MULLIGAN FARM
SOIL HEALTH FIELD DAY

Tuesday, August 31, 2021
10:00 am – 3:00 pm
5403 Barber Road
Avon, 14414

9:30-10:00	Registration/Refreshments
10:00-10:05	**Welcome and Introductions**– Aaron Ristow, AFT Ag Stewardship Program Manager
10:05-10:30	**The Genesee River Demonstration Farm Network and Demonstration Plots: Results from the Field** - Aaron Ristow and David DeGolyer, WNYCMA
10:30-10:55	**Soil Regenerative Farming** - Forrest Watson, Mulligan Farm, Bob Stryker, Livingston County SWCD, and John Hanchar, CCE
10:55-11:05	*Break*
11:05-11:50	**Navigating the Growing Availability and Diversity of Market Incentives for Ecosystem Services** – Brian Brandt. AFT Agricultural Conservation Innovations Director
11:50-12:50	*Lunch*
12:50-1:20	**In-field Soil Health Assessments** – Nicole Kubiczki, NRCS Soil Scientist
1:20-1:45	**Women for the Land Initiative in New York** – Stephanie Castle, AFT Women for the Land, and Joan Petzen, CCE NWNY Dairy, Crops, and Livestock Team
1:45-2:00	*Break*
2:00-3:00	**Farmer Panel** – Donn Branton, Megan Hauser, John Macauley and Jay Swede, facilitated by Al Fagan, District Manager, Wyoming County SWCD
3:00	**Wrap Up & Meeting Ends**- Aaron Ristow, AFT

American Farmland Trust

NEW YORK SOIL HEALTH

USDA Natural Resource Conservation Service

Comprehensive Assessment of Soil Health

Cornell Cooperative Extension
Northwest New York Dairy, Livestock & Field Crops

Comprehensive Assessment of Soil Health

From the Cornell Soil Health Laboratory, Department of Soil and Crop Sciences, School of Integrative Plant Science, Cornell University, Ithaca, NY 14853. http://soilhealth.cals.cornell.edu

Grower:
Forrest Watson Mulligan Farms
5403 Barber Road
Avon, NY 14414
forrest.m.watson@gmail.com

Agricultural Service Provider:
Aaron Ristow
aristow@farmland.org

Sample ID: April, 2019
Field ID: Mulligan Farm
Date Sampled: 04/12/2019
Given Soil Type: Ontario-Hilton Comp
Crops Grown: COS/COS/COS
Tillage: no till
Coordinates: Latitude: 42.XXXXXXXX
Longitude: -77.XXXXXXXX

Measured Soil Textural Class: **loam**

Sand: **35%** - Silt: **46%** - Clay: **18%**

Group	Indicator	Value	Rating	Constraints
physical	Predicted Available Water Capacity	**0.19**	**70**	
physical	Surface Hardness	**79**	**84**	
physical	Subsurface Hardness	**216**	**77**	
physical	Aggregate Stability	**33.4**	**55**	
biological	Organic Matter	**2.6**	**33**	
biological	ACE Soil Protein Index	**4.9**	**23**	
biological	Soil Respiration	**0.5**	**39**	
biological	Active Carbon	**711**	**87**	
chemical	Soil pH	**7.0**	**100**	
chemical	Extractable Phosphorus	**11.2**	**100**	
chemical	Extractable Potassium	**126.9**	**100**	
chemical	Minor Elements Mg: 289.6 / Fe: 1.1 / Mn: 8.7 / Zn: 1.0		**100**	

Overall Quality Score: **72** / High

ON FARM DEMONSTRATION PLOTS EVALUATE BENEFITS OF PLANTING GREEN

Cover crops provide multiple services, and it is believed that planting green can enhance those effects, but the practice has not been extensively studied or quantified in western New York. AFT, in partnership with Western New York Crop Management Association are evaluating and demonstrating the performance of planting green in western New York based on measuring nine ecosystem indicators for up to five consecutive years on nine farms, using a quantitative approach to assess multifunctionality and service interactions. The nine farms are part of a regional Genesee River Demonstration Farm Network, which highlights the impacts of practical and innovative conservation practices on farm viability, water quality, and other natural resources, demonstrated on real working farms. https://farmland.org/project/genesee-river-demonstration-farms-network/

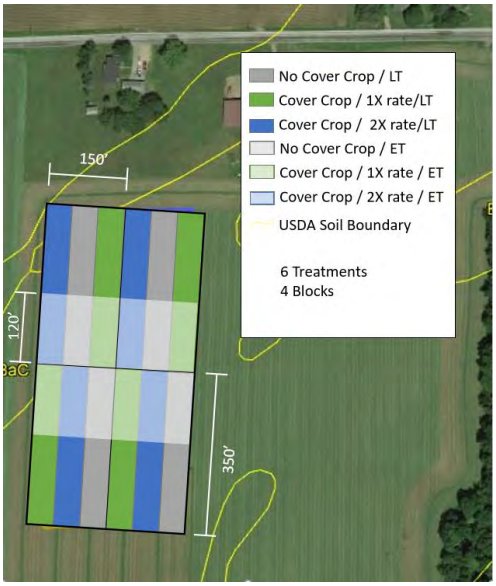


Figure 1. Sample design for demonstration plots.
ET= Early termination (Conventional Planting after Cover Crop)
LT = Late termination (Planting Green)

We are examining indicators in relation to treatments based on three cover crop seeding rates: no cover crop (check), normal seeding rate (1X), and double seeding rate (2x) (Figure 1). Treatment comparisons will vary among the farmer cooperators, minimizing our ability to discern trends across multiple soils and locations. There are different soil types and locations, as desired, but there are also different cover crops, cash crops, crop rotations, degrees of tillage or no-tillage, and many other factors. Figures 1-3 are data from one farm, collected in the spring of 2021.

PRELIMANRY TRENDS AMONG SELECT INDICATORS

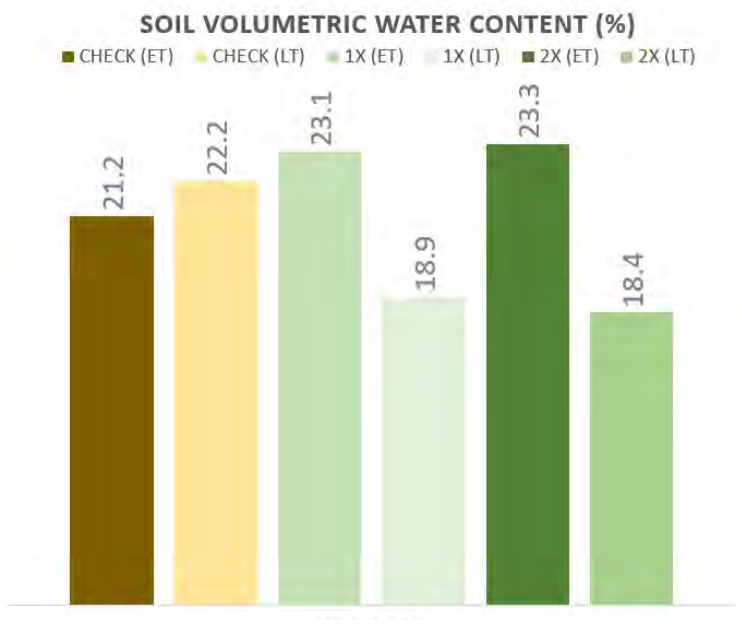


Figure 2. Soil volumetric water content expressed as a percentage. Samples taken on 5/17/21 in silt loam soil.

Soil Volumetric Water Content

The soil volumetric water content, expressed as a percentage, compares the 3 seeding rates (check, 1X, 2X) and the earlier terminated treatments (ET) to the later terminated treatments (LT) (Figure 2). Measurements were taken on 5/17/21, just prior to late termination of the cover crop and planting of the cash crop (corn). ET treatments were terminated on 4/26/21. In general, the ET treatments were wetter than the LT treatments and the 2X, LT treatment was the driest of all treatments.

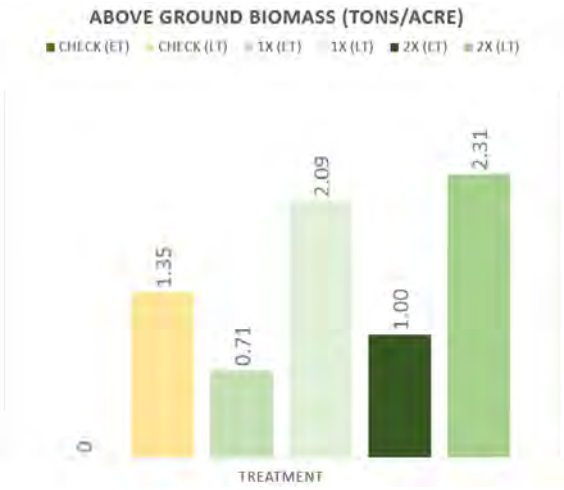


Figure 3. Above ground biomass expressed in tons/acre. Samples taken in silt loam soil.

Above Ground Biomass

The above ground biomass, expressed in tons/acre, compares the 3 seeding rates (check, 1X, 2X) and the earlier terminated treatments (ET) to the later terminated treatments (LT) (Figure 3). ET treatment measurements were taken on 4/26/21, and the LT treatments were taken on 5/17/21, both were sampled just prior to termination of the respective treatments. The treatments were then planted with the cash crop (corn) shortly after 5/17. In general, the ET treatments produce less above ground biomass than the LT treatments and the 2X, LT treatment produced the most biomass of all treatments.

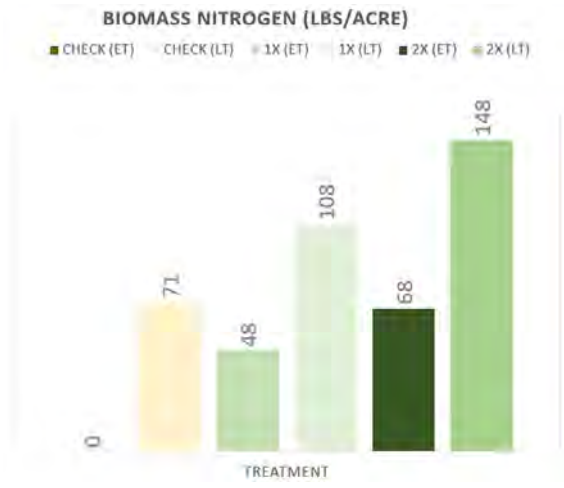


Figure 4. Biomass nitrogen expressed in lbs/acre. Samples taken in silt loam soil.

Biomass Nitrogen

The biomass nitrogen, expressed in lbs/acre, compares the 3 seeding rates (check, 1X, 2X) and the earlier terminated treatments (ET) to the later terminated treatments (LT) (Figure 4). ET treatments measurement were taken on 4/26/21, and the LT treatments were taken on 5/17/21, both sampled just prior to termination of the respective treatments. The treatments were then planted with the cash crop (corn) shortly after 5/17. In general, the ET treatments had less nitrogen to potentially provide the cash crop compared to the LT treatments and the 2X, LT treatment could potentially provide the most nitrogen to the following cash crop.

Cash Crop Plant Population

The cash crop plant population compares the 3 seeding rates (check, 1X, 2X) and the earlier terminated treatments to the later terminated treatments (Table 1). Plant population measurements were taken on 6/21/21 at two separate farms. Both farms have silt loam soil. The farm on the left practices no-till management while the farm on the right practices strip-till. Within the sample area, plants were counted based on their stage of development. More development and consistent development are desired. It appears that the strip-till farm is performing better with higher, more consistent population. It also appears that the check treatment is performing best overall.

Table 1. Plant population of cash crop (corn) in 3 cover crop seeding rates. Values are number of plants per acre X 1000.

	No-Till						Strip-till					
	Early Termination			Late Termination			Early Termination			Late Termination		
	Check	*1x*	*2x*	*Check*	*1x*	*2x*	*Check*	*1x*	*2x*	*Check*	*1x*	*2x*
V8	7	-	-	11	-	-	-	-	-	-	-	-
V7.5	10	-	14	8	-	-	-	-	-	-	-	-
V7	11	11	3	11	9	1	3	1	13	22	7	11
V6.5	12	15	17	12	17	16	19	13	17	17	19	21
V6	3	5	7	4	6	9	19	25	11	13	15	9
V5.5	-	2	3	-	3	5	5	4	6	4	3	7
V5	-	-	1	-	1	2	1	-	-	2	1	2
V4.5	1	-	-	-	-	-	-	-	1	-	-	-
V4	-	-	1	-	1	1	5	-	-	-	2	1
V3	-	-	-	-	-	-	-	-	1	1	-	-
Total/acre (*1000)	44	33	46	46	37	34	52	43	49	59	47	51

AGRICULTURAL ENVIRONMENTAL MANAGEMENT

Tier 1

AEM Identification Number:

Livingston County

Date: ____/____/____

Evaluator Name: Bob Stryker (contact info. bottom of back page). Evaluating Agency: Livingston County SWCD

Watershed Identification:

Farm Name:

Owner's Name:	Operator's Name:
Address:	Address:
Phone: Fax:	Phone: Fax:
Email:	Email:

Preferred Contact Point? (please check only one)

☐ Owner ☐ Operator

1) **Future Status of the Farm**

A) Do you anticipate any major modifications on your farm within the next 5 years? ☐ **Yes** ☐ **No**

If yes, please check the condition(s) that best describes the modification(s):

☐ Business Structure ☐ Expansion ☐ Retirement

☐ Operation Type ☐ Diversification of Farm Business ☐ Sale of Farm

B) Do you plan to subdivide any portion of your farm in the next 5 years? ☐ **Yes** ☐ **No**

2) **Basic Farm Information**

A) What **Primary** Farm Enterprise best describes your operation?

☐ Dairy ☐ Beef ☐ Horses ☐ Fruit/Vegetables

☐ Poultry ☐ Swine ☐ Vineyard ☐ Greenhouse

☐ Cash Crop: (**Please Define**) _____ ☐ Sheep/Goats

☐ Other: (**Please Define**) _____

B) Please indicate the following number of acres:

	Owned	**Rented**
Cropland Acres		
Grazed Land Acres		
Permanent Hay Land Acres		
Woodland Acres		
Wildlife Land Acres		
Farmstead Acres		
Total Acres	_____	_____

C) Does your operation qualify for Ag Value Assessment? ☐ **Yes** ☐ **No**

3) **Animal Numbers for your <u>Primary</u> Farm Type**

Average Weight: _____ Number: _____ Average Weight: _____ Number: _____

Average Weight: _____ Number: _____ Average Weight: _____ Number: _____

Average Weight: _____ Number: _____ Average Weight: _____ Number: _____

4) **Management Questions** (Please check Yes or No)	**Yes**	**No**
Do you spread manure?	☐	☐
Do you have a manure storage facility?	☐	☐
Do you generate process washwater from the cleaning of product or facilities? (for example, milkcenter, egg wash, washing of produce)	☐	☐
Is there a barnyard or outdoor feedlot on your farm?	☐	☐
Do you store silage or other high moisture feeds on the farm?	☐	☐
Do you utilize pastureland on your farm?	☐	☐
Do you use commercial fertilizer?	☐	☐
Do you use pesticides (herbicides, insecticides, fungicides) on your farm?	☐	☐
Do you store and/or mix pesticides (herbicides, insecticides, fungicides) on your farm?	☐	☐
Does your operation utilize cropland for row crop production?	☐	☐
Is the water supply on your farm from a well or a spring?	☐	☐
Is there a waterbody within or adjacent to your farm?	☐	☐
Do you presently or do you plan to harvest timber on your farm?	☐	☐
Do you store fuel or other bulk petroleum products on your farm?	☐	☐
Have you received odor complaints or do you believe your farm has an odor concern?	☐	☐

Other Agricultural Conservation Interests – check all that are of interest

☐ Adapting to Extreme Weather (storms, drought, heat)	☐ Integrated Pest Management
☐ Agricultural Tax Relief	☐ Irrigation Management
☐ Agri-Tourism	☐ Manure Treatment Options
☐ Air Quality	☐ Neighbor-Farm Relations
☐ Biofuels	☐ Nuisance Wildlife Control
☐ Biosecurity	☐ NYS Grown and Certified Program
☐ Conservation Easements	☐ Organic Farming
☐ Energy Conservation/Generation	☐ Pollution Credit Trading
☐ Farmland Protection	☐ Right-to-Farm
☐ Feed Management	☐ Stream Management/Buffers
☐ Fisheries Habitat Management	☐ Water Conservation/Management
☐ Forest Management/Timber Harvest	☐ Wellhead Protection
☐ Grasslands Farming	☐ Wetland Conservation
☐ Greenhouse Gases	☐ Wildlife Habitat Improvement

Would you like to receive a copy of the AEM Guide to Conservation Funding? ☐ Yes ☐ No
This document is also online at www.nys-soilandwater.org/aem/aemoutreach.html

(***OPTIONAL***)

Producer Questions & Comments (for example, if the farm has done work with the District or NRCS on conservation practices; if any land is in a conservation easement; if the farm has any certifications, such as organic; or any additional questions or info on answers in the Tier 1, above):

CONTACT INFORMATION: Bob Stryker Office: 585 243 0043 ext. 5 Cell: 585 489 6274
Email: Robert.Stryker@ny.nacdnet.net

Mailing Address: Livingston County SWCD
11 Megan Drive, Suite #2
Geneseo, NY 14454-1344

Planting Green with 40ft, 16 row corn planter

KEVIN KEENAN PHOTOS

Watson adjusting planter

AUGUST 2021

Soil Health Case Study

Forrest Watson, Mulligan Farm, NY

Introduction

Since 2008, Forrest Watson has farmed with his aunt and uncle, Lesa and Jeff, on their 1,500-head dairy, established in 1920 in western New York. They own 1,800 of the 2,618 tillable acres farmed and practice an eight-year crop rotation of one year of wheat (300 acres), three years of alfalfa/grass (1,000 acres) and four years of corn (1,318 acres). Occasionally other forage crops follow corn silage, such as double cropped winter cereals.

Forrest Watson

STEPHANIE CASTLE

The farm constantly seeks to improve efficiencies and provide the best care for its animals, land, and employees. Forrest gains knowledge from participation in conferences and other educational activities including frequent reading and investigation on soil health topics. He brings that knowledge back to the farm. Environmentally friendly land practices take priority, bringing to light the farm's core value of caring for their land's resources. Crop selection and rotation choices, minimum tillage, cover crops, and adaptive nutrient management provide the means to achieve the farm's goals.

In 2015, to regenerate soil function and achieve productivity goals with fewer inputs, Forrest began experimenting with cover crops and no-till. He started no-till on just 75 acres of wheat but went "all-in" with their cover crop program. Today, a 6-way mix or winter cereals are planted following all 1,318 corn acres. On the remaining acres, alfalfa and wheat crops provide winter cover. Currently all but 150 acres of the 1,318 acres of corn are no-till and the rest are strip tilled. As soil conditions improve over time, strip-tilled acres transition to no-till. Wheat and alfalfa hay are planted with a no-till drill.

Forrest has observed that the cover crops are improving the soil to enable easier no-till, which in turn, saves them time. "The feeling of needing to till due to compaction is virtually gone," says Forrest. "We're breaking up compaction with roots instead of iron." The farm has received financial and technical assistance from the USDA Natural Resources Conservation Service (NRCS) for implementing cover crops.*

Mulligan Farm works with consultants to implement a Comprehensive Nutrient Management plan. They increased the frequency and intensity of their soil testing by introducing grid sampling and they switched to drag hose and injection of their manure and use split applications of chemical fertilizers. These improvements help optimize rates, timing, location, and methods of nutrient use.

Soil Health, Economic, Water Quality, and Climate Benefits

A marginal analysis was used to estimate the benefits and costs associated with implementing crop selection and rotation choices, no-till, cover crops, and nutrient management on the Mulligan Farm. The study was limited to comparing only those income and cost variables affected by the change from the conventional (prior to 2015) to the soil health (2015-2019) cropping systems. Variables include the value of production by crop (price x yield x acres), fertilizers, lime, seeds, sprays, machinery expenses and other inputs. The

Farm at a Glance

COUNTY: Livingston County, NY

WATERSHED: Genesee River Watershed

CROPS: Hay, corn silage/grain, wheat

FARM SIZE: 2,618 acres; 1,275 milking cows plus 430 dry cows & heifers

SOILS: Loamy soils on gently sloping to steep rolling hills

SOIL HEALTH PRACTICES: No-till, strip-till, cover crops, crop rotation, nutrient management

Planting green into 5-way cover crop mix

Great Lakes RESTORATION

American Farmland Trust

table summarizes these economic effects revealing that, successful incorporation of their soil health system coincided with an increase in the farm's net income of $75 per acre per year or $196,350 annually for the 2,618-acre study area, achieving a 129% return on investment.

Today, the farm benefits from multiple practices working together to achieve improved soil health while positively impacting their bottom line. Improved efficiencies of operations are significant. Changing practices like tillage allowed resources to be allocated to other activities, such as growing and harvesting double crops, and to be more consistent in getting winter cereals planted each year. The value of their crop production increased by an average of $76 per acre while cost decreases totaled $57 per acre. Cost increases totaled $58 per acre.

The farm had increased costs of $38 per acre for spraying and other crop expenses and $8.00 per acre for cover crop seed.

However, easier no-till improves efficiency, as Forrest notes, "After rain, harvest continues the next day, operation efficiency goes up."

Forrest has seen a reduction in synthetic nutrients due to better nutrient capture with cover crops and manure injection. Analysis reflects this observation as fertilizers and lime costs decreased by $11 per acre. In addition, more efficient nutrient use supports the increase in the total value of crop production.

Importantly, the total range of annual value of crop production was narrower under soil health management when compared to the conventional system. Forrest is realizing more stable yields and resiliency.

The USDA's COMET-Farm Tool was used to estimate water quality benefits and greenhouse gas emission changes. Analysis suggests that on one of Forrest's 35-acre fields from the study area the farm's use of no-till, cover crops, and nutrient management reduced nitrogen, phosphorus, and sediment losses by 4%, 33%, and 60%, respectively and resulted in a 252% reduction in total greenhouse gas emissions, which corresponds to taking two cars off the road each year.

Closing Thoughts

Commitment to using the most environmentally friendly practices guides crop production at the Mulligan Farm. "You can't give up after the first little failure" says Forrest. Soil health adoption supports improved operational efficiencies. For example, less labor allocated to tillage allows labor to be allocated to activities that provide additional crop value on a more consistent basis—cover crop establishment, double cropping winter cereals for forage following corn silage, growing and harvesting wheat and other crops. Overall, the Mulligan Farm's investment in soil health practices has led to improved soil health outcomes and coincide with improved economic performance.

Economic Effects of Soil Health Practices on Mulligan Farm (2019)

Net Income (Profit) Positive Effects

Increases in Total Value of Production (TVP)

ITEM	PER ACRE	ACRES	TOTAL
Value of crop production	$76.00	2,618	$198,968
Total TVP Increases			**$198,968**

Cost Decreases

ITEM	PER ACRE	ACRES	TOTAL
Fertilizers & lime	$11.00	2,618	$28,798
Fuels, oils & greases	$19.00	2,618	$49,742
Machinery hire, rent & lease	$27.00	2,618	$70,686
Total Decreased Cost			**$149,226**
		Total Increase Profit	**$348,194**
		Total Acres in this Study Area	**2,618**
		Annual Per Acre Increased Profit	**$133**

Net Income (Profit) Negative Effects

Decreases in Total Value of Production (TVP)

ITEM	PER ACRE	ACRES	TOTAL
			$0
Total TVP Decreases			**$0**

Cost Increases

ITEM	PER ACRE	ACRES	TOTAL
Seeds & plants	$8.00	2,618	$20,944
Spray & other crop expenses	$38.00	2,618	$99,484
Machinery repair & farm vehicle expenses	$2.00	2,618	$5,236
Other machinery expenses	$10.00	2,618	$26,180
Total Increased Cost			**$151,844**
		Total Decrease Profit	**$151,844**
		Total Acres in this Study Area	**2,618**
		Annual Per Acre Decreased Profit	**$58**

Annual Change in Total Profit = $196,350

Annual Change in Per Acre Profit = $75

Return on Investment = 129%

*Mulligan Farm received financial assistance through the Conservation Stewardship Program (2015–2020), Environmental Quality Incentive Program (2004-2007, 2015) for cover crops.

This table represents costs and benefits over the entire study area (2,618 acres) as reported by the farmer. • All $ values are expressed in real terms using USDA price indices, 2011=$100 (USDA/NASS, ERS et al. Various years). • Crop yield and expense data per Annual Farm Business Summary & Analyses, 1998 through 2019. • Analysis utilizes averages for yields and expenses for the pre and post soil health scenarios to calculate changes. • Value of crop production calculations based upon NYS Ag. Statistics Service prices received information. • Return on Investment is the ratio of Annual Change in Total Profit to Annual Change in Decreased Profit. • For information about: (1) study methodology, see nwnyteam.cce.cornell.edu; (2) USDA's COMET-Farm Tool, see cometfarm.nrel.colostate.edu. This material is based on work supported by 2019 Great Lakes Restoration Initiative 00E02807 & 2018 USDA NRCS grant NR183A75008G008.

For more information about this study or to discuss soil health practices, please contact

- Aaron Ristow, American Farmland Trust, New York Agricultural Stewardship Program Manager, aristow@farmland.org, 315-748-5029
- John Hanchar, Cornell College of Agric. & Life Sciences/CCE, Extension Associate, jjh6@cornell.edu, 585-991-5438
- USDA NRCS Livingston County Office, 11 Megan Drive, Geneseo, NY 14454, 585-243-0030

To read more case studies, visit farmland.org/project/genesee-river-demonstration-farms-network

Cropland In-Field Soil Health Assessment Worksheet

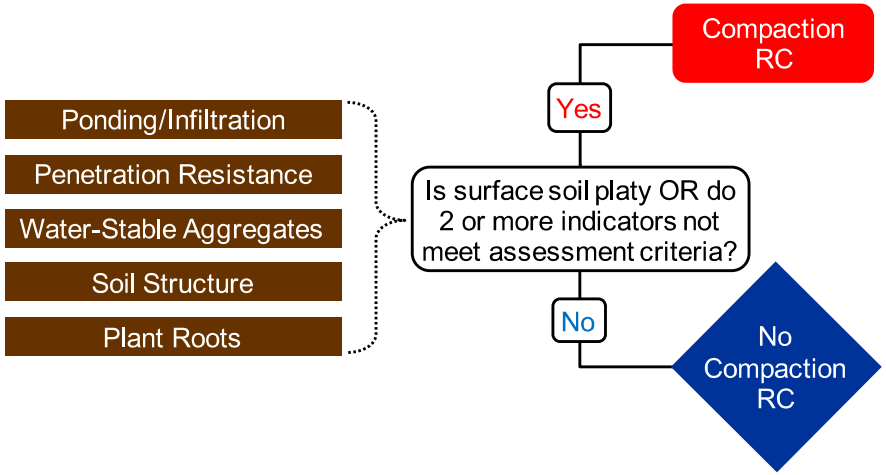
Soil Health Resource Concerns
CPT: Compaction
SOM: Soil Organic Matter Depletion
AGG: Aggregate Instability
HAB: Soil Organism Habitat Loss or Degradation
Location
Field/CMU
Tract #
Client/Customer
Plan
Date
Soil Map Units
Soil Moisture
Surface Horizon Texture

Indicator Timing and Use Anytime | After Rain or Irrigation | With Adequate Moisture | Before a Tillage Event Primarily No-Till Systems | Before Growing Season | During Growing Season | Interview	Meets Assessment Criteria (Yes/No)
Soil Cover | **SOM, AGG, HAB** • Surface cover from plants, residue or mulch; cover greater than 75% (estimated)	☐ Y ☐ N
Residue Breakdown | **SOM, HAB** • Natural decomposition of crop residues or organic mulch is as expected with crop and conditions	☐ Y ☐ N
Surface Crusts | **AGG, HAB** • Crusting on no more than 5% (estimated) of the field/CMU	☐ Y ☐ N
Ponding/Infiltration | **CPT, AGG** • No ponding on non-hydric soils within 24 hours following typical rainfall or surface irrigation event; • OR, no infiltration difference between assessment area and fencerow sample in the same soil type; • OR, soil infiltrates 1-inch of water in 30 minutes or less	☐ Y ☐ N
Penetration Resistance | **CPT** • Penetrometer rating <150 psi within top 6-inch depth and <300 psi in the 6 to 18-inch depth; • OR, slight or no resistance with wire flag inserted to 12-inches	☐ Y ☐ N
Water-Stable Aggregates | **CPT, SOM, AGG, HAB** • Strainer: soil structure remains intact with aggregates apparent; • OR, Soil Quality Test Kit (SQTK)/Jornada slake box meets stability class 5 to 6; • OR, Cylinder: At least 80% (estimated) remains intact after 5 minutes with little cloudy water	☐ Y ☐ N
Soil Structure | **CPT, SOM, AGG, HAB** • Granular surface soil structure and no platy or massive structure in top foot of soil	☐ Y ☐ N
Soil Color | **SOM** • No color difference between assessment area and fencerow sample in same soil type: • OR, value is on the darker range using color chart and official series description	☐ Y ☐ N
Plant Roots | **CPT, SOM, AGG, HAB** • Roots covered in a soil film (rhizosheaths) or are part of soil aggregates; • OR, living roots if present are healthy, fully branched, extended and unrestricted	☐ Y ☐ N
Biological Diversity | **SOM, AGG, HAB** • Evidence of more than 3 different types of organisms observed or biological hotspots present	☐ Y ☐ N
Biopores | **SOM, AGG, HAB** • Presence of multiple intact root or earthworm channels that extend vertically through the soil with some connecting to the surface	☐ Y ☐ N

Cropland In-Field Soil Health Assessment Resource Indicator Decision Trees

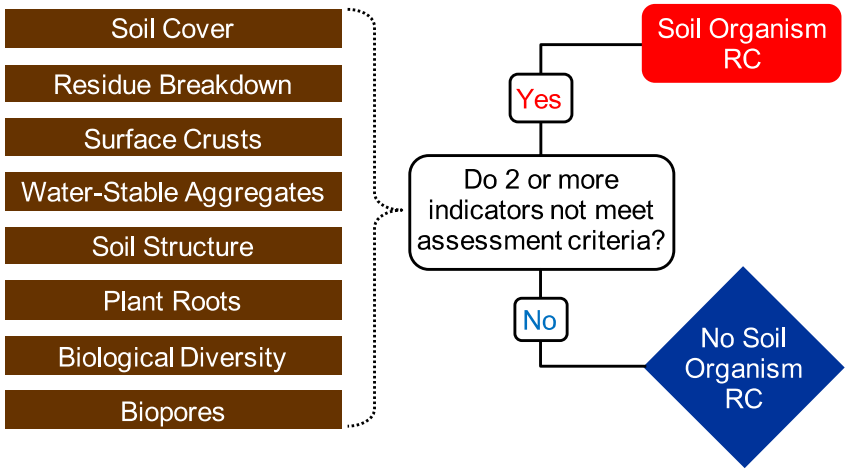
Compaction

Circle the indicators that do not meet assessment criteria during the evaluation and follow decision tree below to determine if the given resource concern (RC) is present. Document on worksheet.



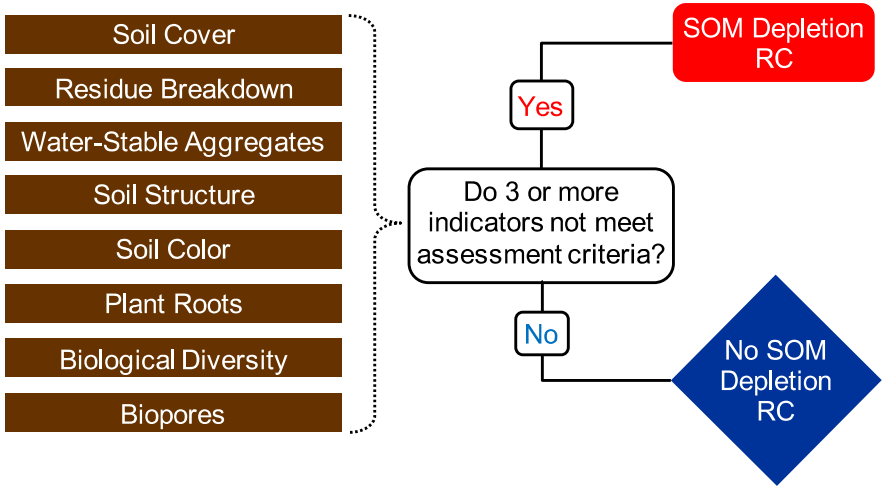
Soil Organism Habitat Loss or Degradation

Circle the indicators that do not meet assessment criteria during the evaluation and follow decision tree below to determine if the given resource concern (RC) is present. Document on worksheet.



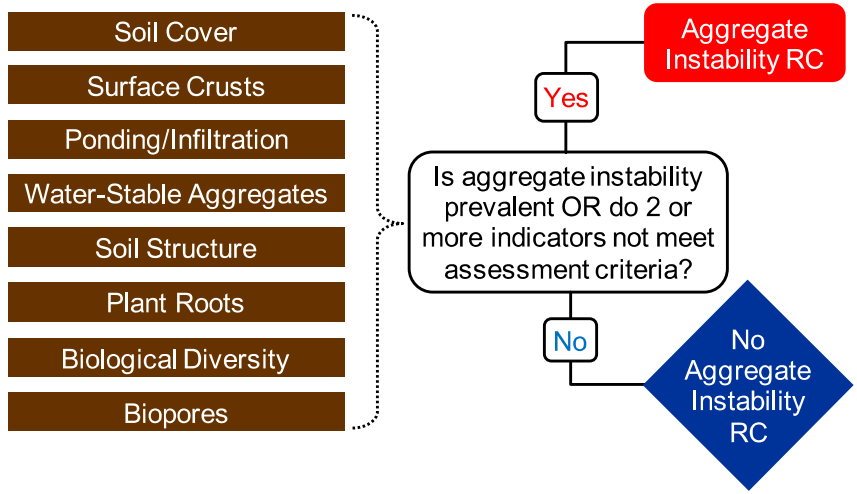
Soil Organic Matter Depletion

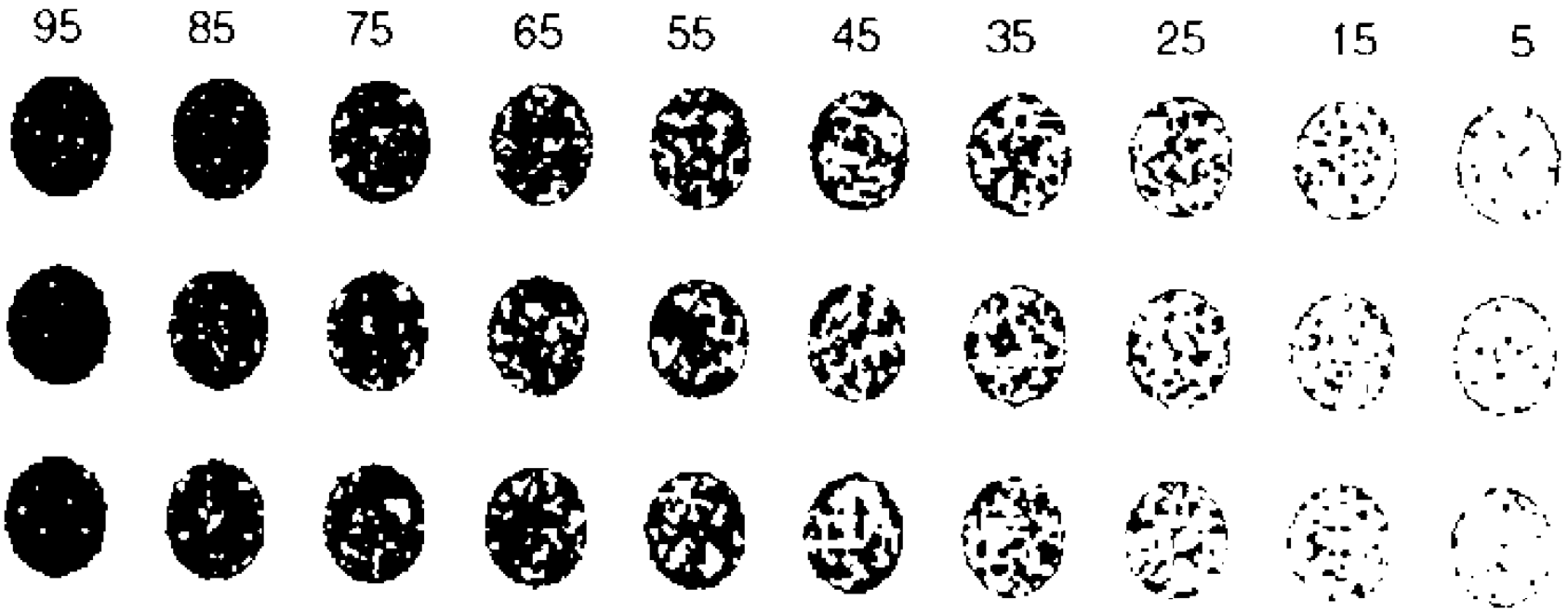
Circle the indicators that do not meet assessment criteria during the evaluation and follow decision tree below to determine if the given resource concern (RC) is present. Document on worksheet.



Aggregate Instability

Circle the indicators that do not meet assessment criteria during the evaluation and follow decision tree below to determine if the given resource concern (RC) is present. Document on worksheet.





Visual (Ocular) Method for Estimating Cover

WOMEN FOR THE LAND

Empowering women farmers and landowners to protect their land and embrace conservation

THE FUTURE OF AGRICULTURE IS INCREASINGLY FEMALE.

Launched in the Genesee River Valley in 2017, we have worked to build a

COMMUNITY

of women landowners, farmers, and aspiring farmers.

over **200** *women have connected into this network.*

Collectively, they represent **10,000** acres

We offer farm tours and Learning Circles covering topics such as:

- AGRICULTURAL STEWARDSHIP
- FOREST LAND MANAGEMENT
- FARM BUSINESS PLANNING
- RENTED LAND AGREEMENTS
- SUCCESSION PLANNING
- FARM PRESERVATION
- CLIMATE RESILIENCE

American Farmland Trust
SAVING THE LAND THAT SUSTAINS US

Today, 43 percent of U.S. farmland —nearly 388 million acres— is now farmed or co-farmed by women. Many of these women have a strong conservation ethic and are deeply committed to healthy farmland, farm families, and farm communities.

But women face gender-related barriers to managing their land for long-term sustainability. And while women increasingly are in primary decision making roles on farms and many are inclined towards conservation, they remain under-represented in their utilization of USDA and state-based conservation programs. These programs can support farm viability and conservation practice success.

AFT firmly believes that women are ideal partners in farmland protection and conservation of our working lands, and that we need to do more to reach them. Our Women for the Land Initiative helps play a role in closing these gaps. In our approach, we recognize the need to grapple with the historic and current structures that have enabled disparities along gender and racial lines to persist. We strive to embody this understanding in all that we do in the Women for the Land Initiative.

This initiative helps empower women landowners to adopt environmentally sound farming practices, protect farmland, and improve the viability of their farms. Women for the Land combines research, on-the-ground projects, and policy efforts to transform the agricultural landscape and develop new voices for conservation. We hope you'll be a part of this community.

For more information, questions, and how you can get involved, contact:

Stephanie Castle
New York Agricultural Stewardship Coordinator
Email: scastle@farmland.org Phone: 518.703.7203

FARMER'S GUIDE

Communicating with Farmland Owners

Landowners' expectations of farmers are changing; however, leasing land is an income opportunity, but frequently landowners are more concerned with keeping their land healthy and productive than strictly profits. Many landowners removed from agriculture want to be involved in the decisions made regarding their farmland, however they may avoid asking basic farming questions for fear of causing friction with their tenant farmers. As a farmer, you can help relieve this fear by communicating with your landowner about your farming practices.

By establishing successful conversations with your landowner, you'll be on the path to informing them and working with them in a way that meets their expectations. This document presents a roadmap for solving the puzzle of building farmer-landowner relationships.

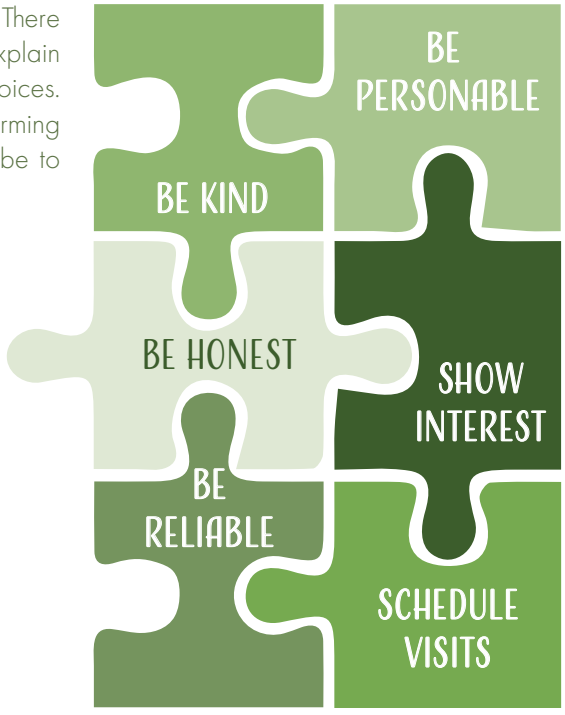
Building relationships through effective communications begins with

trust + understanding

Encourage your landowner's curiosity. There are no 'stupid questions' about farming. Explain why you make certain management choices. The more they understand about farming practices, the better equipped they will be to offer you flexibility and support.

Be up front with your landowner if a change needs to be made in the operation or you need to rectify a mistake.

Fulfill your promises. If something arises, communicate with your landowner.



Find something you have in common with your landowner and build on that. Take note of important life events such as birthdays or illnesses. Respond accordingly with cards, well wishes, or offers of support.

Prepare to listen even if your opinions on management choices on their land differ. Consider what they have to say, ask them what their concerns are, and discuss appropriate options.

Encourage your landowner to visit their property and offer to show them around. Explain the impacts of agreed upon management practices. Discuss potential changes for next year.

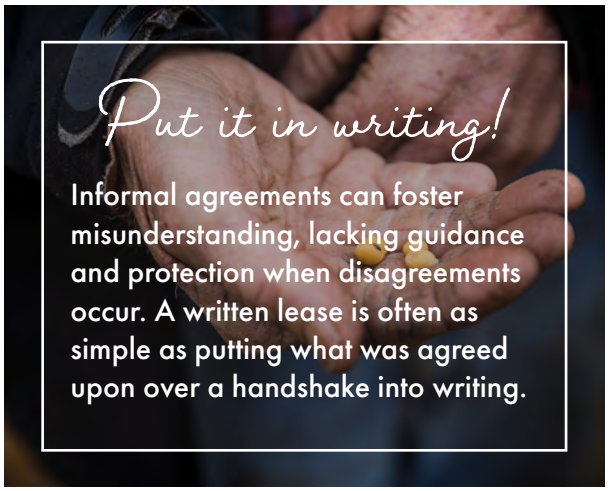
American Farmland Trust
SAVING THE LAND THAT SUSTAINS US

RIGHT COMMUNICATION, RIGHT SITUATION

Each landowner is unique in how they communicate as a whole. It is important to establish the best form of effective communication for your relationship. Technology makes communication moreconvenient than ever but miscommunication can happen quickly.

Consider asking the following questions to your landowner:

- Which method of communication would you prefer during the planting season (phone, email, or text)?
- How often should we meet face-to-face to check in, provide updates, and ask questions?
- What issues or concerns would you like to discuss?
- Would you like me to explain anything in further detail that you might not have understood?



RECOGNIZE THE SIGNS

Modes of communication are ever-changing and it is up to you and your landowner to determine what works best for your relationship in various situations. When communicating with your landowner, be aware of their tone and body language. By putting the pieces of the communication puzzle together you can ensure a future relationship with effective interactions and positive decisions with your landowner. This will guide you on what they might be thinking.

Furrowed Brow
Something is confusing or questionable. Re-word your statement or ask if they have any questions.

Mouth Slightly Open
Something to say but doesn't want to interrupt. Take a breather and let them get a word in.

Nodding and Leaning Forward
Agreeing and on board. You're doing great!

Avoiding Eye Contact
Uncomfortable with the current situation or distracted. Slow down and reassess. Think about what each others' main concern is and encourage discussion. Clearly communicate any immediate next steps and agree on a time to continue the conversation.

Crossed Arms, Hands on Hips, and/or Feet Pointed Away
Defensive and protective. Pump the brakes and address the issue.

For more information, questions, and how you can get involved, contact:
Stephanie Castle, New York Agricultural Stewardship Coordinator // scastle@farmland.org // 518.703.7203
Aaron Ristow, New York Agricultural Stewardship Program Manager // aristow@farmland.org // 315.748.5029