

Hoosier Farmers & High Tunnel Production: Current Status and Where We Grow From Here



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Overview

- Why high tunnels
- NRCS-EQIP
- Project Approach
- Findings
- Implications



From www.cook.rutgers.edu

Why High Tunnels

1. Capture of price premiums (early/late harvests)
2. Distribute labor over the year
3. Increase availability of fresh fruits/veggies for local markets- throughout the year
4. U.S. lags behind in implementing the infrastructure



From www.hightunnels.org

Why High Tunnels

5. Low-cost season extension

6. Protection from

- Adverse weather
- Certain diseases and pests

7. Increased

- Yield
- Shelf life
- Quality



From www.hightunnels.org

EQIP –High Tunnel System Initiative (HTSI)

- Pilot initiative started in 2009
- 90% cost share to cover HT costs
- Supported over 13,000 HTs by 2014 (NRCS 2014)
- Began in Indiana in 2012
- Indiana received 169 funded HTs between 2012-2014



Project Objectives

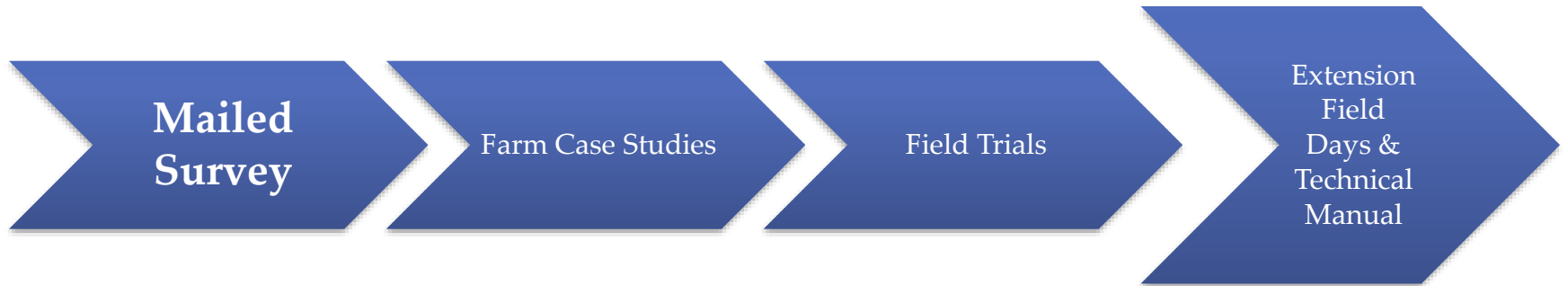
- To understand the extent to which the use of high tunnels contributes to meeting growers' and *society's* goals:
 - Social
 - Environmental
 - Economic
- Compare organic vs. conventional growers in order to understand similarities and differences.



Project Approach

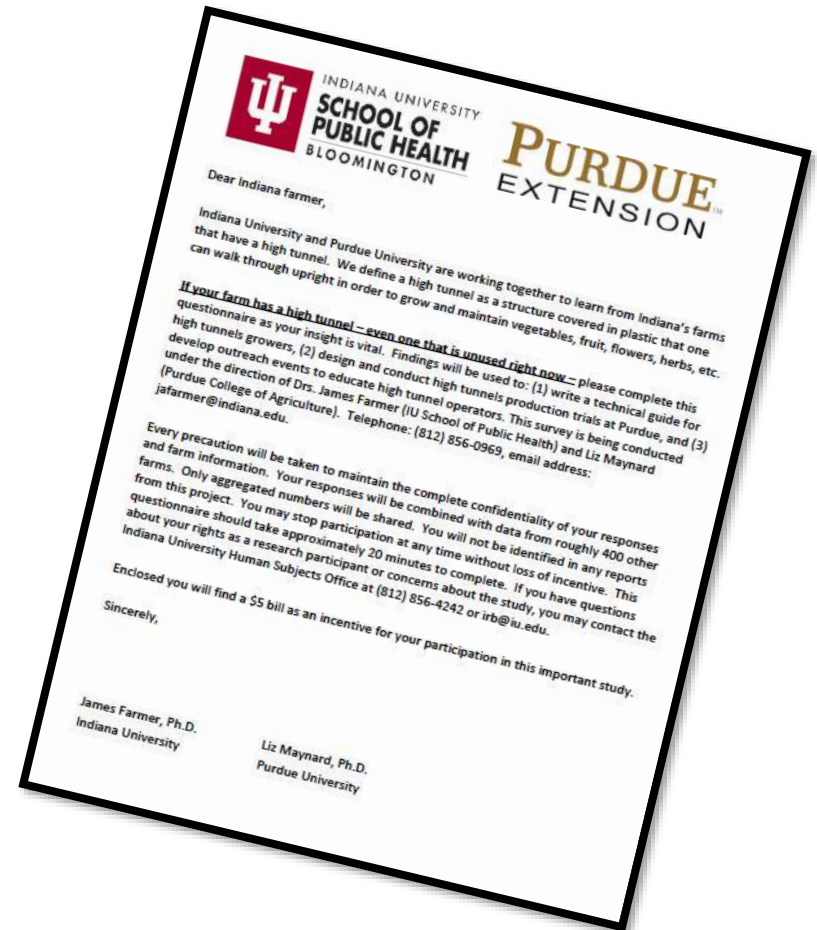


Project Approach



Project Approach

- Mailed survey to 164 farms, 14 hand delivered
- 4-step mailing (Dillman et al. 2009)
 - Pre-notice
 - Survey (\$5 incentive)
 - Postcard Reminder
 - Replacement Survey
- 118 surveys returned- 103 useable (62.8% response rate)



Organic vs. Conventional Grower Differences

Demographic Differences in Organic vs. Conventional Respondents

		Overall	Organic Growers	Non-Organic Growers
Mean Age		37	36.54	37.71
Gender		73% male	69.2% male	81.6% male
Median household income derived from the farm		25%	20%	35%
Acres farmed***	Median	17	6↓	40↑
Farm's Gross Income**	% Less than \$50k	65%	74.6%↑	48.6%↓

p>.05*; p>.010**; p>.001***

Farms were positioned in more urban type counties than rural (think Hancock or Hendricks)

Overarching Findings

Overarching Between Organic and Conventional HT Participants

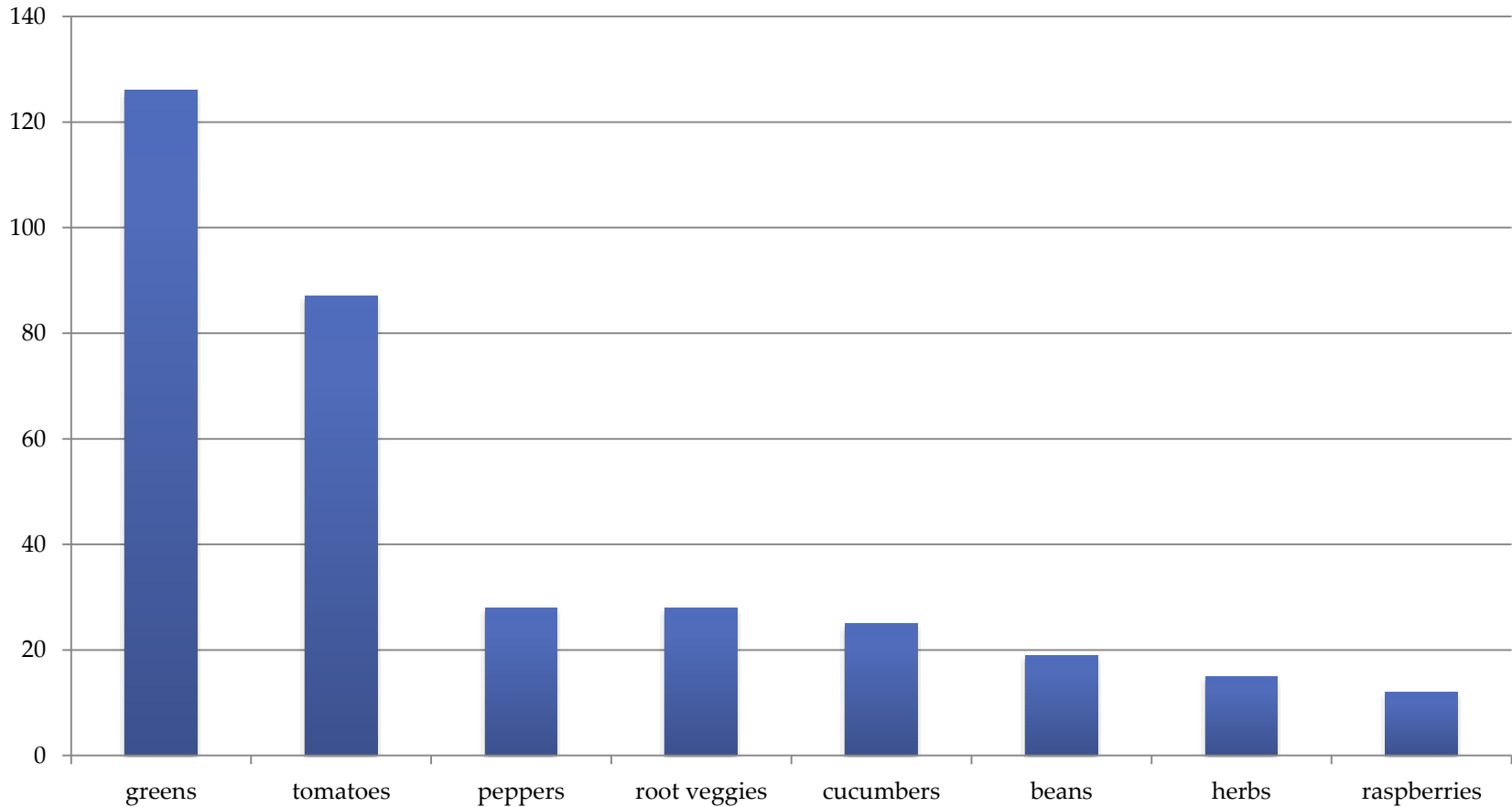
1-5 scale: 1= strongly disagree and 5= strongly agree

	Overall Mean	Organic Growers Mean	Non-Organic Growers Mean
Improved farm's economic stability	4.78	4.86	4.63
Improved quality of life	4.52	4.62	4.34
Significantly reduced negative environmental impacts	4.44	4.47	4.40

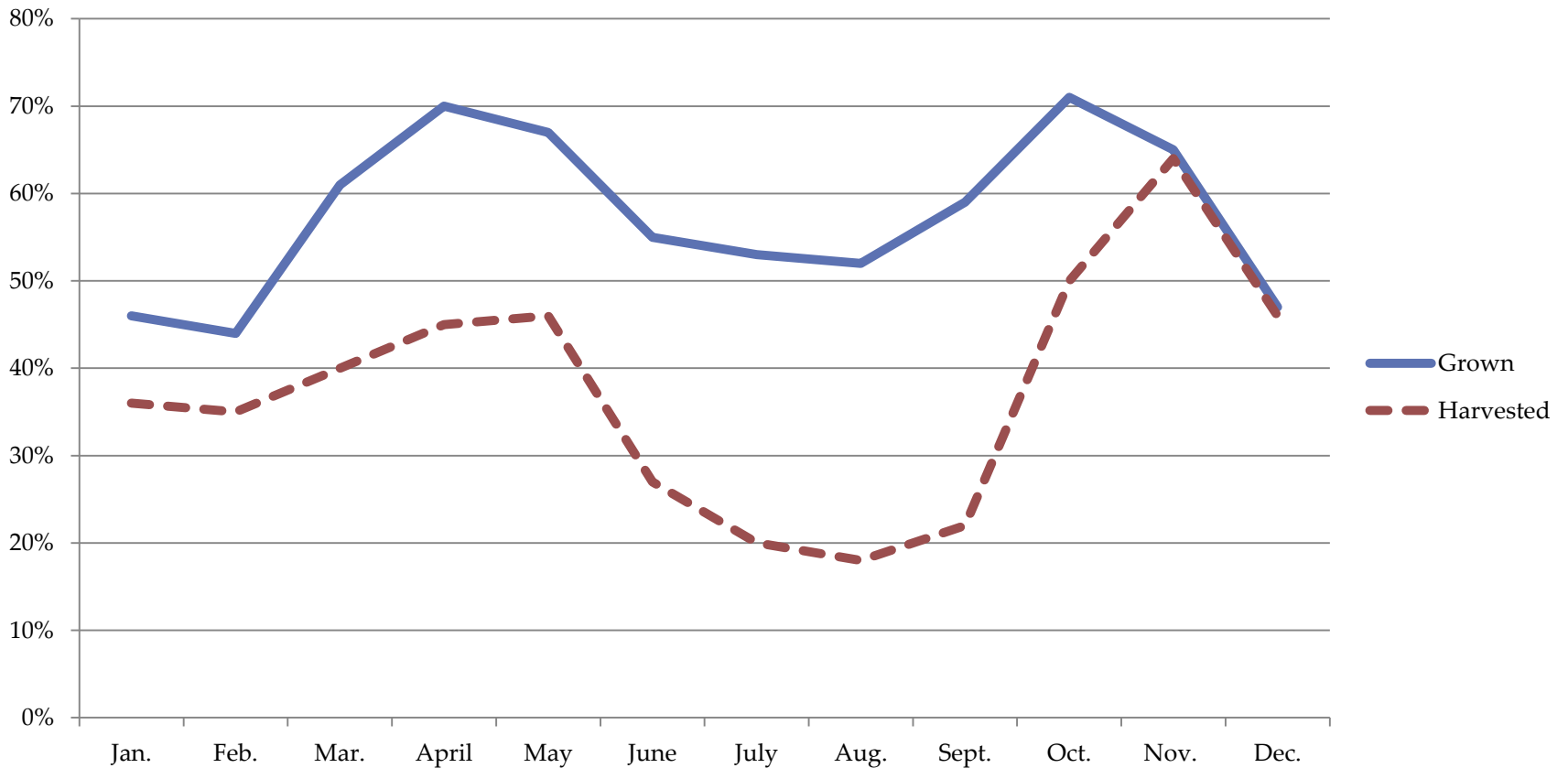
Findings

1-5 scale: 1= strongly disagree and 5= strongly agree	Overall Mean	Organic Growers Mean	Non-Organic Growers Mean
Increasing overall farm profit	3.75	3.86	3.56
Adding products/diversifying	3.36	3.44	3.24
Increasing fall/winter/spring production***	4.02	4.27↑	3.57↓
Harvesting warm season crops earlier in the season	3.89	3.88	3.91
Harvesting warm season crops later in the season	3.62	3.64	3.58
Harvesting cool season crops earlier in the coldest of months***	3.26	3.72↑	2.44↓
Increasing cash flow in fall/winter/spring*	3.37	3.62↑	2.94↓
Shifting some of the summer workload to fall/winter/spring	2.82	2.92	2.64
Improving quality of harvest products	3.89	3.89	3.89
Reducing pest problems	3.31	3.32	3.30

Frequency of Common Crops Grown in High Tunnels



Increases in Growing & Harvesting



Findings: Challenges w/ High Tunnels

Challenges HT users need assistance with.

Variable	Check if Interested	Specific Crop(s)
Crop scheduling: planting dates and harvest dates	57.1%	Spring/fall crops; w greens; tom;
Soil fertility / plant nutrition	57.1%	Tom; peppers; winter crops
Temperature mgmt. (row covers, venting, heat storage, insulation)	52.4%	Tom; greens/winter greens
Insect management	49.5%	Tom; greens; brassicas
Evaluating types / varieties	49.5%	Tom; spinach; strawberries; peppers
Irrigation methods / scheduling	47.6%	Tomatoes; greens
Disease management	46.7%	Tomatoes- white leaf molds
Row, bed and/or in-row spacing	45.7%	Tomatoes;

Additional Findings

- Growing issues (diseases, pests, soil health, planting issues, temperature control, and training needs)
- Structural issues (wind/hail/weather damage, longevity issues with plastic)
- How and where to market in the off-season
- Finding competent labor



Take Home Points

- **Growers are finding high tunnels to be quite useful in improving their farm system**
 - Improving economic stability, quality of life, and env. sustainability
- **Organic growers are bolstered more by the infrastructure**
- **Organic growers farmed less acres and received significantly less income from the farm than their conventional counterparts**
- **Much knowledge and information is needed to continue improving high tunnel growing experience in order to maximize their utility....**

Implications

- **Better training for new/beginning high tunnel users on....**
 - Crop schedules
 - Soil fertility
 - Temperature management
 - Best types and varieties for high tunnels
 - Insect & disease management
- **High tunnels appear to be more commonly used for smaller farms.... How can high tunnel utility be increased for larger farms?**
- **If I was a smaller scale specialty crop farmer- I would invest in (or apply to NRCS) high tunnels.**

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Q & A

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