

Mapping the Regenerative Standards Landscape

16. January. 2020









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Sambazon Stonyfield Strategic Rise Partners Straus Family Creamery Studio Fab Sweet Additions Tiger Cool Express Traditional Medicinals Trayak Whole Foods Market



Our Speakers

Moderator



Lisa Spicka Associate Director Sustainable Food Trade Association (SFTA)



Sarah Andrysiak Senior Director, Climate and Agriculture Networks Green America Center for Sustainability Solutions



Elizabeth Whitlow Executive Director Regenerative Organic Alliance

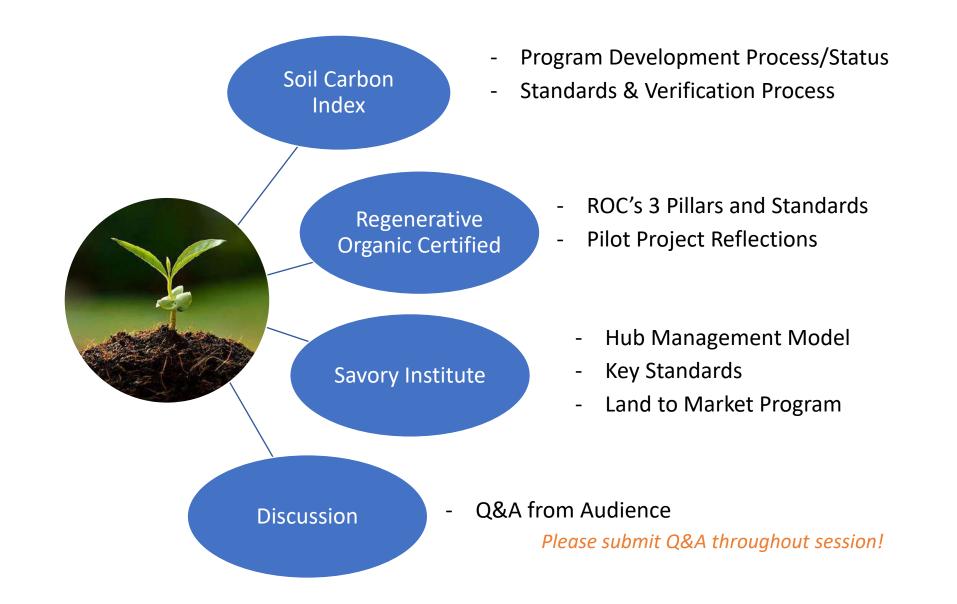


Chris Kerston Director of Market Engagement & Public Outreach

Savory Institute



Today's Program





Where is the Common Ground?

All three standards agree:

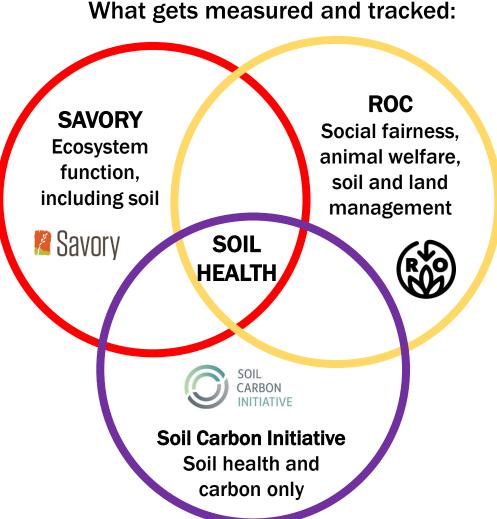
Healthy soil is foundational to healthy food, healthy people, and a healthy planet.

Shared principles across all three standards:

- 5 principles of soil health:
 - ✓ Soil armor (cover crops)
 - ✓ Roots in the ground
 - ✓ Biodiversity
 - ✓ Minimal disturbance (reduced tillage)
 - ✓ Integration of animals
- Continuous improvement is key
- Need for regionally specific, farmer-to-farmer education and outreach
- Need for third party verification / validation •
- Desire to improve agricultural data •
- Interest in alignment with other standards to grow the market and accelerate soil regeneration

✤ Differences:

- On pack or not
- Practices vs. outcomes
- The audit process



January 2020



THE SOIL CARBON INDEX (SCI)

A Verification and Recognition Standard To Facilitate Improvement in Soil Health

Sequestering soil carbon and building soil health to address climate change and restore farmer livelihoods



The goal of the Soil Carbon Initiative is to encourage, motivate and aid in the adoption of regenerative agriculture as a means to drive robust **soil health** and to mitigate – and even reverse – **climate change**, and provide all of the many benefits of soil health.

The Soil Carbon Index (SCI) standard – with growing interest from governments and farmers in the US, Thailand, Australia, Ecuador and more – will beneficially transform our soil, our climate, and our future.

SCI Design Team



In addition to the leadership of our design team, over 150 stakeholders, including farmers, farmer advocacy organizations, brands, retailers, ingredient suppliers, seed dealers, and technical advisors aligned on the design criteria and reviewed iterations of SCI.

We are grateful to Paloma Blanca Foundation and Kristina Hall for essential support of this work.





SCI Design Criteria and Vision

Design Criteria

- Provide independent, third-party verified standard for soil health and carbon sequestration
- Measure outcomes (don't dictate practices)
- > Achieve verified and meaningful results
- > Complement, and not compete with, existing standards: design for interoperability
- > Engage the entire agriculture spectrum from organic to conventional
- > Ensure that it works for farmers agronomically & economically
- > Evolve as new testing technologies emerge
- > Require ongoing improvement

Vision

- > SCI motivates everyone who touches the soil to sequester carbon and build soil health so that agriculture can help reverse climate change
- > SCI becomes the independent, thirdparty standard & verification process for carbon sequestration and soil health
- > Over time, SCI's data connects on-farm actions (regenerative agriculture) with carbon draw down to improve the validity of sustainability outcomes tracking (scope 3, science based targets, etc.)
- SCI is incorporated by on-pack certifications who want assurance of soilcarbon impact



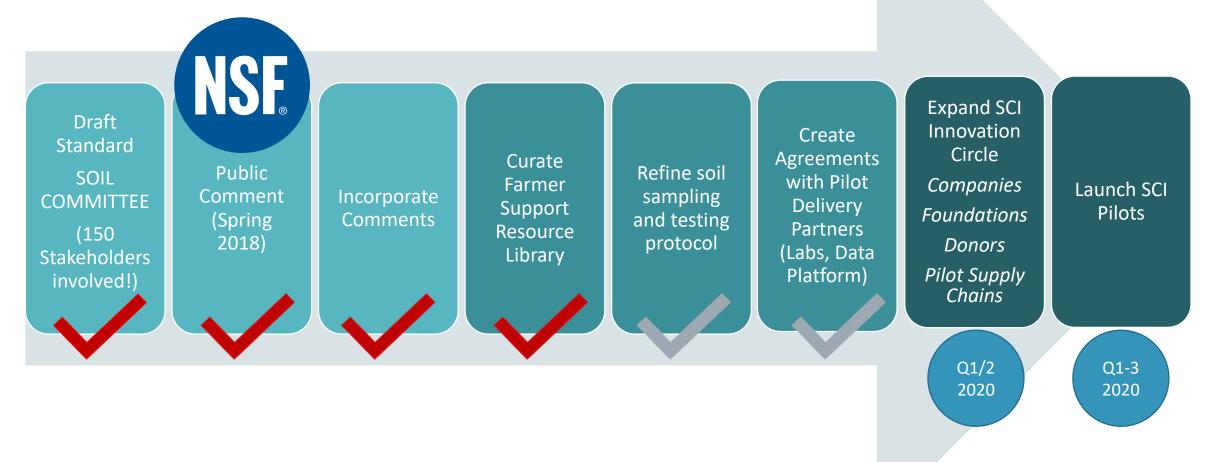
To ensure scientific rigor and on-farm utility, we formed a soil committee of expert farmers and soil scientists

- > Steven Apfelbaum, M.S., Applied Ecological Svcs.
- > Dr. Kofi Boa, Howard G. Buffett Foundation Centre for No-Till Agriculture
- > Roland Bunch, Consultant
- > Rebecca Burgess, M.Ed., Fibershed
- > Jill Clapperton, PhD., Rhizoterra
- > Rick Clark, Consultant and Farmer
- > Cynthia Daley, PhD., CA State University, Chico
- > Richard Haney, PhD., USDA ARS
- > Will Harris, White Oak Pastures
- > Jerry Hatfield PhD., USDA ARS
- > David Johnson, PhD., New Mexico State University

- > Daniel Kane, PhD., Yale University
- > Rattan Lal, PhD., The Ohio State University
- > Tim LaSalle, California State University, Chico
- > Andre Leu, Regeneration International
- > David Montgomery, PhD., University of Washington
- > Henry Rowlands, The Detox Project
- > Richard Teague, PhD., Texas A & M University
- > Eric Toensmeier, The Carbon Farming Solution
- > Steve Tucker, AgriForce Seed
- > Chris Weigert, Healthy Food Ingredients
- > Allen Williams, PhD., Joyce Farms



Soil Carbon Index Progress





Highlights



Open to everyone who touches the soil, regardless of production system, scale, crop or geography



Measures and verifies soil health & carbon sequestration outcomes (improvement & achievement)



Awards **points** for soil health, soil health knowledge and applying the five soil health principles



Functions at the field level not the product level (could be embedded in on-pack certifications)



Creates a **common measurement** framework to facilitate tracking and reporting at multiple scales



Launching pilots this spring to test and refine our protocols



SCI collects two types of data to verify outcomes: evidence of on-farm actions & soil test results

COMMITMENTS (self-reported evid<u>ence)</u>

- Learn/Teach re soil
 & ecosystem health
- Act to improve soil health
 - 1. Min soil disturbance
 - 2. Max biodiversity
 - 3. Soil covered
 - 4. Living roots
 - 5. Integrate animals

Checklists, photos, etc.

PERFORMANCE AREAS (soil test)

- Soil Organic Carbon
- Aggregate Stability
- Water Infiltration
- Microbial Biomass or Activity

lab test results or farmer-reported results of in-field tests leading indicators to monitor progress

OUTCOMES

- Carbon
 Sequestration
- Improved Soil Health

Verified outcomes based on lab tests

Directional indication of outcomes from selfreported data



All producers can participate in SCI

STEP	ACTION	ELEMENTS	FARMER STEPS		
1	Enrollment	Location, acreage, crops, other certifications	Sign up for the program (fields or farm)		
2	Make SCI Commitments	 Advance ecosystem & soil health knowledge Make plans/take actions aligned with core soil health principles (Complete baseline performance area test) 	 Engage in education Submit annual Commitment Plans Implement On-Farm Actions and monitoring 		
3	Earn Stamp of Participation	Recognizes that the farm is committed to Soil Health and Carbon Sequestration			
4	Measure Performance Areas through soil tests <i>Two tracks:</i> • <i>Reported (SCI-R)</i> • <i>Verified (SCI-V)</i>	 Soil Organic Carbon Water Holding Capacity Aggregate Stability Microbial Biomass (or microbial activity) 	 Baseline Test: gauge soil quality starting point through 4 performance area tests Test Performance Areas every 3 years Points for improvement and for achievement Use SCI sampling plan and testing protocol 		
5	Receive Verification (Points)	Farms that achieve required SCI points are designated "SCI-Verified" or "SCI-Reported" depending on their performance area testing track.			

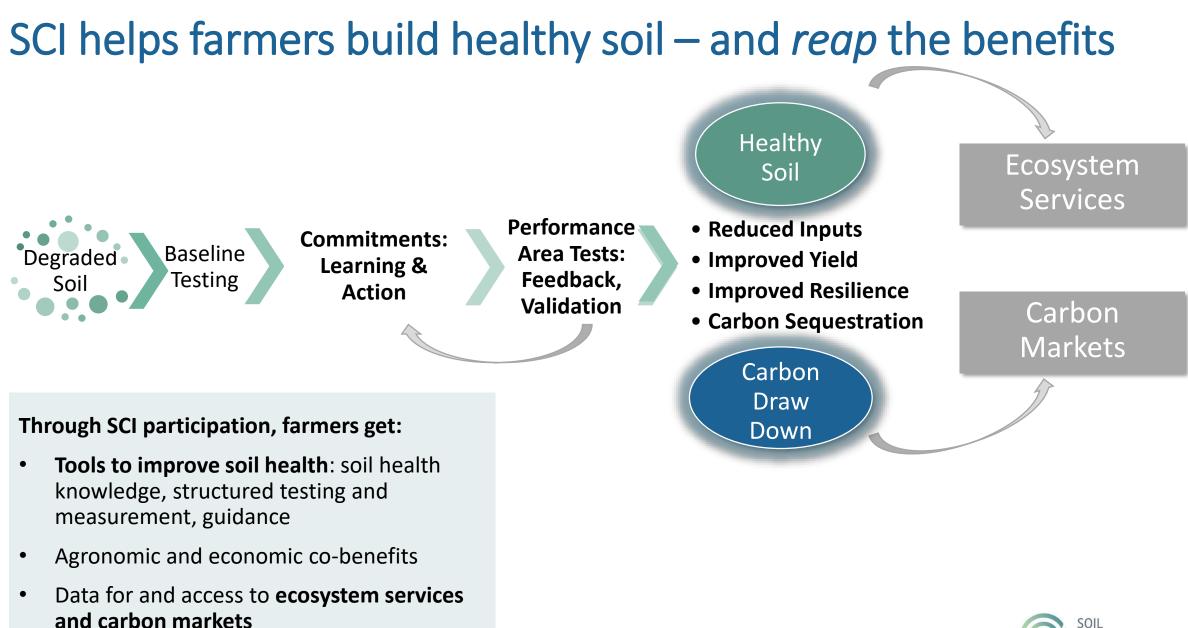


SCI's two tracks provide flexibility

SCI Verified	Supply Chain requires third-party verification of carbon sequestration and soil health impact			
Track	Farmers comply with sampling and lab test protocols (baseline, and sampling every 3 years)			
- 	Farmers are encouraged to track leading indicators to monitor progress on an annual basis			
SCI Reported	Supply Chain desired directional evidence of soil carbon accumulation and soil health			
Track	Farmers must complete baseline tests and required in- field tests and monitor and report on leading indicators			
	SCI will audit on-farm results periodically			

When desired, SCI facilitates participation in verified carbon market programs by allowing aggregation at landscape scale







Everyone who works with farmers can use SCI to motivate, measure and report on climate and soil benefits.

Coops/Brands/Retailers

SCI can track the regenerative activity of supply chains, or be a sourcing spec. Over time, SCI may support tracking other impacts such as pesticide use, biodiversity, and water.

Carbon Market Makers

SCI can reduce costs of administering and validating soil carbon by aggregating farms into landscapescale projects to drive down the cost of sampling and administration

Policy Makers

By providing SCI enrollments at landscape or regional level, SCI can help gauge climate change resiliency, watershed improvements and other ecosystem outcomes.

Ecosystem Project Investors

By measuring the soil health and soil carbon outcomes of projects, SCI can unlock ecosystem investment.

Ecosystem Service Markets

SCI's data on outcomes and actions can be used to validate results for Ecosystem Service Markets.

SCI provides a common framework for all agricultural stakeholders to measure, motivate and validate soil health improvements, carbon sequestration, and the reversal of climate change.





Next Steps

- Enroll additional pilots for the 2020 growing season
- Hire dedicated staff and launch significant fundraising to support scale up and roll out of SCI
- If you are interested in learning more, providing feedback, or participating in the pilot, please email me:



sandrysiak@greenamerica.org







Details if Questions Arise



Demonstrating Commitments Requires Learning and Action that Lead to Soil Health & Carbon Outcomes

Advance Knowledge of	Build Soil F	Health to sequest	er Carbon and	provide ecosyste	m benefits	
Soil & Ecosystem Health	Minimize Soil Disturbance	Maximize crop diversity and on- farm biodiversity	Keep the Soil Covered	Maintain Living Roots Year Round	Integrate Livestock	
	Farmers	submit annual co	mmitment rep	orts documenting	g actions	Soil Hea Improven
Checklist for learning:		which might include:				& increa carbo
Workshops		ips or Buffer Zones Application		ching Application ennial Planting		sequestra
Field Days	Cover Cro Crop Rota			inator Habitats, Insectar dlife Habitat	y Strips, or	capaci
Online	Forage &	Biomass Planting	• Red	uction of Off-Farm Input		Proven
resources Studies	Forest Sta Slash Trea	and Improvement and Fo atment		ycling of On-Farm Bioma Irian Restoration	ISS	Performa
Research	Grassed \	Waterways	• Silvo	opasture Establishment		Area Tes
papers	Herbacec Borders	ous Wind Barriers & Field		e / Shrub Establishment etative Barriers		
Peer to peer	Integrate	d Crops & Animals	• Wat	er Conservation and/or	Wetland	
network	Moisture	-Sensing Technologies fo	or Rest	coration dbreak & Shelter Belt Es		

The Performance Area Tests Allow Farmers to Track Progress and Validate Results

	Progress	Indicators	Third-Party Verified Results		
Performance Area	Qualitative Assessments	In-Field Tests	In-Lab Test	Recommended Depth*	Freq. (no more than)
Soil Organic Carbon	Soil Color	<u>Future Sensor</u> : Yale Quick Carbon	Dry Combustion TOC/TC	0-6", then subsoil 6- 12", 12-24", 24-36"	Once per year
			SOM (%LOI)	0-6″	Every 3 years
Water Holding Capacity	Water Infiltration Assessment	NRCS Infiltration Dual Head Infiltrometer	Pressure Plate	0-6″	Every 3 years
Aggregate Stability	Slake Test	Penetration Resistance	ARS Wet Aggregate Test	0-6"	Every 3 years
Below Ground	bial Arthropods <u>Future Sensor</u> :		PLFA	0-6″	Every 3 years
Microbial Biomass/Act.			Haney Test	0-6"	Once per year

*SCI will consider substitute tests on a case by case basis; farmers must choose at least one test in every performance area



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SCI Awards Points to document improvement and achievement

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A minimum number of commitment points must be achieved to earn the Stamp of Participation



- A minimum number of additional points must be earned for farmers to receive SCI Recognition.
- SCI-Reported designation is available to farmers who use infield tests and achieve a certain minimum number of points
- SCI-Verified is available to farmers who use lab tests and achieve a certain minimum number of points.



Farms must demonstrate **improvement** or high **achievement** in the performance areas.

Farmers are rewarded for learning and teaching.

Points For:

- Demonstrating
 Commitments (planning, implementing, learning)
- Completing the Baseline Tests
- Demonstrating Improvement in the Performance Areas
- Demonstrating strong soil health through the performance area tests
- Building Soil Organic Carbon



January 2020



The Regenerative Organic Certification



Healthy Soil = Healthy Food = Healthy People -J.I.Rodale, May 1942



JI Rodale

Robert Rodale



Regenerative Organic Certified is a holistic agriculture certification encompassing pasture-based animal welfare, fairness for farmer and workers, and robust requirements for soil health and land management.

Goals of the ROC

- Increase soil organic matter over time, and sequester carbon in the soil.
- Improve animal welfare.
- Provide economic stability and fairness for farmers, ranchers, and workers.

The Evolution of ROC

regenorganic.org

September 2017 First draft of ROC criteria released for public comments. March 2018 Over 400 comments incorporated; NSF contracted; pilots applied; new ROC released;

Winter 2020

ROA Board and Task Forces deliberate feedback and

implement changes to

December 2019 Pilot program

March 2019 Cert tools

and brands in eight countries

concluded; collecting

feedback certifiers & from participants

developed, pilot program launched with over 20 farms

framework; revised ROC standards will be released

Spring 2020

ROC open for general applications





Soil Health

- Builds Soil Organic Matter
- Conservation Tillage
- Cover Crops
- Crop Rotations
- No GMOs or Gene Editing
- No Soilless Systems
- No Synthetic Inputs
- Promotes Biodiversity
- **Rotational Grazing**

Animal Welfare

in

- **Five Freedoms**
- Freedom from discomfort
- Freedom from fear & distress
- Freedom from hunger
- Freedom from pain, injury or disease
- Freedom to express normal behavior
- Grass-Fed / Pasture-Raised
- Limited Transport
- No CAFOs
- Suitable Shelter

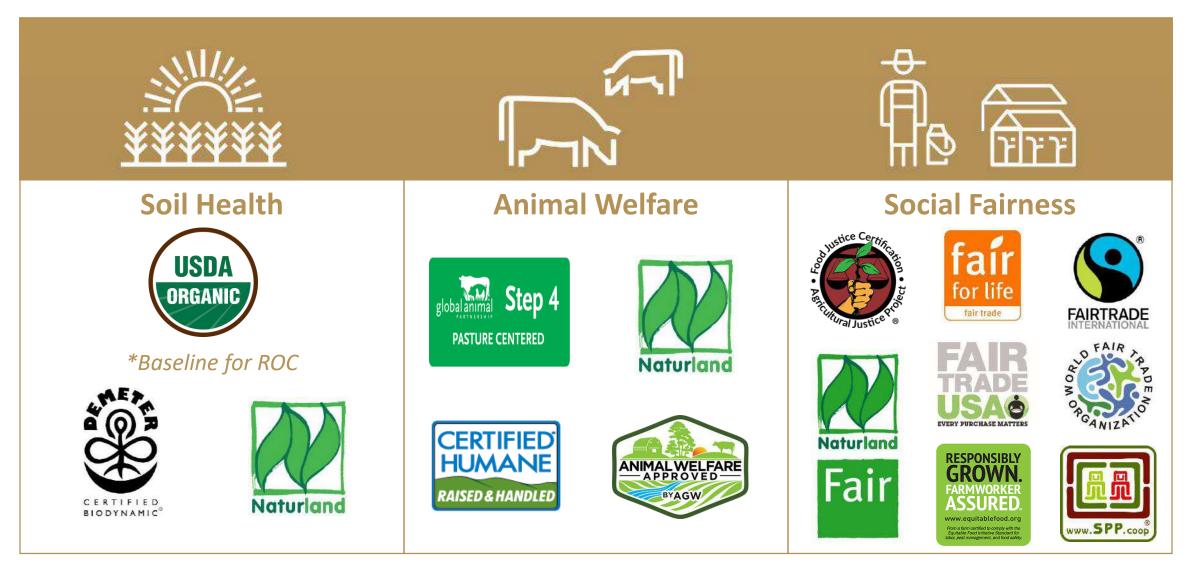


Social Fairness

- **Capacity Building**
- Democratic Organizations
- Fair Payments for Farmers
- Freedom of Association
- Good Working Conditions
- Living Wages
- Long Term Commitments
- No Forced Labor
- Transparency and Accountability



3 PILLAR APPROACH



Note: For each module, there are additional requirements that need to be met to achieve ROC

Requirements: Soil Health & Land Management



- **Existing Certification:** Organic certification is a baseline for ROC.
- Crops must be grown in the ground. Soil-less practices such as hydroponics, container, and aquaponics ineligible.
- **Conservation Tillage:** Tillage allowed only when necessary and never deeper than 10", except for planting perennials (e.g. tree crops)..
- **Pesticides & GMOs:** Organic pesticides that are highly toxic to pollinators are not allowed. Genetic modification and gene editing is prohibited, including emergring technologies..
- **Regenerative Practices:** The incorporation of practices to improve overall ecosystem health and productivity, as listed in ROC Framework.

Requirements: Animal Welfare

- Existing Certifications: Not required for operations without animals or commercial livestock production
 - Must hold recognized Animal Welfare certification (GAP 4 or above, AWA, Certified Humane) for any animal that is used in production of dairy, meat, or fiber.
- Feeding: Concentrated Animal Feedlot Operations (CAFO's) are prohibited. Operations must be pasture-based.
- Five Freedoms: All animals are verified to have freedom from hunger and thirst; discomfort; pain, injury & disease; fear and distress; and to express natural behaviors.



Requirements: Social Fairness



- Human Trafficking: People are not forced to work or remain on premises against their will.
- Child Labor: With the exception of family members, no children below the age of 15, legal age or age of compulsory schooling are employed.
- Fair Wages: Farms must demonstrate commitment to pay a living wage or progress towards it. Gold level certification requires living wages paid to all workers.

Regenerative Organic Alliance: Board of Directors

Rose Marcario, Patagonia

David Bronner, Dr. Bronner's

Jeff Moyer, Rodale Institute

LeRhea Pepper, Textile Exchange

Paul Dolan, Wild Farm Alliance

Dana Geffner, Fair World Project

Will Harris, White Oak Pastures

Rachel Dreskin, Compassion in World Farming



Rose Marcario



David Bronner



Jeff Moyer



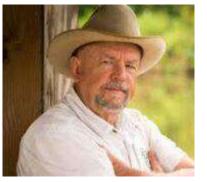
LaRhea Pepper



Dana Geffner



Elizabeth Whitlow, ED



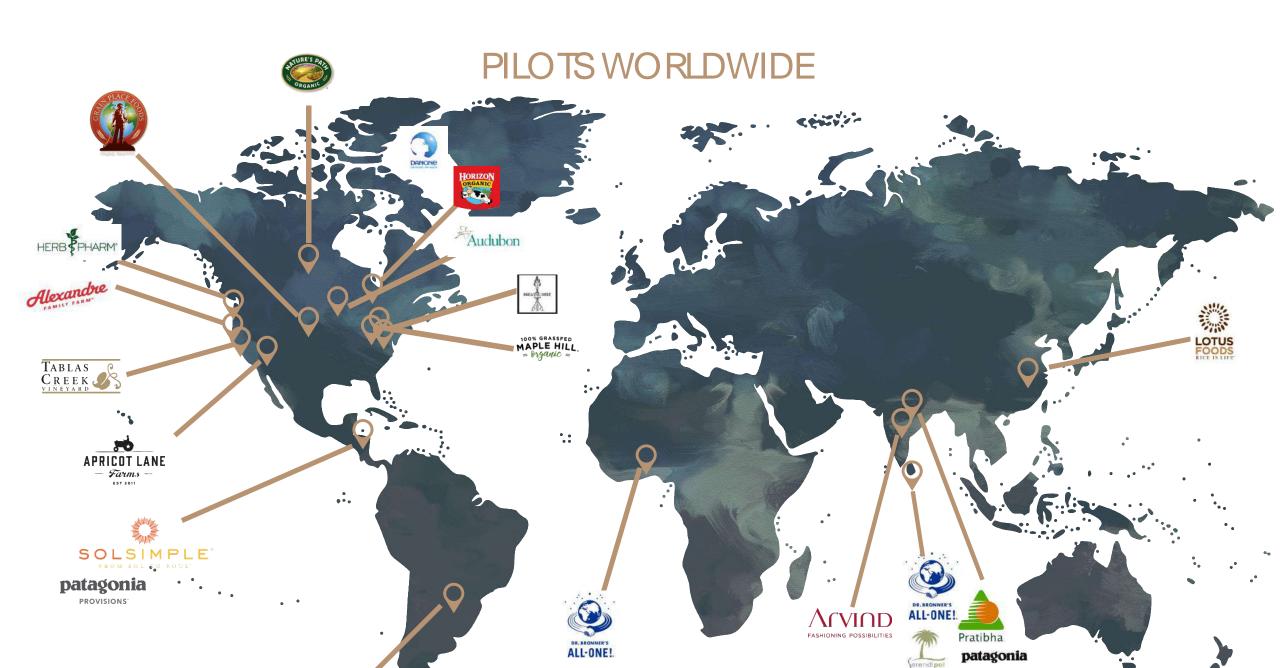
Will Harris



Paul Dolan



Rachel Dresken



PILOTS WORLDWIDE: Commodifies



Join us on the journey!

regenorganic.org



Regenerative Organic Certified



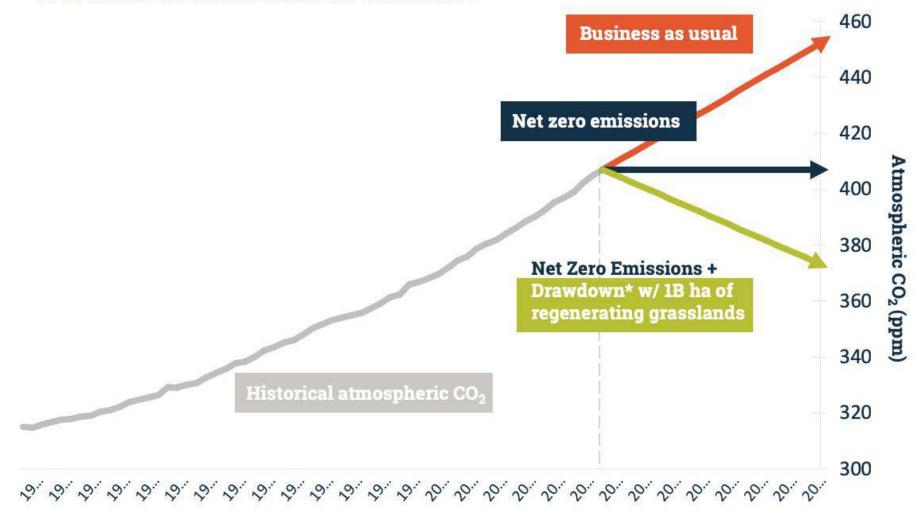
FACILITATING THE LARGE SCALE RESTORATION OF THE

http://savory.global

WORLD'S GRASSLANDS

ATMOSPHERIC CARBON DRAWDOWN

POTENTIAL FOR GLOBAL GRASSLAND REGENERATION TO PLAY A MAJOR ROLE IN REVERSING THE CLIMATE CRISIS



*At a rate of 3 tons C/ha/yr (Teague 2011), recognizing that some lands have the potential to drawdown more and others less, dependent on soil type, climate, and previous management practices.



Before

After

Annual Monoculture Manipulation of Parts Reactive

reductionist

Perennial Polyculture Management of Wholes

Proactive



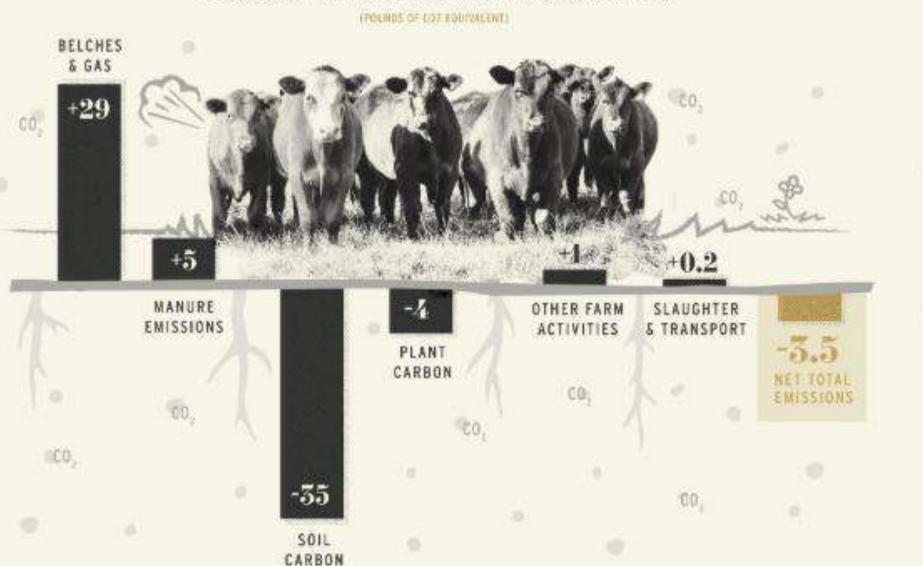


Australia

CAN CATTLE BE GOOD FOR THE CLIMATE?

WHITE OAK PASTURES BEEF SEQUESTERS MORE CARBON THAN IT EMITS

Emissions breakdown for every pound of White Oak Pasture's beef produced:



THROUGH WOP BEEF

DUCTION IN 2017

WAS SEQUESTERED IN THE SOIL

INITH THE HELP OF PLANTS - CONPOSI:

TONS OF CO2

SCALING UP: THE GLOBAL NETWORK



THE GLOBAL NETWORK

North America

- Arizona
- California (northern)
- California (southern)*
- Colorado
- Georgia
- Hawaii*
- Ohio
- Oklahoma*
- Maine*
- Manitoba, Canada*
- Michigan
- Missouri
- Minnesota
- New Hampshire
- Northern Territory, Canada
- Texas
- Virginia
- Wyoming*

Asia / South Pacific

- India*
- Pakistan
- New South Wales, Australia
- New Zealand
- Perth, Australia*

Central / South America

- Argentina
- Brazil
- Chile
- Colombia*

Europe

- Croatia*
- Denmark*
- Finland*
- France*
- Germany^{*}
- Spain
- Sweden
- Turkey
- United Kingdom

Africa

- Ethiopia*
- Ghana*
- Kenya
- Nigeria*
- South Africa
- Uganda*
- Zimbabwe

Our mission is now scaled across a nodal network of regional learning Hubs.



* denotes a Hub in training (12-18 month onboarding process)

LAND <u>to</u> MARKET^M



Producers want to differentiate, brands want access to supply



Contributors













CO2

SOIL HEALTH

Healthy soils absorb more carbon, retain more water, are richer in microbiota, and produce more nutritious foods.

BIODIVERSITY

Plants are more varied and resilient, wild and domestic animals are more plentiful, and soils are higher in microbiological content.

ECOSYSTEM FUNCTION

Water, sunlight, decaying matter, and minerals are cycled through a regenerative process of birth, growth, death and decay, and back to birth again.

Soil Health

Water Infiltration & Holding Capacity

Biodiversity

Ecosystem Function



eral

All properties are compared to a local reference area within their ecoregion Each property gets a score called an Ecological Health Index

Leading indicators have the most value for management

Lagging indicators have the most value for story & impact



The protocol verifies outcomes rather than practices

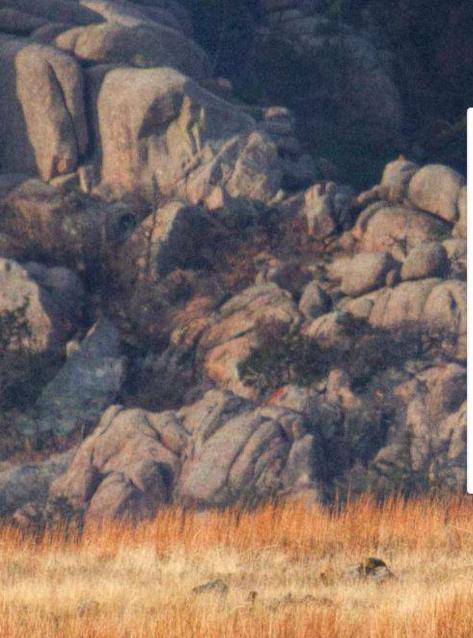
New Value Streams

- Premiums
- Market Share
- Whole Farm Utilization
- Ecosystems Service Markets
- Land Assessment



The entire program is designed to cultivate additional support for producers as needed







Email

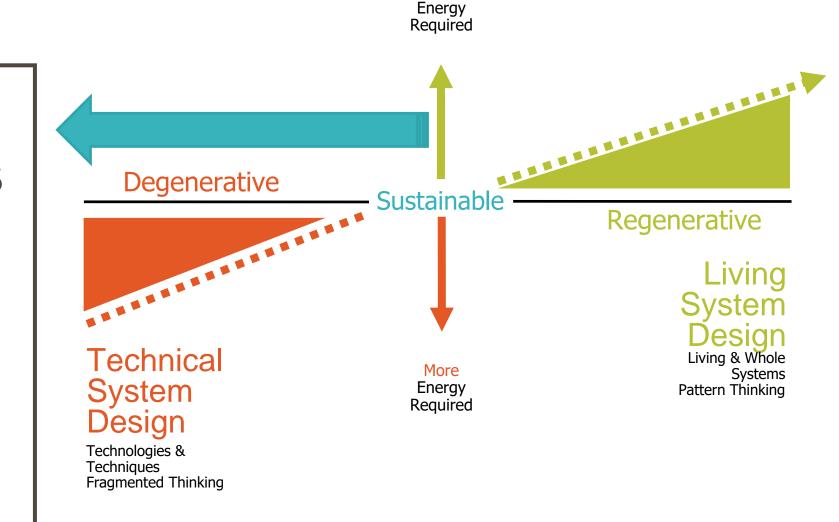
Password

SIGN IN

FORGOT PASSWORD



Sustainability is a bridge, Regenerative is the destination



Less

Savory





Frontier Founders

KERING

EILEEN FISHER









October 2018: first product w/ Ecological Outcome Verified

SRIRACHA BEEF BITES FROM EPIC PROVISIONS

- 1st EOV product available in the marketplace
- 100% of protein sourced from regenerating land base
- Positive trend in ecological health indicators verified with EOV data
- USDA approved label
- 40% uptick in sales on this product







Many more Land to Market products coming to market in 2020

Renewable Energy

Eco-Tourism

4



Bringing Food & Fiber Together







Empowers consumers like never before.



The world's first verified regenerative supply chain $\begin{array}{c} L A N D & \underline{t o} \\ M A R K E T^{\text{\tiny M}} \end{array}$



Meet growing consumer demand by training, supporting and verifying producers in their regions. The regenerative agricultural footprint grows.



PRODUCERS

Receive Ecological Outcomes Verification, join the regenerative supplier roster, and get preferential access to brands and retailers.

REGENERATING LAND



Source from the verified regenerative supplier roster, publicize their involvement in Land to Market, and build consumer loyalty and demand.

BRANDS &

RETAILERS

CONSUMERS

Choose health and wholeness for themselves and for the land through their food and fiber purchases. Demand for regenerative products increases.



The World's First Verified **Regenerative Sourcing** Solution

1200-

Join us on this journey. Savory

Chris Kerston Savory Institute Director of Market Engagement ckerston@savory.global savory.global/landtomarket



Discussion

Moderator



Lisa Spicka Associate Director Sustainable Food Trade Association (SFTA)



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Elizabeth Whitlow Executive Director Regenerative Organic Alliance



Chris Kerston Director of Market Engagement & Public Outreach

Savory Institute





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