



College of Agricultural, Consumer
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January 23, 2020

National Agricultural Research, Extension, Education and Economics Advisory Board
U.S. Department of Agriculture, Room 332A
Jamie L. Whitten Building, Mail Stop 0321
1400 Independence Avenue SW
Washington, DC 20250-0321

Dear NAREE Advisory Board,

I am a Senior Research Assistant working at NMSU's Sustainable Agriculture Science Center (SASC) at Alcalde, NM. My research focus is on healthy soils in agriculture, with an emphasis on understanding the role of soil microbes and plant/microbe interactions with respect to improving soil health. In 2019, the New Mexico State Legislature passed the NM Healthy Soils Act, which provides funding to farmers, ranchers, and landowners across the state to 1) implement projects that utilize soil health principles to improve soil fertility on their lands; and 2) fund outreach and education projects which promote soil health principles.

Soil Health Principles include: minimize disturbance (tillage); maximize biodiversity; maintain a living root in the ground; keep the soil covered (avoid bare fallow); and integrate animals into the landscape.

Concurrently, we at the SASC have applied for a WSARE Research and Education grant which, if funded, would allow us to provide farmers the tools, techniques, and reliable data on how to implement soil health principles in New Mexico. This is an example of how federal (WSARE) and state (NM Healthy Soils Act) dollars can be combined and leveraged to provide actual, on-the-ground change to move the state forward in its goals to improve soil fertility and function. Without the scientific research that WSARE provides, farmers must use trial and error to figure out how to improve soil health. Without the state funding, the research and information is less likely to reach a broader, public audience. In New Mexico, we have an incredible opportunity to seize the interest and desire from farmers to implement change on their lands and give them the tools on what works (as well as what doesn't) so that they can be successful at improving soil health and farm profitability.

This is why I urge you to consider strengthening investment in research by increasing funding for public agricultural research, available through the USDA's National Institute of Food and Agriculture (NIFA), to \$1 billion by 2024. Thank you for your time and consideration.

Sincerely,

A handwritten signature in black ink, appearing to read 'Amy Larsen', written over a light blue horizontal line.

Amy Larsen

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

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 Guldan, Professor of Agronomy
New Mexico State University