



NORTHEAST



ECONOMIC ENGINE

Agriculture, Forest Products and Commercial Fishing



FARM CREDIT EAST

Dear Reader,

We are pleased to present the second edition of *Northeast Economic Engine: Agriculture, Forest Products and Commercial Fishing*.

This report confirms what we all know, but sometimes take for granted. Agriculture, commercial fishing and the forest products industries are all important contributors to the Northeast economy. Combined, these industries generate more than \$103 billion of economic activity and support 483,375 jobs.

While dairy continues to be number one in terms of total economic activity, the Northeast is fortunate to have strong agricultural diversity, ranging from dairy to commercial fishing, fruit, vegetable, vineyard, forest products, nursery and greenhouse across the states in our region. Some of the top industries in terms of production and processing value and related economic activity:

- Dairy — \$38.7 billion
- Forest products — \$25.5 billion
- Fruit and vegetables — \$16.0 billion
- Commercial fishing — \$5.2 billion

One of the key takeaways of this report is the economic impact beyond the farm gate. While there are many successful agricultural businesses selling directly to the consumer, for the rest, it's intuitive that when the milk tanker is leaving the farm, the apples are put into storage, logs are loaded on the trailer or the scallops are packed on ice, there's more work to be done to bring that food and fiber to market. And that work translates into jobs, tax revenue and preserving working waterfronts and landscapes in our region.

We all know that agriculture, forest products and fishing are more than dollars and cents. For many in the Northeast, it's our passion, our heritage and even our way of life, but it's important that the non-farming public consider the economic impact of having strong agricultural industries in the Northeast. Our hope is this report helps those involved in these businesses tell their story to policymakers and consumers, to ensure we have policies that allow our industries to thrive and grow.



Bill Lipinski
CEO
Farm Credit East





TABLE OF CONTENTS

Study Highlights 3

**Overview of Economic Impact
of Northeast Agriculture 4**

Connecticut 6

Maine 8

Massachusetts 10

New Hampshire 12

New Jersey 14

New York 16

Rhode Island 18

Vermont 20

Methodology 22

Conclusion 22



THIS REPORT

This report covers eight Northeast states: the six New England states of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont, as well as the neighboring states of New Jersey and New York.

At a time when jobs and economic growth are more critical than ever, it's important to realize that some of the Northeast's most traditional industries — agriculture, commercial fishing and forestry — remain important drivers of job opportunities and economic activity in the region.

The economic data, and much of the wording of the report itself, was prepared by researchers at the University of Connecticut, with funding from Farm Credit East, using IMPLAN economic impact software and 2012 data, as that was the most recent year for which complete data was available.

The economic impact of agriculture starts with the farm. Without the production at the farm, we would not have the jobs and economic impact created by suppliers and processors. While this analysis illustrates that there are more jobs and economic activity in off-farm processing, these businesses exist in the Northeast primarily because the agricultural production is there as the foundation.

Key findings include:

- Agriculture, fishing and forestry generated an economic impact of \$103.4 billion in the eight Northeast states. Thus, agriculture's average contribution to a state's economy was estimated at \$8,540 per acre of farmland or \$2,405 per resident.
- Agriculture, fishing and forestry supported 483,375 jobs across the eight states, constituting an important contributor to employment in the region.
- Dairy is the top agricultural sector in the region, with more than \$21.2 billion in direct sales, \$38.7 in total economic impact and more than 127,000 jobs.¹
- The greenhouse, nursery and floriculture sector had \$1.5 billion in direct sales, \$2.5 billion in economic impact and 23,700 jobs.²
- Fruit and vegetable farming contributed \$9.4 billion in direct sales, \$16.0 billion in economic impact and more than 70,000 jobs.³

¹Sectors included were dairy cattle and milk production; fluid milk, yogurt and butter manufacturing; cheese manufacturing; dry, condensed and evaporated dairy product manufacturing; and ice cream and frozen dessert manufacturing.

²Landscape services are closely tied to the nursery and greenhouse sector, but were determined to not be entirely dependent on local agricultural production. Their economic contribution to the economy is nonetheless significant, and those totals are tracked as a separate line item.

³Includes fruit farming; vegetable and melon farming; frozen food manufacturing; fruit and vegetable canning; pickling and drying; and wineries.

STUDY HIGHLIGHTS

Impacts of agriculture, commercial fishing, forestry and related businesses in eight Northeast states

STATE	ECONOMIC IMPACT (\$ BILLION) ⁴	NUMBER OF FARMS ⁵	ACRES IN FARMLAND ⁶	JOB SUPPORTED
CONNECTICUT	4.8	5,977	436,539	25,495
MAINE	13.9	8,173	1,454,104	79,011
MASSACHUSETTS	12.7	7,755	523,517	60,760
NEW HAMPSHIRE	3.1	4,391	474,065	18,773
NEW JERSEY	12.8	9,071	715,057	58,006
NEW YORK	48.2	35,537	7,183,576	197,745
RHODE ISLAND	1.1	1,243	69,589	6,591
VERMONT	6.6	7,338	1,251,713	36,994
TOTAL	103.4⁷	79,485	12,108,160	483,375

NORTHEAST⁸ AGRICULTURE

- With nearly 80,000 farms and more than 12 million acres in farmland, agriculture is very much part of the working landscape of the region.
- Agriculture, related processing and support industries (excluding forestry and fisheries) produce \$41.6 billion in direct output and are responsible for \$72.8 billion in economic impact.
- Forest products industries produced \$14.8 billion in direct output and \$25.5 billion in economic impact, while supporting 112,936 jobs in forest products and processing industries.
- Commercial fishing and related processing generated \$3.2 billion in direct output, with an impact of \$5.2 billion to the economy. It supported 41,172 jobs in the region.

⁴Farming, fishing and forestry impact. Does not include landscaping.

⁵USDA Ag Census, 2012

⁶USDA Ag Census, 2012

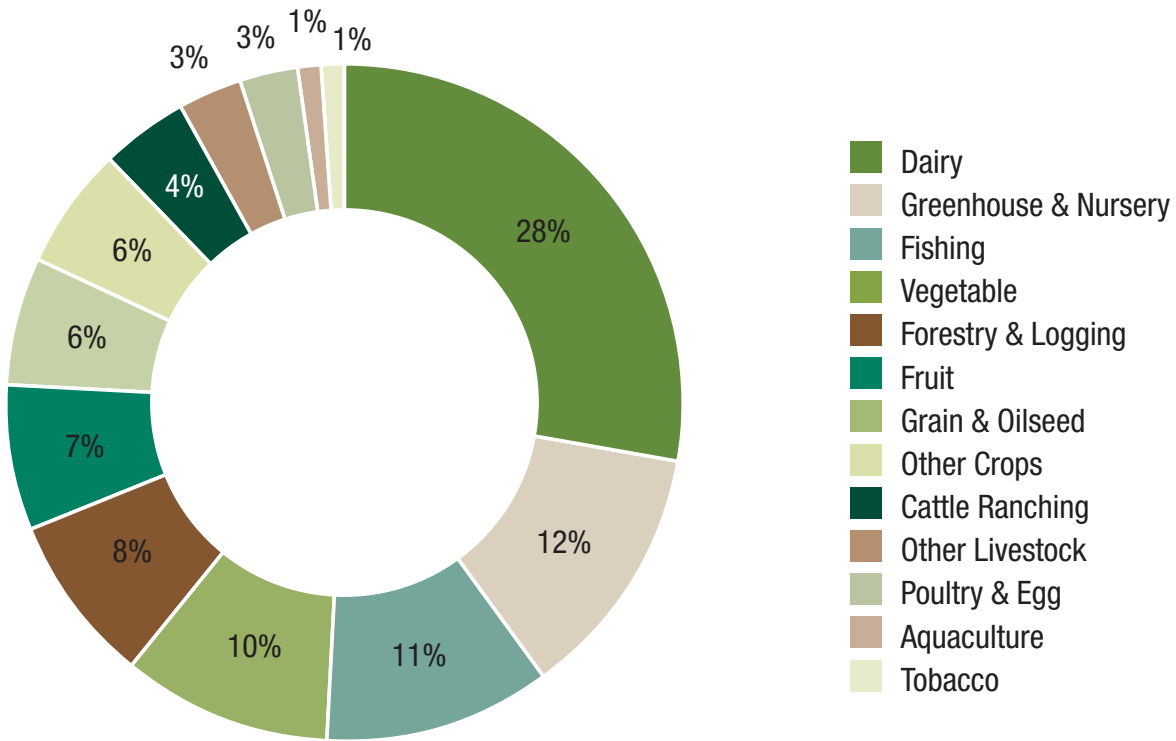
⁷Total does not add due to rounding.

⁸New England (CT, ME, MA, NH, RI, VT), NY and NJ

Northeast Economic Impacts

SECTOR	DIRECT SALES	ECONOMIC IMPACT	EMPLOYMENT
AGRICULTURAL PRODUCTION	\$ million	\$ million	Jobs
Grain and Oilseed farming	762.0	1,382.5	18,900
Vegetable and melon farming	1,215.6	2,275.1	16,397
Fruit farming	789.4	1,479.2	12,260
Greenhouse, nursery and floriculture production	1,464.7	2,495.9	23,761
Tobacco farming	69.3	124.0	1,218
Cattle ranching and farming	450.3	775.4	6,605
Dairy cattle and milk production	3,373.2	5,409.3	38,380
Poultry and egg production	330.2	567.8	2,030
Other livestock	372.6	529.5	15,977
Other crop farming	706.7	1276.5	9,526
Support activities for agriculture	437.4	856.1	20,322
Subtotal	9,971.4	17,171.3	165,376
PROCESSING			
Grain and oilseed processing	287.1	404.2	865
Frozen and canned foods	6,188.4	10,360.3	34,783
Milk, yogurt, butter and cheese manufacturing	16,093.2	30,017.9	78,176
Other dairy products	1,782.9	3,251.9	10,960
Animal slaughtering and processing	3,817.4	5,635.5	23,522
Wineries	1,181.5	1,905.3	6,692
Fertilizer and pesticide manufacturing	2,237.2	4,010.7	8,893
Subtotal	31,587.7	55,585.8	163,891
TOTAL FOR AGRICULTURAL	41,559.1	72,757.1	329,267
FORESTRY			
Forestry and logging	1,145.7	2,106.9	25,780
Forest products processing	13,700.7	23,349.2	87,156
TOTAL FOR FOREST INDUSTRY	14,846.4	25,456.1	112,936
COMMERCIAL FISHING AND AQUACULTURE			
Commercial fishing	1,331.3	2,087.6	24,895
Aquaculture	151.5	251.1	3,556
Seafood processing	1,755.1	2,849.9	12,721
TOTAL FOR FISHERIES	3,237.9	5,188.6	41,172
TOTAL FOR ALL SECTORS	59,643.4	103,401.8	483,375
Landscape services	9,726.4	16,231.7	193,637

Northeast Agriculture Farm Sales



Impact of Agriculture, Commercial Fishing, Forestry and Related Businesses in the Northeast



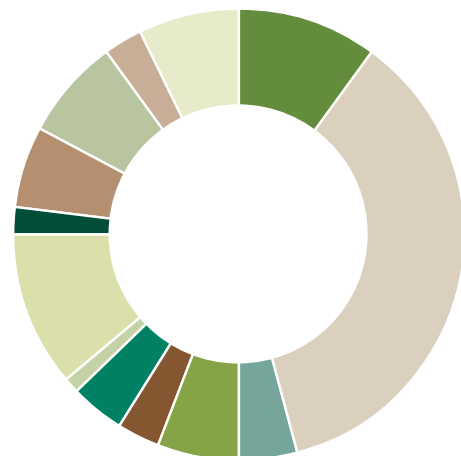


CONNECTICUT

\$377 million in Greenhouse & Nursery impact

- With nearly 6,000 farms and more than 400,000 acres in farmland, agriculture is very much a part of the state's economy and working landscape.
- Agricultural production in Connecticut generated \$2 billion in direct sales and \$3.2 billion in economic impact. In addition, it supported 18,364 jobs, both on and off the farm.
- Greenhouse, nursery and floriculture production was the largest production sector, with \$376.7 million in economic impact and 3,876 jobs generated.
- Dairy production and processing is a significant industry in Connecticut, with \$1.3 billion in economic impact and 4,286 jobs generated.

Connecticut Farm Sales



- 36% Greenhouse & Nursery
- 11% Other Crops
- 10% Dairy
- 7% Poultry & Egg
- 7% Tobacco
- 6% Other Livestock
- 6% Vegetable
- 4% Fruit
- 4% Fishing
- 3% Forestry & Logging
- 3% Aquaculture
- 2% Cattle Ranching
- 1% Grain & Oilseed

Connecticut Economic Impacts

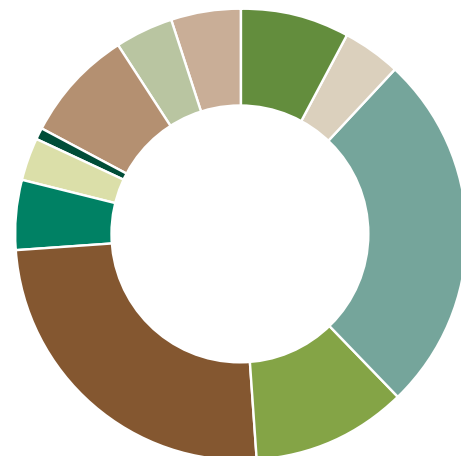
SECTOR	DIRECT SALES	ECONOMIC IMPACT	EMPLOYMENT
	\$ million	\$ million	Jobs
AGRICULTURAL PRODUCTION			
Grain and Oilseed farming	7.7	15.2	245
Vegetable farming	38.5	60.9	527
Fruit farming	29.7	47.3	460
Greenhouse, nursery and floriculture production	248.9	376.7	3,876
Tobacco farming	47.4	85.0	814
Cattle ranching	15.6	22.3	237
Dairy cattle and milk production	69.9	95.3	895
Poultry and egg production	50.5	74.8	265
Other livestock	45.4	60.2	1,956
Other crop farming	76.5	121.7	1,027
Support activities for agriculture	25.3	55.5	1,792
Subtotal	655.4	1,014.9	12,094
PROCESSING			
Frozen and canned food manufacturing	227.1	347.2	1,100
Milk, yogurt, butter and cheese manufacturing	603.3	908.9	2,302
Other dairy products	198.8	313.9	1,089
Animal slaughtering and processing	122.2	177.2	761
Wineries	67.0	100.2	365
Fertilizer and pesticide manufacturing	175.4	299.3	653
Subtotal	1,393.8	2,146.7	6,270
TOTAL FOR AGRICULTURAL	2,049.2	3,161.6	18,364
FORESTRY			
Forestry and logging	22.9	38.0	491
Forest products processing	896.6	1,542.4	5,247
TOTAL FOR FOREST INDUSTRY	919.5	1,580.4	5,738
COMMERCIAL FISHING AND AQUACULTURE			
Commercial fishing	27.3	41.5	626
Aquaculture	19.7	47.5	717
Seafood processing	7.9	12.1	50
TOTAL FOR FISHERIES	54.9	101.1	1,393
TOTAL FOR ALL SECTORS	3,023.6	4,843.1	25,495
Landscape services	1,032.5	1,680.4	21,185



40,289 jobs supported by the forest products industry

- With more than 8,000 farms and approximately 1.5 million acres in farmland, agriculture is a key part of Maine’s economy and working landscape.
- Maine’s diversified agriculture includes significant production of potatoes, dairy products and blueberries.
- The forest products industry has a significant economic impact in the Pine Tree State, with nearly \$5.3 billion in direct sales, \$8.8 billion in impact and more than 40,000 jobs supported.
- The commercial fishing industry, including lobstering, is also important to Maine, with \$776 million in direct sales, \$1.2 billion in impact and 14,000 jobs supported.
- In total, vegetable production, including potatoes, was the largest agricultural production sector in Maine, generating \$307.2 million in economic impact and supporting 2,710 jobs.
- Dairy production remains a significant industry in Maine, with \$191.9 million in economic impact and 1,676 jobs generated.

Maine Farm Sales



Maine Economic Impacts

SECTOR	DIRECT SALES	ECONOMIC IMPACT	EMPLOYMENT
	\$ million	\$ million	Jobs
AGRICULTURAL PRODUCTION			
Vegetable farming (includes potatoes)	175.5	307.2	2,710
Fruit farming (includes wild blueberries)	91.2	163.1	1,586
Greenhouse, nursery and floriculture production	60.9	103.7	1,057
Cattle ranching and farming	19.2	32.5	329
Dairy cattle and milk production	124.2	191.9	1,676
Poultry and egg production	69.9	122.7	447
Other livestock	126.6	188.3	5,535
Other crop farming	57.6	96.5	825
Support activities for agriculture	23.5	53.1	1,672
Subtotal	748.6	1,259.0	15,837
PROCESSING			
Grain and oilseed processing	80.3	113.9	268
Frozen and canned food manufacturing	575.2	879.7	3,613
Milk, yogurt, butter and cheese manufacturing	622.2	1,061.0	2,508
Other dairy products	16.4	26.7	106
Animal slaughtering and processing	235.6	371.2	1,678
Wineries	17.4	25.6	110
Fertilizer and pesticide manufacturing	78.5	137.6	355
Subtotal	1,625.6	2,615.7	8,638
TOTAL FOR AGRICULTURAL	2,374.2	3,874.7	24,475
FORESTRY			
Forestry and logging	433.0	800.0	9,014
Forest products processing	4,837.4	8,003.9	31,275
TOTAL FOR FOREST INDUSTRY	5,270.4	8,803.9	40,289
COMMERCIAL FISHING AND AQUACULTURE			
Commercial fishing (includes lobster)	428.6	659.3	9,618
Aquaculture	75.2	121.1	1,766
Seafood processing	272.1	450.2	2,863
TOTAL FOR FISHERIES	775.9	1,230.6	14,247
TOTAL FOR ALL SECTORS	8,420.7	13,909.2	79,011
Landscape services	340.8	549.9	7,988

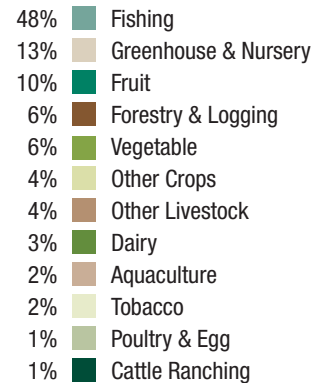
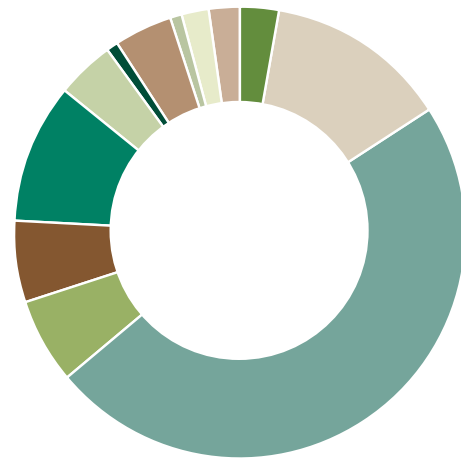


MASSACHUSETTS

61,000 jobs generated throughout the Commonwealth

- With 7,755 farms and 523,517 acres in farmland, agriculture is a key part of the economy and working landscape in Massachusetts.
- Nursery and greenhouse is the largest production sector.
- Massachusetts is the second largest producer of cranberries in the United States. Other key crops include apples, sweet corn and ornamentals.
- Massachusetts has a large food processing industry. When production and processing are combined, the Commonwealth generates \$4.7 billion in direct agricultural sales, \$7.4 billion in impact and more than 33,000 jobs, on and off the farm.
- Commercial fishing and processing is a key sector in Massachusetts, generating \$2.5 billion in economic impact and nearly 16,000 jobs.
- For a densely populated state, Massachusetts has a vibrant forest products industry. Forestry and related processing generated \$2.8 billion in economic impact and supported more than 11,000 jobs.

Massachusetts Farm Sales



Massachusetts Economic Impacts

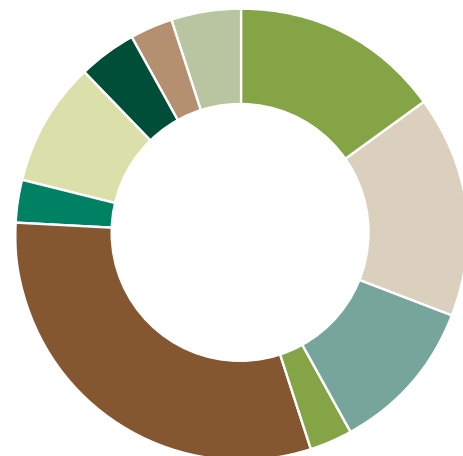
SECTOR	DIRECT SALES	ECONOMIC IMPACT	EMPLOYMENT
	\$ million	\$ million	Jobs
AGRICULTURAL PRODUCTION			
Vegetable and melon farming	77.3	122.9	1,228
Fruit farming (includes cranberries)	132.7	213.1	2,349
Greenhouse, nursery and floriculture production	164.9	255.2	3,224
Tobacco farming	21.9	39.0	404
Cattle ranching and farming	10.6	13.9	191
Dairy cattle and milk production	43.4	55.5	703
Poultry and egg production	10.5	14.2	65
Other livestock	47.2	62.6	2,680
Other crop farming	54.2	89.2	905
Support activities for agriculture	51.9	100.1	2,739
Subtotal	614.6	965.7	14,488
PROCESSING			
Grain and oilseed processing	125.8	163.1	250
Frozen and canned food manufacturing	875.7	1,432.3	4,886
Milk, yogurt, butter and cheese manufacturing	1,934.6	3,113.3	7,600
Other dairy products	231.6	408.7	1,465
Animal slaughtering and processing	696.8	946.3	3,982
Wineries	31.8	51.6	211
Fertilizer and pesticide manufacturing	188.0	329.4	752
Subtotal	4,084.3	6,444.7	19,146
TOTAL FOR AGRICULTURAL	4,698.9	7,410.4	33,634
FORESTRY			
Forestry and logging	83.7	154.3	1,864
Forest products processing	1,559.2	2,688.8	9,441
TOTAL FOR FOREST INDUSTRY	1,642.9	2,843.1	11,305
COMMERCIAL FISHING AND AQUACULTURE			
Commercial fishing	601.9	957.6	9,247
Aquaculture	23.2	27.1	262
Seafood processing	913.9	1,511.2	6,312
TOTAL FOR FISHERIES	1,539.0	2,495.9	15,821
TOTAL FOR ALL SECTORS	7,880.9	12,749.4	60,760
Landscape services	1,795.1	2,967.8	35,465



A \$3 billion impact in the Granite State

- With 4,391 farms and 474,065 acres in farmland, agriculture is a key part of the economy and working landscape in the Granite State.
- The largest production sector is greenhouse and nursery, which generated an impact of \$80.5 million and created 1,440 jobs.
- When production and processing are combined, New Hampshire agriculture had a \$1.7 billion economic impact and supported 10,119 jobs.
- The forest products industry is significant in New Hampshire with \$687 million in direct sales, \$1.2 billion in economic impact and 7,224 jobs created, both in the forest and beyond.
- New Hampshire's fishing sector generated \$223 million in economic impact and supported 1,430 jobs.

New Hampshire Farm Sales



New Hampshire Economic Impacts

SECTOR	DIRECT SALES	ECONOMIC IMPACT	EMPLOYMENT
	\$ million	\$ million	Jobs
AGRICULTURAL PRODUCTION			
Vegetable and melon farming	10.4	15.4	222
Fruit farming	10.5	15.7	255
Greenhouse, nursery and floriculture production	56.0	80.5	1,440
Cattle ranching and farming	12.0	20.2	364
Dairy cattle and milk production	53.5	96.1	1,390
Poultry and egg production	18.7	27.9	154
Other livestock	10.0	13.2	782
Other crop farming	29.5	45.0	637
Support activities for agriculture	4.4	19.6	802
Subtotal	205.0	333.6	6,046
PROCESSING			
Frozen and canned food manufacturing	31.4	45.6	183
Milk, yogurt, butter and cheese manufacturing	784.0	1,218.4	3,369
Other dairy products	5.1	8.4	32
Animal slaughtering and processing	30.5	48.5	369
Wineries	17.4	25.1	90
Fertilizer and pesticide manufacturing	9.0	13.3	30
Subtotal	877.4	1,359.3	4,073
TOTAL FOR AGRICULTURAL	1,082.4	1,692.9	10,119
FORESTRY			
Forestry and logging	112.2	216.1	2,790
Forest products processing	574.3	984.6	4,434
TOTAL FOR FOREST INDUSTRY	686.5	1,200.7	7,224
COMMERCIAL FISHING AND AQUACULTURE			
Commercial fishing	39.6	59.8	633
Aquaculture	1.4	2.5	26
Seafood processing	104.2	160.4	771
TOTAL FOR FISHERIES	145.2	222.7	1,430
TOTAL FOR ALL SECTORS	1,914.1	3,116.3	18,773
Landscape services	409.6	666.7	8,953

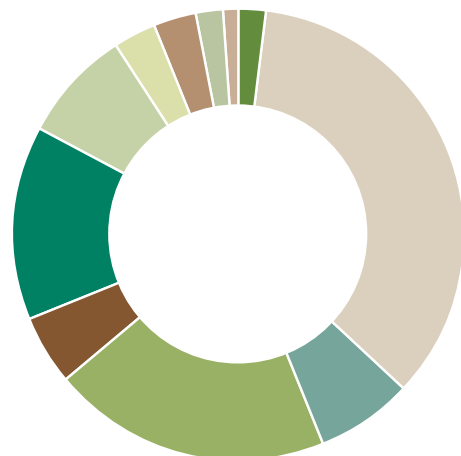


NEW JERSEY

Diversified agriculture in the Garden State

- With 9,071 farms and 715,057 acres in farmland, agriculture is a key part of New Jersey's economy and landscape.
- Befitting its name as the Garden State, greenhouse and nursery production was the largest sector, with vegetables ranked second. Greenhouse and nursery production generated \$772 million in economic impact and supported 7,130 jobs.
- New Jersey produces a tremendous amount of fresh fruits and vegetables. Altogether, these sectors produced \$804 million in impact and supported 4,743 jobs.
- New Jersey has a large food processing industry tied to its abundant agricultural production. Combined, the Garden State generated \$7 billion in direct sales, \$11.4 billion in economic impact and supported nearly 50,000 jobs.
- With several commercial fishing ports, New Jersey generated \$310 million in commercial fishing sales, which translated into \$493 million in impact and 3,185 jobs.

New Jersey Farm Sales



- 35% Greenhouse & Nursery
- 20% Vegetable
- 14% Fruit
- 8% Grain & Oilseed
- 7% Fishing
- 5% Forestry & Logging
- 3% Other Livestock
- 3% Other Crops
- 2% Poultry & Egg
- 2% Dairy
- 1% Aquaculture

New Jersey Economic Impacts

SECTOR	DIRECT SALES	ECONOMIC IMPACT	EMPLOYMENT
	\$ million	\$ million	Jobs
AGRICULTURAL PRODUCTION			
Grain and oilseed farming	105.5	183.2	3,088
Vegetable and melon farming	272.5	473.3	3,481
Fruit farming	188.8	330.8	2,670
Greenhouse, nursery and floriculture production	469.1	772.3	7,130
Cattle ranching and farming	8.3	11.1	110
Dairy cattle and milk production	24.2	33.3	296
Poultry and egg production	32.8	49.3	178
Other livestock	37.9	50.8	1,564
Other crop farming	36.1	64.7	456
Support activities for agriculture	158.5	266.9	5,100
Subtotal	1,333.7	2,235.7	24,073
PROCESSING			
Grain and oilseed processing	52.1	84.2	222
Frozen and canned food manufacturing	1,692.2	2,888.1	9,387
Milk, yogurt, butter and cheese manufacturing	1,962.7	3,038.4	6,715
Other dairy products	180.8	302.9	863
Animal slaughtering and processing	1,064.0	1,467.8	5,537
Wineries	93.9	153.4	588
Fertilizer and pesticide manufacturing	606.8	1,190.1	2,689
Subtotal	5,652.5	9,124.9	26,001
TOTAL FOR AGRICULTURAL	6,986.2	11,360.6	50,074
FORESTRY			
Forestry and logging	73.1	134.5	1,290
Forest products processing	491.3	864.5	3,457
TOTAL FOR FOREST INDUSTRY	564.4	999.0	4,747
COMMERCIAL FISHING AND AQUACULTURE			
Commercial fishing	100.2	156.4	1,733
Aquaculture	12.3	20.2	224
Seafood processing	197.8	316.6	1,228
TOTAL FOR FISHERIES	310.3	493.2	3,185
TOTAL FOR ALL SECTORS	7,860.9	12,844.8	58,006
Landscape services	2,231.4	4,014.1	45,063

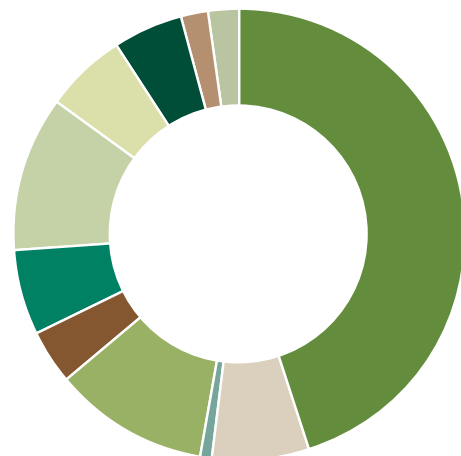


NEW YORK

A \$23.1 billion impact from the dairy industry

- With 35,537 farms and 7,183,576 acres in farmland, agriculture is a key part of the Empire State's economy and working landscape.
- While many of New York's agricultural sectors are quite large, dairy was the largest, with \$2.6 billion in direct sales, \$4.1 billion in impact and nearly 26,000 jobs, on and off the farm.
- Grain and oilseed farming came in as the second largest sector of production agriculture in New York, with \$644 million in direct sales and \$1.2 billion in impact.
- Vegetable growing was a close third, with \$617 million in sales, \$1.2 billion in impact and 7,750 jobs.
- Overall agriculture and related processing generated \$21.2 billion in sales, \$39.4 billion in impact and supported more than 160,000 jobs.
- Forestry and forest products are significant in New York. These industries generated \$4.8 billion in sales, \$8.5 billion in economic impact and nearly 35,000 jobs.

New York Farm Sales



- 45% Dairy
- 11% Grain & Oilseed
- 11% Vegetable
- 7% Greenhouse & Nursery
- 6% Other Crops
- 6% Fruit
- 5% Cattle Ranching
- 4% Forestry & Logging
- 2% Poultry & Egg
- 2% Other Livestock
- 1% Fishing

New York Economic Impacts

SECTOR	DIRECT SALES	ECONOMIC IMPACT	EMPLOYMENT
	\$ million	\$ million	Jobs
AGRICULTURAL PRODUCTION			
Grain and oilseed farming	644.3	1,175.5	15,431
Vegetable and melon farming	617.1	1,244.9	7,750
Fruit farming	317.0	661.0	4,453
Greenhouse, nursery and floriculture production	404.4	791.5	5,747
Cattle ranching and farming	313.9	522.4	3,841
Dairy cattle and milk production	2,553.8	4,055.2	25,923
Poultry and egg production	134.9	253.4	816
Other livestock	90.1	131.9	2,746
Other crop farming	368.5	686.4	4,147
Support activities for agriculture	148.8	304.9	6,158
Subtotal	5,592.8	9,827.1	77,012
PROCESSING			
Grain and oilseed processing	24.1	37.5	117
Frozen and canned food manufacturing	2,741.1	4,702.1	15,375
Milk, yogurt, butter and cheese manufacturing	8,630.8	17,662.4	44,649
Other dairy products	721.4	1,401.2	4,463
Animal slaughtering and processing	1,464.6	2,322.0	9,669
Wineries	890.5	1,455.1	4,951
Fertilizer and pesticide manufacturing	1,134.1	1,969.0	4,248
Subtotal	15,606.6	29,549.3	83,472
TOTAL FOR AGRICULTURAL	21,199.4	39,376.5	160,484
FORESTRY			
Forestry and logging	317.9	579.1	7,761
Forest products processing	4,526.7	7,914.7	27,072
TOTAL FOR FOREST INDUSTRY	4,844.6	8,493.8	34,833
COMMERCIAL FISHING AND AQUACULTURE			
Commercial fishing	30.9	50.6	918
Aquaculture	17.9	28.2	502
Seafood processing	179.6	280.1	1,008
TOTAL FOR FISHERIES	228.4	358.9	2,428
TOTAL FOR ALL SECTORS	26,272.4	48,229.2	197,745
Landscape services	3,378.0	5,496.8	62,959

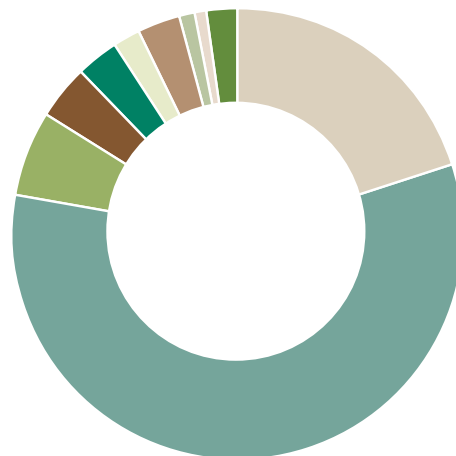


RHODE ISLAND

Commercial fishing and agriculture create more than \$1 billion in economic activity

- With 1,243 farms and 69,589 acres in farmland, agriculture is a key part of the Ocean State’s economy and working landscape.
- Greenhouse and nursery production is the largest farm production sector in Rhode Island, with a \$46.9 million impact.
- Altogether, agriculture and related processing generated \$439 million in direct sales, \$599 million in impact and supported 2,983 jobs.
- Rhode Island’s large commercial fishing industry generated \$184 million in direct sales, \$286 million in economic impact and 2,668 jobs.

Rhode Island Farm Sales



- 58% Fishing
- 20% Greenhouse & Nursery
- 6% Vegetable
- 4% Forestry & Logging
- 3% Fruit
- 3% Other Livestock
- 2% Other Crops
- 2% Dairy
- 1% Aquaculture
- 1% Poultry & Egg

Rhode Island Economic Impacts

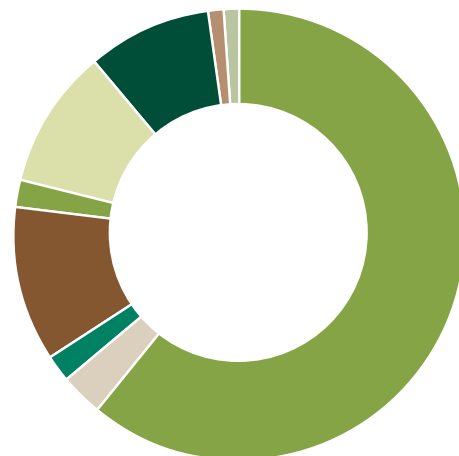
SECTOR	DIRECT SALES	ECONOMIC IMPACT	EMPLOYMENT
	\$ million	\$ million	Jobs
AGRICULTURAL PRODUCTION			
Vegetable and melon farming	10.7	15.1	150
Fruit farming	5.1	7.3	80
Greenhouse, nursery and floriculture production	35.1	46.9	608
Cattle ranching and farming	0.9	1.1	15
Dairy cattle and milk production	3.6	4.4	54
Poultry and egg production	1.7	2.0	9
Other livestock	4.5	5.5	244
Other crop farming	4.4	6.5	62
Support activities for agriculture	4.3	8.1	213
Subtotal	70.3	96.9	1,435
PROCESSING			
Frozen and canned foods	13.5	20.1	66
Milk, yogurt, butter and cheese manufacturing	189.3	265.7	625
Other dairy products	6.7	10.0	39
Animal slaughtering and processing	151.2	194.3	770
Wineries	8.2	11.9	48
Subtotal	368.9	502.0	1,548
TOTAL FOR AGRICULTURAL	439.2	598.9	2,983
FORESTRY			
Forestry and logging	6.9	11.6	238
Forest products processing	93.8	157.0	702
TOTAL FOR FOREST INDUSTRY	100.7	168.6	940
COMMERCIAL FISHING AND AQUACULTURE			
Commercial fishing	102.8	162.5	2,120
Aquaculture	1.9	4.6	59
Seafood processing	79.7	119.3	489
TOTAL FOR FISHERIES	184.4	286.4	2,668
TOTAL FOR ALL SECTORS	724.3	1,053.9	6,591
Landscape services	320.5	521.5	6,765



134,000 dairy cows support the \$4.4 billion dairy industry

- With 7,338 farms and 1,251,713 acres in farmland, agriculture is a key part of the economy and working landscape in the Green Mountain State.
- Dairy production is the largest sector in Vermont, with more than \$500 million in direct sales, \$878 million in impact and 7,443 jobs supported.
- Dairy production combined with processing generated \$2.3 billion in direct sales, a \$4.4 billion impact and supported more than 20,000 jobs.
- Forest products are significant for Vermont, with \$818 million in direct sales, \$1.4 billion in economic impact and 7,860 jobs supported.

Vermont Farm Sales



- 61% Dairy
- 11% Forestry & Logging
- 10% Other Crops
- 9% Cattle Ranching
- 3% Greenhouse & Nursery
- 2% Fruit
- 2% Vegetable
- 1% Poultry & Egg
- 1% Other Livestock

Vermont Economic Impacts

SECTOR	DIRECT SALES	ECONOMIC IMPACT	EMPLOYMENT
	\$ million	\$ million	Jobs
AGRICULTURAL PRODUCTION			
Vegetable and melon farming	13.5	35.4	329
Fruit farming	14.4	40.8	407
Greenhouse, nursery and floriculture production	25.4	69.1	679
Cattle ranching and farming	69.9	151.8	1,518
Dairy cattle and milk production	500.6	877.6	7,443
Poultry and egg production	11.1	23.4	96
Other livestock	10.9	17.9	470
Other crop farming	84.4	175.1	1,603
Support activities for agriculture	20.7	47.8	1,846
Subtotal	750.9	1,438.9	14,391
PROCESSING			
Grain and oilseed processing	4.8	5.6	8
Frozen and canned food manufacturing	32.2	45.2	173
Milk, yogurt, butter and cheese manufacturing	1,366.3	2,749.7	10,408
Other dairy products	422.1	780.1	2,903
Animal slaughtering and processing	52.5	108.3	756
Wineries	55.3	82.5	329
Fertilizer and pesticide manufacturing	45.4	72.2	166
Subtotal	1,978.6	3,843.6	14,743
TOTAL FOR AGRICULTURAL	2,729.5	5,282.5	29,134
FORESTRY			
Forestry and logging	96.1	173.4	2,332
Forest products processing	721.5	1,193.4	5,528
TOTAL FOR FOREST INDUSTRY	817.6	1,366.8	7,860
COMMERCIAL FISHING AND AQUACULTURE			
TOTAL FOR FISHERIES	0	0	0
TOTAL FOR ALL SECTORS	3,547.1	6,649.3	36,994
Landscape services	218.7	334.6	5,259



METHODOLOGY

This report uses IMPLAN, the most widely used software for the estimation of statewide economic impacts. Utilizing direct sales data from the farm, factory or fishery gate, IMPLAN calculates the indirect and induced economic impacts via multipliers based on coefficients that describe the interaction among various sectors in a state's economy. The IMPLAN model uses the values generated through these multipliers to calculate economy-wide impacts for 440 economic sectors.

The economic importance of farming, fishing and forestry is not limited to the direct farm-gate sales of that sector (the direct impact), but extends to other sectors of the economy (e.g., transportation, utilities, payroll, taxes, etc.), because businesses buy goods and services from other sectors (the indirect impact). In addition, employees of these establishments likely spend a major portion of their earnings buying goods and services from firms within their states (the induced impact).

The total economic impact of an industry is the sum of the direct, indirect and induced impacts. However, downstream business decoupled from production (e.g., bakeries, restaurants and retailers other than direct sales from the farm to the consumer) are not included.

Landscape services data are presented separately as it is often included as part of the overall "green industry" and makes significant contributions to state economies. Although landscaping is linked and allied with the nursery and greenhouse industries, it is not entirely reliant on local agricultural production, and therefore its data has been kept separate.

CONCLUSION

Agriculture, forest products and commercial fishing (and related processing and support activities) are important economic drivers for the Northeast United States. While often overlooked, these natural resource-based industries contribute billions of dollars to the Northeast's economy and support thousands of jobs. In addition, they provide residents of this densely populated region with the opportunity to buy local food, ornamentals and forest products.

Beyond the numerous economic benefits outlined in this report, agriculture, in its broadest definition, provides many intangible benefits. These include:

- Stewardship of millions of acres of cropland and forestland.
- Preservation of the region's working landscapes and waterfronts.
- Open space, clean air and water.
- Rural economic activity and employment in an urban-dominated region.

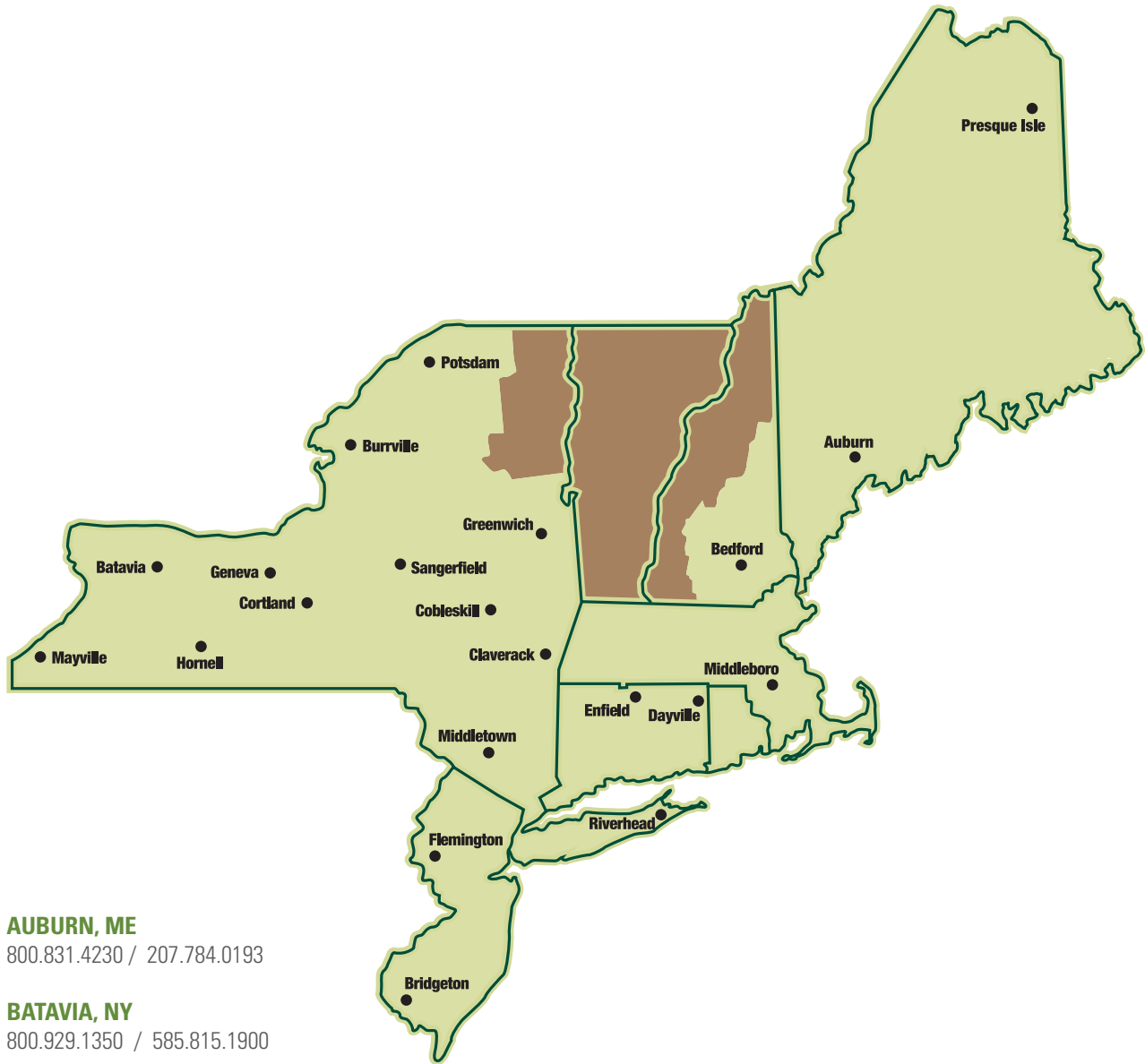
Such benefits, while difficult to quantify, nonetheless add to the significant economic and jobs impact of agriculture to the Northeast region.



ABOUT THE AUTHORS

RIGOBERTO LOPEZ, NATALIYA PLESHA AND BENJAMIN CAMPBELL are with the Department of Agricultural and Resource Economics in the College of Agriculture, Health and Natural Resources at the University of Connecticut. **CHRIS LAUGHTON** is the Director of Knowledge Exchange at Farm Credit East

FARM CREDIT EAST OFFICES



AUBURN, ME

800.831.4230 / 207.784.0193

BATAVIA, NY

800.929.1350 / 585.815.1900

BEDFORD, NH

800.825.3252 / 603.472.3554

BRIDGETON, NJ

800.219.9179 / 856.451.0933

BURRVILLE, NY

800.626.3276 / 315.782.6050

CLAVERACK, NY

800.362.4404 / 518.851.3313

COBLESKILL, NY

800.327.6588 / 518.296.8188

CORTLAND, NY

800.392.3276 / 607.749.7177

COUNTRY LIVING

800.327.6588 / 518.296.8188

CROP GROWERS

800.392.3276 / 607.749.7177

DAYVILLE, CT

800.327.6785 / 860.774.0717

ENFIELD, CT

800.562.2235 / 860.741.4380

FLEMINGTON, NJ

800.787.3276 / 908.782.5215

GENEVA, NY

800.929.7102 / 315.781.7100

GREENWICH, NY

800.234.0269 / 518.692.0269

HORNELL, NY

800.929.2025 / 607.324.2020

MAYVILLE, NY

800.929.2144 / 716.753.2144

MIDDLEBORO, MA

800.946.0506 / 508.946.4455

MIDDLETOWN, NY

888.792.3276 / 845.343.1802

POTSDAM, NY

800.295.8431 / 315.265.8452

PRESQUE ISLE, ME

800.831.4640 / 207.764.6431

RIVERHEAD, NY

800.890.3028 / 631.727.2188

SANGERFIELD, NY

800.762.3276 / 315.841.3398

