



## MARYLAND AGRICULTURAL RESOURCE COUNCIL

December 7, 2021

To the Reader:

The Maryland Agricultural Resources Council (MARC) has been involved with the Center for Maryland Agriculture and Farm Park ("the Ag Center") since its very beginning. In working with Baltimore County and others over the years, we have learned that too few government officials and citizens understand the value of agriculture to the county economy. Understanding agriculture's economic value is necessary for sustaining and growing a very important economic sector in Baltimore County.

Currently, collecting economic data on local agriculture is difficult at best. The County's Department of Economic and Workforce Development does not collect data on agriculture as they do with most other economic sectors. The USDA Census of Agriculture occurs every 5 years, but data is spotty and little is broken down to the county level. There have been a few private reports, but inconsistency makes them hard to compare to one another.

In the summer of 2021, MARC commissioned its own report to demonstrate the importance of agriculture to the Baltimore County economy. Greenway Consultants, led by Ann Jones, is intimately familiar with agriculture and the area; Ann has worked with land preservation for years and is the director of the Baltimore County Land Trust Alliance.

In the following report, the author points out the difficulties collecting comparable information mentioned above. Thus, the numbers reported are probably a conservative estimate of value. Still, the hard numbers that are reported, along with the logic supporting the author's extrapolations, demonstrate that agriculture does have a tremendous effect on the county's economy, and that county government would be wise to shepherd its growth.

We appreciate your review of this report and your comments for advancing agriculture's presence among the economic sectors the county supports.

Tom Whedbee, Chairman  
MARC



# The Economic Impact of the Baltimore County Agricultural Industry

Prepared for: The Maryland Agricultural Resource Council

By Greenway Legacy, LLC

*"From equestrians to wine lovers, there is something for everyone. Paired with a reasonable cost of living and housing, Baltimore County is affordable, diverse and family friendly".*

## Background

Baltimore County Agriculture is multi-faceted, extending across multiple sectors from the traditional grain farmer to the newly opened Brewery. Statistics on the economics of these industries are scattered among a variety of sources. This study collects these statistics to obtain a clearer picture of the importance of agriculture in the county, and provides updates based on site visits with key industry representatives. A summary of findings to date are presented here.

## Sales

A study done in 2009 for North County Preservation estimated the total value of agriculture sales in the County to be \$210 million. This number does not include the equine industry or the craft beverage industry. Updating those numbers based on the best available data and adding estimates for the craft beverage and equine industry results in a conservative estimate total sales of \$352 million dollars a year but could easily exceed \$738 million dollars a year, due to increasing commodity prices, increased sales in the horticultural industry, the strength of the equine industry and the continuing popularity of the craft beverage industry.

## Trends

Agriculture is increasingly becoming an important commodity shipped through the **Port of Baltimore**. Agricultural products rank in the top 10 products both in terms of tonnage and value of exports at the port. Soybeans grown in Baltimore County are an important export to Southeast Asia, including Indonesia, Malaysia, Philippines, Vietnam and Thailand.

Baltimore County is the **center of the Maryland Equine Industry**. The inaugural 5-star eventing competition at Fair Hill, the State's commitment to improve the Pimlico Racetrack, and the recent win of a Baltimore County-bred horse at the Breeders Cup all point to the growing economic importance of the equine sector of the Baltimore County Economy.

Consumers are consistently demanding increased **local foods** and the COVID pandemic has highlighted the importance of having local control of the **food supply chain** and the desire for increased safe, fun, outdoor **agritourism** activity.

COVID also increased the demand for products provided through the **horticulture industry** as more residents were interested in gardening for food and pleasure.

Nationally, the fastest growing sector of the alcoholic beverage industry is the **craft beer, winery, and distillery** sector. Baltimore County is home to Maryland's oldest winery – Boordy Vineyards – and some of its newest craft breweries. Baltimore County farms are important not only for growing the grapes for wine and the rye, barley and other components of the craft beverages, but also for providing the beautiful outdoor setting for enjoying the beverages.

From the visitors to the State Fair to the weekend visitors at the local brewery or creamery, agriculture is an essential component of the **tourism industry**.

Baltimore County Economic Development Website

NOVEMBER 2021



Figure 1 – Baltimore County  
Location in Relation to the Regions  
Productive Agricultural Land



*When a sector of the economy is on the upswing, a small investment by the County can provide significant economic benefit for the area.*

*The Baltimore County Agricultural sector is ripe for increased economic development assistance.*

### *Introduction*

There is a palpable sense of optimism in the Baltimore County Agricultural community. It's there in the equine industry that has seen Maryland showcased in the inaugural 5-star evening competition, in those who have witnessed a renewed state commitment to the Preakness stakes, and where sales at the October 2021 Mid-Atlantic fall yearlings sale at Timonium topped \$11 million dollars, a 20% increase over last year's sale. It's there in the direct market, value added and agro-tourism sectors that have seen the number of people visiting their farms double and even triple as COVID has encouraged more people to go outdoors for fresh, local food and safe, fun activities. It's there in the traditional commodity crops where the price per bushel of soybeans has increased significantly due in part to the increased quantity of soybeans being shipped from the Port of Baltimore to countries throughout the world.

When a sector of the economy is on the upswing, a small investment by the County can provide significant economic benefit for the area. The Baltimore County Agricultural sector is ripe for increased economic development assistance. Agriculture needs to be planned for and supported. Supporting a vibrant agricultural community protects the reservoirs that provide the County's drinking water, supplies a reliable local food source, and enhances the quality of life of all residents.

### *Purpose*

Baltimore County is the heart of a belt of uniquely productive agricultural land stretching from Montgomery County through Frederick, Howard, Carroll, Baltimore, and Harford Counties on into Lancaster County Pennsylvania. The combination of excellent soils, adequate rainfall, and access to markets makes Baltimore County a particularly important hub of successful agricultural operations.

It is also the hub of a successful agricultural preservation program and supportive local zoning. To date, Baltimore County has preserved more than 65,000 acres of farm and forestland. The county's strategic location and the base of permanently protected, productive agricultural land have resulted in a thriving and growing agricultural industry.

The purpose of this report is to highlight and where possible quantify the contributions agriculture makes to the County economy, and its critical role in the agricultural economy of the entire region. It is not a full economic analysis, and indeed one of the recommendations of the report is that such a study may be completed. Rather it is a compilation of existing data that provide a snapshot of the importance of the agricultural industry.

## *Baltimore County Demographics*

Baltimore County is home to over 854,000 residents. The population is well-educated with 91.5% of the residents being high school graduates or higher and close to 40% holding a bachelor's degree or higher. The median household income is \$76,866 and the average per capita income is \$40,105. (source: 2020 census data)

Baltimore County is now part of the Baltimore-Columbia-Towson Metropolitan Statistical Area (MSA) comprised of Anne Arundel County, Baltimore City, Baltimore County, Howard County, Harford County, Carroll County and Queen Anne's County. This MSA has a total population of 2,844,510 (2020 Census), a 5% increase in population since 2010. Baltimore County's population increased from 805,029 to 854,535, a 6.1% increase.

Baltimore County is further identified as part of the Baltimore-Washington marketplace, a marketplace that includes 9.1 million persons with an average household income of \$122,281 before taxes, significantly above the US average of \$83,599.

These markets represent major growth opportunities for the direct sale of agricultural products at local farmers markets and restaurants; for value-added products from ice cream to cream ale and for agritourism activities.

## *Agricultural Employment: Encouraging and Supporting New and Beginning Farmers*

The official Baltimore County estimate of the number of current employees in the agriculture sector is 1,217 but that number represents a small fraction of the total agricultural employment. The 2017 census of agriculture lists 1,311 hired farm labor workers for Baltimore County, and 1,325 producers. The 2010 equine census found that there were 3,030 people employed in the equine industry in the county.

Combining the agricultural employment, the operators, and the number of persons involved in the equine industry would result in an estimate of 5,572 employees. The horticulture industry employs nearly 25,000 persons state-wide with a significant number of those employees in the central Maryland region. There are



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County	Total Farms	Farms with new and beginning producers	Percentage
Harford	628	219	35%
Anne Arundel	390	132	34%
Prince Georges	367	124	34%
Montgomery	558	179	32%
Frederick	1,373	387	28%
<b>Baltimore</b>	<b>708</b>	<b>194</b>	<b>27%</b>
Carroll	1,174	318	27%
Howard	321	72	22%

Figure 2 – Percentage of Farms with New and Beginning Producers in the Baltimore Region.

Source: 2017 census of agriculture

also many employees in the agro-tourism industry, in value added agricultural operations and in other agricultural support operations such as equipment sales and transportation.

With a total county employment of 377,000, the numbers of employees in agriculture may not seem significant. However, one of the major sectors of employment listed on the county economic development website is the Information Technology Sector with 5,023 employees. Given the multitude of different goals of the county impacted by agriculture, it would seem that it should be recognized as a key sector for county investment.

There remains a critical and ongoing need to encourage new and beginning farmers. The average age of farmers in Baltimore County in 2017 was 58.5 years. The bureau of labor statistics estimates that in 2020 the median age of people employed in crop production nationwide was 48.6 years and the median age of all employees over the age of 16 was 42.5 years. The average age of farmers is at least 10 years above the average age of other Baltimore County workers.

Baltimore County has invested significant funds in agricultural preservation, and it needs to also invest in the farmer who will continue to steward and work the land. More young people are returning to farming. They are anxious to engage in more direct consumer contact and to continue Baltimore County's tradition of sustainable farming practice.

The census of agriculture defines beginning producers as farmers with 10 or less years of experience. In 2017 an encouraging 27% of Baltimore County farms had at least one new and beginning producer. This is, however, in the lower third in Maryland's metropolitan counties and this highlights the need for continued training and support for the beginning farmers in the County.

*In 2009 the North County Preservation, Inc. sponsored a study entitled "Rural Baltimore County Agricultural Profitability and Action Plan". The major recommendations in that report are equally valid today. The major recommendations were:*

**Agriculture Development and Marketing** – This focus area targets improvements in access to local and regional markets at both the wholesale and retail levels. Market development activities look to expand the capability of individual farms to integrate retailing and agritourism activities while developing a positive brand image for Baltimore County's agricultural products.

This focus area also concentrates on improving the capability of individual operations to effectuate strategic and operational changes on the farm. Business development support includes counseling, concept development, land access, and financing support with the intent to support growth and transition in the agricultural economy. Beyond individual farm businesses, additional programming is recommended to enhance the agribusiness policy climate and encourage infrastructure development to support industry sector growth. In this regard, economic development projects generally have the largest fiscal participation from government and Non- Governmental Organizations.

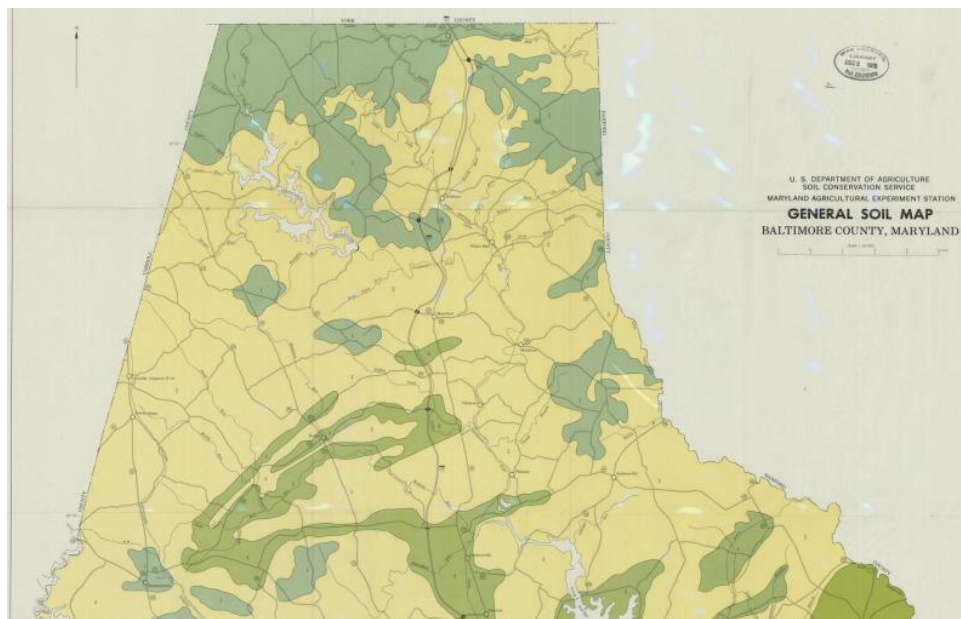
**Training and Education** – This focus area distinguishes itself from Agriculture Development and Marketing by focusing on developing the future human capital needs of agriculture beginning with creating a base of well qualified farm leaders and a source of new and renewing farm operators. Recommendations under this focus area also highlight the need to create a reliable source of skilled and unskilled labor which can meet the needs of modern agricultural practices for the range of industries already present in the County.

**Public Policy and Regulation** – Activities in this focus area are dedicated to land use, environmental, health, and transportation policy support needs that are intended to bring local conditions in line with regional competitors. By example, this may include modifying or extending nuisance suit protections to farmers who operate under good management practices or expanding the allowed distribution and value-added uses on a farm so that Baltimore County producers can compete directly with farmers across the line in Pennsylvania.

Successful implementation of these recommendations will involve a multidisciplinary effort supported by private industry and agricultural operations, state and local agencies, and local community organizations. The partnerships necessary will be driven by the specific implementation needs of each recommendation. Funding support for each respective recommendation must also be built independently on the merits of the recommendation and evidenced needs.

Baltimore County has made limited progress in these areas. It is recommended that a follow up survey/meeting/workshop be developed to determine progress made, the extent that the item is still important, and the best way to facilitate the recommendations.

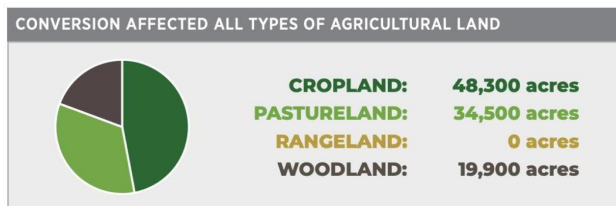




**Figure 3 - General Soils Map  
Baltimore County**

## Overview of Baltimore Agricultural Production: Threats and Opportunities

Maryland has some of the best farmland in the country. In 2020 the Maryland Farmland Trust published a study, *Farms Under Threat*, that ranked farmland throughout the United States based on three factors – productivity, versatility, and resiliency of agricultural land. 66% of Maryland’s farmland was identified as Nationally Significant Land. 58,000 acres of Maryland’s nationally significant land were converted to residential development between 2001 and 2016. The chart below shows the type of land converted from agricultural land in Maryland in that time period.



**Figure 4– Maryland Land Converted  
from Agricultural Uses 2001-2016**  
Source: American Farmland Trust  
(2020), *Farms Under Threat*

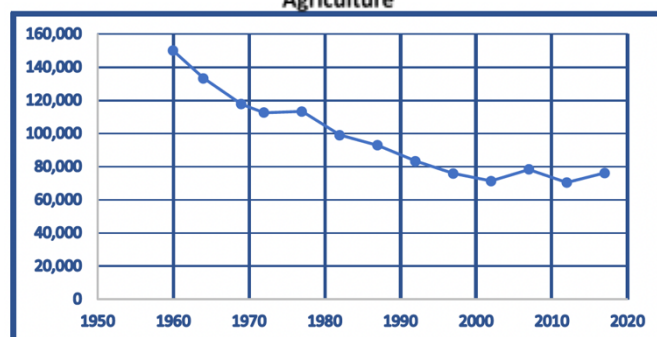
The vast majority of soils in Baltimore County are classified as Class II and Class III soils. Class II soils are considered prime farmland because of the gentle slope and highly productive quality of the soil. Class III soils have been identified as soils of statewide importance.

Good soils for farming are also good soils for development and given the proximity to urban areas and an excellent transportation network, Baltimore County has continued to face significant development pressure. Acres devoted to agriculture in Baltimore County have declined significantly since 1960. The 1960 census of agriculture listed 149,858 acres of agriculture which declined to 71,277 in 2002, more than a 50% reduction in agricultural acreage.

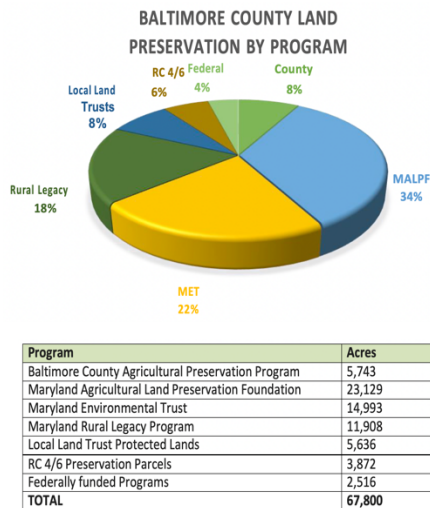
In response to this threat in farmland, Baltimore County adopted a series of activities to control growth and preserve agricultural land. The Urban Rural Demarcation Line (URDL) was established in 1967 to limit residential development to designated growth areas. This was followed by the Resource Conservation zoning and permanent agricultural preservation programs.

Beginning in 2000 the suite of agricultural preservation programs available began to slow the pressure to convert agricultural land, with the acreage of farmland holding steady, or even increasing slightly. Some of the variation between

**Figure 5 - Baltimore County Acres in  
Agriculture 1960 – 2017 Census of  
Agriculture**



**Figure 6 – Current Acres Preserved  
Baltimore County by Program**



Source: Baltimore County Department of Planning  
November 2021

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years may be due to the data reported by individual landowners, but it is clear that the land preservation programs are working and provide a guaranteed base of agricultural land for farmers to use to expand their operations. To date almost 68,000 acres of Baltimore County's farmland and forestland have been permanently protected.

The Urban/Rural Demarcation Line (URDL) established in 1967 and maintained to date has been highly successful in controlling growth in the county. There are approximately 436,000 acres in Baltimore County and around 300,000 outside of the URDL. Currently 22% of this area is permanently preserved farm and forest land in private ownership.

Land outside the URDL is devoted to many uses in addition to productive agriculture. It includes significant state and local parks, forests and the three major reservoirs (Gunpowder, Liberty, and Prettyboy) that provide the majority of drinking water supply for the Baltimore Metropolitan Area. It is difficult to determine the use of all the land outside of the URDL.

52,000 acres of "other" uses comprise a large percentage of the total acres outside of the URDL. Both the Census of Agriculture and the Farm Service Agency collect data on the acres of cropland reported in the county. The 2017 census of agriculture for Baltimore County listed the following acreage for various crops:

- o Soybeans for beans 13,385
- o Forage (hay/haylage), all 10,141
- o Wheat for grain, 4,660
- o Vegetables harvested, all 927

**Figure 7 – Land Use Outside the URDL**

Use	Acres
State Parks – Patapsco and Gunpowder source: <i>Maryland Department of Planning</i>	22,000
County and Municipal land (includes parks and reservoirs) source: <i>Maryland Department of Planning</i>	31,800
Forestland (assume 80% of the County Total of <u>97,000 acres</u> )	77,600
Planted acres 2021 source: <i>Farm Service Agency</i>	47,000
Pasture source: <i>2017 census of agriculture</i>	39,000
Developed (assume 10% - the percentage developed in current Rural Legacy areas)	30,600
Other?	52,000
<b>Total</b>	<b>300,000</b>



The Farm Service Agency (FSA) collects data on the acres planted each year in the county. The numbers collected for 2021 are quite similar to the 2017 census data, as shown in the following chart.

Cover Crops are crops planted in the winter to stabilize soil and do not generally increase the total acres planted but rather constitute a second crop on acres previously planted. For that reason, the total planted acres less cover crops results in a reported 47,173 acres planted in 2021, very similar to the 46,654 acres reported in the 2017 census of agriculture.

There is quite possibly significant Baltimore County acreage that are planted in pastures but are not reported to either the FSA or the Census. Both sources are based on self-reported data from individual farmers. Some farmers are reluctant to respond to the government's request for information. It is also possible that some of the acreage is not reported to the correct county.

Many of the farms in Baltimore County are either entirely or partially rented out to a series of larger operators. Of the 46,654 acres of harvested farmland enumerated in the 2017 census only 6,000 acres were on land fully owned by the farmer. The more common scenario is where a farm is partially operated by the owner and partially leased or rented to a custom commodity crop operator. This can make it very difficult to track the data on a particular piece of farmland as the custom operator may be from Carroll, Harford or even Montgomery County.

These custom operators are essential to the continued agricultural viability in the county. In 2021 the price of a John Deere combine starts at \$380,000 and goes up from there. The average size of a farm in Baltimore County is just under 100 acres. This is not sufficient acreage to justify the purchase price of even a "bottom of the line" combine. Large custom operators provide a valuable service to county farmers and are going to continue to be an important part of the agricultural economy.

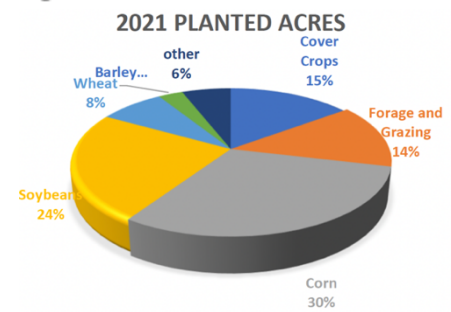
Many farm owners farm a portion of the farm themselves, with either an equestrian operation or other livestock operations and rent the rest of the farm out to the custom operator. This will also result in a significant under-reporting of agricultural acres. The undercount becomes more important as we consider the economic impact of various sectors.

### *Agriculture by Sector: Soybeans and Corn*

Soybeans and corn are major contributors to the Maryland agricultural economy. The Maryland Soybean Board estimates that 500,000 acres are planted annually in the state, generating 16 million bushels at a value of over \$200 million. The poultry industry remains the major consumer of soybeans in Maryland, but increasingly soybeans are being exported around the world through the port of Baltimore. There are a wide variety of products that use soybeans ranging from longer wearing asphalt products to seat cushions. Nationwide, it is estimated that soybeans used as biomass products (including biofuels) contributed \$459 billion to the US economy in 2016, a 17% increase from 2014.

Corn and soybeans are also the two major commodity crops harvested in Baltimore County. These crops are highly susceptible to international marketing variations. The following chart highlights the national price fluctuation, showing that since 2000 the price of soybeans has ranged from \$4 - \$14 per bushel and the price of corn has ranged from \$1.50 to \$4.25 per bushel. It is hard to think of another product with this great of a price range in the last 20 years.

**Figure 8- 2021 Planted Acres**



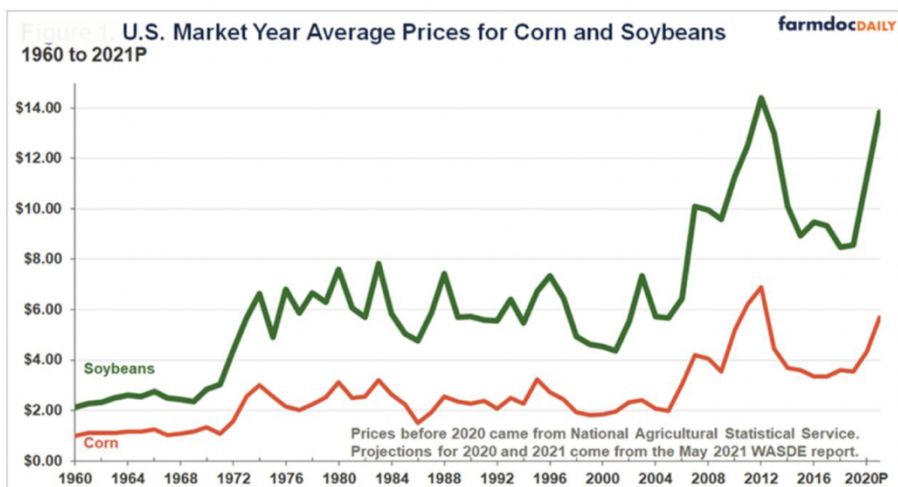
Crop	Planted Acres 2021
Cover Crops	8,054
Forage and Grazing	7,996
Corn	17,326
Soybeans	13,500
Wheat	4,295
Barley	836
other	3,220
<b>total</b>	<b>55,227</b>

Source: Farm Service Agency

*The 2020 Maryland State Agricultural overview states that the average soybean production for Maryland was 47 bushels per acre with an average price of \$11.6 per bushel.*



**Figure 9 - US Market Prices for Corn and Soybeans 1960-2020**



**Figure 10 – Baltimore County Soybean Production based on Farm Service Agency and Processor Estimates**

	2012 Census	2017 Census	2021 FSA Estimates	2021 Processor Estimates
Soybeans/acres	12,223	13,385	13,550	
Soybeans/value (\$1,000)	\$7,654	\$6,985	\$10,584*	\$19,600*
Soybeans/total bushels	565,241	752,533	758,800	1,400,000
Soybeans price per acre	\$13.50	\$9.28	\$14	\$14
Bushels per acre	46	56	56	

\* US department of agriculture 2021 estimate – May World Agricultural Supply and Demand Estimates (WASDE report)

In 2020, the value of U.S. soybean exports to the world reached a record \$25.7 billion, up nearly 40 percent (\$7 billion) by value and up 23 percent (11.9 million tons) by volume from the prior year. Exports to China jumped \$6.2 billion (up 77 percent) from the previous year, significantly contributing to the rise in total exports. The total value of U.S. soybean exports was more than \$4 billion (18 percent) above the 5-year average of 2013-2017.

[www.fas.usda.gov/commodities/soybeans](http://www.fas.usda.gov/commodities/soybeans)

The number of bushels produced per acre is also highly variable based on both the soils and the weather each year. The USDA is projecting the 2021 US average soybean yield to be 50 bushels per acre. The 2020 Maryland State Agricultural overview states that the average soybean production for Maryland was 47 bushels per acre with an average price of \$11.6 per bushel.

In Baltimore County, the 2012 census of agriculture showed an average soybean yield of 46 bushels per acre and the 2017 census showed an average soybean yield of 56 bushels per acre. 2021 has been a good year for soybean production with adequate rain. For the purpose of this report, it is assumed that soybean production will equal the 2017 production, or 56 bushels per acre.

The current market for soybeans in Baltimore County continues to expand. Two of the major processors of soybeans in the county stated that they (collectively) processed around 700,000 bushels of soybeans from Baltimore County Farms. Using the 2021 FSA estimates for planted acres and applying the bushel per acre yield reported in the 2017 census would result in total production of 758,800 bushels.

There are at least 5 other farms that process significant quantities of grain in the area who were not interviewed. It appears that there are significantly more soybeans being grown in the county than would be accounted for through census and FSA data. For these reasons, a column is added below that would show the value of the soybean harvest if we consider the major processors' estimates. At first glance it would seem unrealistic to double the bushels of soybeans, but the 52,000 "other" acres outside of the URDL may explain the undercounting.

**Figure 11 – Baltimore County Corn Production based on Farm Service Agency Estimates**

	2012 Census	2017 Census	2021 FSA Estimates
Corn/acres	16,714	18,368	16,685
Corn/Value	\$17,768,000	\$12,576,000	\$16,607,188
Corn/Bushels	2,411,915	3,207,428	2,913,542
Bushels per acre/Census	144	175	175
Corn price per bushel	\$7.4	\$3.92	5.7*

\* US department of agriculture 2021 estimate – May World Agricultural Supply and Demand Estimates (WASDE report)

Corn is a second important crop in Baltimore County. Much of the shelled corn goes to the eastern shore to support the poultry industry. A significant quantity also goes to the Port of Baltimore where it is shipped to Richmond on barges.

### *Agriculture by Sector: Value Added Products/Agritourism*

Successful farmers are nimble in their responses to changing markets and consumer preferences. Consumers are increasingly asking to buy local, to know their producers, and to know where their food comes from. The global COVID pandemic has made consumers more aware of fragility of the food supply-chain, and more likely to take advantage of safe outdoor activities.

And people love the opportunity to make meaningful connections with their farmers and the land. No aspect of agriculture is more associated with quality of life than the value-added/agritourism sector.

This is also the sector of the agricultural industry that is most likely to attract new and beginning farmers. If you attend any farmers market you see younger farmers anxious to sell produce directly to the consumers.

It is difficult to quantify the impact of the value-added/agritourism industry because there is very limited central reporting on these sectors. For the first time, the 2017 census of agriculture included value-added production as a separate category, and the Baltimore County value was reported at \$6,130,00. These estimates did not include the craft beverage industry. In 2020, Grow and Fortify completed a report on Value-Added Agriculture. This report estimated that the central and western region's craft beverage industry contributed \$451 million to the state's economy.

Rural Baltimore County is home to a significant number of craft beverage producers including Basignani, Boordy, DeJon, and Royal Rabbit wineries; Farmacy and Inverness Breweries; and while Sagamore Rye is distilled in Baltimore City it is closely identified with Sagamore Farm. Baltimore County is home to 30% of the central region's population. Assuming an equal percentage of the craft beer industry this would add \$135 million to the Baltimore County economy. This is a very crude estimate, but it gives an idea of the potential importance of this sector on the Baltimore County economy.



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Value Added	Contribution to state economy	Jobs supported	Contribution to state and local tax revenue
Distilleries	\$142 Million	241	\$10 million
Wineries	\$95 Million	389	\$5 million
Breweries	\$214 Million	601	\$13 million
Total	\$451 Million	1,231	\$28 million

**Figure 12 – Craft Beer Industry Contributions to the Maryland Economy**  
Source: Grow & Fortify Final Report

The Grow and Fortify report also estimated a total impact of the value-added industry on the Maryland economy of \$20.6 billion annually. Some of the sectors such as the forestry and horticulture sectors are considered in other sections of this report. However, it is clear that value-added agricultural products add significant strength to the Baltimore County economy.

## Agriculture by Sector: Equine

Baltimore County is truly the center of the Maryland equine industry. The Baltimore County Agricultural Productivity Study published in 2009 estimated its total value at \$121 million “by far the largest in the State”. Baltimore County is home to the State’s largest equine cluster representing 2,100 equine operations.

Since that time the equine industry has improved significantly. In October of 2016, the Maryland Horse Industry completed a study that estimated the total economic impact of the equine industry in Maryland at \$1.1 billion dollars.

Figure 13 – Economic Impact of the Maryland Equine Industry

	Jobs (FTE’s)	Labor Income (2016 Dollars)	Business Sales (2016 Dollars)
Direct Effects	5,768	\$309,282,332	\$662,419,831
Indirect Effects	1,384	\$75,825,693	\$202,635,028
Induced Effects	1,958	\$96,728,481	\$283,346,493
	9,110	\$481,836,506	\$1,148,401,352

Source: Sage, IMPLAN

Thoroughbred breeding and racing is a significant portion of the equine industry. Fasig-Tipton is North America’s oldest Thoroughbred auction company, operating 14 sales annually in 5 states. The Midatlantic sales are held in Timonium in the spring and the fall. The sales are held in Timonium in recognition of its central location in an area with more racing than any other in North America. In the last two years sales at the Timonium auction totaled over \$77 million dollars.

Figure 14 - Mid Atlantic Fall Yearlings/Spring Two-Year-Olds Training Sale 2020 and 2021

Year	Number Sold	Total	Average	Median
2021/FallSale	381	\$11,269,400	\$29,578	\$20,000
2020/ FallSale	379	\$9,120,700	\$24,065	\$14,000
2021/Spring Sale	357	\$33,692,000	\$94,375	\$50,000
2020/SpringSale	303	\$23,572,500	\$77,797	\$40,000
<b>GrandTotal</b>	<b>1420</b>	<b>\$77,654,600</b>		

Source: fasigtipton.com

The importance of the equestrian industry in Baltimore County is also evident by the fact that Baltimore County is home to 4 of the 27 race meets recognized by the National Steeplechase Association. 2021 was the 124th running of the Maryland Hunt Cup, arguably the most famous of the United States steeplechase races.

There are a total of 686 licensed horse stables in Maryland, and of those 72 are in Baltimore County. The network of parks in the county, especially Gunpowder State Park and Patapsco State Park, provide a network of trails for pleasure riders throughout the county. Additionally, there is a long- time tradition of farmers allowing neighbors to ride through their fields (with permission) providing additional informal riding trails.

Several events held in the Baltimore area significantly increase the importance of the equine industry in the County. The Preakness, the second jewel of the Triple Crown, is held in nearby Baltimore City. The Preakness annually generates more than \$30 million in total economic value to the area. The importance of the Preakness to



the Baltimore area is likely to increase as the legislature recently approved plans to improve the facility, including a total re-do of the clubhouse to make it the crown jewel of the Triple Crown.

In October of 2021, the first ever 5-Star event was held in Fair Hill Maryland. This 3-day eventing competition featuring show jumping, dressage and cross-country attracted 4 of the world's top 10 riders and is one of only seven 5-Star locations in the world.

Another indication of Baltimore County's strength in the equine industry is the fact that in November of 2021, for the first time in Breeders' Cup history there were two Maryland-bred winners. One of those winners, Knicks Go who is a serious contender for Horse of the Year in 2021 was bred in Baltimore County.

Baltimore County accounts for at least 20% of the equine industry in the state. The total sales for the industry was estimated at \$1,148,401,352 in 2016. 20% of the total Maryland sales would equal \$229 million annual sales.

## Agriculture by Sector: Forestry

A significant amount of the land in Baltimore County is forested. In 2019 the forested land totaled 150,821 acres. This represents approximately 1/3 of the county's 436,000 acres. By comparison in 2017 there were 46,654 harvested agricultural acres, representing approximately 10% of the county's total acreage.

Between 2001 and 2009 the total acres of forest decreased by 3,436 acres, approximately a 2% decrease due largely to development in urbanized areas.

Many of the forested acres in Baltimore County are contained in either DNR state parkland (22,000 acres) or County and Recreation and Parks land, which includes the acres around the reservoirs (31,800 acres) Source: Maryland Office of Planning Protected Lands Dashboard. This leaves approximately 97,000 acres of forest on private land.

Sustainably managed forests provide environmental and economic benefits. A healthy forest benefits from a timber harvest approximately every 20 – 25 years. In Baltimore County that would mean that in a given year approximately 3,800 acres of privately owned timber would be harvested.

For the period 2015 to 2020 the total number of harvested acres as specified on approved forest harvest plans in Baltimore County was 2,286 acres. As of October, the total for 2021 is 380 acres (source – Baltimore County Soil Conservation District). This is far below the harvested acres that you would expect if all the acres were to be sustainably harvested.

The Maryland Forestry Industry board estimates that the average acre of forestry in Maryland produces 12,000 board feet of lumber when using sustainable forestry practices. Edrich Lumber in Baltimore County advertises the price it will pay per board foot for lumber ranging from .07 - .60 per board foot depending on the quality of the wood, or \$840- \$7,200 per acre.

If all of Baltimore County's forests were sustainably harvested every 20-25 years this could generate between \$3 and \$27 million annually for Baltimore County forestland owners. Because so much of Baltimore County woodland is a mixture of relatively high-quality hardwoods, the annual income would most likely be closer to the high end of this number, or an estimate of \$18 million a year.



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Figure 15 – Baltimore County Acres in Forest 2001-2019

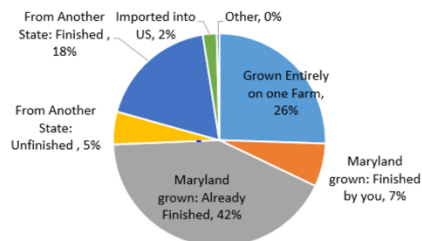
Year	2001	2006	2011	2013	2016	2019
Acres	154,257	152,178	151,460	151,327	150,981	150,821

Figure 15 – Baltimore County Acres in Forest 2001-2019

Source

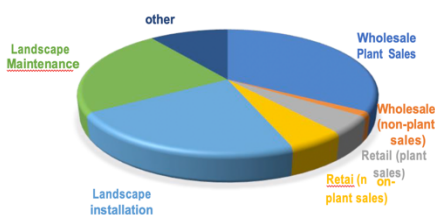
[www.mrlc.gov/data/nlcd-2019-land-cover-conus](http://www.mrlc.gov/data/nlcd-2019-land-cover-conus)

**Figure 16 – 2018 Value of Horticultural Products Grown and Finished on Maryland Farms**



Category	2018 Sales (\$)	Percent
Grown Entirely on one Farm	\$352,390,924	26%
Maryland grown: Finished by you	\$90,686,570	7%
Maryland grown: Already Finished	\$584,214,698	42%
From Another State: Unfinished	\$68,579,072	5%
From Another State: Finished	\$251,165,404	18%
Imported into US	\$29,050,734	2%
Other	\$5,460,664	0%
<b>Total</b>	<b>\$1,376,087,401</b>	<b>100%</b>

**Figure 17 – Type of Horticultural Sales for the Central and Western Region**



Source: The Maryland Horticulture Industry 2018

## Agriculture by Sector: Horticulture

The horticulture industry is a major economic contributor to the Baltimore County agricultural economy. Regular state-wide surveys of the industry are conducted, the most recent in 2018. Maryland requires a license to grow or sell perennial plant materials. Surveys were sent to all the licensed growers on a regular basis. The highest number of survey responses in 2018 were received from Baltimore County.

Horticulture products include all aspects of the landscaping and plant sale business from nursery plant production to lawn care to Christmas tree sales. The 2018 economic impact for the state of Maryland reported gross sales of \$1.36 billion in 2018, with an anticipated increase to \$1.465 billion in 2019. 27% of the plants sold were field grown, 31% were grown out-of- ground.

Two thirds of the plants sold were grown in Maryland.

The study also found that of the annual plants produced by Maryland growers, 91% of them stayed in state, and 71% of the woody plants produced in Maryland stayed in state.

The study does not supply estimates by county but divided the state into regions. Baltimore County is part of the Western and Central region which reported the highest sales in the state, sales totaling \$1.08 billion. Major sales categories included landscape maintenance, landscape sales, and retail and wholesale plant sales.

The 2009 Agricultural Profitability Study done for North County Preservation estimated the sales of the greenhouse and nursery sector in the county to be \$69.26 million. The 2017 census of agriculture listed the market value of horticultural sales at \$240 million, a significant increase over the 2009 study. Considering a proportionate share of the total 2018 horticultural sales, the horticultural industry would contribute \$324 million to the county economy. Given the increased interest in gardening and the outdoors during the pandemic it is reasonable to assume that the horticultural industry will contribute \$300 million to the county economy. Again, this is a very crude measure, but gives an idea of the importance of this sector of the industry.

*Given the increased interest in gardening and the outdoors during the pandemic it is reasonable to assume that the horticultural industry will contribute \$300 million to the county economy.*

**Figure 18 – Value of Sales from Other Agricultural Products as Reported in the 2017 Census of Agriculture**

Farm Type	2017 Sales
Livestock	\$8,857,000
Vegetables, Melons, Potatoes	\$4,714,000
Fruits, berries and nuts	\$776,000
Other crops and Hay	\$2,261,000
Poultry and Eggs	\$776,000
Milk from cows	\$2,342,000
Hogs and Pigs	\$428,000
Sheep and goats	\$83,000
Total other sales	\$20,237,000

## Agriculture by Sector: Other

There are other sectors of the Baltimore County agricultural economy that market directly to residents and increase the profitability of local farms.

There have been no recent studies quantifying the economic value of these sectors, so the 2017 Census of Agriculture is used to determine their sales.



*The Port can handle half containers which are often shipped to countries where the roads may not be adequate to handle a full container.*

## Port of Baltimore

The Port of Baltimore is the closest port to America's agricultural heartland. Agricultural products consistently rank among the top 10 export commodities by weight and by value at the port.

A report completed in 2015 detailed the agricultural products exported through the port. In that year, 35,026 metric tons of soybeans were shipped through the port. In 2016, 40,951 tons were shipped through the port.

Lippy Brothers Farm, Inc. is a major grain processor located just across the Carroll County line in Hampstead. They processed 2,100,000 bushels of soybeans in the last year that were then sold through the port of Baltimore. This is approximately 52,000 metric tons of soybeans, more than the total reported in either 2015 or 2016 for the port. We were unable to find current figures, but interviews with the Lippy's confirmed that the increased popularity of container shipping has increased the demand for soybeans. The Port can handle half containers which are often shipped to countries where the roads may not be adequate to handle a full container. Soybeans from the Port of Baltimore are shipped to Southeast Asia including Indonesia, Malaysia, Philippines, Vietnam and Thailand.

Trenton Mill farm is located in Baltimore County, less than 3 miles from Lippy Brothers Farm. Trenton Mill processes corn and beans from Carroll and Baltimore Counties as well as areas in Pennsylvania. Much of their produce is shipped to the Port of Baltimore where it is loaded onto barges and sent overseas from there. They process approximately 1.25 million bushels of soybeans a year.

The total amount of soybeans produced in Maryland in 2020 was 21,855,000 bushels. These two farms alone (Trenton Mill and Lippy Brothers) process 3,350,000 or 15% of the total production of soybeans in Maryland. The poultry industry on the Eastern Shore uses the vast majority of the soybeans produced on the Shore. Baltimore County farms are essential to the continued important role that soybeans play in the export market at the Port.

**Figure 19 – Agriculture Products in the Top 10 Port of Baltimore Export Commodities by Weight 2016 and 2019**

Year	Export Commodity	Quantity	Rank
2019	Agriculture Equipment	161,444 tons	#8
2019	Meat	97,733 tons	#10
2016	Agricultural Machinery	148,336 tons	#6
2016	Soybeans	40,951 tons	#10

*Port of Baltimore (2019) 2019 Foreign Commerce Statistical Report*

**Figure 20 Agriculture Products in the Top 10 Port of Baltimore Top Export Commodities by Value 2016 and 2019 (\$ in millions)**

Year	Export Commodity	Export Value	Rank
2019	Agriculture Equipment	\$1,433	#8
2016	Agricultural Machinery	\$1,225	#2

*Port of Baltimore (2019) 2019 Foreign Commerce Statistical Report*

**Figure 21 – Significant US Waterborne Agricultural Exports**

Commodities	Metric Tons	Share of Agricultural Exports
Grocery items	37,371	19%
Soybeans	35,026	18%
Poultry	21,079	11%
Meat	19,793	10%
Animal Feed	14,981	8%
Bulk Grain	9,642	5%

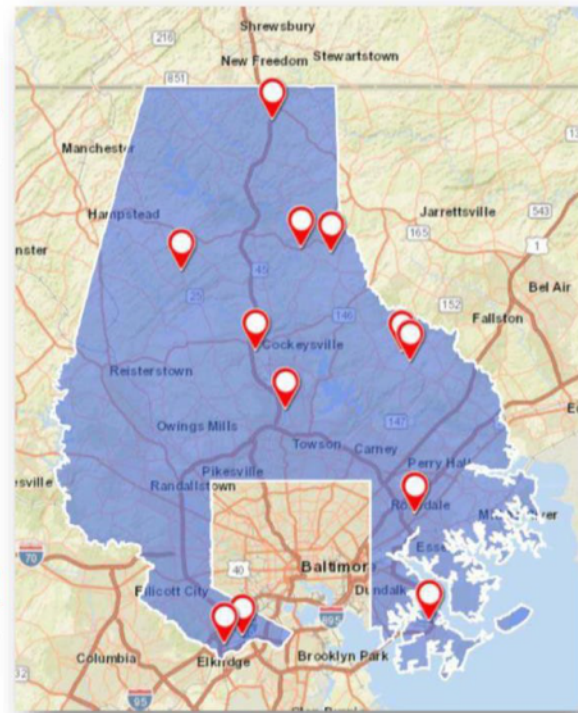
*Port Import Export Reporting Service 2015 Export/Import Profile Baltimore, MD*



Figure 23 – Map of Breweries, Wineries, Distilleries and Culinary Tourism 2018

2018 Breweries/Wineries/Distilleries/Culinary Tourism Baltimore County	
Facility	City
Key Brewing Company	Dundalk
Heavy Seas Beer	Halethorpe
<b>Guinness Open Gate Brewery &amp; Barrel House</b>	<b>Halethorpe</b>
B.C. Brewery	Hunt Valley
DeJon Vineyard	Hydes
Boordy Vineyard	Hydes
MobTown Fermentation LLC	Lutherville-Timonium
Inverness Brewing	Monkton
Millstone Cellars	Monkton
Royal Rabbits Vineyard	Parkton
DuClaw Brewing Company	Rosedale
Basignani Winery	Sparks Glencoe
<b>Total</b>	<b>12</b>

Source: Johnson Consulting, County Website, Facility Websites



## Tourism

In April of 2019, Baltimore County completed a Strategic Tourism Study. The study estimated that the county currently attracts 6.1 million visitors annually with a total direct consumer impact of \$66 million dollars a year.

Tourism is linked to agriculture in several direct and indirect ways. First the report specifically recommended that the county invest in improvements at the Fairgrounds in Timonium. The racetrack and the fair attract over 500,000 visitors to the state fair annually. The study estimated that this facility could be improved and generate \$55-\$60 million in economic activity annually.

A major portion of the study focused on the winery/brewery/distillery tourism dynamic. This is one of the fastest growing tourism sectors throughout the county. On-farm breweries and wineries are especially popular. It has been said that “nothing is more popular than drinking outside”. Since the report was completed, several other breweries have opened in the County, including Farmacy Brewing in Reisterstown.

The continued presence of a thriving craft beverage and equine industry are central to Baltimore Counties tourism strategy.

Figure 22 – Direct Tourism Consumption Taxes (2014-2017) Baltimore County

Year	Admission and Amusement Taxes	Room Taxes	Tourism Promotion Act Sales Taxes	Total Direct Consumer Impact
2014	\$5,751,815	\$8,150,000	\$42,845,646	\$56,747,461
2015	\$5,671,417	\$9,652,515	\$46,676,215	\$61,000,148
2016	\$6,025,000	\$9,614,321	\$48,336,648	\$63,975,969
2017	\$6,788,575	\$10,242,652	\$49,223,431	\$66,254,658

Source: State of Maryland Tourism Development Report, Johnson Consulting

## Conclusions

**Sales of agricultural products:** Without significant additional research it is impossible to determine conclusively the economic impact of Baltimore County Agriculture. The 2009 study completed for North County Preservation estimated the value of all agricultural sales in the county at \$211 million. The most recent census of agriculture, completed in 2017 listed total sales of \$67 million. But this number does not include equestrian or value-added products. It relies entirely on self-reported data which is undercounted in several areas.

Recent studies have been completed by several agricultural sectors to establish state-wide annual economic impacts for various sectors to include the equine sector (\$1,148,000,000), value-added agricultural industry (\$20,600,000,000), and the horticultural industry (\$1,376,000,000). Extrapolating these results to Baltimore County resulted in the high estimates contained below. Irrespective of the value assigned to the agricultural industry it is obvious that it is a significant economic engine in Baltimore County.

**Employment:** The number of people employed in agriculture is difficult to estimate. A minimum of 5,500 persons are employed directly in agricultural related occupations. This would increase substantially if all agricultural support occupations were added.

**New and Beginning Farmers:** The average age of farmers continues to increase in the county. There are a large number of younger farmers who are attracted to direct marketing to consumers. Encouraging those farmers is good for agriculture, and good for consumers.

**Safe and Secure Food Source:** The COVID pandemic highlighted the fragile nature of the food supply chain. Baltimore county has excellent soils, adequate rainfall and knowledgeable farmers who can continue to supply food directly to the Baltimore County consumer. Continued support of the farming community provides safe and nutritional food for county residents.

**Figure 24 - Total Estimated Sales of Agricultural Products  
Baltimore County**

Sales of Product	Low Estimate	High Estimate
Soybeans	\$10,500,000	\$19,600,000
Corn	\$16,600,000	\$16,600,000
Equine	\$2,662,000	\$229,000,000
Craft beverages	\$50,000,000	\$135,500,000
Forestry	\$3,000,000	\$18,000,000
Horticulture	\$240,000,000	\$300,000,000
Other	\$20,000,000	\$20,000,000
<b>Total</b>	<b>\$342,762,000</b>	<b>\$738,700,000</b>

## Recommendations:

1-) MARC should convene a meeting of the individuals involved in the 2009 North County Preservation to determine how the recommendations of the study have been implemented and any changes needed to the recommendations. Particular attention should be given to the continued need to train new farmers.

2-) MARC should encourage Baltimore County to hire an agricultural economic development coordinator to assist farmers in retaining, expanding or diversifying their operations in collaboration with an agricultural advisory board.

3-) MARC should work with Baltimore County to provide seed funding for retaining existing operations and encouraging new or diversified farming operations. Grants can be made to match the MARBIDCO funding opportunities.

4-) MARC should reach out to other organizations to see if they support the recommendations of the study and would like to join with MARC in advocating for support from the County.

5-) MARC should encourage Baltimore County to promote agriculture across print and social media.

6-) MARC should consider engaging a professional graphic design firm to produce a one-page summary of the top line findings of this study.

## **List of Figures**

**Figure 1** – Map of Baltimore County Location in Relation to the Regions Productive Agricultural Land Page 2

**Figure 2**– Percentage of Farms with New and Beginning Producers in the Baltimore Region Page 3

**Figure 3** – Maryland Land Converted from Agricultural Uses

2001-2006 Page 5

**Figure 4** – General Soils Map Baltimore County Page 5

**Figure 5** – Baltimore County Acres in Agriculture 1960-2017

Census of Agriculture Page 5

**Figure 6** – Current Acres Preserved Baltimore County

by Program Page 6

**Figure 7** – Land Use Outside the URDL Page 6

**Figure 8** – 2021 Planted Acres Page 7

**Figure 9** – US Market Prices for Corn and Soybeans

1960-2020 Page 8

**Figure 10** - Baltimore County Soybean Production based on Farm Service Agency and Processor Estimates Page 8

**Figure 11** - Baltimore County Corn Production based on Farm Service Agency Estimates Page 9

**Figure 12** – Craft Beer Industry Contributions to the Maryland Economy Page 9

**Figure 13** – Economic Impact of the Maryland Equine Industry Page 10

**Figure 14** - Mid-Atlantic Fall Yearlings/Spring Two-Year-Olds Training Sale 2020 and 2021 Page 10

**Figure 15** – Baltimore County Acres in Forest 2001-2019 Page 11

**Figure 16** – 2018 Value of Horticultural Products Grown and Finished on Maryland Farms Page 12

**Figure 17** – Type of Horticultural Sales for the Central and Western Region Page 12

**Figure 18** – Value of Sales from Other Agricultural Products as Reported in the 2017 Census of Agriculture Page 12

**Figure 19** - Agriculture Products in the Top 10 Port of Baltimore Export Commodities by Weight 2016 and 2019 Page 13

**Figure 20** - Agriculture Products in the Top 10 Port of Baltimore Top Export Commodities by Value 2016 and 2019 (\$ in millions) Page 13

**Figure 21** - Significant US Waterborne Agricultural Exports Through Baltimore, MD 2015 Page 13

**Figure 22** – Direct Tourism Consumption Taxes (2014-2017) Baltimore County Page 14

**Figure 23** – Map of Breweries, Wineries, Distilleries and Culinary Tourism 2018 Page 14

**Figure 24** – Total Estimated Sales of Agricultural Products Baltimore County Page 15

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