



Science
Societies

SHAPE up: How CCAs and their growers can help build a better national soil health tool

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Screenshot from the video, *"Probing Our Country's Soil Health"*
(<https://youtu.be/1WfiNG8LUAY>).

Certified Crop Advisers and growers have a chance to help build the nation's most comprehensive soil health interpretation tool while receiving free soil health testing and field-specific reports. Learn how the SHAPE project works, what participants receive, and why early involvement can give advisers a head start on the future of soil health assessment.

For decades, crop advising has leaned on the chemical side of the soil—how much nitrogen, phosphorus, and potassium is present and what to add. Soil health asks a broader question folding in the biological and physical life within the soil system. Through a new nationwide effort, *Probing Our Country's Soil Health*, Certified Crop Advisers and the growers they serve are invited to be among the first to see what it reveals about their own fields. The project strengthens a free, science-based tool called SHAPE, the Soil Health Assessment Protocol and Evaluation, and offers participants free soil health reports, compensation for their time, and a lasting record of the work.

A national campaign to close a soil health knowledge gap

Probing Our Country's Soil Health is a public-private partnership sponsored mainly by the USDA-NRCS with significant support from ARS as well. The SHAPE team is surveying farmers about the historical management of their participating fields and will be collecting

more than 13,000 soil samples. This information and samples will be utilized for developing a full suite of soil health tests in one tool, deliberately including a wide range of systems: row crops, pasture, rangeland, fruit groves, CRP, and horticultural fields across all 50 states and the inhabited U.S. territories. That breadth matters because soil health scores only mean something against the correct regional baseline—and today the baselines for soil health data are thin in many areas and cropping systems.

"We know we have knowledge gaps in soil health information across the country. The project ... will collect on-farm data across all 50 states and the inhabited territories to then create a tool that will provide a regionally relevant and meaningful interpretation for every farmer across America."

— **Dr. Kristin Veum, Soil Scientist**

That interpretation is the heart of SHAPE. The tool converts raw laboratory measurements into scores that put a field's soil health in context, so a grower in one soil and climate is not judged against a benchmark built for another.

Why this matters for CCAs

Soil health is no longer considered a research area refusing to conform with traditional soil tests. It is utilized as a management tool advisers can utilize to help growers stay ahead of potential challenges. Left unwatched, soil health can slip quickly, and a field's productivity slips with it.

“If producers don’t pay attention to soil health, highly producing fields become bad fields fairly quickly, and then you can’t grow crops very productively in it. Then, these fields no longer are able to be utilized to their fullness due to poor soil health.”

—Dr. Newell Kitchen, Soil Scientist

CCAs can add value by spotting poor soil health trends early and guiding the practices that reverse it. SHAPE is slated for free public release in 2029, online and as a smartphone app. Advisers who have already walked fields through the survey, seen the lab results, and interpreted the scores will be far better positioned to guide clients when it goes live. Enrolling your own operation, or helping a grower enroll theirs, provides an excellent preview of the interpretive framework the entire industry will soon be using.

What the soil health reports measure

Each enrolled field is hand-sampled at two or three locations chosen to reflect its predominant soil types. Every location runs through a plan of 24 soil health tests spanning biological, chemical, and physical properties, summarized into four decision-relevant categories: regulating water and erosion resistance; biological activity; nutrient availability; and recycling of nutrients. The result is a personalized report per field with far more information than a standard fertility test, including measures such as aggregate stability, active carbon, soil respiration, and potentially mineralizable nitrogen. Participants receive at least two rounds of their field data as it is completed

and interpreted through SHAPE, plus a final consolidated report once the tool is refined against the full national data set. For a CCA, that is a concrete, field-specific document to review with a client.



Participants receive personalized soil health reports for every enrolled field summarizing lab work that would run about \$1,000 per field if done independently, provided with SHAPE at no cost. Screenshot from the video, [Probing Our Country's Soil Health](#).

Feeding into USDA's CEMA 216 soil health testing

The project also connects to a USDA opportunity many advisers can act on directly. The NRCS Conservation Evaluation and Monitoring Activity **CEMA 216 (Soil Health Testing)** requires a Qualified Individual to carry it out, and a CCA qualifies. Its basic panel calls for seven soil health indicators: wet aggregate stability, soil organic carbon, soil respiration, labile (active) carbon, bioavailable nitrogen, soil texture, and pH, along with georeferenced sampling, laboratory results, and interpretation using recognized

soil health tools.

The SHAPE reports measure these same indicators and delivers the required tool-based interpretation. The soil health data and SHAPE outputs a grower receives through the project can therefore inform the deliverables a CCA prepares as the Qualified Individual for CEMA 216. Sampling protocols and documentation are program-specific, with CEMA 216 setting its own sampling method, subsample counts, maps, and reporting. A pre-work conference with your NRCS field office also required. It is best to coordinate with the local field office before relying on project data for certification.

How CCAs and their growers can participate

Participation is light on a grower's time and respectful of their land. First, a **management survey**: the landowner, often with guidance from their CCA, signs up for a short Zoom meeting where a facilitator shares their screen and walks through basic questions about how the fields have been managed over roughly the past decade (tillage, crop types, rotation, and any manure, cover crop, or grazing practices). It typically covers two or three fields and runs about 30 to 60 minutes. Second, **permission to sample**: usually within six months, a soil sample team hand-probes two or three sites per field on foot, without ATVs, and a call a few days ahead and producer participation encouraged.



Participation in the SHAPE program is light on a grower's time and respectful of their land. Screenshot from the video, [Probing Our Country's Soil Health](#).

The project needs an honest cross-section of American agriculture making **every management system** (conventional, conservation, and no-till; irrigated and not; cover-cropped and not) desirable for the SHAPE program. There is no “right” way to be farming to qualify, which is exactly where a CCA’s reach across a diverse client base becomes valuable. Spots are limited and filled first-come, allocated by state and land-use category. Most states have room for at least 80 to 100 fields with largely agricultural states having more field availability. Once a state fills, no new applications are accepted, making early sign-up important. Protection of grower data is taken seriously, meaning field locations, survey answers, and contact information are never shared without the participant’s explicit permission.

What participants receive

Growers are compensated for their time with a paper check. Additionally, they receive **personalized soil health reports for every enrolled field** summarizing lab work that would run about **\$1,000 per field** if done independently, provided with SHAPE at no cost. At the project's conclusion, participants also receive a copy of the book ***Probing Our Country's Soil Health***, a hard-copy photo book illustrating soil health across the country and featuring the participants who made it possible.

From advisers already involved

Certified Crop Advisers already working with the project describe what soil health testing offers growers:

“The SHAPE Soil Health Reports give growers a magnifying understanding of their soil in three components—biological, chemical, and physical. Each of these factors is important to maximize yield, determine limiting factors, and understand the management practices that are needed to continue to improve soil health.”

—Kaitlin Flick Dinsmore, CCA

“As a CCA, I utilize soil health testing to help a producer understand their fields under a different lens than normal soil fertility testing provides. Similar to getting bloodwork done at the doctor's office, soil health

testing provides data that shows a producer the soil's overall wellness and ability to grow a crop successfully.”

—Charlie Ebbesmeyer, CCA

Get involved

To schedule a management survey, [use the project's booking page](#). To learn more first or share with growers, watch the short overview video below. General questions go to SHAPE.probingsoilhealth@gmail.com ([send email](#)). CCAs are encouraged to share the opportunity with clients and colleagues while keeping the signup link off public social media to protect available slots from scammers.

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