

NORTHEAST ECONOMIC ENGINE



AGRICULTURE



FOREST PRODUCTS



COMMERCIAL FISHING

2020



FARM CREDIT EAST

Dear Reader,

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

Building on the previous two reports, issued in 2012 and 2015, this report confirms that agriculture, commercial fishing and the forest products industries are not only important providers of food, fiber, building products, ornamentals and more, but are important drivers of the northeast economy. Combined, these industries generate more than \$100 billion of economic activity annually and support more than a half-million jobs in the region.

As was the case in previous editions of the report, dairy production and related processing continues to generate the most economic activity. However, the northeast United States has a diverse range of natural resource-based industries, including fruit, vegetable, vineyard, nursery, greenhouse, forest products, commercial fishing and aquaculture, in addition to dairy. Some of the more notable sectors in total economic impact across the eight-state region are:¹

- **DAIRY** \$34.6 billion / 120,349 jobs supported
- **FOREST PRODUCTS** \$24.2 billion / 106,686 jobs supported
- **FRUIT & VEGETABLES** \$14.3 billion / 81,631 jobs supported
- **COMMERCIAL FISHING & AQUACULTURE** \$5.8 billion / 42,256 jobs supported

One key aspect of this report is that it captures the economic impact beyond the farm gate. While some agricultural businesses sell their products directly to the consumer, for the rest, there is considerable additional work and processing that occurs to bring these products to market. Whether it's turning milk into ice cream, apples into applesauce, cranberries into juice, or shucking and icing scallops, that additional work translates into jobs, tax revenues and the preservation of working landscapes and waterfronts.

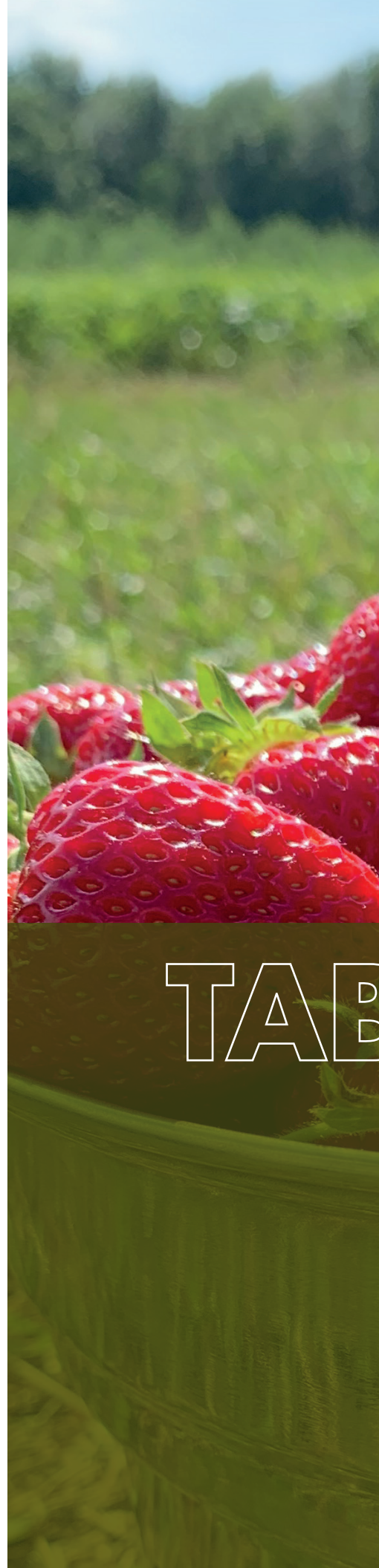
We all know that farming, fishing and forestry are far more than just dollars and cents. For many of us, it's our heritage, our passion and our way of life. It's also important to convey that these industries are modern, vibrant contributors to the region's economy. It is our hope that this report will help those who work the land, the forest and the sea tell the story of their economic impact to policymakers, consumers and others.



Michael J. Reynolds
CEO
Farm Credit East

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.

¹Including related processing



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THIS REPORT

Agriculture, commercial fishing and forestry have been iconic industries for the Northeast since colonial times, when they formed the backbone of the economy. But far from being an anachronism, these industries today are modern, dynamic and vibrant contributors to the region's economy and employment and remain an important part of the landscape.

This report was a joint project between researchers at the University of Connecticut's College of Agriculture, Health and Natural Resources and Farm Credit East Knowledge Exchange, using IMPLAN economic impact software and 2017 data, the most recent year for which complete information 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 upstream suppliers and downstream processors. While this analysis illustrates there are more jobs and economic activity in off-farm processing, these support and processing businesses exist in the Northeast primarily because the region's underlying agricultural production provides the foundation.

KEY FINDINGS INCLUDE:

- Agriculture, fishing and forestry generated an economic impact of \$102.4 billion in the eight Northeast states in 2017, or \$2,371 per resident.
- Considering agriculture alone, its average annual contribution to a state's economy was estimated at \$5,958 per acre of farmland, or \$1,640 per resident.
- Agriculture, fishing and forestry supported 513,018 jobs across the eight states, constituting an important contributor to employment in the region.
- Dairy and related processing constitute the top agricultural sector in the region, with more than \$18.7 billion in direct sales, \$34.6 billion in total economic impact and more than 120,000 jobs supported.
- The greenhouse, nursery and floriculture sector had \$1.5 billion in direct sales, \$2.5 billion in economic impact and 30,158 jobs supported.²
- Fruit and vegetable farming and related processing³ contributed \$8.7 billion in direct sales, \$14.3 billion in economic impact and more than 81,000 jobs.

²This total does not include the landscape service industry which is closely tied to the nursery and greenhouse sector. Their contribution to the economy is tracked as a separate line item, which totals \$20.2 billion in economic impact.

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

STUDY HIGHLIGHTS

IMPACT OF AGRICULTURE, COMMERCIAL FISHING, FORESTRY AND RELATED BUSINESSES IN EIGHT NORTHEAST⁴ STATES

STATE	ECONOMIC IMPACT (\$ BILLION) ⁵	NUMBER OF FARMS ⁶	LAND IN FARMS (ACRES) ⁷	JOB SUPPORTED
CONNECTICUT	\$ 5.2	5,521	381,539	29,163
MAINE	\$ 11.7	7,600	1,307,613	74,523
MASSACHUSETTS	\$ 13.3	7,241	491,653	70,537
NEW HAMPSHIRE	\$ 2.9	4,123	425,393	17,880
NEW JERSEY	\$ 13.6	9,883	734,084	66,144
NEW YORK	\$ 47.2	33,438	6,866,171	209,956
RHODE ISLAND	\$ 1.5	1,043	56,864	7,846
VERMONT	\$ 7.1	6,808	1,193,437	36,969
TOTAL	\$102.4	75,657	11,456,754	513,018

WITH MORE THAN 75,000 FARMS AND MORE THAN 11 MILLION ACRES IN FARMLAND, AGRICULTURE IS VERY MUCH PART OF THE REGION'S WORKING LANDSCAPE.



Agriculture, related processing and support industries (excluding forestry and fisheries) produced \$41.3 billion in direct output and are responsible for \$70.8 billion in economic impact.



Forest products industries produced \$13.7 billion in direct output and \$24.2 billion in economic impact, while supporting 106,686 jobs in forest products and processing industries.



Commercial fishing and related processing generated \$4.0 billion in direct output, with \$5.8 billion economic impact. It supported 42,256 jobs in the region.

⁴New England (CT, ME, MA, NH, RI, VT), NY and NJ

⁵Farming, fishing and forestry impact. Does not include landscaping.

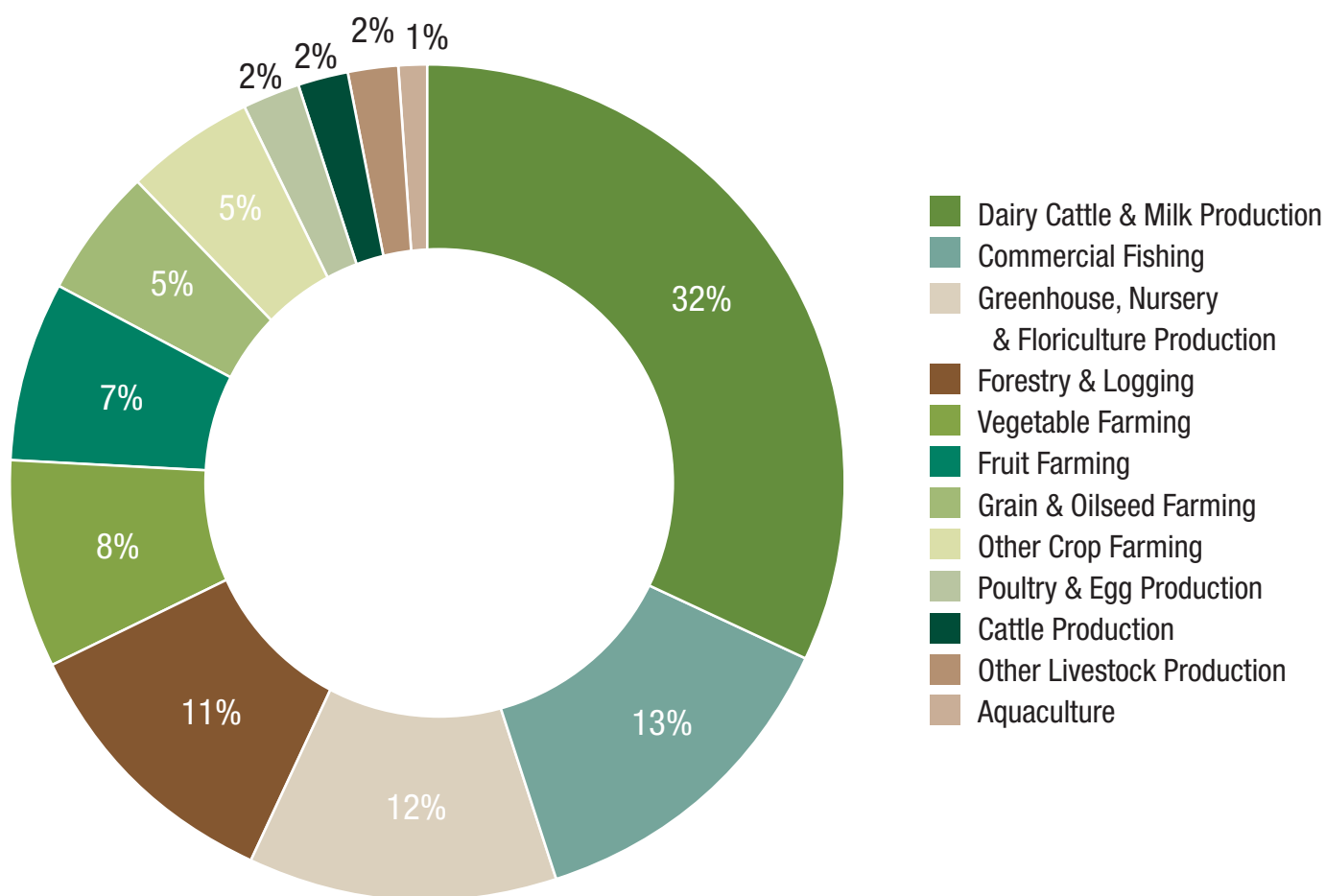
⁶USDA Ag Census, 2017

⁷USDA Ag Census, 2017

NORTHEAST ECONOMIC IMPACTS

SECTOR	DIRECT SALES	ECONOMIC IMPACT	EMPLOYMENT
<i>AGRICULTURAL PRODUCTION</i>	\$ Million	\$ Million	Jobs
Grain and Oilseed Farming	622.7	1,139.3	7,954
Vegetable Farming	1,024.8	1,765.1	18,828
Fruit Farming	838.2	1,511.5	25,744
Greenhouse, Nursery and Floriculture Production	1,498.5	2,518.2	30,158
Other Crop Farming	584.7	1,028.9	23,482
Cattle Production	289.2	461.2	7,155
Dairy Cattle and Milk Production	3,943.8	6,707.4	35,660
Poultry and Egg Production	309.3	494.5	1,924
Other Livestock Production	233.1	332.2	7,361
<i>PROCESSING</i>			
Grain and Oilseed Processing	780.5	1,135.5	2,117
Frozen and Canned Food Manufacturing	6,844.6	11,005.3	37,059
Milk, Yogurt, Butter and Cheese Manufacturing	11,832.7	22,668.0	69,092
Other Dairy Processing	2,946.0	5,267.2	15,597
Animal Slaughtering and Processing	5,628.3	8,273.7	31,640
Wineries	1,936.1	3,272.6	13,277
Ag Input Manufacturing	1,941.9	3,191.8	7,965
TOTAL FOR AG INDUSTRY	41,254.4	70,772.4	335,013
<i>FORESTRY PRODUCTION</i>			
Logging and Forestry	1,343.2	2,103.1	22,310
<i>PROCESSING</i>			
Sawmills, Pallet and Plywood Manufacturing	3,485.0	6,662.3	35,819
Pulp and Paper Mills	8,898.8	15,469.3	48,557
TOTAL FOR FOREST PRODUCTS INDUSTRY	13,727.0	24,234.7	106,686
SUPPORT ACTIVITIES FOR AGRICULTURE AND FORESTRY	929.0	1,636.8	29,063
<i>FISHERIES AND AQUACULTURE PRODUCTION</i>			
Commercial Fishing	1,567.0	2,735.9	25,388
Aquaculture	149.6	219.0	5,739
<i>PROCESSING</i>			
Seafood Preparation and Packaging	1,755.1	2,835.9	11,129
TOTAL FOR FISHERIES / SEAFOOD	3,471.7	5,790.8	42,256
TOTAL FOR ALL ABOVE SECTORS	59,382.1	102,434.7	513,018
LANDSCAPE SERVICES	11,898.7	20,178.2	208,649

NORTHEAST FARMING, FISHING & FORESTRY SALES



IMPACT OF AGRICULTURE, COMMERCIAL FISHING, FORESTRY AND RELATED BUSINESSES IN THE NORTHEAST





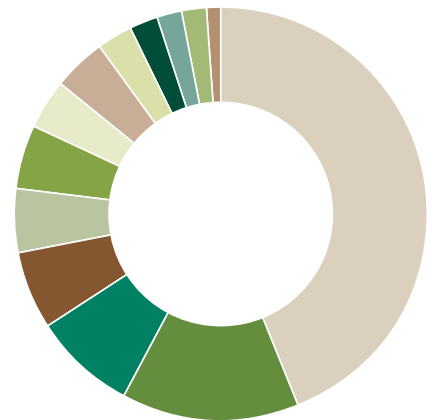
CONNECTICUT

\$5.2 BILLION IMPACT

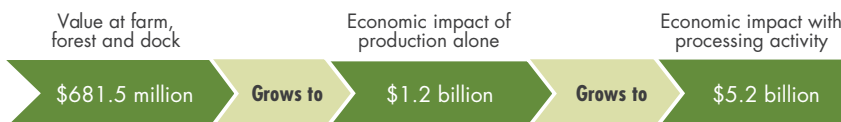


- With 5,500 farms, nearly 400,000 acres in farmland and more than 1.7 million acres in forests, agriculture, forest products and commercial fishing are an important part of the state's economy and working landscape.
- Agricultural production and processing in Connecticut generated \$2.2 billion in direct sales and \$3.6 billion in economic impact in 2017. In addition, it supported 21,028 jobs, both on and off the farm.
- Forest products are a major contributor to the state economy, with \$1.4 billion in impact and 5,220 jobs supported.
- With nearly half of farming, fishing and forestry revenues, greenhouse, nursery and floriculture production is Connecticut's leading agricultural industry.

CONNECTICUT FARMING, FISHING & FORESTRY SALES



44%	Greenhouse, Nursery & Floriculture Production
14%	Dairy Cattle & Milk Production
8%	Fruit Farming
6%	Logging & Forestry
5%	Poultry & Egg Production
5%	Vegetable Farming
4%	Tobacco Farming
4%	Aquaculture
3%	Other Crop Farming
2%	Cattle Production
2%	Commercial Fishing
2%	Grain & Oilseed Farming
1%	Other Livestock Production



CONNECTICUT ECONOMIC IMPACTS

SECTOR	DIRECT SALES	ECONOMIC IMPACT	EMPLOYMENT
AGRICULTURAL PRODUCTION	\$ Million	\$ Million	Jobs
Grain and Oilseed Farming	11.3	22.9	1765
Vegetable Farming	35.3	70.1	677
Fruit Farming	52.6	106.5	2,094
Greenhouse, Nursery and Floriculture Production	301.3	529.9	6,366
Other Crop Farming	48.3	92.9	1,873
Cattle Production	14.5	23.0	402
Dairy Cattle and Milk Production	97.3	162.6	927
Poultry and Egg Production	36.8	53.5	217
Other Livestock Production	7.6	12.6	255
PROCESSING			
Frozen and Canned Food Manufacturing	359.6	545.1	1,773
Milk, Yogurt, Butter and Cheese Manufacturing	477.2	771.7	2,119
Other Dairy Processing	187.6	284.6	931
Animal Slaughtering and Processing	147.3	219.2	1,045
Wineries	110.5	183.7	1,372
Ag Input Manufacturing	313.4	522.0	1,372
TOTAL FOR AG INDUSTRY	2,200.6	3,600.3	21,028
FORESTRY PRODUCTION			
Logging and Forestry	39.5	63.6	739
PROCESSING			
Sawmills, Pallet and Plywood Manufacturing	133.0	243.8	1,335
Pulp and Paper Mills	611.2	1,061.4	3,146
TOTAL FOR FOREST PRODUCTS INDUSTRY	783.7	1,368.8	5,220
SUPPORT ACTIVITIES FOR AGRICULTURE AND FORESTRY	87.0	148.2	1,701
FISHERIES AND AQUACULTURE PRODUCTION			
Commercial Fishing	13.8	17.6	143
Aquaculture	23.2	38.5	780
PROCESSING			
Seafood Preparation and Packaging	43.4	67.1	291
TOTAL FOR FISHERIES / SEAFOOD	80.4	123.2	1,214
TOTAL FOR ALL ABOVE SECTORS	3,151.7	5,240.5	29,163
LANDSCAPE SERVICES	1,478.3	2,451.8	25,362



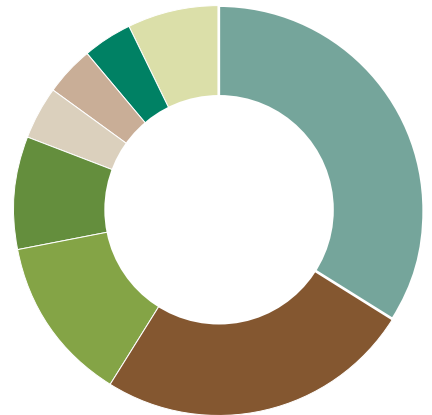
MAINE

\$11.7 BILLION IMPACT



- Maine has 7,600 farms and more than 1.3 million acres in farmland. Anchored by potato production, vegetable farming is the leading agricultural sector.
- With nearly 18 million acres of forest covering almost 90% of the state, the forest products industry is a major economic driver for the Pine Tree State. Forestry, logging and related processing support nearly 32,000 jobs in Maine.
- Commercial fishing and aquaculture are also important to Maine, with \$1.4 billion in economic impact and 12,188 jobs supported.
- Dairy products, wild blueberries, maple syrup, and greenhouse, nursery and floriculture production are also important to the state.

MAINE FARMING, FISHING & FORESTRY SALES



34%	Commercial Fishing
25%	Logging & Forestry
13%	Vegetable Farming
9%	Dairy Cattle & Milk Production
4%	Greenhouse, Nursery & Floriculture Production
4%	Aquaculture
4%	Fruit Farming
7%	Other



MAINE ECONOMIC IMPACTS

SECTOR	DIRECT SALES	ECONOMIC IMPACT	EMPLOYMENT
AGRICULTURAL PRODUCTION	\$ Million	\$ Million	Jobs
Grain and Oilseed Farming	26.3	50.6	579
Vegetable Farming	231.9	438.8	5,552
Fruit Farming	63.9	125.1	3,075
Greenhouse, Nursery and Floriculture Production	72.3	125.2	1,731
Other Crop Farming	42.0	80.7	2,253
Cattle Production	23.5	35.0	849
Dairy Cattle and Milk Production	154.5	265.1	2,063
Poultry and Egg Production	15.4	25.8	258
Other Livestock Production	16.5	24.6	666
PROCESSING			
Grain and Oilseed Processing	89.8	151.2	450
Frozen and Canned Food Manufacturing	635.6	1,027.3	4,409
Milk, Yogurt, Butter and Cheese Manufacturing	336.4	640.5	2,473
Other Dairy Processing	56.4	86.2	296
Animal Slaughtering and Processing	262.7	381.7	1,904
Wineries	22.8	37.9	196
Ag Input Manufacturing	65.4	106.2	309
TOTAL FOR AG INDUSTRY	2,115.4	3,601.9	27,063
FORESTRY PRODUCTION			
Logging and Forestry	426.9	654.6	7,631
PROCESSING			
Sawmills, Pallet and Plywood Manufacturing	977.1	1,970.7	10,931
Pulp and Paper Mills	2,341.2	3,950.4	13,433
TOTAL FOR FOREST PRODUCTS INDUSTRY	3,745.2	6,575.7	31,995
SUPPORT ACTIVITIES FOR AGRICULTURE AND FORESTRY	86.5	156.3	3,277
FISHERIES AND AQUACULTURE PRODUCTION			
Commercial Fishing	577.2	986.7	8,308
Aquaculture	64.1	95.6	2,594
PROCESSING			
Seafood Preparation and Packaging	193.2	298.9	1,286
TOTAL FOR FISHERIES / SEAFOOD	834.5	1,381.2	12,188
TOTAL FOR ALL ABOVE SECTORS	6,781.6	11,715.1	74,523
LANDSCAPE SERVICES	451.0	760.2	9,710



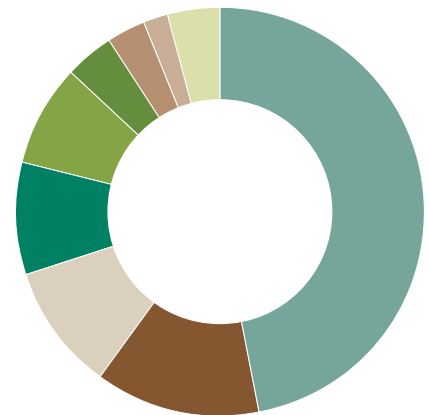
MASSACHUSETTS

\$13 BILLION IMPACT



- With more than 7,200 farms and nearly a half-million acres in farmland, agriculture is a key part of the commonwealth's landscape and economy.
- Greenhouse, nursery and floriculture is the largest agricultural sector.
- Massachusetts is the second largest producer of cranberries in the United States. Other key sectors include apples, vegetables and dairy.
- With a large food processing industry, agricultural production and processing combined, generates \$7.1 billion in impact and supports more than 36,000 jobs in the commonwealth.
- Commercial fishing and aquaculture are two of the largest sectors in Massachusetts, with \$2.8 billion in economic impact and more than 18,000 jobs supported.

MASSACHUSETTS FARMING, FISHING & FORESTRY SALES



- 47% Commercial Fishing
- 13% Logging & Forestry
- 10% Greenhouse, Nursery & Floriculture Production
- 9% Fruit Farming
- 8% Vegetable Farming
- 4% Dairy Cattle & Milk Production
- 3% Other Livestock Production
- 2% Aquaculture
- 4% Other

Value at farm,
forest and dock

Economic impact of
production alone

Economic impact with
processing activity

\$1.3 billion

Grows to

\$2.4 billion

Grows to

\$13.3 billion

MASSACHUSETTS ECONOMIC IMPACTS

SECTOR	DIRECT SALES	ECONOMIC IMPACT	EMPLOYMENT
AGRICULTURAL PRODUCTION	\$ Million	\$ Million	Jobs
Grain and Oilseed Farming	5.9	11.4	129
Vegetable Farming	107.8	209.5	2,706
Fruit Farming	112.0	225.0	5,882
Greenhouse, Nursery and Floriculture Production	134.4	242.6	3,450
Other Crop Farming	22.3	42.9	1,666
Cattle Production	5.3	7.0	197
Dairy Cattle and Milk Production	54.9	88.6	646
Poultry and Egg Production	11.0	15.7	83
Other Livestock Production	43.8	61.6	1,984
PROCESSING			
Grain and Oilseed Processing	146.4	205.4	324
Frozen and Canned Food Manufacturing	752.4	1,220.9	4,234
Milk, Yogurt, Butter and Cheese Manufacturing	1,281.6	2,047.7	5,634
Other Dairy Processing	417.2	671.9	2,014
Animal Slaughtering and Processing	1,181.1	1,688.1	5,739
Wineries	84.5	152.0	702
Ag Input Manufacturing	141.5	248.0	655
TOTAL FOR AG INDUSTRY	4,502.1	7,138.3	36,045
FORESTRY PRODUCTION			
Logging and Forestry	169.6	308.9	2,199
PROCESSING			
Sawmills, Pallet and Plywood Manufacturing	256.8	478.2	2,462
Pulp and Paper Mills	1,248.0	2,384.1	7,748
TOTAL FOR FOREST PRODUCTS INDUSTRY	1,674.4	3,171.2	12,409
SUPPORT ACTIVITIES FOR AGRICULTURE AND FORESTRY	99.3	182.0	3,735
FISHERIES AND AQUACULTURE PRODUCTION			
Commercial Fishing	605.4	1,119.3	10,706
Aquaculture	29.4	41.4	1,332
PROCESSING			
Seafood Preparation and Packaging	968.6	1,622.3	6,310
TOTAL FOR FISHERIES / SEAFOOD	1,603.4	2,783.0	18,348
TOTAL FOR ALL ABOVE SECTORS	7,879.2	13,274.5	70,537
LANDSCAPE SERVICES	2,512.2	4,467.7	45,917



NEW HAMPSHIRE

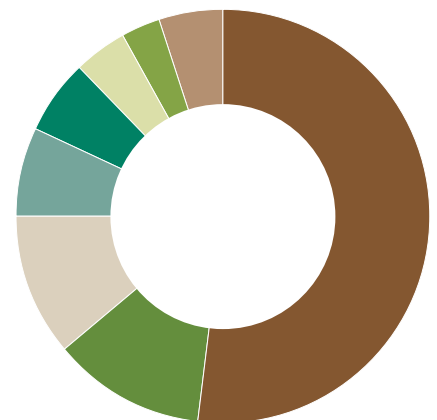
\$2.9 BILLION IMPACT



- The Granite State has more than 4,000 farms and 425,323 acres in farmland.
- Dairy and greenhouse, nursery and floriculture production are the largest agricultural sectors.
- Logging and forestry and related processing is a key part of the New Hampshire economy, with \$1.3 billion in economic impact and 6,424 jobs supported.
- Fishing and aquaculture have more than \$117 million in economic impact and support 1,570 jobs.



NEW HAMPSHIRE FARMING, FISHING & FORESTRY SALES



52%	Logging & Forestry
12%	Dairy Cattle & Milk Production
11%	Greenhouse, Nursery & Floriculture Production
7%	Commercial Fishing
6%	Fruit Farming
4%	Other Crop Farming
3%	Vegetable Farming
5%	Other

NEW HAMPSHIRE ECONOMIC IMPACTS

SECTOR	DIRECT SALES	ECONOMIC IMPACT	EMPLOYMENT
AGRICULTURAL PRODUCTION	\$ Million	\$ Million	Jobs
Grain and Oilseed Farming	3.7	6.9	88
Vegetable Farming	16.3	28.3	355
Fruit Farming	29.4	53.5	1,048
Greenhouse, Nursery and Floriculture Production	54.3	89.4	1,232
Other Crop Farming	19.4	35.0	1,174
Cattle Production	3.6	4.0	157
Dairy Cattle and Milk Production	62.9	94.0	698
Poultry and Egg Production	4.8	6.8	38
Other Livestock Production	7.6	8.5	392
PROCESSING			
Frozen and Canned Food Manufacturing	53.4	78.4	285
Milk, Yogurt, Butter and Cheese Manufacturing	443.6	699.0	2,098
Other Dairy Processing	7.8	11.6	40
Animal Slaughtering and Processing	76.2	99.0	504
Wineries	47.2	75.3	363
Ag Input Manufacturing	10.5	16.2	44
TOTAL FOR AG INDUSTRY	840.7	1,305.9	8,516
FORESTRY PRODUCTION			
Logging and Forestry	267.6	338.8	2,416
PROCESSING			
Sawmills, Pallet and Plywood Manufacturing	280.7	538.1	2,593
Pulp and Paper Mills	288.0	463.8	1,415
TOTAL FOR FOREST PRODUCTS INDUSTRY	836.3	1,340.7	6,424
SUPPORT ACTIVITIES FOR AGRICULTURE AND FORESTRY	58.0	104.9	1,370
FISHERIES AND AQUACULTURE PRODUCTION			
Commercial Fishing	35.0	52.0	850
Aquaculture	4.9	5.5	253
PROCESSING			
Seafood Preparation and Packaging	82.9	119.6	467
TOTAL FOR FISHERIES / SEAFOOD	122.8	177.1	1,570
TOTAL FOR ALL ABOVE SECTORS	1,857.8	2,928.6	17,880
LANDSCAPE SERVICES	528.0	881.1	9,962



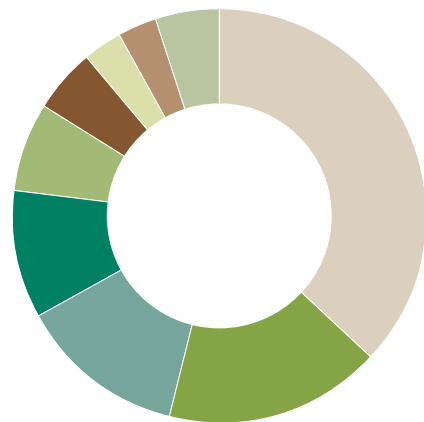
NEW JERSEY

\$13.6 BILLION IMPACT



- With nearly 10,000 farms and more than 730,000 acres in farmland, agriculture is a key part of New Jersey's landscape and economy.
- Befitting its name as the Garden State, greenhouse, nursery and floriculture make up the largest agricultural sector, with vegetable farming ranked second. Green industry production generated \$835 million in economic impact and supported almost 10,000 jobs.
- New Jersey has a large food processing industry. When production and processing are combined, the agricultural sector generates \$11.5 billion in impact and supports more than 51,000 jobs.
- Commercial fishing and aquaculture are significant sectors in New Jersey, with \$715 million in economic impact and nearly 4,000 jobs supported.

NEW JERSEY FARMING, FISHING & FORESTRY SALES



37%	Greenhouse, Nursery & Floriculture Production
17%	Vegetable Farming
13%	Commercial Fishing
10%	Fruit Farming
7%	Grain & Oilseed Farming
5%	Logging & Forestry
3%	Other Crop Farming
3%	Other Livestock Production
5%	Other

Value at farm,
forest and dock

Economic impact of
production alone

Economic impact with
processing activity

\$1.4 billion

Grows to

\$2.3 billion

Grows to

\$13.6 billion

NEW JERSEY ECONOMIC IMPACTS

SECTOR	DIRECT SALES	ECONOMIC IMPACT	EMPLOYMENT
AGRICULTURAL PRODUCTION	\$ Million	\$ Million	Jobs
Grain and Oilseed Farming	92.3	170.4	1,202
Vegetable Farming	226.8	369.0	3,793
Fruit Farming	135.8	259.1	3,779
Greenhouse, Nursery and Floriculture Production	500.8	834.6	9,992
Other Crop Farming	43.9	79.1	2,418
Cattle Production	6.8	8.8	148
Dairy Cattle and Milk Production	29.1	44.6	249
Poultry and Egg Production	29.3	41.9	162
Other Livestock Production	38.9	48.5	1,029
PROCESSING			
Grain and Oilseed Processing	114.9	194.4	462
Frozen and Canned Food Manufacturing	1,852.9	3,038.0	9,900
Milk, Yogurt, Butter and Cheese Manufacturing	1,447.1	2,207.3	5,586
Other Dairy Processing	259.7	402.7	1,113
Animal Slaughtering and Processing	1,732.9	2,455.5	7,769
Wineries	212.8	376.1	1,660
Ag Input Manufacturing	580.3	985.0	2,500
TOTAL FOR AG INDUSTRY	7,304.3	11,515.0	51,762
FORESTRY PRODUCTION			
Logging and Forestry	63.3	116.7	938
PROCESSING			
Sawmills, Pallet and Plywood Manufacturing	304.7	530.1	2,739
Pulp and Paper Mills	210.3	367.8	1,069
TOTAL FOR FOREST PRODUCTS INDUSTRY	578.3	1,014.6	4,746
SUPPORT ACTIVITIES FOR AGRICULTURE AND FORESTRY	176.4	313.7	5,852
FISHERIES AND AQUACULTURE PRODUCTION			
Commercial Fishing	184.7	314.8	2,050
Aquaculture	8.9	11.1	235
PROCESSING			
Seafood Preparation and Packaging	244.3	388.8	1,499
TOTAL FOR FISHERIES / SEAFOOD	437.9	714.7	3,784
TOTAL FOR ALL ABOVE SECTORS	8,496.9	13,558.0	66,144
LANDSCAPE SERVICES	2,907.3	4,944.0	47,346



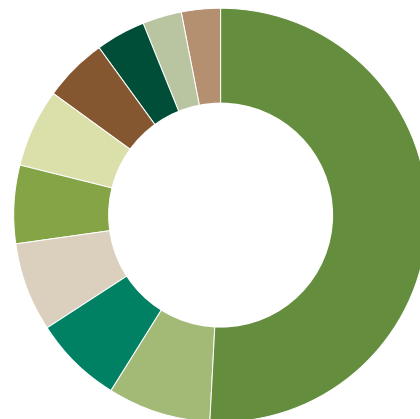
NEW YORK

\$47 BILLION IMPACT



- With 33,438 farms and 6.9 million acres in farmland, New York leads the Northeast in agricultural production.
- Dairy cattle and milk production is, by far, the largest agricultural sector, with more than \$5 billion in economic impact and over 25,000 jobs supported. Other significant sectors include grain and oilseed; apples; greenhouse, nursery and floriculture; and vegetables.
- With nearly 19 million acres in forestland, New York has a robust forest products sector. Logging, forestry, and related processing and manufacturing generate \$9 billion in economic impact and support 36,400 jobs.
- New York is the third largest grape producer in the United States after California and Washington State. This production contributes to the significant wine and juice industries in the Empire State.

NEW YORK FARMING, FISHING & FORESTRY SALES



- 51% Dairy Cattle & Milk Production
- 8% Grain & Oilseed Farming
- 7% Fruit Farming
- 7% Greenhouse, Nursery & Floriculture Production
- 6% Vegetable Farming
- 6% Other Crop Farming
- 5% Logging & Forestry
- 4% Cattle Production
- 3% Poultry & Egg Production
- 3% Other

Value at farm,
forest and dock

Economic impact of
production alone

Economic impact with
processing activity

\$5.8 billion

Grows to

\$9.7 billion

Grows to

\$47.2 billion

NEW YORK ECONOMIC IMPACTS

SECTOR	DIRECT SALES	ECONOMIC IMPACT	EMPLOYMENT
AGRICULTURAL PRODUCTION	\$ Million	\$ Million	Jobs
Grain and Oilseed Farming	463.0	843.8	5,484
Vegetable Farming	373.4	598.7	5,193
Fruit Farming	402.2	676.6	8,790
Greenhouse, Nursery and Floriculture Production	383.7	613.4	6,303
Other Crop Farming	326.9	565.6	11,136
Cattle Production	210.7	342.7	4,719
Dairy Cattle and Milk Production	2,963.1	5,054.2	25,168
Poultry and Egg Production	199.5	328.5	1,085
Other Livestock Production	98.8	148.3	2,388
PROCESSING			
Grain and Oilseed Processing	361.2	499.2	755
Frozen and Canned Food Manufacturing	2,949.9	4,762.1	15,396
Milk, Yogurt, Butter and Cheese Manufacturing	6,630.5	13,873.0	42,892
Other Dairy Processing	1,393.6	2,686.5	7,538
Animal Slaughtering and Processing	1,762.3	2,730.9	11,653
Wineries	1,345.7	2,274.3	8,785
Ag Input Manufacturing	793.0	1,261.2	2,917
TOTAL FOR AG INDUSTRY	20,657.5	37,199.0	160,202
FORESTRY PRODUCTION			
Logging and Forestry	273.9	445.2	5,608
PROCESSING			
Sawmills, Pallet and Plywood Manufacturing	1,181.6	2,275.3	12,184
Pulp and Paper Mills	3,621.6	6,309.2	18,608
TOTAL FOR FOREST PRODUCTS INDUSTRY	5,077.1	9,029.7	36,400
SUPPORT ACTIVITIES FOR AGRICULTURE AND FORESTRY	364.2	634.4	10,833
FISHERIES AND AQUACULTURE PRODUCTION			
Commercial Fishing	48.9	66.5	1,324
Aquaculture	13.2	19.8	319
PROCESSING			
Seafood Preparation and Packaging	157.8	241.0	878
TOTAL FOR FISHERIES / SEAFOOD	219.9	327.3	2,521
TOTAL FOR ALL ABOVE SECTORS	26,318.7	47,190.4	209,956
LANDSCAPE SERVICES	3,445.5	5,737.0	59,239



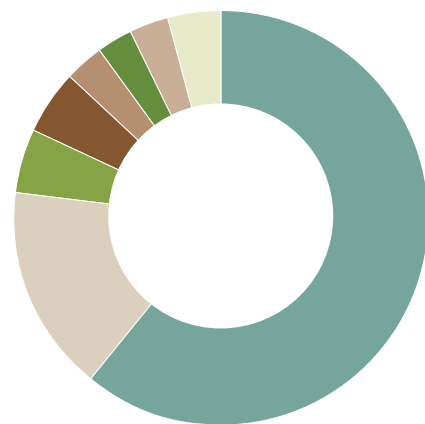
RHODE ISLAND

\$1.5 BILLION IMPACT



- Rhode Island has more than 1,000 farms and nearly 57,000 acres in farmland, which are an important part of both the state's landscape and economy.
- Befitting its name as the Ocean State, Rhode Island has significant commercial fishing and aquaculture industries, which generate \$282 million in economic impact and support 2,586 jobs.
- Squid is the highest-volume species landed in Rhode Island; Scallops the most valuable.⁸
- Greenhouse, nursery and floriculture production is the largest agricultural production sector.
- The agricultural sector generates \$850 million in impact and supports more than 3,000 jobs.

RHODE ISLAND FARMING, FISHING & FORESTRY SALES



⁸U.S. National Oceanic and Atmospheric Administration, 2017 Commercial Landings Data.

RHODE ISLAND ECONOMIC IMPACTS

SECTOR	DIRECT SALES	ECONOMIC IMPACT	EMPLOYMENT
AGRICULTURAL PRODUCTION	\$ Million	\$ Million	Jobs
Grain and Oilseed Farming	0.4	0.7	8
Vegetable Farming	8.9	14.1	168
Fruit Farming	3.0	5.0	123
Greenhouse, Nursery and Floriculture Production	27.2	42.6	554
Other Crop Farming	1.7	2.9	126
Cattle Production	0.7	0.8	25
Dairy Cattle and Milk Production	5.0	7.0	46
Poultry and Egg Production	1.3	1.7	9
Other Livestock Production	5.8	6.4	246
PROCESSING			
Frozen and Canned Food Manufacturing	57.3	84.8	281
Milk, Yogurt, Butter and Cheese Manufacturing	135.3	192.7	500
Animal Slaughtering and Processing	308.0	415.1	1,346
Wineries	43.1	69.3	296
Ag Input Manufacturing	5.8	8.8	29
TOTAL FOR AG INDUSTRY	603.5	851.9	3,757
FORESTRY PRODUCTION			
Logging and Forestry	7.5	12.8	133
PROCESSING			
Sawmills, Pallet and Plywood Manufacturing	81.4	132.7	596
Pulp and Paper Mills	104.0	178.6	573
TOTAL FOR FOREST PRODUCTS INDUSTRY	192.9	324.1	1,302
SUPPORT ACTIVITIES FOR AGRICULTURE AND FORESTRY	5.4	9.5	201
FISHERIES AND AQUACULTURE PRODUCTION			
Commercial Fishing	102.0	179.0	2,007
Aquaculture	4.3	4.7	181
PROCESSING			
Seafood Preparation and Packaging	64.9	98.2	398
TOTAL FOR FISHERIES / SEAFOOD	171.2	281.9	2,586
TOTAL FOR ALL ABOVE SECTORS	973.0	1,467.4	7,846
LANDSCAPE SERVICES	321.7	534.8	6,022



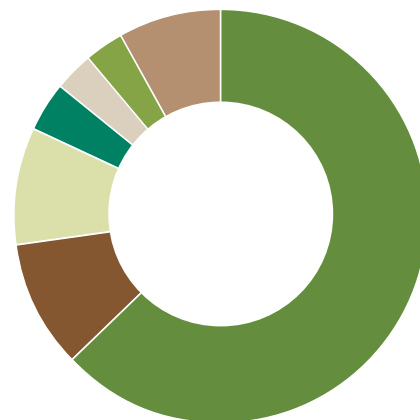
VERMONT

\$7.1 BILLION IMPACT



- With more than 6,800 farms and nearly 1.2 million acres in farmland, agriculture is a key part of Vermont's landscape and economy.
- Dairy cattle and milk production is, by far, the largest agricultural sector, with nearly \$1 billion in economic impact and 5,863 jobs supported.
- Other crop farming, which includes hay, is the second largest agricultural sector with \$130 million in economic impact.
- Other significant agricultural sectors in Vermont include fruit, vegetables and maple syrup.
- With 4.6 million acres of forest, logging and forestry is a significant industry in the Green Mountain state. The forest products industry has \$1.4 billion in economic impact and supports more than 8,000 jobs.

VERMONT FARMING, FISHING & FORESTRY SALES



- 63% Dairy Cattle & Milk Production
- 10% Logging & Forestry
- 9% Other Crop Farming
- 4% Fruit Farming
- 3% Greenhouse, Nursery & Floriculture Production
- 3% Vegetable Farming
- 8% Other

Value at farm,
forest and dock

Economic impact of
production alone

Economic impact with
processing activity

\$910 million

Grows to

\$1.5 billion

Grows to

\$7.1 billion

VERMONT ECONOMIC IMPACTS

SECTOR	DIRECT SALES	ECONOMIC IMPACT	EMPLOYMENT
AGRICULTURAL PRODUCTION	\$ Million	\$ Million	Jobs
Grain and Oilseed Farming	19.8	32.6	288
Vegetable Farming	24.4	36.6	384
Fruit Farming	39.3	60.7	953
Greenhouse, Nursery and Floriculture Production	24.5	40.5	530
Other Crop Farming	80.2	129.8	2,836
Cattle Production	24.1	39.9	658
Dairy Cattle and Milk Production	577.0	991.3	5,863
Poultry and Egg Production	11.2	20.6	72
Other Livestock Production	14.1	21.7	401
PROCESSING			
Grain and Oilseed Processing	68.2	85.3	1268
Frozen and Canned Food Manufacturing	183.5	248.7	781
Milk, Yogurt, Butter and Cheese Manufacturing	1,081.0	2,236.1	7,790
Other Dairy Processing	623.7	1,183.7	3,665
Animal Slaughtering and Processing	157.8	284.2	1,680
Wineries	69.5	104.0	474
Ag Input Manufacturing	32.0	44.4	139
TOTAL FOR AG INDUSTRY	3,030.3	5,560.1	26,640
FORESTRY PRODUCTION			
Logging and Forestry	94.9	162.5	2,646
PROCESSING			
Sawmills, Pallet and Plywood Manufacturing	269.7	493.4	2,979
Pulp and Paper Mills	474.5	754.0	2,565
TOTAL FOR FOREST PRODUCTS INDUSTRY	839.1	1,409.9	8,190
SUPPORT ACTIVITIES FOR AGRICULTURE AND FORESTRY	52.2	87.8	2,094
FISHERIES AND AQUACULTURE PRODUCTION			
Aquaculture	1.6	2.4	45
TOTAL FOR FISHERIES / SEAFOOD	1.6	2.4	45
TOTAL FOR ALL ABOVE SECTORS	3,923.2	7,060.2	36,969
LANDSCAPE SERVICES	254.7	401.6	5,091



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 536 economic sectors. Sales data was obtained from the 2017 USDA Census of Agriculture, 2017 Commercial Fishery Landings from the National Oceanic and Atmospheric Administration, the 2016 Annual Survey of Manufacturers from the U.S. Census Bureau, and selected 2017 sector sales data from IMPLAN itself.

The overall economic impact of a given sector is comprised of three components:

The direct farm or factory-gate sales of that sector is referred to as the *direct impact*. The spending of businesses on inputs, goods and services from other firms is referred to as the *indirect impact*. Finally, the spending of employees of these

firms on goods and services within the economy is referred to as the *induced impact*. The total economic impact of each farm, fishing and forestry sector is the sum of the direct, indirect and induced impacts of those businesses. However, downstream businesses, such as landscaping, wholesaling and retailing other than direct sales from the farm to consumer, are not included. Food businesses and processors whose primary inputs may not be linked to regional agricultural production, such as bakeries, tropical product handlers, confectionary manufacturing, coffee roasting, grocery retailing, restaurants, etc. were excluded from the study.

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

This is an abbreviated discussion of methodology and background. Further information is available on request.



ABOUT THE AUTHORS

DR. RIGOBERTO A. LOPEZ is the Richard DeFavero Professor of Agricultural and Resource Economics at the University of Connecticut. Dr. Lopez was the director and founder of the Zwick Center of Food and Resource Policy and led the first studies on the economic impacts of Connecticut's and Northeastern U.S. agricultural sectors as well as the most recent study on the economic impact of the University of Connecticut.

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ABOUT FARM CREDIT EAST

FARM CREDIT EAST extends more than \$7.8 billion in loans and has 20 local offices in its seven-state service area. In addition to loans and leases, the organization offers specialized financial services, such as tax preparation, payroll, record keeping, appraisal and consulting for farming, forest products and commercial fishing businesses. Farm Credit East is governed by a customer-elected board of directors who represent the best interests of the organization and its borrowers. For more information, visit FarmCreditEast.com.

⁹This is not a USDA publication. The findings and conclusions in this publication are those of the authors and should not be construed to represent any official USDA or U.S. Government determination or policy.

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