

**HEARING BEFORE THE UNITED STATES HOUSE OF REPRESENTATIVES
COMMITTEE ON AGRICULTURE**

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Testimony of Jeff Moyer
Chief Executive Officer, Rodale Institute

I. INTRODUCTION

Chairman Scott, Ranking Member Thompson, and Members of the Committee, thank you for the opportunity to testify before you today.

Given your positions on this esteemed committee, it's likely you already know that America's food system is broken. And it's likely you already know why it's broken. It's too reliant on unstable foreign supply chains, chemical inputs, and government subsidies for foods that aren't nutritious for your constituents or profitable for American farming families.

Conventional agricultural models are also degrading American farmland.

But this is not a doomsday scenario—not just yet. We have the tools and the time to fix this and set our farms on a positive track, and regenerative organic agriculture is our path forward.

A strong, viable economic model that supports American farmers transitioning to regenerative organic already exists, and there's a role for everyone as we make this change, including conventional farmers, organic farmers, lenders, landowners, suppliers, and policymakers.

But we must move to make this transition now. U.S. national security, the health of our people, and the financial stability of the nation's farming families are all at risk.

Rodale Institute, the 75-year-old Pennsylvania-based nonprofit and research institution that I run, confronts this challenge every day. Our 100 person staff, including nearly a dozen PhDs and a handful of farmers, are dedicated to creating a resilient food system that works to improve soil health and the economics of farming.

Recent events, such as Russia's war against Ukraine and the subsequent disruptions in the worldwide food system, forced American agriculture into an inflection point and an opportunity.

We shouldn't waste it.

II. AMERICAN FOOD INDEPENDENCE

Just as America works towards energy independence, it should work towards food independence. Relying on fragile international supply chains could jeopardize U.S. national security and lead to widespread, unstable food prices for everyday Americans.

A. The War in Ukraine Exposed Dangerous Cracks in the Global Food System

With farmers and commodities experts predicting lower yields, skyrocketing prices, and extreme hunger in some parts of the world, we have to rethink our food systems to break American agriculture's reliance on fragile international supply chains.

If we do this right, we can produce healthier, chemical-free food. That should be a priority because not only must we figure out how to feed this nation, we must feed it better.

The food system that can accomplish that objective—producing enough nourishing food in the United States—is regenerative organic agriculture.

B. The Answer to American Food Independence Can Be Found Right Under Our Feet

Russia's war in Ukraine caused a near doubling of the price of natural gas, a key ingredient in nitrogen fertilizer. The increased cost and limited availability forced some farmers to reduce fertilizer use for their crops, which shrunk yields in some cases. Facing a profitless growing season, some farmers may have given up altogether.

The U.S. Department of Agriculture responded by issuing \$250 million in grants to spur U.S. fertilizer production. But that was a Band-Aid for a wound that will never heal. The long-term solution is right under our feet.

Regenerative organic agriculture is a reliable, resilient method of growing food that does not depend on synthetic fertilizers or off-farm inputs. Regenerative organic farms use a whole-systems approach to agricultural production, which actively restores the health of soil. Farms practicing these methods rely on cover crops, crop rotations, reduced-till practices, composting, and, in some cases, fertilization by animal manures—spread by responsible grazing practices—to nourish and enhance soils.

III. THE SCIENCE

Soil is the foundation of successful farming. It is also the foundation for the ecosystem services that life depends on.

A. Unmitigated Soil Erosion and Destruction Could Jeopardize the Food Supply

Research shows that 30% of the world's arable land (land that is used for growing crops) has become unproductive in the past 40 years due to soil erosion. Soil degradation is the physical, chemical, and biological decline in soil quality occurring in various forms such as erosion, salinization, acidification, compaction, loss of fertility, decline in soil biological activity, and loss of soil organic matter. About a third of the world's soil has already been degraded, and if the current rate of soil degradation continues, all of the world's topsoil could be lost within 60 years.

Unsustainable agricultural practices, such as over grazing, improper land use change, and deforestation—especially clear cutting—are major contributors to soil degradation. In the U.S, 98 percent of farms practice conventional agriculture, which relies heavily on pesticides and synthetic fertilizers, many of which are toxic to humans, animals, pollinators, and soil micro and macro biota.

In addition, conventional farms usually have low crop diversity, which can contribute to the destruction of biodiversity in soil. That's important because when there are fewer microorganisms in the soil, it compromises nutrient cycling and nutrient availability for plants. The result is weaker plants that are more susceptible to infections and pests and therefore require additional synthetic fertilizers for the plant to grow to maturity. This all leads to increasing dependence on synthetic inputs, increased emissions from the soil, increased water pollution, and reduced soil health.

Current estimates suggest that by 2050, soil erosion may reduce up to 10% of crop yields, the equivalent of removing millions of acres of land from production. Simultaneously, the world's population is expected to exceed 9 billion, which puts global food security in jeopardy.

B. Regenerative Organic Agriculture Improves Soil, the Environment, and the Economic Security of U.S. Farming Families

The term "regenerative organic" describes a holistic approach to farming that encourages continuous innovation and improvement of environmental, social, and economic factors. The regenerative organic farming model doesn't just maintain resources—it improves them. In addition, it is a food system that relies on natural cycles and management.

Critically, research shows that organic farming has the potential to diminish soil erosion (Erhart and Hartl 2009). Soil erosion rates measured under simulated heavy rainfall in the Swiss Farming System and Tillage experiment revealed that organic farming decreased mean sediment delivery compared to conventional farming by 30% ($0.54 \text{ t ha}^{-1} \text{ h}^{-1}$) (Seitz et al., 2019).

- **Key Methods of Regenerative Organic Agriculture:**
 - o *Utilizing Organic no-till:* Organic no-till practices are central to maintaining or improving soil quality and vitality in the regenerative organic model. The practice is both a technique and a tool to reduce tillage and improve soil organic matter.
 - o *Utilizing the Roller Crimper:* Employing the roller crimper tractor attachment is an indispensable tool to avoid destructive practices to terminate cover crops, such as tillage and pesticide application. The roller

crimper, which was developed at Rodale Institute, reduces soil erosion, improves soil health, and increases biodiversity. Of note, Rodale Institute posts the roller crimper's blueprints online. Those blueprints can be accessed at no financial cost.

o *Managing Weeds with Cover Crops*: Cover Crops are critical to weed management in a regenerative organic farming system as they actively suppress weed growth and enhance soil health. Cover crops also protect soil from erosion and nutrient loss and play an important role in carbon drawdown.

Key Benefits:

o *Drought Resistant Crops*: Crop yields under organic farming systems are more likely to be resilient to extreme weather. Rodale Institute's long-running Farming Systems Trial found that in drought years, yields were consistently higher in organic systems. For example, in one case, organic corn yields were found to be 28% to 34% higher than conventional. Part of the organic system's resilience is linked to the increased soil organic matter that has greater moisture holding capacity during a drought episode.

o *Greater Economic Returns for U.S. Farmers*: Research conducted by Rodale Institute has proven that organic systems earn three to six times greater profit for American farmers. In addition, Flanagan State Bank found from 2016-2020, organic incomes were 163% higher than conventional incomes for corn, 145% higher for soybeans, 182% higher for wheat, and 103% higher for hay. Organic systems also use 45% less energy than conventional systems and improve a farm's soil health by building organic soil matter over time.

o *Less Reliance on Off-Farm Inputs, Especially Synthetic Fertilizers*: Regenerative organic farmers are less vulnerable to foreign supply chain disruptions and price shocks in the agricultural commodities market as they don't use off-farm inputs as much as conventional farmers.

o *Higher Quality Food for Consumers*: Industrial agriculture has depleted soils and bred plants for size and rate of growth—not nutrition—in a narrow pursuit of ever-increasing yields. Additionally, plants are more often exposed to stressful situations in organic systems due to the lack of pesticides use which can lead to increased biosynthesis and accumulation of natural defense substances, such as phenolic compounds (Faller & Fialho, 2009). The food consumed today also contains less protein, calcium, phosphorus, iron, riboflavin, and vitamin C than food produced just a half-century ago. Results from Rodale Institute's projects show that all essential amino acids (except lysine, histidine and methionine) were greater in organic oat grains compared to conventional grains (Omondi et al., 2021).

o *Predictable Food Prices*: Relying on the regenerative organic farming model and its domestic inputs can insulate American producers from the

unstable costs conventional farming is subject to due to its reliance on foreign agricultural commodities.

o *Carbon Capture and Sequestration*: Research by Rodale Institute shows that after 40 years of management, soil organic matter levels were significantly higher in an organic manure-based system than in the conventional systems studied, which reflects greater carbon sequestration in the organic system (FST 40-year report).

IV. FARMER CHOICE: The U.S. Government Must Level the “Farmer Playing Field”

Crop insurance is at odds with organic farming. Current federally backed crop insurance policies create disincentives for American farmers seeking to transition to and operate under a regenerative organic model. But it doesn't have to be this way.

A. U.S. Taxpayers and Crop Insurance

Established following the Dust Bowl of the 1930s and expanded since, the U.S. crop insurance program is operated by the Federal Crop Insurance Corporation (FCIC), which is wholly owned by the federal government and managed by USDA's Risk Management Agency (RMA). RMA oversees 14 private sector insurance companies, which issue more than one million policies covering nearly 375 million acres of U.S. farm and ranch land.

Under the program, participating farmers receive compensation when farms are ravaged by disasters such as fires, storms, and drought. Indemnity payments are also made to farmers when their yields fall below expectations or if oversupply drives down the prices they can charge. And all of this is underwritten by taxpayer-funded subsidies, which help farmers purchase crop insurance at an annual cost to taxpayers of nearly \$10 billion.

B. The Bad News About Crop Insurance Policies

Today's crop insurance programs are impeding widespread adoption of regenerative organic farming methods.

That's because, too often, crop insurance policies provide no incentive to farmers who use regenerative organic methods, such as cover crops and reduced tilling. In fact, the premiums they are charged are typically not discounted, even though the risk of droughts and flooding is substantially lower on regenerative organic land. Likewise, today's policies do not incentivize farmers to use regenerative organic methods, even though they significantly stabilize yields from season to season. Instead, the crop insurance program effectively underwrites conventional intensive farming, causing harm to topsoil, waterways, the climate, population health, and—most paradoxically—the long-term financial health of farmers themselves.

C. The Good News About Crop Insurance Policies

USDA's newly established \$300 million Organic Transition Initiative offers the potential for issuance of a wider array of crop insurance policies that recognize and provide appropriate coverage for the risks faced in regenerative organic agriculture. Similarly, the crop insurance premium subsidies recently announced by Secretary Vilsack for the Transitional and Organic Grower Assistance (TOGA) Program is much-needed to support climate-smart farmers and ranchers.

Crop insurance is far from being the most headline-grabbing aspect of USDA's broad portfolio, but the fact that most producers already rely on crop insurance coverage makes it an unparalleled tool for effecting sweeping change. With USDA and Congress' engagement, RMA will make more climate-smart policies available to America's farmers and ranchers. And this single step has the power to do more than any other to modernize agricultural practices, improve the nutritional content of food, and foster repair of the environment.

D. 2023 Farm Bill

Regenerative organic agriculture demands planning, resources, and investment. The 2023 Farm Bill should include priorities that support American farmers pursuing regenerative organic models.

These priorities include:

1. Allocating funding for cover crop utilization by farmers.
2. Allocating additional funding for the USDA's Organic Transition Initiative, which provides technical and financial assistance to farmers during the 36-month organic transition period.
3. Establishing a Strategic Plan with key stakeholders for data collection, policy creation, monitoring, reporting, and standards development to better serve farmers adopting regenerative organic models.

V. CONCLUSION

Regenerative organic agriculture can improve soil health and the economics of farming and put the U.S. on a path towards food independence. With proper support at the federal level, American farmers can be encouraged to adopt the practices that achieve these goals.

Thank you for offering me the opportunity to testify before the Committee. I look forward to your questions.