



Small Farm Agronomy and Its Challenges



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Who am I?

Farmer, Owner, Everything-er – Blackbird Farms
Lead Consultant, Small Farms – Rodale Institute
Rodale Institute Farmer Training (RIFT)- 2020 graduate
Husband and Dad

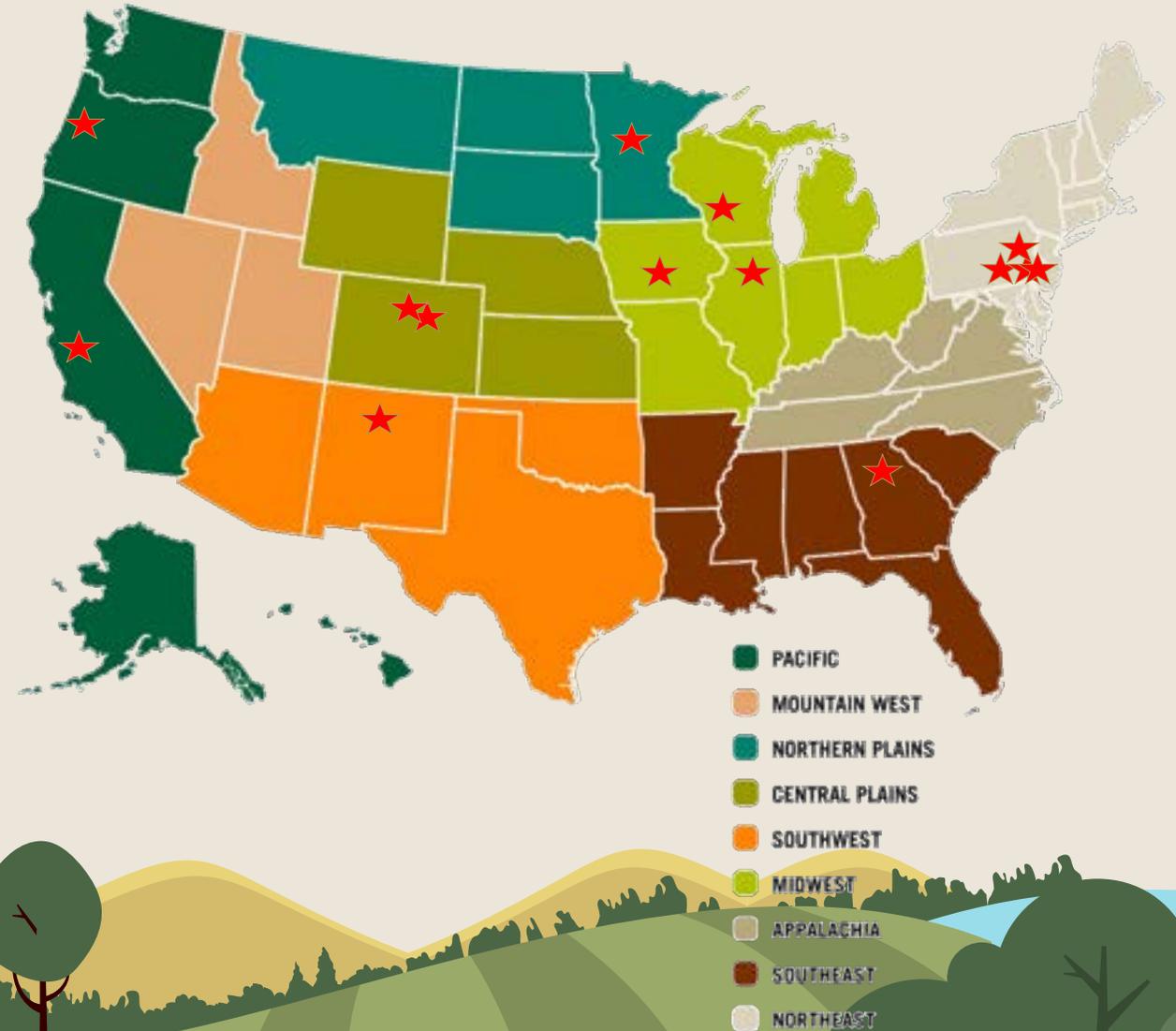


Rodale Institute is a 501(c)(3) nonprofit focused on organic agricultural research, training, and education.

We assist farmers in adopting organic systems where soil health, social fairness, and animal welfare thrive by:

- ❖ Providing technical assistance.
- ❖ Translating research results into practical information.
- ❖ Connecting agricultural communities.
- ❖ Creating educational resources.

The needs and goals of the diverse communities we serve direct and motivate our work.



A blue basket filled with several ripe, red tomatoes sits in the foreground. The background is a soft-focus landscape of a field under a sunset sky, with the sun low on the horizon. The scene is overlaid with several graphic elements: a brown paper bag with a white striped pattern in the top left; a brown paper-like shape with white torn edges on the left side; a green vine-like line on the left; a cluster of yellow-green dots in the bottom left; and a blue paper-like shape with white torn edges on the right. The text "It wasn't always like this" is centered on the front of the blue basket.

**It wasn't always like
this**

After Graduating

Same Recipes Over
and Over



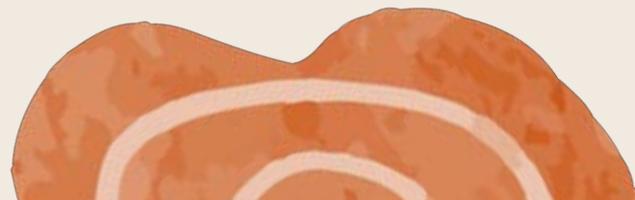
Needed Some
New
Materials!!!

So we found a CSA

Community Support Agriculture

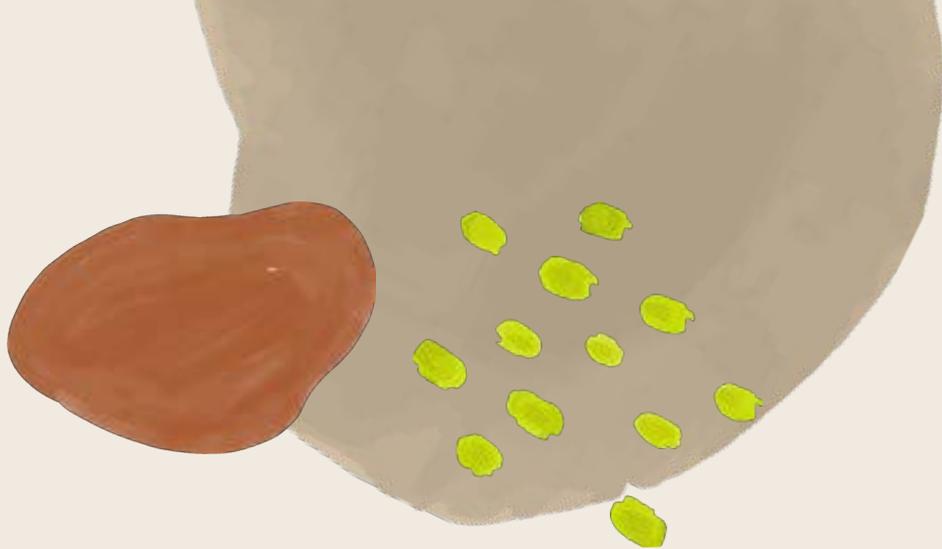
- Customers prepay for their “Share”
- Farmer gets \$\$ when it’s needed most
- Customers get access to wholesale pricing







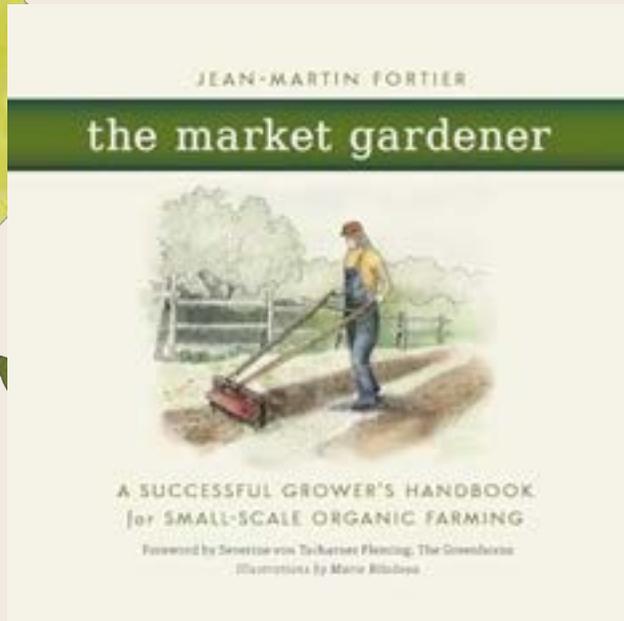
Estimate %	
1. Kegan Hilaire PHL	47.37%
2. Jonatan Stoesser MD	44.00%
3. Timothy Ciskanik MD	41.38%
4. Matthew Alberto LI	40.91%
5. Thomas Cerami LI	40.21%
6. Vincent Perreta PHL	40.00%
7. Nicholas Luedecke MD	40.00%
8. Francesco Ambrosio LI	40.00%
9. Joshua Peltz NJ	38.89%
10. Christopher Leyland PHL	38.46%
11. Ryan Casey BOS	37.93%
12. Mack McDevitt MD	37.50%
13. Hillman Bates MD	37.50%
14. Tyler Wood ATL	37.50%
15. Jeffrey Rayner MD	37.29%
16. William Marlowe BOS	36.84%
17. Stephanie Upham BOS	36.67%
18. Thomas Canfield DEN	36.36%
19. Cem Deluce PHL	35.90%
20. Brenton Cook ATL	35.71%
21. Joseph Lapalombella CHI	35.56%
22. Charles McMakin BOS	35.19%
23. John Churchill MD	34.78%
24. Cody Mitchell MD	34.62%
25. Christopher Woods PHO	34.55%



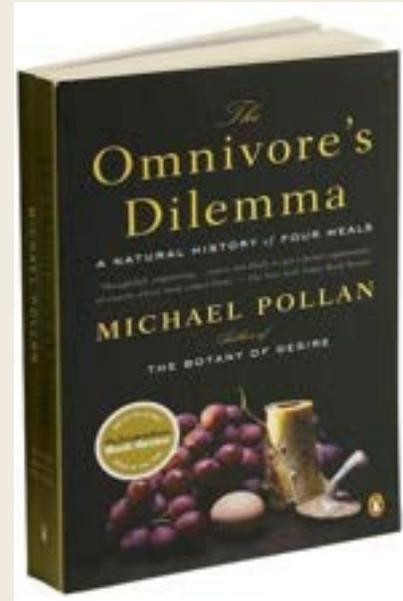
**So I made the
most of my
time...**



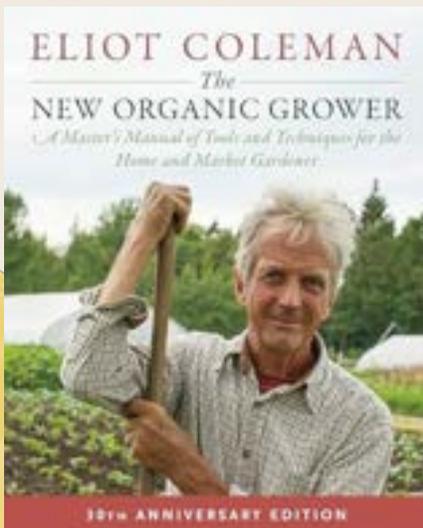
Through READING!



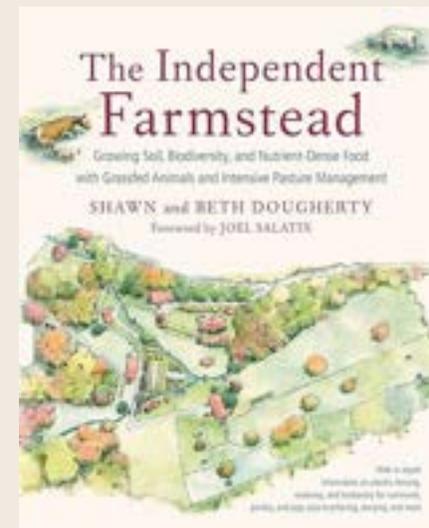
The Market Gardener
JM Fortier



The Omnivore's Dilemma
Michael Pollan



New Organic Grower
Eliot Coleman



The Independent Farmstead
Shawn and Beth Dougherty

It was time to start

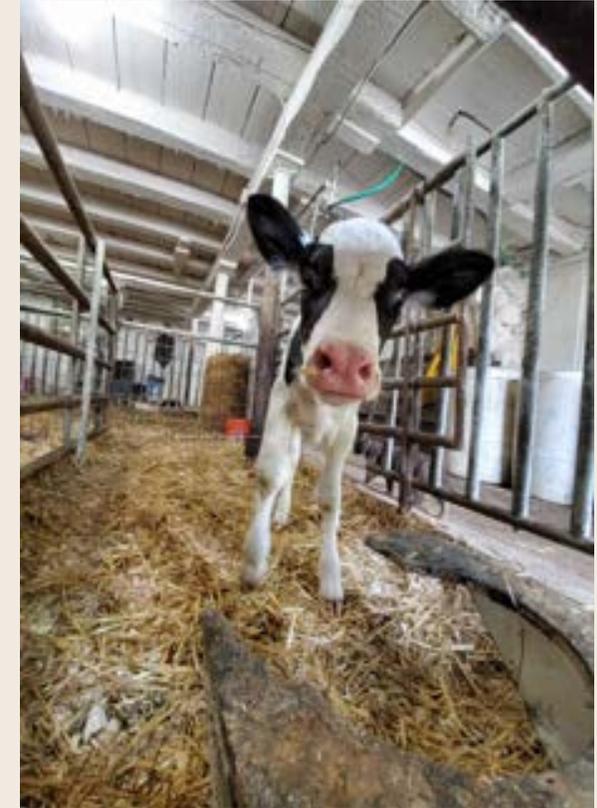
Day Kegan



Night Kegan



Finally, On-Farm... (kinda)



Doing The Work



Time for some formal training



RODALE
INSTITUTE™

Rodale
Institute
Farmer
Training
(RIFT)

- Fully immersive farmer training program
- Paid / Housing Included
- 60% farm/field work 40% classroom time
- Final Project includes a functional crop plan and business plan

Our Own Training





Back to Rodale



Flying into Blackbird



Starting to spread our wings



East40 at Northampton Community College



Rodale Consulting

ORGANIC CONSULTING

Interested in transitioning to organic? Unsure about how to handle weeds, fertility, and pests? Need help navigating the certification process, finding specialized equipment or locating new markets? Looking for an experienced mentor?

We can help!!!



Short Story, Long



“When tillage begins, other Arts will follow”
-Daniel Webster

“When tillage begins, other challenges will follow”
-Kegan Hilaire

Who Are We Working With

78%

of young farmers identify as first generation farmers

78%

of young Farmers grow in Rural Areas

25%

of Beginning / young Farmers use “conventional practices

63%

Of these Farmers live on their farm

79%

of young Farmers hold an Associates degree or higher (about 10% higher than average)

68%

of young farmers identify As something OTHER than Cisgender Male

65%

of young Farmers have at LEAST 3 enterprises on Farm (flowers, fruit, grains, livestock for dairy, egg, meat, or fiber, and vegetables)

Small Farmer Challenges

2022 National Young Farmers Survey Top Issues

- LAND ACCESS ***
- Access to capital ***
- Rising costs of production ***
 - Healthcare
 - Housing
- Student Loan Debt

Land Access

Only about **12%** of the world's farmland is cultivated by smallholder farmers.

Approximately **70%** of the world's food is produced by small-scale farmers, despite their limited land access

- **Farm real estate value**

- The average value of all land and buildings on farms in the United States increased to \$4,170 per acre in 2024, up 5% from 2023.

- **Cropland value**

- The average value of cropland in the United States increased to \$5,570 per acre in 2024, up 4.7% from 2023.

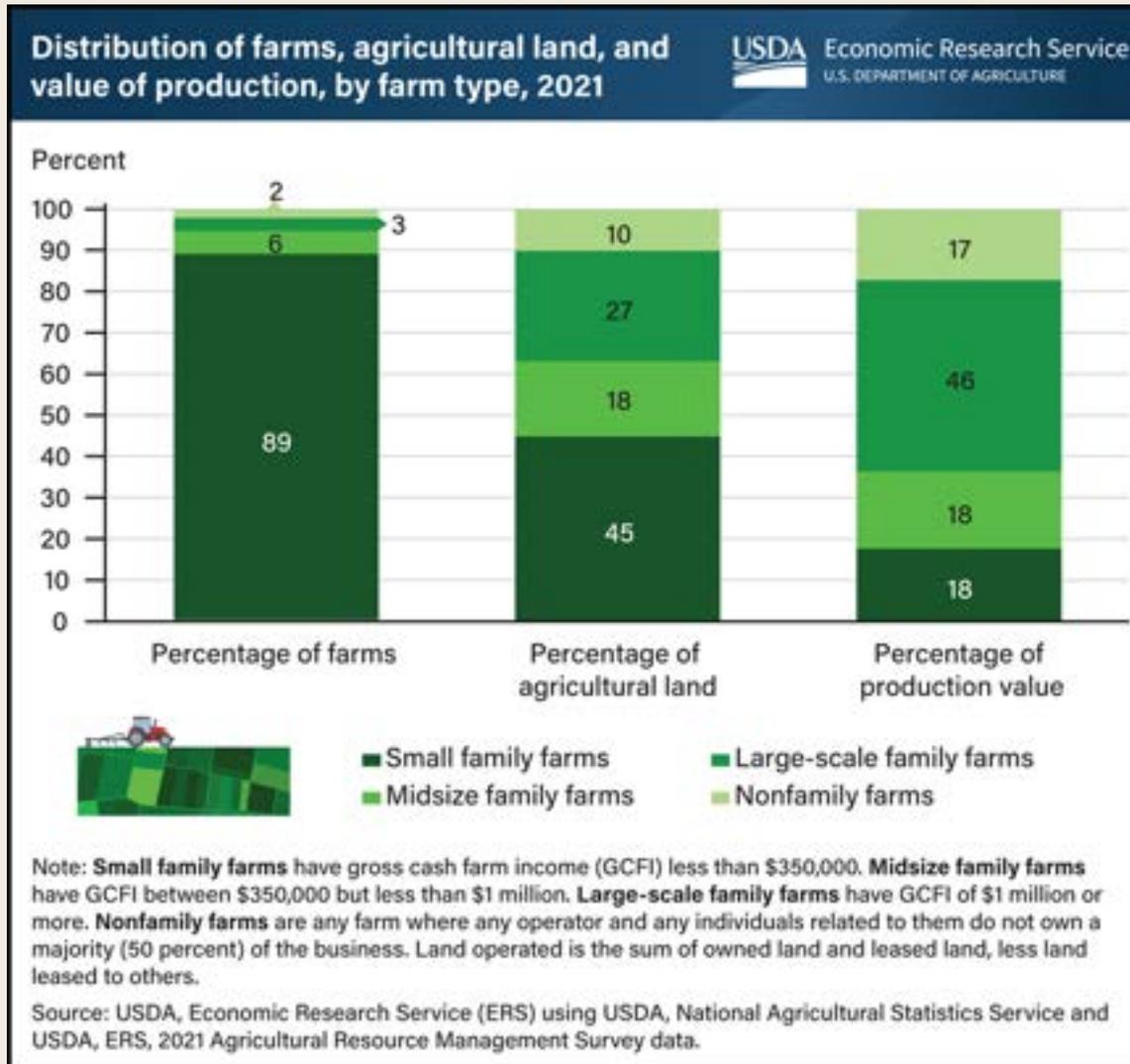
- **Pastureland value**

- The average value of pastureland in the United States increased to \$1,830 per acre in 2024, up 5.2% from 2023.

- **Rental rates**

- The average rental rate for cropland in the United States increased to \$155 per acre in 2023, up \$7 from 2022. The average rental rate for pastureland increased to \$15 per acre in 2023, up \$1 from 2022.

Distribution of Small Farms



Overall Trends

- The total number of farms **fell**, from 2 million in 2017 to 1.9 million in 2022.
- Many of the farms that **failed** between 2017 and 2022 were those farms with farm sales between \$100,000 and \$500,000, or farms with farm sales less than \$10,000. (Farms of \$350,000 or less, had highest rates of failure)
- The number of farms with farm sales greater than \$1 million **increased** from 79,386 in 2017 to 107,742 in 2022.
- The number of farms with farm sales greater than \$5 million **nearly doubled** from 8,972 in 2017 to 16,226.

-USDA Census of Agriculture

Land Access

Innovative Solutions

•Land Trusts

- Non-profit organizations that acquire and hold land to ensure it is used for agriculture.

•Cooperative Models

- Farmers pooling resources to purchase and manage land collectively.

•Community Land Access Programs

- Local governments and NGOs facilitating access through policy changes.

•Land Reform Policies

- Redistribution of land to small farmers.

•Zoning Regulations

- Supporting agricultural use of land in urban areas. (PA Urban Ag Incentive Zones Law)

•Incentives for Sustainable Practices

- Subsidies or grants for environmentally friendly farming.

•Training in Land Rights

- Empower farmers to know, understand, and practice their rights

•Sustainable Farming Practices

- Workshops on techniques that maximize yield and minimize land use.

•Networking Opportunities

- Empowering farmers with knowledge of their rights.
- Building connections between small farmers and resources.

Useful Land Access



Access to Capital

Challenges:

1.Limited Credit History: Many small farms lack a strong credit history, making it difficult to secure loans from traditional banks.

2.High Risk Perception: Lenders often view farming as a high-risk industry due to factors like weather dependency and market fluctuations.

3.Collateral Requirements: Small farms may not have sufficient collateral to secure loans, which can limit their borrowing capacity.

4.Complex Application Processes: The loan application process can be lengthy and complicated, deterring small farmers who may not have the resources to navigate it.

5.Seasonal Cash Flow Issues: The cyclical nature of farming can create cash flow problems, making it difficult to repay loans on time

Access to Capital

Possible Solutions

1. Access to Capital

- Microloans:** Promote microloan programs specifically designed for small farmers, offering lower interest rates and more flexible repayment terms.
- Cooperative Funding:** Encourage the formation of cooperatives to pool resources and share costs for equipment and supplies.
- Crowdfunding:** **Utilize crowdfunding platforms to raise capital for specific projects or expansions.**

2. Market Strategies

- Direct-to-Consumer Sales:** Develop farmers' markets, community-supported agriculture (CSA) programs, and online sales platforms to increase profit margins. Developing a niche market for high value, local products
- Branding and Promotion:** Provide training on effective marketing strategies to enhance visibility and consumer engagement.

3. Cost Management

- Shared Resources:** Create resource-sharing agreements for expensive equipment to minimize individual investment, collaboration on ordering bulk supplies to reduce overall costs
- Sustainable Practices:** Implement regenerative agricultural practices that can reduce input costs over time (e.g., cover cropping, integrated pest management).



Access to Capital

Possible Solutions

4. Training and Networking

- **Workshops and Seminars:** Offer training on financial management, marketing, and sustainable farming practices.
- **Mentorship Programs:** Establish mentorship networks connecting experienced farmers with newcomers to share knowledge and resources.
- **Online Resources:** Utilize online platforms for easy access to educational materials and training videos.
- **Farm Networks:** Facilitate the creation of local networks for small farmers to share resources, knowledge, and marketing opportunities.

5. Policy Support

- **Advocacy for Subsidies:** Support policies that provide targeted subsidies or grants for small farms, particularly in vulnerable sectors.
- **Simplifying Regulations:** Lobby for streamlined regulations that reduce compliance costs for small farmers.
- **Farm Bill Provisions:** Encourage small farmers to engage in discussions around the Farm Bill to ensure their needs are represented.

Access to Capital

Possible Solutions

6. Risk Management

- **Crop Insurance:** Promote awareness of crop insurance options to help farmers mitigate risks associated with market fluctuations and natural disasters.
- **Diversification:** Encourage farmers to diversify their crops and income sources to reduce reliance on a single product.

7. Technological Adoption

- **Affordable Tech Solutions:** Support the development and dissemination of affordable, user-friendly technology tailored for small farms.
- **Training in Technology:** Provide resources and workshops focused on integrating technology into farm management.

8. Climate Resilience

- **Funding for Resilience Projects:** Advocate for grants and loans aimed at improving resilience to climate change (e.g., irrigation systems, drought-resistant crops).
- **Community-Based Solutions:** Promote collaborative approaches to address shared challenges, such as water management and conservation efforts.

Rising Production Costs

- **Price Volatility:** Fluctuating prices for crops and livestock.
 - **Competition:** Larger agricultural businesses and imports driving prices down.
 - **Consumer Preferences:** Shifts toward organic and sustainable products can create niche markets but require adaptation.
 - **Input Costs:** Increasing prices for seeds, fertilizers, and feed.
 - **Labor Costs:** Difficulty in hiring and retaining skilled labor; rising wages.
 - **Equipment and Technology:** Need for investment in modern technology to stay competitive.
 - **Resource Sustainability:** Challenges in managing water, soil health, and biodiversity.
- Compliance Costs:** Navigating federal, state, and local regulations can be costly and complex.
- **Food Safety Regulations:** Meeting food safety standards can be burdensome for small farms.
 - **Extreme Weather:** Increased frequency of droughts, floods, and storms affecting yield.
 - **Adaptation Costs:** Need for investment in resilient practices and infrastructure.
 - **Adoption Barriers:** Small farms may struggle with the cost of new technology.
 - **Training Needs:** Lack of resources for training in new agricultural practices.

Rising Production Costs

1. Assessment and Financial Planning

- **Conduct Cost Assessments:** Help farmers analyze their production costs to identify areas for savings.
- **Budgeting Workshops:** Organize workshops on effective budgeting and financial management.
- **Access to Financial Advisors:** Provide access to agricultural financial advisors for personalized guidance.

2. Cooperative Purchasing

- **Form Cooperatives:** Encourage farmers to form or join cooperatives to pool resources and purchase inputs (seeds, fertilizers, equipment) in bulk.
- **Negotiate Discounts:** Use the cooperative model to negotiate better prices from suppliers.

3. Diversification of Crops and Income

- **Introduce Crop Rotation:** Educate farmers on crop rotation and diversification to increase soil health and yield.
- **Alternative Income Streams:** Explore options such as agritourism, value-added products (jams, cheeses), and organic farming.

4. Sustainable Practices

- **Promote Sustainable Agriculture:** Encourage practices that reduce reliance on costly inputs, such as cover cropping, organic pest management, and soil health improvements.
- **Training Programs:** Offer training on sustainable practices that can lower production costs over time.

5. Access to Technology and Innovation

- **Grant Programs for Technology:** Facilitate access to grants or subsidies for purchasing new technologies that increase efficiency (e.g., precision farming tools).
- **Workshops on Digital Tools:** Provide training on using apps and software for farm management, inventory tracking, and market analysis.

A Few Other Challenges...

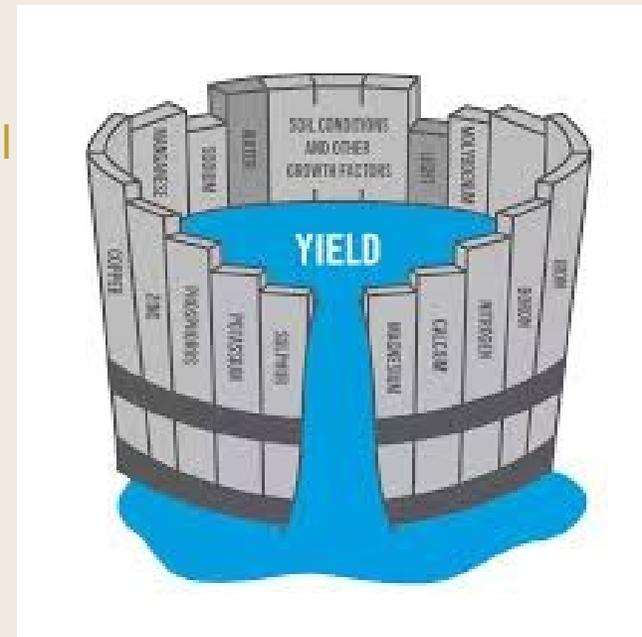
Lack of Support – “Conventional” Ag has historical data, support of institutions, and literally set the guidelines for some of these tests. Less useful to diversified farms

Lack of Understanding – Small farm practices don’t always translate into existing agronomic advice. High functioning soils behave completely differently than a “normal” test may read

Creation of a (simple) plan for soil / nutrition testing can help resolve many of the issues that can come up in high functioning soils.

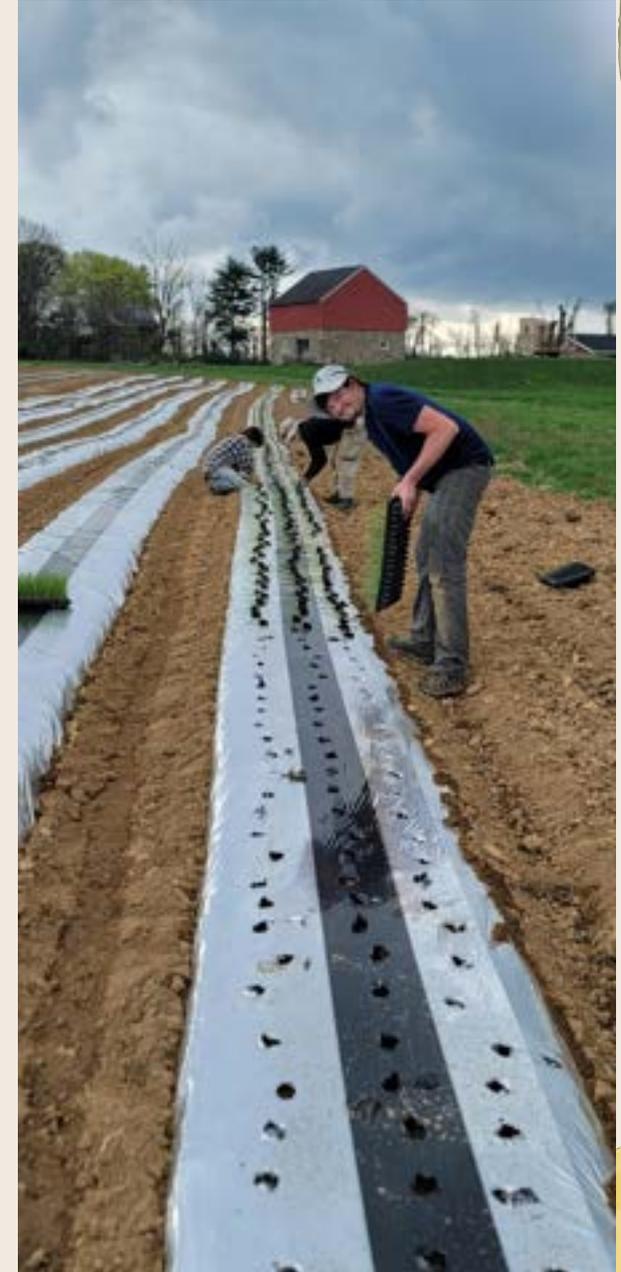
TEST WHERE YOUR BOTTLENECK IS!! Liebig’s Barrel

Understanding Your Farmer/ Your Own Limitations – Most small farms can’t afford a bad recommendation or work hard to be able to implement. Off-the-cuff, poorly worded, or confusing recommendations could mean life or death for a small farm. Decision spiral



How We Can Help

- Get familiar with the farm!
- Take your time with recommendations
- Be a sounding board for their ideas
- Be a shoulder to cry on (sometimes)
- Advocate constantly
- Facilitate networking
- Encourage and push for Community Capacity
- Keep in touch!!!



Keep In Touch

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