

Testimony of Rick Clark
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On Behalf of Regenerate America

Submitted to the Committee on Agriculture
U.S. House of Representatives

“Soil Health Practices and Programs that Support Regenerative Agriculture”

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Dear Honorable Chairman Scott, Ranking Member Thompson, and members of the committee – thank you for providing me the opportunity to testify before you today.

My name is Rick Clark. I am the owner and operator of Clark Land and Cattle, a 7,000-acre regenerative-organic farm near Williamsport, Indiana, where we have transitioned from conventional tillage to 100% organic no-till and use 100% cover crops and non-chemical termination (roller crimpers) to build soil health and soil organic matter as we suppress weeds and sequester carbon. I am a 5th generation family farmer. Our family has farmed this land since the 1880s, producing food and agricultural products during each generation in what we have believed to be the best and most innovative ways that the latest science and our personal experience taught us was vital to keeping the land healthy and viable to be handed down to the next generation.

I am honored to be here on behalf of Regenerate America¹, where I serve as a member of the Farmer Leadership Council. Regenerate America is a national, bipartisan coalition of farmers, businesses, nonprofits and individuals. Alongside thousands of farmers and ranchers across the country, I am asking Congress to make soil health and regenerative agriculture a primary focus in the 2023 Farm Bill.

I want to thank Chairman Scott for having the vision and courage to call this hearing today about what I believe is one of the most important issues of our time: *How will we, as farmers and a nation, continue to feed ourselves and our families and neighbors in ways that are the least harmful to the land and have the most beneficial impacts for recovering our soils and human health?*

I also want to thank Ranking Member GT Thompson, who, as a fellow farmer not only knows the challenges that farmers face personally, but also as someone who is in a critical leadership position, has the chance to help farmers transition to better soil health and climate-smart practices at a time of economic instability and increasing threats posed by inclement weather.

As a registered Republican, I want to say that healthy soil and improving our nation’s soil resource need not be a political issue. Soil health is truly our common ground, and is one of the most bipartisan issues I

¹ Regenerate America. 2022. <https://regenerateamerica.com/>

have found as I have transitioned our family's farm over the past 13 years and worked with thousands of farmers across the country to help them save money and climate-proof their own fields through regenerative soil health practices. We cannot afford to make soil health a political issue today. This is about helping farmers and our nation.

While it is an incredible honor to be here representing on behalf of the regenerative agriculture movement, among such distinguished experts, I feel it is important to acknowledge that not any one of us portray the breadth and origins of regenerative agriculture. The principles and practices that help us rebuild soil health and ecosystem function combine indigenous knowledge, adaptive holistic management frameworks, and recent discoveries in science and technology; it needs all, and is all.

Many critical voices and perspectives are missing from this hearing today. And, might I remind us, that many of these practices and principles were utilized by earlier generations of American farmers, and many of our parents and grandparents. Farmers and ranchers are, by nature, land stewards, however, because of policies and other long-lasting intentions, such as "get big or get out" of the 1970s, our practices have been steered away from what is ultimately best for farmers and the betterment of the soil.

The State of Our Soils:

In addition to being a farmer, I have had the incredible honor of criss-crossing the entirety of this country to train farmers in regenerative and biological approaches. Because of this, I have visited and seen hundreds of farms in 25 states. While American farmers and ranchers are at the heart of this country and are some of the most innovative, successful, and productive farmers in the world, I want to be crystal clear for a moment to recognize the perilous state of our soils - the real wealth of our nation, the foundation of American resilience and prosperity. The situation is urgent and must be considered as such.



Changing land use, particularly the shift to our modern systems of agriculture in the United States and across the world, has been one of the biggest **drivers** of many issues we face today. Through mismanagement, our land and our soil are now heavily degraded and in many cases barely function, or worse, are completely desertified.

Right now the majority of American agricultural soils (over 50%) are severely degraded.^{2 3} We are losing topsoil at a rate of 5.6 tons per acre (10 times faster than it is being replenished)⁴. Conventional practices have led to the Corn Belt completely losing one-third of its topsoil.⁵ This is causing serious flooding, drought and soil loss and erosion, and depletion of water resources across rural America, leading to a concerning loss of biodiversity, significant declines of on farm stability, and is costing our farmers \$44 billion annually.⁶ One study found lost topsoil in my state of Indiana is causing annual losses of \$362 million, and 6-9% in annual crop yield reductions per county.⁷

This is greatly concerning to me, and is a huge problem for food security and national security. I want to make clear that it's not just a question of carbon or greenhouse gasses. To a large extent, in breaking our soils, we've broken the hydrological cycle, carbon storage capacity, and nutrient cycle. Much of our land's soil is degraded to such a state it is no longer properly functioning, and it will only be worsened by climate change.

Over the past several decades, farmers across the country have faced increasingly severe weather events, such as swings between drought conditions and sudden, intense rainfalls and windstorms that are not only battering crops and profitability for that season, but also washing away their long-term profitability with massive erosion events that are leaving vast scars on the land across millions of acres of farmland.

Just two years ago, on August 10, 2020, the Midwest experienced the most expensive thunderstorm in U.S. history, with winds gusting over 100 miles per hour over a 14-hour period while a derecho traveled over 770 miles across Nebraska, Iowa, Minnesota, Indiana and Ohio.⁸ These winds moved with hurricane force, devastating over \$11.5 billion dollars in corn and soybean crops across the Midwest and damaging an estimated 14 million acres of crops in Iowa, and millions more acres across the Corn Belt.⁹

These storms are both a **cause and a consequence** of soil erosion. This spring, the derecho that ripped through the Midwest caused an estimated 3-12 tons of lost soil per acre (1 ton is approximately equal to a

² <https://www.politico.com/agenda/story/2017/09/13/soil-health-agriculture-trend-usda-000513>

³ The numbers in the United States are mirrored around the world, with scientists estimating that some 52% of global agricultural land is degraded.

⁴ <https://www.farmprogress.com/soil-health/economics-soil-loss>

⁵ Thaler, Evan A., Larsen, Isaac J., and Yu, Qian. 2021. The extent of soil loss across the US Corn Belt. *Proceedings of the National Academy of Sciences*, 118(8), <https://www.pnas.org/content/118/8/e1922375118>.

⁶ The \$44 billion per year includes lost productivity, along with sedimentation and eutrophication of water reservoirs according <https://www.farmprogress.com/soil-health/high-cost-soil-erosion>. Sartori et al. (2019) estimated the global costs of soil erosion due to water at \$8 billion annually, reducing global food production by 33.7 million tonnes and raising prices by up to 3.5%.

⁷ Thaler, Evan A., et al. "The extent of soil loss across the US Corn Belt."

⁸ Sorace, Stephen, "Iowa farmers devastated after derecho damages 14 million acres of farmland, grain bins", Fox Business New, August 24, 2020.

<https://www.foxbusiness.com/markets/iowa-farmers-devastated-after-derecho-damages-14-million-acres-of-farmland-grain-bins>

⁹ Barreda, Virginia, "Today marks 2 years since devastating Aug. 10 derecho slammed Iowa", Des Moines Register, August 10, 2022.

<https://www.desmoinesregister.com/story/weather/2022/08/10/iowa-weather-two-years-since-derecho-blew-across-state/10286537002/>

pickup truck bed full of soil) on South Dakota farms on the day the storm hit.¹⁰ The maximum amount farmers in the region can lose before it impacts their production levels is *~5 tons per acre per year*.¹¹

As these extreme weather events occur more regularly, now is the time to invest in helping farmers climate-proof their fields, increase resilience, and build soil health, rather than continuing to pay out billions of dollars in disaster assistance. Agriculture is one of the few sectors that can not only reduce its emissions but with the right management practices, can be emissions negative. Failure to act will have a catastrophic impact on our ability to grow food to feed ourselves and other nations and will have a significant and increasingly negative impact on our economy over the coming decades.

The State of Farm Economics:

Just as farmers and ranchers are needing to transition to better soil health and regenerative farming practices, current market and policy conditions impede the process or make it nearly impossible, significantly harming our nation's ability to meet present and future challenges of climate change.

Today, our farmers are facing unprecedented challenges. Record high farm input costs, short supply of fertilizers, price inflation, and supply chain disruptions from the pandemic and war in Ukraine are squeezing already razor-thin margins and jeopardizing farmer's livelihoods. Fertilizer prices have risen 300% since 2021.¹² According to Farm Progress: "Since 2020, all nitrogen fertilizers are now more than double in price: anhydrous is up by 131% and urea by 110%. Potash is up by 120%. In October of 2021 alone, the price of anhydrous fertilizer jumped 26% from the previous month to levels not seen since 2008."¹³ This year alone, nitrogen fertilizer, which accounts for more than 50% of the commercial fertilizer used by farmers, is expected to see price increases of more than 80% from the previous year.¹⁴ This is forcing farmers to decide between planting fewer acres or selling out to keep from going into foreclosure, and lower supplies of commodities means increased prices for consumers.

Subsidies have been the knee-jerk response. In 2020, U.S. farm subsidy payments rose to a record \$46.5 billion dollars, triple the normal amount, which was up from \$22.4 billion from the year before in 2019.

A big question is: what are America's farmers and the U.S. taxpayer really getting from these subsidies? The government is willing to hand this money out but we get very little back in return. In our current system, subsidy payments often end up promoting farming practices that are **not** improving soil health or resilience. While I do believe these programs should remain voluntary and incentive-based, they would be improved by implementing a tiered system wherein farmers and ranchers who are utilizing best practices receive the biggest share of the subsidy benefits. We will not be able to subsidize our way out

¹⁰ Gewin, Virginia. June 6, 2022. "A Wild, Windy Spring Is Creating a Soil Erosion Nightmare for Farmers". Civil Eats. <https://civileats.com/2022/06/06/a-wild-windy-spring-is-creating-a-soil-erosion-nightmare-for-farmers/>.

¹¹ Gewin, Virginia. June 6, 2022. "A Wild, Windy Spring Is Creating a Soil Erosion Nightmare for Farmers". Civil Eats. <https://civileats.com/2022/06/06/a-wild-windy-spring-is-creating-a-soil-erosion-nightmare-for-farmers/>.

¹² Campbell, Lindsay, "Farmers Struggle to Keep Up With the Rising Costs of Fertilizer: Fertilizer prices have skyrocketed as much as 300 percent since early 2021. Is there any relief in sight?", Modern Farmer, March 2, 2022. <https://modernfarmer.com/2022/03/fertilizer-prices/>

¹³ Fatka, Jacqui, "DOJ investigation sought for fertilizer price hikes", Farm Progress, December 9, 2021. <https://www.farmprogress.com/farm-policy/doj-investigation-sought-fertilizer-price-hikes>

¹⁴ Carlson, Claire, "Skyrocketing Fertilizer Prices Gouge Farmer Profits, Groups Blame Consolidation", The Daily Yonder, March 15, 2022.

<https://dailyvonder.com/skyrocketing-fertilizer-prices-gouge-farmer-profits-groups-blame-consolidation/2022/03/15/>

of this crisis, but by incentivizing soil health practices, farmers can regain independence and reduce reliance on inputs.

The situation is highlighting the extent to which our current food production system is trapping farmers in a cycle of dependency. Farm debt is rising by 4% each year¹⁵, yet even as more of the food dollar leaves the farmers' pocket, rural communities are left behind as those dollars leave the local economy. At one point during the pandemic, cattle prices had declined by 18%, while box beef prices increased by 80%. And just 14% of every food dollar goes to the farmer today.¹⁶ According to an American Farm Bureau Federation survey, a strong majority of farmers/farmworkers think financial issues (91%), fear of losing the farm (87%), and farm or business problems (88%) impact the mental health of farmers.¹⁷ I encounter this all the time – from loans, insurance, peer pressure, markets, to simply not jeopardizing the livelihood of the farm, there is so much stress on the farmer's plate, there is so much out of their control.

Subsidies and inputs are, at best, band-aids to the current farm crisis - at worst, they are exacerbating it. **Regenerative agriculture is a permanent solution that works for farmers of all sizes, from small diversified farms to large scale row-crop producers like me, all across the nation, and benefits not only farmers and their families but all Americans.**

The Soil Solution:

Regenerative agriculture focuses on improving soil health using a variety of agricultural management practices that work in alignment with natural systems. Increasing soil organic matter content in our soils can reduce or stop soil erosion, and improve aggregate stability, water infiltration, water retention, nutrient cycling, plant health, crop yields, crop resilience, biodiversity, and more. More organic matter in the soil also means we are moving carbon from the atmosphere and depositing it into the soil, where it can be a net positive for the planet and society.

When we are looking at a farm or ranch, regenerative agriculture incorporates six key components. The first one is really important and unique to each person, the other five are the principles that are employed depending on your context:

1. **Understand Context:** Economic, personal, community, ecological, climate, bioregion, etc.
2. **Minimize Disturbance:** This refers to tillage, chemical fertilizers, pesticides, and more.
3. **Establish a “Living Root”:** Have a plant photosynthesize and pump carbon-based exudates into the soil to feed the soil biology for as long as possible throughout the growing season.
4. **Provide Soil Armor:** cover cropping or ensuring to leave mulch or plant residue is critical. Bare soil exposed to the elements harms soil health, so it's recommended to always have some living or dead debris covering the soil.
5. **Integrate Animals:** Have one or more types of animals move across your fields if it can work in your context, otherwise known as planned grazing.

¹⁵ <https://farmdocdaily.illinois.edu/2018/08/agricultural-debt-continues-to-increase-2.html>

¹⁶

¹⁷ American Farm Bureau Federation. 2019. “Rural Stress Polling Presentation”. https://www.fb.org/files/AFBF_Rural_Stress_Polling_Presentation_04.16.19.pdf

- Enhance Diversity:** Add diversity to whatever it is you are growing – this could be planting diverse hedgerows throughout the farm, installing owl boxes, integrating honeybees, or diverse multi-species cover crops.

Important practices for implementing these principles include: cover cropping, no-till/reduced till, planned/adaptive multi-paddock (AMP) grazing, diverse crop rotations, and much more.



My Regenerative Journey:

I was fortunate enough to see some of the problems of soil loss coming almost two decades ago, when I began my transition to no-till and cover crops. Many years ago when we were still practicing conventional tillage, there was a 1 inch rain event that created so much erosion on my farm, I was determined to do something about it. This was the turning point for me.

A 1 inch rain event should not cause any issues on your land — your soil should easily be able to absorb and retain that water (for every additional 1% of soil organic matter, any acre can capture an extra 27 thousand gallons more water).¹⁸ We do not have a “flood problem” when it rains 1 to 3 inches in an hour and most of the water runs off - we have a water infiltration problem.

As I’ve incorporated more regenerative soil health practices over the years, I have been able to reduce my input costs on fertilizer (chemistry and fertility) to zero dollars and decrease our fuel usage by 60%. Currently, I’m saving \$286 per acre per year on avoided inputs — that’s \$2 million in savings per year on 7,000 acres. And I’m maintaining stability through hard times.

Here is a great example of where savings come from on my operation:

The Power of Legume Cocktails

	N	\$ N	18-46-0	\$ P	0-0-60	\$ K	Total \$\$
May 20	75	\$83.25	65	\$74.10	177	\$134.52	\$291.87
June 4	114	\$126.54	122	\$139.08	267	\$202.92	\$468.54
June 8	262	\$290.82	189	\$215.46	610	\$463.60	\$969.88
July 24	52	\$57.72	33	\$37.62	32	\$24.32	\$119.66

Cocktail cost = \$33/a N = \$1.11/lb P = \$1.14/lb K = \$0.76/lb

August 1, 2022

Farmers usually look to cover crops and no-till as defenses to combat a problem like erosion. But, once you become comfortable with cover crops and no-till, they become offensive juggernauts, providing far more benefits than just erosion control. We are currently utilizing **complex mixes of cover crops, no-till, and non-chemical termination with roller crimpers across our row crop operation growing corn and soybeans**. I was able to eliminate the practice of “burning down” or killing cover crops with herbicides in three years. I now use a roller crimper to flatten cover crops, which provide a mulch for soybeans to suppress weeds. I always encourage farmers to not till or plow their fields. Every time you till, you not only make your soil more vulnerable, you are also regenerating weeds.



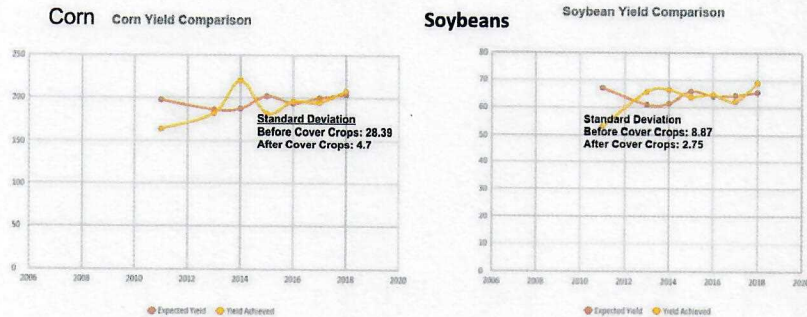
Photo: My farm is doing **non-chemical termination** of a **diverse cover crop** with **roller crimper** while simultaneously direct seeding cash crop with **no-till drill**.

We’re not just saving costs, we’re bringing in a healthy profit that gives us the room to experiment and incorporate new practices that we can then share with others. The farm’s best return on investment (ROI) was when we reduced inputs by 60%. The yields were increasing year over year. This is when corn was valued at \$3.75 and soybeans were at \$7.85.

Another key point is that although yield is a critical benchmark, what is not talked about sufficiently and is honestly even more important, is **yield stability**. Conventional systems are not only vulnerable to increasingly severe cycles of flood and drought (because poor soil health limits the amount of water retention and absorption), they are also at the mercy of global energy pricing, as chemical inputs are tied to those markets. The hyper focus on yields has ultimately made our soils more vulnerable and therefore

less consistent because of drought, flood, etc. Maximizing returns in a single year is simply not as critical as being able to produce year after year in a sustainable fashion, resilient to both weather and markets.

Stability



Yield stability on my operation through soil health practices.

5,600 of our 7,000 acres are also certified organic and the rest are in transition. As I mentioned previously, I first turned to regenerative practices to combat erosion and soil loss. My regenerative journey put me within reach of the market opportunity and demand for domestically produced organic products. However, as I always tell farmers, whatever you're doing, whether or not you are doing organic, soil function is what really matters.

No-till organic isn't always easy, but I am particular about doing things a different way in order to prove this model. And, because myself and so many other farmer leaders around the country have challenged ourselves, these practices are now much more accessible and within reach than when I began my journey.

It is very important to understand that this is a systematic approach to building soil health, human health, and ensuring water quality. When you start down the regenerative journey, you see soil change before your eyes. Increased water infiltration rates, increased water holding capacity, increased aggregate stability, increased earthworm counts, increased beneficial organisms, increased nutrient density, and increased microbial activity: these accomplishments are only done if you follow the principles of soil health. Period.



Photos: Two shovels full of soil, taken Sunday Sept 11th, 2022 during a rain event. **Left: my neighbor's corn field. Right: my soybean field** planted into cover crops that were terminated while green with roller crimper. Fields are only 15 yards apart.

Above are two photographs of a shovel full of soil. The neighbor's field is on the left. It has no aggregate stability, no visible earthworms, slow infiltration rate around $\frac{1}{2}$ inch per hour, very little water holding capacity, and no root exudates that would feed the microbes and create soil aggregation. On the other hand, the shovel full of soil on the right is from one of our fields. It has aggregate stability that measures down 8 inches, this soil's infiltration rate is now 20 inches an hour and the earth worm count is currently 1.5 million earthworms per acre (compared to when we began this trajectory it was near zero).

The difference of healthy soil is the difference of input cost reductions, it is the difference of flooding or drought, it is the difference of wind and water erosion rates and keeping fertility on my land, it is the difference between knowing my family is safe from so many harmful chemicals, and, it IS possible for all farmers and ranchers to implement this principles in all agriculture in every region of this country and experience substantial results.

As my fellow regenerative agriculture pioneer, Gabe Brown, says, "Whether your primary concern is a farmer's bottom line, rural economic recovery, climate mitigation, reversing biodiversity collapse, cleaning our water and air, rehydrating our land so aquifers charge and springs flow again, providing land access for minorities and beginning farmers, or addressing the health crisis, regenerative agriculture provides the solution."

5. Scaling Up Regenerative Ag

Over the past several years, I have witnessed incredible advances in the adoption of regenerative agriculture practices. The demand for regenerative agriculture is here and on the rise - now is time for all of us to help farmers lead this incredible opportunity for our country.

While the expansion and adoption of practices like no-till and cover cropping is important (in 2017, 104 million acres were under no-till production, 15.4 million acres were under cover crops), by combining these practices we can achieve far greater financial and ecological benefits, which is a tremendous opportunity that we must more broadly support.

I want to share a few **case studies** from my fellow farmers that demonstrate this is not an anomaly for my farm in Indiana. Yes, this can work with farmers in your district. Soil health practices work in every corner of our country.

David Brandt, Carroll, Ohio^{19 20}:

- One of the first and likely the longest term no-till farmers in Ohio. 100% no-till since 1971.
- He currently has 736 acres of no-till row crops and cover crops on his corn, wheat, and soybean operation, and uses a diverse cover crop species mix with 8- to 14-way blends.
- In 1971 the soil organic matter on David's newly purchased farm was 0.75%. By 2019, the soil organic matter ranged from 6.8% to 8.0%.
- David's ability to infiltrate water has increased from less than 25,000 gallons per acre to more than 175,000 gallons of water per acre.
- From 150-250 pounds of nitrogen fertilizer per acre for corn in 1971, he now uses 20-30 pounds. He uses no fertilization for his soybeans. No fungicides or insecticides. No seed treatment.
- His cash crop yields have been increasing by an average of 5% annually for the past 5-6 years.
- His input costs have decreased 72-78% from 2009 to 2019.
- David also has a cover crop seed company and a seed-cleaning business that operate on the farm.
- The operation now involves three generations of the family that are actively involved.
- "It will take 6-7 years to change or improve a soil with just no-till, but that time can be shortened to 4-5 years or as few as three years if you also use the right blend of cover crops."

Loran Steinlage, West Union, Iowa²¹:

- Second-generation farmer, owns and operates FLOLOfarms, farming 750 acres in Iowa's northeast corner, and custom farms another 750 acres in West Union with his wife, Brenda. Currently producing corn, soybeans, cereal rye, winter wheat, malt barley and buckwheat.
- Uses relay cropping, the practice of planting the second crop into the first crop before harvest. This allows him to grow a crop 365 days a year, even under snow.
- Loran also uses no-till, interseeding, cover crops, and controlled traffic farming.
- Works in equipment design for technology that helps farmers build soil health.
- Restored native trout to his stream by purifying water and improving water quality.
- While other farmers in the area are focused on growing row crops at scale, Loran is focused on increased crop diversity, reducing the costs of production, and ultimately getting off the "commodities treadmill".

Keith Berns, Bladen, Nebraska^{22 23}

- Fourth-generation farmer; operates 2,500 acres of irrigated and dryland corn, soybeans, rye, triticale, peas, sunflowers, and buckwheat under no-till in South Central Nebraska.
- Co-owns and operates Green Cover Seed, one of the major cover crop seed providers and educators in the United States, which sells 120 different cover crop varieties. In 2021, Green

¹⁹ https://understandingag.com/case_studies/brandt-farms-case-study/

²⁰ <https://www.nrcs.usda.gov/wps/portal/nrcs/oh/soils/STELPRDB1166409/>

²¹

<https://www.agtechsowwhat.com/agtechsowwhatepisodes/2021/9/8/getting-off-the-commodities-treadmill>

²²

<https://greencover.com/keith-berns/>

²³

<https://non-gmoreport.com/articles/green-cover-seed-leads-the-charge-on-cover-crop-growth/>

Cover sold enough cover crop seeds to cover a million acres. The seeds are non-GMO and not treated, and there are plans to sell certified organic seed mixes.

- Honored by the White House as a 2016 Champion of Change for Sustainable and Climate-Smart Agriculture.
- Developed the SmartMix Calculator™²⁴ one of the most widely used cover crop selection tools.
- Appointed by Nebraska Governor to serve as chairman of Nebraska Healthy Soils Task Force.
- Teaches on cover crops and soil health more than 30 times per year to various groups and audiences.

Dan DeSutter, Attica, Indiana^{25 26 27 28}

- Owns and operates Hoosier Grassfed Beef, a 5,000 acre grassfed beef and organic row-crop operation where he practices organic no-till and uses cover crops to build soil health.
- The livestock and row-crop model allows the cows to graze cover crops in the off season, increasing the number of days the cows are on fresh pasture.
- The no-till organic system relies on a multi-pronged approach to weed management that includes cover crops, roller-crimpers, mowing and electrical termination.
- Actual production history (APH) in corn is 30 to 35% over the county average.

One thing each of these regenerative farmers has in common is that they focus on educating other farmers in these practices. At the same time, larger scale studies are confirming what we already knew: farmers across the country are achieving profitability, resilience, and economic benefits with soil health systems. The National Association of Conservation Districts and Datu Research found that soil health practices can result in an economic return of over \$100 per acre,²⁹ while American Farmland Trust found soil health practices to improve bottom lines between \$4-824 per acre per year.³⁰

The Soil Health Institute recently interviewed 100 farmers in 9 Midwestern states who have adopted soil health systems on corn and soy operations to determine the impact of soil health practices on profitability.³¹ Through adopting soil health systems:

- Net income increased for 85% of farmers growing corn and 88% of farmers growing soybean
- Average costs decreased by \$24/acre for corn and \$17/acre for soybean
- Average net farm income increased by \$52/acre for corn and \$45/acre for soybean
- 67% reported a higher yield than their conventional system
- 100% reported improved water quality
- 97% reported increased crop resilience to extreme weather
- 93% reported increased access to their fields

²⁴ <https://smartmix.greencoverseed.com/>

²⁵ <https://hoosiergrassfedbeef.com/about-our-farm>

²⁶

<https://www.nytimes.com/2016/02/07/business/cover-crops-a-farming-revolution-with-deep-roots-in-the-past.html>

²⁷ <https://www.ccsin.org/post/dan-desutter-fountain-county>

²⁸ <https://www.morningagclips.com/farmer-teacher-student/>

²⁹ National Association of Conservation Districts, "Case studies show big economic benefits of soil health practices," August 29, 2017, <https://www.nacdnet.org/newsroom/case-studies-show-big-economic-benefits-soil-health-practices/>

³⁰ American Farmland Trust, "Quantifying Economic and Environmental Benefits of Soil Health," <https://farmland.org/project/quantifying-economic-and-environmental-benefits-of-soil-health/>

³¹ Soil Health Institute and Cargill. 2022. "Economics of Soil Health Systems in Midwest Corn and Soy". <https://soilhealthinstitute.org/economics>

- 83% reduced fertilizer inputs

Congress Must Support the Advancement of Regenerative Agriculture

There is much more awareness and support for adopting soil health today than when I started, such that a farmer can pair cost share programs, private sector incentives, and advice from local farmers to implement systems correctly, so that their farm doesn't have to suffer a huge loss in profitability during the transition. However, there are still widespread barriers that have led to low adoption rates nationwide.³² Congress has an incredible opportunity to remove barriers for farmers and ranchers and **invest in regenerative transition across the board** to address a wide range of policy issues from restoring food security and public health, to reviving rural America, to building climate resilience. Here are some of the top priority areas:

Ensure all farmers and ranchers are getting access to education and technical assistance: Seeing results on my operation took time, but with the right education, we can enable more farmers and ranchers to shift to and realize the immense benefits of regenerative soil health practices. We want producers to have success with these practices the first time so they will stick with them. We know **education, especially farmer-centered and farmer-led, is absolutely essential for successful adoption.** With the right knowledge and support, we can see positive economic and ecological results within the first year, and significant changes within 3 years.

Our current conventional agriculture education and technical assistance systems are not adequately addressing the fact that the average farm in America is still losing over 5.8 tons of topsoil per acre per year. The agriculture education that is available today favors short-term results and chemistry-oriented solutions while overlooking biological and physical soil function. America's farmers, and the institutions that support them, need urgent access to updated education that promotes resilient, healthy soil and the transition to regenerative agriculture, based on the latest cutting-edge science and context-based principles for climate adaptation. This must include deep context-based education not only for cropping systems, but also for regenerative pasture and rangeland management, with an emphasis on opportunities for the integration of crops and animals.

While I in no way think that livestock are a fit for every farmer, we need to understand the critical role of livestock in building soil health (one of the most efficient and quickest ways possible). While everyone's situation is different, as Will Harris says, "I would argue that truly degraded land cannot cost-effectively be regenerated without animal impact. Every ecosystem I am familiar with had animal impact in its evolution."³³ The benefits of grazing can double carbon sequestration - for example, Gabe Brown realized significant carbon gains on his farm from no-till but the real change came from integrating livestock. We must make sure transition tools for implementing planned/AMP grazing like cost share for mobile fencing are much more widely available.

It is very important that we do not offend any farmers with their current practices. We are not here to put anyone down or say they are doing it wrong. This is why teaching is so critical. When I speak to a group

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³³ <https://www.youtube.com/watch?v=lroe4pXNtKw>

of farmers, I hope to instill a thinking process to change one or two dynamics of their farm. This is success. Ultimately, it needs to work for your economics and your situation.

Access to USDA soil health programs - a hand up not a hand out: To get farmers started but ultimately save the government money. I have so much gratitude and appreciation for programs like EQIP because it is literally what allowed me to begin this journey. The cost share paid for the cover crop seed and let me see the benefits without the risk. This was huge. Farmers are generally not eager for change but programs like this, especially if they were extended out to five years, would allow for much more confidence and staying power through the transition. Long-term and individualized support is vital so farmers don't walk away from the practices after their contracts end. I have seen this happen too many times.

To rebuild soil, we need to help farmers and ranchers cover more of the land with living plants for more of the year. And we need to ensure support for cover crops and equipment like roller crimpers are more regionally available.

BIPOC, Tribal, women, beginning, limited resource, and veteran farmers and ranchers, as well as small farms are often likely to use soil health principles in their operations, but face barriers in accessing USDA programs and support. As a result, historically underserved producers and small operations struggle to access and retain farmland, and have to fight to start out and keep up in the farming business. We need to make sure all farmers can get the support they need to start building soil health.

Rebuild local and regional infrastructure for processing to make the regenerative transition economically feasible.: The current lack of access to local processing and markets for producers is preventing a huge opportunity to increase net farm or ranch profitability and keep more food dollars inside local economies. Investing in local and regional access to infrastructure, processing and markets will help regenerative producers make new products available and meet the increasing consumer demand for their products, while reducing foreign supply chain dependence and increasing domestic food supply. Increasing access will allow more farmers to integrate regeneratively managed livestock or specialty crops into their cropping systems (building soil health and reducing reliance on chemical inputs), while improving public health and providing local food security during times of crisis. And if the farm has access to processing and distribution, the farmers can operate on any scale that's comfortable for them.

Removing barriers and incentivizing soil health in financing and insurance: The finance and insurance products that farmers rely on have immense potential to support a transition to regenerative agriculture, but current policies have created a system that often undermines, or even actively prevents, common sense soil health practices that reduce risk on farms – resulting in large scale soil loss and land degradation at an enormous cost to US taxpayers.³⁴

Over the past decade, crop insurance has become the most important component of the farm safety net. The Federal Crop Insurance Program (FCIP), administered by the USDA Risk Management Agency (RMA), receives a greater portion of funding than all conservation programs combined, and has more than 90 percent of US cropland enrolled.³⁵

³⁴ <https://www.nrdc.org/sites/default/files/federal-crop-insurance-program-reforms-ip.pdf>

³⁵ <https://sqp.fas.org/crs/misc/R46686.pdf>

Crop insurance payouts have nearly doubled in the last decade in the face of ever increasing extreme weather.³⁶ Without mitigating actions, one study found that rising temperatures could increase annual subsidies by \$2.2 billion (or 34%), while USDA research found that unmitigated climate impacts could increase subsidies for key crops by \$4.2 billion annually.³⁷ This is putting the entire program in danger over the long term.

The most effective way that we have of reducing on-farm risk is applying conservation practices that build soil health. As my own experience and that of my fellow farmers has shown (and the lesson applies whether or not you take out crop insurance), these practices decrease production risk in the face of increasing flood and drought, and improve long-term resilience and stability for farmers.

If we are to have an effective farm safety net, then we have to help farmers reduce risk (i.e. increase conservation practice adoption) so we can keep premiums affordable, save rising taxpayer costs, and keep the farm safety net resilient and strong for producers in the years to come. **This means bolstering crop insurance** by removing outdated barriers and creating incentives that recognize the risk-reduction benefits of soil health and conservation practices and reward farmers implementing those practices - it's like a "good driver" discount on your car insurance. By improving your soil health, you're making your operation less risky and providing significant benefits to society.

When the day comes that carbon markets fully arrive, farmers will absolutely need the principles of soil health to leverage that opportunity. Healthy soil is what's going to get the outcomes needed to make participation in carbon markets successful.

If Congress provides the resources and correct program funding for the transition to climate adaptive and soil regenerating practices, farmers, ranchers and rural America will thrive.

Mr. Chairman, supporting America's farmers and ranchers in adopting soil health, regenerative agriculture and climate-smart practices is both an imperative and the opportunity of our time — not only to avert imminent food supply and insecurity issues, but also to reverse soil degradation, safeguard food security, farm profitability and productivity, revive rural communities, and mitigate the impacts of a changing climate.

³⁶ <https://www.nrdc.org/sites/default/files/federal-crop-insurance-program-reforms-ip.pdf>
³⁷ https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2902688