Section 1
Estimating the Use Value of Agricultural Land

The State Land Evaluation Advisory Council (SLEAC) is required to base its estimates of the use value of agricultural and horticultural lands on productive earning power determined by the capitalization of cash rents or by capitalization of net incomes of like real estate (Section 58.1–3239 of the Code of Virginia). Reliable cash rents were unavailable or very thin in many jurisdictions and SLEAC elected to base its use-value estimates on the capitalization of net income. However, in calendar year 2009, published rental rates became available from NASS for tax year (TY) 2010. This section describes the methodology SLEAC uses in estimating the use value of agricultural land and provides clarification, when necessary. Prince Edward County is used as an example for TY2008.

The Composite Farm

The agricultural sector in Virginia is very heterogeneous. A typical agricultural operation located along the Eastern Shore is very different from an operation in the Southwest. For this reason, an accurate estimation of agricultural use values required developing a composite (i.e. typical) farm for each jurisdiction participating in the use-value program. County level data on the total number of farms and acreage harvested for each crop are obtained from the most recent Census of Agriculture. To calculate the composite farm acreage for a crop within a county, the acreage for each crop is divided by the total number of farms in the county. If this division results in a value greater than or equal to 1, the crop is included in the composite farm. It is also necessary to calculate a county’s double-cropped acreage because it is assumed that only one crop is grown annually on agriculture land. Winter annuals, e.g., winter wheat, barely, and rye crops, are assumed to always be followed by another crop, e.g., corn or soybeans. Therefore, they are considered double-crop acreage. Summing the total acreage of winter annuals and dividing by the number of farms, results in double-crop composite farm acres. The double-crop composite acreage is subtracted from the total, reflecting true crop rotation acreage within a jurisdiction.

For example, in TY2008, Prince Edward County had 395 farms and 1,430 corn acres harvested (Table 2, Appendix C). Therefore, Prince Edward County has 4 acres of corn in its composite farm. This process is continued for each single and double-cropped crop acreage yielding a composite farm having a mixture of corn, alfalfa, hay, wheat, and barley, with a total of 39 acres.

Net Farm Income

Net Return Budgets

The next step in the use-value estimation procedure is to determine net return budgets for each crop grown on the composite farm. Net returns are calculated by developing an enterprise budget for each primary crop grown. In TY2008, the primary crops used in the use-value estimation of agricultural land were corn, alfalfa, hay, wheat, barley, soybeans, potatoes, and cotton. By basing net return budgets on all primary crops, crop rotations are implicitly incorporated.

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1 Annual jurisdictional capitalized rental rates and a description of the methods used in calculating these rates for cropland and pastureland are available at: http://usevalue.agecon.vt.edu/RentalRates.htm. Historical (5 to 7 years of data) capitalized rental rates may provide a second data source for jurisdictions in setting values when approved by SLEAC.

4 County or city.

5 Crop acreages for TY2008 are from the 2002 Ag Census. The census is updated every 5 years and lags the tax year in which it is initiated by 3 years (e.g., 2002 Ag Census initiated in TY2005; and the 2007 Ag Census initiated in TY2010).

Acreage calculations from a census include:
Corn acreage = corn-grain acres + corn-silage acres; and
Hay acreage = (all hay + all haylage, grass silage, greenchop) - (alfalfa hay + haylage or greenchop from alfalfa or alfalfa mixtures).

6 Composite crop crop acreages are rounded to the nearest whole number, e.g., 3.6202 is rounded to 4.

7 Total composite farm acres sometimes do not add exactly due to rounding; and, some crop acres are not listed due to NASS disclosure rules.

8 A complete listing of the enterprise budgets and data sources is available at http://pubs.ext.vt.edu/

9 Structural changes in production agriculture necessitate occasional changes in the primary crops. For TY2011, the primary crops were: corn, alfalfa, hay, wheat, barley, soybeans, potatoes, cotton, pasture, peanuts, tobacco, beans (green limas), cucumbers, pumpkins, sweet corn, tomatoes, and watermelons.