STATE OF NEW JERSEY

FORTY-SIXTH

REPORT OF

THE STATE FARMLAND EVALUATION ADVISORY COMMITTEE

PRODUCTIVITY VALUES

FOR

2010 TAX YEAR

FARMLAND ASSESSMENT ACT OF 1964

CHAPTER 48, LAWS OF 1964

TRENTON, NEW JERSEY **OCTOBER, 2009**

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REPORT OF THE STATE FARMLAND EVALUATION ADVISORY COMMITTEE

The Farmland Assessment Act of 1964 (Chapter 48, Laws of 1964) created a State Farmland Evaluation Advisory Committee and designated as the members thereof the Director of the Division of Taxation, the Dean of School of Environmental and Biological Sciences and the Secretary 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 and annually determine and publish a range of values for each of the several classifications of land in agricultural or horticultural use in the various areas of the State. The primary objective of the Committee shall be the determination of 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 values, the Committee shall consider available evidence of agricultural or horticultural capability derived from the soil survey at Rutgers - The State University, the National Cooperative 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 or horticultural use is located."

The original methodology of capitalizing net farm income per acre in determining 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 2007), annual publications of the Economics Research Service and the National Agricultural Statistics Service of the United States Department of Agriculture, the New Jersey Department of Agriculture, the Annual FA-1 Data Report and research publications developed at Rutgers - The State University.

The Committee submits this 2009 report for use in the tax year 2010.

Douglas H. Fisher, Secretary of Agriculture
Department of Agriculture

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

Patricia Wright, Assistant Director
Property Administration
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 in 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, watershed, 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, droughtiness, or excessive moisture. This land can be cultivated on a permanent basis.

Group D - **Poor farmland** - This soil is usually too wet, stony, droughty, 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 droughtiness.

The boarding, rehabilitating or training of livestock is a qualified agricultural land use and deemed to be actively devoted to agriculture when that 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 and may be found in column 6 of Tables 1 and 2.

RANGES IN FAIR VALUES OF FARMLAND

When land use and estimate of soil productivity are combined, a range in fair value of farmland can be determined. These ranges in fair value are shown in Tables 1 and 2 for each county in New Jersey. The values shown in Table 1 are the ranges in fair value between the land use classes. The values in Table 1 are then modified by the soil ratings shown in Table 2. 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 fair 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 2010 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 estimates state and county farm income every five years. These estimates as well as current data available in the Department of Agricultural Food and Resource Economics, School of Environmental and Biological Sciences were used in determining net farm income for New Jersey agriculture for 2009.

Estimated New Jersey Net Farm Income – 2009

	Million Dollars
Cash Receipts	$715.0 2/
Government Payments	6.4
Value of Home Consumption	.6
Change in Inventory	-8.1
Farm Income	$713.9 3/
Farm Expenses	-671.9 4/
NET FARM INCOME TO LAND	$ 42.0 5/

(b) In order to allocate State net farm income to each county, an estimate of farm income was determined for each county from data in the "Census of Agriculture 1964-2007" and published estimates of net income in previous evaluation reports.

Example of Projected County Income as a Percent of State Income

	2005		2006		2007		2008		2009	
	Mil.$	%	Mil.$	%	Mil.$	%	Mil.$	%	Mil.$	%
County	3.41	8.5	3.50	8.6	3.44	8.5	3.48	8.4	3.57	8.5
State	40.1	100	40.7	100	40.5	100	41.5	100	42.0	100

(c) Ratios as determined in (b) above were used to allocate State net farm income to each county.

Example of Determination of County Net Farm Income

	Net Farm Income (Mil. $)	Percent
County	3.57	8.5
State	42.0	100.0

(d) Net income for each county was then capitalized according to a return of 10% to estimate the total value of farmland in that county. 6/

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

	Net Income (Mil. $)	Capitalized Value (Mil. $)
County	3.57	35.70

(e) When the total capitalized value of farmland in the county is determined, a value per acre can be estimated for each land use classification by multiplying acreages in the class by a weighted estimate of income potential when farmland is devoted to that land use. The number of acres used in the formula for each land use class was determined by the amount of land qualified by assessors as shown in the 2008 FA-1 report, projected to the tax year. (See e.1 below). The potential income weights were determined by agricultural economists at Rutgers. (See e.2 below).

(e.1) **Example of Projected Acreages for County Land Use Classes for 2009**

	2005	2006	2007	2008	2009
Cropland Harvested	41,947	42,800	41,947	41,146	41,618
Cropland Pastured	1,535	1,500	1,435	1,662	1,660
Permanent Pasture	3,246	3,200	3,146	3,184	3,176
Non-Appurtenant Woodland	9,302	9,290	9,400	9,313	9,358
Appurtenant Woodland	8,928	9,000	9,200	8,623	8,733
Total Qualified	64,958	65,790	65,128	63,928	64,545

(e.2) **Income Weights Used in the formula to Determine Value of Land Use Classes** 7/

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

(f) When acreage in land use classes are combined with income weights for that class, a weighted estimate of acreage based upon income potential is determined for each land use class in the county. (see f.1 below).

(f.1) **Example of Computing Value for Land Use Classes for a County for 2009**

Land Use Class	Acres	x	Income Weights	=	Weighted Acreage
Cropland Harvested	41,618		20		832,360
Cropland Pastured	1,660		10		16,600
Permanent Pasture	3,176		4		12,704
Non-Appurtenant Woodland	9,358		3.5		32,753
Appurtenant Woodland	8,733		1		8,733
Total Weighted Acreage					903,150

(f.2) Dividing total county capitalized value by total weighted acreage calculated in (f.1) determines the value of "X" shown below:

$$X = \frac{\text{Total County Capitalized Value}}{\text{Weighted Acreage}} = \frac{35.70 \text{ Million}}{903{,}150} = \$39 \text{ per acre}$$

The "X" value is the value of woodland in the county for 2010.

(f.3) Values of all land classes are calculated below:

Average Land Use Value of Classes Where X = 39

Cropland Harvested	20	x	39	=	780
Cropland Pastured	10	x	39	=	390
Permanent Pasture	4	x	39	=	156
Non-Appurtenant Woodland	3.5	x	39	=	137
Appurtenant Woodland	1	x	39	=	39

(g) The values calculated in (f.3) above are the ranges in value of the several classifications of land specified in the first paragraph of Section 20 of the Farmland Assessment Act which the Committee has determined for land devoted to agricultural use. These values are shown in Table 1.

(h) 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. 8/ The values that reflect soil productivity are the values recommended by the Committee for assessing purposes for the tax year 2010. 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.

TABLE 1

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	880	100	440	100	176	100	154	100	44	$121
BERGEN	100	840	100	420	100	168	100	147	100	42	$120
BURLINGTON	100	800	100	400	100	160	100	140	100	40	$119
CAMDEN	100	840	100	420	100	168	100	147	100	42	$120
CAPE MAY	100	740	100	370	100	148	100	130	100	37	$118
CUMBERLAND	100	760	100	380	100	152	100	133	100	38	$118
ESSEX	100	840	100	420	100	168	100	147	100	42	$120
GLOUCESTER	100	780	100	390	100	156	100	137	100	39	$119
HUNTERDON	100	780	100	390	100	156	100	137	100	39	$119
MERCER	100	760	100	380	100	152	100	133	100	38	$118
MIDDLESEX	100	820	100	410	100	164	100	144	100	41	$119
MONMOUTH	100	840	100	420	100	168	100	147	100	42	$120
MORRIS	100	840	100	420	100	168	100	147	100	42	$120
OCEAN	100	740	100	370	100	148	100	130	100	37	$118
PASSAIC	100	840	100	420	100	168	100	147	100	42	$120
SALEM	100	640	100	320	100	128	100	112	100	32	$116
SOMERSET	100	780	100	390	100	156	100	137	100	39	$119
SUSSEX	100	660	100	330	100	132	100	116	100	33	$116
UNION	100	840	100	420	100	168	100	147	100	42	$120
WARREN	100	660	100	330	100	132	100	116	100	33	$116

TABLE 2

COUNTY ESTIMATES OF RANGES IN VALUE OF FARMLAND BASED UPON LAND CLASSIFICATION

AND PRODUCTIVE CAPABILITIES WHEN DEVOTED TO AGRICULTURAL OR HORICULTURAL 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	1,056	120	528	110	194	110	169	110	48	122
	B	100	880	100	440	100	176	100	154	100	44	121
	C	70	616	70	308	80	141	90	139	90	40	117
	D	40	352	40	176	70	123	80	123	80	35	115
	E	10	88	10	44	60	106	70	108	70	31	114
BERGEN	A	120	1,008	120	504	110	185	110	162	110	46	121
	B	100	840	100	420	100	168	100	147	100	42	120
	C	70	588	70	294	80	134	90	132	90	38	116
	D	40	336	40	168	70	118	80	118	80	34	115
	E	10	84	10	42	60	101	70	103	70	29	113
BURLINGTON	A	120	960	120	480	110	176	110	154	110	44	121
	B	100	800	100	400	100	160	100	140	100	40	119
	C	70	560	70	280	80	128	90	126	90	36	116
	D	40	320	40	160	70	112	80	112	80	32	114
	E	10	80	10	40	60	96	70	98	70	28	113
CAMDEN	A	120	1,008	120	504	110	185	110	162	110	46	121
	B	100	840	100	420	100	168	100	147	100	42	120
	C	70	588	70	294	80	134	90	132	90	38	116
	D	40	336	40	168	70	118	80	118	80	34	115
	E	10	84	10	42	60	101	70	103	70	29	113
CAPE MAY	A	120	888	120	444	110	163	110	143	110	41	119
	B	100	740	100	370	100	148	100	130	100	37	118
	C	70	518	70	259	80	118	90	117	90	33	115
	D	40	296	40	148	70	104	80	104	80	30	113
	E	10	74	10	37	60	89	70	91	70	26	112
CUMBERLAND	A	120	912	120	456	110	167	110	146	110	42	120
	B	100	760	100	380	100	152	100	133	100	38	118
	C	70	532	70	266	80	122	90	120	90	34	115
	D	40	304	40	152	70	106	80	106	80	30	114
	E	10	76	10	38	60	91	70	93	70	27	112

TABLE 2 - CONTINUED

COUNTY		CROPLAND HARVESTED		CROPLAND PASTURED		PERMANENT PAST		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
ESSEX	A	120	1,008	120	504	110	185	110	162	110	46	121
	B	100	840	100	420	100	168	100	147	100	42	120
	C	70	588	70	294	80	134	90	132	90	38	116
	D	40	336	40	168	70	118	80	118	80	34	115
	E	10	84	10	42	60	101	70	103	70	29	113
GLOUCES	A	120	936	120	468	110	172	110	151	110	43	120
	B	100	780	100	390	100	156	100	137	100	39	119
	C	70	546	70	273	80	125	90	123	90	35	115
	D	40	312	40	156	70	109	80	110	80	31	114
	E	10	78	10	39	60	94	70	96	70	27	112
HUNTERD	A	120	936	120	468	110	172	110	151	110	43	120
	B	100	780	100	390	100	156	100	137	100	39	119
	C	70	546	70	273	80	125	90	123	90	35	115
	D	40	312	40	156	70	109	80	110	80	31	114
	E	10	78	10	39	60	94	70	96	70	27	112
MERCER	A	120	912	120	456	110	167	110	146	110	42	120
	B	100	760	100	380	100	152	100	133	100	38	118
	C	70	532	70	266	80	122	90	120	90	34	115
	D	40	304	40	152	70	106	80	106	80	30	114
	E	10	76	10	38	60	91	70	93	70	27	112
MIDDLESE	A	120	984	120	492	110	180	110	158	110	45	121
	B	100	820	100	410	100	164	100	144	100	41	119
	C	70	574	70	287	80	131	90	130	90	37	116
	D	40	328	40	164	70	115	80	115	80	33	114
	E	10	82	10	41	60	98	70	101	70	29	113
MONMOU	A	120	1,008	120	504	110	185	110	162	110	46	121
	B	100	840	100	420	100	168	100	147	100	42	120
	C	70	588	70	294	80	134	90	132	90	38	116
	D	40	336	40	168	70	118	80	118	80	34	115
	E	10	84	10	42	60	101	70	103	70	29	113
MORRIS	A	120	1,008	120	504	110	185	110	162	110	46	121
	B	100	840	100	420	100	168	100	147	100	42	120
	C	70	588	70	294	80	134	90	132	90	38	116
	D	40	336	40	168	70	118	80	118	80	34	115
	E	10	84	10	42	60	101	70	103	70	29	113

TABLE 2 - CONTINUED

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
OCEAN	A	120	888	120	444	110	163	110	143	110	41	119
	B	100	740	100	370	100	148	100	130	100	37	118
	C	70	518	70	259	80	118	90	117	90	33	115
	D	40	296	40	148	70	104	80	104	80	30	113
	E	10	74	10	37	60	89	70	91	70	26	112
PASSAIC	A	120	1,008	120	504	110	185	110	162	110	46	121
	B	100	840	100	420	100	168	100	147	100	42	120
	C	70	588	70	294	80	134	90	132	90	38	116
	D	40	336	40	168	70	118	80	118	80	34	115
	E	10	84	10	42	60	101	70	103	70	29	113
SALEM	A	120	768	120	384	110	141	110	123	110	35	117
	B	100	640	100	320	100	128	100	112	100	32	116
	C	70	448	70	224	80	102	90	101	90	29	113
	D	40	256	40	128	70	90	80	90	80	26	112
	E	10	64	10	32	60	77	70	78	70	22	111
SOMERSE	A	120	936	120	468	110	172	110	151	110	43	120
	B	100	780	100	390	100	156	100	137	100	39	119
	C	70	546	70	273	80	125	90	123	90	35	115
	D	40	312	40	156	70	109	80	110	80	31	114
	E	10	78	10	39	60	94	70	96	70	27	112
SUSSEX	A	120	792	120	396	110	145	110	128	110	36	118
	B	100	660	100	330	100	132	100	116	100	33	116
	C	70	462	70	231	80	106	90	104	90	30	114
	D	40	264	40	132	70	92	80	93	80	26	112
	E	10	66	10	33	60	79	70	81	70	23	111
UNION	A	120	1,008	120	504	110	185	110	162	110	46	121
	B	100	840	100	420	100	168	100	147	100	42	120
	C	70	588	70	294	80	134	90	132	90	38	116
	D	40	336	40	168	70	118	80	118	80	34	115
	E	10	84	10	42	60	101	70	103	70	29	113
WARREN	A	120	792	120	396	110	145	110	128	110	36	118
	B	100	660	100	330	100	132	100	116	100	33	116
	C	70	462	70	231	80	106	90	104	90	30	114
	D	40	264	40	132	70	92	80	93	80	26	112
	E	10	66	10	33	60	79	70	81	70	23	111

FOOTNOTES

1. Soil types were rated and categorized by Dr. John Tedrow, Professor of Soils at Cook College, Rutgers. A description of New Jersey soil ratings are 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.), p. 2.

2. Cash receipts are adjusted for income from floricultural crops grown under glass and poultry income which doesn't result from the land, p. 4.

3. Nonmoney income which is an imputed value for the rental value of the farm dwelling is excluded from farm income because the farm dwelling is excluded from assessment under the Farmland Assessment Act. Other income not earned from farming is also excluded, p. 4.

4. Expenses for the farm dwelling, floricultural crops grown under glass, and poultry are excluded from farm expenses, p. 4.

5. Net farm income does not include wages of management or a payment for family labor, p. 4.

6. The capitalization rate of 10% considers a 7 1/2% rate of return equalling a farm mortgage rate of interest of 7 1/2% and 2 1/2% return for wages of management and unpaid family labor, p. 5.

7. The weighting system allocates 79% of net farm income to cropland harvested and cropland pastured based upon estimates of the Soils and Crops Department and the Department of Agricultural Economics and Marketing, School of Environmental and Biological Sciences, Rutgers - The State University, p. 5.

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

9. 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 is also 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.