**Healthy Soils Advisory Committee**
**Prescribed Grazing, Pasture and Hay Planting, and Conservation Cover**
**March 1, 2021**

**Attendance**: Alisha Mulkey, Christopher Beck, Cleo Braver, Colby Ferguson, Deborah Herr Cornwell, Denzel Mitchell, Dietrich Epp Schmidt, Elliott Campbell, Hans Schmidt, Jen Nelson, Kate Tully, Katherine Everts, Kevin Antoszewski, Laura Starr, Lisa Garfield, Michael Calkins, Philip Bogdonoff, Ray Weil, Steve Darsey, Tim Rosen, Tom Croghan, Trey Hill, Mike Twining, Aaron Cooper, Matt Fry, Steve Ernst, Amy Jacobs, Amanda Cather, Elizabeth Hoffman, Jenell Eck, Kate MacFarland, Kurt Fuchs, Jason Keppler, Susan Payne

Alisha called the committee to order at 1 PM and opened the floor for public comments. No public comments were submitted.

After a review of google meets logistics and the meeting agenda, Alisha turned the meeting over to subcommittee 2 for a facilitated discussion focused on prescribed grazing, pasture and hay planting, and conservation cover.

Kate Tully and Matt Fry outlined the approach to the discussion. Subcommittee 2 met once to prepare for the meeting and put their thoughts together. Matt reminded the group that we need to invest in practices that will provide the most return and have the greatest impact on the landscape and that cost sharing on every practice is not always feasible.

**Pasture and Hay Planting**

Matt Fry outlined some of the barriers to adoption of pasture and hay planting. Rented land and variation of regulations between federal and state programs can be confusing. Planting prescriptions can require the planting of species that may not be the most appropriate for the site. Infrastructure costs for livestock can be a huge barrier depending on the cost of installation. Some potential solutions for these barriers include a flat rate cost share and leaving some cost share to federal programs, like CSP, to reduce administrative burden and complexity.

**Conservation Cover**

Steve Darsey outlined some of the barriers to adoption of conservation cover. Lack of long term leases can limit program availability, especially when farmers have short term leases. 5-10 year leases can be beneficial to soil health, but they aren't always feasible. There can be a lot of red tape involved and ineligibility depending on cropping history. Some FSA programs require cropping history for conversion to conservation cover and that isn't always feasible, especially on rented land. It can also be challenging to keep unwanted species out. CRP contracts can require specific species mixes and without a lot of active management, competing species can take over. Conservation cover can also be used to address saltwater intrusion on farms. Some potential solutions include relaxing regulatory and record keeping requirements for eligibility. Kate Tully added that invasive species requirements could also be relaxed.

**Prescribed Grazing**

Matt Fry led the discussion around prescribed grazing. Infrastructure is a long term investment, so it's tricky to cost share at the state level. Many producers in the state have shifted away from livestock and ruminant production to row crops and small scale agriculture (in central MD particularly). Significant

differences from county to county can drastically change recordkeeping requirements. Increasing detail and increasing system complexity make adoption difficult for many producers. The ability of the program to be flexible is very important to achieve soil health goals. There are also opportunities to connect the cover crop system to the prescribed grazing system. Species requirements and planting dates required for the cover crop program prevent grazers from participating in the current state cover crop program. There is also the question of what cost share money should be used for (interior vs exterior fencing etc).

**Cross Cutting Issues:**

All of these practices show soil health benefits, but they are all long term practices. With the rate of farmland rental in Maryland, these practices are challenging to approach.

**Full Committee Discussion:**

Kate Tully and Alan Girard opened the conversation up to the full committee for feedback and discussion.

Cleo Braver: All three practice get pretty high scores in the science for building healthy soils. Is there an opportunity to facilitate interaction between the farmer and the landowner? Since practices are long term, they should involve the landowner as well. All of these practices have varying soil health impacts based on management. NRCS has a lot of funding available for infrastructure installation. The healthy soils program could cover other costs associated with these practices.

Philip Bogdanoff: Was there discussion focused on things that were better, data collection to inform the decision about what practices are better, and lift things to the top?

Steve Ernst: Producers change their practices faster than regulations can keep up with. The practices that are “better” can be very subjective. When conservation practices can be applied in novel ways, they often don’t meet program requirements and producers aren’t able to get cost share money.

Matt Fry: Quantifying soil health to the taxpayer is difficult because soil health is relatively new as a concept. Different labs can produce very different test results, so how do we quantify the soil health benefits in a productive way?

Tom Croghan highlighted something that Matt brought up earlier about decreasing ruminant production. Should we incentivize more grazing/prescribed grazing to increase the land available for grazing practices, or do we just want to focus on improving access to resources that help farmers improve their operations.

Cleo: Incentivizing pastured animal production is important because it gets the highest carbon scores out of the practices.

Matt Fry provided some clarity on the definition of CAFO. It has to do with animal numbers, not just how often the animals are confined. Matt’s farm is defined as a CAFO even though they graze throughout the growing season, the definition is based on animal numbers. There is an immense opportunity for grazing from a soil health perspective. It is important for us to decide if we want to encourage people the take up grazing or improve current grazing operations. Cultural differences across the country also influence

the ease of raising livestock. There currently isn't the infrastructure in MD to handle the processing of more animals. Complaints are common at the interface of agriculture and population in the state.

Cleo: The need for infrastructure has been highlighted at meetings across the state for a long time. Without addressing this roadblock, we can't increase pastured animal production.

Alan: Do we need something like a pastured acres goal for the state?

Cleo: That could even be broken down into sub categories; increasing the quality of existing pasture, and converting existing cropland to pastured animal production.

Tom: The question of a target is a good one. Is moving animals around at this level feasible?

Matt Fry: That depends on the scale of the operation. Matt can move cattle on a tractor trailer, but not everyone is able to do that. We also have to think about the build requirements on some of the infrastructure. For example, some of the NRCS fencing requirements are much higher than most farmers would do, especially if animals are only going to be present for a short time.

Tom: Could equipment sharing be a potential solution?

Cleo: Pathogens can be a concern with shared equipment.

Steve Ernst: You can move anything anywhere. When you get into shared equipment, pathogens are a huge concern, especially for small ruminants where parasites are prevalent. I have seen improvements in soil health when changing from cropland to pasture, but also from pasture to cropland. A lot of that has to do with the species of grasses and management history. Value added products can reduce the need for cost share, especially when a producer is able to direct market.

Steve Darsey: We need to make sure we have an option for a producer to go back and forth between cropland and pasture. Especially in southern MD this helps reduce pressure from fescue. There may be many producers that don't need the financial assistance to make changes, they just need access to education and information. Some of the soil health benefits may be driven by Technical Service Providers.

Kate Tully: It's true that a lot of soil testing is in its infancy, and tests like total soil organic carbon aren't the best metrics available. Any practice where you have roots in the soil for a long time are really good for soil health. All three of these practices are examples of semi-permanent perennial crops and they should be incentivized.

Ray Weil: Measurement is really tough. In some ways, soil health is easier to measure than changes in carbon stocks.

Cleo: Should organic matter data be collected by the state?

Ray: You can see long term changes in soil organic carbon, but it's hard to see changes over the short term because of the variability of the testing. If we had a statewide dataset of organic matter, we might be able to draw some conclusions about what kinds of changes we could expect.

Steve Darsey: Prescribed grazing is different depending on what types of animals you have. Even with good management, it's hard to believe that pasturing horses is good for soil health. It's difficult to keep good quality pasture with horses.

Philip: Alisha made a comment that MDA does not currently collect organic matter information.

Cleo: Yes, that would be very useful.

Ray: That's why we can't get the data. It's included in a lot of the testing done for nutrient management planning, but it isn't collected.

Jason Keppler: Some thought should be given to how to collect organic matter information. Many farmers are providing information for the whole farm, and considering the variability of OM measurements, collecting granular information could be difficult if it was included in AIR reporting.

Cleo: It could be voluntary reporting.

Tom: There are also examples of pay for reporting models.

Kate Tully: We can target specific areas for conservation cover. Areas where saltwater is intruding will essentially become carbon sinks in perpetuity. It would be great to get roots growing in areas that are becoming saltier.

Steve Ernst: It would be great to see root analysis, so we can see how deep different species will root. A better understanding of rooting can help to build organic matter.

Philip: How are we going to know that we're doing better? All of the subcommittees need to think about data collection.

**Agroforestry Presentation**

Kate MacFarland gave a presentation focused on silvopasture. The presentation slides can be found in the google drive.

Tom: Would you ever take a natural area and convert that to agroforestry? From a perspective of carbon sequestration.

Kate MacFarland: There are limits to the ability to convert from woodlands to agroforestry. There isn't a lot of pristine woodland left, so it's not a very common concern.

Cleo: What are the circumstances where you would convert an existing woodland?

Kate MacFarland: We're working on a publication right now focused on this topic. Silvopasture is a way to encourage forest management where there is none. It can be appropriate when you're trying to control invasive species or when there is a positive economic impact.

Matt Fry: What is the typical timeline for establishment for silvopasture on existing pasture ground?

Kate MacFarland: It depends on what tree species you're planting, but in most cases you need to have really good tree care for the first 5-7 years.

Tom: The animals will nibble on the trees if they are left in the paddock for too long.

Philip: Are there studies that would encourage producers to diversify and include fruit and nut trees in their systems?

Kate MacFarland: We do have publications that can be given to producers. They are on their website.

Kate Tully: Are there specific gaps that academics and researchers can fill?

Kate MacFarland: Yes, there are a lot of gaps. There hasn't been a lot of research on temperate agroforestry systems.

Dietrich: Many of the high value crops grown in forest systems are traded in very informal markets.