Healthy Soils Advisory Committee
Conservation Crop Rotation, Integrated Pest Management, and Nutrient Management
March 15, 2021
1 PM – 3 PM

Attendance: Alisha Mulkey, Amy Jacobs, Colby Ferguson, Deborah Herr Cornwell, Denzel Mitchell, Dietrich Epp Schmidt, Elliott Campbell, Hans Schmidt, Kate Everts, Kevin Antoszewski, Lisa Garfield, Michael Calkins, Steven Darcey, Tim Rosen, Tom Croghan, Aaron Cooper, Cleo Braver, Grace Garst, Phillip Bogdanoff, Lisa Barge, Elizabeth Hoffman, Amanda Cather, Susan Payne, Kim Rush Lynch, Cassandra Goodmansen, Jenell Eck

Alisha called the committee to order at 1 PM and began with an overview of the meeting agenda. Alisha then welcomed Laura Starr to the committee as the representative from the Nature Conservancy, replacing Amy Jacobs, and opened the floor to public comment. No public comments were submitted.

The discussion was turned over to subcommittee three, and Aaron Cooper led the discussion on conservation crop rotation.

Conservation Crop Rotation: Aaron Cooper

Aaron began by going through the conservation crop rotation outline sent to the full committee earlier in the day. The discussion was organized around the pros and cons of the practice.

Pros: can reduce pest pressure and pesticide/herbicide requirements, improve soil carbon stores, and can increase yields.

Cons: can be difficult to manage as rotations become more complex and require different equipment

Different management strategies are applicable: cover crops/sod crops, high residue crops (3-4 species)

Cleo Braver clarified that it's important to recognize that smaller growers also use in-season cover crop species in their rotation as well as in winter.

There were no other additions from the committee on conservation crop rotation.

Integrated Pest Management: Kate Everts

Kate stated by going through the outline sent to the full committee.

Tom Croghan: What's the % of utilization of IPM implementation in the state and the variation in quality between farmers? Are there any farmers that would say they don't practice IPM?

Kate: I agree, I think every farmer practices IPM, but there is HUGE variation in the practice.

Tom: People are trying to do a good job. We don't have any data on IPM implementation.

Alisha: We do not have data on IPM implementation, because we don't cost share on that practice. There is pesticide information available through that division of MDA.

Cleo: There is a legislative requirement that MDA report pesticide use data to a public health commission.

Grace: Jackie Byam would have the actual amount of producers that go through NRCS cost share for IPM.

Alisha: Looking at records sent by Jackie, there were 30 contracts in 2018 and 36 contracts in 2020.

Cleo: MDA could help provide farmers with education on pesticide use, on cultural practices and less harmful alternatives.

Kate E.: The main goal of the extension offices relates to that, but it's not as well funded and leaves gaps in service.

Cleo: The impact of inputs on soil health should be called out specifically as something we would like to see, one party getting more IPM knowledge and dispersing it amongst farmers.

Laura Starr and Amy Jacobs: Nutrient Management

Amy started by going through the outline sent to the full committee. There is a lot of complexity and varied perspectives on how best to approach nutrient management. Organic vs inorganic fertilizers were split, in order to find common ground and move the discussion forward.

Cleo: Similar to IPM, there was the thought that we should seek out additional expertise on the effects various inputs have on soil health.

Mike Twining: The committee should move forward without getting too far into the weeds on different inputs. Organic inputs have benefits for soil health and inorganic inputs have benefits for production. We aren't lifting one method up over another but rather trying to improve general soil health.

Tom: What practices do we want more of?

Amy: Talking about what practice we want more of makes me nervous because it's very isolated. I think it's better to talk about what outcomes we want and letting the farmers figure out how to get there. This way we aren't incentivizing one type of production over another.

Cleo: Would agree. There are various soil health parameters, like OM and SOC, that we can use to assess soil health changes. The outcomes and measurement should be the same no matter what kind of operation you have. All three practices are three sides of the same coin. We don't have to make judgement calls about what practice is better, we can let the farmer make those decisions.

Michael: I was speaking specifically to whether or not we need more time to talk specifically about organic vs inorganic nutrient sources.

Philip: It seems to me that Tom is raising an issue about outcomes, but I'm not sure about the degree to which current programs measure specific outcomes? Do we need to put some money behind data collection so that we know what practices contribute to soil health?

Laura: If we do get to the point where we start talking about outcomes based results, outside expertise would be helpful. Measuring soil health outcomes is very difficult to do because there is a lot of variation in soil type, production system etc. This way we can pick something that appropriate to measure.

Cleo: I would agree that we don't need any additional expertise on nutrient sources if we have a successful conversation about outcomes based practices. If we don't do that, I think we would need more conversation around organic vs inorganic inputs.

Tom: Worked on outcomes based measurements in healthcare. You can end up with the microscope effect where only the people that participate in the programs will improve soil health. The people that are already doing a good job can tend to have the worse outcomes, and you lose some benefits. I would advocate for a hybrid approach.

Alisha: The state has had an implementation based program. What are the thoughts of producers/those on the call that work closely with producers about how a different incentive program would work?

Tim: That's a very practice by practice question. Conservation drainage has some easily measured outcomes, but soil health is so complex it's hard to pick a specific measure. Other practices on the farm could have drastic impacts on outcomes.

Mike: The devil is going to be in the details. How flexible are we as a state to be able to implement a program like that. Take cover crops as an example, and the success of the program in Maryland so far. Is the carbon market going to provide a high enough incentive to encourage implementation out west? We don't know. If we want to go to an outcome based model for cover crops we would need to model variations in weather across the state. Then we would encourage cover crops in areas of the state where weather for growing crops has been poor, and it turns into a complex system.

Dietrich: Wanted to raise a thought about measuring outcomes. NRCS has a list of some of the helpful metrics for quantifying soil health. You would easily improve the soils against these metrics just by applying excess manure every year. We want to be careful to be specific about how we are contextualizing the measurements to avoid individuals leveraging the system by using poor practices.

Cleo: Just because we are talking about measuring outcomes doesn't mean we are asking producers to change. The MACS program can still exist the same way as it does now. For the purpose of measuring soil health, it is important to have some sort of soil health metric, we already have OM and SOC as well established metrics.

Agroforestry:

Alisha gave a brief presentation recapping the past three advisory committee meetings and outlined a path forward. After this presentation,

Philip: Any examples where economic examples could be shared. Local is better, but any would be helpful. And draft agenda for upcoming meetings. After this presentation, the floor was opened to the committee to request resources to fill gaps in their knowledge of agroforestry.

Steve D.: Do we have any good examples in MD with silvopasture and how it's working? I've had experience with those that have bad experiences. I'm hesitant to recommend this practice if it's done improperly. Do we have any producers in MD that are doing it well?

Cleo: It would be useful to hear from NRCS about adoption numbers.

Tom: There were some presentations at the PASA conference of fruit growers that were using silvopasture for sheep or cows. I think it would be useful to see (referring to the chart from the March

1st 2020 meeting), with regard to all of the practices that we're thinking about, on how one might rate those on each of the outcomes that are listed.