

Fulton County, New York

Agricultural Development and Farmland Protection Plan

III - Agricultural Inventory

The following represents an overview and inventory of the agricultural industry sector of the Fulton County, New York economy.

1. NATURAL RESOURCES FOR AGRICULTURE

The southern area of Fulton County outside the Adirondack Park boundary includes a number of soil types suitable for active agriculture. Unfortunately, there is no published Soil Survey for Fulton County other than a preliminary General Soils Report and map. Class I and II soils, which are those typically classified as “prime farmland soils” by the Natural Resources Conservation Service, include the following:

Table 2.1 - Prime Farmland Soils in Fulton County

<u>NO.</u>	<u>SOIL NAME</u>	<u>SLOPE</u>	<u>SUITABILITY CLASS</u>
20	Nellis Silt Loam	2-8%	Ile-2
21	Galway Silt Loam	3-8%	Ile
22	Amenia Silt Loam	3-8%	Ile
22	Amenia Silt Loam	0-3%	IIw-8
32	Mohawk Silt Loam	3-8%	Ile-2
34	Manheim Silt Loam	0-3%	IIw-8
34	Manheim Silt Loam	3-8%	Ile
42	Lansing Silt Loam	3-8%	Ile-2
44	Appleton Silt Loam	3-10%	IIw-2
44	Appleton Silt Loam	0-3%	IIw-2
72	Broadalbin Loam	3-8%	Ile-22
74	Mosherville Loam	3-8%	IIwe-10
74	Mosherville Loam	0-3%	IIw-2
81	Charlton Stony Fine Sandy Loam	2-8%	Ile-5
81	Charlton Stony Fine Sandy Loam	8-15%	IIIe-5

(Continued on next page)

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Table 2.1 (Continued) - Prime Farmland Soils in Fulton County

<u>NO.</u>	<u>SOIL NAME</u>	<u>SLOPE</u>	<u>SUITABILITY CLASS</u>
83	Sutton Fine Sandy Loam	3-10%	IIwe-9
90	Palatine Silt Loam	3-8%	IIe-1
120	Herkimer Silt Loam	2-8%	IIe-5
130	Hudson Silty Clay Loam	3-8%	IIe-20
131	Cayuga Silty Clay Loam	3-8%	IIe-20
152	Scio Very Fine Sandy Loam	3-8%	IIw-2
152	Scio Very Fine Sandy Loam	0-3%	IIw-2
160	Agawam Fine Sandy Loam	3-8%	IIe-5a
160	Agawam Fine Sandy Loam	0-3%	I-3
162	Ninigret Fine Sandy Loam	3-8%	IIwe-9
162	Ninigret Fine Sandy Loam	0-3%	IIw-2
182	Elmridge Loamy Fine Sand	3-8%	IIwe-9
182	Elmridge Loamy Fine Sand	0-3%	IIw-2
192	Phelps Gravelly Silt Loam	0-3%	IIw-2
192	Phelps Gravelly Silt Loam	0-3%	IIw-2
192	Phelps Gravelly Silt Loam	3-8%	IIwe-9
197	Fredon Loam	0-3%	IIw-2
200	Howard Gravelly Loam	3-8%	IIe-5
200	Howard Gravelly Loam	0-3%	I-3
201	Alton Gravelly Sandy Loam	3-8%	IIs-3%
210	Merrimac Fine Sandy Loam	3-8%	IIe-5
210	Merrimac Fine Sandy Loam	0-3%	I-3
214	Sudbury Gravelly Fine Sandy Loam	3-8%	IIwe-9
214	Sudbury Gravelly Fine Sandy Loam	0-3%	IIw-2
230	Hamlin Silt Loam		I
232	Teel Silt Loam		IIw-7
240	Ondawa Fine Sandy Loam		IIw-6
242	Podunk Fine Sandy Loam		IIw-6
330	Allard Silt Loam		I-3

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These prime soils are found in the same areas of the County that are presently being farmed, mostly in towns bordering Montgomery County (e.g. Oppeheim and Perth).

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2. AGRICULTURE LAND AND DISTRICTS

Fulton County created its first and only New York State approved Agricultural District in 1977. It encompassed approximately 9,500 acres of farmland in the Towns of Johnstown, Mayfield and Perth. The Agricultural and Farmland Protection Board, in the course of its 8 year district review process, has proposed to expand Agricultural District No. 1 to 27,312 acres (see map on next page).

Agricultural District No. 1, with the additions proposed, would account for most major agricultural areas of Fulton County. It represents an estimated \$9,620,000 of sales or 99% of the 1997 County total based on average gross annual farm sales reported by District farmers. The District accounts for 64 or 71% of the farms with sales of \$10,000 or more reported in the 1997 Agricultural Census and 75% of all farmland.

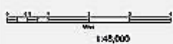
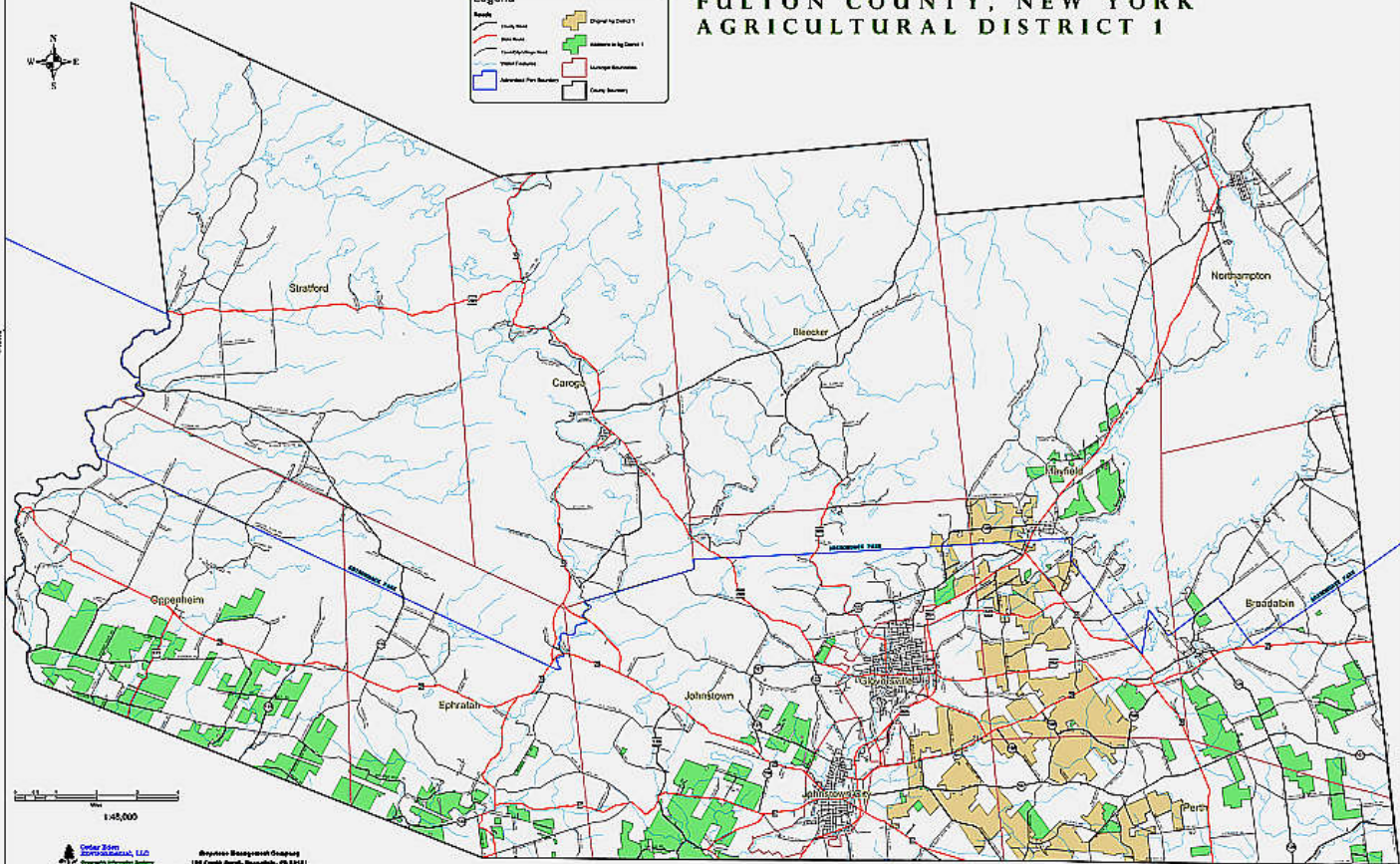
These farms are found in the plateau areas between the Adirondack Mountains to the North and the Mohawk River Valley to the South (see Land Use Map following). Most of the farms are located in the Towns of Broadalbin, Ephratah, Mayfield, Johnstown, Oppenheim and Perth. There are pockets of farmland both east and west of the Cities of Gloversville and Johnstown. Dairy farms predominate as the following listing of farms within the District by principal enterprises indicates:

PRINCIPAL FARM ENTERPRISE	FARMS
Dairy	41
Livestock (Nondairy)	21
Hay/Silage	13
Cash Crops (Grain)	6
Vegetables	4
Christmas Tree:	4
Orchard	2
Other Livestock	2
Other Crops	4
TOTAL =	97

FULTON COUNTY, NEW YORK AGRICULTURAL DISTRICT 1

Legend

- County Road
- State Road
- Township/Other Road
- Interstate/Other Roadway
- District 1 (2007)
- District 1 (2011)
- District Boundary
- County Boundary



1:45,000

Geomatics International, LLC
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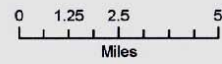
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NLCD LAND USE IN FULTON COUNTY, NY



Legend

Streams	NLCD Land Use	Evergreen Forest
FEATURE	Open Water	Mixed Forest
County Road	Low Intensity Residential	Pasture/Hay
State Route	High Intensity Residential	Row Crops
Town/City/Village Road	Comm/Indus/Transport	Urban/Recr. Grass
Municipalities	Quarries/Mines/Pits	Woody Wetlands
Adirondack Park	Deciduous Forest	Emergent Herb. Wetlands
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3. LAND USE AND DEVELOPMENT TRENDS

Between 1990 and 2000, Fulton County's population grew very slowly, yielding only limited development pressures on a few specific areas of the County. These areas, however, include most of the County's farms as the following Table 2.2 indicates:

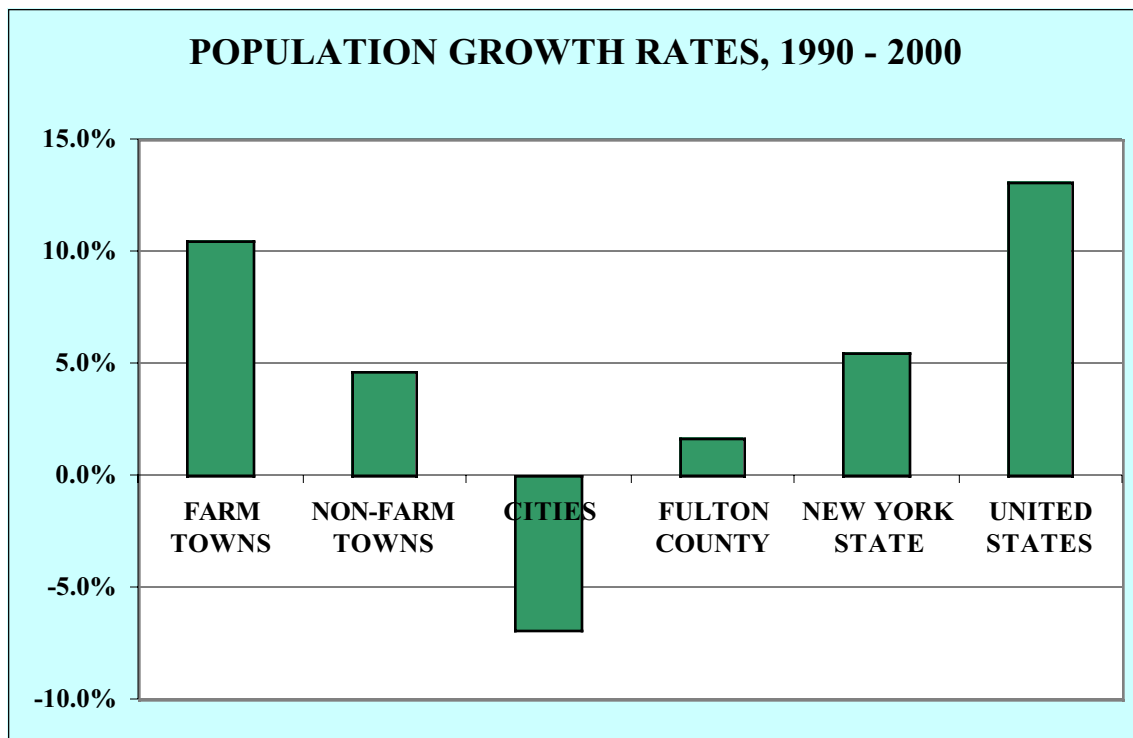
Table 2.2 - Population Growth, 1990-2000

<u>TOWN/CITY</u>	<u>1990</u>	<u>2000</u>	<u>% Chg.</u> <u>90-00</u>
Broadalbin	4,397	5,066	15.2%
Ephratah	1,556	1,693	8.8%
Johnstown	6,418	7,166	11.7%
Mayfield	5,738	6,432	12.1%
Oppenheim	1,848	1,774	-4.0%
Perth	3,377	3,638	7.7%
FARM TOWNS SUBTOTALS	23,334	25,769	10.4%
Bleecker	515	573	11.3%
Caroga	1,337	1,407	5.2%
Northampton	2,705	2,760	2.0%
Stratford	586	640	9.2%
NON-FARM TOWNS SUBTOTALS	5,143	5,380	4.6%
Gloversville City	16,656	15,413	-7.5%
Johnstown City	9,050	8,511	-6.0%
CITIES SUBTOTALS	25,706	23,924	-6.9%
FULTON COUNTY TOTALS	54,183	55,073	1.6%
NEW YORK STATE (000's)	17,990	18,976	5.5%
UNITED STATES (000's)	248,710	281,422	13.2%

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Farms towns along the southern border of the County have gained population at a rate about double that of the State as a whole while the County has remained relatively stable. The growth pressure is limited overall but there has been a slight loss of farmland within the County, about 1.2 acres per day between 1987 and 1997. This is partly attributable to new commercial and residential development. Some farms have also simply spun off unusable acreage, the average size of Fulton County farms having actually declined from 199 acres to 195 acres over the decade. Overall, however, the general loss of farmland can probably be attributed more to other factors such as low profitability and shifts to less land intensive forms of agriculture.



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4. THE ECONOMICS OF FULTON COUNTY AGRICULTURE

The 1997 Agricultural Census (source of all data for this section unless otherwise indicated) reported that 34,291 acres of Fulton County were farmed that year. This represents approximately 10% of the land mass of the entire County. There were 336 farms generating sales of at least \$2,500 in 1997 and 165 of these produced \$10,000 or more of product. Altogether, these farms produced some \$24,016,000 in sales in 1997, of which \$19,347,000 or 81% was livestock-related. These various products accounted for 633 full or part-time jobs (including 241 owner-operators primarily occupied with farming). This is the agricultural economic base of Fulton County. Table 2.3 and the chart following provide further data.

**Table 2.3 - Market Value of Fulton
County Agricultural Products, 1997**

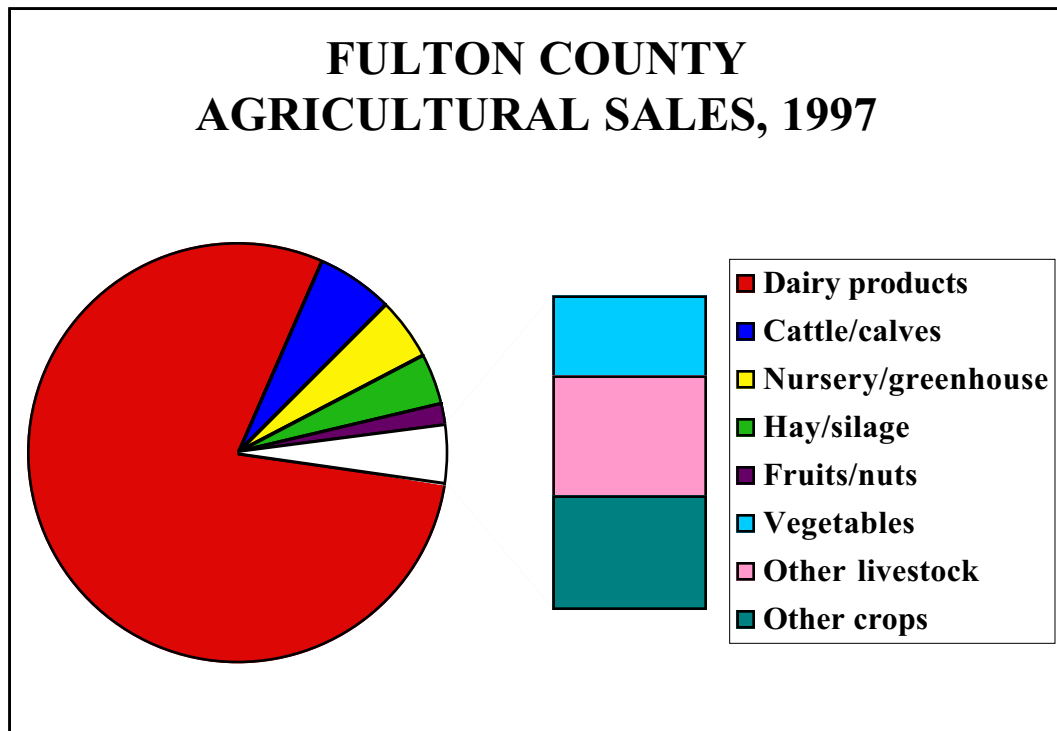
<u>Agricultural Products</u>	<u>1997 Cash Receipts</u>	<u>% of Category</u>	<u>% of Total</u>	<u>No. of Farms</u>
Dairy products	\$7,626,000	91.3%	79.2%	57
Cattle/calves	\$556,000	6.7%	5.8%	87
Other livestock	\$174,000	2.1%	1.8%	40
Livestock Subtotal	\$8,356,000	100.0%	86.8%	111
Hay/silage	\$389,000	30.7%	4.0%	49
Nursery/greenhouse	\$443,000	34.9%	4.6%	26
Fruits/nuts	\$149,000	11.8%	1.5%	9
Vegetables	\$123,000	9.7%	1.3%	16
Other crops	\$165,000	13.0%	1.7%	18
Crops Subtotal	\$1,268,000	100.0%	13.1%	92
Total Agricultural =	\$9,625,000	100.0%	100.0%	176

Totals in the above Table 2.3 may not agree due to rounding,. Also, because multiple products are often produced from the same farm, the numbers of farms overlap and cannot be directly totaled. The New York State Agricultural Statistics Service surveys indicate

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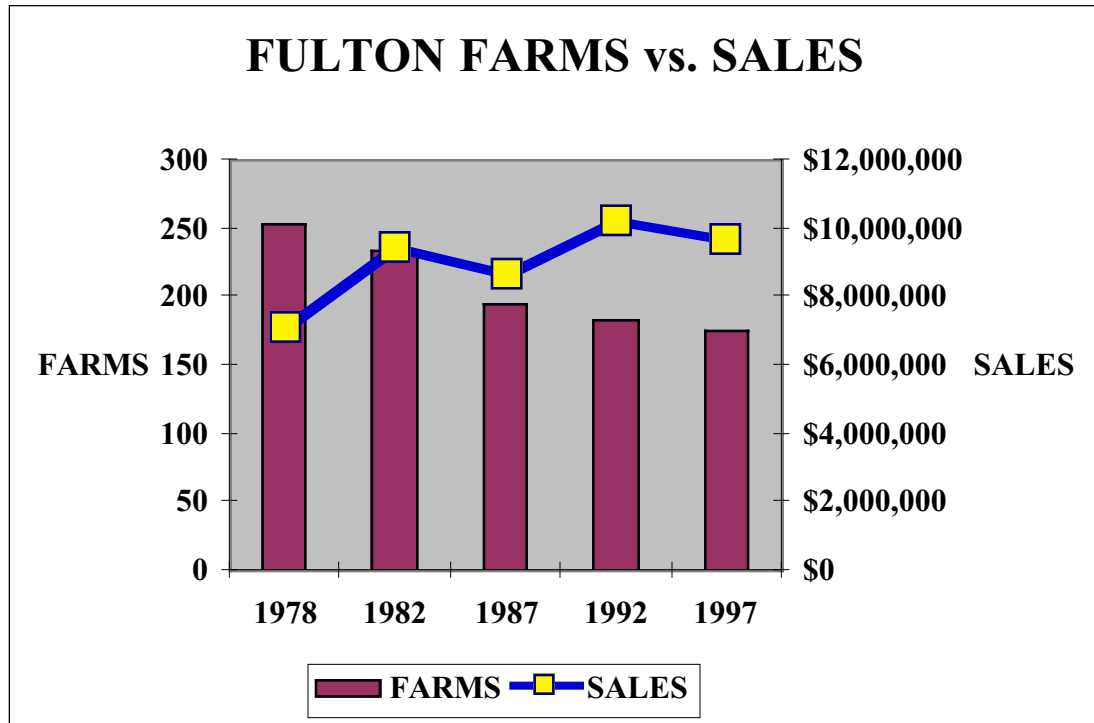
significantly higher numbers of farms (e.g. 210 farms in 1997 versus the 176 counted in the Census). This is attributable to the State's more frequent data analysis. Nevertheless, Census numbers are more complete overall and, therefore, more suitable for planning.



The charts following illustrate additional trends with respect to sales of dairy and other agricultural products. Sales of agricultural product increased by 12% between 1987 and 1997 (before adjustment for the inflation during this same period - approximately 43%). Vegetable sales gained 224%, fruits sales were up 133% and hay and silage crops grew by 97%, all major expansions in activity. Grain sales expanded 20% and nursery, greenhouse and other crops gained 35%. Crop sales as a whole increased by 66%, well ahead of inflation. Dairy product sales increased by 15%, cattle and calf sales declined 29% and others livestock operations decreased by 62% for the decade. These trends tend to counter those of other upstate areas where nursery, greenhouse and "other livestock" operations have led the increases. The vegetable and fruit sales increases are encouraging, however. Moreover, dairy product sales gains in periods of extreme fluctuations are also good.

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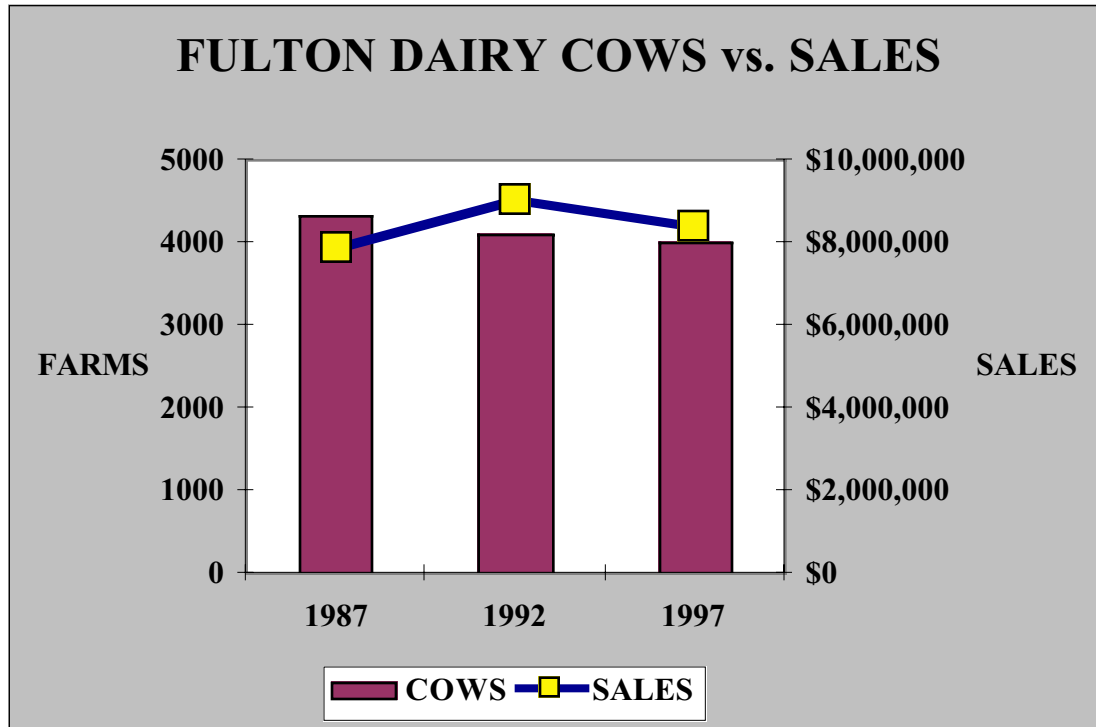


New York is one of the top states in the nation in milk production. Fulton County is ranked 42nd among New York State counties in dairy sales. Sales of dairy products in the County have, as the chart below demonstrates, remained relatively stable in a commodity line where prices have generally not increased with inflation. Cow numbers have declined, but this reflects consolidation in the dairy industry and price fluctuations that have had a major impact in driving out less efficient producers. Those who remain are producing similar amounts of product, but much more cost-effectively, enabling them to compete in this commodity market.

There are, in fact, some major dairy farms in Fulton County. There were two 200+ cow operations in 1997 and another eight dairy farms with 100+ cows. The future of the dairy industry will largely rest on these farms and their continued growth. There were no 200+ cow herds in 1987 and seven 100+ cow herds.

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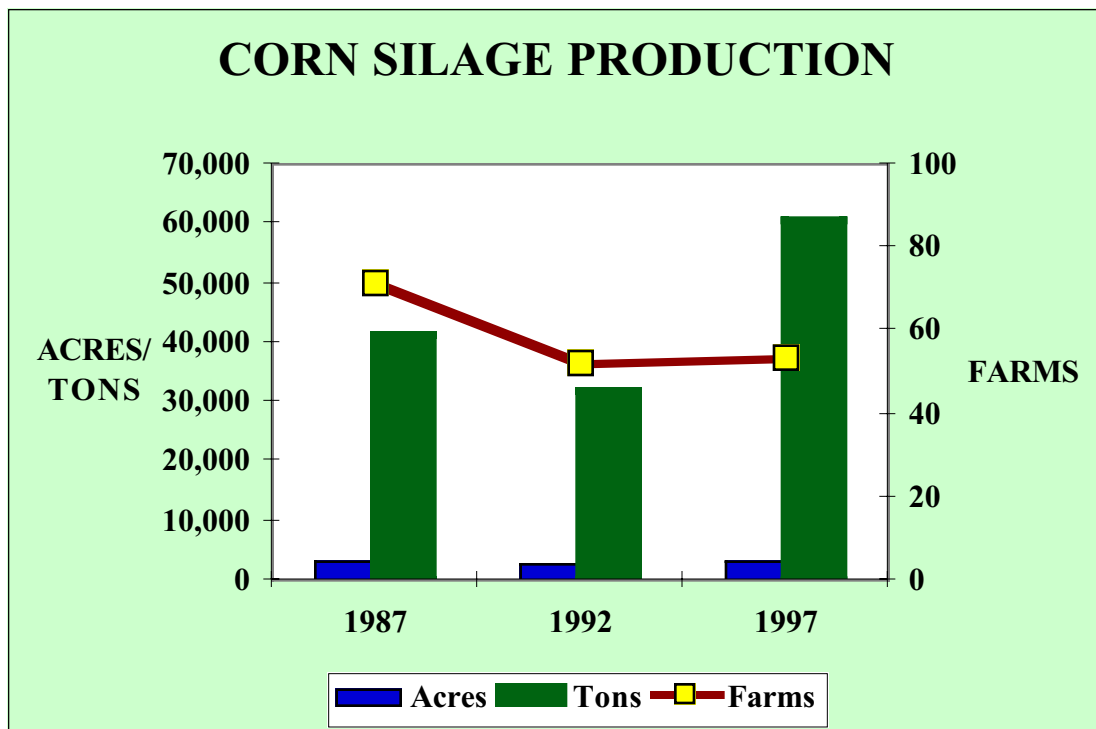
Vegetable production has gained strength in Fulton County and, based on the experience of other counties with comparable farm economies (e.g. Broome County), has the potential to expand further to serve the County's urban population base. Harvested vegetable acreage more than doubled between 1987 and 1997 (growing from 48 to 93 acres). Vegetables commercially produced include broccoli, cabbage, cauliflower, cucumbers, pumpkins, squash, sweet corn and tomatoes. There was growth in nearly all categories since 1987. Sweet corn, a very profitable crop, is now grown on some 10 farms and consumes 49 acres versus the 30 used for this purpose in 1987.

Commercial fruit production in Fulton County consists entirely of apples. The number of producers declined from seven in 1987 to only four in 1997. Berries are counted separate from other fruits in the Census of Agriculture and blueberry farmers dropped from nine to seven over the 10 years, Strawberry operations dropped from seven to three. Despite these declines, the combined market value of fruit produced grew from \$64,000 in 1987 to

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\$149,000 in 1997. Although small, this sector, like vegetables, involves many cash sales that may not be fully reported.

Corn silage acreage increased from 3,035 acres in 1987 to 3,215 acres in 1997. Production increased from 41,211 tons to 60,707 tons over the same period even though the number of farms growing corn silage declined from 71 to 53.



Hay production acreage decreased from 13,247 acres in 1987 to 12,716 acres in 1997. Production decreased from 26,019 tons of dry matter to 22,084 tons of dry matter over the same period. The number of farms growing hay declined from 150 to 115. The combined acreage in these crops, oats and corn for grain dropped very slightly, from 17,060 in 1987 to 16,727 acres in 1997. Nevertheless, sales grew from \$315,000 to \$530,000.

Nursery and greenhouse operations grew from 7 in 1987 to 26 in 1997. The production area under glass went from none reported in 1987 to 23,720 square feet in 1997. Open

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acres expanded from none reported to 379 over the same period. Bedding plant sales alone grew from none reported in 1987 to \$99,000 in 1997. There was also, in 1997, some \$73,000 in reported Christmas tree sales. “Other nursery and greenhouse crops” grew from none reported in 1987 and 1992 to \$203,000 in 1997.

Another feature of the agricultural economy, which is not addressed in much detail in the Census of Agriculture, is the equine industry. The New York State Equine Survey, conducted by the New York State Agricultural Statistics Service in 2000, indicated that Fulton County had 1,000 equines with a total value of \$4,700,000. The 1997 Agricultural Census indicated that 386 of these animals were found on commercial farms.

The Equine Survey indicated that, on average, each New York equine represented \$4,188 of expenditures within the economy, up 40 percent from total expenses of \$2,998 per equine on hand in 1988. Operating expenses per equine averaged \$3,112, or 74 percent of the total, while the remaining 26 percent was accounted for by capital expenses averaging \$1,076 per head. The Fulton County equine industry, as a whole, therefore, accounts for \$4,188,000 of the local economy on an annualized basis. Fulton County is one of only a few counties in New York State that do not allow agricultural assessment for horse boarding operations. It has 11 such operations, however. Given these positive economic impacts, it may wish to do so (see Chapter III, Goal 5, Objective 5.5).

The multiplier effects connected with farm sales affect the size and nature of an agricultural economy. Farmers typically purchase most of their goods and services from within a 20-25 mile range of the farm, while their product is marketed outside the region. This export of product and import of dollars puts them on the high side of multiplier scales according to a 1996 Cornell University Department of Agricultural, Resource and Managerial Economics report entitled “Economic Multipliers and the New York State Economy.”

That Cornell research, conducted for 1991, indicates the following range of multipliers, by sector of the New York State economy, for both total income and full-time equivalent jobs:

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Table 2.4 - Economic Multipliers by Sector, New York State, 1991

	<u>Total Income</u>	<u>Employment</u>
<u>Production Agriculture Industries</u>		
Dairy	2.29	1.52
Crops	2.28	1.51
Nursery and wood products	1.78	1.39
Poultry and livestock	1.64	1.37
<u>Agricultural Manufacturing Industries</u>		
Dairy processing	2.61	3.53
Grain processing	2.16	2.58
Fruits and vegetables processing	1.67	2.09
Meat processing	1.65	1.99
<u>Other Economic Sectors</u>		
Construction	1.66	1.57
Services	1.48	1.39
Manufacturing (nonfood)	1.41	1.62
Retail and wholesale trade	1.40	1.30
Finance, insurance and real estate	1.19	1.54

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5. THE FORESTRY SECTOR

The source of all forestry data, unless otherwise indicated, is the USDA Forest Service, Northeastern Station, "Northeastern Forest Inventory and Analysis Project," 1993 and 1996. Unfortunately, although this is the only official source of the data available, it is based on sampling of a mere 32 plots and, as a result, is often prone to error. Therefore, great caution must be exercised in using the data to make any definitive specific conclusions regarding the industry. The information is used herein general analysis purposes only.

Trees represent a distinct agricultural crop for Fulton County and one of significant importance to the regional economy. Their value, however, is often underrated because the crop rotation period is so long and opportunities to claim income are relatively infrequent. Some 159,400 acres or slightly less than half of Fulton County is considered timberland. Sawtimber represents 113,400 acres with the remainder consisting of seedlings, saplings and pole timber. A total of 87% of the timberland is owned by farmers or private individuals. It is a valuable income-producing asset for these landowners. Private corporations and the forest industry own another 20,500 acres of woodland.

The following is a breakdown of privately owned woodland in the County by forest type:

**Table 2.5 - Fulton County
Private Timberland by Forest Types, 1993**

<u>Forest Type</u>	<u>Acreage</u>
White-red pine	49,600 acres
Elm-ash	15,200 acres
Maple-beech-birch	89,600 acres
<u>Aspen-birch</u>	<u>5,000 acres</u>
Total Timberland	159,400 acres

These largely (69%) hardwood forests produce high quality timber and colorful fall foliage which attract tourism throughout the Northeast. The Forest Service studies indicate the most common species, in terms of numbers of live trees, are Eastern Hemlock, Hard Maple,

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Yellow Birch and Soft Maple. Significantly, some 128,500 acres or 81% of Fulton's timberland is rated as fully stocked or overstocked. Altogether, timberland represents 268,300,000 cubic feet of growing stock (usable portions of trees) It includes an estimated 754,300,000 board feet of sawtimber (net volume of saw logs in trees) and is growing by 30,300,000 net board feet per year. The following table compares Forest Service estimates of growth compared to average annual removals of sawtimber (net growing stock harvested, killed in logging operations, cleared or reclassified from forest to non-forest land):

Table 2.6 - Fulton County Average Net Annual Growth and Average Annual Removals of Sawtimber by Species Group, 1993
(All figures, except percentages, are in board feet)

<u>Species Group</u>	<u>Sawtimber Base Volume</u>	<u>Annual Growth</u>	<u>Annual Removals</u>	<u>Cutting Rate</u>
Eastern White - Red Pine	121,300,000	6,800,000	1,900,000	1.6%
Spruce-Fir	17,700,000	200,000	200,000	1.1%
Eastern Hemlock	203,500,000	8,100,000	700,000	0.3%
Other Softwood	800,000	100,000	0	0.0%
Total Softwoods =	343,400,000	15,200,000	2,800,000	0.8%
Select Red Oak	6,000,000	200,000	400,000	6.7%
Hickory	4,200,000	200,000	0	0.0%
Yellow Birch	37,800,000	1,300,000	500,000	1.3%
Hard Maple	75,800,000	2,100,000	1,200,000	1.6%
Soft Maple	134,800,000	5,300,000	300,000	0.2%
Beech	31,200,000	1,800,000	200,000	0.6%
Ash	49,100,000	2,100,000	300,000	0.6%
Aspen	17,400,000	1,000,000	0	0.0%
Basswood	11,500,000	400,000	0	0.0%
Other Soft Hardwoods	43,000,000	700,000	900,000	2.1%
Total Hardwoods =	410,900,000	15,000,000	3,800,000	0.9%
All Species =	754,300,000	30,300,000	6,600,000	0.9%

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The estimated 754,300,000 board feet of sawtimber suggests average production of 4,732 board feet per acre of forest land. Moreover, managed stands, according to regional industry representatives, typically produce no more than 2,000-3,000 board feet per acre and the Forest Service numbers, therefore, may well overstate yields for Fulton's largely unmanaged woodlands. Moreover, annual growth in the case of managed stands is about 100 board feet per year per acre. This suggests a gain in sawtimber of roughly 16,000,000 board feet per year as compared to Forest Service estimate of 30,300,000 board feet. Annual growth, nevertheless, does appear to exceed removals.

The Forest Service data indicates cutting rates within the County are about the same as New York State's 0.8% average and slightly below those of neighboring Pennsylvania (1.0%) and the New England region (1.3%). The rates for most species are sustainable, with the exception of Red Oak. Indeed, the ratio of annual growth to removals as well as other evidence, indicates a continually maturing forest.

Neither hardwoods nor softwoods are being harvested to the extent they could be. This is not good for wildlife management, the long-term vitality of woodlands or the forest industry. Too many large trees crowd out the understory vital to regeneration and to the animal populations for cover and as food. More timbering using best management practices would create a healthier forest for the long-term.

There are, nevertheless, serious concerns with the harvesting patterns that have been taking place throughout much of the hardwood-rich Northeast. The trend has been to "high-grade" forests to remove the better quality trees while leaving behind the less-valuable stock. This is what is happening with the Oak. There is a threat that local forests will be taken over by low grade species if markets are not identified for them as well. Development of markets, employment of sustainable forest management practices, deliberate efforts to cull or market low-grade materials and commercial thinning can all help to address high-grading issues but they will remain a challenge for the industry in this region.

Much like the remainder of the agricultural sector, Fulton County's forest industry would benefit by the development of additional secondary processing and value-added industries that would utilize locally produced wood. Niches could include specialty products for marketing to nearby metropolitan areas (e.g., fence boards, quality dimension lumber, wood

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flooring, wooden lawn furniture).

There are, too, a number of possibilities for using forest land to develop recreational attractions. If such activities are constructed as recreational leases they also hold the potential to generate added income for forest owners and, thereby, help the industry. Forest land is ideally suited to mountain biking, wilderness camping, hunting and other similar endeavors. If promoted properly in conjunction with area bed and breakfasts and restaurants, such activities can contribute in substantial ways to the economy.

Unfortunately, New York has been a high tax state and, while many recent reforms have helped to lower taxes on farmers (see Appendix 1), seniors and other residents, forest land is still often taxed at rates that exceed the annual income which can be derived from forest management. A recent analysis of real estate taxes on private forest land in the Catskill counties of New York State indicated annual tax rates of \$7-\$33/acre compared to forest revenues averaging less than \$5/acre. This can produce poor stewardship when farmers and other landowners are forced to do quick harvests to pay taxes. This has, in turn, led to some backlash efforts by individual municipalities to regulate all forest activity with very negative impacts on the industry. The best approach probably involves encouragement of sustainable forest management practices, combined with right-to-forest protection and positive tax relief.

Section 480(a) of the Real Property Law provides a measure of relief for participating landowners, but there is a strong disincentive to promote this program because the tax "costs" (savings to individual landowners) must be made up within the municipality and the strings attached in terms of management are too entangling. Clearly, there are no compelling reasons for private owners to hold onto forest land except for speculative purposes and this poses a substantial threat to long-term maintenance of forest land uses.

A better solution for taxing forest property would be to collect, at the time of harvest, based on a percentage of sales or some similar measure of productivity. This is a matter that should be pursued by the Agricultural and Farmland Protection Board, working together with organizations such as Farm Bureau and the Empire State Forest Association. At a minimum, more training for local assessors and more effective programs for determining the real economic value of forest land are needed (see Chapter VI, Goal 6, Objective 6.4).