

Questions regarding any *statutorily* related issues surrounding use-value assessment should be directed to Brian Bergen at the Property Tax Unit, Virginia Department of Taxation. Questions regarding the *technical* aspects of the methodology used to produce the use-value estimates reported in this brochure should be directed to Lex Bruce or Gordon Groover at the Department of Agricultural and Applied Economics, Virginia Tech.

Land Capability Classifications	
Class I	Soils have few limitations that restrict use.
Class II	Soils have moderate limitations that reduce the choice of plants or require moderate conservation practices.
Class III	Soils have severe limitations that reduce the choice of plants, require special conservation practices, or both.
Class IV	Soils have very severe limitations that restrict the choice of plants, require very careful management, or both.
Class V	Soils are subject to little or no erosion but have other limitations, impractical to remove, that limit their use largely to pasture, range, woodland, or wildlife food and cover.
Class VI	Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture or range, woodland, or wildlife food and cover.
Class VII	Soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to grazing, woodland, or wildlife.
Class VIII	Soils and land forms have limitations that preclude their use for commercial plant production and restrict their use to recreation, wildlife, or water supply, or to aesthetic purposes.

## TY 2011 USE-VALUE ESTIMATES

**Table 1: Income Approach - Estimated use value of agricultural land in Chesapeake. (\$ / Acre)**

Land Class	Use Value Without Risk <sup>5</sup>	Use Value With Risk <sup>5</sup>
I	860	820
II	780	740
III	580	550
IV	460	440
<b>Avg. I - IV</b>	<b>580</b>	<b>550</b>
V	350	330
VI	290	270
VII	170	160
<b>Avg. V - VII</b>	<b>170</b>	<b>160</b>
<b>Avg. I - VII</b>	<b>570</b>	<b>540</b>
VIII	60	50

<sup>5</sup>N.A. = not applicable

**Table 2: Income Approach - Estimated use value of orchards land in Chesapeake. (\$ / Acre)**

Land Class	Use Value of Apple	Use Value of Other
I	580	620
II	420	470
III	220	270
IV	110	150
V	80	110
VI	80	100
VII	30	50
VIII	60	60

**Table 3: Rental Rate Approach<sup>5</sup> - Cropland and Pastureland values based on NASS capitalized rental rates in Chesapeake. (\$ / Acre)**

Cropland	900
Irrigated Cropland	---
Pastureland	310 <sup>sep</sup>

<sup>5</sup> For details see Estimates at <http://usevalue.agecon.vt.edu>

<sup>sep</sup> Southeastern District (Pastureland)

# Estimated Use Value of Agricultural and Horticultural Land in Chesapeake

Estimates apply to Tax Year 2011



September 21, 2010

## State Land Evaluation and Advisory Committee (SLEAC)

## Virginia Department of Taxation

For additional information regarding methods and estimation procedures for agricultural and horticulture land use values see <http://usevale.agecon.vt.edu>.

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## USE VALUE TAXATION IN VIRGINIA<sup>1</sup>

Virginia law allows for *eligible* land in agricultural, horticultural, forest, or open space use to be taxed at the value in *use* (use value) of the land as opposed to its *market* value. The State Land Evaluation and Advisory Council (SLEAC) was created in 1973 with the mandate to estimate the use value of eligible land for each jurisdiction participating in the use-value taxation program. SLEAC contracts annually with the Department of Agricultural and Applied Economics at Virginia Tech to develop an objective methodology for estimating the use value of land in *agricultural* and *horticultural* uses. A technical advisory committee, comprised of professionals familiar with Virginia agriculture, was established in 1998 to provide guidance on the technical aspects of developing an appropriate methodology. The members of SLEAC have officially sanctioned the use value estimates reported in this brochure.

### ROLE OF THE SLEAC ESTIMATES

Section 58.1 - 3229 of the Code of Virginia requires each participating jurisdiction's assessment office to *consider* SLEAC estimates when assessing the use value of eligible land. However, the local assessing office is not required to use SLEAC estimates verbatim.

Under certain circumstances, adjustments to SLEAC estimates may be necessary to accurately reflect local conditions that affect the use values of eligible land parcels.

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<sup>1</sup>Information about Virginia's Use Value Assessment Program can be found at <http://usevalue.agecon.vt.edu>.

## TY 2011 Use Value Estimates: Income and Rental Rate Approaches

Tables 1 & 2 list the estimated use values of agricultural and horticultural land using an **income approach**. These estimates are based on the capitalized net income that a *bona-fide* agricultural or horticultural enterprise located in the county could be expected to earn. These values are updated annually for public information. Note, the local assessing office can only make changes to assessed property values during a reassessment year.

Table 1 lists the estimated use value for land in *agricultural* use for each of the eight Soil Conservation Service land capability classifications. Because data on the land class composition of individual parcels is often unavailable, average use values have also been provided<sup>2</sup>. The average of land in classes I - IV represents the average use value of *cropland*. The average of land in classes V - VII represents the average use value of *pastureland*. The average of land in classes I - VII represents the average use value of *all agricultural land*<sup>3</sup>.

The **without risk** estimates apply to land that is *not* at risk of flooding. The **with risk** estimates *should only be applied to land parcels that are at risk of flooding due to poor drainage that cannot be remedied by tilling or drainage ditches*.

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<sup>2</sup>Data limitations prohibited the computation of average use values in a few counties and in most independent cities and townships.

<sup>3</sup>Note. Class VIII is not considered suitable for agricultural production and is therefore not included in this average.

Table 2 lists the estimated use value of land in *orchard* use. Values are reported for both apple orchards and "other" orchards for each of the eight Soil Conservation Service land capability classifications. "Other" orchard refers to peach, pear, cherry, or plum production. Data limitations prohibit the computation of average use values for orchards.

Table 3 lists the estimated use values of cropland and pastureland using a **rental rate approach**. These use-values are based on capitalized rental rates obtained annually from the USDA National Agricultural Statistical Service (NASS). If there are sufficient numbers of responses to meet the NASS nondisclosure requirements for a jurisdiction then the value is published. However, if there are not enough responses in a jurisdiction to meet non-disclosure requirements, then all the non-disclosed jurisdictions within a crop reporting district are summarized and published as a *Combined Counties (District) value*.

## Virginia Cooperative Extension

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**Table 2: The composite farm and average net returns in Chesapeake.**

Annual net returns are determined through enterprise budgeting for crops that contributed one or more acres to the composite farm. The estimated net returns shown in the table below are "olympic" averages<sup>1</sup> for each crop in the composite farm for years 2003-2009.

Additional information about these estimates can be found at Virginia's Use Value Assessment Program website, <http://usevalue.agecon.vt.edu>.

Average net returns applicable to tax-year **2011**.

	Total Acreage <sup>2</sup>	Composite Farm (Acres) <sup>3</sup>	Estimated Net Return (\$/Acre)
1. Number of Farms	291		
2. Corn <sup>4</sup>	10,855	37	\$ 25.50
3. Alfalfa	---	---	---
4. Hay <sup>5</sup>	2,192	8	\$ 0.00
5. Wheat	7,805	27	\$ 25.03
6. Barley	---	---	---
7. Soybeans	26,536	91	\$ 36.48
8. Potatoes	3	0	\$ 0.00
9. Cotton	---	---	---
10. Pasture	2,000	7	\$ 23.71
11. Peanuts	---	---	---
12. Tobacco	17	0	\$ 0.00
13. Snap Beans	30	0	\$ 0.00
14. Cucumbers and Pickles	5	0	\$ 0.00
15. Pumpkins	D	---	---
16. Sweet Corn	68	0	\$ 0.00
17. Tomatoes	10	0	\$ 0.00
18. Watermelons	13	0	\$ 0.00
19. Double-Cropped <sup>6</sup>	(-) 7,805	(-) 27	
<b>20. Totals</b>	<b>41,729</b>	<b>143</b>	<b>\$ 47.90<sup>7</sup></b>

Note

n.a. = Not Applicable

D = Withheld to avoid disclosing data of individual farms.

<sup>1</sup> In an olympic average, the highest and lowest values are dropped prior to calculating the arithmetic mean.

<sup>2</sup> Data taken from the 2007 Census of Agriculture.

<sup>3</sup> Some data do not add exactly due to rounding and some categories are not listed to to disclosure rules.

<sup>4</sup> Corn acreage is corn-grain plus corn-silage acreages.

<sup>5</sup> Hay acreage is (all hay + all haylage, grass silage, greenchop) - (alfalfa hay + haylage or greechop from alfalfa or alfalfa mixtures).

<sup>6</sup> Double-cropped acreage is subtracted from the crops listed in lines 2-9 to arrive at the total cropland harvested acreage.

<sup>7</sup> Weighted average of crop estimated net returns by composite farm acreage.

**Table 3: Worksheet for estimating the use value of agricultural land in Chesapeake.**

Additional information about these estimates can be found at Virginia's Use Value Assessment Program website, <http://usevalue.agecon.vt.edu/>.

Estimates are applicable to tax-year **2011**.

<b>1. Estimated net return</b>	\$47.90
<b>2. Capitalization rates</b>	
a) Interest rate component <sup>1</sup>	0.0717
b) Property tax component <sup>2</sup>	0.0118
c) Rate without risk	0.0835 (sum a and b)
d) Risk component	0.0042 (0.05 times 2c)
e) Rate with risk <sup>3</sup>	0.0876 (sum c and d)

	<u>Without Risk</u> <sup>4</sup>	<u>With Risk</u> <sup>5</sup>
<b>3. Unadjusted Use Value</b>	\$ 573.88	\$ 546.55

<b>4. Soil Index</b>	Land Class	Crop Acreage (No Pasture Acreage) <sup>6</sup>	Productivity Index	Weighted Acreage
	I	300	1.5	450
	II	4,919	1.35	6,641
	III	45,077	1	45,077
	IV	8,398	.8	8,398
	<b>Total:</b>	<b>60,794</b>		<b>60,566</b>

Soil Index Factor <sup>7</sup>: 1.00

**5. Agricultural use value adjusted by land class**

<u>Class</u>	<u>Land Index</u>	<u>Without Risk</u>	<u>Reported</u> <sup>8</sup>	<u>With Risk</u>	<u>Reported</u> <sup>8</sup>
I	1.50	\$ 864.05	<b>860</b>	\$822.91	<b>820</b>
II	1.35	\$ 777.65	<b>780</b>	\$740.62	<b>740</b>
III	1.00	\$ 576.04	<b>580</b>	\$548.61	<b>550</b>
IV	0.80	\$ 460.83	<b>460</b>	\$438.88	<b>440</b>
V	0.60	\$ 345.62	<b>350</b>	\$329.16	<b>330</b>
VI	0.50	\$ 288.02	<b>290</b>	\$274.30	<b>270</b>
VII	0.30	\$ 172.81	<b>170</b>	\$164.58	<b>160</b>
VIII	0.10	\$ 57.60	<b>60</b>	\$54.86	<b>50</b>

<sup>1</sup> The 10-year average of long term interest rates charged by the various Agriculture Credit Associations serving the state.

<sup>2</sup> The 10-year average of the effective true tax rates reported by the Virginia Department of Taxation.

<sup>3</sup> Rate should only be used when the soil has poor drainage that is not remedied by tiling or drainage ditches or when the land lies in a floodplain.

<sup>4</sup> Estimated Net Return (Line 1) divided by Rate without risk (Line 2c)

<sup>5</sup> Estimated Net Return (Line 1) divided by Rate with risk (Line 2e)

<sup>6</sup> Data provided by the Virginia Conservation Needs Inventory (1967).

<sup>7</sup> Index factor = (Total Weighted Acreage) / (Total Cropland Acreage)

<sup>8</sup> Rounded to the nearest \$10 and reported in Table 1a.

**Table 5: Worksheet for estimating the use value of orchard land in Chesapeake.**

The estimated net returns assume a planting density of 135 trees per acre. Additional information about these estimates can be found at Virginia's Use Value Assessment Program website, <http://usevalue.agecon.vt.edu/>.

Estimate apply to tax-year 2011.

**1. Estimated net returns (loss) per acre applicable to tax-year 2011 (see Table 4 for more detail).**

	<u>Age of Trees</u>	<u>Processed Fruit</u>	<u>Fresh Fruit</u>
Pre-production	1 - 3 years	\$(2,100.37)	\$(2,206.94)
Early-production	4 - 6 years	\$(151.96)	\$176.14
Full-production	7 - 15 years	\$(209.13)	\$(1,143.89)
Late-production	16 - 20 years	\$(209.13)	\$(1,143.89)
<b>Discounted (20 Yr Cycle)</b>		<b>\$(7,247.49)</b>	<b>\$(12,182.88)</b>
Utilization of Sales (10 Yr Avg %)		61%	39%

**2. Weighted Average Net Return values**

a) 2009 <sup>1</sup>	<b>\$(8,748.31)</b>
b) 2008	\$1,615.75
c) 2007	(\$585.53)
d) 2006	(\$1,390.19)
e) 2005	(\$565.48)
f) 2004	\$14.54
g) 2003	\$19.52

**3. Net Returns**

a) Net return to "trees and land" (olympic average of 2a thru 2g) <sup>2</sup>	<b>\$ 6.81</b>
b) Net return attributable to "land only" (Class III) <sup>3</sup>	\$ 48.08
c) Net return attributable to "trees only"	(\$ 41.27) (3a minus 3b)

**4. Capitalization Rate**

a) Interest Rate <sup>4</sup>	0.0717
b) Property Tax <sup>5</sup>	0.0118
c) Depreciation of Apple Trees <sup>6</sup>	0.0333
d) Depreciation of "Other" Trees <sup>7</sup>	0.0500
e) Apple Orchard Capitalization Rate	0.1168 (sum 5a, 5b, and 5c)
f) "Other" Orchard Capitalization Rate	0.1335 (sum 5a, 5b, 5d)

**5. Use Value of Apple Orchard and "Other" Orchard**

Land Class	Orchard Index <sup>8</sup>	APPLE ORCHARD		"OTHER" ORCHARD	
		<u>Apple Trees</u>	<u>Apple Trees and Land</u> <sup>9</sup>	<u>Other Trees</u>	<u>Other Trees and Land</u> <sup>9</sup>
I	0.80	(\$ 282.73)	\$ 581.32	(\$ 247.35)	\$ 616.70
II	1.00	(\$ 353.41)	\$ 424.23	(\$ 309.19)	\$ 468.46
III	1.00	(\$ 353.41)	\$ 222.62	(\$ 309.19)	\$ 266.84
IV	1.00	(\$ 353.41)	\$ 107.42	(\$ 309.19)	\$ 151.64
V	0.75	(\$ 265.06)	\$ 80.56	(\$ 231.89)	\$ 113.73
VI	0.60	(\$ 212.05)	\$ 75.97	(\$ 185.51)	\$ 102.50
VII	0.40	(\$ 141.37)	\$ 31.45	(\$ 123.68)	\$ 49.13
VIII	0.00	(\$ 0.00)	\$ 57.60	(\$ 0.00)	\$ 57.60

<sup>1</sup> This is the average net return of the eight orchard categories listed in Section 1 of this table. The weights are provided by the percent of total trees represented by each category.

<sup>2</sup> In an olympic average, the highest and lowest values are dropped prior to calculating the arithmetic mean.

<sup>3</sup> This is determined by dividing the unadjusted net return value (Table 3 -Line 1) by the soil index factor (Table 3 - Section 4).

<sup>4</sup> The 10-year average of long term interest rates charged by the various Agriculture Credit Associations serving the state.

<sup>5</sup> The 10-year average of the effective true tax rates reported by the Virginia Department of Taxation.

<sup>6</sup> The depreciation rate applicable to apple trees assumes that trees are replaced on a 30-year rotation.

<sup>7</sup> "Other" trees refer to peach, cherry, pear, and plum trees. The depreciation rate applicable to "other" trees assumes that trees are replaced on a 20-year rotation.

<sup>8</sup> The orchard index is applicable only in determining the value of the trees. The land index (Table 3 - Section 5) is applied to the land.

<sup>9</sup> The use value of trees and land is determined by adding the appropriate without-risk land-use-value (see Table 3 - Section 5) to the use value of the trees.