

**From:** [Steven Guldán](#)  
**To:** [NAREEE Advisory Board](#)  
**Subject:** NAREEE Advisory Board Meeting Comments  
**Date:** Tuesday, February 4, 2020 1:09:23 PM

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Dear Dr. Esch,

My comments below pertain to The National Agricultural Research, Extension, Education, and Economics Advisory Board meeting held January 28-30, 2020, in Las Cruces, New Mexico.

I urge that there be more funding for research on soil health with the aim to both build degrading soils as well as sequester carbon to mitigate climate change. Even with the large increases in crop productivity in recent decades, we are still losing extreme and unacceptable amounts of soil to water and wind erosion at landscape scales in many parts of the country. The future of U.S. agriculture depends on our capacity to turn this around. Research is beginning to show the effectiveness of simultaneously using four soil health principles: 1) Reduce soil disturbances, 2) Diversify soil biota with plant diversity, 3) Maintain living roots growing throughout the year, and 4) Keep soil covered as much as possible. The Natural Resources Conservation Service has begun to actively promote these management practices. However, it is challenging for farmers to implement all these practices at the same time on a given crop field, especially for annual crops. Research is critical to determine--for different crop, soil, and climate situations--the following: 1) how much and how quickly can soil health improve when combining the four key soil health principles, 2) How much carbon can be sequestered through simultaneous use of the soil health principles, 3) what equipment and management techniques will allow farmers to successfully apply the soil health principles simultaneously, and 4) what are the economic implications of employing various strategies to apply the soil health principles.

To address this critical issue, programs such as the Sustainable Agriculture Research and Education program (SARE), and the Organic Agriculture Research and Extension Initiative (OREI) should be funded at significantly higher levels. These programs are ideal to develop research based knowledge on the response of different soils and cropping systems to simultaneous use of soil health principles as well as investigating management approaches that will help farmers implement the principles effectively and profitably.

Sincerely,  
Steve Guldán, Professor of Agronomy  
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