

CHAPTER 2: AGRICULTURAL INDUSTRY IN SUSSEX COUNTY



The farming industry of Sussex County is an integral part of New Jersey's agricultural economy and heritage. It is the traditional hub of dairy and livestock operations in the State, and remains among the top three New Jersey counties in milk production, dairy cows, and beef cattle. Sussex County is also among the state-wide leaders in hay and apple production. (*2006 Annual Report of the New Jersey Department of Agriculture*)¹

While maintaining its preeminence in the more traditional farming practices, the agricultural industry in Sussex County has also been able to effectively diversify its activities in response to changing market conditions. The County supports thriving agritourism operations that attract thousands of visitors each year, and is also pioneering new cooperative programs in which farmers produce more "value added" products.

In addition to its importance within the State's agricultural economy, farming in Sussex County is a significant part of the local economy. Agriculture accounted for more than \$14.8 million in sales during 2002 – an amount that was dramatically influenced by the severe and statewide drought conditions that occurred that year. (*2002 Census of Agriculture*)² While this figure represents less than one percent of the County's overall business sales (*2002 Economic Census*)³, agriculture exerts a considerable economic influence through its many market linkages. Agriculture directly supports ancillary businesses, such as equipment suppliers and livestock veterinarians, whose sales are not captured within agricultural figures, but depend upon agriculture to create the necessary demand for their services.

Farms provide indirect support to the local economy as well. They offer seasonal employment opportunities for young residents and seasonal workers who, in turn, patronize local stores and businesses. Tourists who visit Sussex County to enjoy its scenic agricultural landscapes and patronize its farm stands and markets also support local restaurants and motels. The influence of these agricultural linkages on Sussex County's economy is unmistakable.

Agriculture also provides a greater economic benefit to the local community than other kinds of land uses. Farms require few, if any, municipal services while residential neighborhoods and commercial districts demand significant expenditures on road improvements, sewers, and schools. Many studies have found that New Jersey municipalities spend between \$1.04 and \$1.67 on residential developments per \$1.00 in tax revenues levied on them – a net loss to local governments. Meanwhile, towns spend

between \$0.27 and \$0.33 per \$1.00 levied on farms, which indicates that agriculture provides a net gain to local governments. (*Association of New Jersey Environmental Commissions, 2004*)⁴ In fact, farms also provide many external benefits, such as groundwater filtration and stormwater control, that local governments might otherwise have to supply.

Additionally, farms generate a positive cash flow to the local economy by selling their products to buyers outside the County, such as distributors and tourists. Local farmers spend the revenue earned from these sales locally, which supports the County's economy. Contrarily, retail stores and other non-agricultural firms that cater to local residents often send their revenues out of the County. In this way, agricultural production is preferable to other kinds of business activities because it promotes a more stable and independent local economy.

Statistical Resources

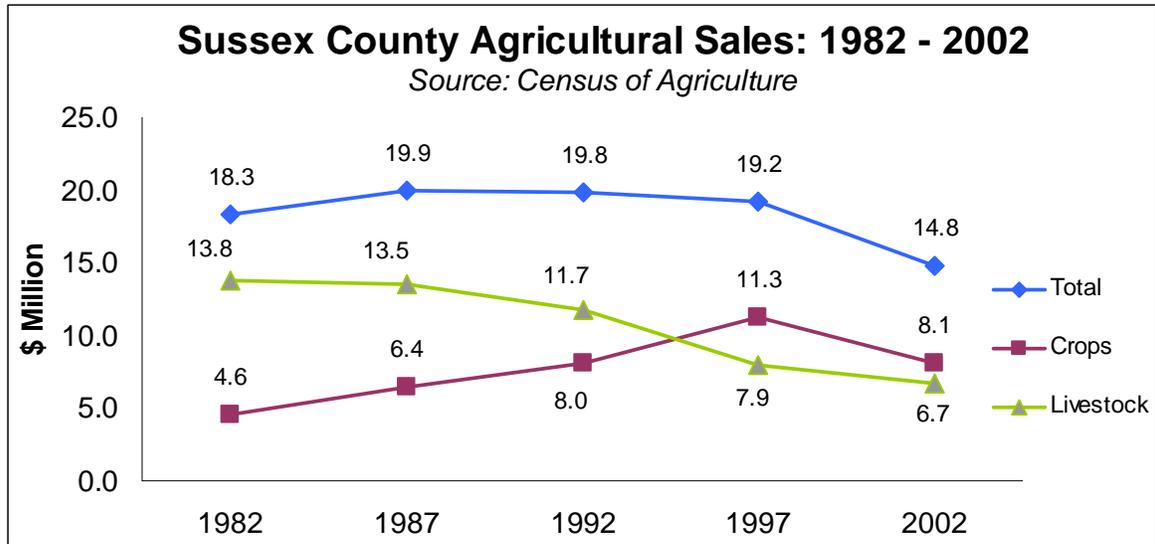
Agricultural production and market value trends were calculated using data from the United States Department of Agriculture's National Agriculture Statistics Service. (*NASS*)⁵ The agricultural yields for many products have been tabulated annually since 1953, while the yields of other products have been recorded only in more recent years. These historical trends are supplemented by data from the annual reports of the New Jersey Department of Agriculture. (*2006 Annual Report of the New Jersey Department of Agriculture*)

Trends in the market value of the products produced by Sussex County's agricultural industry are more difficult to determine. Overall market values are not compiled annually at the county level, but rather reported every five years as part of the National Census of Agriculture. The most recent set of information available through the Census of Agriculture was published in 2002. The next Census report will be available in 2008.

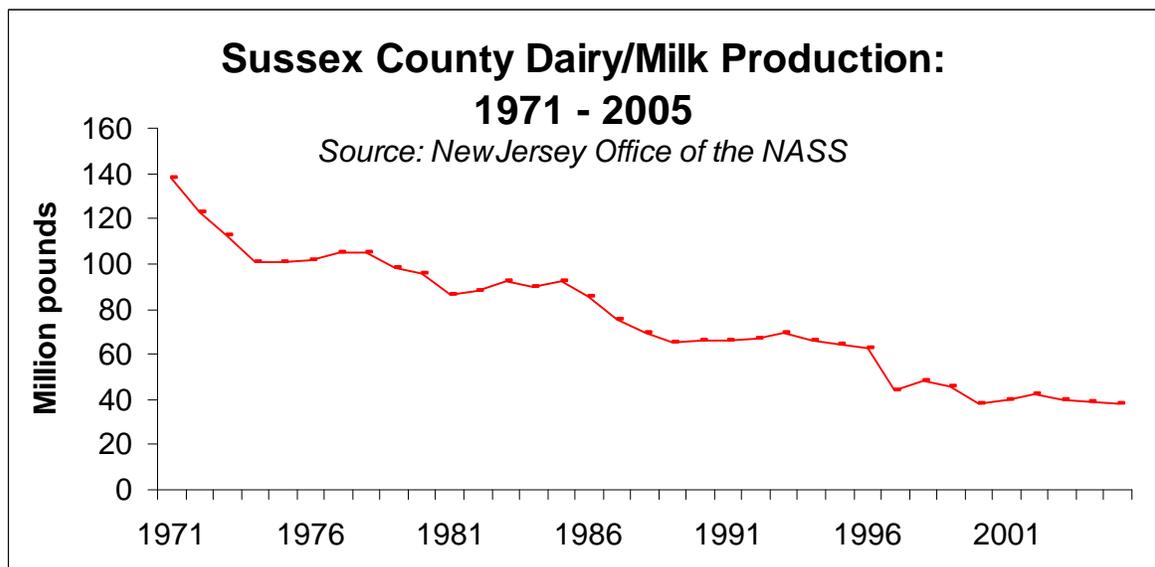
Further obscuring this trend is the additional susceptibility to sampling error that occurs with less frequent data observations. For example, the last Census report was taken in 2002 – a year in which New Jersey experienced severe drought conditions that greatly reduced the agricultural output of many crops. This variability should also be considered when interpreting market value data.

Agricultural Production and Market Trends

The Census of Agriculture classifies agricultural activities in two categories: "crops, including nursery and greenhouse" and "livestock, poultry and their products". Crop sales in Sussex County fell 28% to \$8.1 million in 2002 from \$11.3 million in 1997. This sudden drop in the County's upward-trending crop sales is most directly attributable to abnormally dry weather conditions in 2002. Sales of "Livestock, poultry and their products" dropped 15% from \$7.9 million in 1997 to \$6.7 million during 2002, showing a continuing decline in sales from this sector (see *Agricultural Sales* chart below).

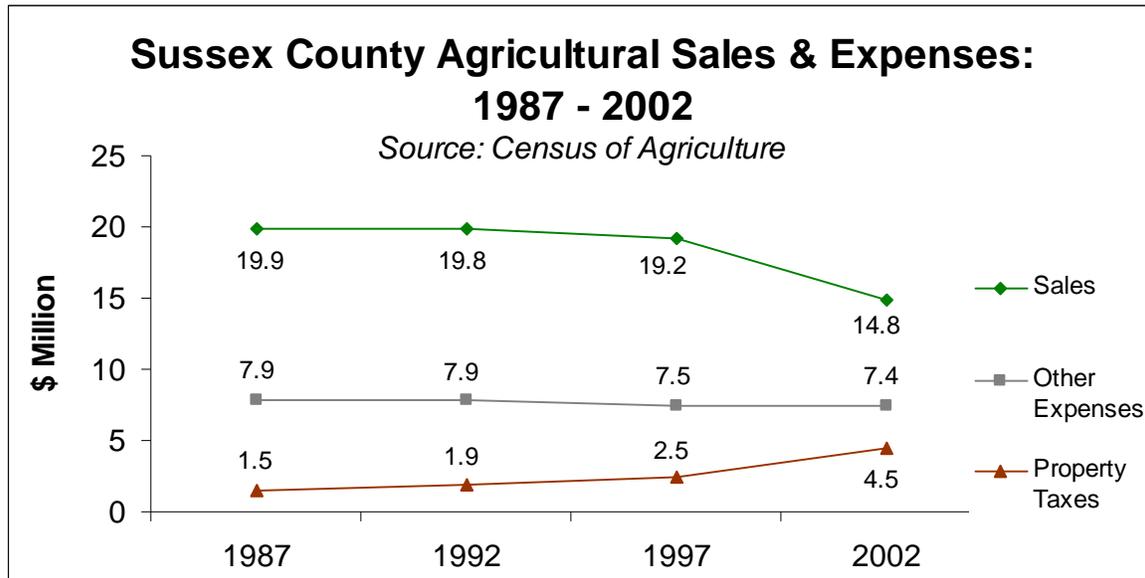


Dairy has been the dominant agricultural industry in Sussex County throughout its history. It remains the largest single contributor to agricultural sales in Sussex County today accounting for nearly \$4.6 million of the County’s livestock sales during 2002. In spite of this, dairy production has been in decline since the early 1960’s. (*1975 Sussex County Soil Survey*⁶; *2005 Sussex County Soil Survey*) The County’s best year on record in terms of milk production was 1971 when it produced over 138 million pounds, while its worst year on record was 2005 when it produced less than 38.4 million pounds (see *Milk Production* chart below). (NASS)



Decreasing dairy production has been largely influenced by unfavorable market conditions. A combination of high input costs, historically low milk prices, and weather related losses in 2005 created a scenario that the New Jersey Department of Agriculture likened to “a perfect storm”. (*2006 Annual Report of the New Jersey Department of Agriculture*)

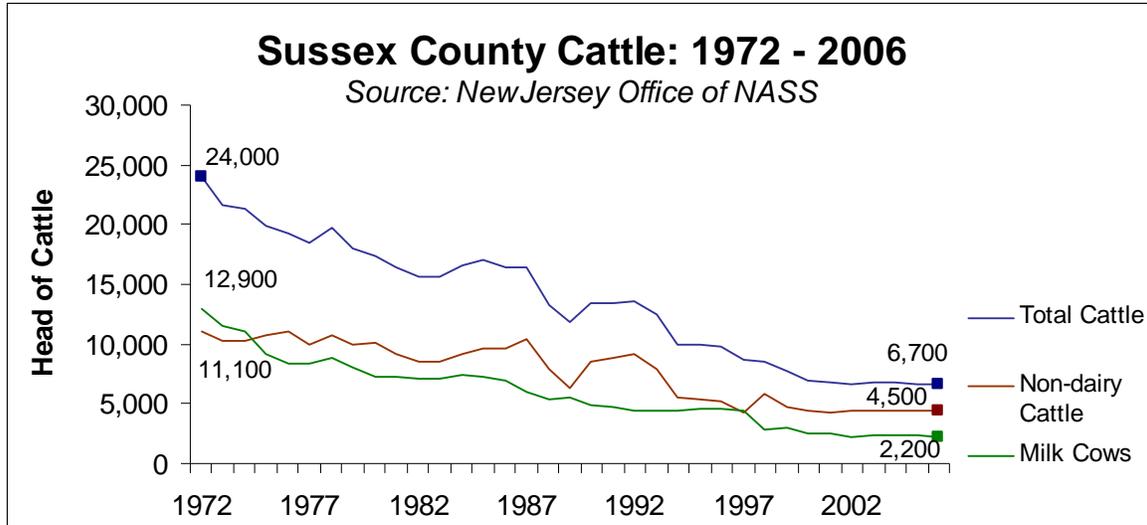
Among the most significant input costs to Sussex County dairy farmers are high property taxes (see *Agricultural Expenses* chart on page 2-10). Dairy farms require more extensive plots of land than most agriculture operations, and rising taxes affect them disproportionately. As property taxes continue to occupy more and more of farmers' sales (see *Sales & Expenses* chart below), alternative uses of dairy land will be more economically attractive to many farmers.



Erosion of the local support infrastructure has affected dairy producers as well. After the New York demand for Sussex County dairy products dropped during the 1960's, many dairy support businesses relocated or closed. Consequently, there are few remaining creameries in Sussex County, which forces many dairy producers to ship their products considerable distances to be processed. There is also a lack of livestock veterinarians in the region. The expenses incurred by dairy farmers due to inadequate support services have influenced those who wish to remain in agriculture to transition their operations towards less infrastructure-intensive practices, such as corn or wheat production. These factors present a significant danger to the continued success of dairy farms in Sussex County.

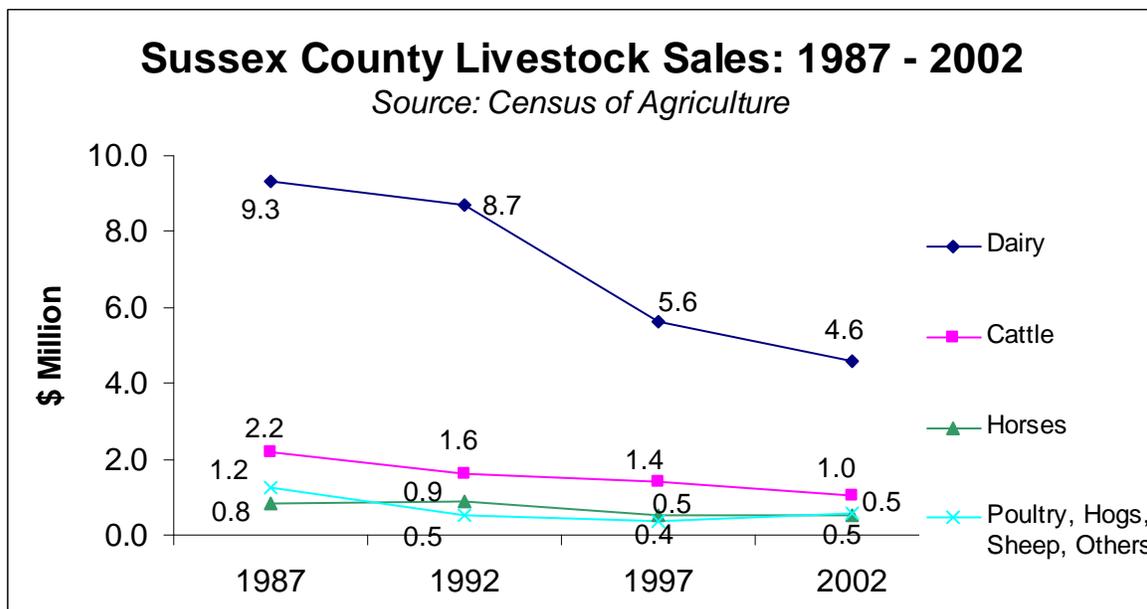
Non-dairy cattle operations comprise a significant portion of the County's livestock activity as well. The number of non-dairy cattle in Sussex County (4,500) was more than twice the number of dairy cattle (2,200) during 2006, and more farms engaged in the sale of cattle (182 in 2002) than any other livestock activity. Sales of cattle and their products exceeded \$1.0 million in 2002, down from previous Census years (see *Livestock Sales* chart below).

The sale of cattle is related to the dairy industry and its demand for these animals. As the dairy industry in Sussex County has waned, so has the number of cattle in the County (see *Sussex County Cattle* chart below). However, the comparatively lower land intensity of non-dairy cattle operations may encourage dairy farmers in Sussex County to explore alternative uses for their herds, such as beef. If land values continue to increase, it is likely that more dairy farms will begin to utilize their cattle in different ways.

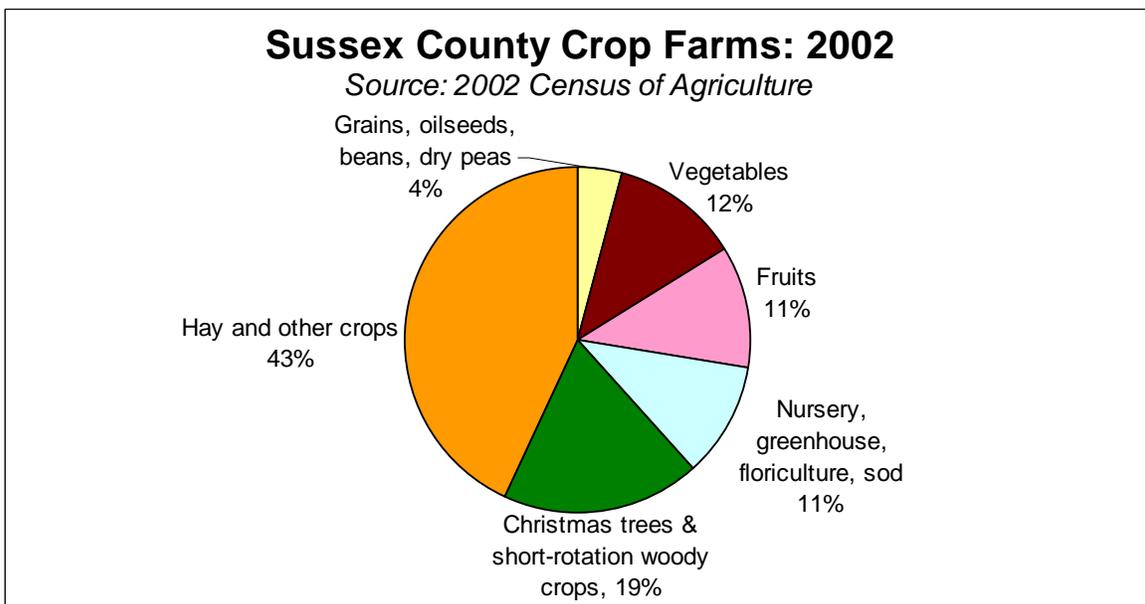
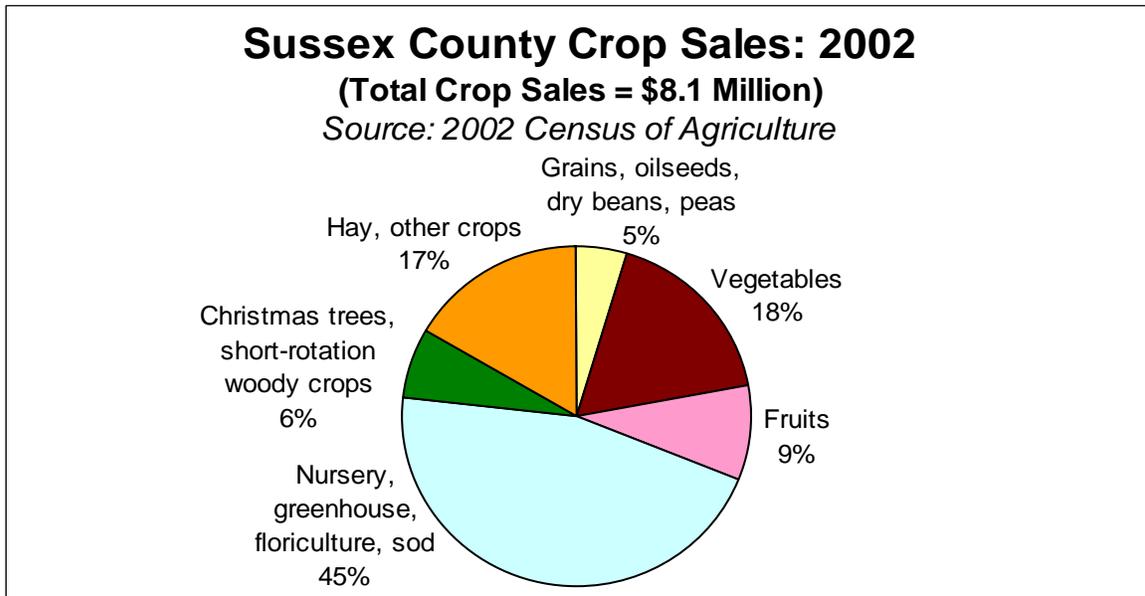


Horses, as well as horse goods and services, are popular agricultural products in Sussex County. Their share of the County's overall agricultural sales is small (\$525,000 in 2002), but they offer more economic linkages, in the forms of riding lessons and Agritourism, than most other agricultural products. Also, horse farms in Sussex County are moving away from the breeding of horses and more towards pasturing and stabling. Revenues from these activities are not reflected by agricultural sales numbers, but provide a significant contribution to the financial viability of these farms.

Other livestock produced by Sussex County farmers include poultry (\$274,000), sheep and goats (\$153,000), hogs (\$74,000), and other animals (\$71,000). Most of the farms that support these animals do so to supplement other agricultural or economic activities. Consequently, few operations rely upon them as their sole source of agricultural income.

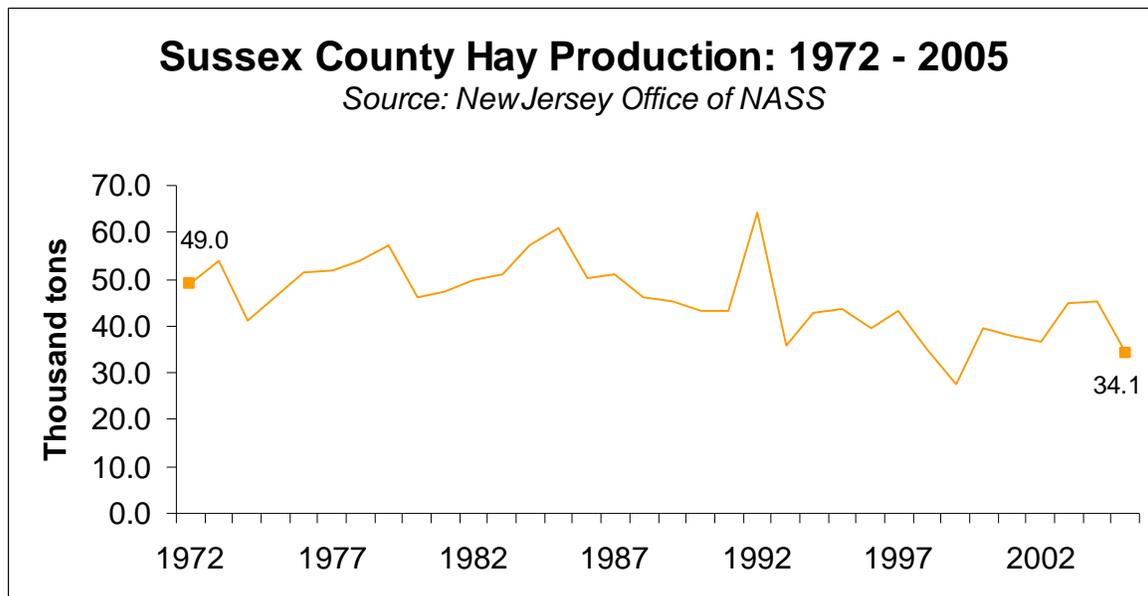


Crops in Sussex County generated \$8.1 million in sales during 2002. (see *Crop Sales* chart below) Among the County's crops, nursery and greenhouse products yielded the most sales with nearly \$3.7 million (45% of all crop sales). Sales from this sub-sector steadily increased during the 1980's and 1990's, reaching a peak of nearly \$6.0 million in 1997. The sales of nursery / greenhouse products and vegetables (the County's second highest grossing sub-sector with \$1.5 million in 2002 sales) have since declined. These declines are due to drought-related losses in the 2002 Census year and growing costs associated with maintaining these operations. Nursery/greenhouse and vegetable crops – including sweet corn, tomatoes, and pumpkins – are among the most input-intensive and expensive crops to grow. They often require substantial nutrient and irrigation inputs, artificially created growing conditions and agricultural labor in order to harvest and process them.



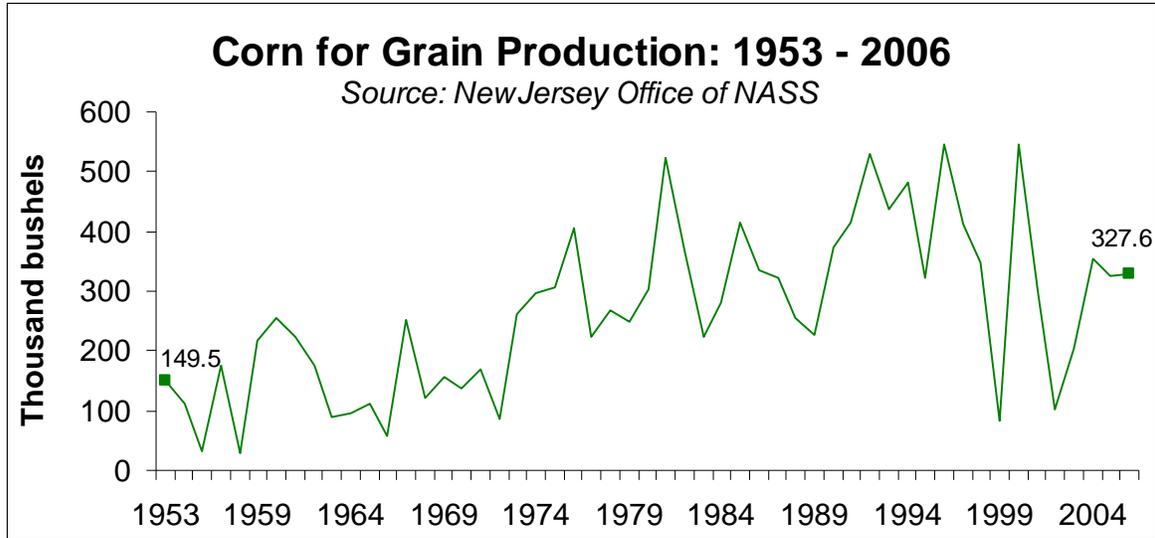
The most commonly produced field crop in Sussex County is hay. Hay is grown by 43% of the County's farms and is planted on nearly 80% of the County's tilled cropland (21,195 acres in 2002). Sussex County produced 36,700 tons of hay in 2002, making it the second highest producer of hay in the State behind Hunterdon County (see *Hay Production* chart below). Hay is an excellent crop to grow in Sussex County because it can be easily farmed on the County's rolling hills and soils. It also does not require many of the fertilizer and irrigation inputs that are necessary with other field crops. Increases in the costs of these inputs have encouraged more farms in Sussex County to rely heavily on hay production (see *Crop Farms* chart above and *Production Expenses* chart on page 2-11).

Sales of hay from Sussex County totaled only \$1.4 million in 2002. Much of the County's hay is produced for horse and livestock operations that, in turn, use it as feed for their animals. Consequently, this hay is never sold or recorded in the Census sales figures, and plays a larger role within the local agricultural industry than its sales numbers indicate.

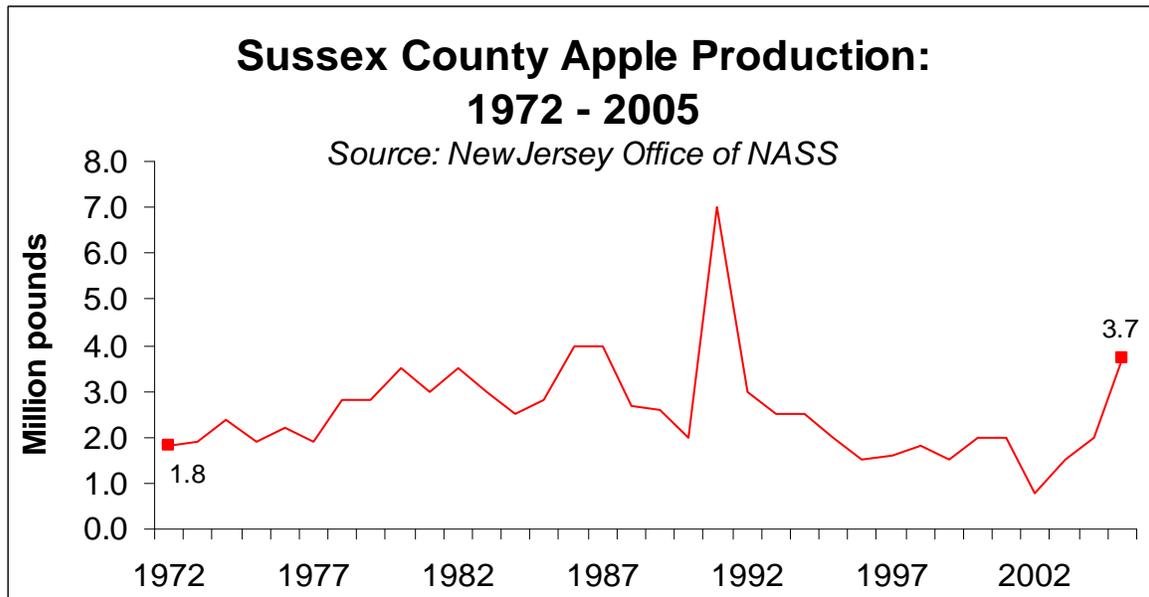


Corn for grain has been a staple crop of the agricultural industry in Sussex County. Behind hay, corn occupies the most tilled acreage in the County (4,059 acres in 2002). Similar to hay, corn requires relatively low input costs and grows well in Sussex County's soils. It is also commonly grown by livestock farms and used as feed for their animals, causing much of the County's corn production to be excluded from Census sales figures.

Corn for grain sales fell to \$382,000 in 2002; however, this figure is not representative of the County's regular corn sales. Corn production is closely related to rainfall, and large annual fluctuations are common. Severe drought conditions during the 2002 Census year were observed throughout the State, yielding one of the smallest corn harvests in recorded history (101,000 bushels). Production during the past three years has exceeded 2002's figures by more than three times (see *Corn for Grain Production* chart below).



Fruit production in Sussex County is dominated by apples and peaches. Together, these crops grossed roughly \$700,000 in sales during 2002. Their yields were heavily affected by drought conditions, however, which reduced output to its lowest level in recorded history – 800,000 pounds (see *Apple Production* chart below). (NASS) The apple industry has recovered strongly from the drought, and has produced larger harvests since 2002. Sussex County now ranks fourth among New Jersey counties in terms of apple production (3.7 million pounds in 2005). Fruit farms have excellent potential to utilize value-added and Agritourism markets in order to boost their agricultural yields. Consequently, their growth is expected to continue throughout Sussex County.



Agricultural Support Services and Related Industries

Agricultural support businesses are scarce in Sussex County. Small concentrations of agriculture-oriented businesses exist near Newton and Sussex Borough, but farmers in Sussex County primarily rely upon out-of-state and mail order businesses for their supplies. Necessary processing facilities, such as creameries, meat processing plants, and lumber mills, are limited within Sussex County as well.

Some farmers find that reliance upon out-of-state suppliers and non-local processing facilities imposes high transportation costs that cut deeply into the profitability of their operations. Consequently, Sussex County's farmers have become adept at minimizing the need for many repair services by fixing most mechanical problems themselves. Farmers tend to specialize in agricultural repair and supplement their incomes by offering their services to other farmers.

Sussex County farmers benefit from a variety of non-business support services that work to maintain agricultural viability in the County. Sussex County farmers have the support of many non-business organizations including: the Sussex County Board of Agriculture, the New Jersey Farm Bureau, Rutgers Cooperative Extension, 4-H, Future Farmers of America, Sussex County Soil Conservation District, Natural Resource Conservation Service, and the Sussex County Farm and Horse Show / New Jersey State Fair. *Chapter 8* contains a more thorough discussion of these groups and their efforts.

There are numerous other reference materials and websites that provide listings of other agricultural organizations that provide assistance to farmers. These include Rutgers Cooperative Extension of Salem County Green Pages (<http://salem.rutgers.edu/greenpages/services.pdf>), and the Directory of New Jersey Agricultural Organizations published yearly by the NJ Department of Agriculture

These organizations work together to undertake various initiatives that substantively improve the County's agricultural industry. One such initiative – the Sussex County Dairy project – began as a collaborative effort between Rutgers Cooperative Extension, the New Jersey Department of Agriculture (NJDA), and the Sussex County Board of Agriculture to increase the profitability of Sussex County's dairy industry. It has since published studies promoting and outlining the necessary steps for establishing a milk processing facility in or near the County. The Agricultural Heritage Center at the Lusscroft Farm in Wantage Township is the product of a similar citizen-driven initiative aimed at preserving buildings on the historical farm and raising awareness of agricultural issues in the region. The project is currently seeking additional funding sources and refining its plans for the site.

Perhaps the most significant support service available to Sussex County farmers is its exceptional Agritourism industry. Sussex was the first county in New Jersey to develop a county-wide Agritourism program. Its goal is to bolster farmers' profitability by advertising local produce and farm markets and encouraging the public to enjoy the County's various agricultural resources. Through this program, the Sussex County

Agriculture Development Board (CADB) has developed an Agritourism brochure entitled “The Four Seasons of Agriculture in Sussex County”. The current brochure lists over 111 Sussex County farms to visit during all seasons, and targets markets in New York, New Jersey, and Connecticut. The County’s Agritourism website (www.sussexfarmvisits.com) serves as a clearinghouse for information about visiting Sussex County’s farms. Additionally, the CADB and staff work closely with the Sussex County Chamber of Commerce Tourism Committee and the Skylands Tourism Council to further these goals. Sussex County’s efforts to promote Agritourism have been extraordinarily successful. Sussex County led the State in recreational sales from farm activities in 2002 (\$231,000) and sold \$920,000 worth of products directly to consumers for human consumption (from farm stands and markets). (NASS) The Food Policy Institute at Rutgers University⁷ reports that 93% of farmers in the northern region of the State (including Sussex County) consider Agritourism “very important” to the future economic viability of farming their counties.

The aforementioned revenues are generated from tourism-related endeavors such as farmers’ markets and local farm stands. The Sussex County Farmers’ Market is held at the Olde Lafayette Village – a commercial shopping area at the intersection of Routes 94 and 15 in Lafayette Township for approximately 18 weeks each year. This location allows farmers to sell their products in a popular and highly trafficked commercial setting, increasing their visibility and ability for direct marketing. Sussex County also hosts the annual New Jersey State Fair, which regularly attracts over 200,000 visitors and provides an important showcase for Sussex County agriculture. The County contains more than 30 farm stands and roadside markets that sell crops and value-added products directly to the public. (*New Jersey Department of Agriculture – Jersey Fresh website*)⁸ It also contains 111 farms that are open to the public. (“*Four Seasons of Agriculture in Sussex County*”)

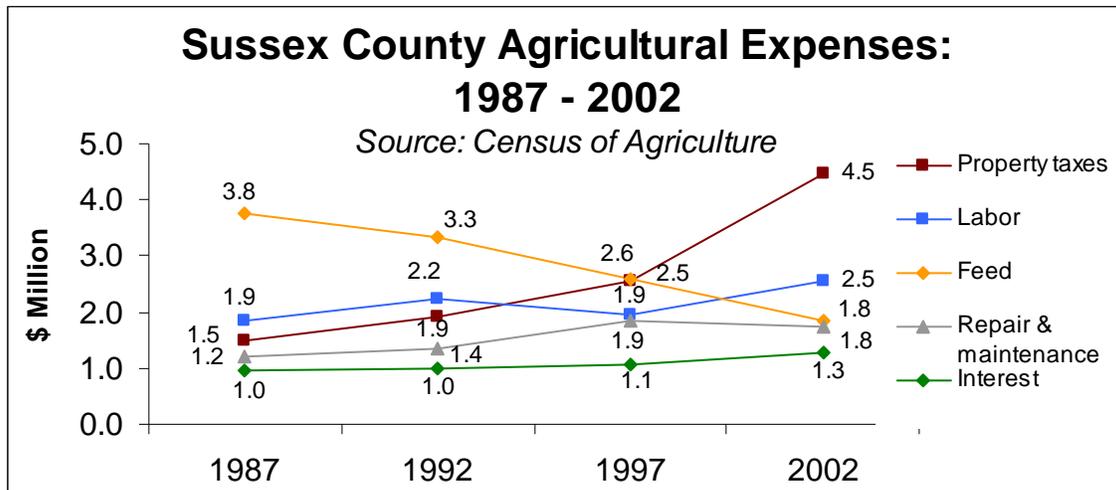
Future of Agriculture

The future of agriculture in Sussex County is shaped by market forces and social trends that are occurring throughout New Jersey and the Tri-state metropolitan region. Among the most substantial trends that are shaping Sussex County agriculture is the decline in the dairy market. Dairy occupies a foundational role in Sussex County’s agricultural industry, and its continued deterioration will have various secondary impacts. Most notably, a continuing dairy decline will result in more of the County’s dairy and livestock farmers to transition towards other forms of agriculture. Consequently, the grain and hay farms that support them will shift as well. Strong support for efforts such as that to establish a local dairy processing facility make it unlikely that dairy farms will disappear from the County. However a concerted effort is necessary to sustain dairy’s dominance in the County.

Another challenge facing Sussex County farmers is increasing land prices and property taxes (see *Agricultural Expenses* chart below). (*2002 Census of Agriculture*) This trend dictates that farm operations will become smaller and occupy less land. (*New Jersey Department of Agriculture, 2007*)⁹ However, farmers are currently trying to meet this challenge by producing goods with higher rates of return on their smaller plots of land. Farmers are transitioning towards less land-intensive products such as nursery goods, farm

stand merchandise, and equine services. These types of farming activities are on the rise in Sussex County, and are expected to continue growing.

Uncertain and inconsistent weather conditions complicate farming in Sussex County and throughout New Jersey. Widely varying weather patterns, such as those of the past ten years, make it difficult for farmers to optimize their agricultural activities. Sussex County’s staple corn and hay crops are highly dependent upon adequate, but not excessive, precipitation during the summer and autumn months. Dry years, such as 1999 and 2002, are associated with poor crop development and reduced yields. Irrigating crops to minimize drought-related losses is not a viable option for most of Sussex County’s farmers due to poor groundwater resources and high infrastructure costs. Conversely, wet and cloudy years, such as 2003 and 2004, complicate harvesting and hinder crop development. The timing of precipitation is also critical with the combination of moderately rainy conditions during the growing seasons and cool, dry conditions during harvest seasons being optimal. Annual weather conditions have a strong influence on the types of crops that are planted and, consequently, the economic viability of local farmers.



The demographics of farmers in Sussex County are shifting, too. Young farmers are being lured away from the agricultural industry by higher paying opportunities in other employment sectors. They are also being discouraged from entering the farming business by high land costs created by growing demand from developers and landowners who practice agriculture only as a secondary occupation or hobby. Consequently, fewer young people are becoming farmers, and the average age of farmers in Sussex County is increasing. Sussex County is working to address this challenge by exploring ways to attract new, young farmers and prevent the conversion of active agricultural land into non-agricultural uses. Specifically, the County has aggressively marketed its Agritourism resources and promoted the N.J. Department of Agriculture’s Farm Link program.

Overall, the outlook for agriculture in Sussex County is positive. The County’s agricultural industry responds quickly to market demands and continues to evolve as its support systems shift and its economic base changes. Innovation is second-nature to Sussex County’s farmers, and many of the County’s farming operations have already diversified

and stabilized their products in response to changing industry and market conditions. Agritourism facilities such as farm stands, pick-your-owns, and corn mazes are expected to continue thriving as the County's residential population grows and the market for these types of services expands. Value-added revenue streams from niche products such as wine, organic produce, and farm stand goods will continue increasing as well. The various agricultural organizations and governmental agencies in the County are working to make this transition easy for most farmers, and promise to continue promoting innovations that will sustain and enhance the growth of agriculture in Sussex County.

¹ New Jersey Department of Agriculture. New Jersey Agriculture 2006 Annual Report. www.state.nj.us/agriculture/pdf/06AnnualReport.pdf.

² United States Department of Agriculture: National Agricultural Statistics Service, 2002 Census of Agriculture. www.nass.usda.gov/Census_of_Agriculture/index.asp. Accessed June 2007.

³ United States Bureau of the Census. 2002 Economic Census – Sussex County, New Jersey. www.census.gov/econ/census02/data/nj/NJ037.HTM. Accessed September 2007.

⁴ Association of New Jersey Environmental Commissions. Open Space is a Good Investment. 2004.

⁵ New Jersey Office: National Agriculture Statistics Service. www.nass.usda.gov/Statistics_by_State/New_Jersey/index.asp. Accessed June 2007.

⁶United States Department of Agriculture Soil Conservation Service in Cooperation with New Jersey Agricultural Experiment Station and Cook College, Rutgers University. *Soil Survey of Sussex County, New Jersey*. Washington, DC, 1975.

⁷ Schilling, B. et al. *The Opportunity for Agritourism Development in New Jersey*. Food Policy Institute at Rutgers University. October 2006.

⁸ Jersey Fresh. State of New Jersey Department of Agriculture. www.state.nj.us/jerseyfresh/. Accessed June 2007.

⁹ New Jersey Department of Agriculture. "2007 Economic Development Strategies." www.nj.gov/agriculture/conventions/2007/strategies.html. Accessed September 2007.