STATE OF NEW JERSEY

FIFTY FIFTH

REPORT OF

THE STATE FARMLAND EVALUATION COMMITTEE

PRODUCTIVITY VALUES

FOR

2020 TAX YEAR

FARMLAND ASSESSMENT ACT OF 1964

CHAPTER 48, LAWS OF 1964

TRENTON, NEW JERSEY **OCTOBER, 2019**

ACKNOWLEDGMENTS

The State Farmland Evaluation Committee gratefully acknowledges the assistance provided by members of the staff of the School of Environmental and Biological Sciences, Rutgers – The State University. Particular commendation is extended to Dr. A. Robert Koch and Dr. Donn Derr, Professors Emeritus, Department of Agricultural, Food, and Resource Economics; Dr. George W. Luke, Late Professor Emeritus, Agricultural Economics; and Dr. John C. F. Tedrow, Late Professor of Soils and Crops. This year's land value estimates were prepared by Dr. Paul D. Gottlieb of the Department of Agricultural, Food, and Resource Economics and Mr. Kevin Sullivan of the Office of Research Analytics, New Jersey Agricultural Experiment Station.

Also acknowledged with the thanks of the Committee are the services rendered by Richard Belcher, Division of Agriculture and Natural Resources, New Jersey Department of Agriculture; Patricia Wright, Deputy Director; and Marilyn Gaines, Administrative Assistant 2, from the Division of Taxation.

Address inquiries to:

Division of Taxation
Post Office Box 240
Trenton, New Jersey 08695-0240

REPORT OF THE STATE FARMLAND EVALUATION COMMITTEE

The Farmland Assessment Act of 1964 (Chapter 48, Laws of 1964) created a State Farmland Evaluation Advisory Committee. Under the Act, the Director of the Division of Taxation, the Dean of School of Environmental and Biological Sciences, and the Secretary of Agriculture are designated as members. The Laws of 2013 Chapter 43 changed the name of the Committee to the State Farmland Evaluation Committee and expanded membership to include a municipal tax assessor, county assessor or county tax administrator, and a farmer who is a current or former member of the State Board of Agriculture. The Act prescribed the functions and responsibilities of the Committee as follows:

> "... The committee shall meet from time to time on the call of the Secretary of Agriculture or the Director of the Division of Taxation and annually determine and publish a range of values for each of the several classifications of land in agricultural and horticultural use in the various areas of the State. The committee shall determine the ranges in fair value of such land based upon its productive capabilities when devoted to agricultural or horticultural uses. In making these annual determinations of value, the committee shall consider available evidence of agricultural or horticultural capability derived from the soil survey at Rutgers, The State University; the National Co-operative Soil Survey; and such other evidence of value of land devoted exclusively to agricultural or horticultural uses as it may in its judgment deem pertinent. On or before October 1 of each year, the committee shall make these ranges of fair value available to the assessing authority in each of the taxing districts in which land in agricultural and horticultural use is located."

The original methodology of capitalizing net farm income per acre to determine the ranges in fair value of the several classifications of qualified land has been continued in this report.

Sources of primary data used in determining fair values are the U.S. Census of Agriculture (1964 through 2017), annual publications of the Economic Research Service and the National Agricultural Statistics Service of the United States Department of Agriculture, the New Jersey Department of Agriculture, the Annual FA-l Data Report, and research publications developed at Rutgers – The State University.

The Committee submits this 2019 report for use in Tax Year 2020.

Douglas H. Fisher, Secretary of Agriculture
Department of Agriculture

Kathleen Hill,
Senior Assistant Assessor
Gloucester County

Dr. Robert M. Goodman, Executive Dean
School of Environmental and Biological Sciences
Rutgers, The State University of New Jersey

Ann Dorsett, Former Member
Past State Board of Agriculture Member

Patricia Wright, Deputy Director
Division of Taxation

LAND USE AND PRODUCTIVITY VALUE

The Farmland Assessment Act emphasizes the importance of land use and productivity as primary measures of value when land is devoted to agricultural production and authorizes the Committee to determine a range of fair values for the several classifications of land qualified by assessors.

Historically, farm operators have used their land in the following ways:

1. To produce crops and animal products for sale or feed for animals on the farm;
2. To remain fallow or in cover crops as part of a planned rotational program;
3. To remain unplowed for grazing or conservation purposes;
4. To remain in woods, streams, and meadows, which enhances the productivity of all the land cultivated.

LAND USE CLASSES

The historical uses of farmland described above are the basis for the land use classes listed and defined below:

1. **Cropland Harvested –** This land is the heart of a farming enterprise and represents the highest use of land in agriculture. All land from which a crop was harvested in the current year falls into this category.
2. **Cropland Pastured –** This land can be and often is used to produce crops, but its maximum income may not be realized in a particular year. Land that is fallow or in cover crops as part of a rotational program falls into this classification.
3. **Permanent Pasture –** This land is not cultivated because its maximum economic potential is realized from grazing or as part of erosion control programs. Animals may or may not be part of the farm operation for land to be qualified in this category.
4. **Non-Appurtenant Woodland –** Woodland which can only qualify for farmland assessment on the basis of being in compliance with a woodland management plan filed with the Department of Environmental Protection. It is actively devoted to the production for sale of tree and forest products.
5. **Appurtenant Woodland –** Woodland that is part of a qualified farm. Usually this land is restricted to woodlots because of slope, drainage capability, soil type, or topography. Such land has limited productive use but it provides a windbreak or watershed, or buffers or controls soil erosion.

SOIL GROUPS

Assuming average weather and management, the long-run productive capability of farmland in any of the land-use classes described previously is related primarily to the innate productivity of the soils found in those land-use classes.

To keep the valuation process within reasonable limits, the 215 soil types found in New Jersey were rated and categorized into five clearly defined soil groups by the Soils Department at Rutgers.[1]

Those soil groups are described below:

Group A – **Very productive farmland –** The most desirable soil in the area because of high yields and ease of cultivation;

Group B – **Good farmland –** Desirable soil because yields are generally high and the land can be cultivated on a permanent basis;

Group C – **Fair farmland –** Yields are lower than those in soil Group B because of shallowness, propensity for drought, or excessive moisture. This land can be cultivated on a permanent basis;

Group D – **Poor farmland –** This soil is usually too wet, stony, prone to drought, or otherwise unsuitable for permanent cultivation. Yields are low when cultivated;

Group E – **Very poor farmland –** This land is often found in pasture or woodlands. Yields are very low because of excessive water, shallowness, stoniness, or frequent drought.

The boarding, rehabilitating or training of livestock is a qualified agricultural land use and deemed to be actively devoted to agriculture when the area is contiguous to land which otherwise qualifies for farmland assessment. One of the means to qualify a boarding, rehabilitating, or training facility is to use income imputed to land for grazing. This report includes imputed grazing values by soil group and county that may be found in column 6 of Tables 1 and 2.

RANGES IN FAIR VALUES OF FARMLAND

When land use and soil productivity data are combined, a range in fair value of farmland can be determined. These ranges in value are shown in Tables 1 and 2 for each county in New Jersey. The values shown in Table 1 are the ranges in the “good” soil category for the agricultural land use classes. Table 2 shows the values in Table 1 expanded to account for all five soil categories. The values in Table 2 are the Committee's estimates of the value of farmland based upon its productive capabilities when devoted to agricultural or horticultural use. These are the ranges in value which the Committee is making available to the assessing authority in each of the taxing districts in accordance with the provisions of Section 20 of the Farmland Assessment Act of 1964.

The general method of calculation of farmland values for the 2020 tax year is shown in the Appendix.

APPENDIX

(a) The U.S. Department of Agriculture publishes annual estimates of state farm income and expenses. The U.S. Census of Agriculture estimates state and county farm income every five years. These data as well as current data available in the Rutgers Department of Agricultural, Food and Resource Economics were used to estimate net farm income, the key determinant of current and future land value. The latest available estimate of statewide net farm income is shown below

New Jersey Net Farm Income Used to Forecast 2020 Tax Year Values

	Million Dollars
Net Farm Income to Land	$138.9

(b) State net farm income was allocated to each county using the share of each county's agricultural sales reported in the 2017 Census of Agriculture.

(c) Net income for each county was capitalized according to a return of 10% to estimate the total value of farmland in that county.[2]

Example of Determination of Total Value of Land in Farms for a County

	Net Income (Mil. $)	Capitalized Value (Mil. $)
County A	2.827	28.27

(d) When the total capitalized value of farmland in the county is determined, a value per acre can be estimated. First it is necessary to multiply the acreages in each class (cropland harvested, cropland pastured, etc.) by a weighted estimate of income potential when farmland is devoted to that land use.[3] Using total income-weighted acres for a county, land value per acre is estimated for appurtenant woodland as a base case. The income weights are then used to calculate per-acre values for the remainng land use classes, each of which is a fixed multiple of appurtenant woodland. Examples of these procedures are shown in (d.1) through (d.5).

(d.1) **Example of Acreage for a County's Land Use Classes**

Cropland Harvested	27,299
Cropland Pastured	3,686
Permanent Pasture	12,663
Non-appurtenant Woodland	39,557
Appurtenant Woodland	17,984
Total Qualified	101,189

(d.2) **Income Weights Used in the Formula to Determine Value of Land Use Classes**

Land Use Class	Income Weights
Cropland Harvested	20
Cropland Pastured	10
Permanent Pasture	4
Non-Appurtenant Woodland	3.5
Appurtenant Woodland	1

(d.3) **Example of Computing Value for Land Use Classes for a County**

Land Use Class	Acres	x	Income Weights	=	Weighted Acreage
Cropland Harvested	27,299		20		545,980
Cropland Pastured	3,686		10		36,860
Permanent Pasture	12,663		4		50,652
Non-Appurtenant Woodland	39,557		3.5		138,450
Appurtenant Woodland	7,984		1		17,984
Total Weighted Acreage					789,926

(d.4) Dividing total county capitalized value by total weighted acreage calculated in (d.3) determines the estimated fair value of one acre of appurtenant woodland in the county ("X") shown below:

$$X = \frac{\text{Total County Capitalized Value}}{\text{Weighted Acreage}} = \frac{\$28.27 \text{ Million}}{789{,}926} = \$36 \text{ per acre}$$

(d.5) Values of all land classes are calculated below:

Average Land Use Value of Classes Where X = 36

Cropland Harvested	20	x	36	=	720
Cropland Pastured	10	x	36	=	360
Permanent Pasture	4	x	36	=	144
Non-Appurtenant Woodland	3.5	x	36	=	126
Appurtenant Woodland	1	x	36	=	36

(e) Values similar to those calculated in (d.5) above are are shown in Table 1 of this report.[4] Table 1 shows the ranges in value of the several classifications of land specified in the first paragraph of Section 20 of the Farmland Assessment Act, and which the Committee has determined for land devoted to agricultural use.

(f) When the values in Table 1 are adjusted for the productivity ratings of the soil as required in the second and third sentences of Section 20, a land value based upon land classification and soil productivity is determined.[5] The values that reflect soil productivity are the values recommended by the Committee for assessing purposes for Tax Year 2020. Assessors should note that an A value is provided which is 20% above the 100% value for cropland and 10% above the 100% values for woodland and permanent pasture. This value is calculated for farmland of exceptional quality in the district. It also provides a margin of error for data used in the estimation process in this report.

(g) Land under farm buildings – This land, including boarding, training and rehabilitating facilities that are being used for farm activity, is valued as cropland harvested.

(h) Imputed grazing values – These values include the maintenance cost for permanent pasture (mowing/clipping, lime, fertilizer, over seeding and herbicide application). A land cost for permanent pasture also is included. These costs are updated periodically based on changes in labor, equipment and materials. Permanent pasture by definition is a marginal land use (low productivity and low income), which limits the return on labor and material inputs.

TABLE 1
2020 County Values Per Acre by Land Classes
(column 6 shows the imputed grazing values per N.J.S.A. 54:4-23.5
and is used in determining qualifying income, not valuation)

County	Cropland Harvested		Cropland Pastured		Permanent Pasture		Non-Appurtenant Woodland		Appurtenant Woodland		Imputed Grazing Values
	Col. 1		Col. 2		Col. 3		Col. 4		Col. 5		Col. 6
	Soil Rating	Value Per Acre	Soil Rating	Value Per Acre	Soil Rating	Value Per Acre	Soil Rating	Value Per Acre	Soil Rating	Value Per Acre	Value Per Acre
Atlantic	100	940	100	470	100	188	100	165	100	47	162
Bergen	100	900	100	450	100	180	100	158	100	45	161
Burlington	100	760	100	380	100	152	100	133	100	38	158
Camden	100	900	100	450	100	180	100	158	100	45	161
Cape May	100	780	100	390	100	156	100	137	100	39	159
Cumberland	100	840	100	420	100	168	100	147	100	42	160
Essex	100	900	100	450	100	180	100	158	100	45	161
Gloucester	100	780	100	390	100	156	100	137	100	39	159
Hunterdon	100	780	100	390	100	156	100	137	100	39	159
Mercer	100	780	100	390	100	156	100	137	100	39	159
Middlesex	100	880	100	440	100	176	100	154	100	44	161
Monmouth	100	880	100	440	100	176	100	154	100	44	161
Morris	100	860	100	430	100	172	100	151	100	43	160
Ocean	100	800	100	400	100	160	100	140	100	40	159
Passaic	100	900	100	450	100	180	100	158	100	45	161
Salem	100	640	100	320	100	128	100	112	100	32	156
Somerset	100	780	100	390	100	156	100	137	100	39	159
Sussex	100	640	100	320	100	128	100	112	100	32	156
Union	100	900	100	450	100	180	100	158	100	45	161
Warren	100	700	100	350	100	140	100	123	100	35	157

TABLE 2
2020 County Estimates of Ranges in Value of Farmland Based Upon Land Classification and
Productive Capabilities When Devoted to Agricultural or Horticultural Use
(column 6 shows the imputed grazing values per N.J.S.A. 54:4-23.5 and is used in determining qualifying income, not valuation)

County		Cropland Harvested		Cropland Pastured		Permanent Pasture		Non-Appurtenant Woodland		Appurtenant Woodland		Imputed Grazing Values
		Col. 1		Col. 2		Col. 3		Col. 4		Col. 5		Col. 6
	Soil Group	Soil Rating	Value Per Acre	Soil Rating	Value Per Acre	Soil Rating	Value Per Acre	Soil Rating	Value Per Acre	Soil Rating	Value Per Acre	Value Per Acre
Atlantic	A	120	1128	120	564	110	207	110	181	110	52	164
	B	100	940	100	470	100	188	100	165	100	47	162
	C	70	658	70	329	80	150	90	148	90	42	158
	D	40	376	40	188	70	132	80	132	80	38	156
	E	10	94	10	47	60	113	70	115	70	33	154
Bergen	A	120	1080	120	540	110	198	110	173	110	50	163
	B	100	900	100	450	100	180	100	158	100	45	161
	C	70	630	70	315	80	144	90	142	90	41	157
	D	40	360	40	180	70	126	80	126	80	36	156
	E	10	90	10	45	60	108	70	110	70	32	154
Burlington	A	120	912	120	456	110	167	110	146	110	42	160
	B	100	760	100	380	100	152	100	133	100	38	158
	C	70	532	70	266	80	122	90	120	90	34	155
	D	40	304	40	152	70	106	80	106	80	30	154
	E	10	76	10	38	60	91	70	93	70	27	152
Camden	A	120	1080	120	540	110	198	110	173	110	50	163
	B	100	900	100	450	100	180	100	158	100	45	161
	C	70	630	70	315	80	144	90	142	90	41	157
	D	40	360	40	180	70	126	80	126	80	36	156
	E	10	90	10	45	60	108	70	110	70	32	154

County		Cropland Harvested		Cropland Pastured		Permanent Pasture		Non-Appurtenant Woodland		Appurtenant Woodland		Imputed Grazing Values
		Col. 1		Col. 2		Col. 3		Col. 4		Col. 5		Col. 6
	Soil Group	Soil Rating	Value Per Acre	Soil Rating	Value Per Acre	Soil Rating	Value Per Acre	Soil Rating	Value Per Acre	Soil Rating	Value Per Acre	Value Per Acre
Cape May	A	120	936	120	468	110	172	110	150	110	43	160
	B	100	780	100	390	100	156	100	137	100	39	159
	C	70	546	70	273	80	125	90	123	90	35	155
	D	40	312	40	156	70	109	80	109	80	31	154
	E	10	78	10	39	60	94	70	96	70	27	152
Cumberland	A	120	1008	120	504	110	185	110	162	110	46	161
	B	100	840	100	420	100	168	100	147	100	42	160
	C	70	588	70	294	80	134	90	132	90	38	156
	D	40	336	40	168	70	118	80	118	80	34	155
	E	10	84	10	42	60	101	70	103	70	29	153
Essex	A	120	1080	120	540	110	198	110	173	110	50	163
	B	100	900	100	450	100	180	100	158	100	45	161
	C	70	630	70	315	80	144	90	142	90	41	157
	D	40	360	40	180	70	126	80	126	80	36	156
	E	10	90	10	45	60	108	70	110	70	32	154
Gloucester	A	120	936	120	468	110	172	110	150	110	43	160
	B	100	780	100	390	100	156	100	137	100	39	159
	C	70	546	70	273	80	125	90	123	90	35	155
	D	40	312	40	156	70	109	80	109	80	31	154
	E	10	78	10	39	60	94	70	96	70	27	152
Hunterdon	A	120	936	120	468	110	172	110	150	110	43	160
	B	100	780	100	390	100	156	100	137	100	39	159
	C	70	546	70	273	80	125	90	123	90	35	155
	D	40	312	40	156	70	109	80	109	80	31	154
	E	10	78	10	39	60	94	70	96	70	27	152

County		Cropland Harvested		Cropland Pastured		Permanent Pasture		Non-Appurtenant Woodland		Appurtenant Woodland		Imputed Grazing Values
		Col. 1		Col. 2		Col. 3		Col. 4		Col. 5		Col. 6
	Soil Group	Soil Rating	Value Per Acre	Soil Rating	Value Per Acre	Soil Rating	Value Per Acre	Soil Rating	Value Per Acre	Soil Rating	Value Per Acre	Value Per Acre
Mercer	A	120	936	120	468	110	172	110	150	110	43	160
	B	100	780	100	390	100	156	100	137	100	39	159
	C	70	546	70	273	80	125	90	123	90	35	155
	D	40	312	40	156	70	109	80	109	80	31	154
	E	10	78	10	39	60	94	70	96	70	27	152
Middlesex	A	120	1056	120	528	110	194	110	169	110	48	162
	B	100	880	100	440	100	176	100	154	100	44	161
	C	70	616	70	308	80	141	90	139	90	40	157
	D	40	352	40	176	70	123	80	123	80	35	155
	E	10	88	10	44	60	106	70	108	70	31	154
Monmouth	A	120	1056	120	528	110	194	110	169	110	48	162
	B	100	880	100	440	100	176	100	154	100	44	161
	C	70	616	70	308	80	141	90	139	90	40	157
	D	40	352	40	176	70	123	80	123	80	35	155
	E	10	88	10	44	60	106	70	108	70	31	154
Morris	A	120	1032	120	516	110	189	110	166	110	47	162
	B	100	860	100	430	100	172	100	151	100	43	160
	C	70	602	70	301	80	138	90	135	90	39	157
	D	40	344	40	172	70	120	80	120	80	34	155
	E	10	86	10	43	60	103	70	105	70	30	153
Ocean	A	120	960	120	480	110	176	110	154	110	44	161
	B	100	800	100	400	100	160	100	140	100	40	159
	C	70	560	70	280	80	128	90	126	90	36	156
	D	40	320	40	160	70	112	80	112	80	32	154
	E	10	80	10	40	60	96	70	98	70	28	153

County		Cropland Harvested		Cropland Pastured		Permanent Pasture		Non-Appurtenant Woodland		Appurtenant Woodland		Imputed Grazing Values
		Col. 1		Col. 2		Col. 3		Col. 4		Col. 5		Col. 6
	Soil Group	Soil Rating	Value Per Acre	Soil Rating	Value Per Acre	Soil Rating	Value Per Acre	Soil Rating	Value Per Acre	Soil Rating	Value Per Acre	Value Per Acre
Passaic	A	120	1080	120	540	110	198	110	173	110	50	163
	B	100	900	100	450	100	180	100	158	100	45	161
	C	70	630	70	315	80	144	90	142	90	41	157
	D	40	360	40	180	70	126	80	126	80	36	156
	E	10	90	10	45	60	108	70	110	70	32	154
Salem	A	120	768	120	384	110	141	110	123	110	35	157
	B	100	640	100	320	100	128	100	112	100	32	156
	C	70	448	70	224	80	102	90	101	90	29	153
	D	40	256	40	128	70	90	80	90	80	26	152
	E	10	64	10	32	60	77	70	78	70	22	151
Somerset	A	120	936	120	468	110	172	110	150	110	43	160
	B	100	780	100	390	100	156	100	137	100	39	159
	C	70	546	70	273	80	125	90	123	90	35	155
	D	40	312	40	156	70	109	80	109	80	31	154
	E	10	78	10	39	60	94	70	96	70	27	152
Sussex	A	120	768	120	384	110	141	110	123	110	35	157
	B	100	640	100	320	100	128	100	112	100	32	156
	C	70	448	70	224	80	102	90	101	90	29	153
	D	40	256	40	128	70	90	80	90	80	26	152
	E	10	64	10	32	60	77	70	78	70	22	151
Union	A	120	1080	120	540	110	198	110	173	110	50	163
	B	100	900	100	450	100	180	100	158	100	45	161
	C	70	630	70	315	80	144	90	142	90	41	157
	D	40	360	40	180	70	126	80	126	80	36	156
	E	10	90	10	45	60	108	70	110	70	32	154
Warren	A	120	840	120	420	110	154	110	135	110	39	158
	B	100	700	100	350	100	140	100	123	100	35	157
	C	70	490	70	245	80	112	90	110	90	32	154
	D	40	280	40	140	70	98	80	98	80	28	153
	E	10	70	10	35	60	84	70	86	70	25	151

FOOTNOTES

1. Soil types were rated and categorized by Dr. John Tedrow, Late Professor of Soils at Cook College, Rutgers. A description of New Jersey soil ratings is contained in "Productive Capability of New Jersey Soils and Crops," Rutgers – The State University. A soils guide for use in connection with the valuation assessment, and taxation of land under the Farmland Assessment Act of 1964, Chapter 48, Laws of 1964 (N.J.S.A. 54:4-23.1 et seq.).

2. The capitalization rate of 10% considers a 7 1/2% rate of return equaling a farm mortgage rate of interest of 7 1/2% and 2 1/2% return for wages of management and unpaid family labor.

3. The number of acres in each land use class was determined by the amount of land qualified by assessors as shown in the annual FA-1 report. The income weights were determined by agricultural economists at Rutgers, The State University of New Jersey.

4. Because this is merely an example of the methodology for one county, actual input data from the most recent available year are used throughout. Because land values reflect anticipated net income over many years, it is incorrect to estimate them using data drawn from only one year. Table 1 as published utilizes a trend-based forecast of the X value calculated in (d.4). This approach provides the year-to-year stability in agricultural land values that we actually observe, and which is an essential feature of the capitalization framework.

5. See Subchapter 14, State Farmland Evaluation Committee, N.J.A.C. 18:15-14.1.