ORGANIC AGRICULTURE 101:

De'Anthony Price

Southeast Organic Consultant

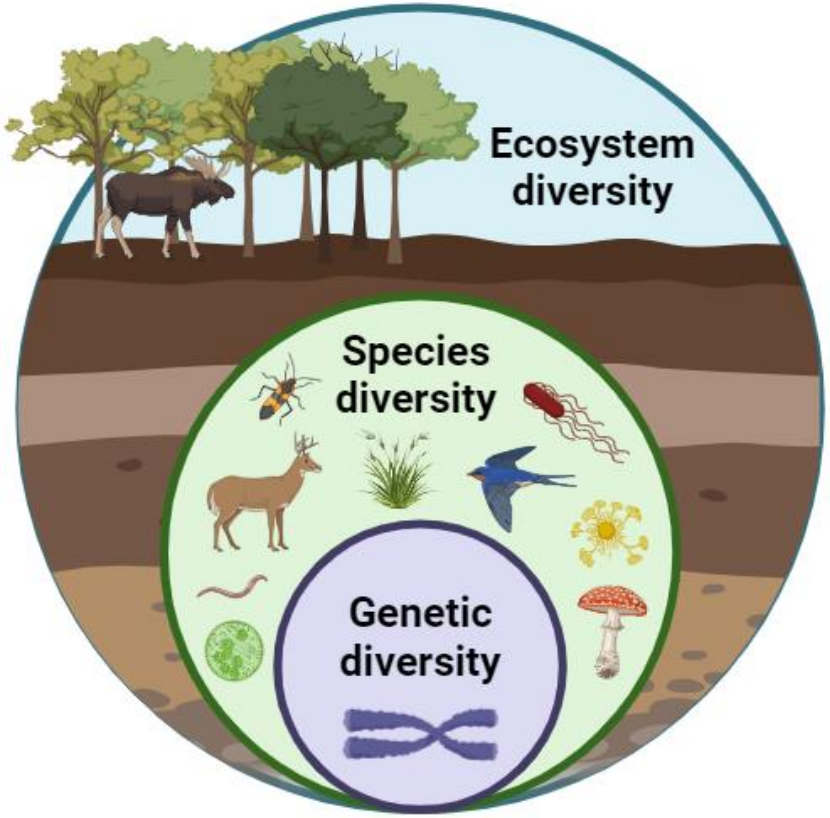
Rodale Institute

Considerations for Organic Practices

- Soil Health Practices
  - Cover Crops
  - Crop Rotation
  - Conservation Tillage
- Biodiversity
  - Livestock Integration
  - Crop Diversity
  - Pollinators
  - Natural Habitats

The goal is to create a living agroecosystem

Building diversity above and below ground



The number one priority in regenerative organic agriculture is soil health.

RODALE INSTITUTE

Farming Systems Trail

One of the unique long-term agricultural research — replicated, side-by-side organic vs conventional run continuously since 1981.

1981

Trial established at Rodale Institute, Pennsylvania

72

Replicated, side-by-side experimental plots

3

Systems compared: Conventional, Organic-legume, Organic-manure

12

Acres under continuous, controlled comparison

40+

Years of data — North America's longest such trial

Brochure

Article

Source: Rodale Institute, Farming Systems Trial 40-Year Report (2022); rodaleinstitute.org.

Research Design

Compares three farming systems:

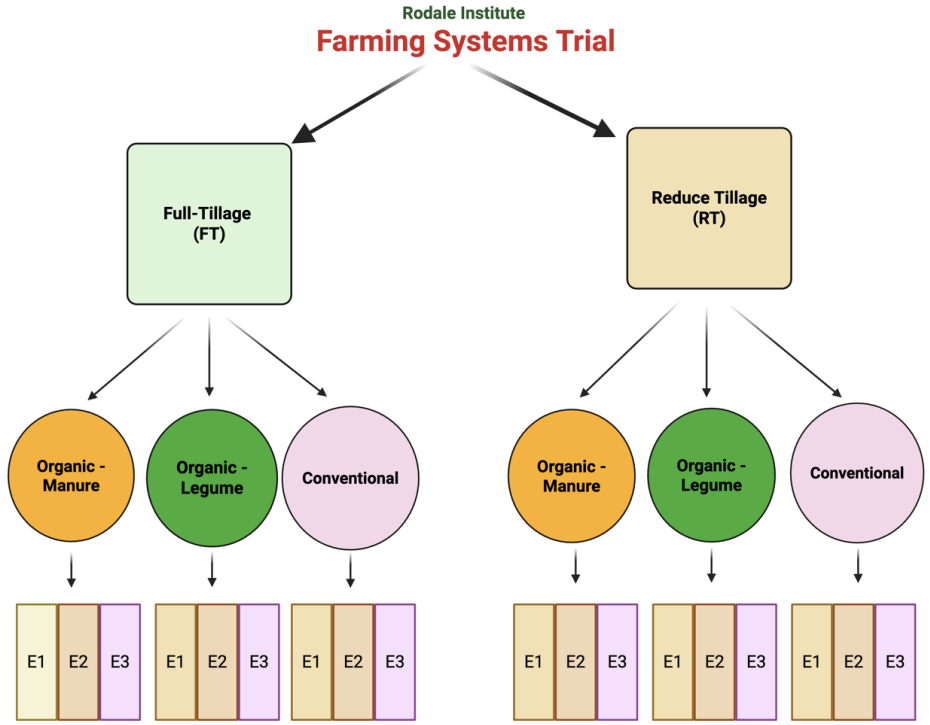
- Conventional (chemical input-based, GMO)
- Organic (legume-based)
- Organic (manure-based with livestock integration)

Focuses on corn and soybean production, which represent about 70% of U.S. grain acreage.

Since 2008, each system has compared:

- Full tillage
- Reduced tillage.

- The goal isn't to declare one system "best." It's to understand the tradeoffs—how each system affects soil health, yields, profitability, and long-term resilience.



Systems	Year of Rotation	Rotation
Organic – Manure (MNR)	9	oats/rye–soybean/wheat–wheat/hay–hay–hay–hay–corn silage/wheat–wheat/vetch–corn/rye
Organic – Legume (LEG)	4	corn/rye–oats+clover/rye–soybean/wheat–wheat/vetch
Conventional (CNV)	3	corn–corn–soybean
Diversified CNV	3	Corn/rye – soybean/wheat – wheat/rye

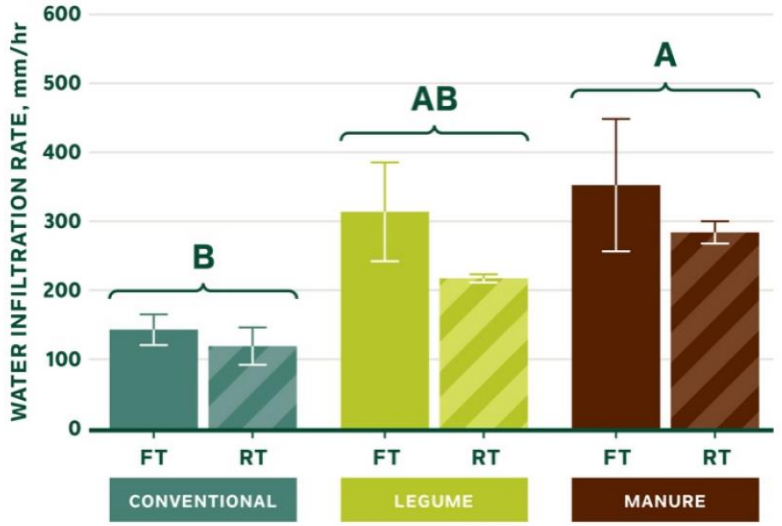
Results

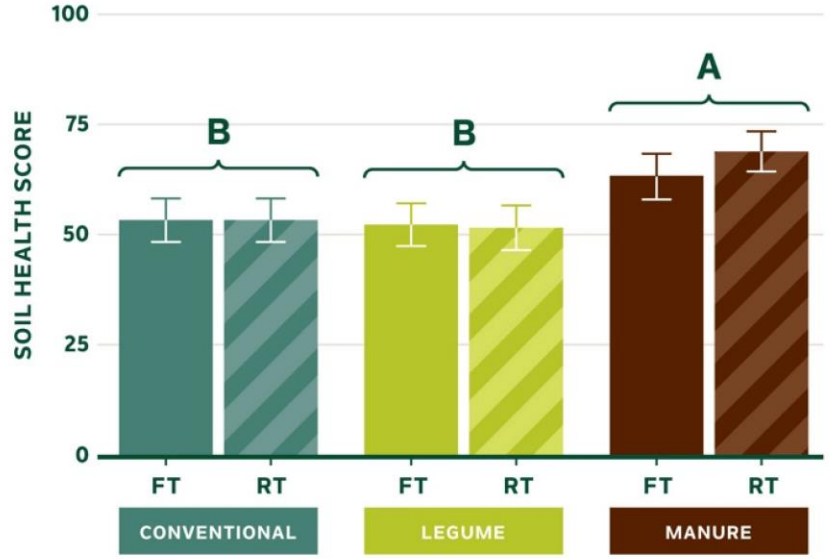
Water

- Organic systems absorbed more rainfall than conventional systems.
- More water soaking into the soil means less runoff, more water stored for crops, and better drought resilience.
- (Water Infiltration Rates, 2019–2021)

Soils

- Organic systems improved soil health over time.
- Conventional systems remained relatively unchanged.
- (Soil Health Score, 2019–2022)

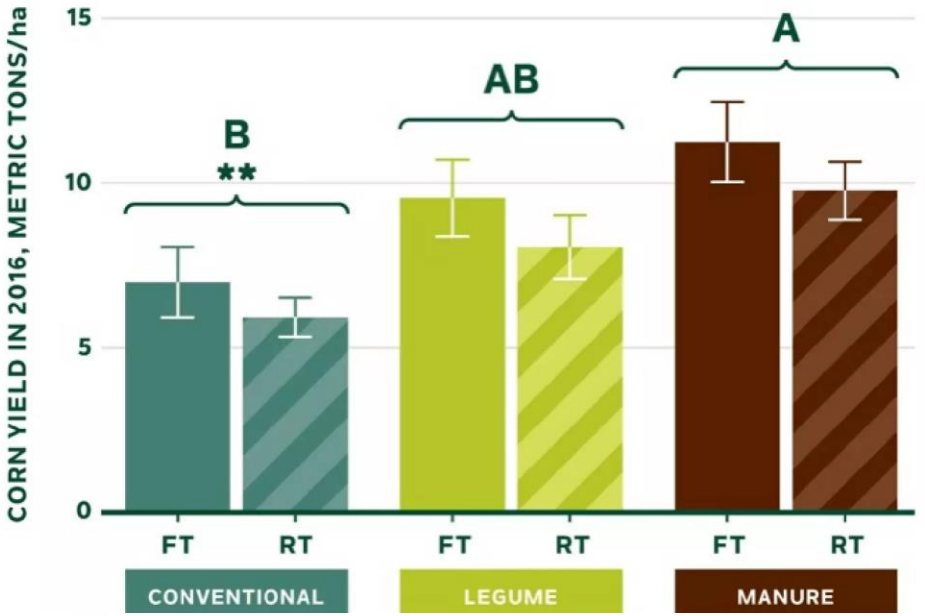


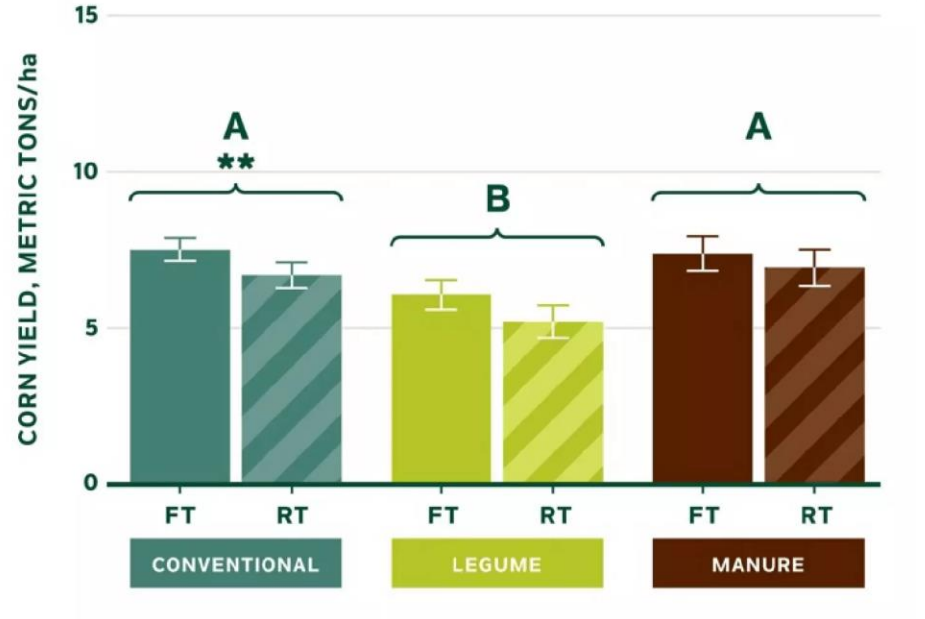


Results

Yields

- Comparable yields to conventional systems.
- Better performance during extreme weather conditions.
- 31% higher organic corn yields in drought years.

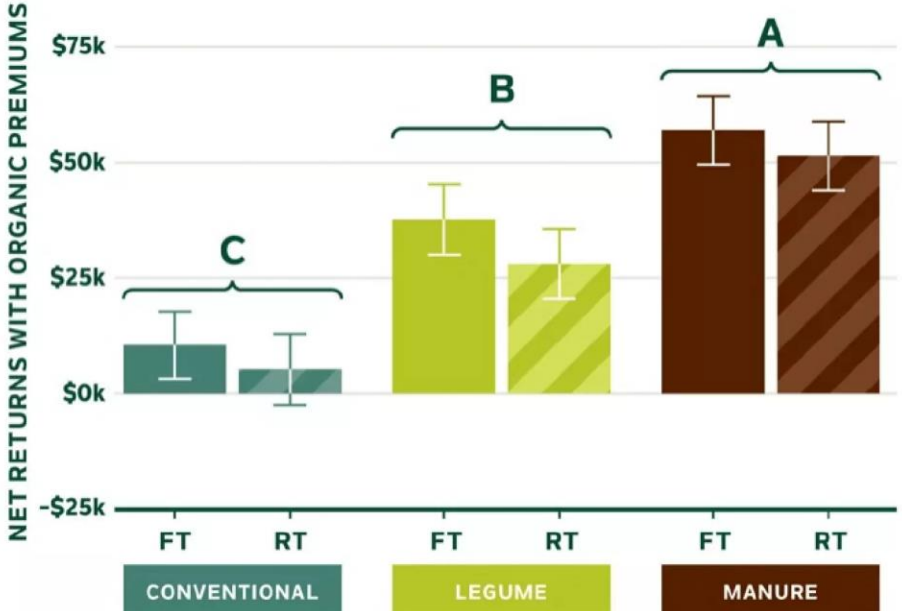


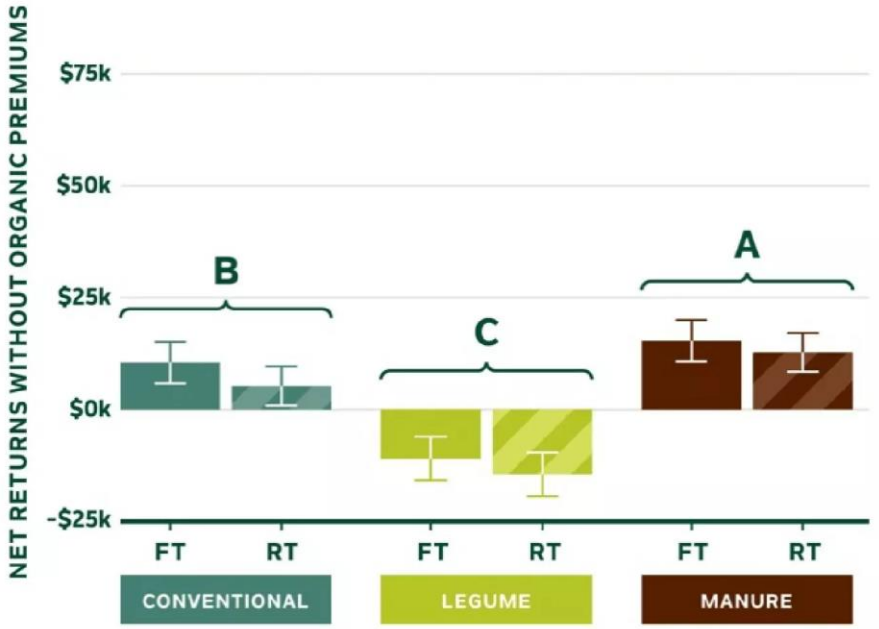


Results

Profit

- The organic manure system was the most profitable, with & without price premiums.
- With organic premiums, both organic systems outperformed the conventional system.
- Profitability depends on more than yield—it is also influenced by input costs, crop rotations, and soil fertility practices.





Final Thoughts

- Healthy soil is more than a growing medium—it is the foundation of a resilient farming system.
- Organic practices build healthier soils that improve over time.
- Integrating livestock can reduce input costs and increase farm profitability.
- Higher organic matter and better water infiltration help crops withstand drought and heavy rainfall.
- Research shows organic systems can match or exceed conventional yields while providing environmental and economic benefits.
- While this study was conducted in Pennsylvania, the principles apply everywhere. Adapt these practices to your local climate, soils, and farming conditions.

Don't copy the system—adapt the principles.

Rodale Institute
Organic Consulting Services

RODALE INSTITUTE is a 501(C)(3) nonprofit dedicated to advancing regenerative organic agriculture through Research, Education, and Outreach. Backed by over 75 years of science, our **Organic Consulting service launched in 2019** to accelerate the shift from conventional to organic agriculture practices and production.

Organic Consulting services:

- Organic Agronomic support
- Assist in transition process
- Certification support
- Markets and buying support

Through grants and partner funding, we aim to offer our services at a reduced rate or free-of-charge to transitioning farmers nationally including the following:

- (1) Site Visit
- Up to ten (10) hours of remote support annually

Connect with us

De'Anthony Price
Southeast Organic Consultant
Deanthony.price@rodaleinstitute.org
470-835-4784


THANK YOU.
RODALE
INSTITUTE™