

STATE OF NEW JERSEY

FIFTY FIRST

REPORT OF

THE STATE FARMLAND EVALUATION ADVISORY COMMITTEE

PRODUCTIVITY VALUES

FOR

2015 TAX YEAR

FARMLAND ASSESSMENT ACT OF 1964

CHAPTER 48, LAWS OF 1964

TRENTON, NEW JERSEY

OCTOBER, 2014

ACKNOWLEDGMENTS

The State Farmland Evaluation Advisory Committee gratefully acknowledges the assistance provided by members of the staff of School of Environmental and Biological Sciences, Rutgers - The State University. Particular commendation is extended to Dr. A. Robert Koch, Professor Emeritus, Department of Agricultural Economics and Marketing; Dr. George W. Luke, Late Professor, Emeritus; Dr. Donn A. Derr, Professor Emeritus, Department of Agricultural, Food and Resource Economics and Dr. John C. F. Tedrow, Professor of Soils and Crops.

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, Secretarial Assistant 1 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 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 2014 report for use in the tax year 2015.

Douglas H. Fisher, Secretary of Agriculture

Department of Agriculture

Brian J. Schilling, Ph.D

Assistant Extension Specialist, Rutgers Cooperative Ext.

PatriciaWright, 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 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*

^{*=}Footnotes

Those soil groups are described below:

- Group A <u>Very productive farmland</u> The most desirable soil in the area because of high yields and ease of cultivation.
- Group B <u>Good farmland</u> Desirable soil because yields are generally high and the land can be cultivated on a permanent basis.
- Group C <u>Fair farmland</u> 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 <u>Very poor farmland</u> 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 $\underline{\text{Tables 1}}$ and $\underline{\text{2}}$.

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 value are shown in <u>Tables 1</u> and <u>2</u> for each county in New Jersey. The values shown in <u>Table 1</u> are the ranges in good value between the land use classes. The values in <u>Table 1</u> are then modified by the soil ratings shown in <u>Table 2</u>. The values in <u>Table 2</u> 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 2015 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 2014.

Estimated New Jersey Net Farm Income – 2014

	Million Dollars	
Cash Receipts	\$829.2	<u>2</u> *
Government Payments	9.8	
Value of Home Consumption	1.1	
Change in Inventory	+5.0	
Farm Income	\$845.1	<u>3</u> *
Farm Expenses	<u>-806.4</u>	<u>4</u> *
NET FARM INCOME TO LAND	\$38.7	<u>5</u> *

(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

	2011	2012	2013	2014
	Mil.\$ %	Mil.\$%	Mil.\$%	Mil.\$%
County	.51 1.4	.54 1.5	.6 1.5_	.58 1.5
State	36.9 100	35.7 100	39.7 100	38.7 100

(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	
	<u>Income</u>	Percent
	(Mil. \$)	
County	.58	1.5
State	38.7	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. $\underline{6}^*$

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

	Net	Capitalized
	<u>Income</u>	Value
	(Mil. \$)	(Mil. \$)
County	.58	5.8
*-Footnotes		

(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 (cropland harvested, cropland pastured, etc.) 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 annual FA-1 report. Further, it is necessary to consider any anticipated changes in each of the land use classifications for the projected tax year (see e.1 below). The potential income weights were determined by agricultural economist at Rutgers, The State University of New Jersey (see e.2 below). An example illustrating these procedures are portrayed in e.1, e.2, f.1, and f.2. The data contained in e.1 represents a cross section of the 20 counties reporting qualified acreage under the Farmland Assessment Act of 1964.

(e.1) Example of I	Projected A	Acreages for	County La	and Use C	lasses for 2013
	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	
Cropland Harvested	3,510	3,610	3,749	3,749	
Cropland Pastured	317	317	317	317	
Permanent Pasture	5,251	5,251	5,513	4,214	
Non-Appurtenant					
Woodland	12,036	12,036	16,343	16,215	
Appurtenant					
Woodland	<u>1,534</u>	<u>1,534</u>	<u>1,534</u>	<u>1,534</u>	
Total Qualified	22,648	22,748	27,456	26,029	

(e.2) <u>Income Weights Used in the formula to Determine Value of Land Use Classes</u> 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 2014

			Income		Weighted
Land Use Class	<u>Acres</u>	X	Weights	=	<u>Acreage</u>
Cropland Harvested	3,749		20		74,980
Cropland Pastured	317		10		3,170
Permanent Pasture	4,214		4		16,856
Non-Appurtenant Woodland	16,215		3.5		56,753
Appurtenant Woodland	1,534		1		<u>1,534</u>
Total Weighted Acreage					153,293

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

$$X = \frac{\text{Total County Capitalized Value}}{\text{Weighted Acreage}} = \frac{5.8 \text{ Million}}{153,293} = $38 \text{ per acre}$$

The "X" value is the value of woodland in the county for 2014.

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

Average Land Use Value of Classes Where X = 38

Cropland Harvested	20	X	38	=	760
Cropland Pastured	10	X	38	=	380
Permanent Pasture	4	X	38	=	152
Non-Appurtenant Woodland	3.5	X	38	=	133
Appurtenant Woodland	1	X	38	=	38

- (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 <u>Table 1</u>.
- (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 2015. 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
2015 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
	COI	L. 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	164	100	47	\$143
BERGEN	100	880	100	440	100	176	100	154	100	44	\$142
BURLINGTON	100	800	100	400	100	160	100	140	100	40	\$140
CAMDEN	100	860	100	430	100	172	100	151	100	43	\$141
CAPE MAY	100	800	100	400	100	160	100	140	100	40	\$140
CUMBERLAND	100	820	100	410	100	164	100	144	100	41	\$140
ESSEX	100	880	100	440	100	176	100	154	100	44	\$142
GLOUCESTER	100	800	100	400	100	160	100	140	100	40	\$140
HUNTERDON	100	780	100	390	100	156	100	137	100	39	\$140
MERCER	100	760	100	380	100	152	100	133	100	38	\$139
MIDDLESEX	100	860	100	430	100	172	100	151	100	43	\$141
MONMOUTH	100	880	100	440	100	176	100	154	100	44	\$142
MORRIS	100	880	100	440	100	176	100	154	100	44	\$142
OCEAN	100	760	100	380	100	152	100	133	100	38	\$139
PASSAIC	100	880	100	440	100	176	100	154	100	44	\$142
SALEM	100	640	100	320	100	128	100	112	100	32	\$137
SOMERSET	100	780	100	390	100	156	100	137	100	39	\$140
SUSSEX	100	660	100	330	100	132	100	116	100	33	\$137
UNION	100	880	100	440	100	176	100	154	100	44	\$142
WARREN	100	660	100	330	100	132	100	116	100	33	\$137

TABLE 2 2015 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)

		CROPLAND I	HARVESTED	CROPLAND	CROPLAND PASTURED		D PASTURED PERMANENT PASTURE NON-APPURTENANT WOODLAND		APPURTENAN'	T WOODLAND	IMPUTED GRAZING VALUES	
		COI	L. 1	COL	2	COL. 3		COL. 4		COL. 5		COL. 6
COUNTY	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 B C D	120 100 70 40 10	1,128 940 658 376 94	120 100 70 40 10	564 470 329 188 47	110 100 80 70 60	206 182 151 132 104	110 100 90 80 70	181 165 149 133 117	110 100 90 80 70	52 47 42 38 33	145 143 139 137 135
BERGEN	A B C D E	120 100 70 40 10	1,056 880 616 352 88	120 100 70 40 10	528 440 308 176 44	110 100 80 70 60	193 176 142 123 106	110 100 90 80 70	169 154 139 124 109	110 100 90 80 70	48 44 40 35 31	143 142 138 136 135
BURLINGTON	A B C D	120 100 70 40 10	960 800 560 320 80	120 100 70 40 10	480 400 280 160 40	110 100 80 70 60	176 160 128 112 96	110 100 90 80 70	154 140 126 112 98	110 100 90 80 70	44 40 36 32 28	142 140 137 135 134
CAMDEN	A B C D	120 100 70 40 10	1,032 860 612 344 86	120 100 70 40 10	516 430 301 172 43	110 100 80 70 60	189 172 138 120 103	110 100 90 80 70	165 150 135 120 105	110 100 90 80 70	47 43 39 34 30	143 141 138 136 134
CAPE MAY	A B C D	120 100 70 40 10	960 800 560 320 80	120 100 70 40 10	480 400 280 160 40	110 100 80 70 60	176 160 128 112 96	110 100 90 80 70	154 140 126 112 98	110 100 90 80 70	44 40 36 32 28	142 140 137 135 134
CUMBERLAND	A B C D E	120 100 70 40 10	984 820 574 328 82	120 100 70 40 10	492 410 287 164 41	110 100 80 70 60	180 164 131 115 98	110 100 90 80 70	158 144 130 115 100	110 100 90 80 70	45 41 37 33 29	142 140 137 135 134

8

TABLE 2 - CONTINUED

				CROPLAND	PASTURED	PERMANEN'	T PASTURE	NON-APPU WOOD		APPURTENAN	IMPUTED GRAZING VALUES	
		COL	1	COL. 2		COL. 3		COL. 4		COL. 5		COL. 6
COUNTY	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 B C D E	120 100 70 40 10	1,056 880 616 352 88	120 100 70 40 10	528 440 308 176 44	110 100 80 70 60	193 176 142 123 106	110 100 90 80 70	169 154 139 124 109	110 100 90 80 70	48 44 40 35 31	143 142 138 136 135
GLOUCESTER	A B C D E	120 100 70 40 10	960 800 560 320 80	120 100 70 40 10	480 400 280 160 40	110 100 80 70 60	176 160 128 112 96	110 100 90 80 70	154 140 126 112 98	110 100 90 80 70	44 40 36 32 28	142 140 137 135 134
HUNTERDON	A B C D E	120 100 70 40 10	936 780 546 312 78	120 100 70 40 10	468 390 273 156 39	110 100 80 70 60	172 156 125 109 94	110 100 90 80 70	151 137 123 110 96	110 100 90 80 70	43 39 35 31 27	141 140 136 135 133
MERCER	A B C D E	120 100 70 40 10	912 760 538 304 76	120 100 70 40 10	456 380 260 152 38	110 260 152 38 60	167 152 122 108 91	110 100 90 80 70	146 133 120 108 93	110 100 90 93 70	42 38 34 30 27	141 139 136 135 133
MIDDLESEX	A B C D E	120 100 70 40 10	1,032 860 612 344 86	120 100 70 40 10	516 430 301 172 43	110 100 80 70 60	189 172 138 120 123	110 100 90 80 70	163 150 135 120 105	110 100 90 80 70	47 43 39 34 30	143 141 138 136 134
MONMOUTH	A B C D E	120 100 70 40 10	1,056 880 616 352 88	120 100 70 40 10	528 440 308 176 44	110 100 80 70 60	193 176 142 123 106	110 100 90 80 70	169 154 139 124 109	110 100 90 80 70	48 44 40 35 31	143 142 138 136 135
MORRIS	A B C D E	120 100 70 40 10	1,056 880 616 352 88	120 100 70 40 10	528 440 308 176 44	110 100 80 70 60	193 176 142 123 106	110 100 90 80 70	169 154 139 124 109	110 100 90 80 70	48 44 40 35 31	143 142 138 136 135

TABLE 2 - CONTINUED

		CROPLAND I	HARVESTED	CROPLAND	PASTURED	PERMANEN'	T PASTURE	NON-APPU WOOD		APPURTENAN	APPURTENANT WOODLAND		
		CO	L. 1	COI	L. 2	COI	3	COL. 4		COI	COL. 6		
COUNTY	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 B C D	120 100 70 40 10	912 760 538 304 76	120 100 70 40 10	456 380 260 152 38	110 100 80 70 60	167 152 122 108 91	110 122 108 91 70	146 133 120 108 93	110 100 90 80 70	42 38 34 30 27	141 139 136 135 133	
PASSAIC	A B C D	120 100 70 40 10	1,056 880 616 352 88	120 100 70 40 10	528 440 308 176 44	110 100 80 70 60	193 176 142 123 106	110 100 90 80 70	169 154 139 124 109	110 100 90 80 70	48 44 40 35 31	143 142 138 136 135	
SALEM	A B C D	120 100 70 40 10	768 640 448 256 64	120 100 70 40 10	384 320 224 128 32	110 100 80 70 60	144 128 102 90 77	110 100 90 80 70	123 112 101 90 78	110 100 90 80 70	36 32 29 26 22	138 137 134 133 132	
SOMERSET	A B C D	120 100 70 40 10	936 780 546 312 78	120 100 70 40 10	468 390 273 156 39	110 100 80 70 60	172 156 125 109 94	110 100 90 80 70	151 137 123 110 96	110 100 90 80 70	43 39 35 31 27	141 140 136 135 133	
SUSSEX	A B C D	120 100 70 40 10	792 660 462 264 66	120 100 70 40 10	396 330 231 132 33	110 100 80 70 60	145 132 106 92 79	110 100 90 80 70	128 116 104 93 81	110 100 90 80 70	36 33 30 26 23	139 137 135 133 132	
UNION	A B C D	120 100 70 40 10	1,056 880 616 352 88	120 100 70 40 10	528 440 308 176 44	110 100 80 70 60	193 176 142 123 106	110 100 90 80 70	169 154 139 124 109	110 100 90 80 70	48 44 40 35 31	143 142 138 136 135	
WARREN	A B C D	120 100 70 40 10	792 660 462 264 66	120 100 70 40 10	396 330 231 132 33	110 100 80 70 60	145 132 106 92 79	110 100 90 80 70	128 116 104 93 81	110 100 90 80 70	36 33 30 26 23	139 137 138 133 132	

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. Non-money 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 equaling a farm mortgage rate of interest of 7 1/2% and 2 1/2% return for wages of management and unpaid family labor, p. 4.
- 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.6.
- 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.