

Agricultural and Horticultural Use -  
Value Estimates  
in Virginia

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7.23.24



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# OBJECTIVES

## Part I

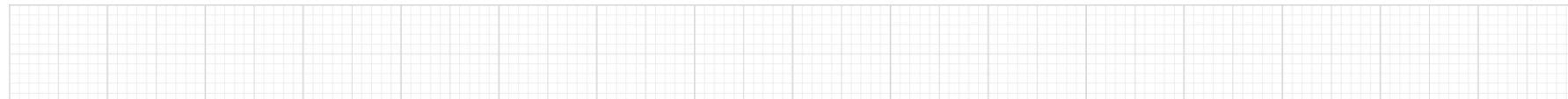
- Overview
- Current Status
  - Tax Year 2025 map of use-value jurisdictions
  - Updates
  - Impact Video (DRAFT)

## Part II

- Methods and Procedures
  - Income Approach
  - Rental Rate Approach

## Part III

- 2022 USDA Ag Census
- Questions



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## OVERVIEW

Virginia use-value assessment legislation was passed in 1972.

Virginia law allows for the preferential taxation of **agricultural, horticultural, forestal, and open space land**.

Eligible land in any of these categories can be assessed at the land's value in use ("use-value") as opposed to the land's market value.

The legislation has been seen as a way to preserve this land with the belief that long-term public benefits are derived from its preservation.

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## ORGANIZATIONS/STIPULATIONS

State Land Evaluation and Advisory Council (SLEAC) provides annual use-value estimates for each jurisdiction in the program:

- State Tax Commissioner (Chair)
- Commissioner of Agriculture
- State Forester
- Director of VA Department of Conservation and Recreation
- Dean of Virginia Tech College of Agriculture and Life Sciences

Buildings and other improvements “on the land” are assessed at fair market value.

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## COUNT OF USE-VALUE ORDINANCES IN VIRGINIA...

Currently (TY2025)<sup>1</sup>

- Agricultural and horticultural land: 88
- Forest land: 74
- Open space land: 56

<sup>1</sup>There are a total of 134 Counties/Cities in Virginia (<https://www.census.gov/>)

Participation map and list: <https://luva.aaec.vt.edu/resources/>



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## UPDATES: MODEL

- New composite farm acreages for each county based on 2022 USDA Ag Census
- Rental rate district averages
- Pasture budget updates
- Apple budget updates

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## DRAFT IMPACT VIDEO BY SAM DEAN PHOTOGRAPHY





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## TWO APPROACHES FOR USE-VALUE ESTIMATION

- Net Income: Capitalized (**Income Approach**)

Original model developed by Marshal (VT), Fraher, (TAX), Seward (VDACS), Poole (VT Grad Student) ~ 1974-1975.

- Cash rental rates: Capitalized (**Rental Rate Approach**)

Implemented in 2010 by Groover and Bruce

Virginia State Land Evaluation Advisory Council (SLEAC) contracts with Virginia Tech to develop use-value assessment estimates. These estimates are to "be considered" in the local assessment of such land. **Local Commissioners of Revenue are not required** to use these estimates directly in arriving at assessment values for agricultural real property although many do.

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## INCOME APPROACH- DATA SOURCES

Only published *secondary sources* are used:

### Source

2022 Census of Agriculture

Virginia Cooperative Extension

Farm Service Agency

USDA-RMA

USDA-NASS

Virginia Department of Taxation

AgFirst (Farm Credit Bank)

### Use

**Composite farm acres**

**Production inputs for crop budgets**

**Federal payments**

**Crop insurance**

**Yields and prices**

**Property Tax rates**

**Long and short interest rates**

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## INCOME APPROACH- TERMINOLOGY

An important distinction to understand when viewing estimates of use-value assessments is what is meant by **tax year (TY)**, **data year (DY)** and **calendar year (CY)**.

Data used for calculating estimates lag 2 DY's from the identified TY. These values are based on data published by the National Ag Statistics Service (NASS) and other agencies after the 2023 cropping season. Thus, TY2025 corresponds to DY2023.

Estimates for TY2025, are released by SLEAC in September 2024 calendar year (CY).

# CENSUS OF AGRICULTURE

The 2022 Census of Agriculture provides county-level crop acreage and number of farms for a jurisdiction. It is the starting point for all use-value calculations

Specifically, this data is used to develop a composite farm (CF) and weight estimated net returns for each crop in the composite farm

The county's composite farm represents a *typical farm* within the county



## INCOME APPROACH- COMPOSITE FARM

The county's composite farm represents a *typical farm* within the county

For each reported crop: Divide acres by number of farms (Acres ÷ Farms)

If the value is >0.50 ac, included in the CF  
If ≤ 0.50 ac, excluded from CF

Statewide there are 20 crops that are included in at least one county

2022 Ag Census Essex		Based on 99 farms
Crop	Reported Acres	Composite Farm Acres
Alfalfa	90	1
Cabbage	0	
Corn	16,851	170
Barley	(D)	

**Example for Corn = 16,851 ac / 99 farms = 170 acres of corn in the CF**

Pasture	1,682	17
Peanuts	0	
Potatoes	3	
Pumpkins	3	
Snap Beans	(D)	
Sorghum	0	
Soybeans	25,648	259
Sweet Corn	(D)	
Tobacco	0	
Tomatoes	(D)	
Watermelons	(D)	
Wheat	7,507	76
Double-cropped	(-) 7,507	(-) 76
<b>Total Cropland Harvested</b>	<b>39,008</b>	<b>453</b>



<b>Essex: Corn</b>	<b>Crop Budget</b>
TY2019	-\$10.05
TY2020	-\$7.24
TY2021	\$73.10
TY2022	-\$15.66
TY2023	\$293.28
TY2024	\$314.14
TY2025	\$286.32
<b>Olympic AVG</b>	<b>\$130.54</b>

**Lowest**

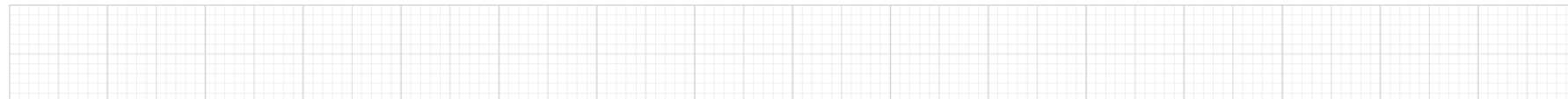
**Highest**

## INCOME APPROACH- CROP NET RETURNS AND OLYMPIC AVERAGING

A crop's final net return for a jurisdiction is the sum of a 7-year Olympic average of **crop budgets** and a 7-year Olympic average of federal payments

Seven year Olympic Average: An array of values from the last 7-years, the largest and smallest values are removed, and the remaining 5-years of net returns are averaged

Crop budgets are developed annually for each CF crop within a county by using inputs that include crop prices and yields reported by NASS. Crop budgets also include annual crop insurance obtained from the Risk Management Agency (USDA-RMA)



INCOME APPROACH- FEDERAL PAYMENTS

Essex: Corn	Federal Payments	Crop Budget
TY2019	\$50.55	-\$10.05
TY2020	\$34.21	-\$7.24
TY2021	\$13.58	\$73.10
TY2022	\$52.35	-\$15.66
TY2023	\$48.91	\$293.28
TY2024	\$42.98	\$314.14
TY2025	\$23.44	\$286.32
<b>Olympic AVG</b>	<b>\$40.02</b>	<b>\$130.54</b>

Lowest

Highest

Lowest

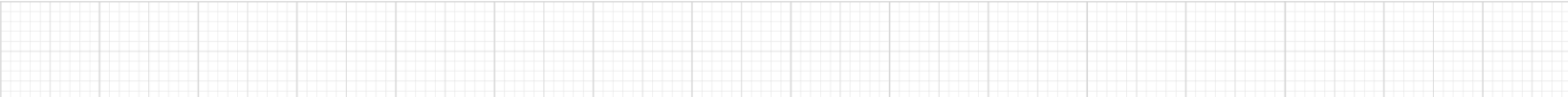
Highest

A crop’s final net return for a jurisdiction is the sum of a 7-year Olympic average of crop budgets and a 7-year Olympic average of **federal payments**



USDA-FSA provides data for “program” crops (corn, soybeans, grain sorghum, wheat, barley, peanuts, and cotton) by county

The per-acre federal payment for each program crop is calculated as follows: the crop specific payment is divided by the number of crop acres from the Ag Census, resulting in a per acre federal payment.

**Final Corn Net Return for TY2025**  
**Oly AVG Fed Pay + Oly AVG Budget**  
**\$40.02 + \$130.54 = \$170.56**



## INCOME APPROACH- COUNTY NET RETURN




Essex: Crop	Estimated Net Return	CF acres	Weighted NR
Alfalfa	\$109.08	1	\$0.22
Corn	\$170.56	170	\$64.13
Hay	\$0.01	6	\$0.00
Wheat	\$49.65	76	\$14.09
Soybeans	\$182.23	259	\$118.24
Pasture	\$0.01	17	\$0.08
<b>Final Net Return (per acre)</b>		<b>453</b>	<b>\$196.76</b>

Dividing each CF crop acreage by the CF total acreage yields the proportional weight assigned to each crop's net return. Note: weights sum to 1.00

The larger the composite farm crop acres the larger the weight in the final tabulation.

The final net return for the county's CF is the sum of the weighted crop net returns for each crop





## INCOME APPROACH- CAPITALIZATION AND SOIL INDEX

Essex TY2025

Use Value =	Net Returns	÷	Cap Rate
Use Value without risk =	\$196.76	÷	0.0664
Use Value without risk =	<b>\$2,963</b>		
	\$196.76	÷	0.0694
Use Value with risk =	<b>\$2,835</b>		
Adjusted Use Value =	Use Value	÷	Soil index
Without risk =	\$2,963	÷	1.2446
<b>Without Risk Class III =</b>	<b>\$2,281, rounded to \$2,380</b>		
With risk	\$2,835	÷	1.2446
<b>With Risk Class III =</b>	<b>\$2,278, rounded to \$2,280</b>		

The estimated agricultural value of a CF acre for a county is calculated by dividing the final net return by the **capitalization rate (CR)**

This division yields an **unadjusted** per acre value

This unadjusted value is divided by the county's **soil index to standardize** each counties soil productivity on a state-wide basis

The resulting value is rounded to the nearest \$10 and is the county's Class III without risk use-value estimate

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## INCOME APPROACH- NET PRESENT VALUE ANALYSIS

### **Orchard/Hort Operations**

- Like forest stands, apple and fruit trees are multi-year investments. As such, a net present value analysis is used for estimating net returns.
- The total use value of apple orchard real estate for a jurisdiction is calculated by combining the jurisdiction's use-value estimate attributable to apple trees and its use-value estimate attributable to agricultural land.

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## RENTAL RATE APPROACH- DATA SOURCES

Only published *secondary sources* are used:

### Source

USDA-NASS

Virginia Department of Taxation

AgFirst (Farm Credit Bank)

### Use

**Rental Rates**

**Property Tax rates**

**Long and short interest rates**

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## RENTAL RATE APPROACH- CAPITALIZATION

Starting in 2009 NASS publishes rental rate data for:

- Cropland
- Irrigated cropland
- Pasture land

Beginning in 2021, NASS rental rate data is now published every year

	<b>Rental Rate</b>	<b>÷</b>	<b>Cap Rate</b>	<b>=</b>	<b>Value</b>
<b>Cropland</b>	\$39.50	÷	0.0629	=	<b>\$628</b>
<b>Pasture</b>	\$30.50	÷	0.0629	=	<b>\$485</b>

Amelia County rental rates for DY2023, TY2025 (NASS)

Cropland = \$39.50 (\$/ac)

Pasture = \$30.50 (\$/ac)

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## 2022 AGRICULTURAL CENSUS

- Released February 13, 2024
- For 2022 Census, new focus on environmental trends
  - 15% increase in farms using renewable energy systems
- Census shows new data that can be compared to previous censuses for insights into trends and changes down to the county level
- Accessible at [Quick Stats](#)

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## AGRICULTURAL CENSUS (VA)

<b>Year</b>	<b>Number of Farms</b>	<b>Acres of Farm Land</b>
<i>2022</i>	<i>38,995</i>	<i>7,309,687</i>
2017	43,225	7,797,979
2012	46,030	8,302,444
2007	47,383	8,103,925
2002	47,606	8,624,829
1997	49,366	8,753,625

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QUESTIONS

**THANK YOU!**

**[usevalue.agecon.vt.edu](http://usevalue.agecon.vt.edu)**