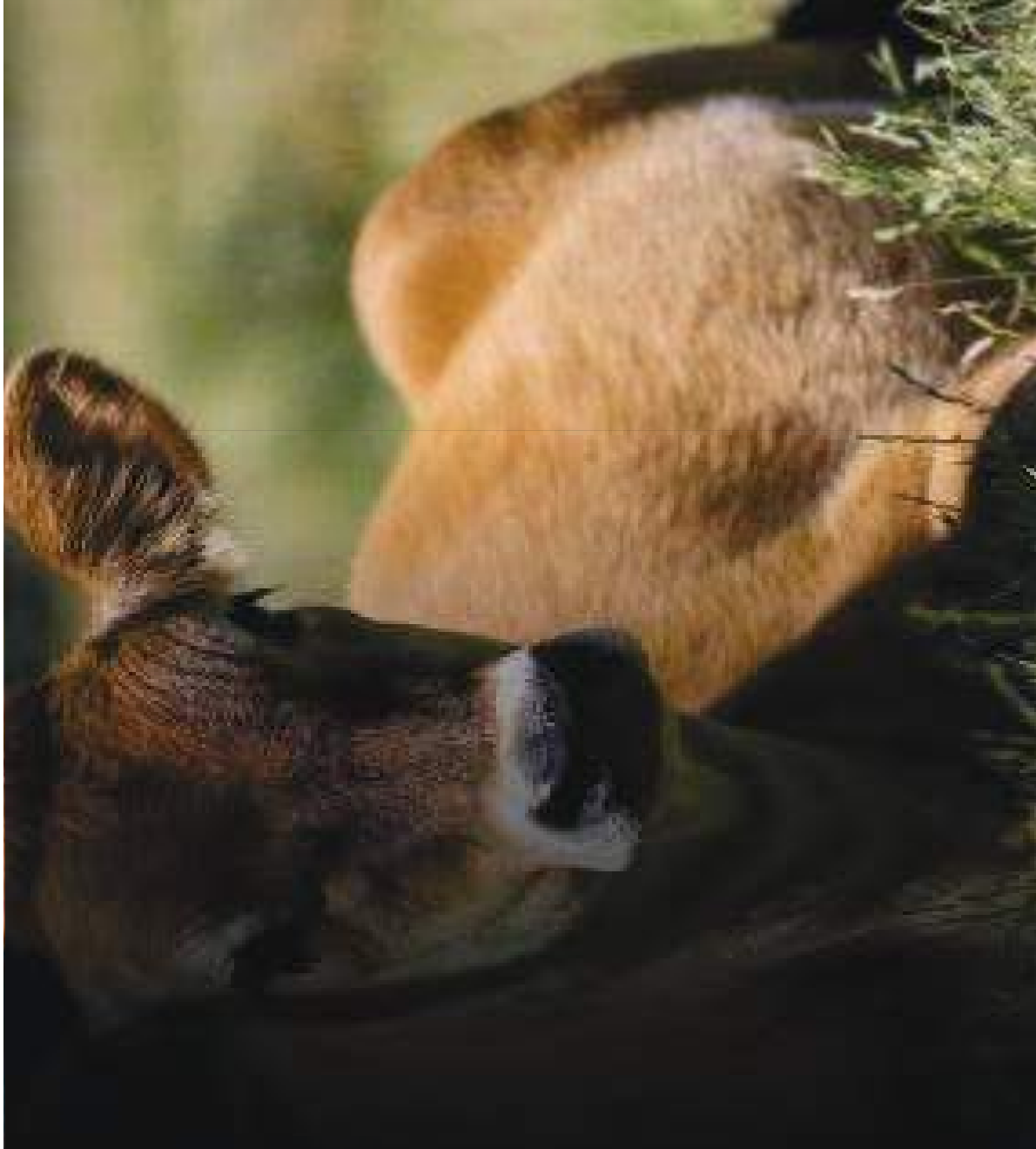




Threats to Agriculture

RMC Summit 2025
11/20/25



Unique Threats to Agriculture

- DXE
- Counterglow
- PETA
- Others



But will the systems still work?

The AWS Outage Bricked People's \$2,700 Smartbeds

By Matthew Gault • 22 Oct 2025

[View in French](#)



The Minnesota Star Tribune St. Paul finds low-tech workarounds to keep city running through cyberattack response

City officials have said they noticed signs of a cyberattack on Friday and shut down some systems in hopes of preventing its spread.

By Liz Nierwald, Kelsey Hildebrandt and Marc Kessler
The Minnesota Star Tribune

08/11/25, 2025 at 9:46 AM

You May Still Need Your Landline in 2025. Here's Why

Still have your old cordless phone? It could be the only thing keeping you connected to the world in the event of massive mobile network outages.

Calgary Public Library locations to reopen Wednesday without technology in wake of cyber breach

The libraries will be operating in analog for the foreseeable future as CPL assesses the cyber breach. Some of its systems have been compromised, it said.

If you have an emotional response to information,
you are being manipulated,
ask yourself why.

LIMBIC PENTAMETER | AUG 21, 6:30 PM EDT by JOE WILKINS

Elon Musk Warns That AI Is "Obviously Gonna One-Shot the Human Limbic System"

"Mark my words."

/Articles/elonmusk /ElonMusk /News-elon /No

Cracking the Almond

Amygdala Hijacking and Social Engineering

JUNE 21, 2023 | IN SOCIAL ENGINEERING, GENERAL SOCIAL ENGINEER BLOG

Sentient Synthetics

DEEP DIVE

Social engineering gains ground as preferred method of initial access

Senior executives and high-net-worth individuals are increasingly at risk as hackers use deepfakes, voice cloning and other tactics for targeted attacks.

Published Oct. 21, 2023

The Rise of Synthetic Personas



Image courtesy of iStock

The influence of the future won't just be silent, they'll be synthetic. Right

What we know about the cybercrime group Scattered Spider

The notorious hacker collective has attracted the attention of government authorities in several nations around the globe.

Published July 31, 2023



David Jacobs
Reporter

in 0 0 X 0 0 0

The Comm uses Discord and Telegram to engage in a wide spread of criminal acts, according to the complaint. These include SIM swapping, stealing cryptocurrency, swatting, and "corporate intrusions," it reads. The Comm also commissions real life violence, according to the complaint. In September, Motherboard reported on the dramatic pivot in SIM swapping communities turning to real world acts, such as firebombings, shootings, and kidnappings.

A subgroup within the Comm refers to itself as ACG, according to the complaint. ACG has been involved in all of those types of crime since at least summer 2021, it adds. Williams was a member of the Comm and worked with ACG to perform SIM swaps, steal hundreds of thousands of dollars, and launder those proceeds before sending them to ACG's leaders, the complaint alleges. ACG also engage in online gambling, it adds.

Preventing the Worst Day

Why Restarting Your Phone Keeps It Safe

by [TechCrunch](#) · [Twitter](#) · [Facebook](#) · [LinkedIn](#) · [Reddit](#) · [StumbleUpon](#) · [Dribbble](#) · [Behance](#) · [Flickr](#) · [500px](#) · [DeviantArt](#) · [ArtStation](#) · [Sketchfab](#) · [Vimeo](#) · [YouTube](#) · [SoundCloud](#) · [Bandcamp](#) · [Last.fm](#) · [Spotify](#) · [Amazon Music](#) · [Google Play Music](#) · [Apple Music](#) · [YouTube Music](#) · [Netflix](#) · [Amazon Prime Video](#) · [Hulu](#) · [HBO](#) · [Netflix](#) · [Amazon Prime Video](#) · [Hulu](#) · [HBO](#)



The Power of Two: Why MFA Matters More Than Ever

by [Brendan Lee](#) · [Twitter](#) · [Facebook](#) · [LinkedIn](#) · [Reddit](#) · [StumbleUpon](#) · [Dribbble](#) · [Behance](#) · [Flickr](#) · [500px](#) · [DeviantArt](#) · [ArtStation](#) · [Sketchfab](#) · [Vimeo](#) · [YouTube](#) · [SoundCloud](#) · [Bandcamp](#) · [Last.fm](#) · [Spotify](#) · [Amazon Music](#) · [Google Play Music](#) · [Apple Music](#) · [YouTube Music](#) · [Netflix](#) · [Amazon Prime Video](#) · [Hulu](#) · [HBO](#) · [Netflix](#) · [Amazon Prime Video](#) · [Hulu](#) · [HBO](#)



How to Keep Your Private Life Private Online

by [Alex Cvetkov](#) · [Twitter](#) · [Facebook](#) · [LinkedIn](#) · [Reddit](#) · [StumbleUpon](#) · [Dribbble](#) · [Behance](#) · [Flickr](#) · [500px](#) · [DeviantArt](#) · [ArtStation](#) · [Sketchfab](#) · [Vimeo](#) · [YouTube](#) · [SoundCloud](#) · [Bandcamp](#) · [Last.fm](#) · [Spotify](#) · [Amazon Music](#) · [Google Play Music](#) · [Apple Music](#) · [YouTube Music](#) · [Netflix](#) · [Amazon Prime Video](#) · [Hulu](#) · [HBO](#) · [Netflix](#) · [Amazon Prime Video](#) · [Hulu](#) · [HBO](#)

- Restart your phone every day
- Don't use the same password twice
- Segment business/personal networks
- Is that really an invoice?

- Inventory internet connected devices
- Air gap insurance documents
- 2FA/MFA
- Privatize social media



bioisac

Creating Collaborative Threat Intelligence for the Bioeconomy

If you require immediate support for your facility or project, email help@isac.bio for assistance. All information is kept confidential.

Resources

- BIO-ISAC - www.isac.bio
- IC3.GOV - www.ic3.gov
- Animal Ag Alliance - www.animalagalliance.org

Rural Summit 2025

Rural Maryland Council



Meet the Speaker



Jordan Jones-Cordero, M.S., M.A.

College of Southern Maryland

Vertical Agriculture Program

- **Who?**
- **What?**
- **Where?**
- **When?**
- **Why?**
- **How?**



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Who?

- **Target Audience**

- Aspiring farmers or current farmers looking to expand or “branch out”
- SOMD High School students who graduated from the agriculture CTE program
- Aspiring or current business owners
- Anyone interested in sustainable agriculture

- **Maryland Center for Environmental Training**

- **Jordan Jones-Cordero:** Agriculture and Allied Careers Instructor
- **Melissa Coker:** Director of MCET
- **Ellen Flowers-Fields:** VP of Continuing Education & Workforce Development



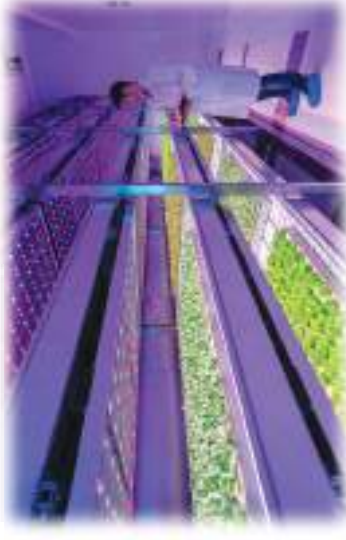
What?

- Launched in October 2024
- Partnered with three local sustainable farms
- Over 50 pounds of food grown
- Vertical Agriculture Continuing Education Program
 - 3 courses
 - **OCC 7010** – Introduction to Plant Science
 - **OCC 7020** – Vertical Agriculture Systems Operations
 - **OCC 7030** – Vertical Agriculture Practicum
 - Two cohorts a year (Summer and Fall)
 - Certificate
 - Prepares students for a rapidly growing industry
 - Worth \$22.07 billion by 2026 (Rutgers University)



What?

- What is Vertical Agriculture?
 - Plants grow vertically, in stacked layers
 - Can be versatile
 - Most utilized with soilless methods
- How do we do it?
 - Indoors, hydroponic, CEA (controlled environment agriculture)
 - Temperature
 - Humidity
 - Nutrients
 - Etc.
 - Grow crops regardless of the growing season
 - Yes! That means juicy tomatoes in the winter and fresh basil leaves in the fall.



Where?

- The College of Southern Maryland
 - La Plata campus
- Within the SOMD Community
 - With a partner in controlled environment agriculture and/or sustainable agriculture



When?

- Two cohorts a year (6-month program)
 - Fall
 - Summer



Why?

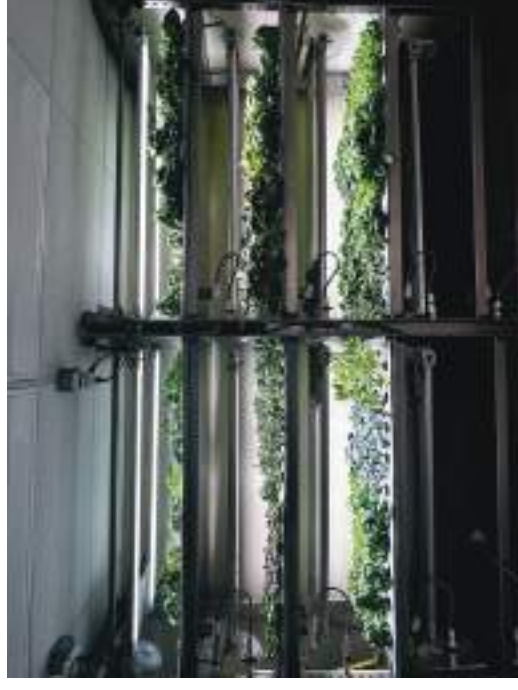
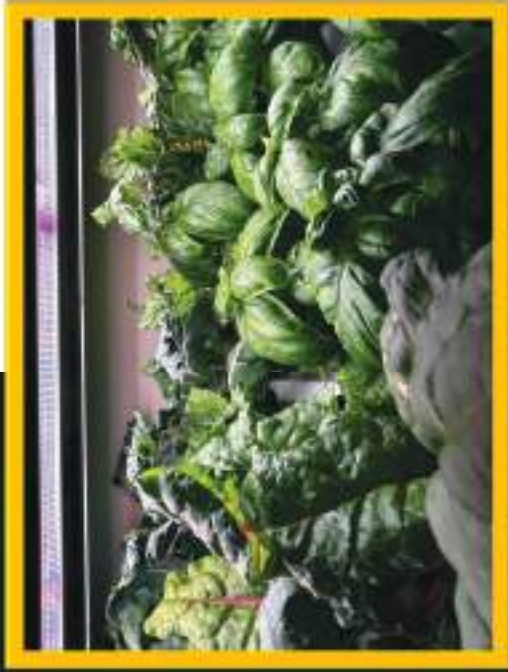
- Why does vertical agriculture matter?
 - Uses up 80% less water
 - Can be utilized in abandoned buildings or small spaces
 - Grow more food with less space
- At the forefront of a new application of technology in a new and budding industry

• **Pathway to Possibility**

How?



How?



How Do We Utilize Data and Technology?

- Consistently monitor the growing environment (variety of meters and tools)
 - pH
 - Temp (water & air)
 - Humidity
 - DO (dissolved oxygen)
 - Etc.
- Use Excel to track data and generate charts
 - Track trends
 - Observations & interventions
 - Propagation & harvest data

There are opportunities to use more advanced technology, but we keep it simple and accessible.

What do our students think?

"It's an amazing experience. I'm excited, it might be a way to give back to humanity one day."

-Dr. Larissa Pfeiffer

"I believe vertical agriculture can solve some food insecurity issues."

-Rachel Norris-Achterberg



Thank You!

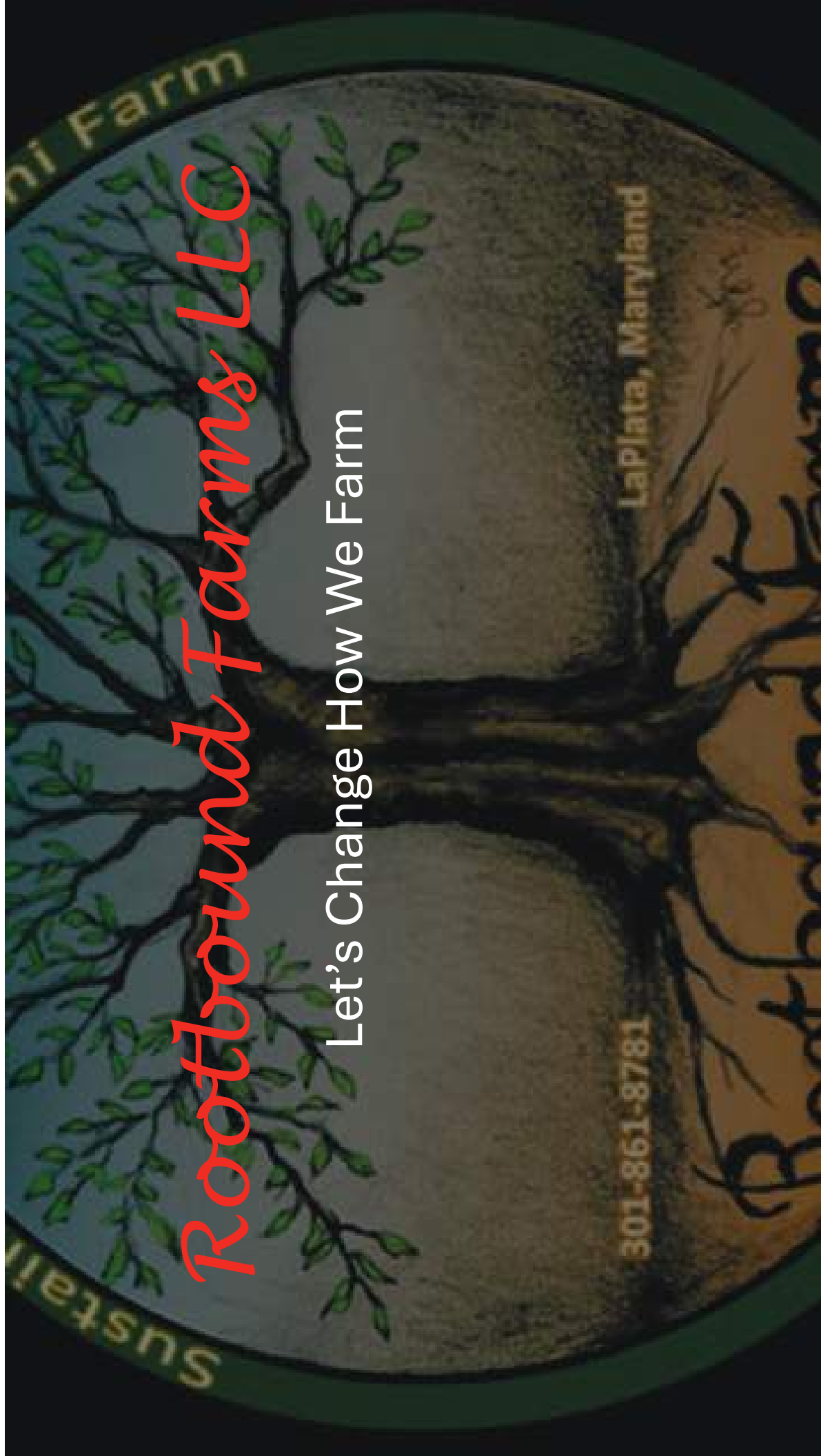


Rootbound Farms LLC

Let's Change How We Farm

301-861-8781

Lapata, Maryland



Rootbound Farms LLC

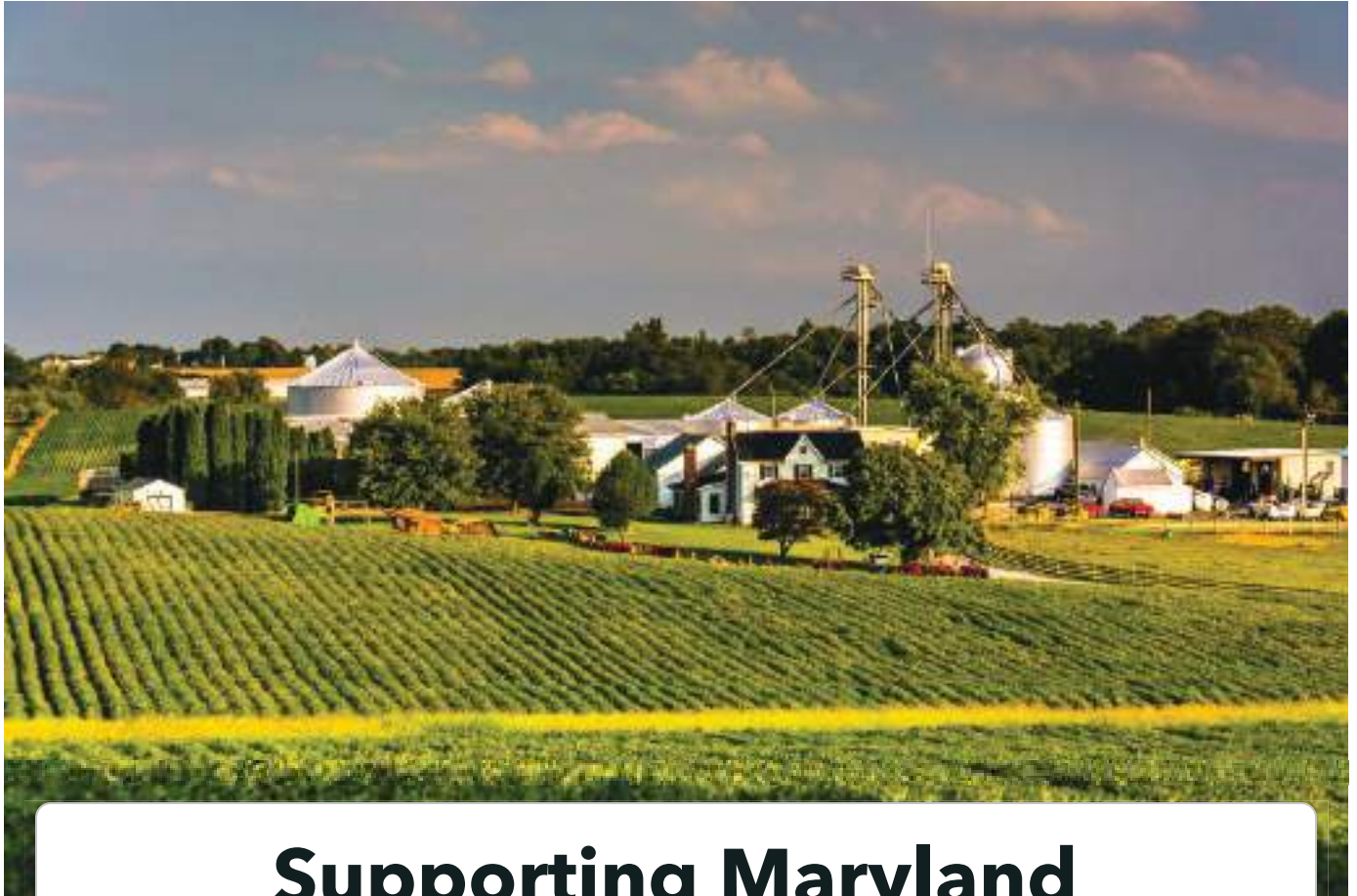
- A “More-Than-Organic” Suburban Market Garden in La Plata, MD growing in-season vegetables for our local community.
- I am a first generation farmer. I started 8 years ago, because I wanted to know where our food was grown.
- We currently grow in-season vegetables from seed and sell direct to consumer.



Our Approach to Farming

- Concentrate on minimal inputs
- Focus on not disturbing the soil
- Small Scale, Human Powered
- Direct Sales to Consumer
- Focus on high value crops





Supporting Maryland Agriculture thru Data Driven Tools

Rural Summit, November 20

Eastern Shore Regional GIS Cooperative

November 14, 2025

Empowering Decisions with Insightful Intelligence

Comprehensive Websites, Dashboards, and Visualizations
for Economic Development, Planning, and Business
on the Delmarva Peninsula.



Delmarva Index

- <https://delmarvaindex.org/>
- Initially launched in 2019
- Regional collaboration:
 - Regional councils – MSRC and TCCLES
 - Economic Development
 - ESRGC
 - Salisbury University
 - Rural MD Council
- **Data platform dedicated to tracking key regional metrics:** population, workforce, education, business, and industry impacts.
- Includes a collection of **free and publicly** accessible dashboards, infographics, and web applications to **support**

economic development, planning and business on the Delmarva Peninsula.

- 60+ individual resources



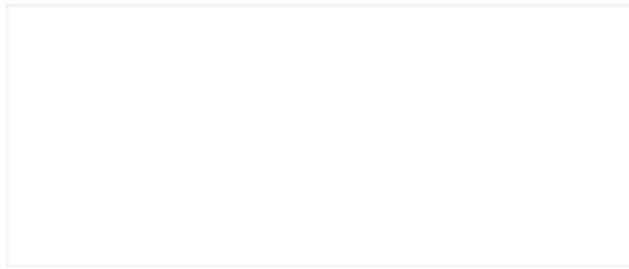
Elevate your farm management with private and personalized performance metrics and simplified State and Federal Reporting

Maryland Agriculture Reporting Application

<https://mdagreporting.org/>

A free and secure resource built to provide agricultural producers with **record keeping and data visualization** tools to promote **better decision making** and to **assist in state and federal reporting**.

While some producers utilize high-tech precision ag systems, there are still a large number of producers utilizing lower tech management methods that will benefit from these tools.



Ag Census Dashboard shows that in 2022 only 11% of farms statewide reported using precision agriculture.

Partners

- University of Maryland, Talbot Co. Agriculture Extension Office
- Eastern Shore Regional GIS Cooperative
- Rural Maryland Council
- Maryland Regional Councils:
 - Mid-Shore Regional Council
 - Tri-County Council for the Lower Eastern Shore
 - Tri-County Council for Southern Maryland
 - Tri-County Council for Western Maryland
 - Upper Shore Regional Council

Technologies

Custom developed application utilizing multiple technologies

- TypeScript
- Next.js
- PostgreSQL
- Vercel
- Digital Ocean

Activate a free account

Collaborate with owners, operators, or managers to develop your farm model.

- **Invite colleagues**
 - *You have complete control over your data. Our easy-to-use member settings allow you to manage who has access to your farm data.*
- **Designate roles**
 - *Streamline workflows by adding colleagues to a farm.*
- **Control access**
 - *Manage permissions to ensure collaborators have the appropriate access.*

Establish an operation

Use platform flexibility to scale operation from one to many farms, map fields, and document nutrient application.

- **Create unique farms**
 - *Operations consist of one or many farms.*
- **Upload or map managed fields**
 - *Farms consist of one or many fields. Fields can be uploaded as kml, shp, or manually drawn on the map.*
 - *Acreage is entered as an amount, not defined by field shape.*
- **Add Crops**
 - *15 crop types reflect those found on AIR form*
- **Define fertilizer types and amounts**
 - *Supports unique fertilizer applications*

- **Batch add features**
 - *Quickly add multiple fields, crops, and fertilizers with batch options.*

Manage Farms

- View all **fields, crops, and fertilizer information for a single farm.**
- **Add new and edit existing** fields, crops, and fertilizers
- Edit and filter **crop types, year planted, acres and fertilizer types.**
- **Crop Nutrients page** provides summary table of fertilizers and nutrients per crop type.
- **Export table** as csv

Follow production and yields

Enter elevator tickets to calculate the farm harvest. Monitor farmed acres, yield, moisture, sale information and more.

- **Submit individual or multiple elevator tickets** to capture measures and **auto-calculate yields**
- **Built-in intelligence** assures correct acreage is applied and prevents assignment errors.
- **View and filter** summarized harvest information in the Harvest table.
- Streamlines **Crop Insurance Reporting**.

Improve annual AIR submission

Seamlessly track nutrient applications in preparation for Annual Implementation Reporting.

- Farm and crop level **nutrient tracking**
- **Auto-calculate totals** for entire operation
- Default table view **mirrors AIR format** to streamline data entry.
- **Alternative view** and **filtering** offer flexibility
- **Export table as csv**



View trends and gauge performance

Track inputs and outputs across your operation and drill-down on farms, crops, nutrients, and harvests.

- See high-level statistics
- Drill-down on key indicators
- Track data overtime

Help monitor farm operations overtime to improve reporting and decision-making.



View crops and harvest data at the Operation and Farm level



Security

Precision Ag Systems:

- **automatically and continuously** collect large amounts of data about **all aspects** of farm operations
- tie into farm management software
- includes detailed personal information about the farmer and their employees
- integrate to downstream systems: delivery schedules, storage locations, distribution timing, etc

MART is simple and secure

- a website
- user logins
- **voluntary and controlled** data inputs
- only stores email, FSA ID, and Tract ID.
- backend database
- encrypted offsite backups

MART's simplicity and security architecture means it is much less exposed to a cyber-attack than a traditional Precision Ag System which has many potential entry points for attackers.

Agricultural Census Dashboard

<https://delmarvaindex.org/resources/agricultural-census-dashboard>

- Delmarva Index project with support from RMC, RMPIF, MSRC and TCCLES
- New dashboard visualizing USDA Agricultural Census data for Maryland
- Upgrade of the existing Ag Census Infographics
- Retrieve data and visualizations for hundreds of agriculture related topics

Features and Functionality

- 11 pages of content: overview and trend page for each main topic + highlights page:
 - Economics

- Demographics
- Crops
- Livestock
- Ag Practices
- Compare geographies (Statewide, a single county, or multiple counties)
- Compare overtime (2012, 2017, 2022)

<https://delmarvaindex.org/resources/agricultural-census-dashboard>

Highlights

- Presents a **snapshot of Maryland agriculture**, combining key statistics from across all topic areas.
- Highlights the **economic** scale and value of agriculture
- Visualizes **workforce** dynamics

- Summarizes the structure and **demographics** of Maryland farms
- Displays **land use** patterns
- Captures **technological access**

Supports high-level understanding and decision-making by consolidating data from multiple sections into a single, accessible overview.

Economics

- **Explores farm economics** to show how farms generate revenue, where they spend the most, sales and employment information, and more!
- Track and analyze **economic performance** overtime.

- Offers flexible exploration of different financial metrics by toggling between **dollars, number of farms, or average values**.

Maryland

- 37% of farms have **sales volume** less than 2,500.
- Nearly **61% of farms reported net losses** in 2022.
- 2,314 farms (18%) **received government payments** which totaled 21M in 2022.
- Total **agricultural sales** reached over 3.3B and have steadily increased over 10yrs.

Demographics

- **Provides a profile of the region's agricultural producers** by highlighting key demographic characteristics including age, race, sex, and military service.

- **Identifies ownership trends and living arrangements**, helping stakeholders understand land tenure and whether producers live on the farms they operate.
- **Highlights the roles producers play in farm decision-making**, which can inform training, outreach, and leadership development efforts.

Maryland

- 76% of producers are **full owners** and 740% **reside on the farm**.
- 62% of farmers are **male** and the **average age** is ~58yrs
- 9% of producers are **veterans**.
- 56% of producers reported that farming is not their **primary occupation**.

Crops

- **Summarizes harvested acreage and farm counts** across major crop categories.
- **Provides insight into local crop specialization**, from soybeans to niche fruit crops like pawpaw or persimmons.
- Supports understanding of **agricultural diversity and food production capacity** across the region.

Helps inform market development, extension services, and land use planning.

Maryland

- There are 1.2M acres of **harvested cropland** in Maryland.
- Soybeans are the **predominant crop** which has been a trend for the past 10yrs.
- There are 394 florist greens/floriculture farms.
- There are 81 more blueberry farms since 2017.

Livestock

- Displays the **number of farms, inventory, and sales** for a wide variety of livestock types, including poultry, cattle, and goats.
- Also provides **insight into local livestock specialization**, from poultry and cattle to goats and honey.
- Supports **understanding of local food supply chains** and animal agriculture intensity.

Useful for planning and market analysis.

Maryland

- There are nearly the same number of poultry and cattle and calf farms.
- The number of cattle and calf farms has been declining since 2012.
- Honey sales have increased dramatically from \$325,000 in 2012 to over 1.1M in 2022.

Ag Practices

- Illustrates **land management and environmental practices** used by local farms, such as no-till farming, conservation easements, and cover cropping.
- Highlights **use of fertilizers and chemicals** by type and target condition.
- Provides a view of **sustainable practice adoption**.

Facilitates discussions on conservation, water quality, and resilience in agriculture.

Maryland

- There 138k acres of **irrigated land**.
- **Conventional tillage practices** have been trending down since 2012.

- The number of acres used to **treat various diseases, pests, and weeds** is down with the exception of the control of nematodes.

Security

Ag Census Dashboard utilizes public data therefore many of the steps necessary to protect sensitive data are built in at the data source such as data suppression, aggregation, noise infusion, etc.

Cyberattacks are less of a concern for us because our data is publicly available from other sites

A few resources we do have that collect data, access is restricted and we utilize password protections.



Thank you for listening!

Questions?