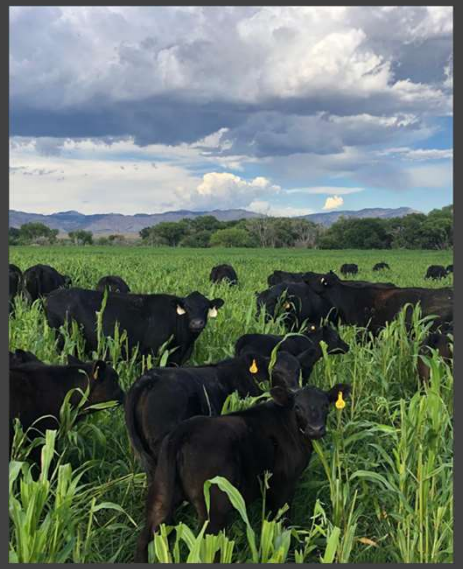
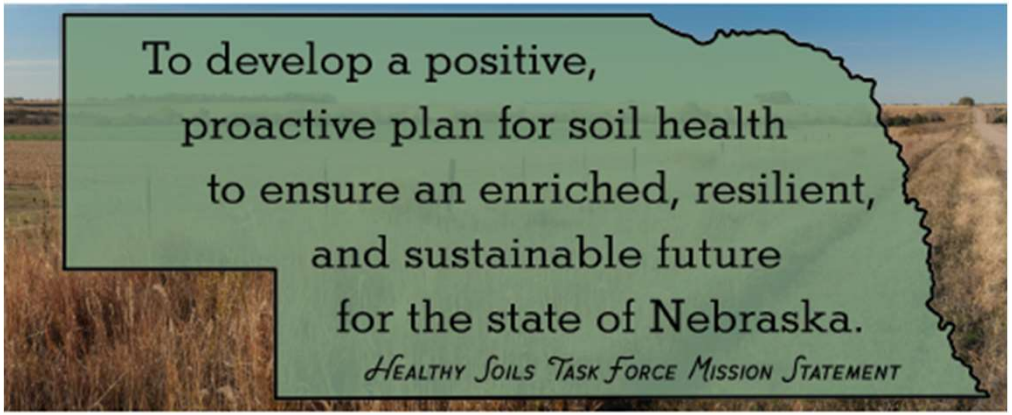


Soil Health For Nebraska Wealth

The Nebraska Healthy Soils Task Force Report

LB 243



Position (alphabetically)
Name
City, County

Academic
Dr. Ronald Bolze, Jr.
Chadron, Dawes

Academic
Dr. Charles Shapiro
Omaha, Douglas

Agribusiness; Chair
Keith Berns
Bladen, Webster

Agribusiness
Raymond Ward
Kearney, Buffalo

Agriculture Committee
Senator Julie Slama
Peru, Nemaha

Environmental
Dr. Hannah Birge
Omaha, Douglas

Environmental
Nathan Pflueger
Osceola, Polk

Nat. Resources Committee
Senator Tim Gragert
Creighton, Knox

Nebr. Dept. of Agriculture
Steve Wellman
Syracuse, Otoe

Natural Resource District
Dr. Mike McDonald
Palmyra, Otoe

Natural Resource District
Jeffrey Steffen
Crofton, Cedar

Production Agriculture
Jerry Allemann
Wayne, Wayne

Production Agriculture
Richard Bartek
Ithaca, Saunders

Production Agriculture
Robert Bettger
Fairmont, Fillmore

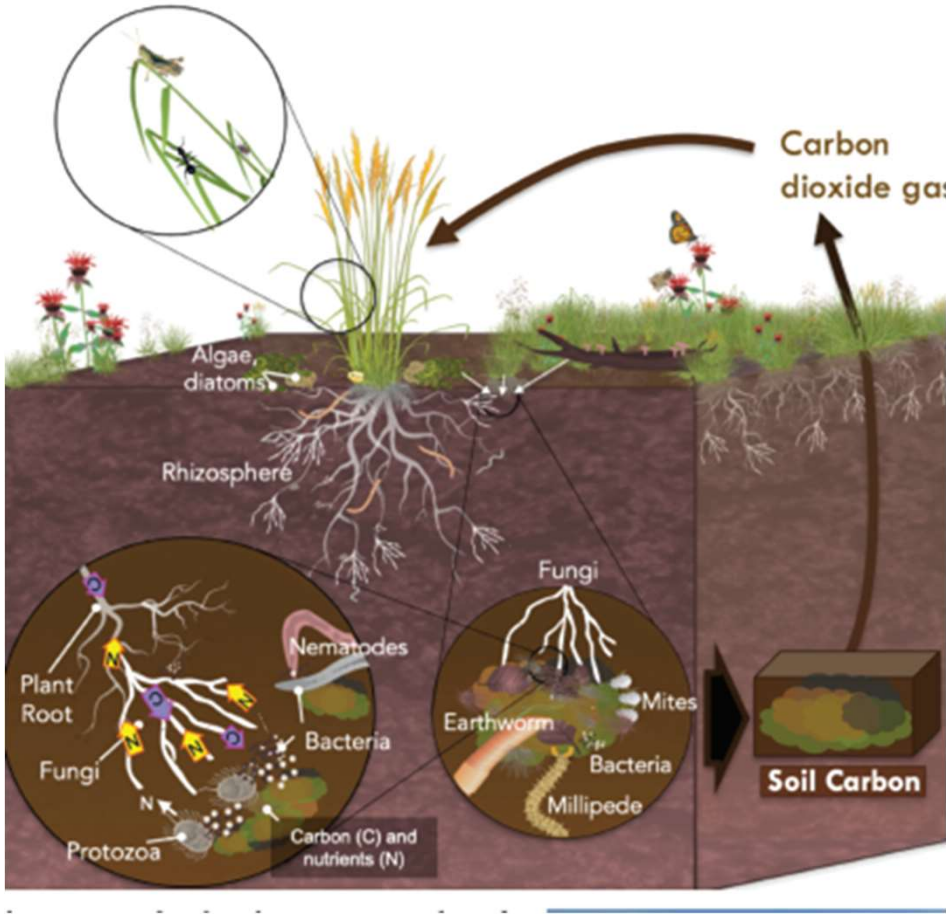
Production Agriculture
Lisa Lunz
Wakefield, Dixon

Production Agriculture
Steven Tucker
Venango, Perkins

Production Agriculture
Gregory Whitmore
Shelby, Polk

What is Soil Health?

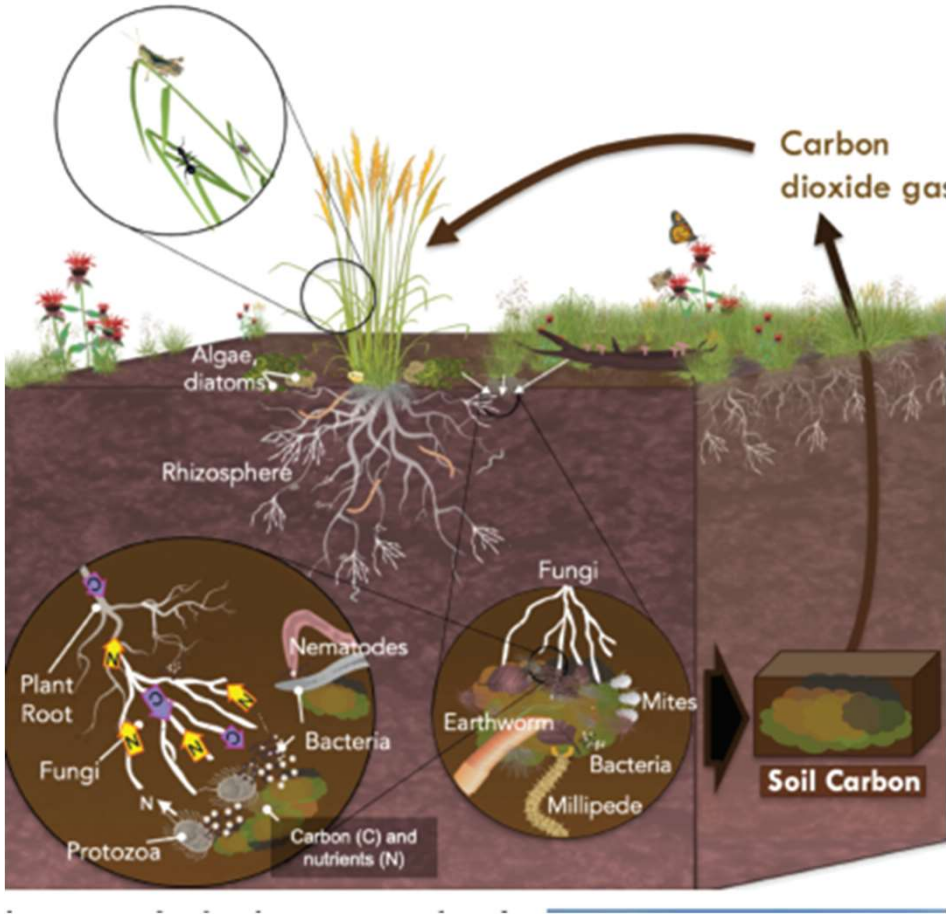
- *Soil health is the capacity of the soil to function as a dynamic living ecosystem that nourishes plants, sustains animals and people, and improves the environment.*



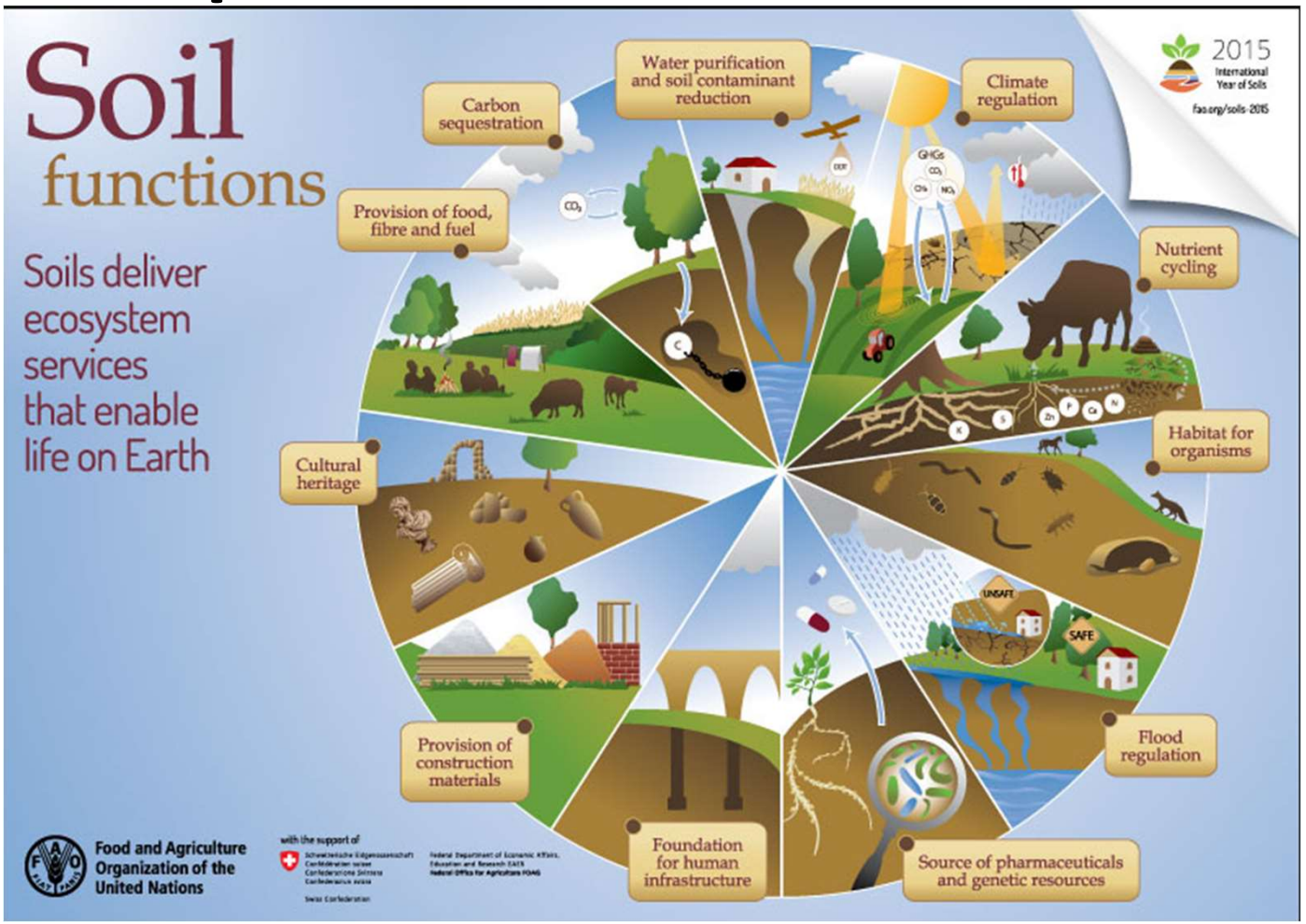
What is Soil Health?

A soil becomes healthier when:

- *organic matter levels are increasing (carbon sequestration)*
- *water infiltration rates are improving (reducing erosion, runoff, and flooding)*
- *the soil's biological life is diverse and abundant.*



Why Is Soil Health Important?



Why Is Soil Health Important?

- Improved water quality
- Reduced erosion and sedimentation
- Healthy soils and healthy people
- Lower inputs and better profit for farmers (healthy economics)
- Improved quality of life
- Wildlife and pollinator benefit
- Resiliency against extreme weather

Economic Case Study – Jeff Steffen

Jeff Steffen Crop Expenses vs. University of Nebraska 2019 Crop Budget			
Cost to Produce Bushel of Grain			
Crop	Lowest Cost UNL Budget		Jeff Steffen's Farm
Irrigated Corn (Pivot)	$2.91		$2.79
Dryland Corn	$3.24		$2.83
Irrigated Soybeans	$7.45		$6.52
Dryland Soybeans	$7.48		$6.38
Winter Wheat		78 Bu/A	$5.04
Oats		120 Bu/A	$2.90
Corn and Soybean Yields in Trendline with County Averages			
Source: UNL 2019 Crop Budget, Jeff Steffen Farm Data 2016-2018			

You need a living root in the soil in order to reduce applied nitrogen...and I cut back on my nitrogen slowly over time (0.59# per bu of corn). I've been able to go with all conventional soybeans now, saving on seed cost.

- I don't have any insecticide or fungicide treatment costs, and I'm no-till so I don't have extra fuel expenses.
- By keeping things covered, we are able to reduce inputs, get as good or better yields and improve water infiltration and water-holding capacity in the soils. To truly build organic matter with cover crops, you really need to add that small grain to the rotation.

Soil health determines the productive capacity of any agricultural practice... By improving soil health, we can produce more from less: less land, less water, less fertilizer, less pesticides, less environmental damage, less emission of greenhouse gases.

Principles of Soil Health

Principles of Soil Health

Keep The Soil Covered

Principles of Soil Health

Minimize Soil Disturbance

Principles of Soil Health

Maximize Diversity

Principles of Soil Health

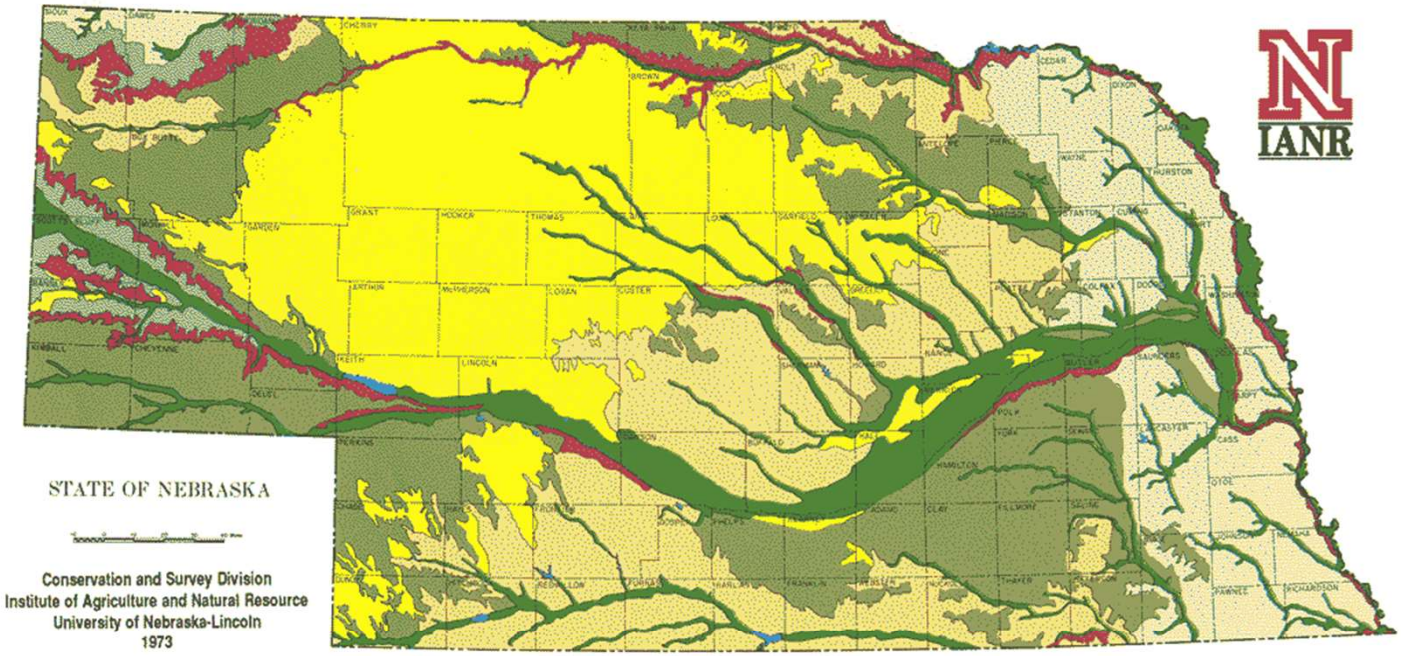
Minimize Life and Growth of Plants

Principles of Soil Health

Integration of Livestock

Principles of Soil Health

Know the Context



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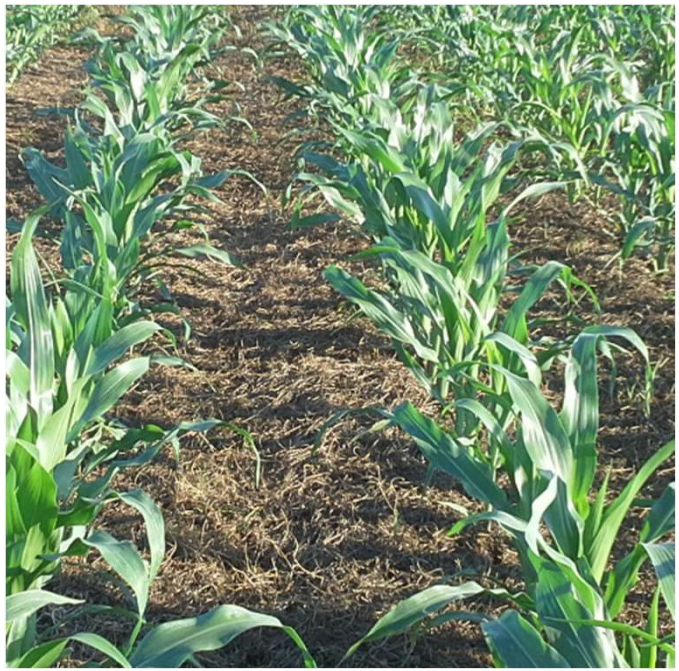
Barriers to Soil Health Adoption

- *Education and Information Availability vs. Producer Awareness*
- *Understanding the Economic Impact of Soil Health Practices*
- *Non-operating Landlords*
- *Lack of Adequate Incentives and Discounts for Adoption*
- *Universal Soil Health Measurement Standards*
- *Corn-Soybean Rotation and Cover Crop Implementation*
- *Increased Management Requirements for Soil Health Practices*
- *Integration of Crops and Livestock*
- *Soil Health Education for Pasture and Range Management*

The Initiative

Soil Health for Nebraska Wealth

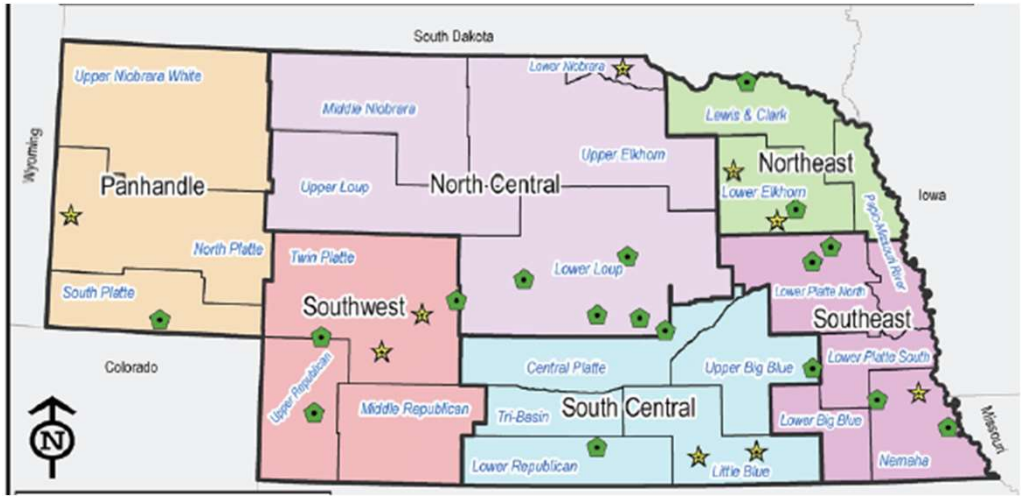
1. Develop better methods to measure soil health.
2. Improve coordination, collaboration, and communication
3. Be more tactical in programs offerings
4. Increase soil health awareness and knowledge.
5. Demonstrate best soil health practices on a regional basis.
6. Focus on the economic benefits of soil health
7. Enhance soil health learning
8. Increase research around soil health.
9. Actively pursue multiple sources of funding



The Initiative Goals

Soil Health for Nebraska Wealth

1. Establish the Nebraska State Soil Health Hub with Regional Proving Ground
   - Communicate
   - Coordinate
   - Collaborate
   - Facilitate
   - Promote
   - Recruit



The Initiative Goals

Soil Health for Nebraska Wealth

1. Establish the Nebraska State Soil Health Hub with Regional Proving Ground
2. Form a Nebraska Statewide Producer Learning Community

The Initiative Goals

Soil Health for Nebraska Wealth

1. Establish the Nebraska State Soil Health Hub with Regional Proving Ground
2. Form a Nebraska Statewide Producer Learning Community
3. Develop the Next Generation of Soil Health Practitioners

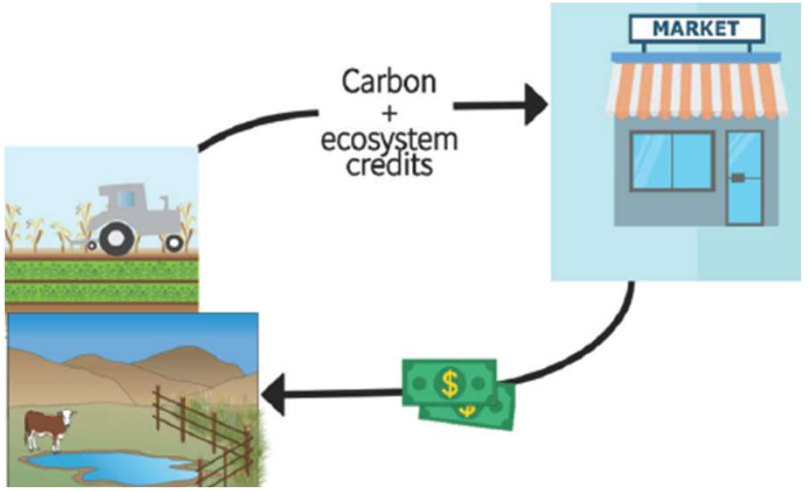
Nebraska
INSTITUTE OF AGRICULTURE & NATURAL RESOURCES

NEBRASKAgriculture In The Classroom

The Initiative Goals

Soil Health for Nebraska Wealth

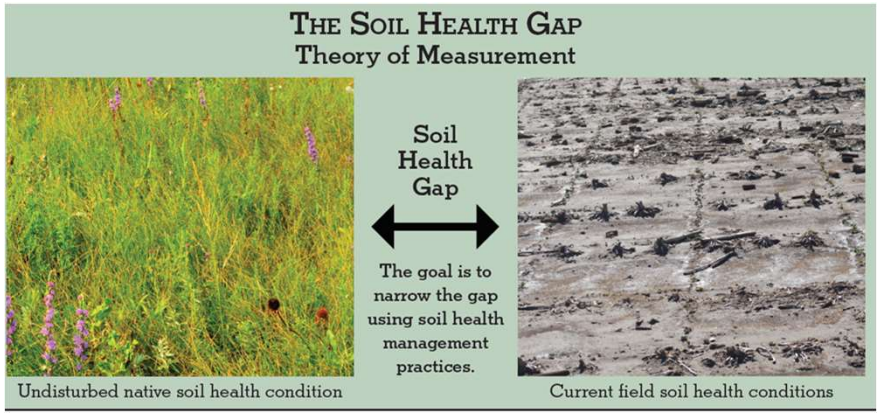
1. Establish the Nebraska State Soil Health Hub with Regional Proving Ground
2. Form a Nebraska Statewide Producer Learning Community
3. Develop the Next Generation of Soil Health Practitioners
4. Recruit $50,000,000 in Additional Soil Health Funding and Incentives Over the Next 10 Years

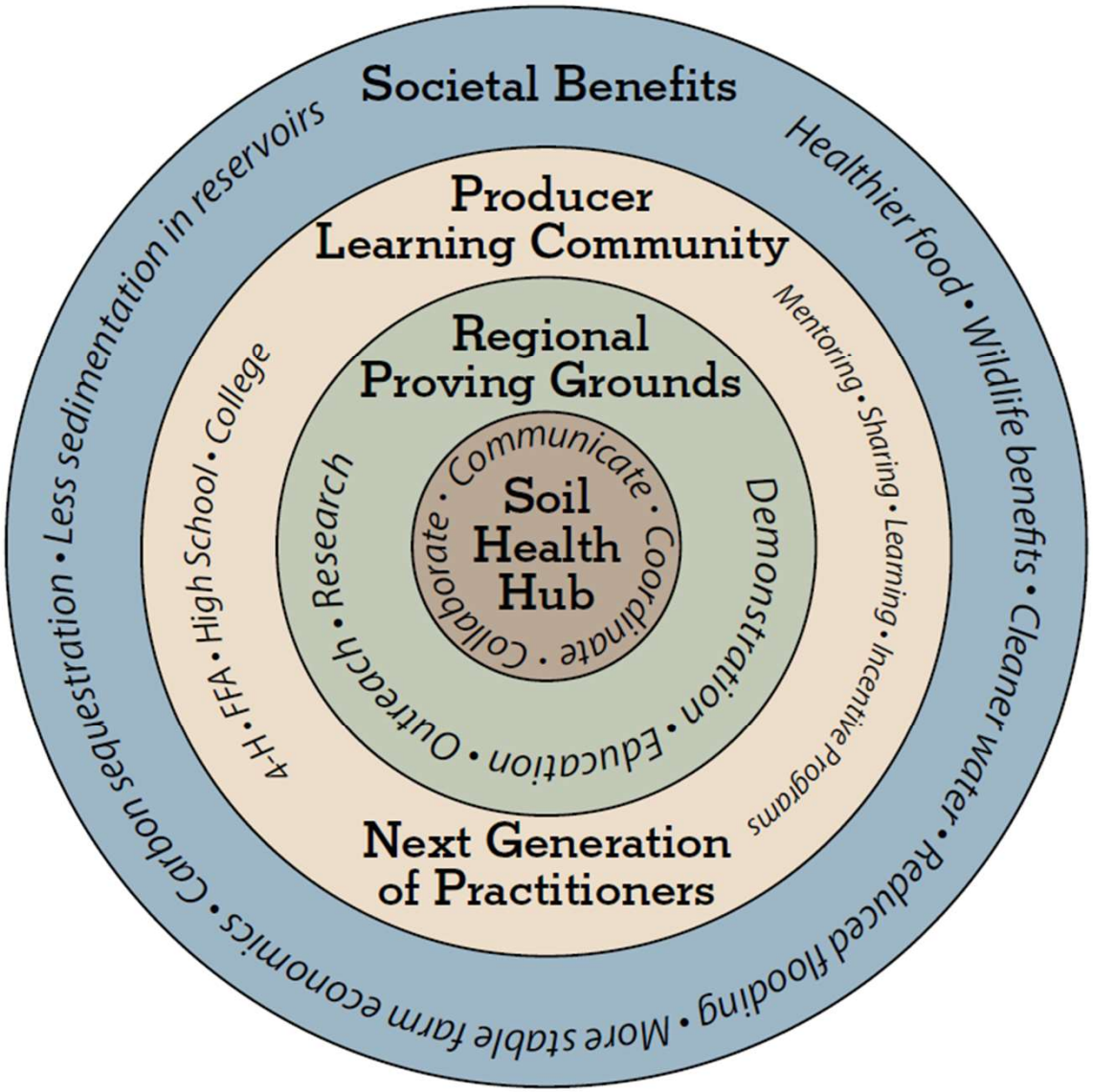


The Initiative Goals

Soil Health for Nebraska Wealth

1. Establish the Nebraska State Soil Health Hub with Regional Proving Ground
2. Form a Nebraska Statewide Producer Learning Community
3. Develop the Next Generation of Soil Health Practitioners
4. Recruit $50,000,000 in Additional Soil Health Funding and Incentives Over the Next 10 Years
5. Establish Nebraska Soil Health Measurements and Benchmarks





Soil Health for Nebraska Wealth

The Initiative

Soil Health for Nebraska Wealth

- This Initiative and all goals are 100% voluntary, and no mandates or regulations are desired, implied or encouraged.
- The proposed Hub is not another level of red tape or bureaucracy but rather a cooperative effort between soil health stakeholders for the mutual benefit of all.
- To be successful, this Initiative needs support by: UNL, NRD's, NRCS, NDA, Commodity Groups, Agriculture Organizations, Agribusiness and NGO's, absentee land-owners, urban water...the range of stakeholders.

The Initiative

There is widespread support for this Initiative. 31 different groups from across Nebraska had input into this report; the support is strong and the desire to participate in future work is clear. 28 letters of support are included in the final report.

Cargill	Center for Rural Affairs	Farm Credit Services
General Mills	Midwest Row Crop Collaborative	Nebraska and National Izaak Walton League
Nebraska Bankers Association	Nebraska Cattlemen Association	Nebraska Corn Board
Nebraska EPA	Nebraska Farm Bureau	Nebraska Farmers Union
Nebraska Game and Parks Commission	Nebraska Grazing Land Coalition	Nebraska NRCS
Nebraska Association of Resources Districts	Nebraska Natural Resources Commission	Nebraska Natural Resource Districts
Nebraska Regenerative and Common Ground	Nebraska Soybean Board	Nebraska Sustainable Agriculture Society
Nebraska Wheat Board	The Nature's Conservancy	Nebraska Dept. of Environment and Energy
UNL Water and the Daugherty Institute	UNL Ag. Economics	UNL Agronomy and Horticulture Dept.
UNL Extension	UNL Precision Ag., Wildlife and Conservation	The Sandhills Task Force
Nebraska Cooperative Council		

Soil Health for Nebraska Wealth

The Initiative – Next Steps

Soil Health for Nebraska Wealth

- **Goal #1**"*Establishing the Nebraska State Soil Health Hub with Regional Proving Grounds"* is the most critical step in accomplishing the Initiative. A Soil Health Hub Formation Summit meeting for all interested parties should be scheduled, advertised, and held to form a team to begin the process of creating a Hub.

The Initiative – Next Steps

Soil Health for Nebraska Wealth

- **Goal #2** "*Producer Learning Community*" working groups focused on precision agriculture, economics, and natural resource conservation should be launched by UNL, NRCS, NRDs, and other interested and qualified parties.

The Initiative – Next Steps

Soil Health for Nebraska Wealth

- **Goal #3** *"Developing the Next Generation of Soil Health Practitioners"* can be launched by a group led by UNL and other educational representatives along with individuals who have a passion for education and development.

The Initiative – Next Steps

Soil Health for Nebraska Wealth

- **Goal# 4** "*Additional Soil Health Funding*" will need to be driven by the Soil Health Hub. This goal will likely not be worked on until the Hub is formed and active.

The Initiative – Next Steps

Soil Health for Nebraska Wealth

- **Goal #5** *"Establish Nebraska Soil Health Measurements and Benchmarks"* should be initiated by a technical committee composed of representatives from NRCS, UNL, and the NRDs with other interested and qualified parties invited to participate in the process.

Next Steps Contacts

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- **Alan Moeller:** amoeller1@unl.edu

Soil Health for Nebraska Wealth