

## TY 2007 USE-VALUE ESTIMATES

**Table 1:** Estimated use value of agricultural land in Shenandoah. (\$/Acre)

Land Class	Use Value Without Risk	Use Value With Risk
I	270	250
II	240	230
III	180	170
IV	140	140
<b>Avg. I - IV</b>	<b>190</b>	<b>180</b>
V	110	100
VI	90	80
VII	50	50
<b>Avg. V - VII</b>	<b>60</b>	<b>60</b>
<b>Avg. I - VII</b>	<b>160</b>	<b>150</b>
VIII	20	20

**Table 2:** Estimated use value of orchards in Shenandoah. (\$/Acre)

Land Class	Use Value of Apple Orchard	Use Value of Other Orchard
I	230	230
II	180	190
III	120	130
IV	80	90
V	70	80
VI	60	70
VII	30	40
VIII	20	20

\* n.a. = not applicable

## Contacts

Questions regarding any *statutorily* related issues surrounding use-value assessment should be directed to Keith Mawyer or Tom Morelli 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.

- **Keith Mawyer**, and **Tom Morelli**, Property Tax Unit, Virginia Department of Taxation (804) 367-8020
- **Lex Bruce**, Project Associate, Department of Agricultural and Applied Economics, Virginia Tech (540) 231-4441
- **Gordon Groover**, Extension Economist, Farm Management Department of Agricultural and Applied Economics, Virginia Tech (540) 231-5850

# Estimated Use Value of Agricultural and Horticultural Land in SHENANDOAH

*Estimates apply to Tax Year 2007*



September 12, 2006

Prepared by Monica Licher  
& Lex Bruce

---

**State Land Evaluation and Advisory Committee**  
Virginia Department of Taxation



## USE-VALUE TAXATION IN VIRGINIA

Virginia law allows for *eligible* land in agricultural, horticultural, forest or open space use to be taxed based upon the land's value in *use* (use value) as opposed to the land's *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. The 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 the 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 jurisdictions assessment office to *consider* the SLEAC estimates when assessing the use value of eligible land. However, the local assessing office is not required to use the SLEAC estimates verbatim. Under certain circumstances, adjustments to the SLEAC

estimates may be necessary to accurately reflect local conditions that affect the use values of eligible land parcels.

### TY 2007 Use-Value Estimates

Tables 1 & 2 report the estimated use values of agricultural and horticultural land applicable to tax year 2007 in **Shenandoah**. These estimates are based upon 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 of land in *agricultural* use for each of the eight Soil Conservation Services land capability classifications. Because data on the land class composition of individual parcels is often unavailable, average use values have also been provided.<sup>1</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

---

<sup>1</sup> Data limitations prohibited the computation of average use values in a few counties and in most independent cities and townships.

value of *all agricultural land*.<sup>2</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.*

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

---

<sup>2</sup> Note class VIII land is not considered suitable for agricultural production and is therefore not included in this average.

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

Annual net returns are determined through budgeting for each crop listed. The net returns shown in this table represent an "olympic" average of the annual net returns from 1999-2005. In an olympic average, the highest and lowest values are dropped prior to calculating the arithmetic mean. A complete listing of this table for each jurisdiction participating in the land use program is available at the Virginia Department of Taxation.

Average net returns applicable to tax-year 2007 .

	Total Acreage /1/	Composite Farm /2/	Estimated Net Returns (\$/Acre)
<b>1. Number of Farms</b>	989	1.	----
<b>2. Corn</b>	5605	6.	\$31.89
<b>3. Alfalfa and mixtures</b>	3772	4.	\$61.25
<b>4. Clover and grasses</b>	D	----	----
<b>5. Other hay and seeds /3/</b>	23578	24.	\$4.47
<b>6. Wheat</b>	665.00	1.	\$30.16
<b>7. Barley</b>	1804	2.	\$8.34
<b>8. Soybeans</b>	3239	3.	\$4.62
<b>9. Potatoes</b>	D	----	----
<b>10. Cotton</b>	----	----	----
<b>11. Double-cropped /4/</b>	1778 (-)	2. (-)	n.a.
<b>12. Total Cropland Harvested</b>	<b>36885</b>	<b>38.</b>	<b>\$15.90</b>

n.a. = not applicable

D = Withheld to avoid disclosing data for individual farms. The composite farm is based only on those crops for which acreages were reported in the 2002 Census of Agriculture.

1/ Data taken from the 2002 Census of Agriculture.

2/ Some data do not add exactly due to rounding and some categories are not listed due to disclosure rules.

3/ Net returns to other hay and seeds is assumed to be two-thirds of net returns to clover and grasses.

4/ Double-cropped acreage is subtracted from the crops listed in lines 2-10 to arrive at total cropland harvested acreage.

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

A complete listing of this table for each jurisdiction participating in the land use program is available at the Virginia Department of Estimates and is applicable to tax-year 2007

1. Estimated net return per acre of cropland harvested	<u>\$15.90</u>
2. Capitalization rates:	
a) Interest rate component /1/	<u>0.0750</u>
b) Property tax component /2/	<u>0.0056</u>
c) Rate without risk component (sum a and b)	<u>0.0806</u>
d) Risk component (0.05 times 2c)	<u>0.0040</u>
e) Rate with risk component (sum a, b, and d) /3/	<u>0.0846</u>

3. Unadjusted use value of cropland harvested:	W/O Risk (1 divided 2c)	W/Risk (1 divided 2d)
	<u>\$197.34</u>	<u>\$187.94</u>

4. Soil Index Factor				
	Land Class	Cropland Acreage /4/	Productivity Index	Weighted Acreage
	I	1022	1.50	1533
	II	18299	1.35	24703
	III	23508	1.00	23508
	IV	<u>6522</u>	0.80	<u>5217</u>
	TOTAL	49351		54961
	Soil index factor /5/		<u>1.114</u>	

5. Agricultural use value adjusted by land class:

Class	Land Index	Estimated use value	
		W/O Risk	W/Risk
I	1.50	<u>\$265.79</u>	<u>\$253.14</u>
II	1.35	<u>\$239.21</u>	<u>\$227.82</u>
III	1.00	<u>\$177.20</u>	<u>\$168.76</u>
IV	0.80	<u>\$141.76</u>	<u>\$135.01</u>
V	0.60	<u>\$106.32</u>	<u>\$101.26</u>
VI	0.50	<u>\$88.60</u>	<u>\$84.38</u>
VII	0.30	<u>\$53.16</u>	<u>\$50.63</u>
VIII	0.10	<u>\$17.72</u>	<u>\$16.88</u>

n.a. = not applicable because jurisdiction does not meet criterion for quota use value.

1/ An average of long term interest rates charged by the various AgFirst Associations serving Virginia.

2/ The effective true tax rate reported by the Virginia Department of Taxation.

3/ This 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.

4/ Data provided by the Virginia Conservation Needs Inventory of 1967.

5/ Total Weighted Acreage / Total Cropland Acreage

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

The estimated net returns assume a planting density of 135 trees per acre. A complete listing of this table for each jurisdiction participating in the land use program is available at the Virginia Department of Taxation.

Estimates apply to tax-year 2007.

**1. Estimated net returns (loss) per acre applicable to tax-year 2007 (see Table 4 for more detail).**

<u>Age of Trees</u>	<u>Processed Fruit</u>	<u>Percent of Total /1/</u>	<u>Fresh Fruit</u>	<u>Percent of Total /1/</u>
Pre-production aged trees (1 - 4 years)	(\$1,545.61)	7.0%	(\$1,632.71)	3.0%
Early-production aged trees (5 - 10 years)	(\$822.82)	17.5%	(\$1,570.33)	7.5%
Full-production aged trees (11 - 25 years)	\$619.81	35.0%	(\$1966.25)	15.0%
Late-production aged trees (26 - 30 years)	\$166.58	10.5%	(\$2606.51)	4.5%

**2. Weighted Average Net Return for 1999-2005.**

a) 2005 /2/	<u>(\$596.75)</u>
b) 2004	<u>\$14.54</u>
c) 2003	<u>\$19.52</u>
d) 2002	<u>\$34.64</u>
e) 2001	<u>(\$113.52)</u>
f) 2000	<u>(\$154.70)</u>
g) 1999	<u>(\$108.20)</u>

**3. Net Returns**

a) Net return to trees and land ("olympic" average of 2a thru 2g) /3/	<u>\$6.81</u>
b) Net return attributable to land only (class III) /4/	<u>\$14.28</u>
c) Net return attributable to trees only (3a - 3b)	<u>(\$7.47)</u>

**5. Capitalization Rate**

a) Interest Rate	<u>0.0750</u>
b) Property Tax	<u>0.0056</u>
c) Depreciation of Apple Trees /5/	<u>0.0333</u>
d) Depreciation of "Other" Trees	<u>0.0500</u>
e) Apple Orchard Capitalization Rate	<u>0.1139</u>
f) "Other" Orchard Capitalization Rate	<u>0.1306</u>

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

<u>Land Class</u>	<u>Orchard Index /7/</u>	<u>APPLE ORCHARD</u>		<u>"OTHER" ORCHARD</u>	
		<u>Trees Only</u>	<u>Trees and Land /8/</u>	<u>Trees Only</u>	<u>Trees and Land /8/</u>
I	0.80	<u>(\$52.44)</u>	<u>\$213.35</u>	<u>(\$45.75)</u>	<u>\$220.05</u>
II	1.00	<u>(\$65.55)</u>	<u>\$173.66</u>	<u>(\$57.19)</u>	<u>\$182.03</u>
III	1.00	<u>(\$65.55)</u>	<u>\$111.64</u>	<u>(\$57.19)</u>	<u>\$120.01</u>
IV	1.00	<u>(\$65.55)</u>	<u>\$76.20</u>	<u>(\$57.19)</u>	<u>\$84.57</u>
V	0.75	<u>(\$49.17)</u>	<u>\$57.15</u>	<u>(\$42.89)</u>	<u>\$63.43</u>
VI	0.60	<u>(\$39.33)</u>	<u>\$49.27</u>	<u>(\$34.31)</u>	<u>\$54.29</u>
VII	0.40	<u>(\$26.22)</u>	<u>\$26.94</u>	<u>(\$22.87)</u>	<u>\$30.28</u>
VIII	0.00	<u>\$0.00</u>	<u>\$17.72</u>	<u>\$0.00</u>	<u>\$17.72</u>

1/ These percentages assume that 70% of the fruit is produced for the processed market and 30% is produced for the fresh market. In addition, it is assumed that the orchard is 10% pre-production, 25% early production, 50% full production and 15% late

2/ 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.

3/ In an olympic average, the highest and lowest values are dropped prior to calculating the arithmetic mean.

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

5/ The depreciation rate applicable to apple trees assumes that trees are replaced on a 30-year rotation.

6/ "Other" trees refers to peach, cherry, pear, and plum trees. The depreciation rate applicable to "other" trees assumes that trees are replaced on a 20-year rotation.

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

8/ The use value of trees and land is determined by adding the appropriate without-risk- land-use-value (see Table 3 - Section5) to the use value of the trees.