



STRATEGIC PLAN FOR MARYLAND AGRICULTURE



December 1, 2019

TABLE OF CONTENTS

TABLE OF CONTENTS	1
LETTER FROM THE SECRETARY OF AGRICULTURE	2
PURPOSE	3
PROCESS	4
OVERVIEW OF MARYLAND AGRICULTURE	5
TRENDS & EXTERNAL FORCES	6
STATE OF THE INDUSTRY	8
A VISION FOR MARYLAND AGRICULTURE	14
INITIATIVE AREAS	15
WRITING TEAM	17
APPENDIX A	18

LETTER FROM THE SECRETARY OF AGRICULTURE

Greetings,

During the 2019 General Assembly, the Maryland Department of Agriculture (MDA) was asked to work with the Harry H. Hughes Center for Agro-Ecology to develop a statewide strategic plan for Maryland agriculture. This plan is intended to analyze the external forces and trends impacting the industry; identify strengths and challenges facing our farmers; and identify initiative areas to secure a bright future for Maryland agriculture.

Our top priority in the development of this plan was to ensure that it was as inclusive as possible. We wanted to make sure that this plan addresses the concerns of all of our farmers, agricultural stakeholders, and members of our rural communities. The best way for us to do that was to hear directly from the source.



Beginning in August 2019, our department assembled a writing team comprised of MDA staff and representatives from several industry organizations to begin developing this document. We hosted a series of public listening sessions throughout the state and offered an online survey for those unable to attend. These information gathering sessions resulted in a large body of data that has been distilled into a broader consensus for this report.

I never turn down an opportunity to brag about Maryland farmers, and I must say how impressed I am with the level of commitment and passion shown by the folks who participated in the listening sessions, especially during harvest season when they could have been out on a combine instead. This plan will be an important roadmap for our industry and we are very grateful to everyone who took the time to be a part of this process.

Though we have some serious challenges ahead, I hope this report leaves you optimistic in the direction of Maryland agriculture. It will not be easy to get there, but I have never known a Maryland farmer to shy away from hard work.

Sincerely,

A handwritten signature in black ink that reads "Joseph Bartenfelder". The signature is written in a cursive, flowing style.

Joseph Bartenfelder
Secretary

PURPOSE

L00A11.02 Administrative Services General Fund Appropriation, provided that \$200,000 of this appropriation made for the purpose of general administrative expenses may not be expended until the Maryland Department of Agriculture, in coordination with the Harry R. Hughes Center for Agro-Ecology, Inc., submits a comprehensive Maryland agriculture strategic plan to the budget committees. The plan shall include, but not be limited to, an analysis of the demographics of farmers, the affordability and quality of food for consumers, the affordability of farms for the next generation of farmers, nutrient and sediment loading reductions for Chesapeake Bay restoration, and economic development programs supporting agriculture, such as the work of the Maryland Agricultural and Resource-Based Industry Development Corporation. The plan shall be submitted by December 1, 2019, and the budget committees shall have 45 days to review and comment. Funds restricted pending the receipt of a plan may not be transferred by budget amendment or otherwise to any other purpose and shall revert to the General Fund if the report is not submitted to the budget committees.

PROCESS

The Maryland Department of Agriculture (MDA) was tasked with developing a strategic plan for the entire industry. With that, the department's top priority was ensuring an inclusive process that would represent all sectors of the industry and its related stakeholder groups. MDA retained the services of Mitchen Leadership and Organization Development to facilitate a series of listening sessions across the state where participants were asked to give input on the industry. For those unable to attend a listening session, MDA created an online survey. The first two sessions were hosted at MDA headquarters, Aug. 13-14, 2019, followed by four regional sessions that were open to the public:

- Aug. 13, 2019 - Industry Groups (Annapolis)
- Aug. 14, 2019 - Maryland Agricultural Commission (Annapolis)
- Sept. 17, 2019 - Southern Maryland (Waldorf)
- Sept. 18, 2019 - Western Maryland (Boonsboro)
- Sept. 30, 2019 - Eastern Shore (Wye Mills)
- Oct. 1, 2019 - Central Maryland (Timonium)

At each session, participants were presented a series of questions asking for input on different themes related to the industry. Questions were designed to allow attendees to express their views without bias from the facilitators or other participants. For each question, participants provided responses on post-it notes and placed them under the corresponding question. In all, participants responded with multiple answers to 24 questions designed to clarify the present and future state of Maryland agriculture. The end result yielded more than 9,000 responses and an additional 804 responses from the online surveys.

After the listening sessions, a writing team comprised of 16 representatives from MDA and other industry groups met to synthesize the data and identify prevailing trends and items to include in the final strategic plan document.

A spreadsheet containing all responses from the listening sessions is available at <http://bit.ly/MdAgPlan-Data>

OVERVIEW OF MARYLAND AGRICULTURE

With a diverse landscape featuring mountains, marshy lowlands, rolling countryside, bustling metropolitan areas and miles of shoreline, Maryland is often referred to as “America in Miniature.” Maryland’s agriculture industry is equally diverse, and plays a critical role in the state’s economy, environment, food supply, and overall quality of life.

Maryland is home to 12,429 farms that cover nearly 2 million acres of land across the state. The state’s top commodities are poultry, grain, greenhouse/nursery, dairy, livestock and vegetables.¹ The state’s food, feed, and fiber industries combine for an economic impact of \$19.6 billion, supporting 83,619 jobs statewide.²

Maryland’s equine industry adds an additional \$1.3 billion and 21,532 jobs.³ In addition to the industry’s economic impact, horses play an integral role in Maryland’s heritage. Maryland is home to more horses per square mile than any other state. Maryland recently joined Kentucky as the only states to host both a triple crown race (Preakness Stakes) and 5-Star event (upcoming Fair Hill International event).

The average Maryland farm size is 166 acres, though the majority of farms are less than 50 acres. Despite a negligible change in total farm acres between 2012 and 2017, the number of operations rose from 12,256 to 12,429. One possible reason for this trend could be increasing popularity of urban agriculture and other small niche operations.

The most recent demographic information on the industry shows an aging workforce. The average age of Maryland farmers and producers is 57, and has increased steadily over the past 10 years. It also shows increasing numbers of female producers statewide. The *2017 Census of Agriculture* provided the first comprehensive look at the industry based on race and ethnicity. See **Appendix A** for more data on the demographics of Maryland agriculture.

¹ USDA National Agricultural Statistics Service, [2017 Census of Agriculture](#), 2019

² Business Economic and Community Outreach Network (BEACON) at Salisbury University/Maryland Agricultural Resource-Based Industry Development Corporation (MARBIDCO), [The Impact of Resource Based Industries on the Maryland Economy](#), 2018

³ American Horse Council, [Economic Impact of the Horse Industry](#), 2018

TRENDS & EXTERNAL FORCES

There are a number of prevailing trends and external forces affecting the direction of Maryland agriculture. In addition to the economic and social factors that affect any business, farmers and producers must account for a number of additional variables that are often unpredictable. Maryland farmers and producers identified the following as trends and external forces (not in priority order) impacting Maryland agriculture:

Rising Costs of Production

The costs in establishing and maintaining a successful farm operation have become increasingly prohibitive, including the costs of new technology and equipment, inputs (fertilizer, herbicides, etc.), and other business expenses like insurance, taxes, etc. Many farmers have indicated that the prices they receive for agricultural goods have not increased to compensate for these rising costs.

Increasing Regulation

Maryland farmers are subject to stringent regulations that affect all aspects of farming, including environmental impact, food quality/safety, land use/zoning, and small business operations. The amount of time and resources required to remain in compliance places an extra burden on Maryland farmers, leaving them at a disadvantage to farmers from neighboring states with fewer regulatory requirements.

Environmental Stewardship

Maryland is a national leader on farming in an environmentally-sensitive area. The state's emphasis on conservation practices have led to significant progress in meeting Watershed Implementation Plan (WIP) goals, and reducing nutrient and sediment pollution in the Chesapeake Bay. These practices also build resilience to extreme weather conditions and the effects of climate change. Many Maryland farmers participate in these programs voluntarily, and take great pride in the progress made statewide.

Access and Affordability of Labor

Maryland agriculture relies on a combination of skilled and unskilled labor to maintain the industry. Skilled positions that require technical training have become hard to fill with competition from other industries and difficulty recruiting qualified candidates. For unskilled field work, many farmers and nursery/greenhouse operations rely on the H2-A and H2-B visa programs to hire temporary foreign labor. Maryland farmers hired 1,190 H-2A workers in 2019. Uncertainty around federal immigration policies has led to an unstable supply of these workers.

Urbanization and Land Use

The sprawling suburbs of Baltimore and Washington, D.C. continue to grow, and are encroaching further and further into traditionally rural parts of the state. With the spread of urban and suburban development, Maryland farmers are left with less land to farm. Economic conditions have incentivized development, which has led to increasing prices for land across the state. This also creates an increased need for transportation infrastructure as urban/suburban populations increase.

Consumer Perception of Agriculture

Consumers are presented with a wide range of information from all sides of the discussion that can be contradictory and difficult to verify. This often leads to the spread of misinformation on a number of hot-button agricultural issues, including pesticide use, animal welfare, Genetically Modified Organisms (GMOs), and use of antibiotics and hormones in animal agriculture, among others.

Consumer Preferences

Consumer preferences have shifted toward products that are considered more nutritious and “ethical,” with an emphasis on buying local. This is reflected in the increasing popularity of farmers markets and farm-to-table restaurants. Increasing demand for grass-fed beef and free-range chicken have changed the landscape for livestock production. Dietary restrictions and health fads have also affected demand for certain agricultural products—most notably decreased demand for dairy products in favor of non-dairy alternatives like almond or soy.

STATE OF THE INDUSTRY

During the listening sessions, participants were asked to assess different aspects of the industry and identify strengths and challenges. Topics included: nutrient and sediment reduction; access and affordability of food and fiber; affordability for the next generation of farmers; and government assistance programs.

STRENGTHS

Commitment to Conservation

As the original stewards of the land, Maryland farmers are committed to protecting the state's natural resources and restoring the health of the Chesapeake Bay watershed. Maryland was one of the first states to require farmers to follow nutrient management plans, which protect the state's waterways by regulating the amount, timing, rate, and placement of synthetic and organic fertilizers used on crop fields and lawns.

Outside of that regulatory requirement, Maryland farmers voluntarily implement on-farm best management practices to protect water quality and promote carbon sequestration via soil health practices. Maryland leads the nation in percentage of cover crop acres planted (41%), and is second in the use of no-till management practices (74%).⁴ All of these efforts are critical to the state's ability to meet its WIP goals for nitrogen and phosphorus reduction.

Effective Government Programs

Maryland farmers have access to a number of government-supported programs at the state and federal level that help cover a variety of expenses. Programs like the state's Maryland Agricultural Water Quality Cost-Share (MACS) program provides grants and cost-share assistance that allows farmers to meet nutrient management goals and implement on-farm conservation practices while protecting their bottomline. In FY18, the MACS program provided \$25.6 million in cost-share grants to install more than 2,000 on-farm conservation projects. In 2019, Governor Larry Hogan implemented a cost-share program to cover premiums for dairy farmers participating in the U.S. Department of Agriculture's Dairy Margin Coverage (DMC) program. This provided much needed financial support to the state's beleaguered dairy industry, allowing dairy farmers to leverage millions of dollars of federal funding at no cost to the farmer.

Another state-funded program, the Maryland Agricultural Resource-Based Industries Development Corporation (MARBIDCO), was mentioned more than 80 times as a strength for Maryland agriculture. MARBIDCO has a number of financial assistance programs, including its popular "Next Generation" program, which helps young or beginner farmers obtain financing for the purchase of farmland and helps preserve farmland for future generations.

⁴ Soil Health Institute. [Progress Report: Adoption of Soil Health Systems Based on Data from the 2017 U.S. Census of Agriculture](#). 2019

Promoting Maryland Products

Building on the momentum of consumer attitudes toward locally-sourced food, Maryland agriculture has found success in promoting local agricultural products. The state's embrace of the "Buy Local" movement supports farmers directly while improving consumer access to localized sustainable food products and strengthening local economies in rural areas. Increasing demand for local products supports increased production, and financial solvency for farmers and producers.

The Maryland's Best program offers a variety of marketing services that are designed to promote the "Buy Local" movement and build new markets for Maryland goods throughout the region and internationally. A recent analysis showed the program's efforts have increased farm sales by \$7.6 million over five years, and returned \$15 to the Maryland farmer and state economy for every \$1 spent in advertising and promotions.

Education

A critical part of ensuring a prosperous future for Maryland agriculture is educating future generations of Maryland farmers. The state has shown a significant commitment to this goal through higher education; K-12 in rural counties; programs like 4-H and FFA; and non-formal educational initiatives across the state. The Maryland Agricultural Education Foundation plays a significant role in supplementing and facilitating agricultural education by providing resources to teachers statewide and promoting the importance of agriculture with its mobile science labs.

Maryland also offers outstanding higher education opportunities through the University of Maryland's College of Agriculture and Natural Resources (AGNR) and University of Maryland-Eastern Shore's Department of Agriculture, Food and Resource Science. Both schools offer multiple undergraduate and graduate degrees in ag-related fields. Chesapeake College offers a two-year agriculture education program. The University of Maryland's Institute of Applied Agriculture offers two-year certificate programs with an opportunity for students to continue toward a four-year degree from AGNR.

Land Preservation

The cost and availability of productive farmland has become a major issue for Maryland farmers. Despite increasing development pressure, the Maryland Agricultural Land Preservation Foundation (MALPF), Rural Legacy Program, and similar programs at the regional and county levels have made significant progress in preserving land across the state. These programs purchase preservation easements on farmland and woodland that keeps them in production, and out of development.

Created in 1977, MALPF is one of the oldest and most successful farmland preservation programs in the country. To date, the program has purchased easements on a total of 2,347 properties covering 318,215 acres of farmland at a public investment of more than \$752 million.

Balance and Diversification

Maryland agriculture is unique in that it is diverse, but each of its different commodities depends on each other to maintain a balanced and healthy industry. Poultry plays a key role both as the state's top commodity,⁵ and as the primary consumer of Maryland grain (the state's second largest commodity). The five poultry processors on the Delmarva peninsula purchased more than 136 million bushels of grains (corn, wheat, soybeans) to use as feed for chickens in 2018, most of which was grown in Maryland, Delaware, and Virginia.⁶ With this built-in demand, Maryland is one of the few states that runs a grain deficit. In addition to benefiting large grain operations, this reliable market for grain growers provides stable supplemental income that allows farmers to diversify and support other operations.

As the landscape of the Maryland agriculture changes, innovation is key. Farmers must find new ways to stay viable. Many farmers have found success with value-added agriculture and agritourism. In Maryland, agritourism includes corn mazes, pumpkin patches, wineries and on-farm breweries, U-Pick farms, and horse centers. Value-added products and agritourism activities create new revenue streams for farm operations and draw clientele from the suburbs of Baltimore and Washington to visit farms across the state, which provides a boost to rural economies.

Collaboration

With its proximity to Washington, D.C., Maryland has developed a productive working relationship between federal, state, and local government agencies, non-governmental organizations, academia, and the private sector that would not be possible in most other states. By pooling these resources, these organizations are able to provide valuable assistance on a number of agricultural issues, including on-farm resource issues, nutrient management compliance, and other technical assistance. A prime example of this collaboration is the state's 24 Soil Conservation Districts, which are partnerships between USDA Natural Resource Conservation Service (NRCS), MDA, and county governments. Maryland farmers also benefit greatly from programs and technical assistance provided by the University of Maryland Extension.

Food Quality and Safety

The most important responsibility of the agriculture industry is ensuring the safety of its products. Maryland farmers and producers continue to show a strong commitment to providing fresh, nutritious, and safe food products. In addition to federal standards enforced by USDA and Food and Drug Administration, Maryland farmers and producers participate in voluntary state-level programs like the Good Agricultural Practices (GAP) food safety program for fruit and vegetable growers. The state's Food Quality Assurance program has worked in partnership with USDA to train more than 1,400 fruit and vegetable producers statewide. MDA's Food Quality Assurance conducts outreach, inspection, and enforcement of the Maryland Egg Law, organic certifications, grain laws, and poultry and rabbit slaughter. The program also works in partnership with the FDA to bring Maryland growers in compliance with new requirements of the Food Safety Modernization Act (FSMA) Produce Safety Rule.

⁵ USDA National Agricultural Statistics Service. [2017 Census of Agriculture](#). 2019

⁶ Delmarva Poultry Industry, Inc. [The State of the U.S. Livestock and Poultry Economics \(Congressional Testimony\)](#). 2019

CHALLENGES

Profitability

Survey data shows a general consensus that production costs are far outpacing prices received for agricultural goods. This creates a significant barrier to implementing new technology, and on-farm best management practices needed to maintain progress on conservation goals and remain viable in the current economic climate. Without any significant increase to food prices, farmers are left operating on very small profit margins. This leaves many operations vulnerable to unexpected expenses and threatens the ability of Maryland farmers to continue producing affordable food and fiber.

Regulatory Climate

Many of the survey responses indicate that Maryland's regulatory climate, resulting from legislative action, has become a burden on the state's farmers and producers. Navigating the federal, state, and local regulatory landscape, and its frequent changes often result in confusion and new costs for farm operations. Many of these regulations (e.g., minimum wage increase, polystyrene foam bans, etc.) require large amounts of paperwork and contain fees, implementation costs and surcharges that threaten the viability of farmers across the state. These regulatory restrictions touch all aspects of farming, especially new operations and small businesses.

This uncertainty makes it difficult to forecast and make prudent business decisions for the future of a farm operation. It also creates a competitive imbalance for Maryland farmers in a regional market that sees heavy competition from neighboring states with fewer regulatory barriers or restrictions.

Consumer Perception of Agriculture

Each generation of Marylanders is becoming further and further removed from the farm, which creates a disconnect between the realities of agricultural production, and information shared via social media and other sources. Unfortunately, the prevailing public opinion tends to cast a negative light on conventional agriculture in favor of organic farming—though both sectors are vital to maintaining a safe, affordable food supply. Notwithstanding the intention, the spread of misleading and inaccurate information creates mistrust of the industry, and leaves farmers and producers with the burden of correcting the record instead of controlling the narrative.

Education

Despite the strengths in this area, Maryland lacks a consistent statewide K-12 curriculum for agricultural education, which creates inconsistency from county-to-county. In many areas, public schools prioritize other STEM fields over agriculture, producing challenges in educating and recruiting future agricultural professionals. Survey participants also noted a lack in non-formal technical education opportunities to train farmers in the use of new technologies and best management practices.

Cost and Availability of Land

Urban and suburban growth has incentivized development leading to higher agricultural land prices. This presents a significant challenge to new farmers, and farmers looking to expand existing operations. In addition to increasing development, farmers are left to compete for land with reforestation as a forest mitigation and solar energy project for offsetting emissions.

Funding for Technical Assistance

As a science-based industry, agriculture is constantly changing to adopt new practices and utilize the latest technology. In addition to the financial impact of these changes, many farmers rely on technical assistance to identify what is best for their operation and for the environment. Survey responses indicate a need to put more boots on the ground to assist farmers in designing, funding, planning, and installing conservation practices.

Lack of Equity in Chesapeake Bay Watershed Clean-up

Maryland agriculture remains committed to working towards its nutrient reduction goals set by the Chesapeake Bay Program's WIP, but survey data indicates growing frustration with a perceived lack of effort from other sectors and states within the watershed. Many feel that the program is inconsistent in its handling of fertilizer used by homeowners versus farmers spreading fertilizer on crops. Several responses single out the Commonwealth of Pennsylvania as doing very little to meet its agricultural reduction goals. Maryland farmers understand the importance of protecting the Chesapeake Bay, but it is hard to make any sustained progress without buy-in from other jurisdictions, especially those upstream. This imbalance also creates economic challenges when Maryland farmers are held to a higher standard than other sectors across the watershed.

Access to Healthy Food Choices

Despite growth in the number of farmers markets statewide, many communities still face significant barriers in access to fresh, nutritious food. This is not unique to Maryland, but it has a significant impact on the state's urban communities. In Baltimore, 23.5% of the city's residents live in a "Healthy Food Priority Area,"⁷ where suppressed incomes, lack of transportation, and distance from the nearest markets negatively impact the ability to make healthy food choices.

While food supplies are an important part of this equation, studies have shown that this is a multifaceted issue that will require integrated solutions across all sectors.

⁷ Johns Hopkins Center for a Livable Future. [Baltimore City's Food Environment Report](#). 2018

Infrastructure

Maryland agriculture is lacking in the infrastructure needed to increase the efficiency of the state's food production. Beyond primary transportation infrastructure, the state lacks the network of processing facilities, aggregators, and distributors available to farmers in other states.

Another significant infrastructure challenge for Maryland farmers is insufficient access to broadband internet in rural areas. The industry has widely adopted new technology that relies on high-speed internet connections to increase efficiency. Lack of broadband creates a competitive disadvantage for Maryland farmers and slows down progress in environmental protection.

Uncertainty for the Next Generation

As the average age of Maryland producers continues to rise, there is a clear need for more young farmers in the industry. The absence of a youth movement in Maryland agriculture could be due to a number of factors. Most prominently, the cost of starting a farm operation is often prohibitive. Scarcity and costs of land present major obstacles for anyone looking to enter the industry, especially given concerns over the profitability of farming.

Another explanation for this trend is a perceived lack of interest in farming. For a variety of reasons, many responses indicate concern that the next generation does not see agriculture as a viable career path despite the many opportunities available. Some attribute this to a lack of K-12 agricultural education.

A VISION FOR MARYLAND AGRICULTURE

In the final segment of the listening sessions, participants were asked to envision an ideal world for Maryland agriculture. With that vision in mind, they were asked to describe key characteristics of that would look like.

Based on the survey data, an ideal industry would have localized processing and distribution systems operated by a highly-trained and skilled workforce that competes with other STEM industries. Farmers would continue providing high-quality, nutritious foods to consumers across Maryland, the mid-Atlantic region, and overseas. Consumers would be well-educated and less skeptical of production agriculture. All sectors of the industry would support each other and work together to provide a diverse range of products to a diverse range of consumers. The financial burden of starting a new operation would cease to exist, and a new generation of farmers would continue Maryland's legacy as a worldwide leader in sustainable farming practices.

INITIATIVE AREAS

To achieve the stated vision of Maryland's ideal agriculture industry, there are a number of initiative areas that must be a priority moving forward, including:

Market Development

Regardless of scale, Maryland farmers need strong local, state, national, and international markets to maintain profitability. This is an area where the state has found success and sees an opportunity to further expand its efforts to open new markets for Maryland farmers. Maryland products are uniquely positioned to thrive in today's marketplace due to the state's nationally-recognized environmental stewardship and range of diverse, high-quality agricultural products. Maryland farmers are uniquely positioned for success geographically, with multiple metropolitan markets and close access to rail systems and ports. In addition to a strong international demand for poultry and seafood, Maryland's equine industry presents a unique opportunity to expand internationally as the host of the Preakness Stakes and an upcoming international 5-Star event at Fair Hill.

Infrastructure Development

To build a better future for Maryland agriculture, there needs to be a focus on building localized processing and distribution systems. Development of local infrastructure will improve the efficiency of production by saving time and reducing energy and related transportation costs. Localized production and distribution also returns more money to Maryland's economy by keeping money in-state.

For livestock producers, access to local processing facilities would reduce time and resources spent hauling animals to out-of-state facilities. Farmers and local breweries would mutually benefit from malting facilities and hops pelletizing. Newly implemented industrial hemp laws create a need for hemp processing facilities. Maryland has shown its strength as a diverse agricultural market, and smart investments by the state and private sector are needed to continue meeting supply and demand for local products.

Continued Commitment to Conservation

With Maryland's reputation as a national leader on agricultural and land conservation, it is important that the state continue its commitment to fund programs aimed at reducing the industry's impact on the environment. Maryland was one of the first states to adopt a statewide cover crop program, and the results have shown significant progress in preventing agricultural runoff from reaching nearby waterways. By providing cost-share support, the state gives farmers an opportunity to embrace best management practices with less financial burden.

Workforce Development

The success of Maryland agriculture relies heavily on having reliable access to a skilled workforce. This includes seasonal foreign workers, who many farmers rely on to care for and harvest crops. With uncertainty over immigration policy, farmers and producers need reassurance that the H2-A and H2-B visa programs will continue providing these temporary/seasonal workers that have become an integral part of many operations' business plans.

On the other side of this issue, the future of Maryland agriculture and its allied industries depends upon prioritizing agricultural education and training opportunities that promote agriculture as a viable career choice. The State of Maryland must invest adequate resources, including money, staff, and a long-term commitment to teach Maryland youth about the benefits and careers in agriculture.

Partnerships for Technical Assistance

Survey data clearly illustrated a need for increased access to technical assistance. This will help farmers meet and exceed their conservation and business goals. Maryland farmers have benefitted from unique partnerships between government agencies, public-private entities, and non-governmental organizations. A prime example of this collaboration is the University of Maryland Extension program, which provides invaluable technical assistance for any number of on-farm issues. Additionally, MARBIDCO's role as a public-private economic development organization has opened up many opportunities for farmers who would otherwise not have adequate access to funding.

The demonstrated success of these collaborative programs illustrates a need to continue supporting these types of initiatives and look for new ways to expand on their efforts. Staffing-up and maintaining adequate funding levels to provide assistance to farmers is imperative to the future success of the industry.

Embracing Technology

Technology can benefit Maryland farmers in many ways, from drones to precision agriculture, to retail point-of-sale options that allow mobile transactions. In 2019, technology is no longer a luxury, it is a necessity. There is a need for Maryland farmers to modernize and have access to affordable new technology, as well as the means to assess its benefit to their operations.

Achieving this goal relies heavily on the state's ability to expand broadband access to rural areas. There is also an opportunity for cross-agency collaboration to provide assistance in implementing new technologies, which would increase the industry's overall efficiency and, in many cases, mitigate the environmental impacts of farming.

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APPENDIX A

Demographics of Maryland Agriculture

All data from [2017 Census of Agriculture](#) (USDA-NASS, 2019)

Average Age of Producers (2007-2017)

Year	Average Age
2007	54.6
2012	56.4
2017	57.0

Producers and Farms by Sex

Producers		
	Female	Male
Number	8,148	13,131
Average Age	56.2	57.4
Farms		
Number	7,322	10,946
Average size (acres)	108	174
Avg. Total Value of Production	\$146,207	\$222,213

Producers by Sex (2012 vs. 2017)

	2012	2017	% change
All Producers	19,055	21,279	+11.7
Male Producers	12,918	13,131	+1.6
Female Producers	6,137	8,148	+32.8

Producers and Farms by Ethnicity and Race

Producers						
	Hispanic	American Indian or Alaska Native	Asian	Black	Native Hawaiian or Pacific Islander	White
Number	267	142	322	298	26	20,622
Average Age	52.1	54.7	51.4	58.0	51.6	57.0
Farms						
Number	247	113	209	221	24	12,106
Average size (acres)	70	51	52	45	14	164
Avg. Total Value of Production	\$152,814	\$60,150	\$1,125,378	\$49,348	\$440,667	\$186,555

Young Producers (Age 35 years or less)

Producers		
	Young	All
Number	2,262	21,279
Average Age	28.6	57.0
Farms		
Number	1,676	12,429
Average size (acres)	167	160
Avg. Total Value of Production	\$284,027	\$198,954