be developed.

Table 14. Berks County—Respondents' Expectations for Farmland Development by 2015					
Percentage of farmland expected to be developed	1–49 acres	50–179 acres	180–499 acres	500–999 acres	All farms
	-----Number of operations-----				
0%	46	30	3	1	80
1%–24%	4	5	3	—	12
24%–49%	3	1	—	—	4
50%–74%	1	2	—	—	3
75%–99%	—	—	—	—	—
100%	3	2	—	—	5
Not sure	6	6	2	—	14
Total	63	46	8	1	118

Analysis—Likelihood of Farmland Development: When we used regression analysis to see if gross farm sales and other plausible causal factors made a difference in whether respondents expected at least some of their owned land to be developed, four significant predictors resulted. Other things being equal:

- Respondents with at least some owned land in hay or other forage crops were more likely to believe that any of their farmland would be developed in the next 10 years, while those with some owned land in grain production were less likely.
- Not surprisingly, if the respondents had been farm operators for at least 20 years, they were also more likely to believe that any of their farmland would be developed in the next 10 years, while those who expect to be farming in the county five years from now were less likely.

Opinions on the Long-Term Viability of Farming in Berks County: Agricultural leaders were asked what the county’s agriculture might look like 10 years from now, or in the year 2015. Most said that although traditional commodities would stay in the area to some extent, there would be changes toward new commodities, direct and niche marketing, and possibly organic products. One person said that the farming systems would get more complicated, “like a quilt, just adding another layer.” Many also thought there would be a dual structure in the sector: very large farms and small farms with the middle disappearing. Traditional crops would remain on the large farms while the smaller farms would take up the niche products. Livestock numbers were seen as increasing in the future, even with concerns for nuisance issues. The county’s preservation programs were highlighted a number of times as important, and the Mennonite community was also mentioned by a few interviewees.

The future of agriculture here will be similar, but with an emphasis on marketing and the nearby population with the higher incomes. There will be opportunities for larger farms because we have preserved big acres. I think there will be opportunities for all size of farms. From an economic background, there are advantages to both small and large farms.

I think there will be a decline in the number of smaller farms. There will be large dairy farms and large farms, but they will be isolated from development. CSAs are popular. If you can get in the niche and find members, they seem to be doing well. I think we are going to see extremes. The 75-cow dairy farm will be gone. And the large farms will be

isolated from people. Those next to the population are likely to be fruit and vegetables. Hogs and chickens are being pushed out already.

In 10 years, it won't all go to hell by then, but . . . counties to the east are starting to fill up. Berks County has more developments now. Houses are not as big as where I live; they are small houses on big lots. Some townships are not buying into the Agriculture Security Zone concept, which has to be set up before they start the preservation programs. They don't understand it. Farm numbers will increase because of the \$1,000 in products set up by census. Most traditional farmers have a home farm, but then they are leasing other parcels. So they may farm 800 acres on six farms. So the number of farmers may decrease. But then, there will be new people starting small farms. So I don't really see a decrease in farm numbers.

The heritage of production agriculture is so deep and strong, there will be always be traditional agriculture and it will have a large value. They will be squeezed more to the rural edges of the county. For example, there won't be any on the east side as you get closer to Philly. That area will see land values increase, neighbor complaints increase, and farmers move out. There will be a slow decrease of traditional agriculture. Direct marketing and small farms: I see these as a significant growth area, but it will never overtake the value of traditional agriculture here. Wholesale orchards will be gone. There may be small growth in vineyards.

I believe that we will have the same diversity of commodities, although less animal farms (dairy and meat). Some of these may be replaced with horses. There will still be the richness here because of the markets. Vegetables will continue because they are done by Mennonites who have the family labor. The larger orchards have the next generation coming up to farm: nine families here grow 90% of the fruit. About one-half to three-quarters of these have another generation coming in, but they will also probably diversify and be fruits plus. We will probably lose some land overall, even with the aggressive land preservation in the county. The trend in most commodities is to increase production per acre, and we still have a lot of efficiencies to gain there. We will also have the new farmers coming in. Some don't like these farmers and have derogatory names for their type of farming, but these lands are watershed lands, and they are better in farms than in housing. They want to learn, they don't have blinders on. They also have money. Some are doing organic, some trying different things. In general, I see it getting more complicated—like a quilt, just adding another layer. There will still be larger farms. Like the census shows, we'll have larger farms and smaller farms. It is the middle size that will drop out.

There are a lot more houses and lots of development pressure. There will be less farms and the infrastructure will move out west. Farms will move out west, too. There will be farms here though; small preserved farms. Whether they will be farming, I don't know. Maybe they will have horses, or be hobby farms. I think it will look like New Jersey looks now: Houses everywhere with little farms and some dairies. There has been some change in direct marketing going on now—for example, organic dairies. Direct marketing is becoming more common. These guys are ahead of the curve. You see some niche marketing increasing—for example, selling raw milk from the back of the truck. But each farmer has to find a unique thing to do. Will it generate a lot of income? Compared to the overall income for the farm, it is really small.

I say to my husband that in 20 years there will not be a job for me, because it will either be developed or the land will be preserved. It may be a lot quicker than that. There have been a lot of recent major conversions from farmland to developments. And it just keeps increasing. There would be no future if not for farmland preservation programs. Dairy will be completely gone. I think a lot of farmers will go to truck crops and niche products, like organic. But a lot of the preserved land is not doing this; some are renting their land, some are in horses, and some dairy.

I think we will have niche farming going on. We are protecting the big farms here. But I see some farmers (especially near the Montgomery-Chester line on the east side) subdividing their land to get the money and they have to go into niche marketing then because of the land size. We have a lot of interest from the equine industry to come here and take over the larger farms. Some have already bought up protected lands and some are looking to protect what they do buy up. All other areas should maintain the usual crops and animals. My concern for the future is the viability of agriculture. We need to get money back to the farmer from the middleman. How can the farms be more economically viable?

Farming is changing. It is not the typical farm from our childhood anymore. They are continuing to become more intensive with livestock. There are some niche products coming on board. I don't know if organic will take off in Berks County or not. There always seems the possibility for nursery stock. But it will likely become more heavily intensive livestock.

There will be more corporate farms—that is my concern. The preservation effort—maybe it will backfire. Younger farmers cannot continue their lifestyle, and large corporate farms will purchase the land.

There will be some larger farms, strongly supported by a business. The price of land is getting too expensive for the return, though. You can't have a big farm unless you have the business investment in the land, or you are renting land owned by a business. Or you have a small farm like us. Who wants to plan an orchard anymore, especially with the labor issue.

Farms will be larger. There will be some niche farmers. More direct marketers. A lot more of the land will be rented. We are preserving a lot of small farms and they will need to rent land.

I expect further concentration in ownership of land. Farms will get bigger and bigger. There will be fewer middle-sized farms. Maybe more smaller-sized farms because they are more affordable. And there may be more diversity on those farms. The average-sized farm is 130 acres now and we'll have fewer of those. Some traditional commodities, like dairies, will be challenged but they will be there. If we can overcome the nuisance issues with technology—I believe we should try to tolerate the odors and other problems until the technology catches up. If we drive those agricultural businesses out of the area now, we won't get them back.

It is going to be larger farms, change from dairy to pigs and hogs. The location still lends itself to fruits and vegetables going into the urban areas. Horticulture and landscaping will become stronger as the urbanization continues to grow. There will probably be a trend toward CAFOs and maybe this is an economic necessity.

I do not see huge changes. In 20–30 years, there will be more, younger farmers. And then we'll see lots of changes because these farmers will be more likely to change what they do—they are more open to new ideas. I think direct marketing is a key to the success of farms here. We cannot compete with farms in the Midwest on things like corn. Dairy could do well here if they converted to organic. Most of our dairies are 100 cows or less and that is a good size for conversion. We need to push the idea of buying local. Everyone in the county wants the farms here, but they don't buy stuff from the farms.

I think it will continue to mature (like it has for the last 10 years). Ten years ago, proximity to markets was a plus, and this may come back with the oil prices. With low oil prices, though, the Midwest producers were at an advantage. You won't see a lot of new business startups, mainly because of the land costs and capital. What I have seen in the past 10 years, if an existing farm has a younger person coming up and [they have] land, they will still invest. If a new person comes in, they will look for land in the middle of Pennsylvania because land prices are so much cheaper.

This depends on a couple of things. With the size of farms, niche farming will likely be a key item. For example, we have a duck farmer selling his stuff to New York. And we have an organic dairy. The organic niche is going to play a big role, I think. On the flip side, you will see the combining of nearby farms to have big farms. Although there is a lot of opposition to it, I think there will be large hog farms.

I'd love to know what it will be like. I think we are going to see consolidation with real estate values the way they are. Where things will be happening is in the farmland before the land is developed—it will have to be farmed before it is developed. The property rates are nuts. In terms of changes in agricultural products, I don't see it in grains. Maybe some will go into other things like peppers or hay or potatoes. But I don't see those things. In the area that I'm in, it will mainly be a change in farm consolidation.

That is a scary one. I see it declining unless the crop and input prices get more in line. Fertilizers are just too high right now. They are losing on corn right now without the LDP—making \$17 an acre with the LDP. We are losing acres all the time to development. Encroachment will just keep eating it up. And it will keep going west past Route 61. The only way to stop it is if these guys make money. They used to make money. But with only \$17 an acre they make, and that has to cover equipment costs, for example. They must be making like \$5,000–10,000 a year. In this situation, there needs to be off-farm income with benefits. Farms will continue to get larger. The age base keeps getting older. And these people will be going out of the picture soon. The farms they have will either be bought out for development or by other farmers trying to get bigger.

I hope that everything has hit bottom and that all the efforts and desire from politicians and businesses to see agriculture survive will pay off. I hope the pieces are there to hold steady and grow. It is really a function of everyone deciding to make it work. Berks County has done a great job with the preservation program. The county commissioners just allocated a lot more money for agriculture preservation. But I'd like to see some of that money go to agricultural businesses as well. Not just money for setting land aside.

You will have two groups of dairy—milking dairies of 40–50 cows with custom cropping down and maybe a dozen farms with 500 cows. In grains, it really varies a lot, but it will

probably be the same—a few large guys. In terms of alternative marketing, we have already seen that change. Will it continue to increase? I kind of doubt it. The trend was here but it is probably gone. For example, while we had 30 custom dairy processors a while back, now we only have two.

Farming will stay at this level or increase because of the agricultural preservation program. Farming has a future in Berks County. There will be a lot more niche farming. The size of the farms will increase.

I think that farms will become more specialized and maybe more vegetable production. We see that the Mennonites are breaking up their farms into smaller farms for their kids and doing vegetable production. So we've seen the average size of farms go down in Berks County. I think the changes will occur in the areas that are being encroached by industry and houses, like around Fleetwood and Kutztown. The north is not being developed as quickly and some of the farmers are actually moving north. This area is losing 1,500 acres this year. I have a feeling they may get smaller as an average, but some will get very large. Some of the dairies seem to be really growing. Changes in major crops depend on the government programs. For instance, if they go into biodiesel, we may have more corn.

Analysis—Likelihood of a Positive Outlook for Agriculture in the County: To get directly at the issue of the long-term future of agriculture in the county, we asked both survey respondents and interviewees the question “Thinking ahead 20 years, what kind of future do you see for agriculture in Berks County? Would it be bright, modest, dim, or none at all?” The results were mixed: 12% of survey respondents said that the future was “bright,” while 38% said it was “modest.” Almost 40% said the future looked “dim,” while no one responded “none at all” (12% responded “not sure”).

When using regression analysis to examine respondents with a more “positive” outlook, we combined the “bright” and “modest” respondents to form a relatively positive group and then hypothesized various causes for their positions. We found that, other things being equal, the likelihood of being in this group

- *increased* if they had at least some of their owned land in vegetable production;
- *decreased* if at least some of their owned land was used for raising horses;
- *decreased* if the respondent felt that local authorities sided with nonfarmers in controversies between farmers and nonfarmers;
- *increased greatly* if the respondent had a succession plan for the farm, or felt that the agricultural zoning policies in the county were “very helpful” in maintaining an adequate supply of farmland.

Agricultural leaders prompted with this question were more optimistic about the future. Of those that answered the specific question of bright, modest, dim, or none at all, three reported a bright future, six a modest future (with one also reporting a bright future for some farmers and a modest for others), and only two reported a dim future. Some reporting a bright or modest future had some questions about what that future might look like:

Depends on the day you catch me. But I think I would say modest. We will still be here because we have a lot of land [with easements]. But it does depend on whether the zoning is upheld or not and whether there are farmers. We know that the markets are here.

I see it as a bright light, but the question is, who will be doing it? [Will it be corporate farms?] I look at the success of the preservation programs. Agriculture is one of the major businesses in the state. Who will operate the farms is a different question.

Well, there are always people that are very persistent, so there will always be people doing it, even if it is just in the backyard. But it will always be a challenge. To call it bright? Not really. But I cannot say dim either because I am not the type to say dim. The trend is in the wrong direction for the large-scale farm.

This goes along with the maturing process. It will move to challenges globally. I will say modest. I am not that pessimistic.

I am an optimist. I think we'll have agriculture, but what it will look like, it is hard to say. Agriculture in Berks County has been diminishing for 150 years. It has coexisted with other types of businesses for 150 years. Some are promoting the equine industry here. I don't know, though. For me, agriculture is food and fiber. I would like to see that continue.

There is a strong agricultural heritage here. I think there are people who support it. Modest, really. We need to now define ourselves as a suburb of Philly or as something with our own flavor. Philly developers are starting to move in—for example, into Exeter. A lot depends on the local officials and how they deal with agricultural zoning. So I am modestly optimistic.

I think bright. But a lot depends on what we do now—everything from our 4-H, education, to federal policy, to the global economy.

Bright for niche farmers and big farms. Modest for the guys in the middle.

Easily dim. Unless things change. Back in 1980, I wanted to farm. I grew up on a farm. But my dad told me to go to college. Back then, I thought, "This has got to change." It was bad back then, too. It hasn't changed or gotten better. Now we see those days as the good old days. Everything is going west—for cheaper land, more open space. Maybe we will be more like Lancaster County—small farms, pick-your-own, specialty crops. I hate to see that, but...

Modest. I think there will still be farmers here in 100 years, assuming that there are any farmers anywhere.

Dim. I hope that I am wrong. But that is my opinion. I am doing OK. But others will need to watch themselves. Where will some young guy be able to come in and make it?

It will always play a significant role in this county.

Another way of getting at the question of future viability of the farming sector in the county was to ask agricultural leaders interviewed whether they would recommend that "a smart, hard-

working young person with an agricultural background be a farm operator in Berks County.” Only two interviewees said they wouldn’t recommend it to someone. Most said they would recommend it to someone, and some without any hesitation. A few noted that they would need financial support (e.g., off-farm income) and a good business plan; several noted that they only would if they were the next generation coming up on the land. Overall, it was a very optimistic response.

Yeah, I would do it. But it is how they want to go about it. Finding real estate that is profitable is going to be tough. For example, land came up for sale near my office—it had no buildings, and it was preserved. It sold for \$700,000 with 100 acres, about 80 tillable. The math doesn’t work on those prices. [Interviewer asked what will succeed on that land.] I think maybe contract operations—birds or pigs—because they have the steady cash flow. Those are good. I thought about that myself a few years back. Dairy is going to be more difficult; the cash flow is tough. You cannot 100% finance dairy.

Yes, but they would have to be willing to be a direct marketer. Not traditional farming—I would send someone who wanted to do that elsewhere.

Very much so. No ifs, ends, or buts. If they know the business, the opportunities are unbelievable. That is not to say there are not challenges.

I would not recommend this unless they were up for a challenge, and not if they wanted to settle down. If they wanted to settle, I would encourage them to move farther west.

Yes, it is a great place to farm. I think it is exciting because there are so many opportunities.

If this is what they want to do, certainly I would. It is a way of life—you need to want to do it. It has to be in your blood.

Yes! It is a great area. We are two hours from New York, close to the Philadelphia market. It would be interesting to do a crop/dairy/goat operation. It could sustain economically. What takes people out of dairy is the cement and milking for so long. But the new milking parlors are taking care of some of that. It is expensive, but the agricultural lenders will give the money for it. And niche markets are popping up, for example, for cheeses. And some consumers are looking for healthier alternatives such as goat’s milk and cheeses. If I were young, I’d dabble in a few things.

Yeah, I think for many people it would work well. One of our friends is a young farmer who is farming 1,200 acres and is doing very well. The difference is the business savvy; they need this to be successful.

In Berks, yes. I think there is a real interest in farming. If they can adapt to new techniques, new technologies. And some areas remain less developed in Berks County.

Sure, if that is their interest. No hesitation.

I just financed a startup this February. They came in with a business plan with capital backup. Without the capital, they cannot. So I would say yes, but if they had the right support.

Only if they can put resources together to put together a business plan. It can be an excellent life in Berks County, but you have to have a good business plan and financial support. For instance, you need to have off-farm income or family support.

Yes, if the desire is there. But they need planning and looking at the costs and benefits. If they have that, there are many opportunities here.

That is a tough question. I have [a child] at home with all of those things. But my farm is not large enough to support [my child]. Access to land is a challenge. If prices were less, [he/she] could do it. But [my child] wants to do a dairy and [he/she] can't do that on my land. If [he/she] wanted to do medicinal herbs instead, [he/she] would do real well. You have to adjust.

Sure. The key is the individual's ingenuity and ability.

I would recommend if he comes from a family farm and has the land. If it is a new farmer who wants to own, I would recommend going to another state because of land prices.

No, I wouldn't tell them to do it. The money to start the farm would kill them. He would have to start small, and fight for acreage all the way along. And the acreage would be spread out and not in one place.

Yeah, sure. There are very few industries where people can work up to a \$100,000 net worth in a few years' time.

They can't afford it if they are not the next generation. The only way it can happen is if they are the next generation on the farm.

Yeah, without hesitation.

Yeah, I would if I knew their capabilities. I was farming at one time myself but I had to get out of it for health reasons. I see it as a future for a young person. The key is keeping the land in farming.

Opinions about Future Program Emphasis for Support of Agriculture in Berks County: We also asked the survey respondents to tell us what they thought interested citizens should do about the viability of farming in Berks County over the next 20 years (Table 15). The results were fairly mixed, although protecting land from development was very popular. Almost half (43%) said that activities should be undertaken to protect the land from development through actions such as PDR or zoning. Another quarter said that equal emphasis should be given to the goals of farmland protection and more profitable farming, while 14% said actions should be taken to help farmers to farm more profitably. Only 6% said, "Do nothing."

Table 15. Berks County—Options for Support of Agriculture over the Next 20 Years	
Options	Percentage
<i>N</i> = 122	
Do nothing: let the private market forces guide things	6
Help to protect land from development through purchases of development rights or zoning	43
Help farmers to farm more profitably	14
Give equal emphasis to the objectives of farmland protection and more profitable farming	25
Not sure or did not respond	11
Do something else or in addition	2

Finally, we asked the agricultural leaders about any governmental or private programs, beyond those we spoke with them about, that they thought would likely make a difference in the nature of agriculture in the county 10 years from now. Many had some ideas about programs that would help agriculture in the county. These recommendations are found below. Other recommendations have been developed recently for Berks County agriculture.¹¹

Water quantity and quality. If we develop all the land, we may not have the water reservoirs. There are discussions with companies downstream in Philly to look at the land-use aspect. Green space is needed to preserve water quantity and quality in the area.

I don't see any other programs. I personally believe we are just at the mercy of the global economy.

The agricultural security areas, zoning, and farmland programs are the primary things, really. There are smaller groups, like the Granges, that are still here. CREP and other programs such as that help farmers with the land they have, but they are small in comparison to the farmland programs.

No, not that I know of. Agricultural preservation is not hitting where it should. We may be saving ground but not farmers. Farmers will not survive. Look, we have preserved land but it is still selling for so much money. Preservation programs are missing the mark.

I think several. The Farm Preservation Program needs to keep going. It is imperative to keep land and production going here. Public education through the Department of Agriculture and other places needs to keep consumers aware of why local agriculture has to be there.

Even if we do not participate in the land preservation program, we still see that those keep it as a rural community. The more farmers you lose, the more machinery and equipment dealers and support businesses you lose. When my parents moved here 50 years ago, they said there were those businesses everywhere. Now even the hardware

¹¹American Farmland Trust (AFT), 2005, *Challenges and Opportunities for Agricultural Viability in Berks and Schuylkill Counties* (Washington, DC: American Farmland Trust).

stores are doing more focus on landscaping. Once you don't have those businesses, it makes it very hard to farm.

The critical issues they have right now are whether they renew the [agricultural preservation] bonds. As you probably know, they just approved Grow Greener II in Pennsylvania; [what is] important is how much of GGII money (\$800 million) will go to agriculture. One challenge I have seen is that most farmers are mostly leery of the preservation programs or agricultural zoning programs because their retirement money is tied up in the land. So they don't all speak as one voice, and that is a problem.

Zoning is the biggest one. Part of the issue is whether the township continues to do it versus the county level. The development is like putting a landfill in the middle. The township's control of zoning is a problem because they don't look at how development affects the entire county. They are more willing to provide variances to developers that then affect farms and other things near it.

I have been reading a lot about conservation subsidies replacing commodity payments. I see that as a positive, but it also worries me. Those programs could be used to support open space instead of production agriculture.

Certainly planning and land use are critical. One plus is many communities are planning in a multimunicipality way—they are doing it already on a regional basis. We studied whether agricultural zoning has been effective. Some areas have effective zoning, while others need better zoning. We need to talk about acreage that can be preserved in ways other than through the easement program.

Definitely the easement program. Possibly marketing and support for extension. Business-friendly regulations that support local agriculture.

Federal farm programs all have a huge impact. That just trickles down. Also, what happens internationally as well affects Berks County farmers. For instance, some farmers here are importing organic soybeans at three times the cost, when I know they'd rather buy them from their neighbors. It is hard for county programs to make a difference. The state preservation program has made a difference in preserving some land. The local 4-H can make a huge impact. And, on the edge of things, we are looking at carbon credits. Internationally, nationally, and locally. Even some farmers in Berks County are looking at selling their carbon credits to Europe. Those programs are on the edge. Another example is the new Chesapeake Bay program, which is paying to keep pollutants out of the water.

No. I almost think the less government the better off the farmer will be. And just let the markets work. One example is the dairy farmer that tells me he is not making changes because he is currently subsidized; he isn't thinking that way. I am a Democrat and I know that sounds like a Republican statement. Other examples are programs that burden the farmer, for example, setbacks being put in by townships. So, less government intervention is better.

Absolutely. What the Pennsylvania Department of Agriculture has done with the Dairy Task Force is absolutely helping. Communities need to help farmers become more profitable. These programs are right on target and will make a difference, if they are used.

Nothing. Government doesn't have anything. Government is trying to control farming completely. The feds don't like smaller farms. For example, FSA regulations are not small-farm friendly. The feds want control in some way. The bigger you get, the more money you get from the government, for instance.

Probably not. It will come down to supply and demand of products. Let's say the government gets out of subsidies, commodity prices will have to go up to reflect that.

We already talked about the farm preservation programs. Also, the Farm Bill at the national level could help farmers if they wanted to. I am worried about cuts there. The price supports are important to farmers. Also, PSU's College of Agriculture and Extension is important and I hope they continue.

No, I don't think so. Unless they can stop encroachment of farmland by eminent domain as well. Some farmers I know sold their farms but some had it taken from them. The problem for farmers that come to my age and their land is worth so much is that if they haven't put it into preservation, they are likely to sell it.

The farm preservation programs will—they are making a difference. That land will be preserved, and while it may not be farmed by the current farmer, someone will be farming it in my future.

Appendix: Demographics of Survey Respondents

Gross sales categories	1–49 acres	50–179 acres	180–499 acres	500–999 acres	All farms
	-----Number of operations-----				
Less than \$10,000	18	9	1	—	28
\$10,000 to \$49,999	7	6	2	—	15
\$50,000 to \$99,999	1	2	—	—	3
\$100,000 to \$249,999	—	6	1	—	7
\$250,000 to \$499,999	—	—	2	—	2
\$500,000 and above	—	1	—	1	2
Total	26	24	6	1	57

Type of acreage (<i>n</i> = 87)	Average acres	Maximum acres reported	Percentage of respondents reporting this type of production (<i>n</i> = 93)
Vegetable, melons, sweet corn, potatoes	1	18	20
Fruits, nuts, and berries	.1	1	8
Nursery, greenhouse, floriculture, sod, and mushrooms	1	50	4
Grains (corn, soybeans, wheat, barley, oats, etc.)	47	420	63
Hay and other forage crops	25	200	63
Woodland crops (e.g., Christmas trees)	1	24	12
Pasture, livestock yards, paddocks, stables	9	75	51
Aquaculture	0	1	2
CRP and other acres not in production in 2005	3	110	11
Other use	4	130	16
1 crop grown on land			39
2 separate crops grown on land			37
3 separate crops grown on land			12
4 separate crops grown on land			6
<i>Type of animals (<i>n</i> = 52)</i>	<i>Average number</i>	<i>Maximum number reported</i>	
Hog and pigs	322	15,900	9
Dairy cattle and calves	28	450	20
Beef cattle and calves	8	150	19
Poultry for meat or eggs	4,822	250,000	11
Horses	3	40	22
Sheep	2	65	4
Fish	79	4,000	2
Other	1	60	6

Appendix Table 3. Berks County—Gross Farm Sales	
Categories (<i>n</i> = 57)	Percentage of farms
Less than \$10,000	49
\$10,000 to \$49,999	26
\$50,000 to \$99,999	5
\$100,000 to \$249,999	12
\$250,000 to \$499,999	4
\$500,000 and above	4

Appendix Table 4. Berks County—Percentage of Household Income from Farm Operation	
Percentage of household income (<i>n</i> = 55)	Percentage of farms
Zero	14
1% to 24%	48
25% to 49%	7
50% to 74%	4
75% to 99%	11
100%	11
Not sure	5