

Conservation Practices for Maryland's Soil Health program - **continued**

Soil Health Advisory Committee

September 21, 2020



Guiding Framework of Healthy Soils Act

- Purpose (WHY)
 - “Improve the health, yield, and profitability of the soils of the state;
 - Increase biological activity and carbon sequestration in the soils of the state...; and
 - **Promote widespread use of healthy soils practices among farmers in the state.”**
- Definition (WHAT)
 - Soil Health (NRCS): “continued capacity of the soil to function as a vital **living ecosystem** that **sustains plants, animals, and humans**”
 - Soil Health (MD legislation): “continuing capacity of soil to function as a biological system;
 - increase soil organic matter;
 - improve soil structure and water and nutrient holding capacity;
 - and sequester carbon and reduce greenhouse gas emissions”
- Deliverables (HOW)
 - Provide program incentives - research, education, technical assistance, and/or financial assistance as available

Conservation Practices evaluation

- March meeting began the conversation to narrow and prioritize practices associated with soil health
- Scored/evaluated through four “lenses” to soil health – **not** mutually exclusive
 1. NRCS resource concerns for soil quality and soil erosion
 2. Carbon sequestration potential based on COMET (Via)
 3. Existing water quality priority for MDA
 4. National “Quadrant” project (Tully, et al.)
- Post March 2, survey tool + series of small group discussions to elicit more input
- NOT the last effort to prioritize

Landscape Setting	Conservation Practice Name	Code	Practice Definition	NRCS Resource Concern			Carbon	Water Quality		Soil Health Quadrant
				Soil Quality - Organic Matter Depletion	Soil Quality - Compaction	Soil Erosion - Sheet & Rill	MtCO2e/ac/yr estimate	WIP goal	MACS	
C	Alley Cropping	311	Trees or shrubs planted in a set or series of single or multiple rows with agronomic, horticultural crops or forages produced in the alleys between the rows of woody plants.	5	2	5	1.74			4
C	Amending Soil Properties with Gypsum Products	333	Using gypsum- (calcium sulfate dihydrate) derived products to change the physical and/or chemical properties of soil.	1	0	1				1
C	Conservation Crop Rotation	328	Growing crops in a planned sequence on the same field.	4	1	4	0.22			4
C	Contour Buffer Strips	332	Narrow strips of permanent, herbaceous vegetative cover established around the hill slope, and alternated down the slope with wider cropped strips that are farmed on the contour.	2	0	3	1.26	X		4
C	Contour Farming	330	Using ridges and furrows formed by tillage, planting and other farming operations to change the direction of runoff from directly downslope to around the hill slope.	1	0	2		X	X	2
C	Contour Orchard and Other Perennial Crops	331	Planting orchards, vineyards, or other perennial crops so that all cultural operations are done on or near the contour.	2	0	4	-	X	X	2
C	Cover Crop	340	Crops including grasses, legumes, and forbs for seasonal cover and other conservation purposes.	2	2	4	0.37	X	X	4
C	Drainage Water Management	554	The process of managing water discharges from surface and/or subsurface agricultural drainage systems	2	-1	0		X		not applicable
C	Integrated Pest Management	595	A site-specific combination of pest prevention, pest avoidance, pest monitoring, and pest suppression strategies.	2	2	2				4
C	Irrigation Water Management	449	Irrigation water management is the process of determining and controlling the volume, frequency, and application rate of irrigation water in a planned, efficient manner.	1	0	0		*		not applicable
C	Multi-Story Cropping	379	Existing or planted stands of trees or shrubs that are managed as an overstory with an understory of woody and/or non-woody plants that are grown for a variety of products.	5	2	1	1.74			4
C	Nutrient Management	590	Managing the amount (rate), source, placement (method of application), and timing of plant nutrients and soil amendments.	2	-1	0	0.11-1.75	X		1

→ 37 practices, most with C and WQ benefits, narrowed down

What we heard....

1. Committee prioritized **working lands** practices:

- conservation crop rotation,
- nutrient management,
- cover crops,
- conservation tillage,
- forage and biomass planting,
- prescribed grazing, and
- conservation cover/critical area planting;

2. Land retirement practices are valued, but many have existing funding opportunities

3. Working lands practices are important to all operational sizes

	Producers	Ag Orgs	Agency Reps	Academia	Non-Profits
Ally Cropping					
Properties with Gypsum Products					
Conservation Crop Rotation					
Contour Buffer Strips					
Contour Farming					
Contour Orchard and Other Perennial Crops					
Cover Crop					
Drainage Water Management					
Integrated Pest Management					
Irrigation Water Management					
Nutrient Management					
Residue and Tillage, No Till					
Residue and Tillage, Reduced Till					
Stripcropping					
Hedgerow Planting					
Mulching					
Waste Recycling					
Windbreak/Shelterbelt Establishment					
Conservation Cover					
Critical Area Planting					
Field Border					

MDA supports practices selected

- Fulfills key state commitments for water quality and GHGs:
 - All prioritized practices align with GGRA Plan
 - Practices also largely align with WIP 3 goals
 - Existing ability to track and report across multiple goals, and improve tracking as program develops
- Funding support will matter – future meeting topic
- **ROUNDTABLE:** Open discussion, consensus building exercise to affirm (or not) the prioritized working lands practices

Parallel efforts

- Specific to state GHG goals, MDA has committed to Healthy Soils Program as avenue for carbon sequestration
- MDA seeking to balance our efforts -
 - Cropland practices that effect the productivity of the soil – physical, chemical, and biological – for greatest acreage impact (65% of MD farmland),
 - while agroforestry practices capture more carbon/acre
 - State agroforestry pilot projects in discussion with DNR and UMD
- **ROUNDTABLE:** Open discussion, consensus building exercise to equally prioritize agroforestry practices

Next steps

- Finalize practice list based on input
- Set meeting calendar
 - Dates TBD
 - Frequency?
- Topics (likely)
 - Economics of selected practices – Harry Hughes Center
 - Existing practice coverage – NRCS, grants, others
 - → State incentive program design
 - Funding options