



New Meets Old:

Fusing generational knowledge and new technology to enhance soil health and sustainability (stewardship)

Bill Buckner
President and CEO

THE SAMUEL ROBERTS
NOBLE
FOUNDATION



Dust Bowl ruined topsoil.





Green Revolution: Norman Borlaug







Today's
"experts"
are still
pioneers
when it
comes to
soil health.





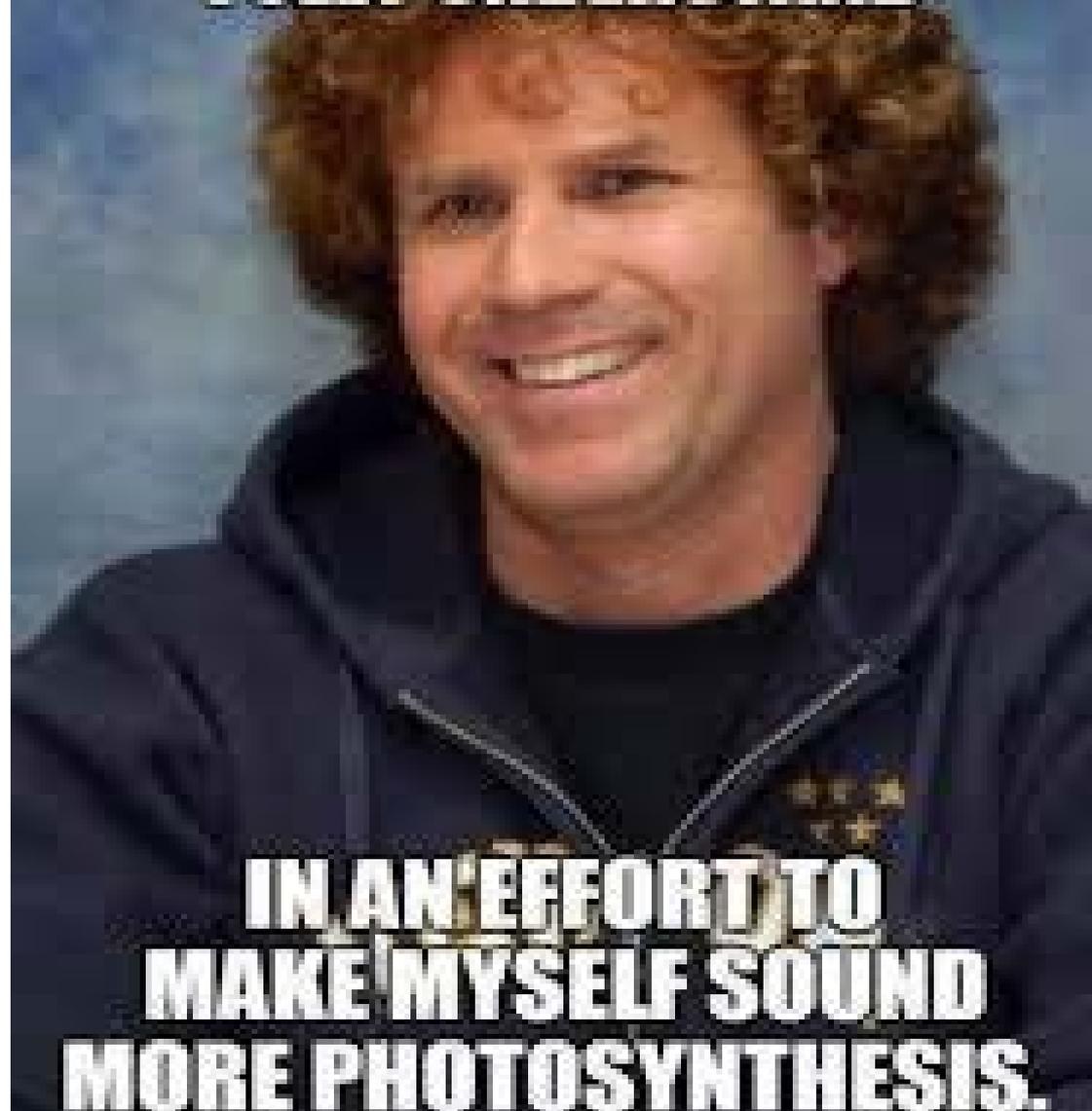
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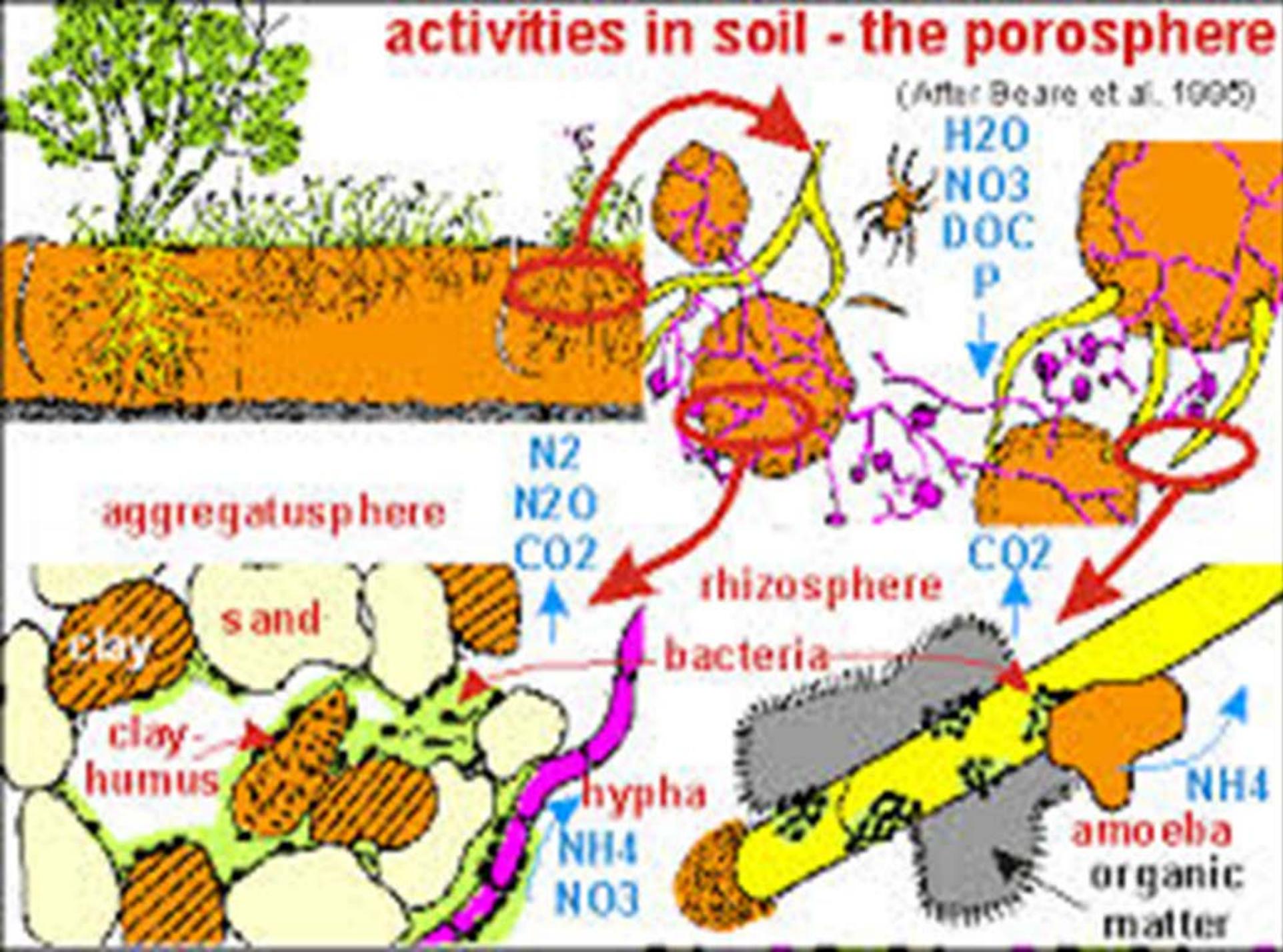
**SOMETIMES, I USE
BIG WORDS I DON'T ALWAYS
FULLY UNDERSTAND**



**IN AN EFFORT TO
MAKE MYSELF SOUND
MORE PHOTOSYNTHESIS.**

activities in soil - the porosphere

(After Beare et al. 1995)





Cover crops hold many benefits.



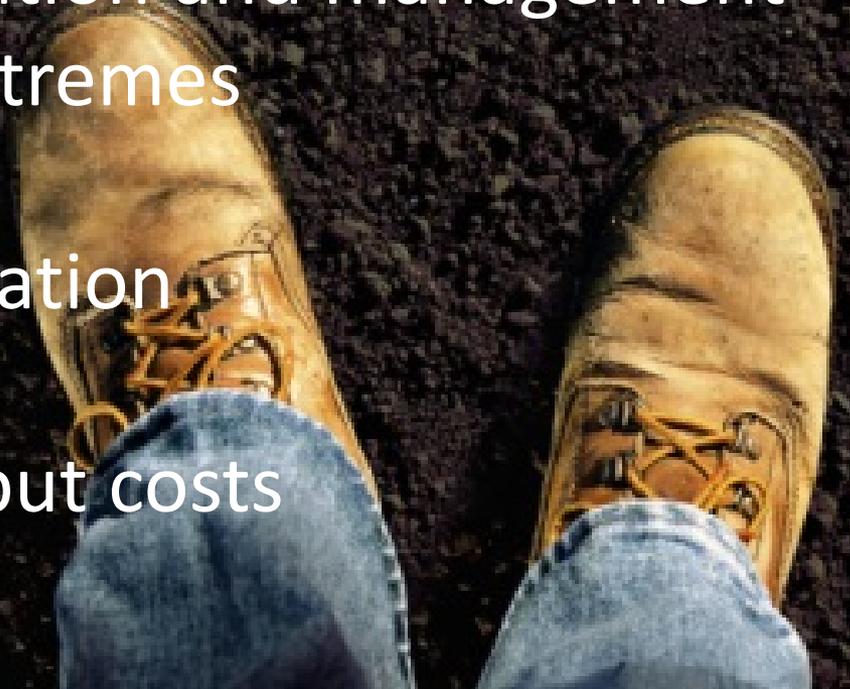




If, as you say,
the farmer's truck is only for joy rides,
how come none of the others ever came back?

Benefits of Improved Soil Health

- Elevated levels of organic matter
- Water retention
- Water filtration
- Improved nutrient utilization and management
- Resilience to weather extremes
- Less soil erosion
- Greater carbon sequestration
- Enhanced crop yields
- Potential for reduced input costs



Daisy Outdoor Products



Daisy Air Rifles:
Keeping Kids Off Your
Lawn Since 1886!

2000-2002



A Strategic Plan to Advance Soil Health



“No civilization has outlived
the usefulness of its soils.
When the soil is destroyed,
the nation is gone.”

Lloyd Noble
(1896-1950)
oilman, philanthropist



THE SAMUEL ROBERTS
NOBLE
FOUNDATION

Farm 
Foundation®

Who Are We?



- The Samuel Roberts Noble Foundation is an independent, nonprofit institute headquartered in Ardmore, Okla. Founded in 1945, the Noble Foundation conducts direct operations, including assisting farmers and ranchers, and conducting plant science research and agricultural programs, to enhance agricultural productivity regionally, nationally and internationally.

Who Are We?



- Farm Foundation, NFP is a non-advocacy, 501(c)(3) public charity that promotes objective analysis, constructive dialogue and innovative ideas to build a deeper understanding of issues critical to the future of agriculture, food systems and rural communities. We do not lobby or advocate. Our 80-year reputation for objectivity allows us to bring together diverse stakeholders for discussions on economic issues and public policies.



This initiative will work to ensure the health of earth's most valuable resource.

Healthy soil is critical to the sustainability and economic success of farmers and ranchers large and small, conventional and organic.

The health of the soil is critical to agriculture and food production, as well as air and water quality.





Defining Soil Health

The continued capacity of the soil to function as a vital living ecosystem that sustains plants, animals and humans.



Vision

Improving soil health is the cornerstone of land use management decisions.

Mission

The Soil Renaissance reawakens the public to the importance of soil health for enhancing healthy, profitable and sustainable natural resource systems.

Value Statement

Knowledge to sustain Earth's most valuable asset.



Guiding Principles

- Integrated systems approach
- Science-based
- Partnership driven
- Inclusive and representative
- Transparent and open source
- Communications at all levels
- Purposeful outcomes with measurable impacts
- Continuing evaluation and improvement



Four Goals

- Measurement
- Economics
- Research
- Education



Goal 1. Measurement

- Incorporate soil health measures into standardized soil testing that is readily available, affordable, and commercially viable.
- Strategic Objectives:
 - Evaluate and develop complementarity between new soil health tests and standardized soil nutrient testing.
 - Partner with agricultural service providers to incorporate new recommendations based on soil health testing into existing management practices.
- Meeting: Nov. 10-12



Goal 2. Economics

- Quantify the effects of soil health on economic risks and returns.
- Strategic Objectives:
 - Evaluate the current state of research on the economics of soil health and identify key economic data needs.
 - Develop comprehensive analysis of returns to soil health investments and their effects on risk.
 - Provide producers with information and tools for determining the economic value of soil health management decisions.
- Meeting: Nov. 18th



Goal 3. Research

- Convene the research community to advance the soil renaissance.
- Strategic Objectives:
 - Bring the scientific community together to collaborate on soil health research and solve problems.
 - Ensure steady and significant funding pool for soil health research.
- Meeting: Dec. 2-4th



Goal 4. Education

- Reawaken the public to the importance of soil health.
- Strategic Objectives:
 - Create national awareness of soil health and its importance to ecosystems and food systems.
 - Increase knowledge, interest, understanding, and adoption of soil health practices within the grower community.
 - Increase knowledge, interest and understanding of the importance of soil health with the educator community to expand soil health promotion and education through existing formal and informal educational programs.
 - Increase knowledge, interest and understanding of policymakers about the importance of soil health.

What's on the road ahead?..



Key Thoughts

- The movement on soil health is strong.
 - NRCS created new Soil Health Division
 - Several initiatives on many fronts.
 - Cover crop acres to expand dramatically. 20M acres by 2020. More?
 - Improved cultivar development underway
- As the biology of the soil changes, so will farming practices. What are some of the impacts?

What's on the road ahead?..



Key Thoughts

- As the biology of the soil changes, so will farming practices. What are some of the impacts?
 - Plant R&D
 - More basic research on the soil/plant interface (Phytobiomes Initiative)
 - Input R&D
 - Interaction and impact on soil biology and a.i.'s?
 - Precision Ag
 - Expanded retail services
 - Soil Health Labs
 - Crop insurance
 - Real estate values
 - Big Data
 - Sustainability Reporting
 - Etc.

“There can be no life without soil
and no soil without life;
they have evolved together.”

Charles E. Kellogg

(1902-1980)

soil scientist





Thank You

Questions?

www.soilrenaissance.com