Virginia Cooperative Extension
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Virginia Horticulture Production Trends: 2017-2022

Authored by Eric Stallknecht, Assistant Professor and Greenhouse Specialist, School of Plant and Environmental Science, Hampton Roads Agricultural Research and Extension Center; Kaylee South, Assistant Professor, School of Plant and Environmental Science, Institute for Advanced Learning and Research

Introduction

Similar to all agricultural products, consumer trends, the cost and availability of labor, changing weather patterns, and government regulations or incentives can all collectively influence the profitability of horticultural crops and the number of farmers growing them. Data on the performance of the horticultural industry is therefore highly valuable in helping to set regulatory policies, identify research initiatives, and spot commercial trends relevant to businesses' profitability. The USDA's National Agricultural Statistics Service (NASS) conducts a regular census of agriculture to inform federal government programs and provide unbiased information to the public on various aspects of agriculture. In this case, our primary interest is to gain a deeper understanding of trends in the cultivation of horticultural crops in the Commonwealth of Virginia. Here, we present relevant census information in a visual format, highlighting some significant changes that occurred between 2017 and 2022. The following data is publicly available from Table 34: Floriculture, Bedding Crops, Nursery Crops, Propagative Materials, Sod, Food Crops Grown Under Glass or Other Protection, and Mushroom Crops (USDA 2023).

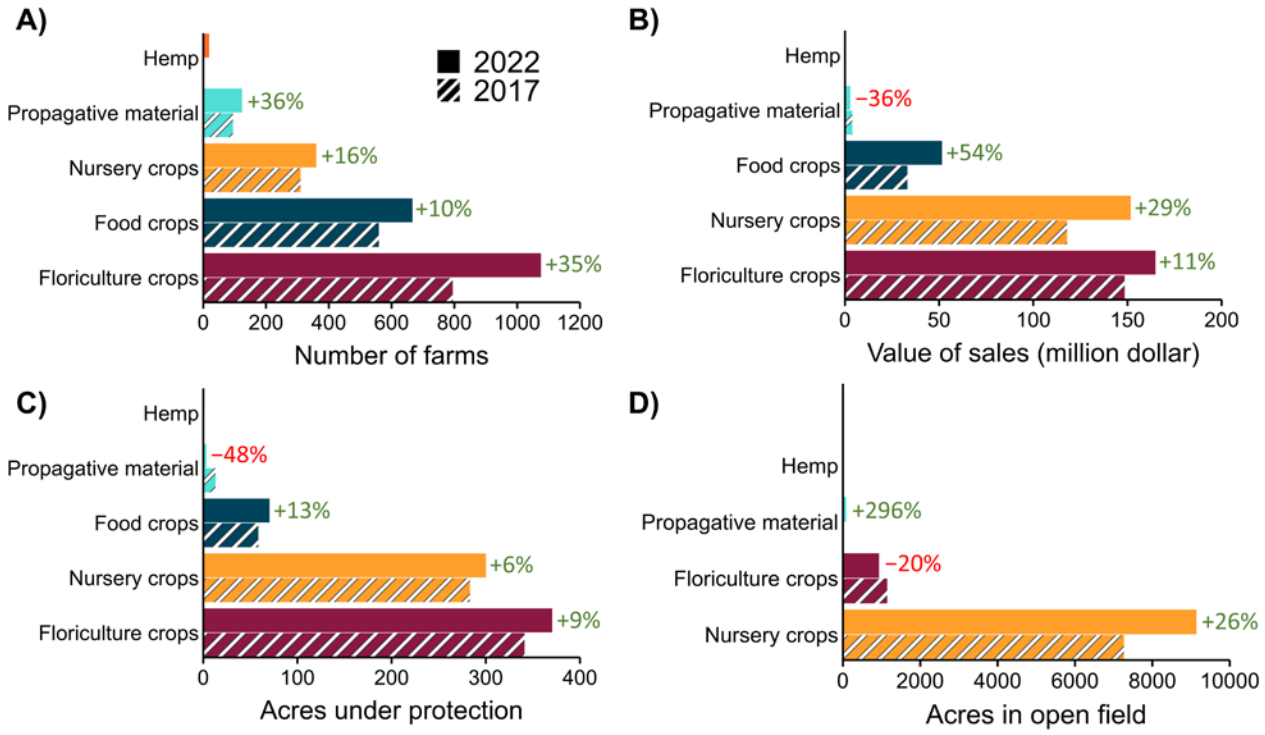

Figure 1. The number of farms (A), value of sales (B), acres of crops grown under glass or other protection (C), and acres of crops grown in open field (D) organized by broad category for 2017 and 2022 according to USDA survey results (USDA 2023). Acres of horticultural food crops grown in open fields were omitted from (D) because the data is outside the scope of comparison.

As defined by the USDA, horticulture is the cultivation of plants used by people for food, medicinal purposes, and aesthetic gratification. In practice, horticulture becomes a broad umbrella term for plant-based agricultural products that are not the traditional large-acreage agronomic crops, such as corn, wheat, soybeans, and cotton, among others, which often require a higher degree of labor, environmental control, and crop management to produce. Horticultural crops, therefore, have a higher monetary value on a per-acre basis. USDA broadly categorizes horticultural crops from Table 34 into floriculture crops, nursery crops, propagative materials, food crops grown under protection, and hemp grown under protection.

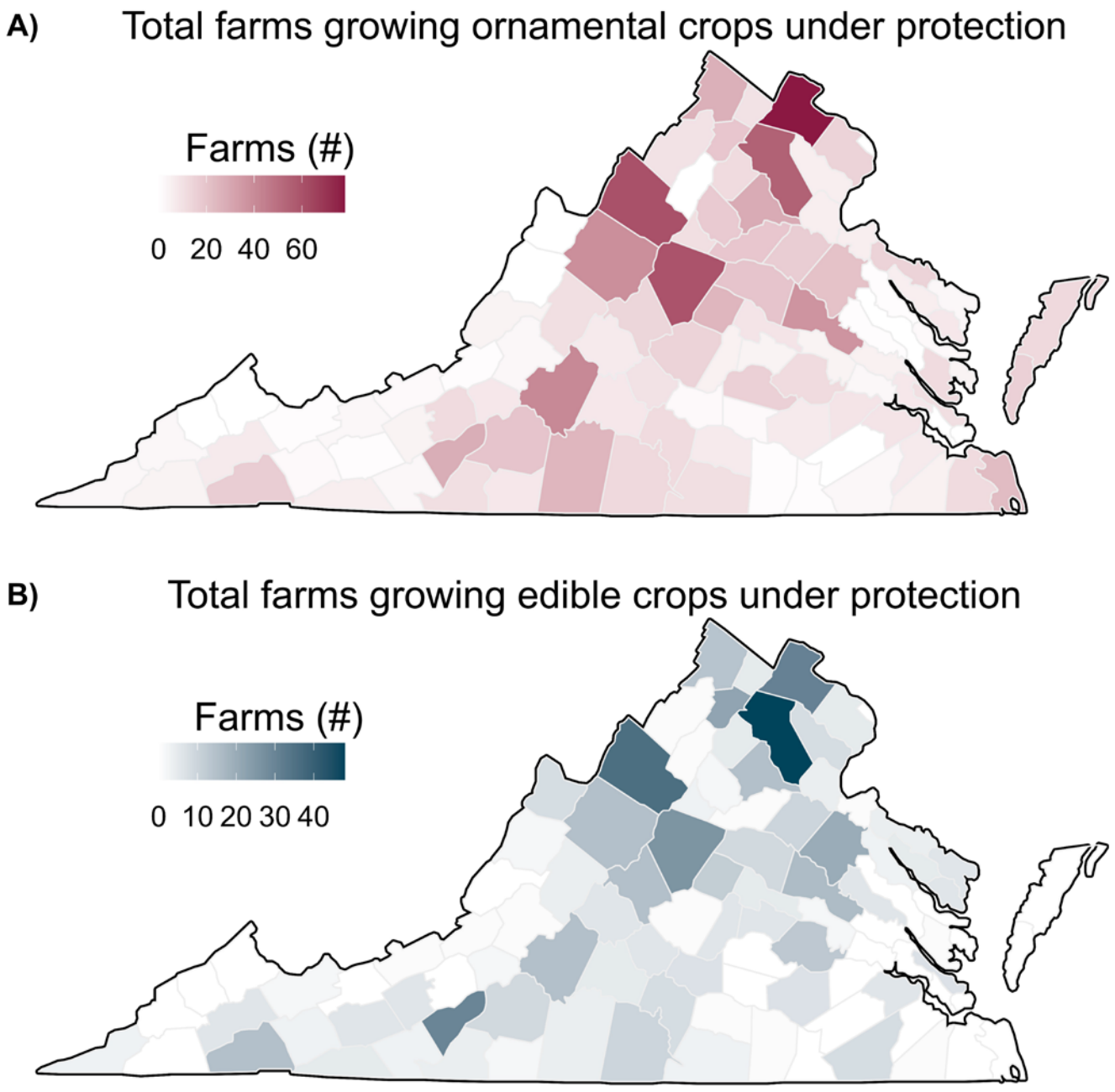

Figure 2. The distribution of businesses growing ornamental (A) or edible (B) crops under glass or other protection in Virginia in 2022 at the county level. (USDA 2023).

Broad Industry Trends

Horticulture is a large and important industry in Virginia, and horticultural producers grow a wide range of ornamental and edible crops in systems ranging from open fields to vertical farms. Figure 1 depicts broad crop category data for 2017 and 2022, organized into the number of farms (A), value of sales (B), acres under protection (C), and acres of open field (D). Floriculture, nursery, and food crops grown under protection (i.e., vegetables, herbs, and tomatoes), as well as propagative materials (i.e., seeds, seedlings, plugs, liners, bulbs, etc.), accounted for approximately $370 million in sales in 2022. These producers utilized approximately 760 acres under protection (e.g., shade structures, greenhouses, high tunnels, or vertical farms) and 10,000 acres in open fields (USDA 2023). Comparing sales values to those of other states, Virginia ranks 13th in floriculture, 16th in nursery production, 4th in food crops grown under overhead protection, and 22nd in propagative material production.

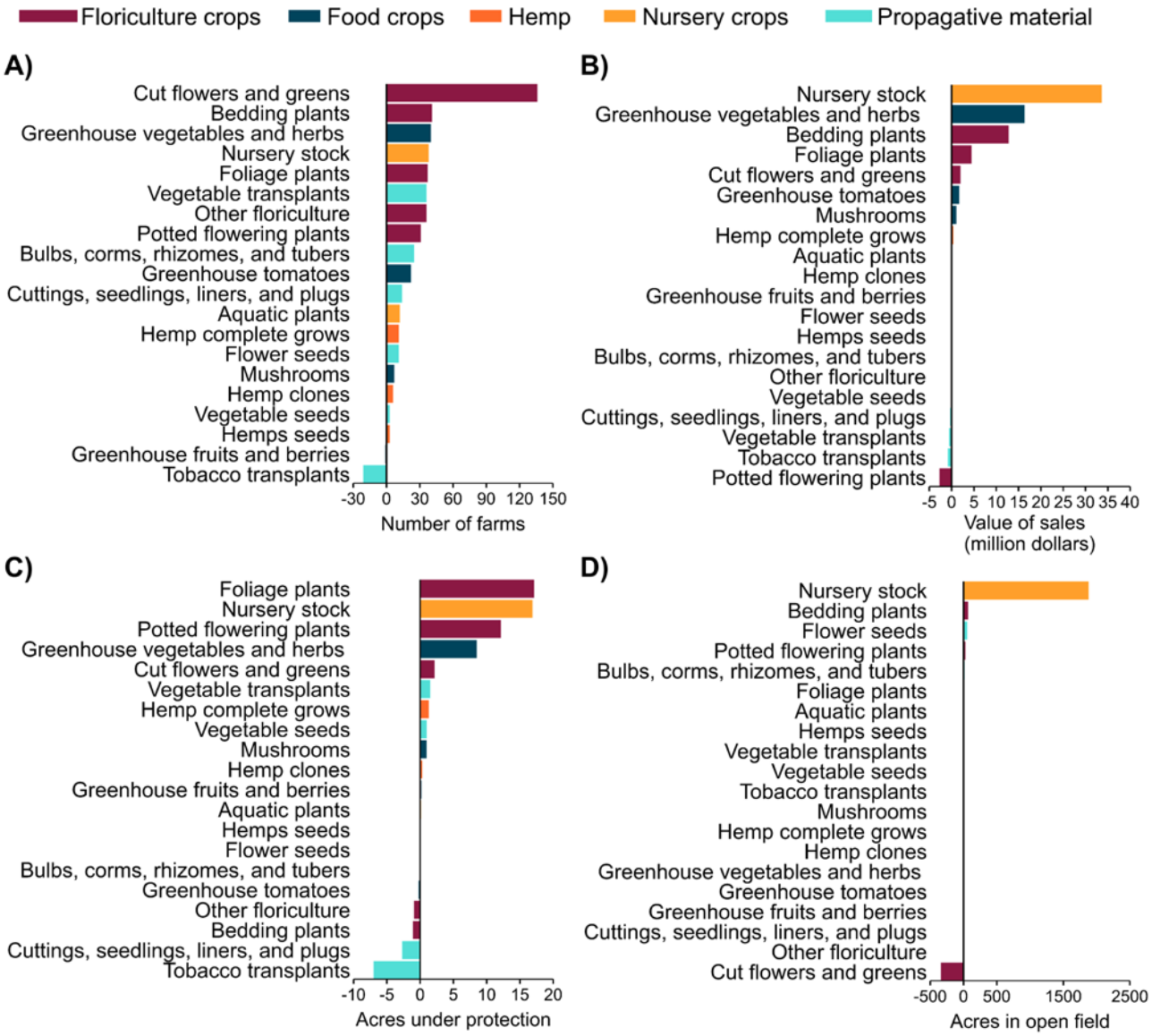

Figure 3. The change in the number of farms, million dollars of sales, acres under protection, and acres of open field between 2017 and 2022, according to the 2022 USDA census (2023). Values represent 2022 values minus 2017 values.

Virginia farms using overhead protection to cultivate ornamental and edible horticultural crops were widely distributed throughout the state (Figure 2). However, the northern half of the state had a higher number of businesses using overhead protection, likely due to less favorable outdoor weather conditions and closer proximity to the metropolitan area around Washington, D.C.

Between 2017 and 2022, the growth of the horticultural industry in Virginia was largely positive, with floriculture, nursery, and food crops increasing the number of farms operating, value of sales, and acres under protection (Figure 1A-C). In total, 476 new farms were reported growing horticultural products since 2017, and this increase was seen in every USDA crop category (Figure 1A). The total value of sales increased by $66 million, with food crops under protection experiencing the largest percentage increase in sales value (Figure 1B). Combined, the production of horticultural crops under protection increased by roughly 2.2 million square feet, with all crop categories except propagation material having decreased in area (Figure 1C). Nursery crop production added 1,880 acres of open field production, but floriculture crop production lost 176 acres of open field production (Figure 1D).

Specific Industry Trends

In addition to these broad USDA-defined crop categories, we also evaluated subcategories within them to look for more specific trends and insights. Figure 3 depicts the change in the number of farms, value of sales, acres under protection, and acres of open field for each crop subcategory between 2017 and 2022. We will highlight several trends in Virginia that relate to broader national trends.

Cut Flowers and Greens on The Uptick

Cut flowers and greens stand out from other subcategories as having the largest single gain in the number of farms producing them (Figure 3A). This marks a positive uptick in production for an industry that has been in decline since the early 2000s, largely due to increased volumes of imported products (Jenkins et al., 2023). This growth has resulted in a roughly $2 million increase in sales value since 2017. Unique to cut flowers and greens, the production area under glass or other protection increased, while it lost substantial acres of open-field production (Figure 3C, D). Notably, this increase in cut flower and green production appears to be driven by many small-scale producers, rather than large producers adding or expanding their operations. This change was partly caused by the COVID-19 pandemic increasing consumer interest in houseplants and purchasing locally grown products (Hullett, 2022; Whitinger et al., 2023).

Food Crops Grown Under Protection Expands in Virginia

Compared to open-field production, protected agriculture systems, such as greenhouses, vertical farms, and high tunnels, allow growers to extend growing seasons, mitigate extreme weather events, and achieve higher yields, all while being closer to consumers. From 2017 to 2022, 57 new farms reported using protected agriculture to grow food crops in Virginia (tomatoes, berries, vegetables, and herbs) (Figure 1A). Additionally, the area under protection increased by 360,000 square feet, and sales value increased by $18 million (Figure 3A, B). Unlike cut flowers and greens, an increase in food crops grown under protection appears top-heavy, with fewer large businesses taking up a larger fraction of production gains. In part, Virginia's promotion of controlled environment agricultural businesses can be one reason for the recent uptick (Virginia Economic Development Partnership; Office of the Governor, 2023). Adding to this government trend, other East Coast states have also seen an increase in the production of leafy greens in more technologically advanced greenhouses and vertical farms, shifting production away from the main producing states of California and Arizona.

Bedding Plant and Nursery Stock Production Remains Dominant

According to the 2022 census data, the bedding plant and nursery stock subcategories generated roughly $257 million in sales value in Virginia (Figure 1B). That is a $47 million increase in sale value since 2017. This growth outpaced the inflation rate over the five-year period. These two subcategories combined are among the top ten

agricultural commodities in Virginia (VDACS, 2023). The value of sales and consistent growth of ornamental horticulture underscores the significance of the bedding plant and nursery stock industries within Virginia's horticultural sector. It also highlights the increasing demand for these products both locally and regionally.

Foliage Plants Gain Momentum

Nationally, there has been a growing interest in foliage and houseplants among consumers. This is potentially a byproduct of the lockdowns during the COVID-19 Pandemic, a larger generational interest in houseplants, and retailers adapting to increased online sales (i.e., e-commerce) (Wilcox, 2023). In-person stores remain the most common way people purchase plants, but online retail is gaining traction for horticultural products (Whitinger et al., 2023). It is expected that this trend will continue as Americans increasingly purchase their goods online. Virginia has followed the larger national trend in foliage and indoor plants, seeing an 88% increase in the number of farms producing foliage and houseplants (Figure 3A). Additionally, foliage and houseplants experienced the single largest increase in acres under protection, with a corresponding increase in sales value of $4.5 million since 2017 (Figure 3A, D). With increased acreage under protection and a notable rise in sales value, the state's growers are starting to capitalize on the growing demand for foliage and houseplants, offering a better convenience value proposition to consumers.

The Decline of Tobacco

Tobacco production in Virginia has declined by approximately 50% over the last 20 years, ranking it now number 15 in Virginia's top 20 Farm Commodities for 2022 (USDA 2023, VDACS 2023). The uncertainty and decline in Virginia tobacco production are relevant to the discussion on changes in Virginia's horticulture industry due to the need of these farmers to pivot to other crops (Clauson-Wicker 2000; Virginia Farm Bureau 2019). Not only are there opportunities for producers to transition to field production of horticulture crops, but also an opportunity to repurpose the hoop houses and greenhouses that were previously used for propagating tobacco transplants. The increased use of greenhouses for tobacco transplant production occurred in the 1990s. According to a 2001 Regional IPM Centers Crop Profile on Virginia Tobacco, approximately 95% of tobacco seedlings were produced in greenhouses at the time (Dimock et al., 2001; Reed, 2009). As a byproduct of the tobacco industry's decline, the production of propagated tobacco plants under protection has also declined substantially in the last five years, according to the USDA census data. These greenhouses, once used for tobacco transplant production, can now be utilized for horticulture crop production, ranging from the cultivation of ornamental potted plants to the production of hydroponic vegetables and herbs.

Conclusions

Horticulture is a vital industry in Virginia, and trends from the 2022 USDA NASS census continue to underscore its significance to the commonwealth and growth in various crop categories within the industry. Some key takeaways include the increase in the number of farms producing cut flowers and greens, as well as food crops under protection (e.g., greenhouses, vertical farms, high tunnels), and foliage plants. In addition, bedding plant and nursery stock production remain a key agricultural commodity in Virginia. Shifts in agricultural commodities, changes in government initiatives, and the emergence of new farms will continue to shape this industry in the years to come.

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Additional Resources

USDA agricultural census data: https://www.nass.usda.gov/

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