**MDA Soil Health Advisory Committee**

**Meeting minutes – *final***

**December 2, 2019**

The inaugural meeting of the MDA Soil Health Advisory Committee began with welcome remarks from MDA Secretary Joe Bartenfelder. Committee members were greeted and thanked for their willingness and enthusiasm to serve on the Committee, especially the producers. The membership represents diverse organizations – producers, academia, government, and NGOs – and the department looks forward to the discussion and input of the Committee to shape the MDA program.

After welcome remarks a video from the U.S. Farmers and Ranchers Alliance was viewed (https://usfarmersandranchers.org/30-harvests/) followed by introductions of each Committee member. Members were asked to give their name, affiliation, and a brief phrase of what soil health means to them. Several common themes emerged around sustainable/viable farms and future economic opportunity, co-benefits, and resiliency and climate change solutions. Members of the public audience were also invited to participate.

Next, MDA Assistant Secretary Hans Schmidt gave a presentation entitled "Setting the Framework and Objectives" for the Committee. The presentation was intended to set a common page for the Committee members and begin to answer key questions – **Why** (drivers for MDA's soil health focus), **What** (defining soil health), and **How** (objectives of the Committee)?

WHY – the passing of 2017 legislation established a Healthy Soils Program at MDA with the stated purposes to improve the health and profitability of soils, increase biological activity and carbon sequestration of soils, and to increase adoption of practices that advance soil health. Likewise the legislation speaks to developing the program in a manner that enhances existing MDA programs. MDA and its conservation partners have a long history of providing financial and technical assistance within the state, though programs were originally developed for water quality outcomes associated with the Chesapeake Bay restoration. However, with increasing recognition of the co-benefits of several key practices, MDA and its partners are looking at new opportunities to mutually achieve water quality, soil health and carbon sequestration outcomes. This includes the addition of the soil health program in the recently released draft MDE report *Greenhouse Gas Reduction Act Plan*, and the associated menu of recommended practices that build soil carbon. MDA anticipates working with the Committee to review the preliminary menu and to begin discussing metrics to quantify soil health (existing or needed), and to develop the program framework that further encourages adoption of practices.

As the Committee proceeds to develop program recommendations, MDA will be guided by the following philosophy:

- MDA recognizes our producers have already made significant contributions to conservation (and we will champion their accomplishments);
- MDA will continue in our leadership capacity to support producer's needs as the industry and policy drivers evolve; and

- Programs will be inclusive of all producers – crop type, farm size, and management – with Committee's input to identify and address needs.

WHAT – with increasing international interest in soil health, multiple definitions may exist. For MDA program development; however, we have adopted NRCS' definition of soil health – "the continued capacity of the soil to function as a vital living ecosystem that sustains plants, animals, and humans" – and its core principles of soil health.

A growing amount of research related to soil health (measurement, protocols, interpretation, etc.) is available. The Committee will primarily rely on its academic members to keep us updated on new research and its relevance to Maryland's soils. MDA anticipates this is an evolving field of research and consensus to best methods may not be available yet. In the interim, MDA and its partners will continue to promote implementing conservation practices, and look for opportunities to increase field research.

HOW – Per the 2017 legislation, MDA will carry out the Soil Health Program by providing incentives: research, education, technical assistance, and financial assistance as available, to increase adoption of soil health practices. Recognizing that MDA and its partners are already a trusted source of information and assistance to producers, MDA is seeking the Committee's input on achieving the goals of the legislation and prioritizing recommended components of an MDA program.

The Committee was asked to begin answering two key questions:

1. Long-term: What form of assistance is needed? Research, education, financial assistance, technical assistance, or some combination?

2. Short-term: What do you need answered to support MDA's program development?

Assistant Secretary Schmidt concluded his presentation with the two questions, and then transitioned to Nancy Nunn, Harry Hughes Center for Agro-Ecology, to facilitate a roundtable discussion. She organized the discussion into the key areas referenced in the legislation while Alisha Mulkey, MDA, captured Committee member comments on an easel pad. Committee member feedback is summarized below:

<u>Research</u> – what existing or new research is needed for the Committee to proceed?

- Ask farmers "what would it take to increase adoption"? e.g. opinion surveys, field days, etc.
- A need exists to understand the "state of science" to date for Maryland's soils
    - What existing research case studies, practice implementation could be shared and summarized?
    - Dr. Kate Tully, UMD, has county level data that could be available
- Request to advance discussions on the menu of practices that build soil carbon, including a need to set carbon metrics (qualitative and quantitative) for Maryland farms so producers are at an advantage when the carbon markets develop
- Innovative funding techniques from other states and private investment
- Is there consensus on AD technology, on-farm or regionally, in producing soil amendments that build soil carbon

- Need better understanding of the interface between soil health and nutrient management – nutrient cycling via cover crops and planting green
- Further discussion of saltwater intrusion on the lower shore – measures and mitigation
    - Some practices will not work as prescribed. How to adapt programs? Salt tolerant crops?
    - Need technical assistance (seed rate, etc.)
- Need information for year-round high tunnel production
- What are the impacts of chemical inputs to soil biology?
- Improve data inputs to COMET (GHG quantification tool) for demonstration and evaluation of Maryland farms
- Need for a single, simple quantitative soil health test. Many analysis options exist, but which is most valuable to producers?
- Suggestion to partner with public land holders (e.g. DNR) for research and demonstration sites
- Ensure UM Extension is involved in future efforts to educate producers
- What is the amount of carbon sequestration specific to organic management practices?

<u>Technical Assistance and Education</u>

- Need for in-season tools – availability, relevance and education to users
- Address needs for shared equipment
- Identify and develop messages about total co-benefits of practices – profitability, water quality, carbon, air, etc.
- Promote continuing education to service providers (SCDs, CCAs, UME, etc.) to share latest development and research updates
- Need for investment in staff capacity – people and training at SCDs
- Translation of science to public audience and tools like the Soil Health Card to educate. Sell a mindset
- Foster peer-to-peer networks of success and challenge stories
- Promote nutrient density of foods produced vs. crop yield
- Additional technical assistance for pasture management to optimize prescribed grazing, including cover crops for grazing
- Recognize that transition to organic in Maryland may not have full soil health benefits
    - Tillage, etc. Research needed and Technical Assistance support needed.

<u>Financial Assistance</u>

- Incentivize soil health at $/bushel level. How? Who?
- What are the markets and carbon payments for practices currently?

- Challenge of market support and money to pay farmers. But there are success stories with direct marketing.
    - Suggest to work with private sector to develop markets. At $40-60/ton C, behavior changes could occur

Soil Health Evaluation Tools

- Soil health testing – which lab, methods, sampling time, interpretation?
- Lots of information exists – so keep programs and methods flexible to allow innovative producers
- Match available tools to evaluation needs

Programmatic

- Question to producers – what are the barriers to adoption? Producers are resistant to adopt given current economics, and there is a need for education
    - Legislation and funding
    - Crop insurance – need for crop assurance and rewards for commitment to soil health to cover risks
    - Ability of winter crop to generate money
- MDA program should be robust and flexible to cover the broad needs of producers
- Consider pilot programs and methods, evaluate results, and then expand
- MDA cover crop program is flexible and progressive. A good example of where/how to start

Following the roundtable, public comments from the general audience were invited. Anna Chaney from Honey's Harvest farm in Anne Arundel County provided the following comments – she thanked the Governor and this Committee for their commitment to soil health and it being part of the solution to mitigate water quality, food nutrition, and GHG concerns. Ms. Chaney suggests, for the greatest effectiveness of the Committee, the following should be defined: a clear definition of soil, and a guiding purpose and mission of the Committee. Thus when the Committee makes recommendations for policy and/or legislation to the Governor and Secretary of MDA, they will know that they are making recommendations that are congruent with their overall purpose and mission. For the definition of soil she recommends "clay, silt, and sand (all minerals properly balanced); organic material; and aerobic organisms" from Hans Jenny.
Ms. Chaney respectfully request that this definition be adopted by this committee (via whatever process is established), and for the sake of efficiency and respect for the human resources involved, that the Purpose and Mission be defined as soon as possible so the Committee has a guiding plan with a clear process as to how they make decisions and why they are making them.

The meeting concluded with announcements from the Committee members.
The next meeting is anticipated in early March but Alisha Mulkey will coordinate with the members for best available dates. Documents from today's discussion will be emailed to the members.

**Attendees: December 12, 2019**

| Name | Affiliation |
|---|---|
| Janet O'Meara | Stone Valley Farm |
| Aaron Cooper | Cut Fresh Organics |
| Tom Croghan | The Vineyards at Dodon |
| Bobby Hutchinson | Hutchison Brothers |
| Matt Fry | Fair Hill Farms |
| Steven Darcey | Edgewood Farm |
| Trey Hill | Harborview Farms |
| Steve Ernst | Ernst Grain and Livestock |
| Lindsay Thompson | MASCD |
| Colby Ferguson | Maryland Farm Bureau |
| Michael Calkins | MD Young Farmers Coalition |
| Christy Brown | USDA/NRCS |
| Elliot Campbell | MD Dept. of Natural Resources |
| Alisha Mulkey | MD Dept. of Agriculture (MDA) |
| David Smith | Retired USDA/NRCS / Soil Science Consultant |
| Debbie Herr Cornwell | MD Dept. Planning |
| Dietrich Epp Schmidt | University of Maryland |
| Dr. Kate Tully | University of Maryland |
| Dr. Ray Weil | University of Maryland |
| Delegate Dana Stein | MD House of Delegates |
| Senator Jason Gallion | MD State Senate |
| Tod Wickersham | Beneficial Results, LLC |
| Lori Arguelles | COMPASS |
| Cleo Braver | MD Pesticide Education Network and Cottingham Farm |
| Alan Girard | Chesapeake Bay Foundation |
| Tim Rosen | ShoreRivers |
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| Lisa Barge | Anne Arundel County Economic Development |
| Ken Staver | Wye Research & Education Center |
| Janice Wiles | Frederick County - Community FARE |
| Anna Chaney | Honey's Harvest Farm |
| Nancy Nunn | Harry R Hughes Center for AgroEcology |
| Sean Clougherty | Delmarva Farmer |
| Audrey Swanenberg | Chesapeake Bay Foundation |
| Rita Calvert | What's Up Media |
| Duane Horvoka | Izaak Walton League |

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|---|---|
| Susan Payne | MDA |
| Cassie Shirk | MDA |
| Hans Schmidt | MDA |