



2022 National Organic Research Agenda: Understanding Organic Grower Needs and Challenges Across the U.S.

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National Organic Standards Board

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Sacramento, CA

Organic Farming Research Foundation

Mission: To foster the improvement and widespread adoption of organic farming systems.

Vision: Organic farming as the leading form of agriculture, leading to healthy and resilient people, ecosystems, and economies.



Advancing On-Farm Research



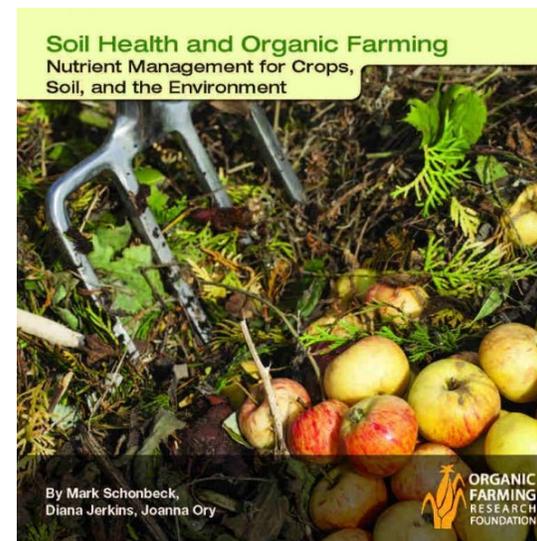
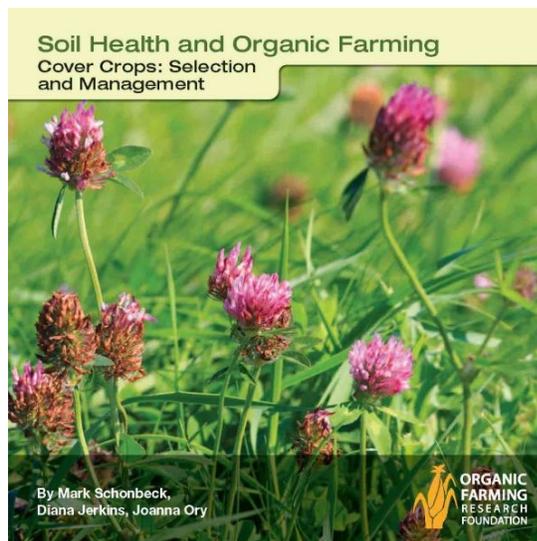
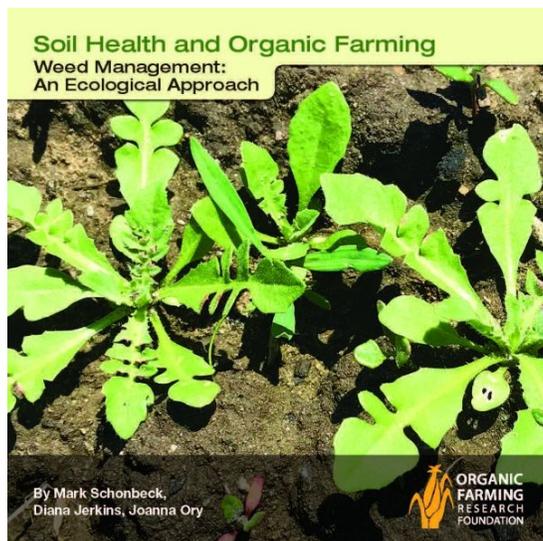
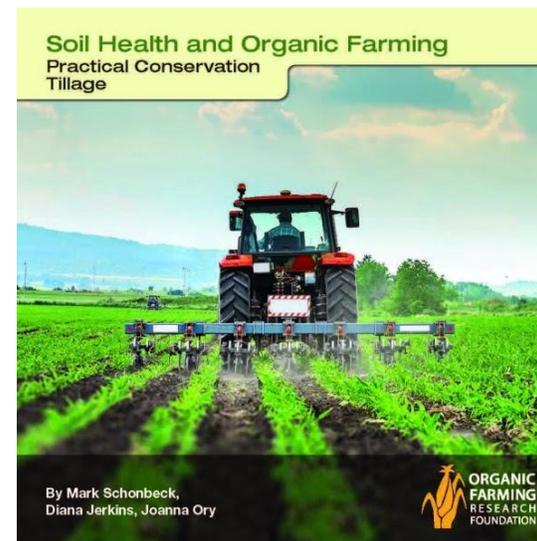
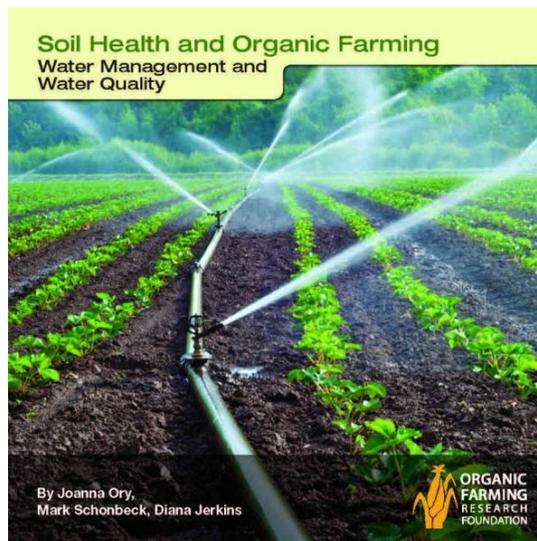
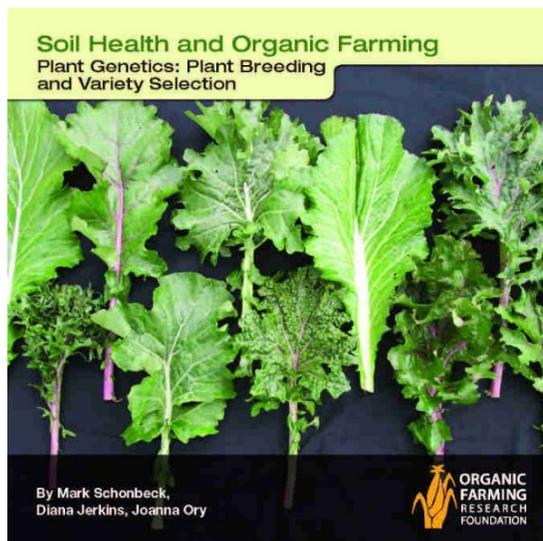
- 30+ years of research grant-making:
 - > \$3 million for 355 projects
 - Farmer-led research, early career researchers, BIPOC applicants
 - Small grants seeding bigger investments
- Research topics based on farmer identified needs.
- Research addressing climate change mitigation and resiliency

Outreach and Education



- Annual Organic Agriculture Research Forum
- Database of research findings
- Outreach to ensure research outcomes reach farmers

Science-based Educational Resources



Cooperative Agreement with USDA National Institute of Food and Agriculture (NIFA)

Analysis of 197 research funded 2015-2021
130 Organic Research and Extension Initiative (OREI) projects
67 Organic Transitions (ORG) projects



NOSB Broader Research Priorities are Being Addressed in Multiple USDA-funded Organic Research Projects

NOSB Research Priority	Priority since ¹	No. projects ²
Systems approach to disease IPM for organic fruits and vegetables	2014	38
Organic no-till and reduced-tillage systems	2014	18
Assessing and overcoming barriers to transition to organic	2018	45
Assessing and optimizing ecosystem services from organic practices	2019	52
Optimizing cover crops to meet fertility needs	2019	39
Climate mitigation and resilience through organic practices	2020	28

¹ NOSB priorities for 2014 – 2021 were reviewed. Date shown is first year priority was cited.

² Number of OREI and ORG projects funded 2015-2021 that addressed this priority.

NOSB Specific Specific Challenges that some OREI and ORG-funded research projects have addressed

NOSB Research Priority	Priority since	No. projects
Prevention and management of parasites in organic livestock	2014	7
Methionine for organic poultry – natural sources, systems approach	2014	2
Decomposition and soil health effects of biodegradable film mulch	2016	3
Invasive exotic pests (e.g., Spotted Wing Drosophila)	2017	6
Trials of National List synthetics vs natural materials, cultural controls	2018	8
Invasive weeds (creeping perennials, exotic species)	2020	8
Evaluation of commercial microbial inoculants, soil conditioners, etc	2020	4
Biodiversity, pathogens, and food safety in organic systems	2020	8

Research gaps – Some NOSB Priorities Have *Not* Been Adequately Addressed in OREI and ORG

NOSB Research Priority	Priority since	No. projects
Alternatives to bisphenol A (BPA) to line cans for organic products	2014	1
GMO material in organic compost, breeding lines, seeds, and crops	2014	4
Low-chlorine and non-chlorine sanitizers	2015	0
Breeding livestock for organic systems, outdoor life, living vegetation	2017	3
Increasing access to organic foods	2018	1
Nutritional value and nutrient density of organically grown food	2018	1
Organic production methods for nursery stock	2019	0

What is the National Organic Research Agenda (NORA)?

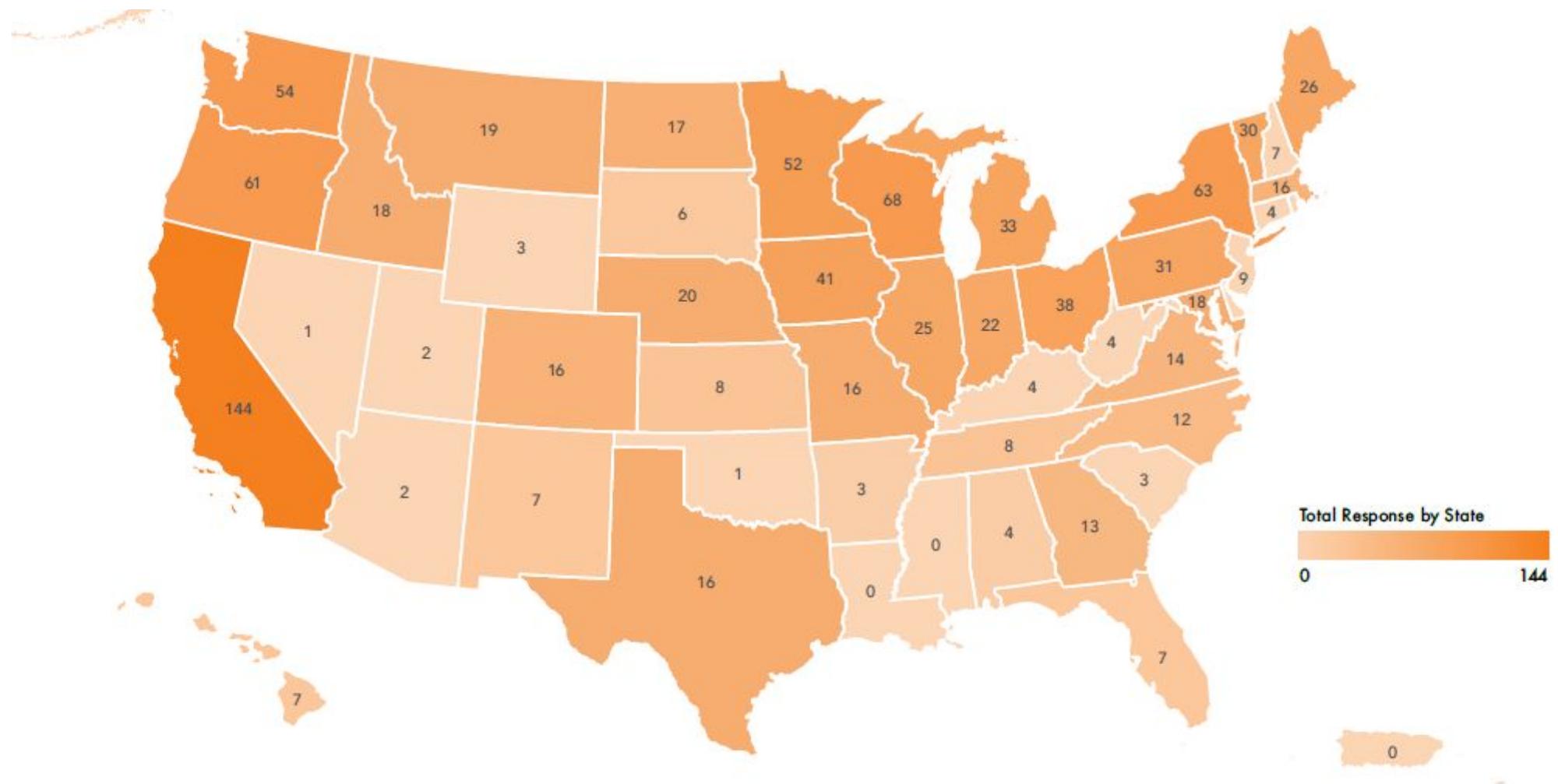
- National survey of organic and transitional producers
 - Over 1,000 survey responses
 - 16 focus groups
- Most robust reporting of challenges faced by domestic organic producers to date
- Roadmap for OFRF, researchers, Congress, and USDA



Lauren Snyder, Mark Schonbeck, and Thelma Velez
Brise Tencer, Project Director



Map of Respondents



Geographic Distribution of Respondents Compared to National Data

Region		Percent of Organic Survey Respondents	Percent of All U.S. Certified Organic Farmers
SARE Region	Northeast	22% (n=212)	24% (n=4,004)
	North Central	35% (n=345)	35% (n=5,845)
	Southern	9% (n=85)	8% (n=1,384)
	Western	34% (n=334)	32% (n=5,352)
Agro-ecoregion	Northeast	21% (n=208)	24% (n=3,977)
	South	7% (n=72)	7% (n=1,144)
	Great Lakes	16% (n=153)	15% (n=2,540)
	Corn Belt	15% (n=142)	17% (n=2,772)
	Great Plains	14% (n=136)	12% (n=1,939)
	Pacific	27% (n=266)	25% (n=4,213)

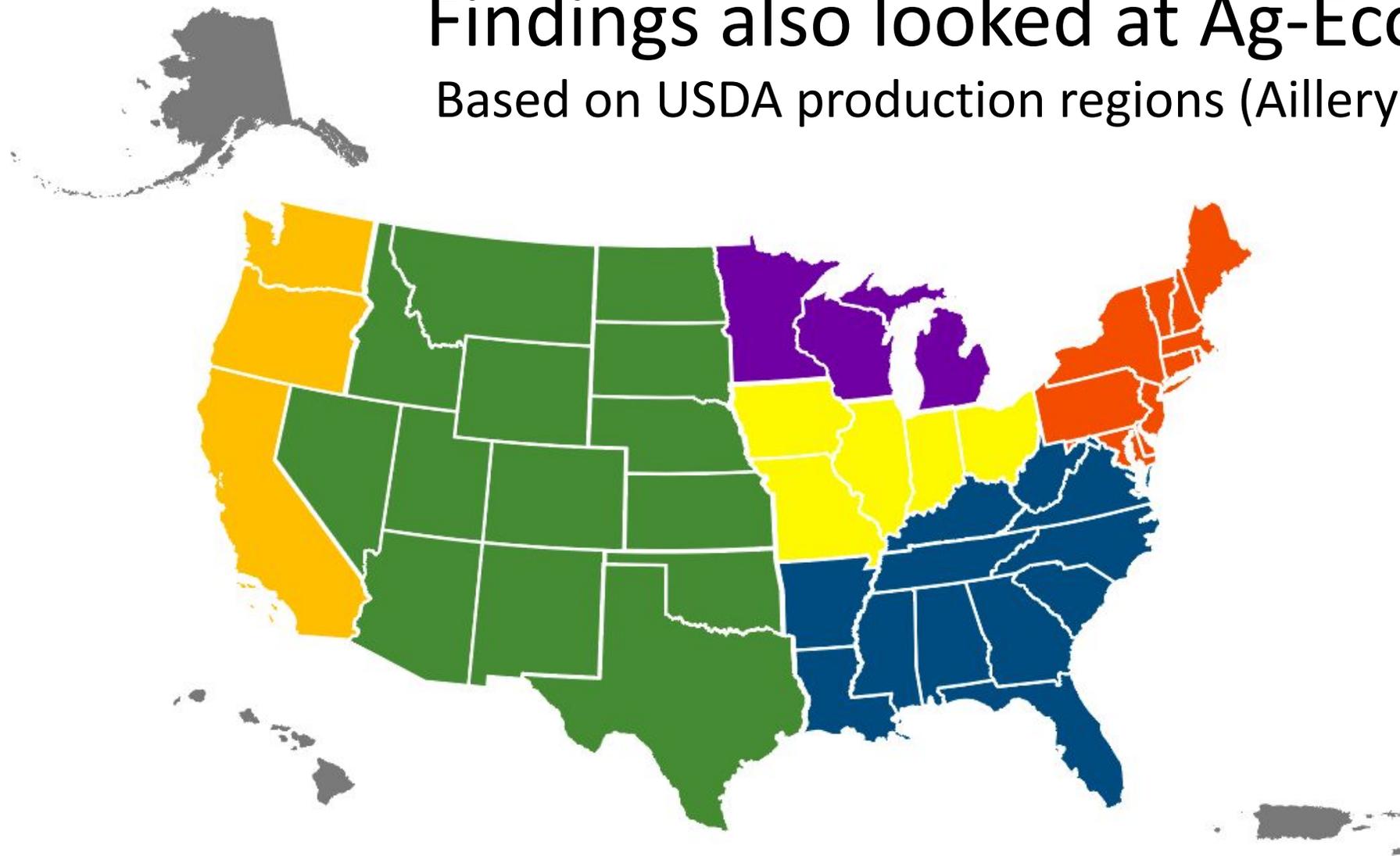
Findings Organized by USDA SARE Regions



Western North Central Northeast Southern

Findings also looked at Ag-Eco Regions

Based on USDA production regions (Aillery et al., 2005).



 Pacific  Great Plains & Mountains  Corn Belt  Great Lakes  South  Northeast

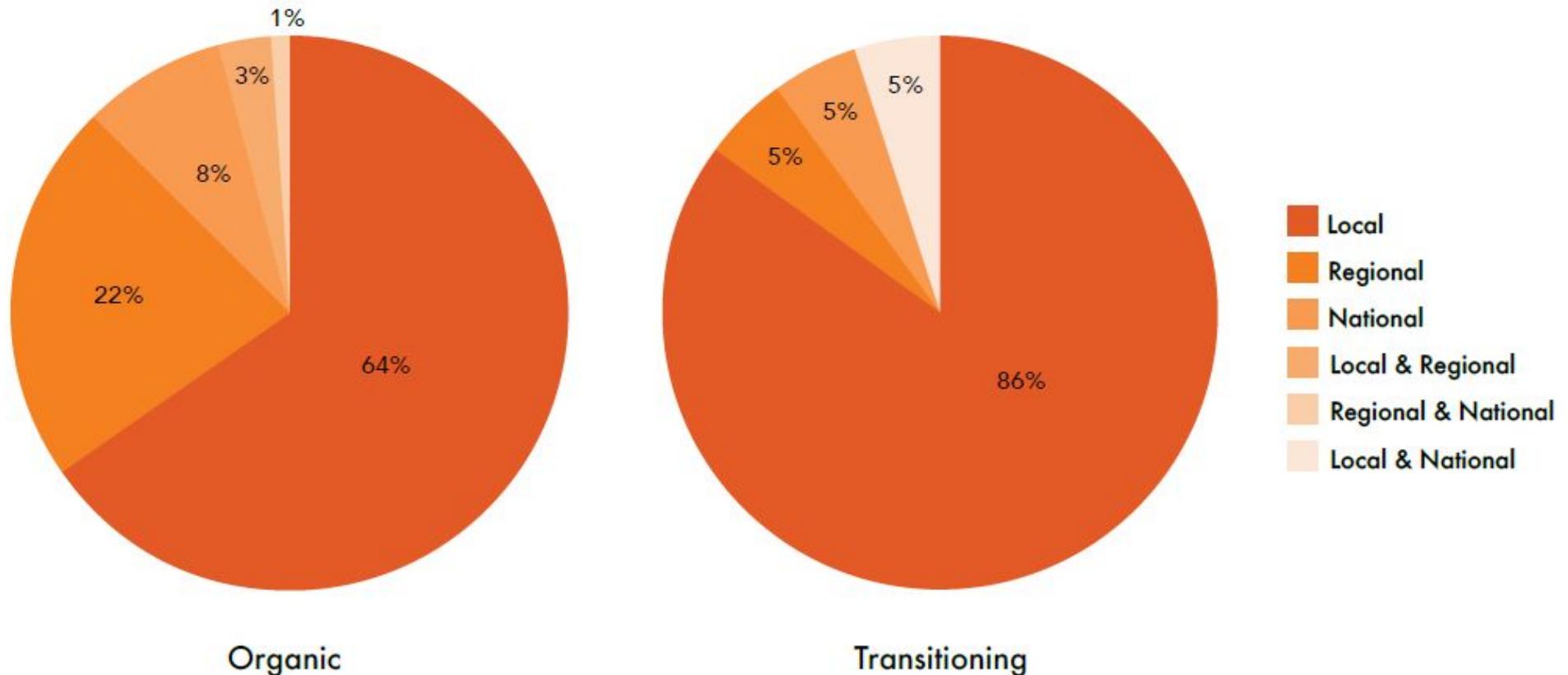
Motivations for Transitioning to Organic

Motivating Factors	Percent of Respondents Who Rated as a Motivating Factor
Concerns about the environment and biodiversity (n=39)	98%
Potential enhancement of farm environmental sustainability (n=38)	97%
Personal and/or family values (n=36)	95%
Concerns about human health (n=35)	90%
Potential increase in profit (n=28)	78%
Greater resilience to the impacts of climate change through organic practices (n=29)	78%
Concerns about farm worker well-being (n=30)	77%
Access to the expanding market for organics (n=27)	69%
Response to a community need for organically produced products (n=23)	64%
Specific market opportunity or contract from a buyer (n=9)	25%

Marketing Region/Scale

Transitioning Producers Rely on Local Sales

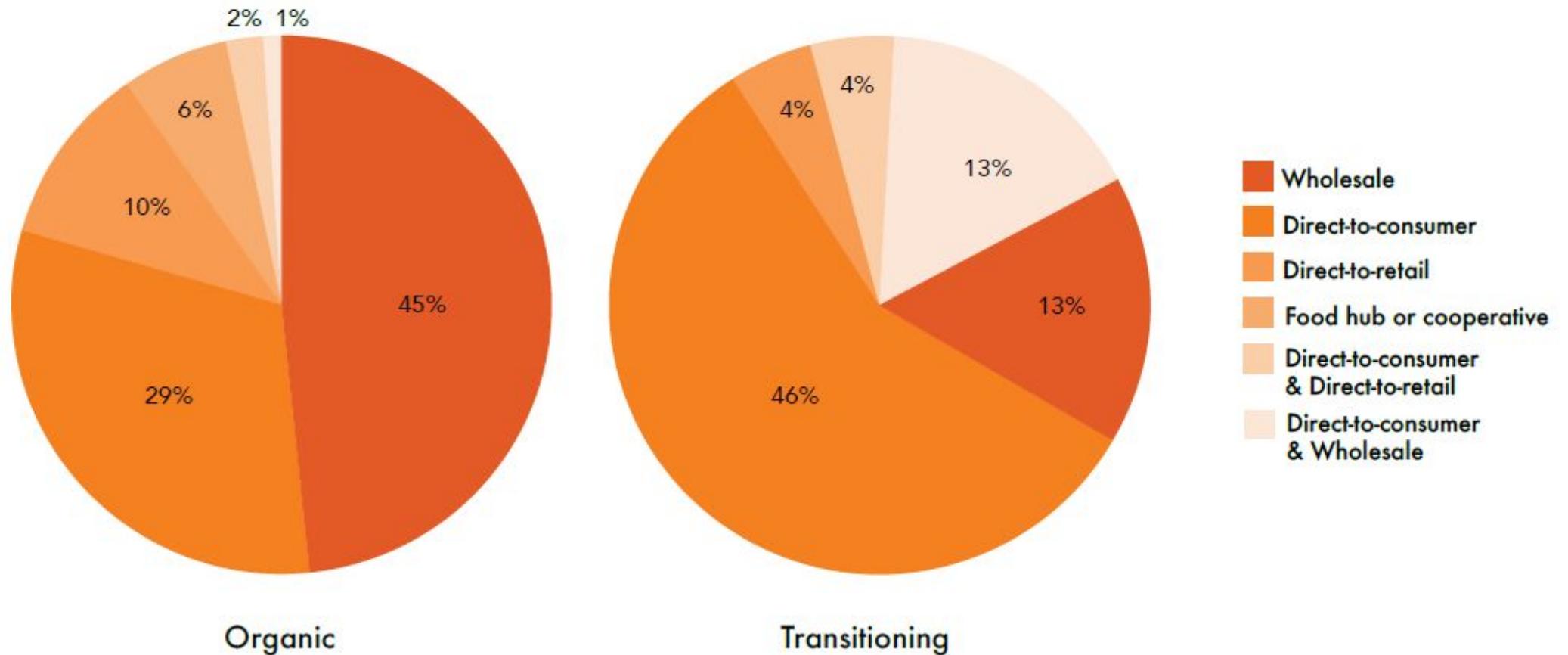
Comparison of organic and transitioning farmers' sales regions.



Marketing Region/Scale

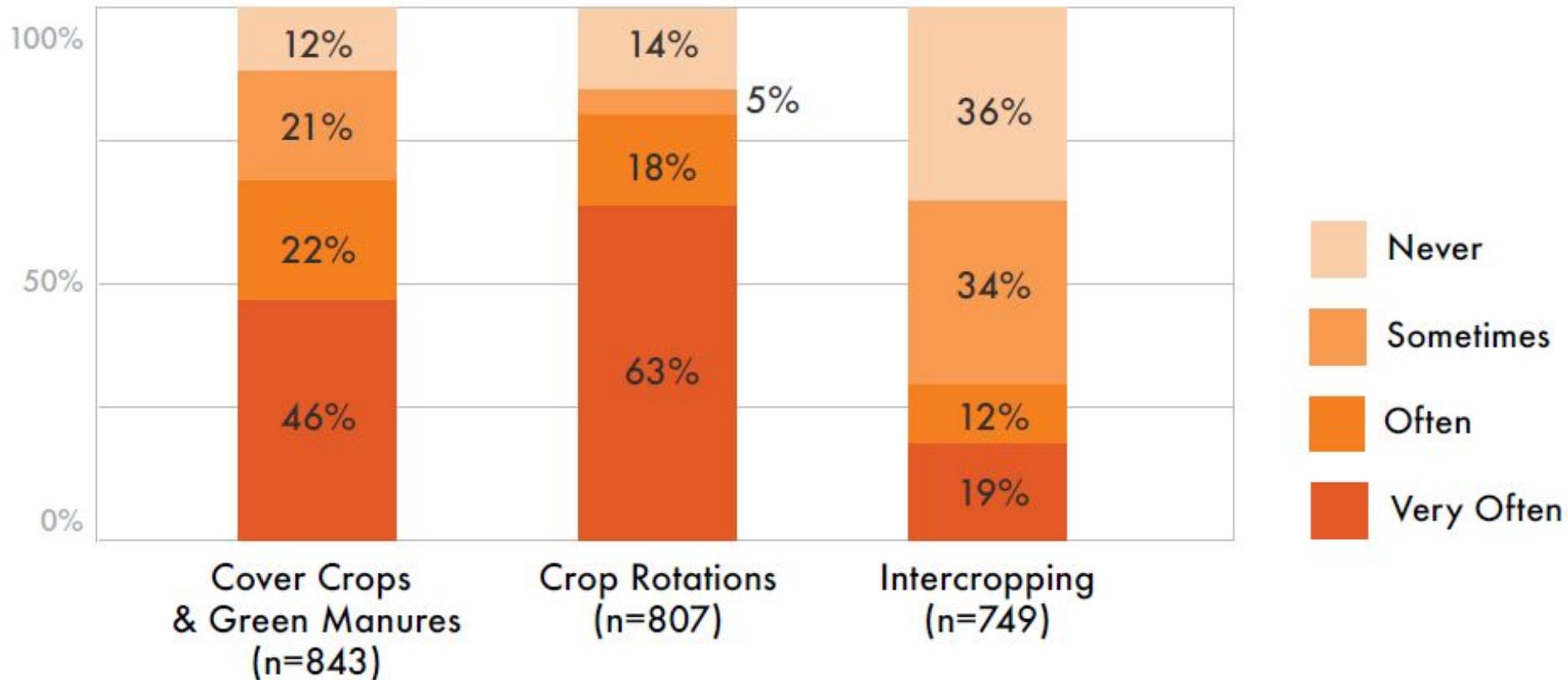
Transitioning Producers Rely on Direct-to-Consumer

Comparison of organic and transitioning farmers' primary marketing outlets.

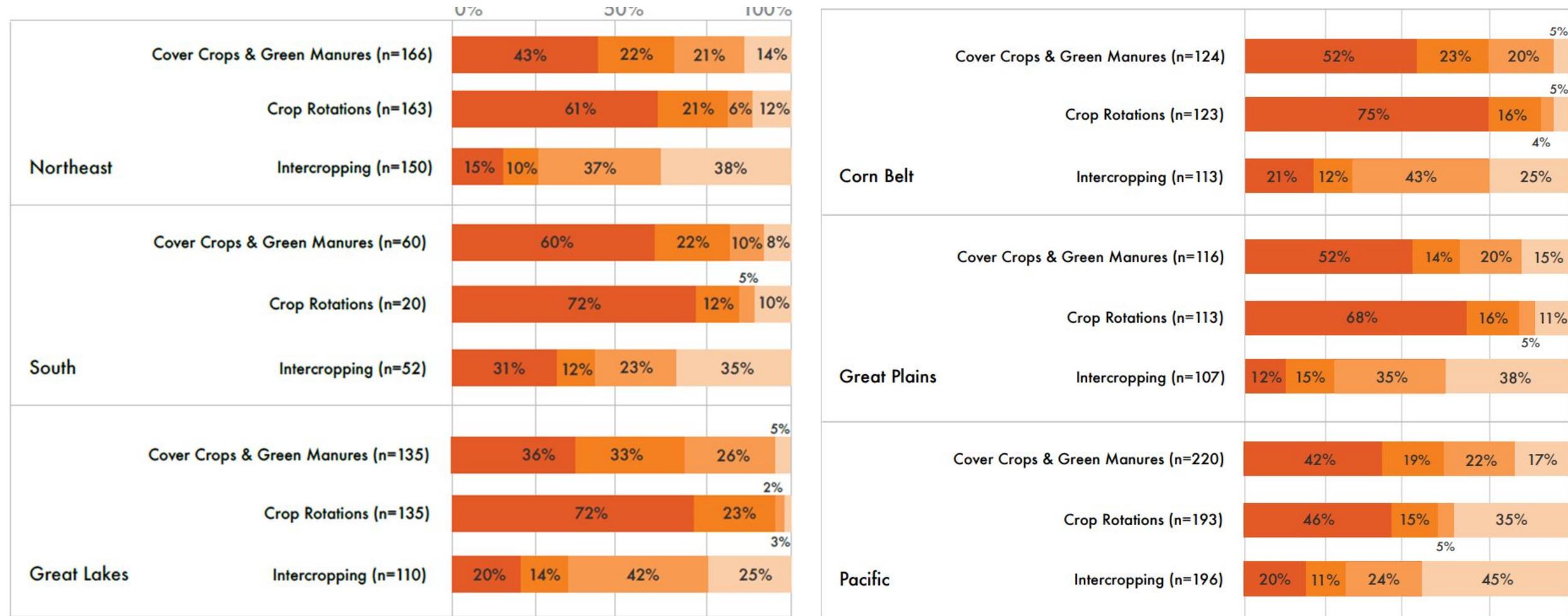


Organic growers are leaders in soil and climate stewardship.

Cover crops and green manures used by 88% of respondents

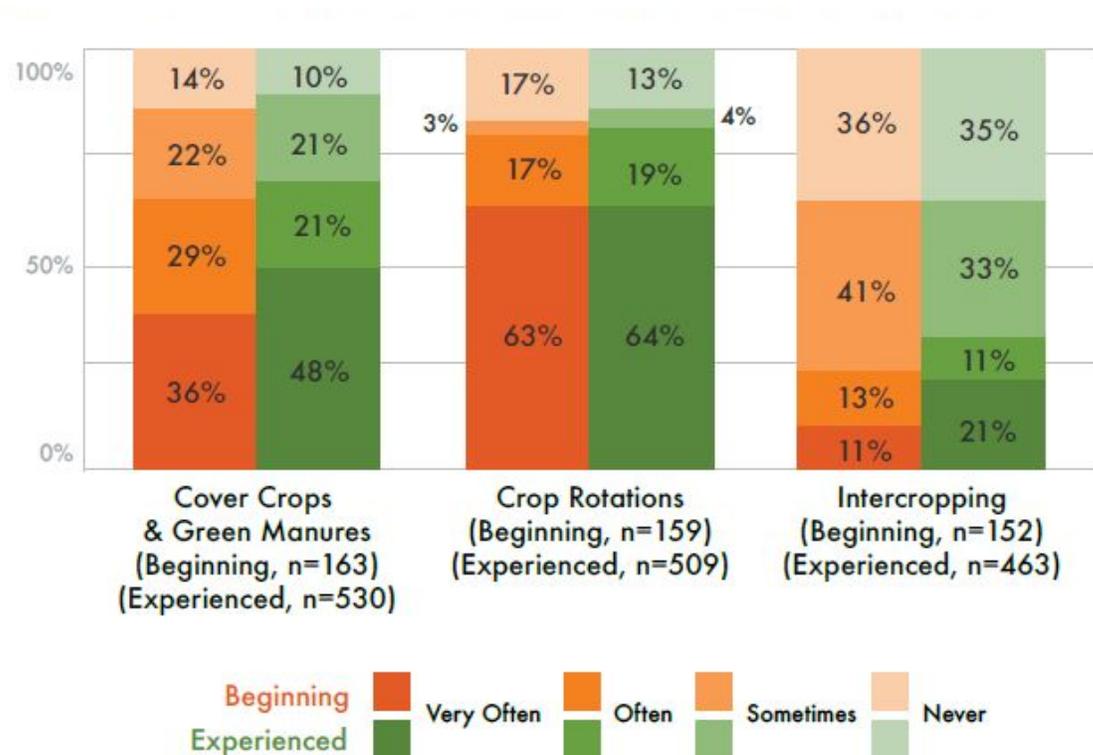


Frequency of implementation of soil health management practices varies among the Agro-Ecological Regions

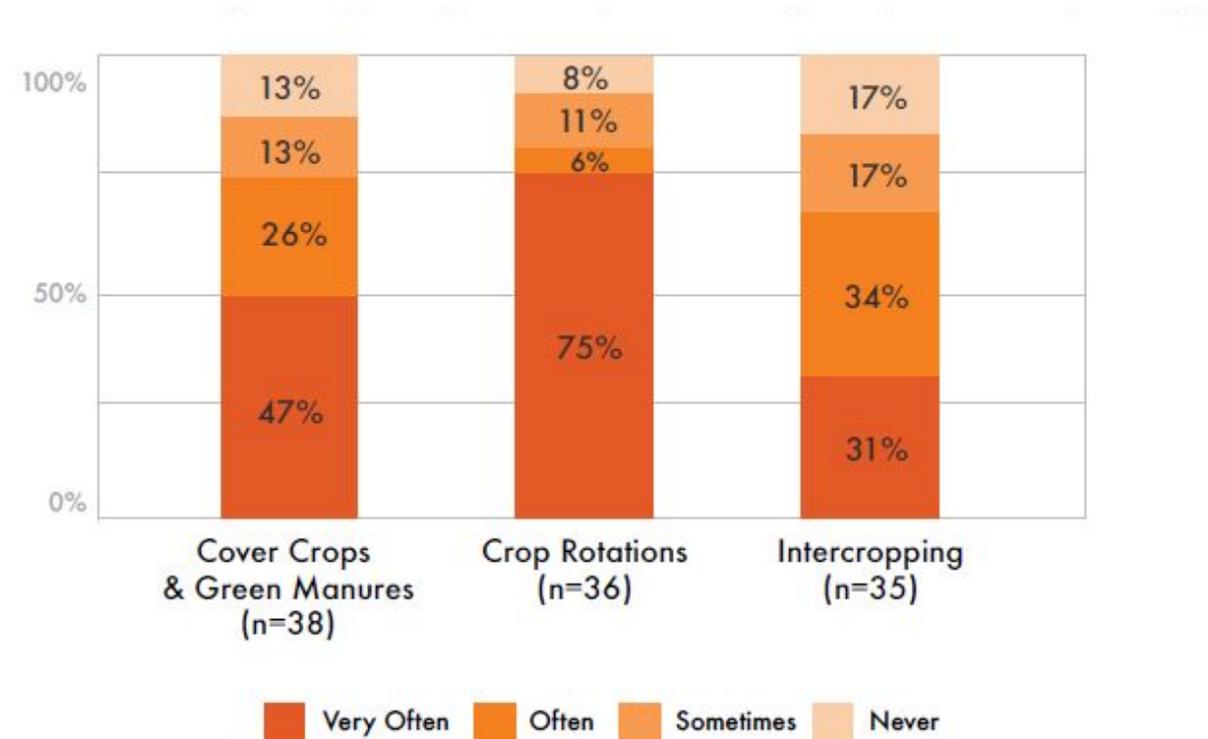


Frequency of Implementation of Soil Health Practices

Beginning vs Experienced Farmers

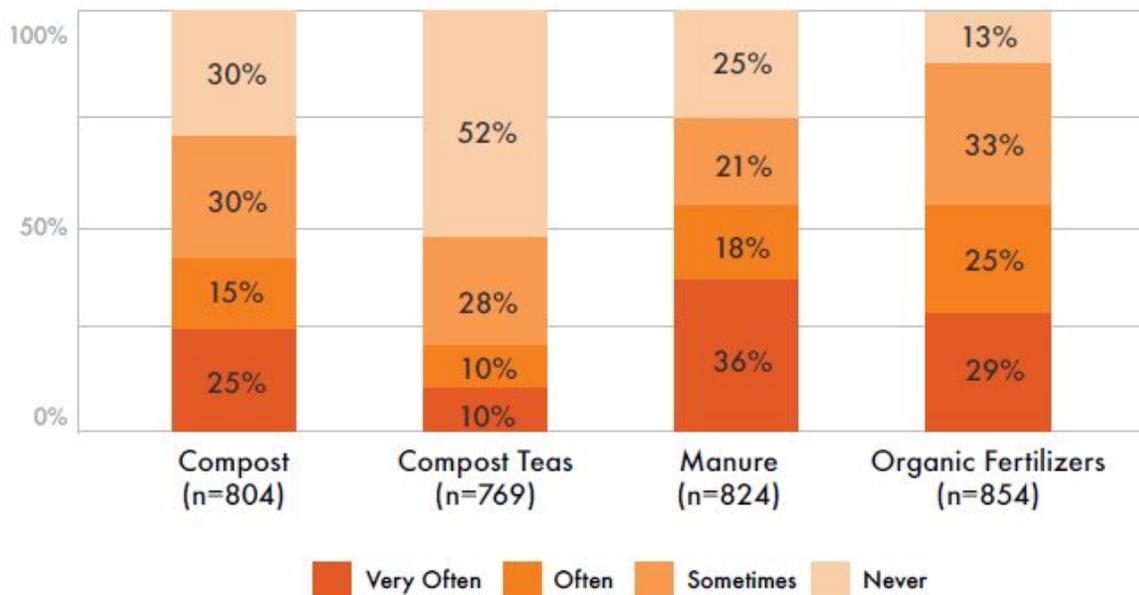


Transitioning Farmers



Use of Organic Input for Nutrients

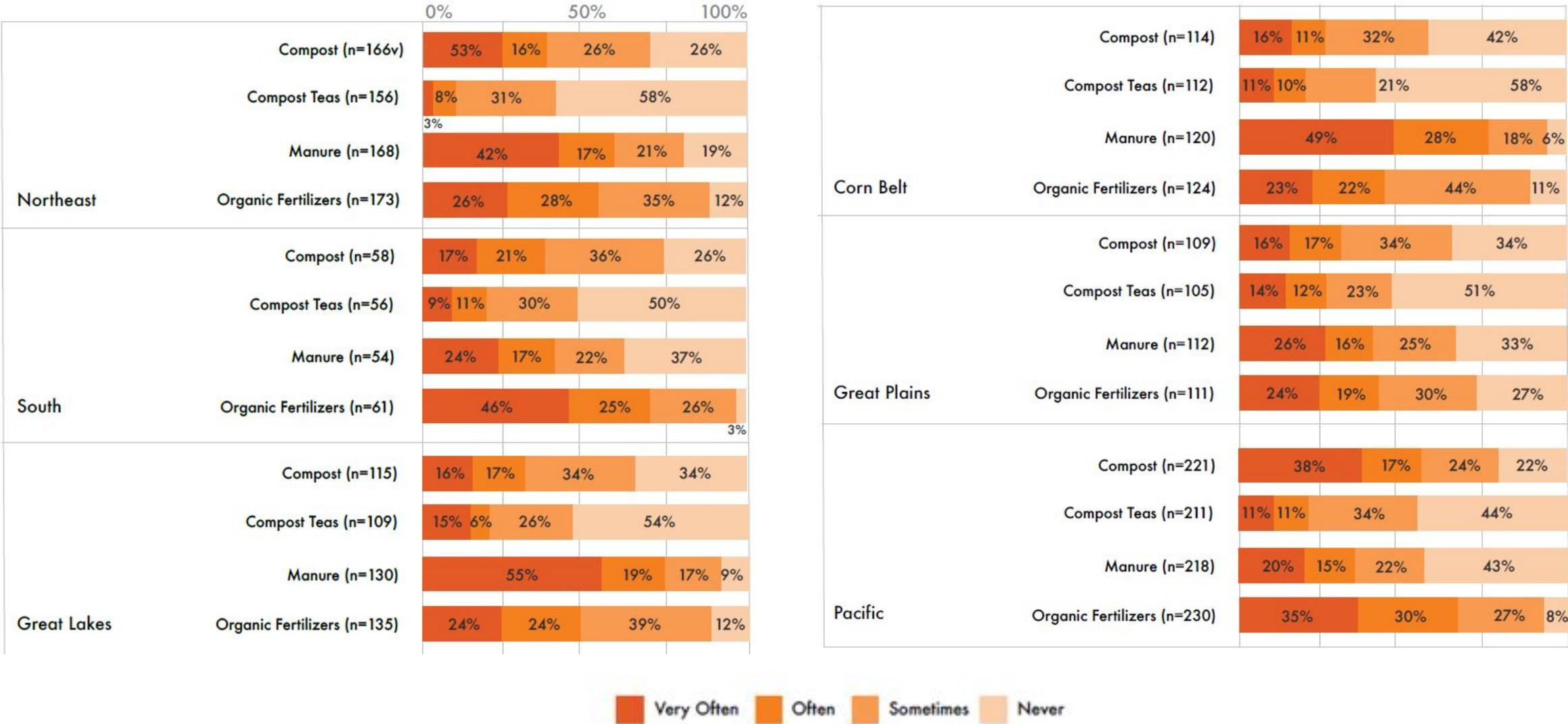
Certified Organic



Transitioning



Frequency of use of Organic inputs by organic farmers across six agro-eco regions



FULL ORGANIC SURVEY SAMPLE

Production Challenge	Percent of Respondents Who Rated as a Substantial Challenge
Controlling weeds (n=536)	67%
Managing production costs (n=454)	59%
Maintaining adequate yields (n=375)	48%
Managing soil fertility and crop nutrition (n=336)	43%
Controlling insect pests (n=325)	41%
Finding appropriate organic crop varieties and seed (n=280)	38%
Controlling disease pressure (n=279)	36%
Adapting to climate change (n=259)	36%
Managing the farm as a system (n=228)	33%
Minimizing adverse impacts of tillage on soil health (n=225)	31%
Optimizing soil structure, avoiding soil erosion and degradation (n=228)	30%
Integrating perennials and permaculture design (n=126)	28%
Drought management (n=191)	26%
Managing animal production and health (n=85)	26%
Grazing and pasture management (n=87)	24%
Seed production/seed saving (n=116)	24%
Utilizing cover crops and green manures (n=155)	22%
Post-harvest handling methods (n=146)	21%
Enhancing agricultural biodiversity (n=136)	19%
Irrigation and water use (n=109)	19%
Managing pollinators and habitat for pollinators (n=130)	19%

Top 5 Production Challenges of Certified Organic Respondents

1. Controlling Weeds
2. Managing Production Costs
3. Maintaining Adequate Yields
4. Managing Soil Fertility and Crop Nutrition
5. Controlling Insect Pests

Diverse Production Challenges Shared In Focus Groups

“”

“How to set reasonable expectations for yield from permanent perennial diverse grass-legume pastures, including practical ways to measure yields from grazing.”



“I would like to see more research not on how to kill weeds but how to discourage them to germinate in the first place.”

Farmers reported increasing frequency or intensity of pest outbreaks, including new species of crop-damaging insects and microbial pathogens not seen in the past.

“”

“Strategies to overcome the challenges due to perennial weeds like nutsedge and morning glory.”

“Identification of pre- and post-emergent herbicides.”



“Our challenge is how to feed the soil organically and keep our yields up to sustainable levels.”

Managing Soil Fertility and Crop Nutrition (cited as a challenge by 43% of respondents)



“Soil is very important, and it is the building block of everything else. And if you treat it poorly, it will pay you poorly for years to come. If you treat it well, it will serve you well. You have to be constantly vigilant on your soil, and it is pretty darn important.”



“You know, that’s really the business we are in is growing and building our soil, and when conditions challenge you to be able to do that, it’s foremost in my mind.”

“I’m always in this sort of battle with myself about feeling bad about tillage as it is really the bluntest but fastest tool for me to use to flip beds...I think it is a struggle.”

Production Challenges

SARE Region VS Ag-Eco Region

SARE Region	Production Challenge	Percent of Respondents Who Rated as a Substantial Challenge
Northeast	Managing production costs (n=106)	61%
	Controlling weeds (n=98)	57%
	Maintaining adequate yields (n=74)	44%
	Managing soil fertility and crop nutrition (n=69)	42%
	Controlling insect pests (n=63)	37%
North Central	Controlling weeds (n=190)	66%
	Maintaining adequate yields (n=145)	52%
	Managing production costs (n=134)	49%
	Managing soil fertility and crop nutrition (n=118)	42%
	Controlling insect pests (n=97)	34%
Southern	Controlling weeds (n=51)	79%
	Managing production costs (n=44)	71%
	Finding appropriate organic crop varieties and seed for your operation (n=42)	69%
	Controlling insect pests (n=38)	59%
	Controlling disease pressure (n=33)	55%
Western	Controlling weeds (n=186)	72%
	Managing production costs (n=160)	65%
	Maintaining adequate yields (n=118)	48%
	Controlling insect pests (n=121)	47%
	Managing soil fertility and crop nutrition (n=114)	44%

Agro-ecoregion	Production Challenge	% of Respondents Rating as a Substantial Challenge
Northeast	Managing Production Costs (n=104)	61%
	Controlling Weeds (n=97)	57%
	Maintaining Adequate Yields (n=74)	44%
	Managing Soil Fertility and Crop Nutrition (n=69)	42%
	Controlling Insect Pests (n=62)	37%
South	Controlling Weeds (n=42)	78%
	Managing Production Costs (n=40)	77%
	Controlling Insect Pests (n=35)	65%
	Controlling Disease Pressure (n=32)	63%
	Finding Appropriate Organic Crop Varieties and Seed for Your Operation (n=32)	62%
Great Lakes	Controlling Weeds (n=90)	64%
	Maintaining Adequate Yields (n=70)	56%
	Managing Production Costs (n=16)	55%
	Managing Soil Fertility and Crop Nutrition (n=13)	46%
	Adapting to Climate Change (n=12)	42%
Corn Belt	Controlling Weeds (n=77)	66%
	Maintaining Adequate Yields (n=56)	50%
	Managing Production Costs (n=50)	45%
	Managing Soil Fertility and Crop Nutrition (n=44)	38%
Great Plains	Controlling Weeds (n=80)	74%
	Managing Production Costs (n=53)	54%
	Maintaining Adequate Yields (n=48)	47%
	Managing Soil Fertility and Crop Nutrition (n=48)	47%
	Finding Appropriate Organic Crop Varieties and Seed for Your Operation (n=45)	43%
Pacific	Controlling Weeds (n=149)	71%
	Managing Production Costs (n=131)	65%
	Controlling Insect Pests (n=103)	50%
	Maintaining Adequate Yields (n=93)	47%
	Controlling Disease Pressure (n=93)	46%

BIPOC Production Challenges Identified by BIPOC respondents

Table 3.5

Top five production challenges for BIPOC and White organic farmers ranked in descending order from strongest to weakest challenge.

Production challenges were quantified by calculating the percent of respondents who rated a substantial production challenge as either a “challenge” or “strong challenge.” “n” denotes the number of respondents who indicated the production challenge was substantial.

Type of Farmer	Production Challenge	% of Respondents Rating as a Substantial Challenge
BIPOC Organic Farmers	Managing Production Costs (n=35)	81%
	Controlling Weeds (n=31)	72%
	Controlling Disease Pressure (n=23)	58%
	Controlling Insect Pests (n=25)	57%
	Maintaining Adequate Yields (n=25)	56%
White Organic Farmers	Controlling Weeds (n=505)	66%
	Managing Production Costs (n=419)	57%
	Maintaining Adequate Yields (n=350)	48%
	Managing Soil Fertility and Crop Nutrition (n=318)	43%
	Controlling Insect Pests (n=300)	40%

Each production challenge is rated as a “substantial challenge” by a greater percent of BIPOC respondents than non-BIPOC folks

Difference up to 24%

Beginner vs Experienced Grower Production Challenges

Type of Farmer	Production Challenge	% of Respondents Rating as a Substantial Challenge
Beginning Farmers	Controlling Weeds (n=109)	66%
	Managing Production Costs (n=97)	63%
	Maintaining Adequate Yields (n=72)	46%
	Controlling Insect Pests (n=73)	45%
	Managing Soil Fertility and Crop Nutrition (n=70)	43%
Experienced Farmers	Controlling Weeds (n=361)	67%
	Managing Production Costs (n=297)	56%
	Maintaining Adequate Yields (n=259)	49%
	Managing Soil Fertility and Crop Nutrition (n=223)	42%
	Finding Appropriate Organic Crop Varieties and Seed for Your Operation (n=193)	39%

Production Challenge	% of Respondents Rating as a Substantial Challenge
Controlling Weeds (N=23)	77%
Finding Appropriate Organic Crop Varieties and Seed for Your Operation (N=14)	47%
Managing Production Costs (N=12)	44%
Minimizing Adverse Impacts of Tillage on Soil Health (N=12)	43%
Seed Production/Seed Saving (N=9)	41%
Managing Soil Fertility and Crop Nutrition (N=13)	41%
Adapting to Climate Change (N=12)	41%
Controlling Insect Pests (N=12)	40%
Post-Harvest Handling Methods (N=9)	36%
Controlling Disease Pressure (N=10)	36%
Managing Pollinators and Habitat for Pollinators (N=10)	35%
Managing the Farm as a System (N=10)	35%
Maintaining Adequate Yields (N=8)	33%
Integrating Perennials and Permaculture Design (N=7)	33%
Grazing and Pasture Management (N=4)	31%
Utilizing Cover Crops and Green Manures (N=9)	31%
Irrigation and Water Use (N=7)	30%
Access to Water Resources (N=8)	29%
Optimizing Soil Structure, Avoiding Soil Erosion and Degradation (N=8)	27%
Managing Animal Production and Health (N=3)	25%
Managing Crop Rotations (N=6)	25%
Enhancing Agricultural Biodiversity (N=7)	24%
Drought Management (N=4)	14%

Top 5 Production Challenges of Transitioning Respondents:

1. Controlling Weeds
2. Finding Organic Crop Varieties/Seed
3. Managing Production Costs
4. Minimizing Adverse Impacts of Tillage

- 5a. Seed Production/Seed Saving
- 5b. Managing Soil Fertility & Crop Nutrition
- 5c. Adapting to Climate Change

Non-Production Challenges for Certified Organic Producers

1. Accessing labor
2. Finding and developing markets for organic products
3. Cost of organic certification
4. Meeting recordkeeping requirements
5. Developing infrastructure

FULL ORGANIC SURVEY SAMPLE	
Non-production Challenge	Percent of Respondents Who Rated as a Substantial Challenge
Accessing labor (n=327)	46%
Finding and developing markets for organic products (n=307)	42%
Cost of organic certification (n=237)	31%
Meeting recordkeeping requirements of organic certification (n=236)	31%
Developing infrastructure (n=220)	31%
Accessing capital and/or financing (n=191)	27%
Managing business activities (n=185)	25%
Farm succession planning (n=171)	25%
Accessing land (n=159)	24%
Farm business planning (n=167)	23%
Understanding and following food safety standards (n=133)	20%
Risk of contamination from genetically engineered crops (n=137)	20%
Meeting organic certification requirements (n=134)	18%
Relations with other farmers (n=75)	10%
Community relations (n=67)	9%
Social pressure to not farm organically (n=64)	9%

BIPOC Non-Production Challenges

Table 3.12

Top five non-production challenges for BIPOC and White organic farmers ranked in descending order from strongest to weakest challenge.

Non-production challenges were quantified by calculating the percent of respondents who rated a non-production challenge as either a “challenge” or “strong challenge.” “n” denotes the number of respondents who indicated the non-production challenge was either a “challenge” or “strong challenge.”

Type of Farmer	Non-production Challenge	% of Respondents Rating as a Substantial Challenge
BIPOC Organic Farmers	Accessing Labor (n=27)	68%
	Cost of Organic Certification (n=26)	61%
	Finding and Developing Markets for Organic Products (n=21)	53%
	Accessing Capital and/or Financing (n=20)	53%
	Meeting Recordkeeping Requirements of Organic Certification (n=18)	41%
White Organic Farmers	Accessing Labor (n=300)	44%
	Finding and Developing Markets for Organic Products (n=286)	41%
	Developing Infrastructure (n=205)	31%
	Meeting Recordkeeping Requirements of Organic Certification (n=128)	30%
	Cost of Organic Certification (n=211)	29%

Every challenge is rated as substantial by a greater percent of BIPOC respondents than non-BIPOC folks.

Differences of 11-32%

Top Five Non-Production Challenges for Transitioning Respondents

1. Finding and developing markets for organic products
2. Meeting recordkeeping requirements
3. Developing infrastructure
4. Accessing labor
5. Accessing capital/financing

FULL TRANSITION SURVEY SAMPLE	
Production Challenge	Percent of Respondents Who Rated as a Challenge
Finding and developing markets for organic products (n=23)	79%
Meeting recordkeeping requirements of organic certification (n=16)	53%
Developing infrastructure (n=14)	50%
Accessing labor (n=11)	48%
Accessing capital and/or financing (n=11)	46%
Farm business planning (n=12)	43%
Meeting organic certification requirements (n=13)	43%
Risk of contamination from genetically engineered crops (n=11)	42%
Cost of organic certification (n=12)	40%
Managing business activities (n=9)	32%
Understanding and following food safety standards (n=7)	29%
Accessing land (n=10)	23%
Social pressure to not farm organically (n=6)	23%
Community relations (n=6)	21%
Relations with other farmers (n=5)	17%
Farm succession planning (n=4)	17%

Concerns in Organic Agriculture

Top Five Concerns for Certified Organic Respondents

1. Organic Fraud and Integrity of the Label
 2. Industrial Organic
 3. Crop Contamination (GMO, pesticide drift)
 4. Imbalance of Domestic Supply and Demand
- 5a. Lack of Skilled Labor
- 5b. Availability of Organic Research Funds

Topics of Concern in Organic Agriculture	Percent of Respondents Who Rated as a Concern
Organic fraud and integrity of USDA organic label (n=571)	77%
Industrial organic (n=499)	73%
Crop contamination (e.g., GMOs, pesticide drift) (n=454)	63%
Imbalance of domestic certified organic supply and demand (n=399)	58%
Lack of skilled labor (n=374)	54%
Availability of organic research funds (n=378)	54%
Access to agricultural service providers who are knowledgeable about certified organic operations (n=224)	53%
Animal welfare (n=311)	52%
Adaptation to climate change (n=363)	52%
Access to seeds bred for organic systems (n=300)	44%
Use of transitional label (n=232)	38%
Access to certified organic animal feed (n=176)	36%
Access to certified organic seeds (n=245)	35%

“We have this discussion with a lot of people who will not be certified organic because they think it’s been co-opted and it’s watered down.”

Preferred Sources of Information

1. Certified organic farmers
2. Other farmers
3. Online resources
4. Organic certifiers
5. Crop consultants

FULL ORGANIC SURVEY SAMPLE	
Sources of Information	Percent of Respondents Who Rated as Useful
Certified organic farmers (n=572)	82%
Other farmers (n=403)	61%
Online resources (n=369)	59%
Organic certifiers (n=392)	57%
Crop consultants (n=241)	48%
Extension personnel focusing on organic production (n=266)	46%
Nonprofit agriculture organizations (n=238)	44%
Suppliers (n=214)	37%
Natural Resources Conservation Service (NRCS) (n=202)	37%
Grower association (n=170)	36%
Buyers (n=197)	35%
Handlers and processors (n=152)	29%
State agriculture department (n=139)	26%
Extension personnel focusing on conventional production (n=99)	18%



Recommendation: Increase Organic Research Funding to Address Production Needs of Organic Producers



A history of under-investment in organic agriculture research and a lack of crop cultivars for organic systems have hindered successful adoption of organic practices

Even though the 2018 Farm Bill increased annual OREI funding to \$50 million effective in 2023, total USDA investment in organic remains below 2% of its total annual research budget, yet organic products are 6% of the market share in the US food system.

OREI and ORG have made substantial progress in addressing farmer identified technical assistance needs. But Substantially More investment is Needed.

Technical Assistance Need	% of Certified Organic	% of Transitioning	No. projects
Organic weed, insect pest, and disease management	74	89	80
Soil fertility and management of crop nutrients	65	74	60
Soil conservation and soil health	60	60	40
Securing sales channels	54	85	26
Production assistance	43	76	83
Labor needs	41	32	0
Business and financial planning	41	44	7

Recommendation: Increase Resources and Outreach to Translate Research into Practice

Emphasize Farmer-to-farmer Learning in Organic Education and Technical Assistance

Build Capacity of Extension, NRCS, and other Agricultural Professionals to Serve the Organic Farming Sector

Provide Training and Technical Assistance for Transitioning and Beginning Organic Producers

Disseminate Research Outcomes, Educational Materials, and Practical Information and Tools via Multiple Venues and Formats

Additional Recommendations

- Increase Federal Support for USDA Certified Organic Production and Organic Transition
- Recognize organic as a meaningful player in climate change solutions
- Build Racial Equity and Support BIPOC Producers in the Organic Sector

Thank you for listening!

Questions and Answers

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