

Farm to School Research & Rural Implications

Becca Jablonski

Associate Professor & Food Systems Extension Economist | [Colorado State University](#)

USDA Food and Nutrition Service
Office of Community Food Systems
FY 2021 Virtual Farm to School Grantee Gathering
September 23, 2021



Photo Credit: foodtank 2017

Thank you to our funder!



United States Department of Agriculture
National Institute of Food and Agriculture

**Rural Community Impacts of Farm to School: Food Supply Chains,
Educational Programming, and Household Food Purchases [Award #
2017-67023-26246]**

**The Impact of Farm to School Legislation on Farmers, Supply Chain
Businesses, Rural Communities and Economics [Award # 2021-68006-
34029]**

Purported Benefits of Farm to School

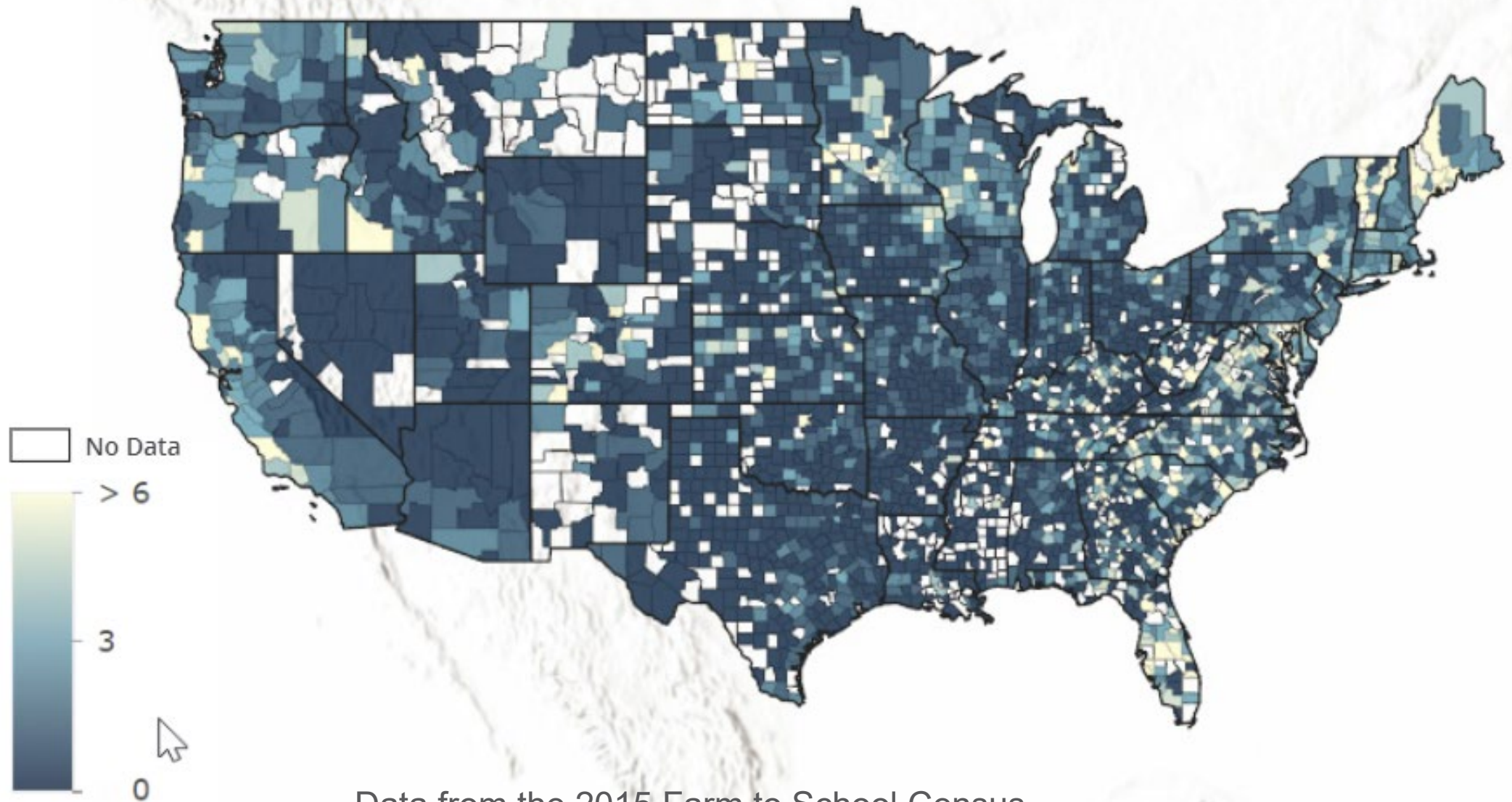


Benefits may depend on many factors, including:

- Farm to school programming intensity
- Types of farm to school programming enacted
- State level policies or longevity
- Food environment
- Etc.

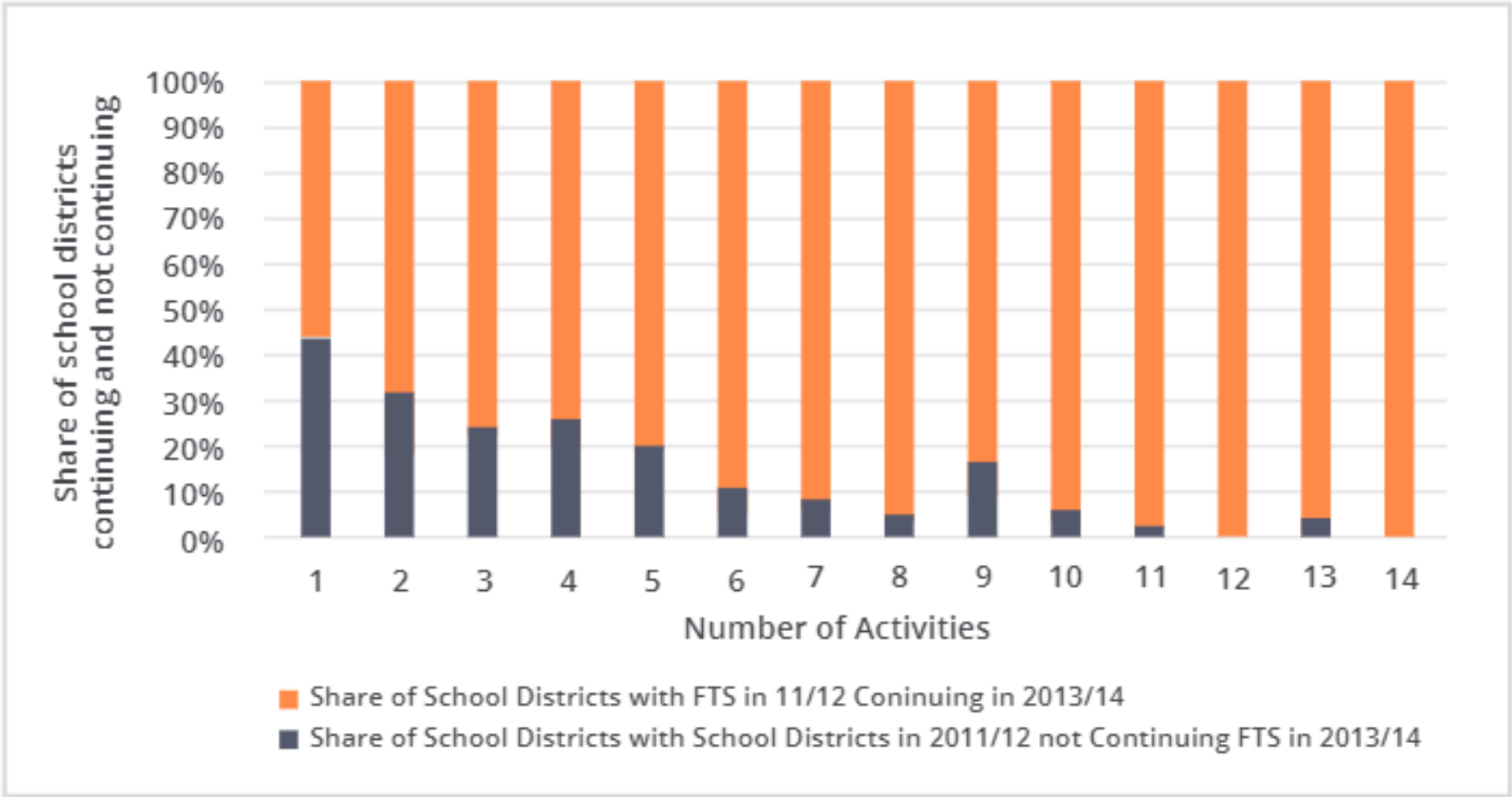


Farm to School Programming Intensity



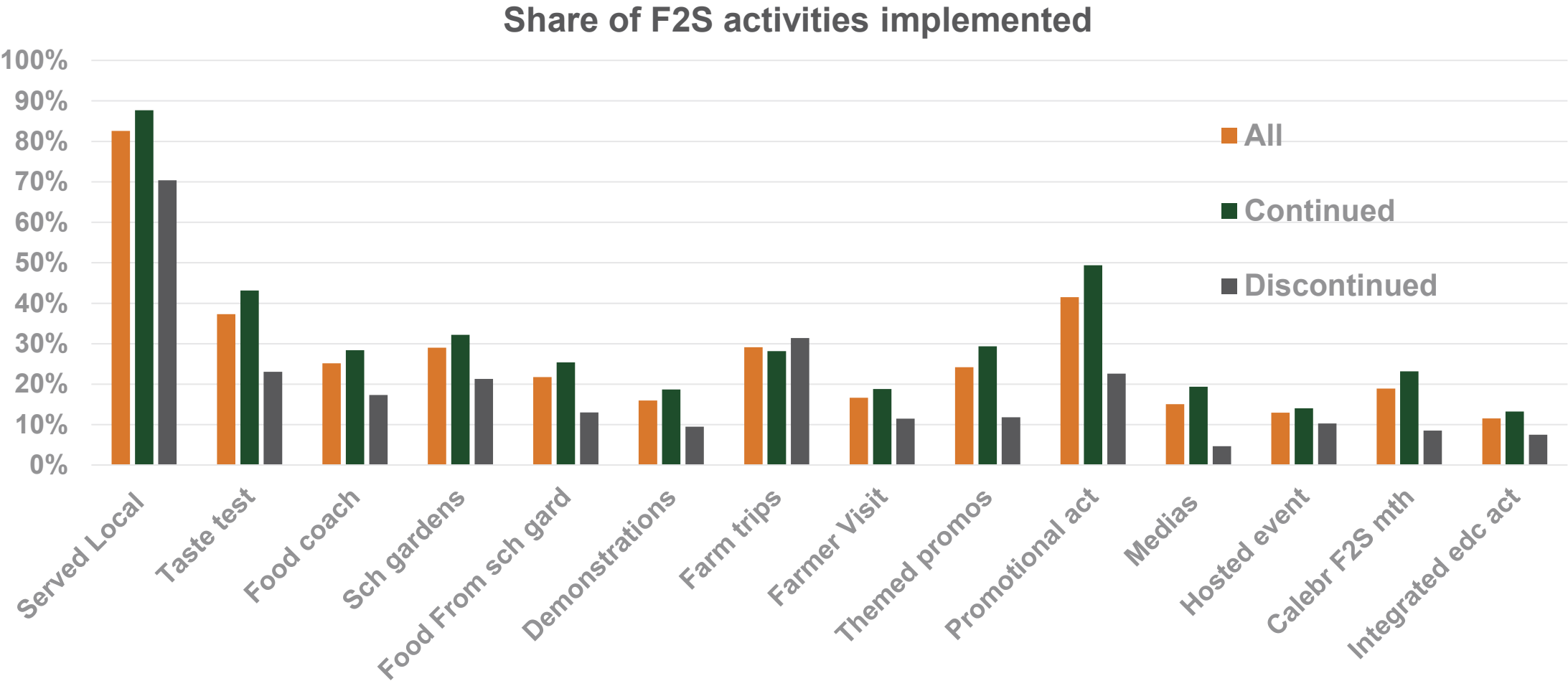
Data from the 2015 Farm to School Census

School districts more likely to continue FTS activities if they participate in more activities



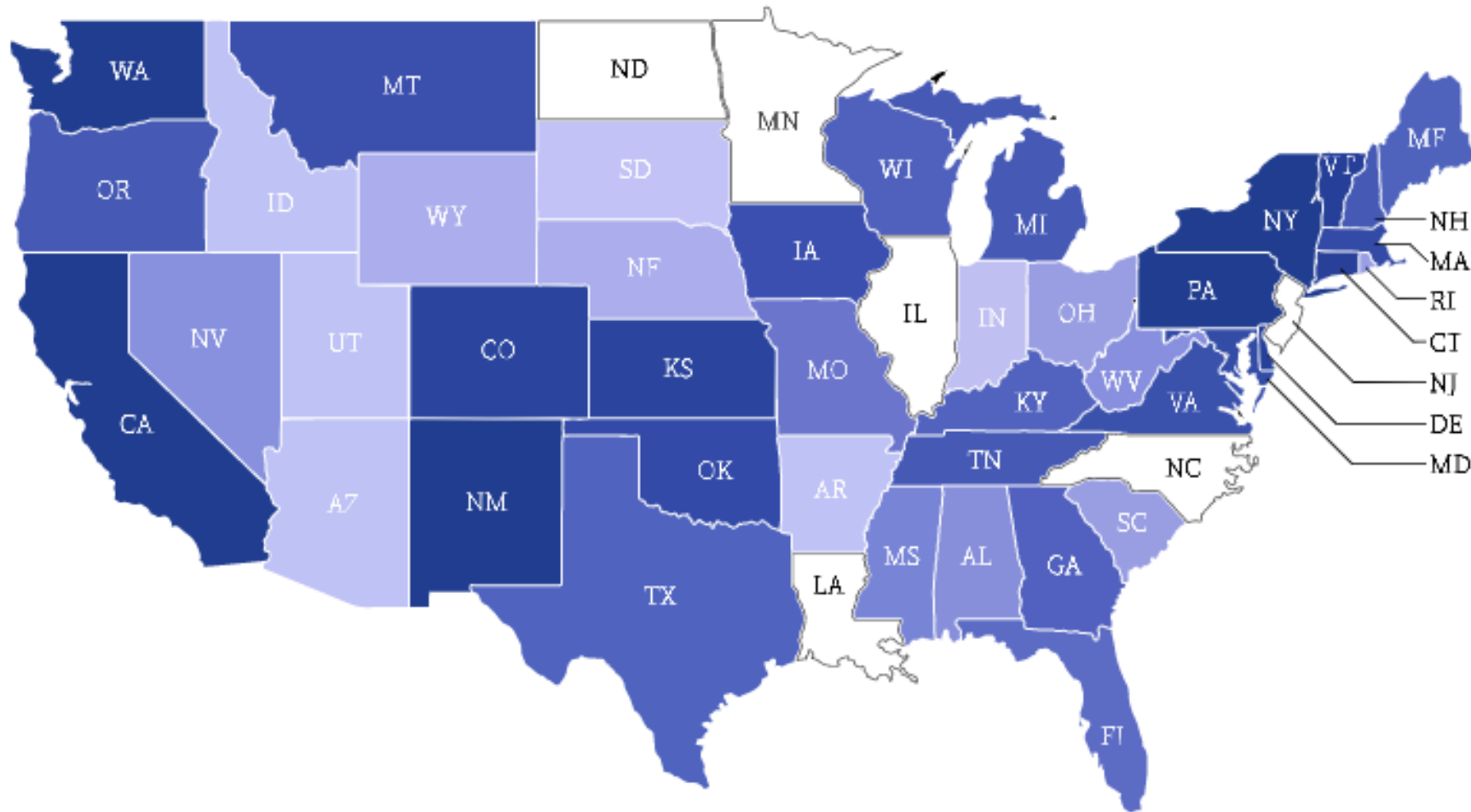
Mendis, S. & A. Bonanno. 2021. Too Cool for Farm to School? Analyzing the determinant of farm to school programming continuation. *Food Policy* 102: 102045

In all cases except farm trips, schools that participated in activities were more likely to continue

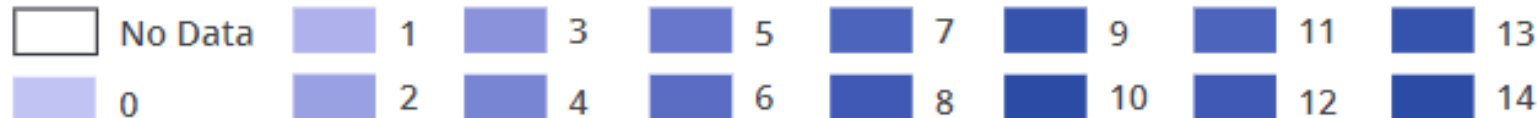


Mendis, S. & A. Bonanno. 2021. Too Cool for Farm to School? Analyzing the determinant of farm to school programming continuation. *Food Policy* 102: 102045

Farm to School State Level Policy Longevity

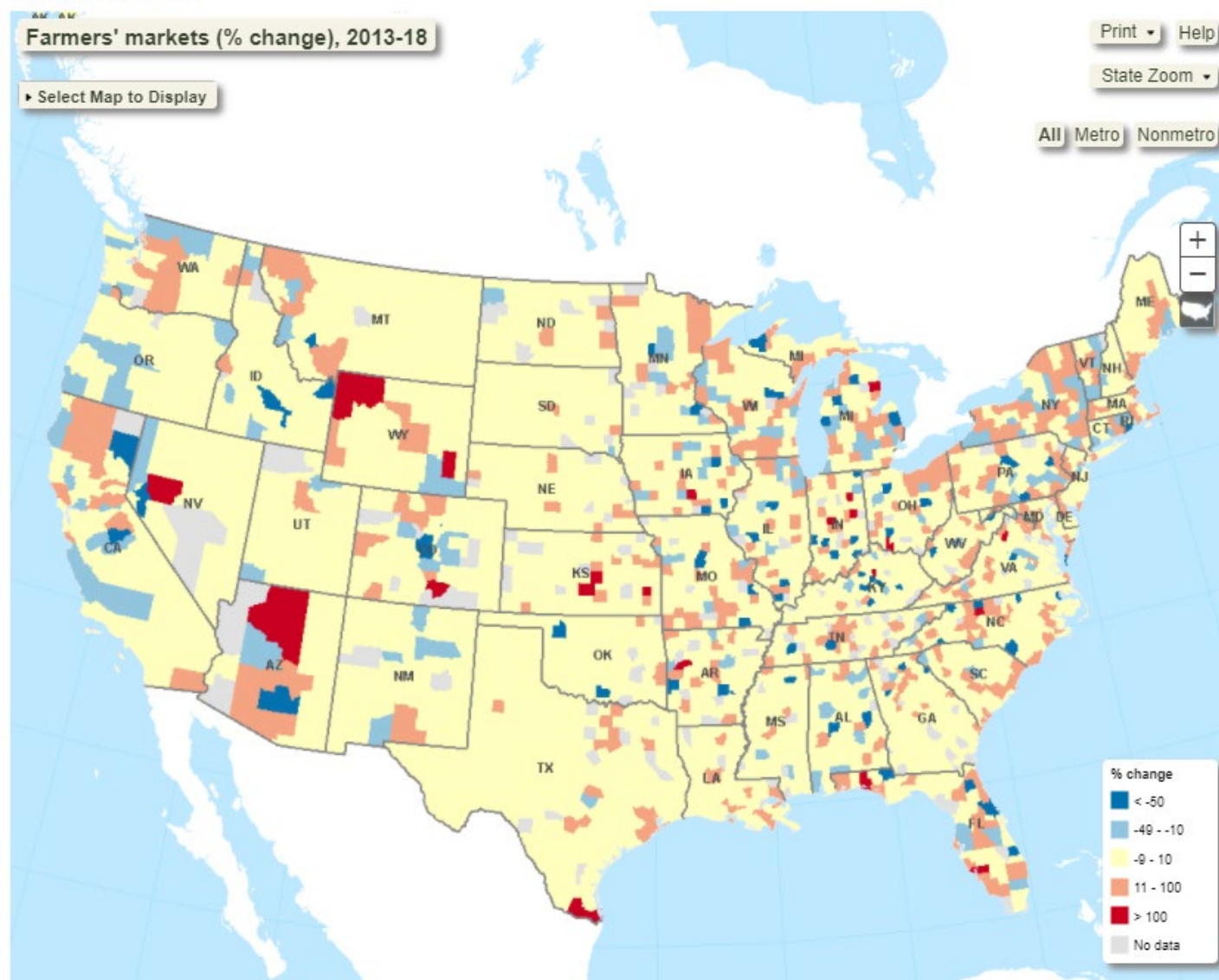


Number of years policy has been in place



We use data from the National Farm to School Network collected between 2002 and 2016 to construct an index that tells us how many years each state has had a FTS policy in place (range is from no policy or no data to 14 years)

Go to the Atlas



Research has found that local food market environment (i.e., the proportion of farms with direct-to-consumer sales, number of farmers markets or food hubs) are correlated with farm to school participation.

Botkins, E., & B. Roe. 2018. Understanding participation in farm to school programs: Results integrating school and supply-side factors. *Food Policy*. 74:126-137.

‘Farmers win’



How do farmers and ranchers respond to school markets?

- Is new market increasing price point?
Enabling producers to scale up?
Creating a market for seconds?
- Can the intended producer respond to the market opportunity? Do they have the right food safety protocol in place?
Do they have access to appropriate infrastructure?

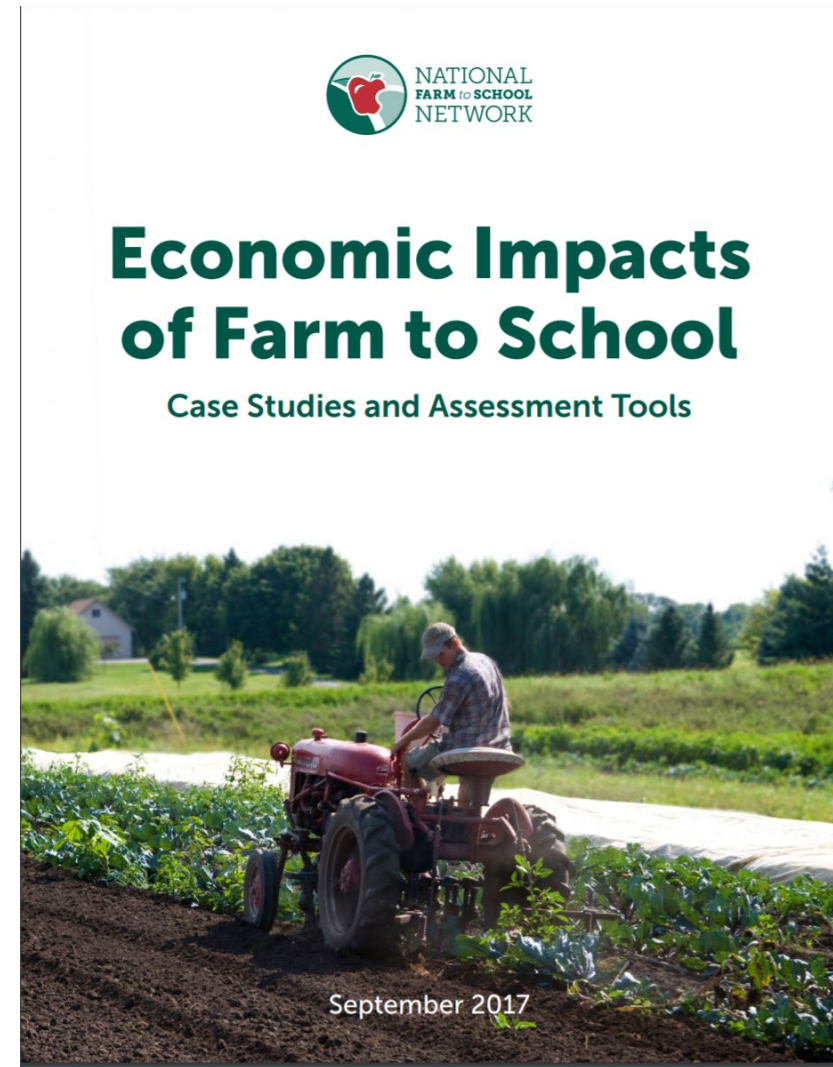


Source: Niche Meat Processing Assistance Network

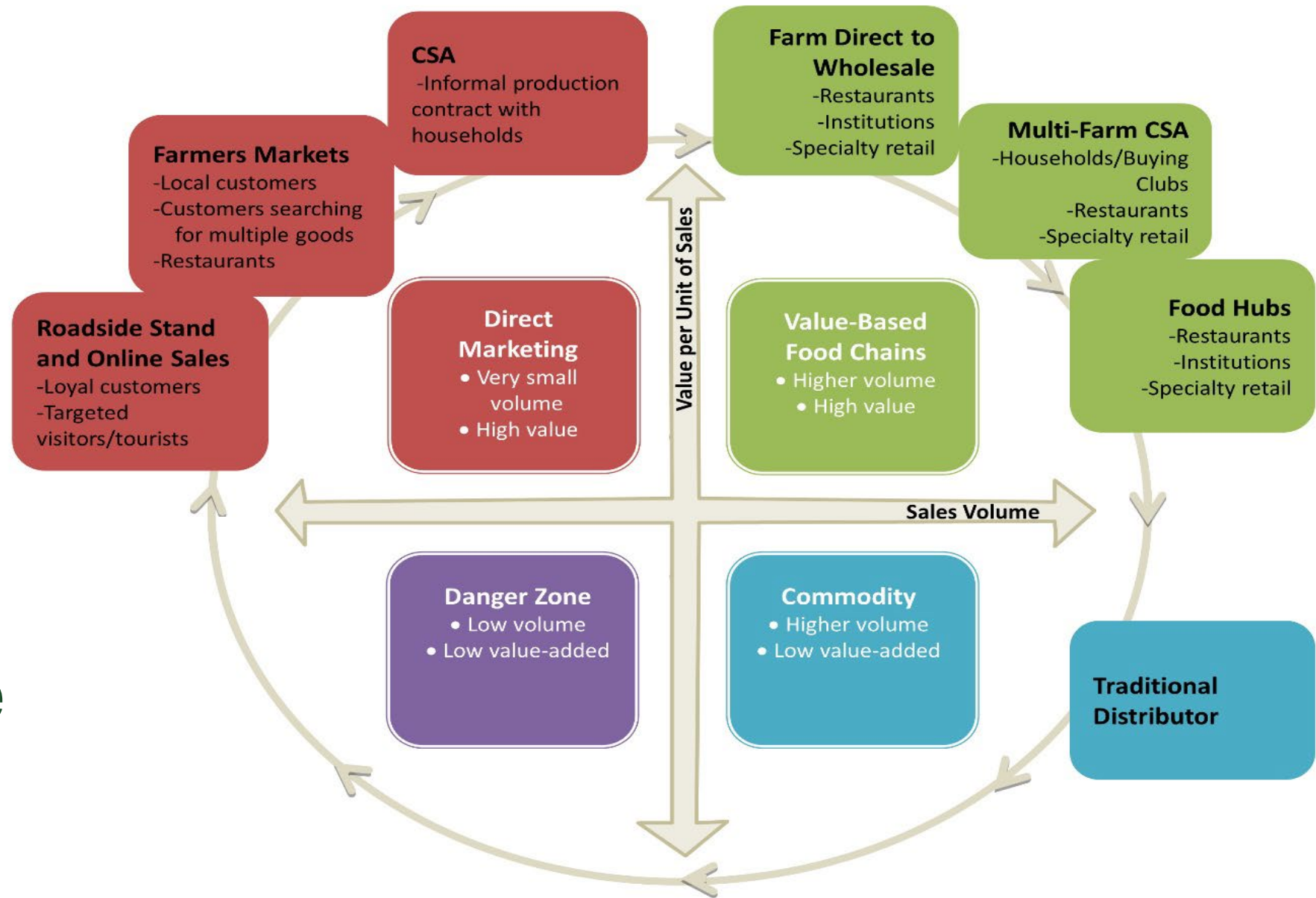
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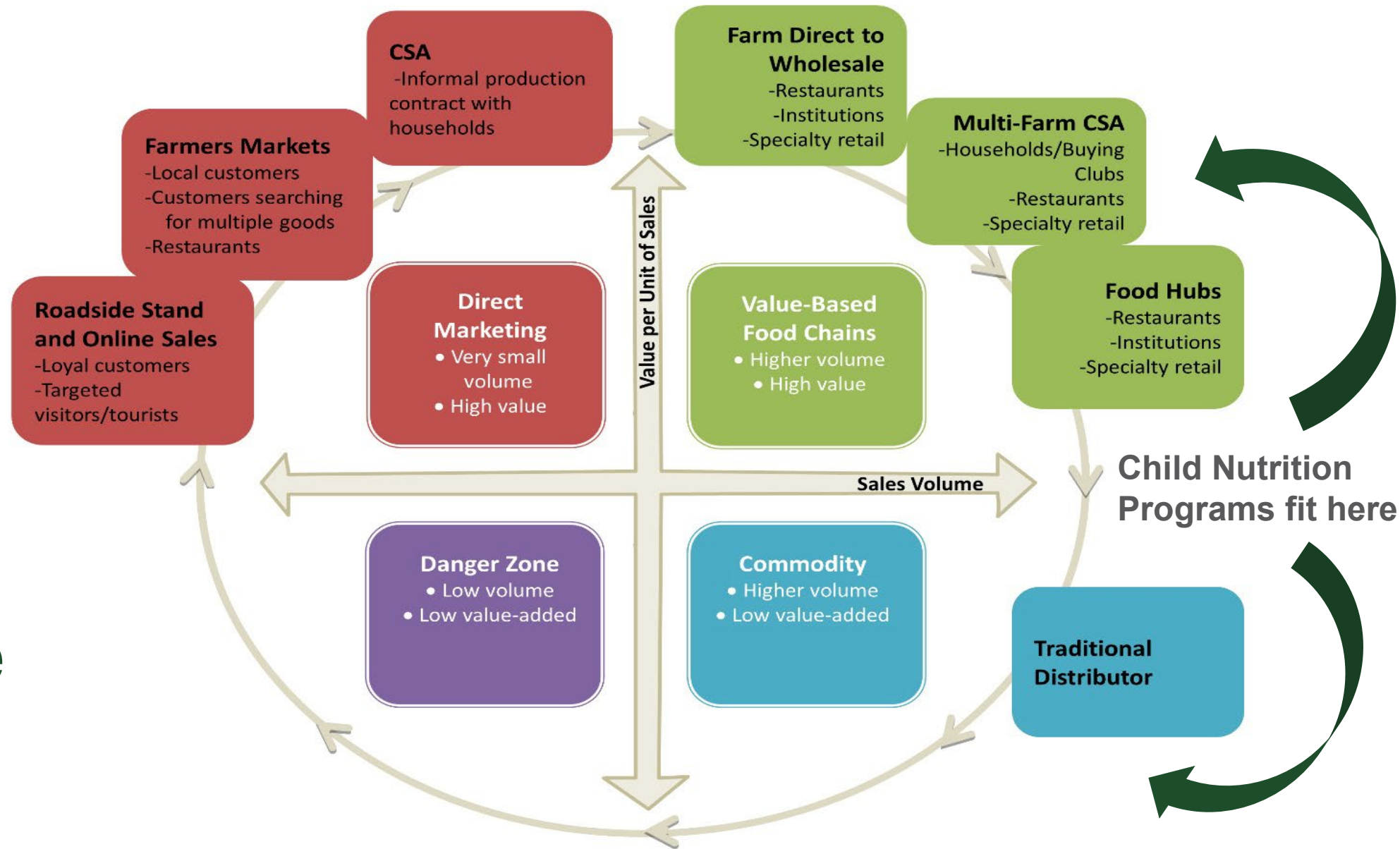
<http://www.farmentoschool.org/Resources/EconomicImpactReport.pdf>



Different business models will work for producers based on competitive advantage



Different business models will work for producers based on competitive advantage



Need to consider scale and commodity

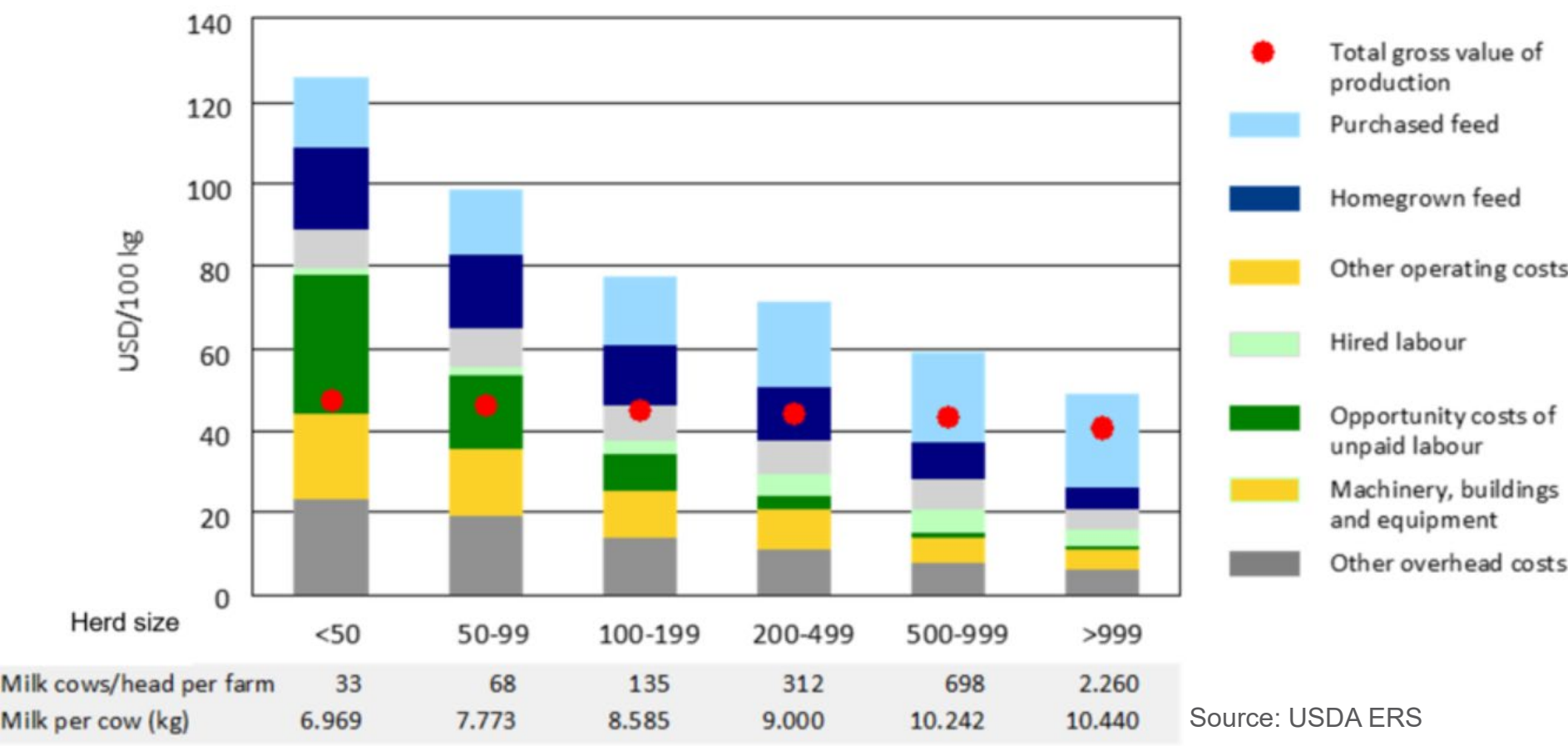


Video Credit: Mark Rose



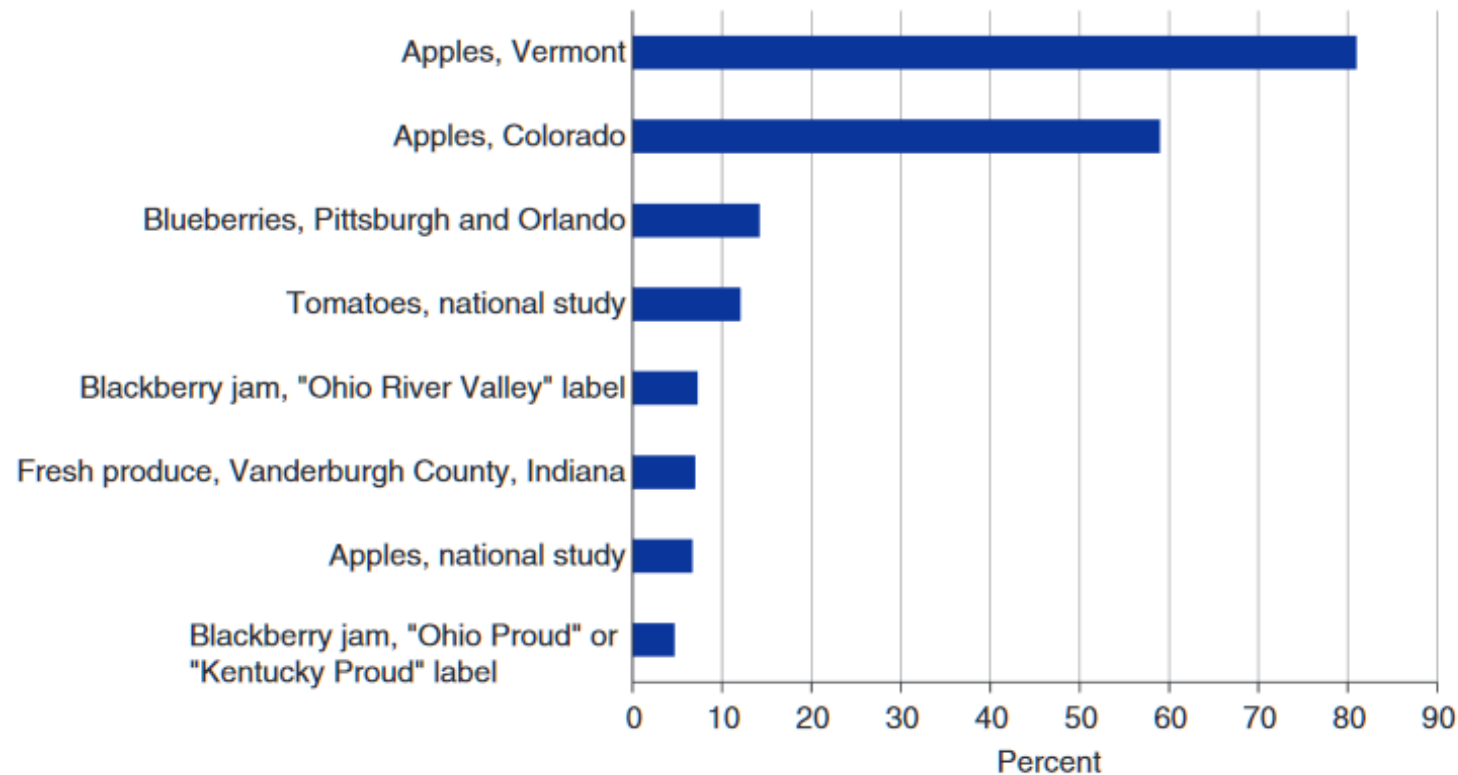
Small farms have higher costs of production, and need to enter markets where they can get a premium

Costs of Production US Dairy Farmers, 2017



Consumers are willingness to pay a premium for local food in certain markets

Willingness to pay for local food (percent premium)



Source: Willingness to pay as a percent of base price calculated from reported results from the following: Apples/Vermont from Wang et al., 2010, averaged over respondents that had and had not purchased organic food. Apples/Colorado from Costanigro et al., 2011. Blueberries from Shi et al., 2013. Tomatoes/national and Apples/national from Onozaka and Thilmany, 2012. Blackberry jam from Hu et al., 2012. Fresh produce/Vanderburgh County from Burnett et al., 2011.

Source: Low, S.A., A. Adalja, E. Beaulieu, N. Key, S. Martinez, A. Melton, A. Perez, K. Ralston, H. Stewart, S. Suttles, S. Vogel, and B.B.R. Jablonski. 2015. Trends in U.S. Local and Regional Food Systems. U.S. Department of Agriculture, Economic Research Service. Administrative Publication Number 067.

But, schools do not have a lot of \$ to pay a premium for local products!

NSLP Reimbursement Rates for the 2019-20 School Year:

- Free: \$3.41
- Reduced Price: \$3.01
- Paid: \$0.32
- Schools certified as meeting the new nutrition standards receive an additional \$.07 per lunch.
- An additional \$.02 per lunch is provided to schools in which 60 percent or more of the second preceding school year lunches were served free or reduced price.

SBP Reimbursement Rates for the 2019-20 School Year:

- Free: \$1.84
- Reduced Price: \$1.54
- Paid: \$0.31
- An additional \$0.36 is provided for each free or reduced price breakfast served in “severe need” schools, where at least 40 percent of the lunches served during the second preceding school year were served free or reduced price.



Opportunity for seconds?



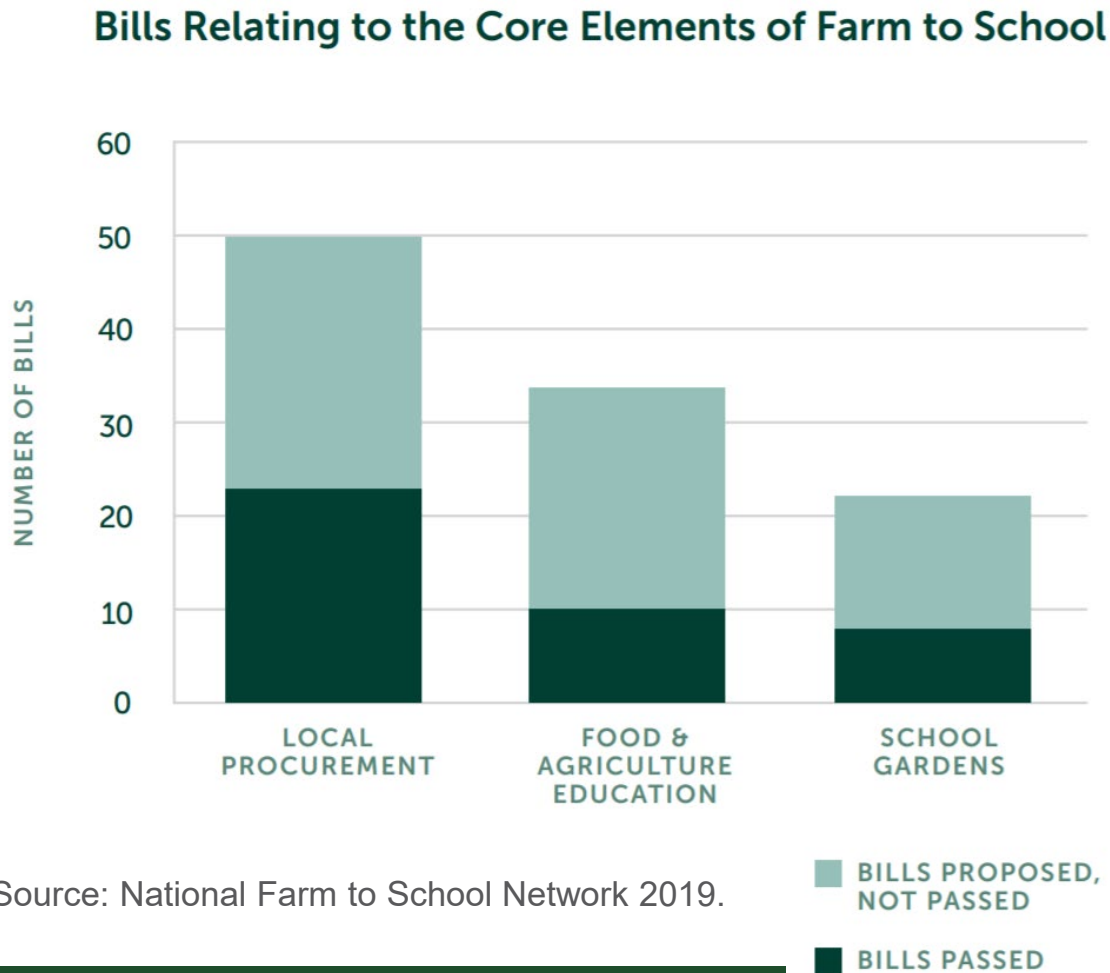
Opportunity to think creatively?



Opportunity to think creatively?



Many local food policies focused on local procurement

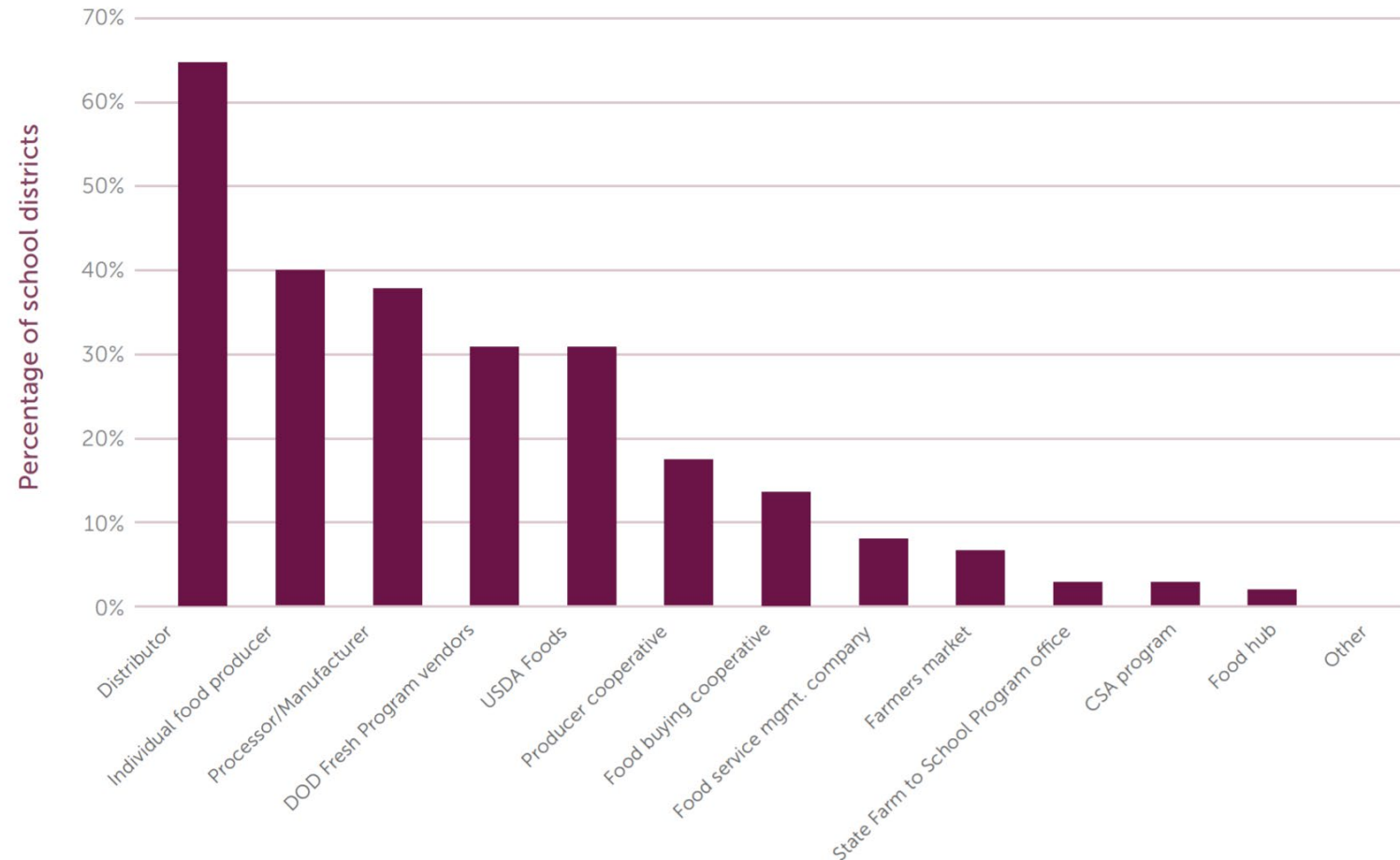


Source: USDA Food and Nutrition Service 2021



Most local food gets to schools via distributors

Supply chains used by school districts for local purchases





Matt LeRoux, Cornell Cooperative Extension of Tompkins County



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Market Channel Assessments

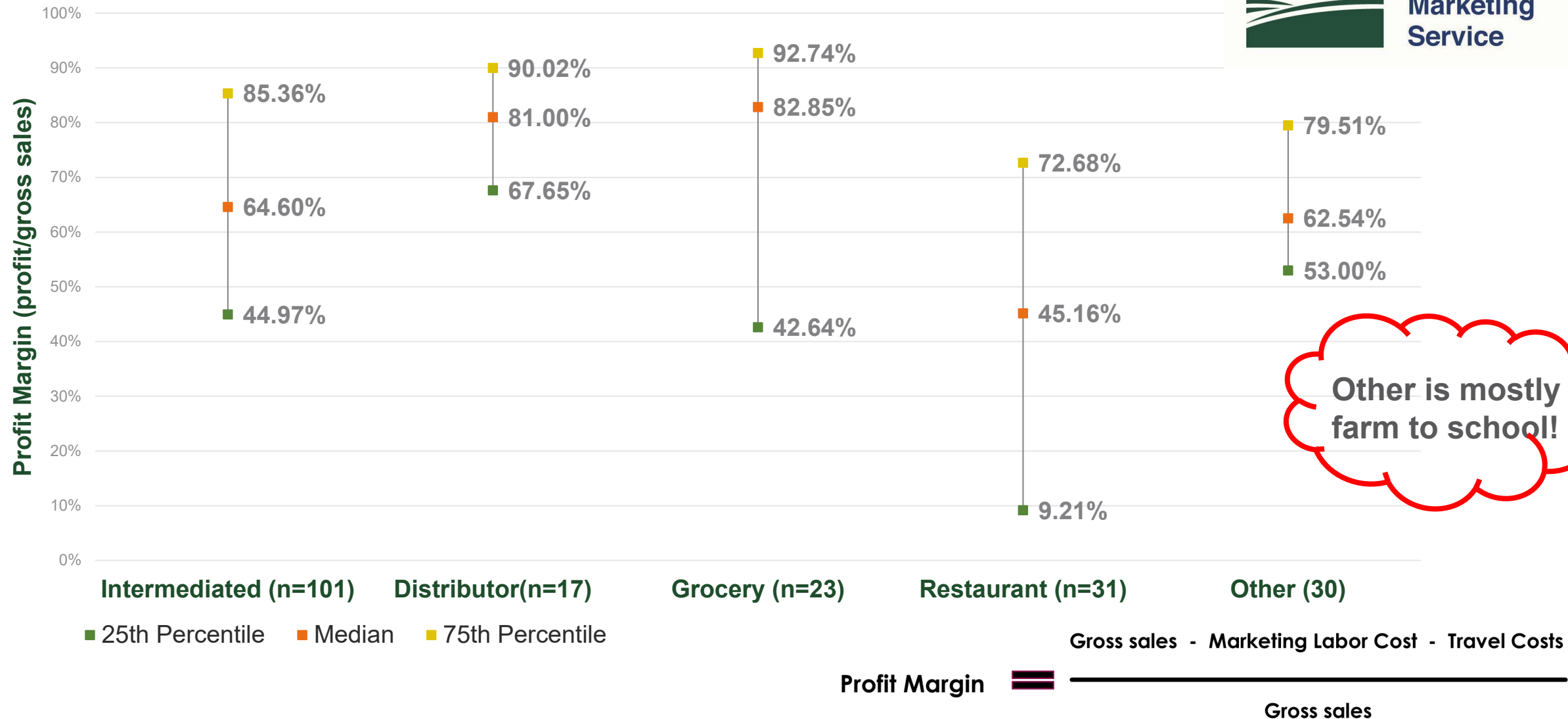


How do you evaluate a market opportunity?

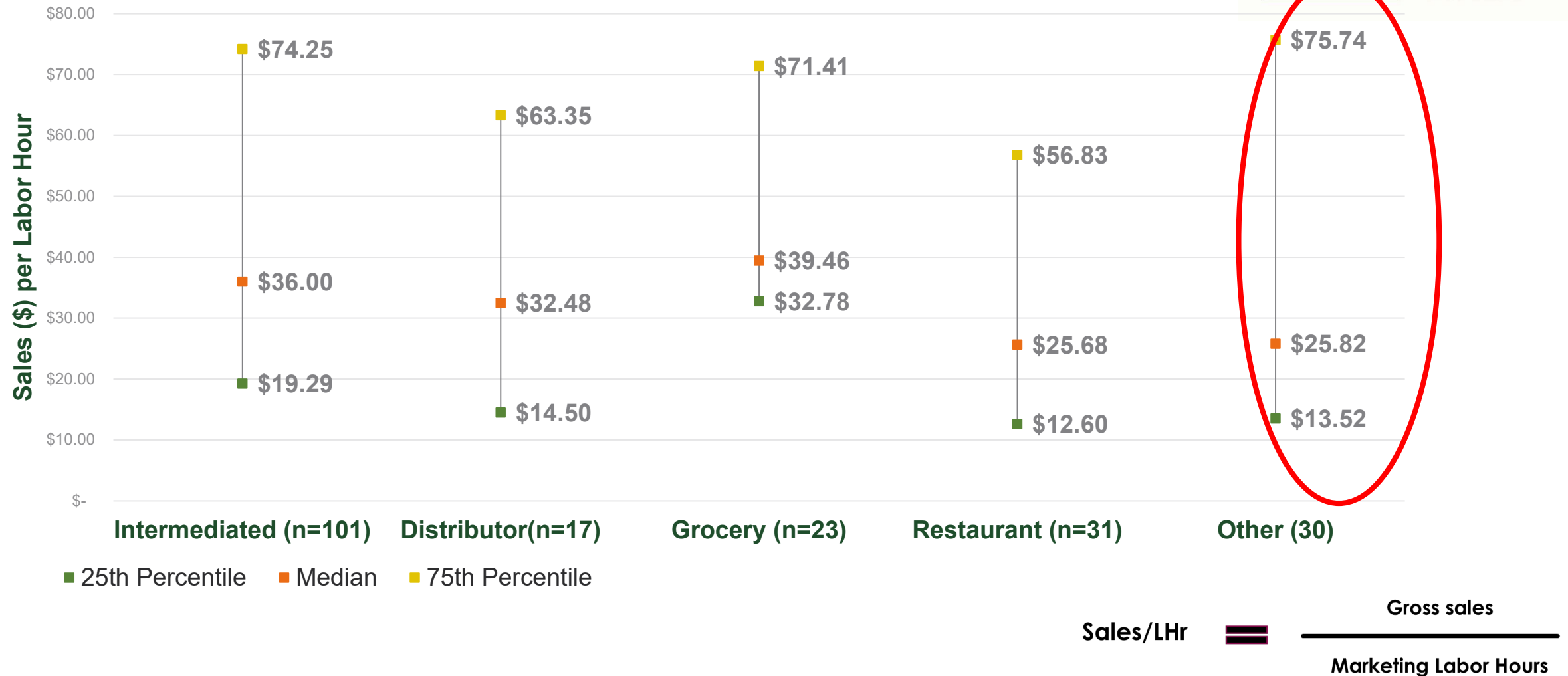
Six interacting factors impact the “performance” of a marketing channel including:



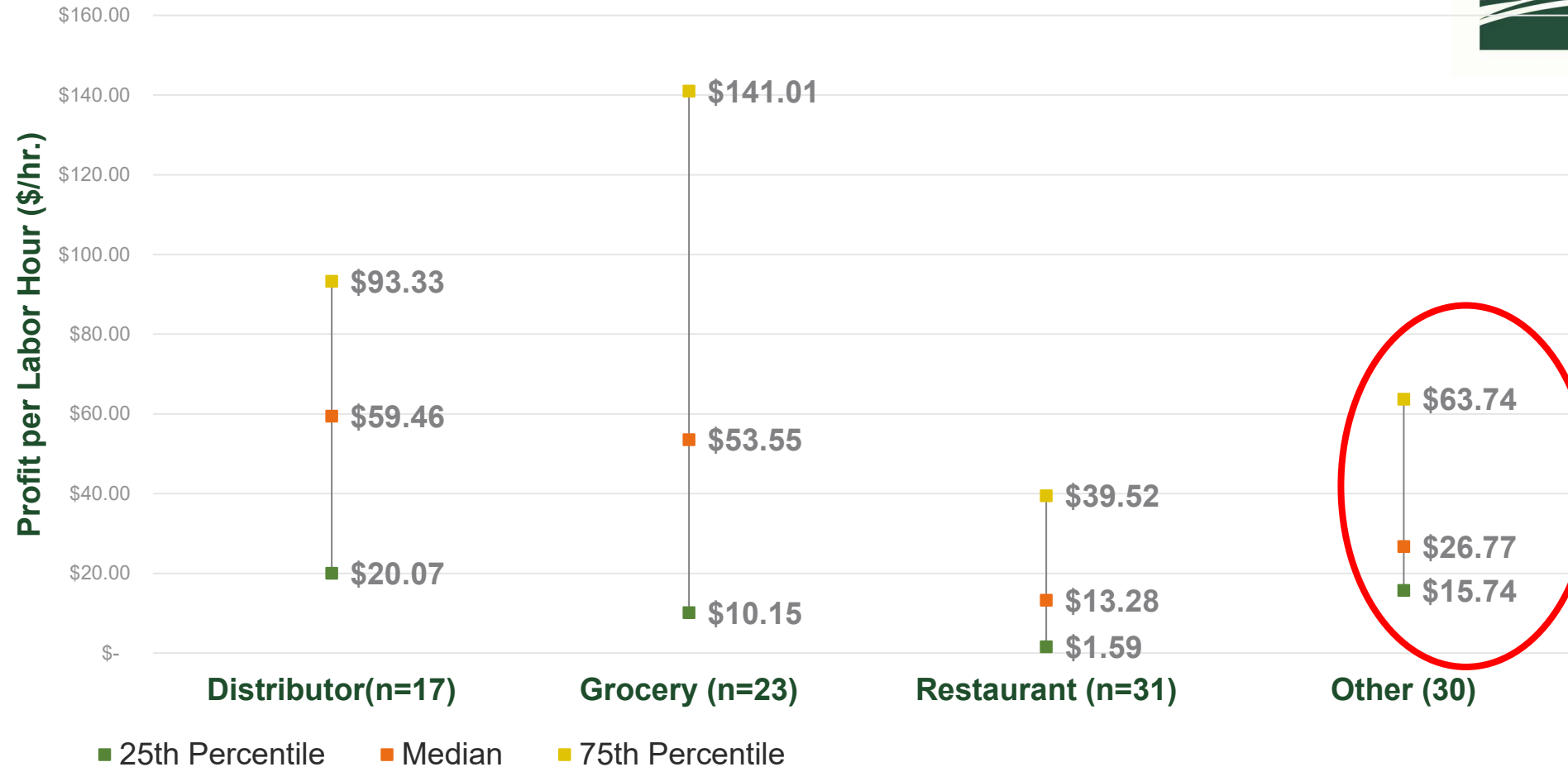
Profit Margin Percentiles, Intermediated Channels



Sales per Labor Hour Percentiles, Intermediated Channels



Profit per Labor Hour Percentiles, Intermediated Channels



Profit/Lhr

Gross sales - Marketing Labor Cost - Travel Costs

Marketing Labor Hours

National Data: USDA ARMS sample of Local Food Producers, Farmers and Ranchers, 2013

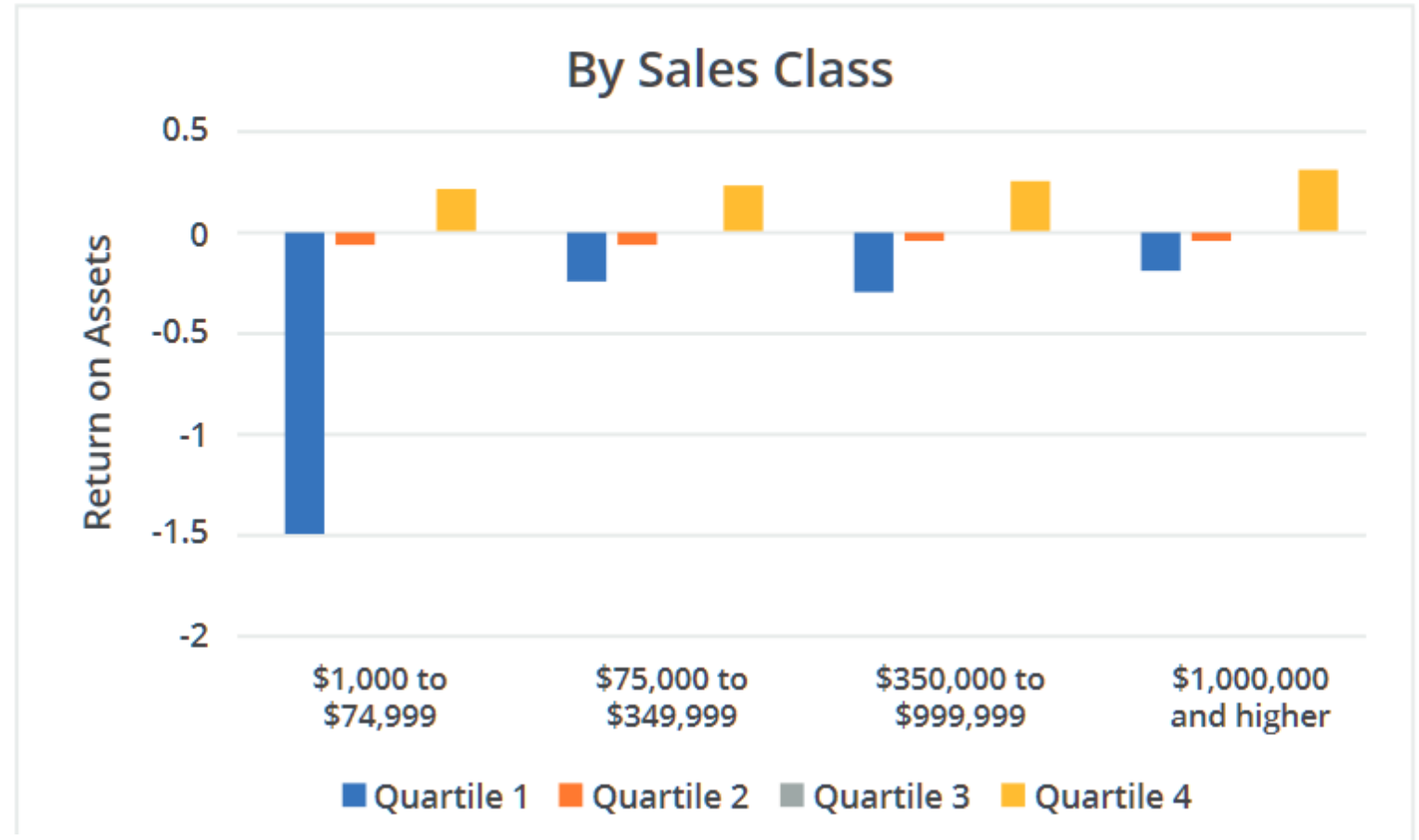
- 2013 Phase III ARMS data
- Nationally representative survey that targets about 30,000 farms, providing annual, national-level data on farm business

	No. of observations	Population size
Market Channel		
D2C	664	124,186
Intermediated	136	11,703
D2CIntermediated	213	24,012
Alllocalfood	1,013	159,901
Nonlocalfood	16,416	1,935,568
Local food producers by farm scale (GCFI)		
1kto75k	534	112,563
75kto350k	214	21,104
350to1Million	104	3,922
Million and higher	107	3,607



Local food markets can support profitable small-scale producers

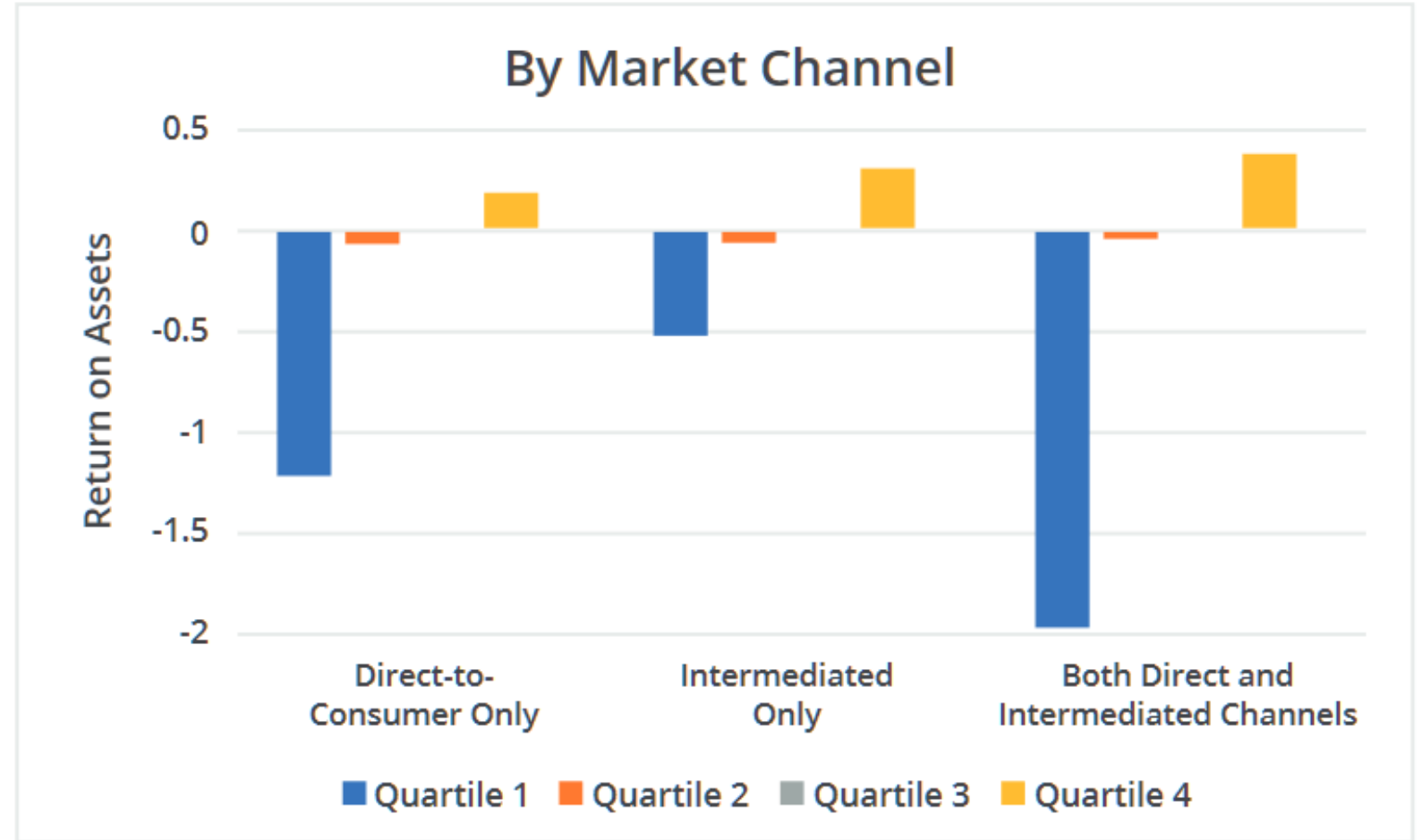
Return on Assets by Quartile (Quartile 4 is the most profitable)



Source: Bauman, A. G., D. Thilmany McFadden, and B.B.R. Jablonski. 2018. The financial performance implications of differential marketing strategies: Exploring farms that pursue local markets as a core competitive advantage. *Agricultural and Resource Economics Review*. 47(3):477-504.

The most profitable operations selling through local food markets have some intermediated sales

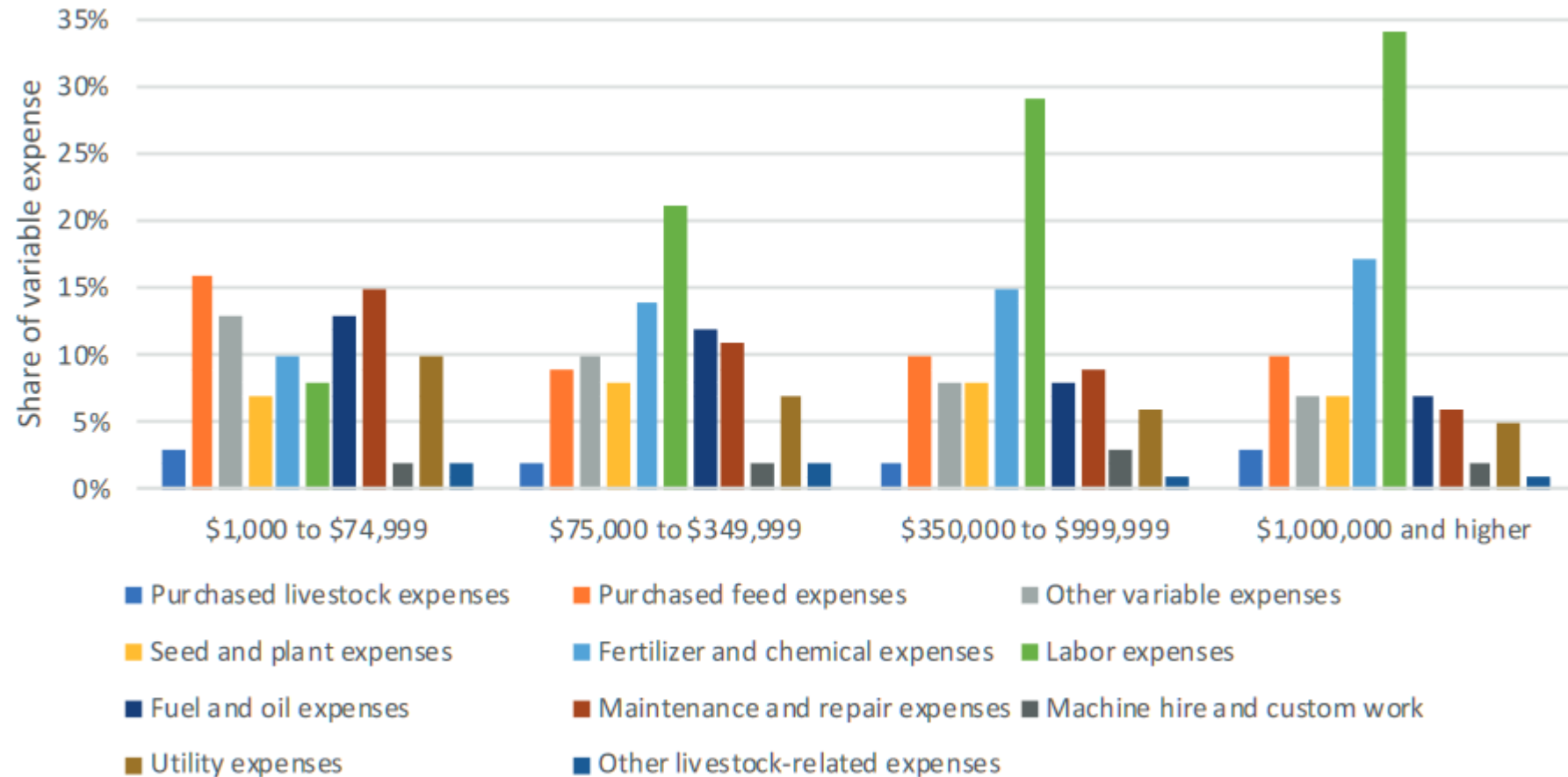
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As local food operations get larger, they use more labor as a share of total expenditure

Average Share of Variable Expenses for Local Producers by Scale, U.S.



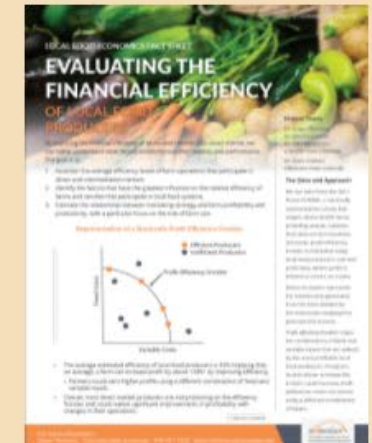
Source: Bauman, A. G., D. Thilmany McFadden, and B.B.R. Jablonski. 2018. The financial performance implications of differential marketing strategies: Exploring farms that pursue local markets as a core competitive advantage. *Agricultural and Resource Economics Review*. 47(3):477-504.





FACT SHEETS

FINANCIAL PERFORMANCE IMPLICATIONS OF LOCAL FOOD ENTERPRISES



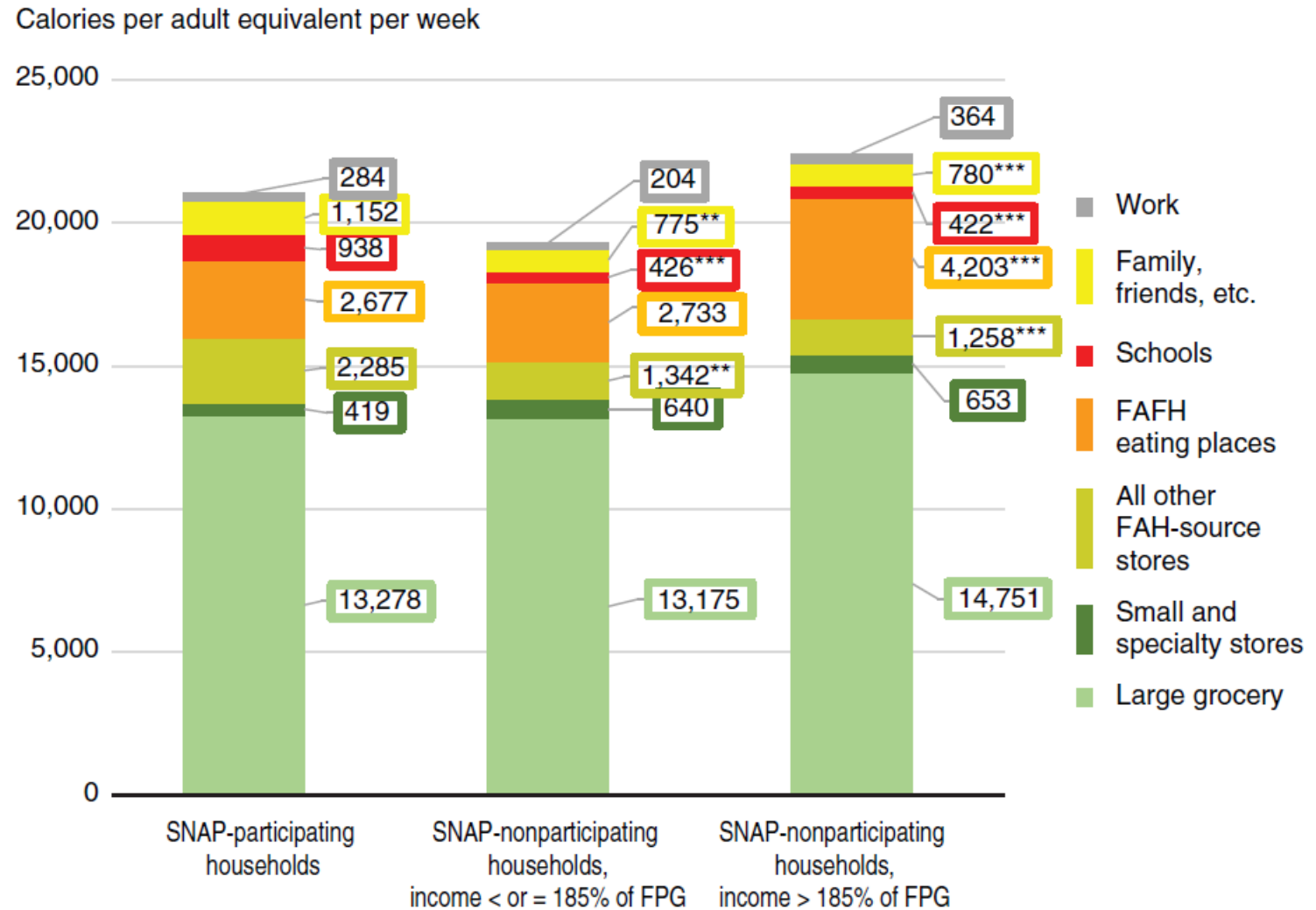
V2. June 2020

‘Kids win’



Kids Win

SNAP-households acquired almost twice as many calories from school meals than non-participant households.



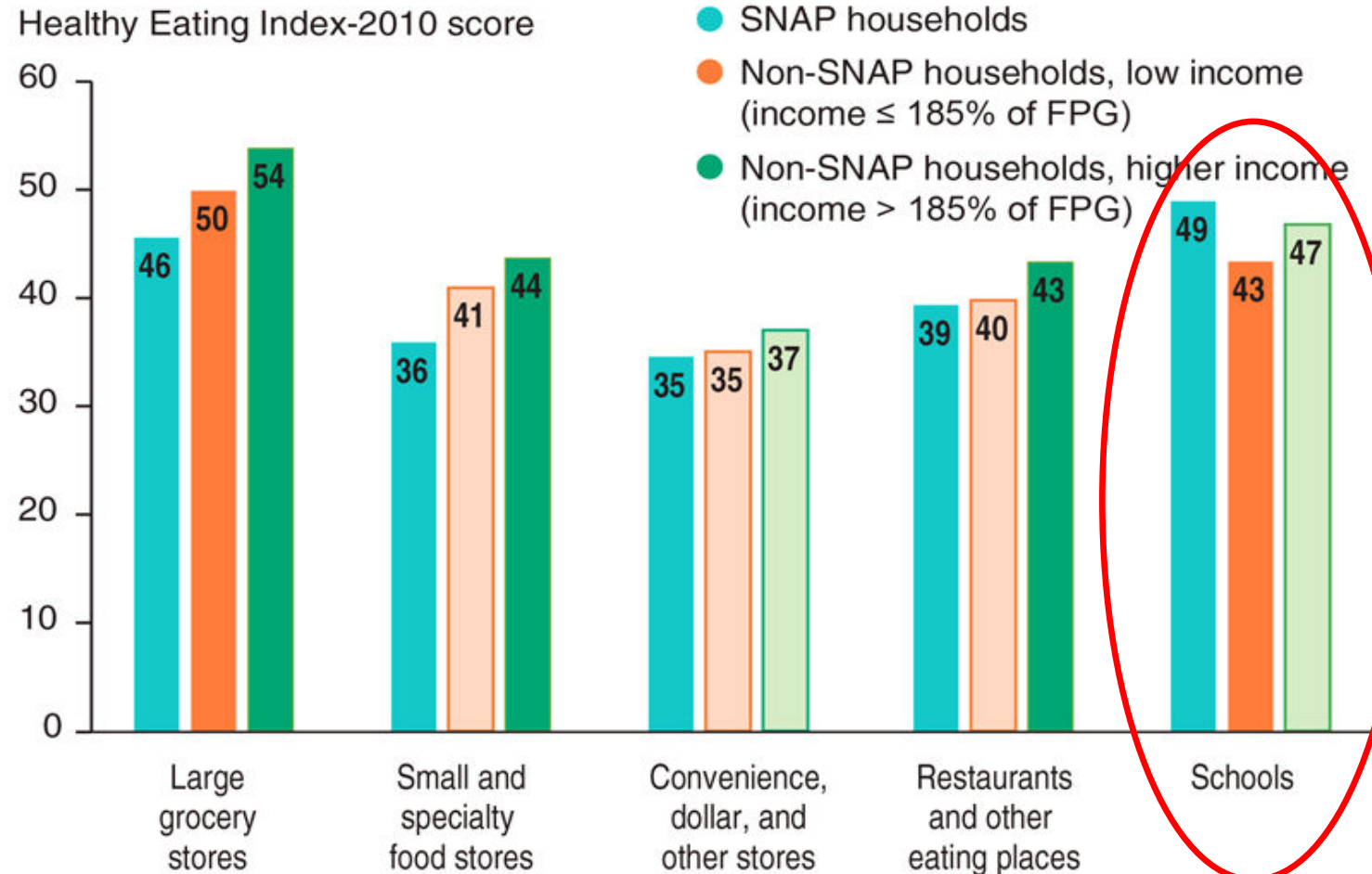
Notes: SNAP = Supplemental Nutrition Assistance Program. FAH = food at home. FAFH = food away from home. Weighted means reported; **, *** = statistically significantly different from SNAP-participating households with $p < 0.05$ and $p < 0.01$, respectively. FPG = Federal poverty guidelines. Results from the "Own production" and "Other assistance" not reported because sample size is less than 50.

Source: USDA, Economic Research Service (ERS) estimates using data from USDA's National Household Food Acquisition and Purchase Survey (FoodAPS)

Kids Win

Schools are the only acquisition location where SNAP households had a higher nutrition score than non-SNAP households

Nutrition score for household food acquisitions, by source



Notes: SNAP = Supplemental Nutrition Assistance Program. FPG = Federal Poverty Guideline. Healthy Eating Index-2010 scores run from 0 to 100, with a higher score indicating a healthier diet. Light-colored bars indicate difference from SNAP households is not statistically significant at $p < 0.05$.

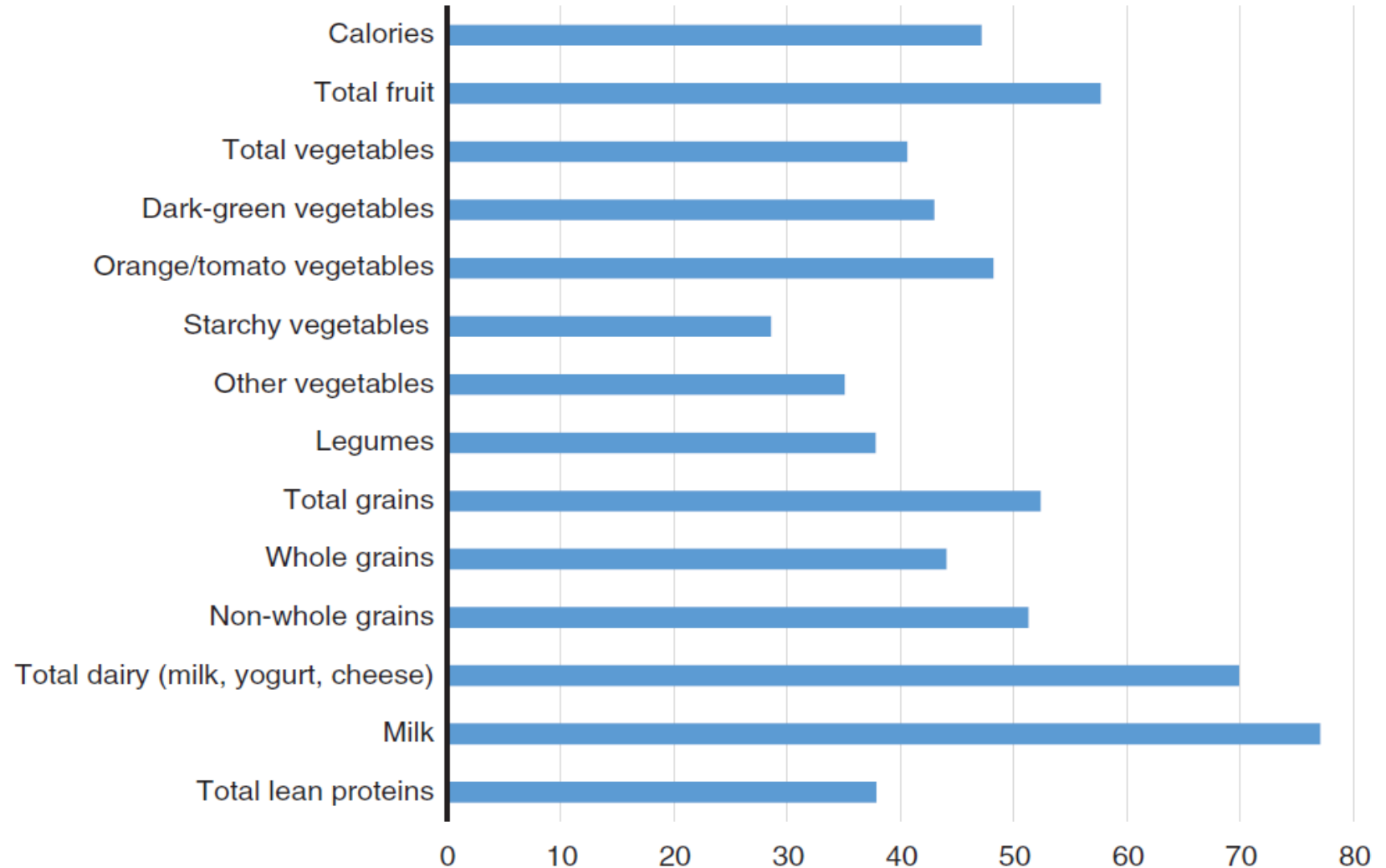
Source: USDA, Economic Research Service estimates using data from the 2012-13 National Household Food Acquisition and Purchase Survey (FoodAPS).

Percent of daily intake from National School Lunch and School Breakfast Program meals, for students participating in both programs, NHANES 2007-12

Kids Win

Students participating in the NSL and SBP meals get a lot of their daily calories from schools.

Percent of daily intake

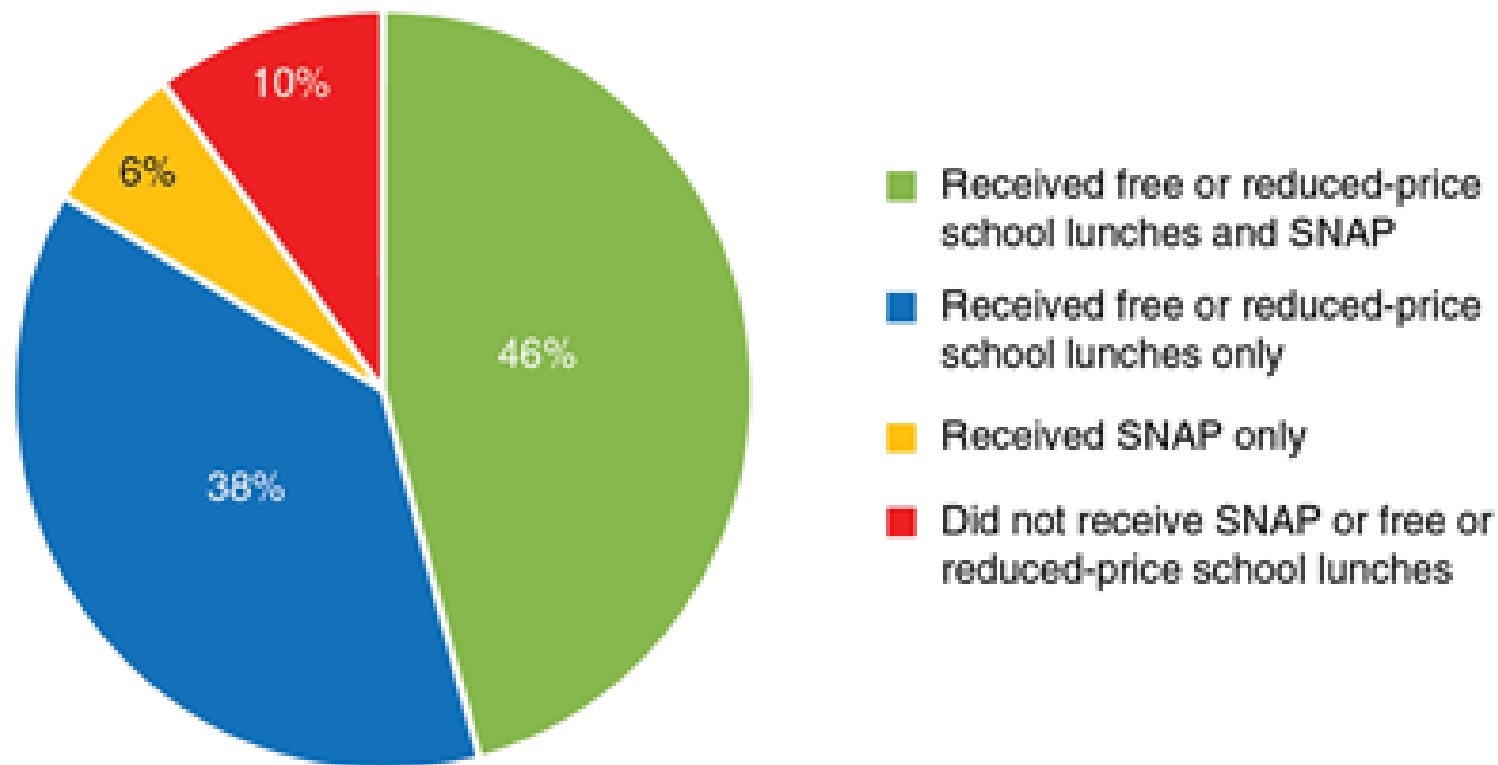


Source: Cullen and Chen (2017), based on 448 children ages 5-18 participating in the National Health and Nutrition Examination Study, 2007-12.

More than four in five food-insecure households with school-age children receive free or reduced-price school lunches

Kids Win

Some research suggests that the National School Lunch Program may reduce food insecurity



SNAP = Supplemental Nutrition Assistance Program.

Note: Food insecurity and program participation measured during the 30-day period ending in mid-December for households with annual incomes below 185 percent of Federal poverty line and school-age children (ages 5-17).

Source: USDA, Economic Research Service calculations using data from the December 2014 and December 2015 Current Population Survey Food Security Supplement.

Kids Win: What are the activities that can be successfully implemented to achieve the objectives?

- Local procurement?
- Experiential learning?
- Nutrition education?
- Promotion activities?
- School gardens?



Kids Win

Farm to School Activities and Student Outcomes: A Systematic Review

Melissa Pflugh Prescott ✉, Rebecca Cleary, Alessandro Bonanno, Marco Costanigro,
Becca B R Jablonski, Abigail B Long

Advances in Nutrition, nmz094, <https://doi.org/10.1093/advances/nmz094>

Published: 05 September 2019 **Article history** ▼

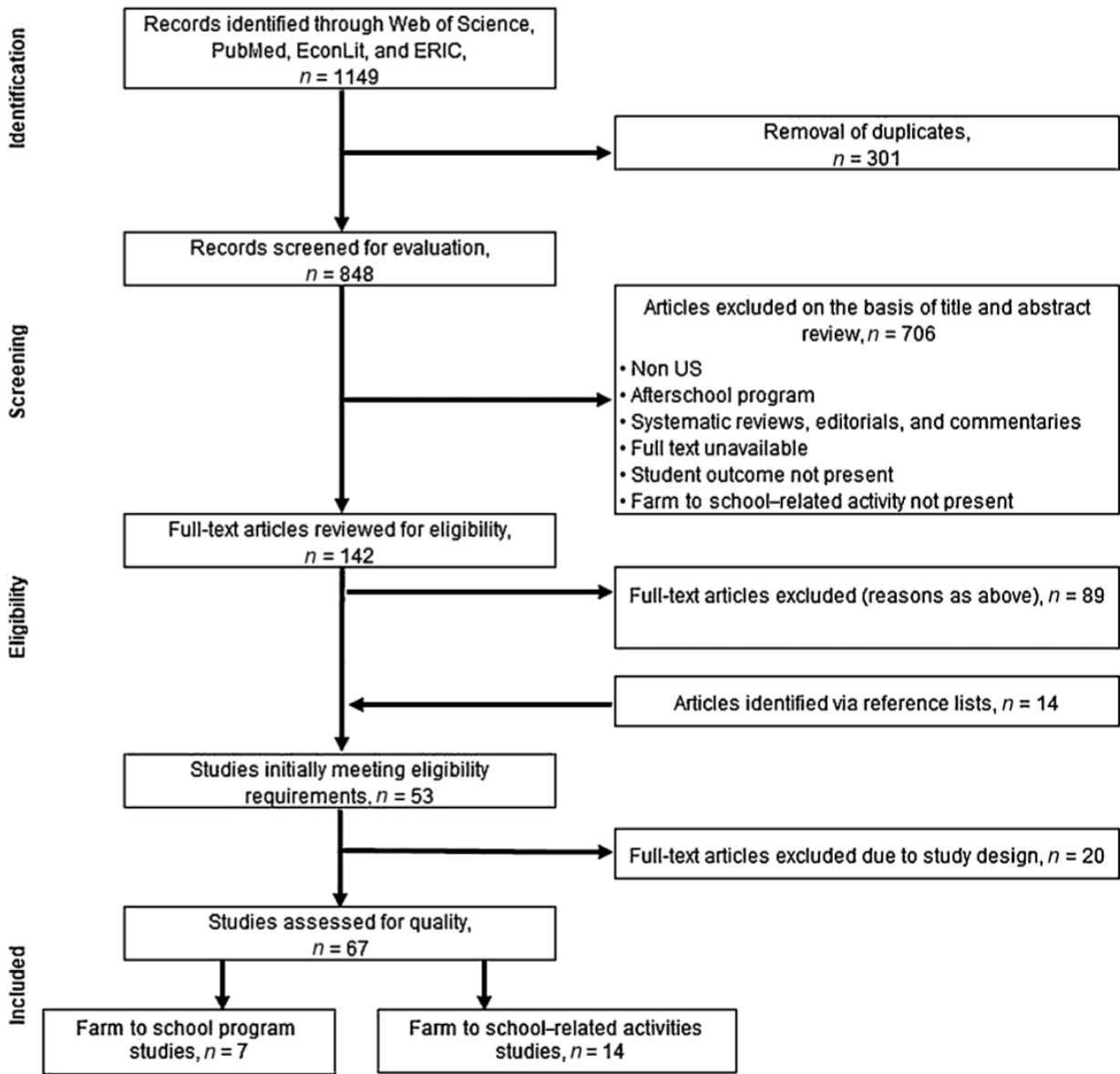


FIGURE 1 PRISMA flow diagram of the study selection and exclusion process. PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses.

Kids Win: challenges with multicomponent interventions

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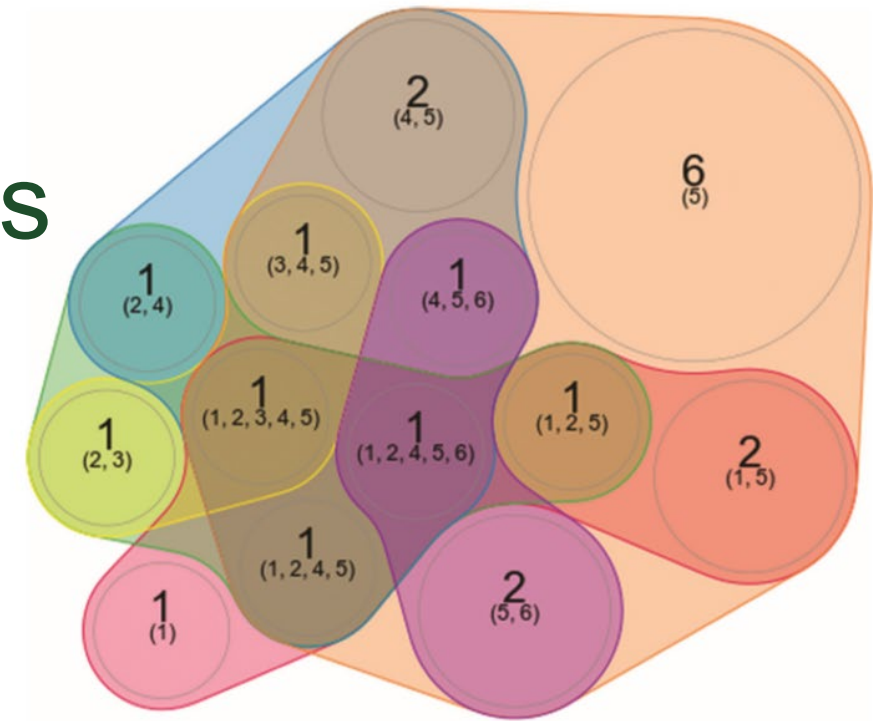


FIGURE 2 Euler diagram depicting the degree of overlap in farm to school activity categories investigated in the 21 included studies. Each farm to school activity category is numbered from 1 to 6 and is also identified by a color. The size of each circle states and is scaled according to the number of studies it represents. The set (or combination) of farm to school activity categories represented by each circle is listed in parentheses.

- 1: Procurement ($n = 7$)
- 2: Experiential Learning ($n = 6$)
- 3: Integrated Curriculum ($n = 3$)
- 4: Nutrition Education ($n = 8$)
- 5: Promotion Activities ($n = 18$)
- 6: Global Activities ($n = 4$)

Kids Win

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TABLE 4 Summary of the relations between farm to school activities and student outcomes¹

Student outcome	Relation with farm to school activity			
	Desirable	No significant change	Undesirable	Inconsistent
Knowledge				
Nutrition	Reynolds (39), Hoffman (36), ² Hoffman (37) ² , Moss (27), Evans (18)	—	—	—
Nutrition, food, and agriculture	Bontrager Yoder (25), Wells (19)	—	—	—
Motivation, FV	—	Evans (18)	—	—
Self-efficacy, FV	Evans (18), Reynolds (39)	—	—	—
WTT foods				
WTT, fruit	—	—	Jones (17)	—
WTT, FV	Bontrager Yoder (25)	—	—	—
WTT, vegetables	Jones (17)	—	—	—
Food preferences				
Fruit	Hendy (35) ³	—	—	—
FV	—	Hoffman (36), ² Hoffman (37), ² Evans (18)	—	—
Unhealthy foods	Evans (18)	—	—	—
Vegetables	—	Hendy (35)	—	—
Meal participation	Bogart (31)	—	—	—
Meal item selection				
Entrée	—	—	—	Folta (33)
Fruit	Cohen (32), Bogart (31)	—	—	—
FV	Bontrager Yoder (25)	—	—	—
Healthy snacks	Williams (41)	—	—	—
Vegetables	Cohen (32), Bristow (26)	Bogart (31)	—	—
Consumption				
Fruit	Hendy (35), ² Hoffman (36), ² Bates (29)	—	Jones (17)	Cohen (32)
FV	Perry (38), Evans (18), Smith (28)	Moss (27), Hoffman (37) ²	—	Reynolds (39)
Overall diet	—	Foster (34), Bontrager Yoder (25)	—	—
Vegetables	Jones (17), Hendy (35), ³ Hoffman (36) ³	Blom-Hoffman (36)	—	Cohen (32)
Waste	—	—	—	Bontrager Yoder (24)
Anthropometric and physiologic				
Blood lipids	—	Willi (40)	—	—
Blood pressure	—	—	—	Willi (40)
BMI	—	Hoffman (36), ² Hoffman (37), ² Willi (40)	—	—
Obesity prevalence	—	Foster (34)	—	—
Overweight prevalence	Foster (34)	—	—	—

¹ All explicitly farm to school studies were included in this review, but only strong farm to school–related activities were included. Farm to school program studies are italicized. Studies are listed by first author name. FV, fruit and vegetable; WTT, willingness to try.

² Results were sustained in follow-up measures.

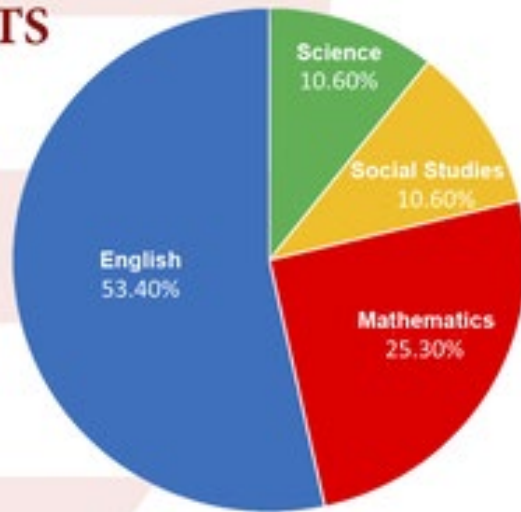
³ Results were initially desirable but not significantly different at follow-up.

Kids Win: Doing research/evaluation in-school settings is hard!

Selected challenges:

- Difficult to get time in the classroom giving competing needs (test prep!)
- Need a control school, difficult to favor some schools in a district over others.
- Willingness of teachers to participate varies.
- Lunch is fast! And, many factors impact what kids eat in the school setting.

TIME SPENT ON CORE ELEMENTARY SUBJECTS



U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS)



Kids Win

Farm to School Activities and Student Outcomes: A Systematic Review

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Main Findings:

- Consistent evidence that farm to school programming is associated with increased nutrition-related knowledge
- Most studies also suggest positive relationships with healthy food selection, nutrition self-efficacy, and willingness to try FV
- Inconclusive: FV consumption and preferences



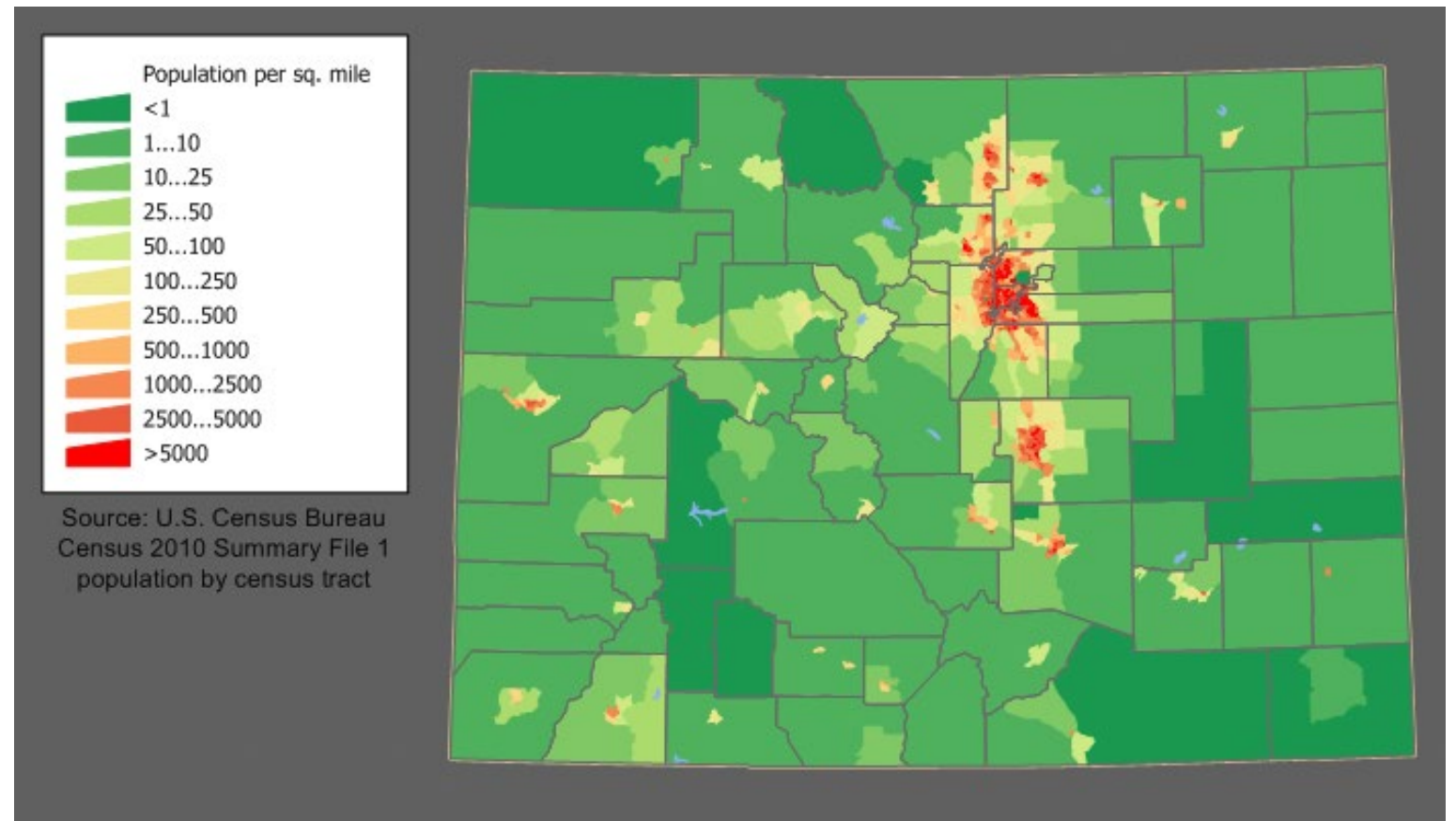
‘Communities win’



Many of the farm impacts have rural impacts as most farms are still not in urban areas

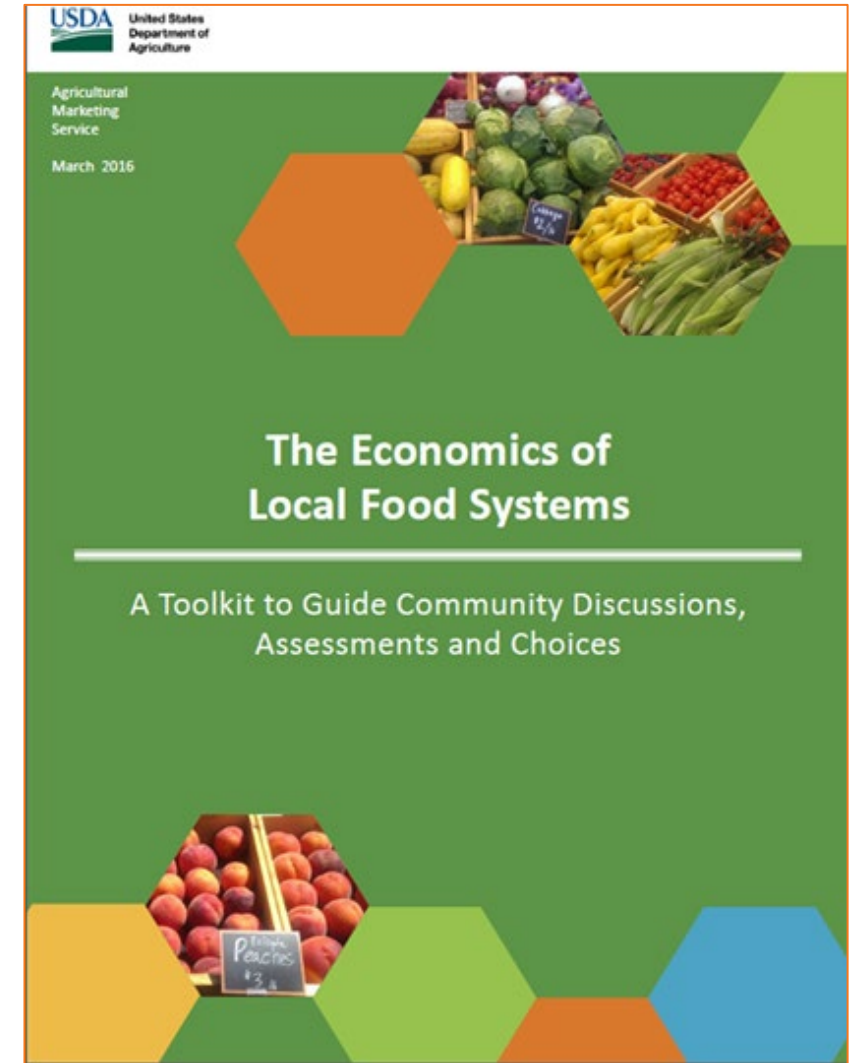
According to the 2017 Census of Agriculture, Denver County has 12 farms.

- 3 were <\$1,000 in sales
- 5 were between \$1,000-\$2,499
- 1 was between \$10,000-\$19,999
- 2 were between \$50,000-\$99,999



The Toolkit Team: Dawn Thilmany, Coordinator

- David Conner, *University of Vermont*
- Steve Deller, *University of Wisconsin*
- David Hughes, *University of Tennessee*
- Ken Meter and Megan Phillips Goldenberg, *Crossroads Resource Center*
- Alfonso Morales, *University of Wisconsin*
- Todd Schmit, *Cornell University*
- David Swenson, *Iowa State University*
- Allie Bauman, Rebecca Hill, Becca Jablonski, *Colorado State University*
- Debra Tropp and Samantha Schaffstall, *USDA Agricultural Marketing Service*



Companion Report on Farm to School

- Available at the National Farm to School Network's website
- Authors:
 - Libby Christensen, Becca Jablonski – Colorado State University
 - Anupama Joshi and Lacey Stephens - NFSN

AgriBank 
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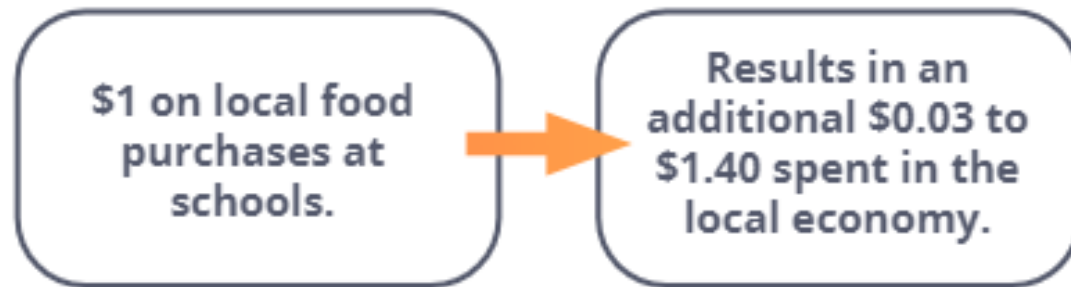


Economic Impacts of Farm to School

Case Studies and Assessment Tools



Summary of Farm to School economic impact assessments: small but positive impacts



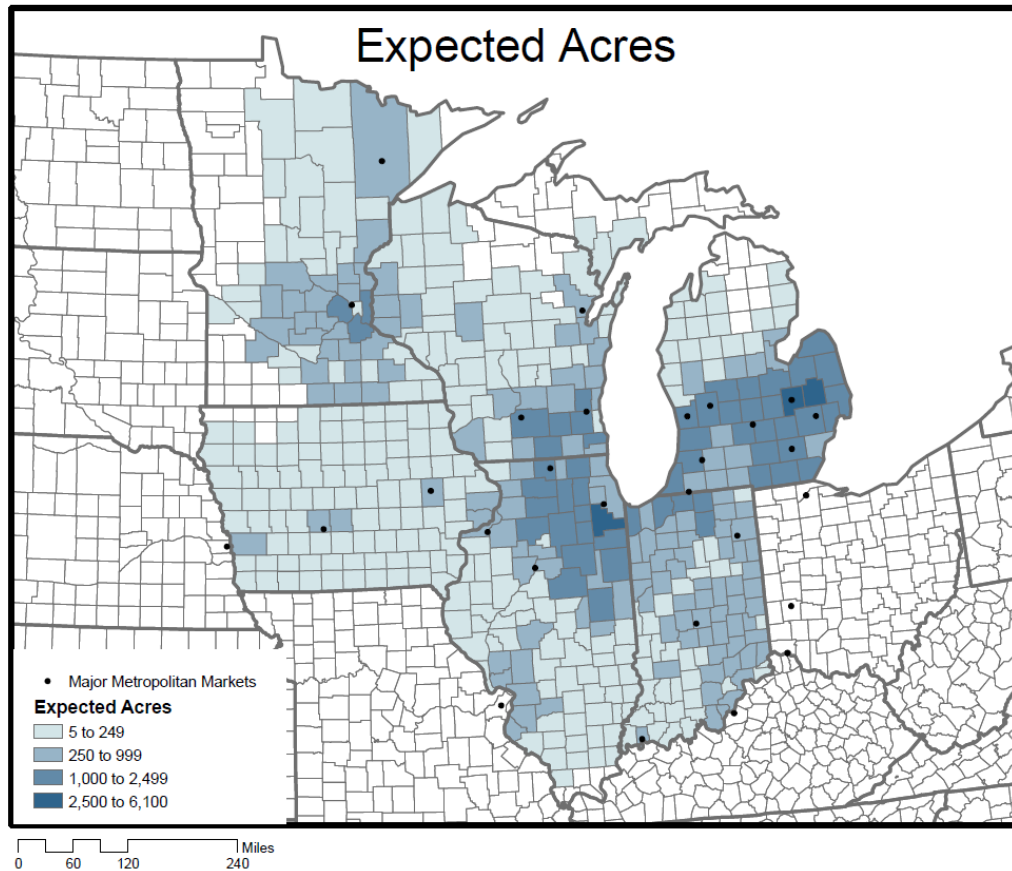
Study	Haynes 2010 and Tuck et al. 2010	Kane et al. 2010	Gunter 2011	Kluson 2012	Pesch 2014	Roche et al. 2016
Location	Minnesota	Oregon	Colorado	Florida	Minnesota	Vermont
Model geographic scale	5 county region (5,600 sq miles)	State of Oregon (98,000 sq miles)	2 county region (6,500 sq miles) and 6 county region (13,500 sq miles)	Unspecified	12 county region (23,890 sq miles)	Statewide (9,600 sq miles)
Size of school district	Cass, Crow Wing, Morrison, Todd, and Wadena counties (20,840 students)	Portland Public Schools (47,000 students) and Gervais school district (1,500 students)	Weld 6 Greeley (19,500 students)	Sarasota School District (42,000 students)	68 K-12 schools and 396 healthcare facilities (66,900 students)	Vermont (94,000 students)
Type of study	Impact (three scenarios: one special meal, unprocessed substitution, substitute all)	Impact (\$462,000)	Contribution and impact (\$20,900-\$39,125 in planned purchases)	Contribution (\$107,000 in existing purchases)	Contribution (\$33,000 worth of sales) and impact (20% of all institutional food purchases from local growers)	Contribution (\$914,943 existing purchases) and impact (three scenarios: increases in purchases)
Supply chain structure	Direct	Not specified	Direct	Not specified	Not specified	Combination of direct and intermediated
Customization of IMPLAN agricultural sectors	Yes, using survey data	No	Yes, using survey and secondary data	No	No	No
Sample size	11 farmers	No farmers interviewed	14 farmers	No farmers interviewed	No farmers interviewed	No farmers interviewed
Includes countervailing effects (shift in purchases from wholesaler to food producer)	Assumes no loss to current wholesalers because they are not in the region	No	Subtracts the impact of the wholesale sector from the farming sector	No	Assumes a loss of 75% of total new sales to the wholesale sector	Margins purchases shifted from wholesale and transportation sector to direct from producers
Multipliers	Sales: 1.03-1.25	Sales: 1.86	Sales: 1.47-1.63	Sales: 2.4	Sales: 1.7-2.9	Sales: 1.6

Words of caution in thinking about community economic impacts

- Understanding potential tradeoffs is important!
 - Ultimately, communities will decide what goals are most important based on values.
- Finite resources (e.g., land, consumers dollars, public dollars) so every decision involves a choice.
- Need to assess the **net** rather than the **gross** impact of changes in food system.
- Can be on supply (production) or demand (consumer) side, or both.



Arable land is likely already in production!

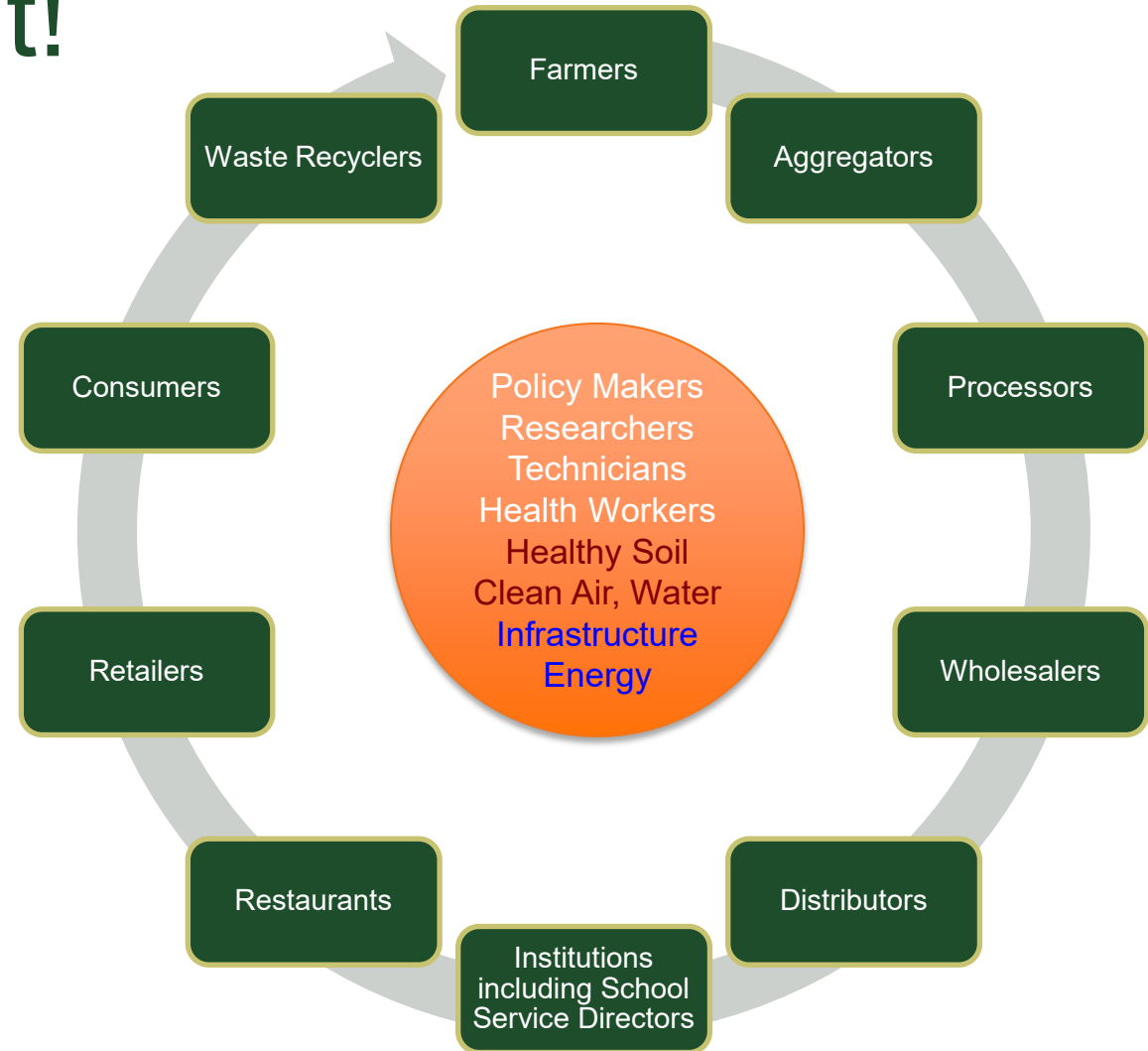


- Study from Midwest estimates county-level fresh fruit and vegetable production potentials and expected sales based on current population.
- Corn and soybean are the dominant crops in these states, and net impacts would occur from shifts to fruit and vegetable.

Source: Swenson, D. 2011. The Regional Economic Development Potential and Constraints to Local Foods Development in the Midwest. Iowa State University



Consider the whole food system: Tradeoffs may occur throughout!



For example, purchases from a food hub

- Surveyed 305 of Regional Access' customers
 - 49% purchased less from other sources due to purchases from RA
 - Average reduction >23%
- Opportunity Cost associated with \$1 increase in final demand for food hub sector ~ \$0.11
- Reduced Total Output Multiplier from 1.82 to 1.63 (>10%)



Evaluating
long-term
economic
impacts more
difficult, but
potentially
where more
important
impacts lie!

- School markets can act as **business incubators** by providing the infrastructure necessary to build skills and gain business experience.
- Regular interactions can generate and circulate **knowledge** that might use to develop new products and creative ways of marketing them.
- Sales income may be less important than the **skills and business experience** developed through participation in a school (or other local food) market.

Example: Human Capital

- 75% of farms made (or intend to make) changes to their farm business (ideas for a new product and/or marketing technique) based on these ideas.
- 45% of farms made these changes to product sold in both rural and urban markets.
- 82% reported that they shared ideas (or intend to) that they got through Greenmarkets with farmers in their home communities.

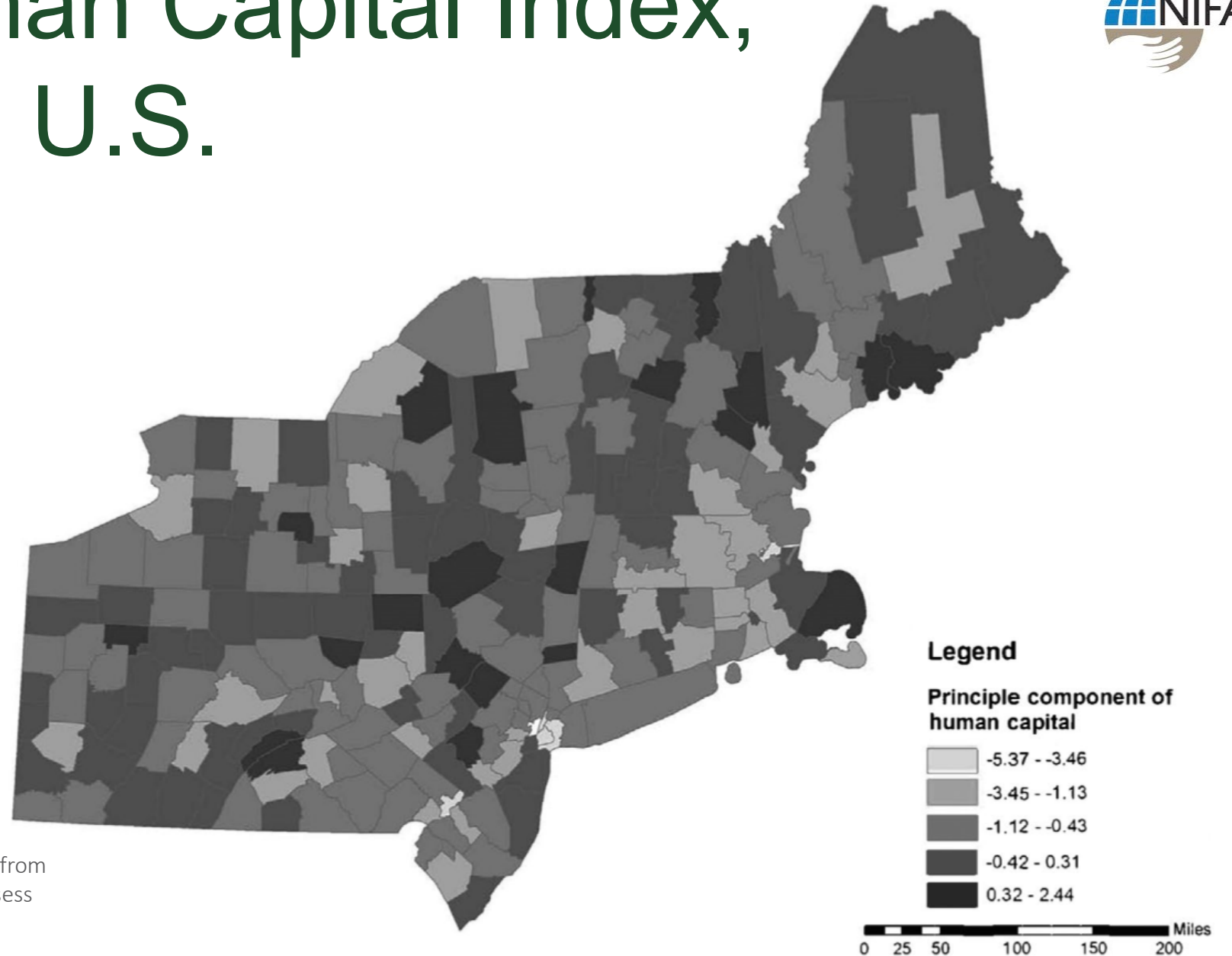


Source; Schmit, T.M., B.B.R. Jablonski, J. Minner, D. Kay, and L. Christensen. 2017. Rural wealth creation of intellectual capital from urban local food system initiatives: developing indicators to assess change. *Journal of Community Development*. 48(5): 639-656.

Stock of Human Capital Index, Northeastern U.S.



*Stocks of human capital significantly higher in counties with Greenmarket farmers



Source; Schmit, T.M., B.B.R. Jablonski, J. Minner, D. Kay, and L. Christensen. 2017. Rural wealth creation of intellectual capital from urban local food system initiatives: developing indicators to assess change. *Journal of Community Development*. 48(5): 639-656.

Current research

We seek to evaluate the extent to which state-level FTS procurement incentives impact school nutrition service director decisions about school meals, and the impact of state-level FTS procurement incentives in generating benefits for local producers and supply chain businesses in and around farm to school districts, and the communities in which they are located.

OBJECTIVE 1.

Explore the relationship between FTS activities, state FTS policies, and regional community assets.

OBJECTIVE 2.

Evaluate whether state-level FTS procurement incentives impact what school nutrition service directors serve in school meals.

OBJECTIVE 3.

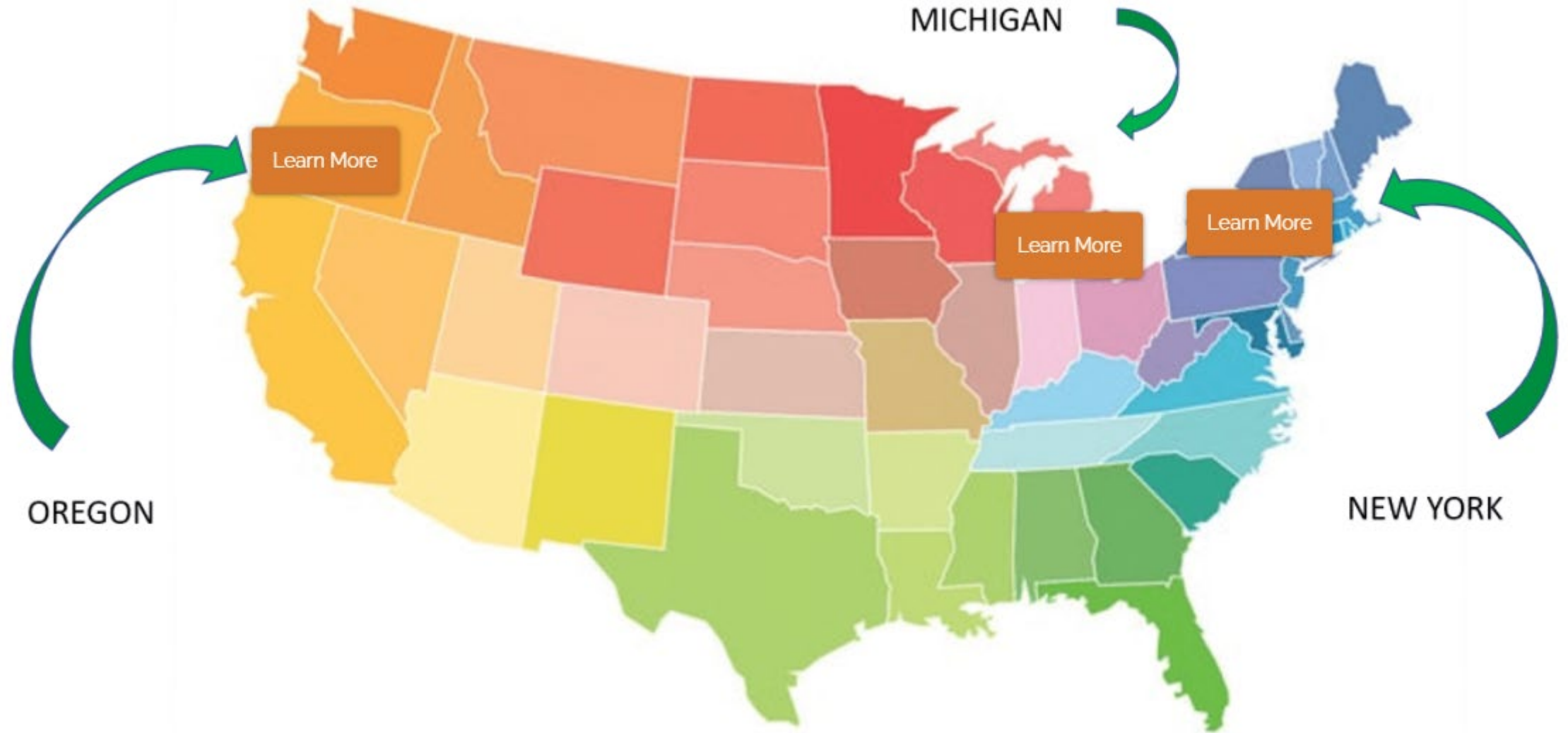
Determine the extent to which state-level FTS procurement incentives generate benefits for local producers and supply chain businesses in and around FTS districts and the communities in which they are located.

OBJECTIVE 4.

Inspire new research and policy dialogue on the role state FTS policies can play in supporting positive rural development, school food procurement decisions, and producer and supply chain business outcomes.



Current research





UNDERSTANDING IMPACTS

Research To Understand The Farm Profitability And School Food Choice Impacts Of Farm To School So As To Guide Policymakers In Their Decision-Making.

FoodSystems.colostate.edu



Fact sheets available!

LOCAL FOOD ECONOMICS FACT SHEET

KIDS WIN

FARM TO SCHOOL ACTIVITIES AND STUDENT OUTCOMES

Farm to school (FTS) programs are widely celebrated for their broad, multi-sectoral benefits, often summarized as the "triple win" - kids win, farmers win, communities. With respect to the "kids win" benefit of farm to school, the National Farm to School Network states that FTS provides all kids access to nutrition, high quality, local food so they are ready to learn and grow.¹ This fact sheet synthesizes our research team's review of the literature exploring the impact of farm to school activities on student outcomes.

Our research team used a rigorous process to identify published journal articles with strong methodological design (for example, a control group) that investigated student outcomes associated with FTS programs.² We could only identify 14 studies, each of which focused on FTS related activities (school-based activities that might shed light on the effectiveness of FTS programs). Accordingly, we also included seven FTS specific studies in our analysis, though none had a rigorous study design.³

Project Team:
Dr. Melissa Pflugh Prescott
University of Illinois
Dr. Rebecca Cleary
Dr. Becca Jablonski
Dr. Alessandro Bonanno
Dr. Marco Costanigro
Abby Long
Dr. Allie Bauman
Colorado State University

Key Takeaways:

- Studies on FTS consistently show positive impacts on food and nutrition-related knowledge.
- There is inconclusive evidence of relationship between FTS activities and fruit and vegetable consumption and preferences.
- Future research should be transparent about original intended doses and the actual implementation dose achieved, particularly for classroom interventions, so that feasibility of farm to school interventions can be assessed and improved.
- Strongly designed studies are needed to assess the impact of farm field trips, school gardens, and/or cooking activities in farm to school programs.

To the left is a Euler diagram that shows the degree of overlap in FTS activity categories investigated in the 21 included publications. Each FTS activity category is numbered from 1 to 6 and is also identified by a color. The size of each circle states and is scaled according to the number of studies it represents. The set (or combination) of FTS activity categories represented by each circle is listed in parentheses.

1. Procurement 2. Experiential Learning 3. Integrated Curriculum 4. Nutrition Education 5. Promotion Activities 6. Global Activities

- 100% of the FTS studies and 86% of the FTS-related studies included multiple elements of FTS such as local procurement and nutrition education, which makes it inherently difficult to determine which elements work and which do not.
- Promotional activities (for example offering taste test of local food) are the most widely studied FTS or FTS-related activity.

¹ <http://www.farmtoschool.org/about/what-is-farm-to-school>
² All of the studies are listed in the Prescott et al. (2020) publication
³ We only included articles studying K-12 grade students attending US schools participating in the National School Lunch Program. Studies were excluded if they focused on afterschool programs as they only served a fraction of the total school population. For complete inclusion/exclusion criteria, please see Prescott et al. (2020).

For more information: Becca Jablonski - Colorado State University
970.491.6133 • Becca.jablonski@colostate.edu

NATIONAL FARM-TO-SCHOOL NETWORK

extension

LOCAL FOOD ECONOMICS FACT SHEET

COMMUNITIES WIN

IMPLICATIONS OF FARM TO SCHOOL PROGRAMS

Farm to school (FTS) programs are widely celebrated for their broad, multi-sectoral benefits, often summarized as the "triple win" - kids win, farmers win, communities. With respect to the "communities win" benefit of FTS, the National Farm to School Network states that "FTS benefits everyone from students, teachers and administrators to parents and farmers, providing opportunities to build family and community engagement.

Buying from local producers and processors creates new jobs and strengthens the local economy."¹ This fact sheet reviews our research team's findings about the relationship between participation in various FTS activities and the likelihood of a school district's continued participation, as well as research on the community economics of FTS programs.

Project Team:
Dr. Becca Jablonski
Dr. Alessandro Bonanno
Sachinthe Mendis
Dr. Dawn Thilmany
Dr. Allison Bauman
Dr. Libby Christensen
Colorado State University

Key Takeaways

- The more FTS activities in which a school participates, the more likely they are to continue participating in FTS.
- Farm visits (field trips) is the only FTS program that is not linked with program continuation.
- For every \$1 spent by schools on local food procurement an additional \$0.03 to \$1.40 is generated in related sectors of the local economy (a multiplier of 1.03-2.40).

The Number of Activities is Associated with Higher Likelihood of Continuing Farm to School

This figure shows the shares of school districts that participated in FTS in the 2011/12 school year that continued (orange bar) or did not continue (blue bar) FTS programming in the 2013/14 school year by number of activities implemented in the 2011/12 school years.

- School districts that continued FTS were systematically more likely to have most of the FTS activities than those that did not continue FTS in the following year.
- The one FTS activity not associated with continuation is farm visits. Schools that did not have a farm visit in the 2011/12 school year were more likely to have continued participating in FTS in the 2013/14 school year.

¹ <http://www.farmtoschool.org/about/what-is-farm-to-school>

For more information: Becca Jablonski - Colorado State University
970.491.6133 • Becca.jablonski@colostate.edu

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LOCAL FOOD ECONOMICS FACT SHEET

FARM TO SCHOOL

ENVIRONMENT

Several studies demonstrate that the Farm to School (FTS) environment - defined by the policy environment and programming intensity or number of activities - influences how farms, kids, and communities are impacted by FTS interventions (e.g., Bonanno et al., forthcoming; Relston et al. 2017). The goal of this fact sheet is to lay out differences across the U.S. in the FTS environment.

We create a FTS programming intensity variable by taking the number of schools that implemented an activity divided by the total number of schools in the county. This calculation was done for each type of FTS activity and then summed. This gives us an index ranging from 0 to 12, where zero represents a county that reports no FTS programming and a 12 represents a county with the highest number of FTS programs.

Project Team:
Dr. Dawn Thilmany
Dr. Becca Jablonski
Dr. Alessandro Bonanno
Sachinthe Mendis
Dr. Allison Bauman
Dr. Rebecca Hill
Colorado State University

Key Takeaways

- The FTS environment matters!
- Notable pockets of FTS activity occur in California, the northwest, the great lakes region, and along much of the east coast.
- There is a wide range of state level FTS policy longevity.

Farm to School Programming Intensity

The majority of counties in the U.S. have a FTS programming intensity from 0-4, but there are counties in many different regions of the country where we see higher levels of FTS programming intensity. There are a few notable pockets of activity in California and the northwest, the great lakes region and along much of the east coast.

¹ <http://www.farmtoschool.org/about/what-is-farm-to-school>

For more information: Becca Jablonski - Colorado State University
970.491.6133 • Becca.jablonski@colostate.edu

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extension



FOOD SYSTEMS
COLORADO STATE UNIVERSITY

Becca Jablonski

Associate Professor | Food Systems Extension
Economist

Department of Agricultural and Resource Economics
Colorado State University

B325 Clark Hall

Becca.Jablonski@colostate.edu

970-491-6133

Foodsystems.colostate.edu

Localfoodeconomics.com