



**10 CENTS  
A MEAL**  
FOR SCHOOL KIDS & FARMS



# WHAT A DIME CAN DO:

## An Evaluation of the 10 Cents a Meal Pilot

**MICHIGAN HEALTH  
ENDOWMENT FUND**

**MICHIGAN STATE  
UNIVERSITY**

Center for  
Regional Food Systems

# Introduction

10 Cents a Meal for School Kids and Farms (10 Cents) is a state-funded program that began as a pilot in 2016-17 as a way to realize the benefits of farm to school activities and supplement the limited budgets food service programs have available for fruits, vegetables, and legumes in school meals.

The pilot officially became a statewide program titled 10 Cents a Meal for Michigan’s Kids and Farms in the 2020-21 school year.

By providing school food service directors (FSDs) with match incentive grants to purchase healthy foods, 10 Cents pilot aims to improve children’s daily nutrition and eating habits through the school setting and to invest in Michigan’s economy.

Prior evaluation had shown that the program encourages FSDs to serve students a wide variety of fruits and vegetables.<sup>1</sup>



Photo Credit: Khalid Ibrahim  
Courtesy of MSU Center for Regional Food Systems

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The evaluation presented here builds on previous 10 Cents evaluation efforts by assessing and documenting a range of potential program impacts. The findings are presented in the following series of summaries:

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<sup>1</sup> See **10 Cents a Meal Pilot: 2018-2019 Evaluation Results, Reflections, and Recommendations** and **10 Cents a Meal Pilot: 2017-2018 Evaluation Results** for previous evaluation reports. Note that the numbers of foods used in those reports are higher than those reported here because we categorized items into food product types for this analysis.

# Nearly 200 Farms and Food Businesses Involved in the 10 Cents Food Supply Chain

## Overall Spending

Investing in Michigan's agriculture and local food business economy is one of the stated legislative aims of the 10 Cents pilot. By examining the estimated 1.7 million dollars spent on Michigan-grown fruits, vegetables, and legumes through the 10 Cents pilot in 2017-18 and 2018-19, we can better understand its impact on Michigan food and farm businesses.

10 Cents provided \$493,500 to 57 grantees in 2018-19 and \$315,000 to 32 grantees in 2017-18. **Over these two pilot years, 75% of the 10 Cents grants (plus a matching requirement) were spent on fruits, 24% on vegetables, and less than one percent was spent on legumes.**

## 10 Cents Spending Summary by Food Category<sup>1</sup>

A wide range of Michigan food suppliers - including farmers, farmer cooperatives, food hubs, processors, and distributors - provided Michigan-grown fruits, vegetables, and legumes to participating school districts. As part of the 10 Cents food supply chain, 198 unique vendors supplied products to grantees over the two-year period (133 vendors in 2017-18 and 155 vendors in 2018-19).

	2017-18		2018-19		Overall Total	
<b>Fruits</b>	\$480,414	78%	\$816,918	74%	\$1,297,333	75%
<b>Vegetables</b>	\$134,329	22%	\$279,068	25%	413,397	24%
<b>Legumes</b>	\$1,064	0.2%	\$12,000	1%	\$13,063	1%
	\$615,807		\$1,107,986		\$1,723,792	

**198 unique vendors supplied products to grantees over the two-year period.**

## Farm Impact

Participating school food service directors (FSDs) sourced approximately 10% of total 10 Cents purchases each year directly from individual farms (11% or \$65,983 in 2017-18; 10% or \$109,973 in 2018-19). In 2017-18, 93 individual farms sold products directly to grantees. This increased to 103 farms the next year. **Across both years, 134 individual farms sold food to school food service programs through 10 Cents.**

Some farms supplied food to a handful of grantees in a localized area or region while others' products reached across the state through other channels. For example, one farm in southwest Michigan supplied broccoli and asparagus to six nearby school food service programs, while another farm in northwest Michigan sold apples, plums, peaches, pears, and raspberries to 37 (65%) grantees in 2018-19. Of the 50 school districts for which we had farm origin data for their purchases, 26 used between 10-31 individual farms and 24 sourced from less than 10 farms.

<sup>1</sup> The amounts in this table are less than the total dollar amount reported by FSDs through 10 Cents. Some data was excluded during analysis due to ineligibility or incompleteness.

# Nearly 200 Farms and Food Businesses Involved in the 10 Cents Food Supply Chain (cont.)

## Farm Impact (cont.)

While we did not have detailed information on all of the products that farms participating in the program offer, we can see how many different product types they sold through the program. About one-quarter of participating farms supplied more than one product category - fruits, vegetables, and legumes - to schools through 10 Cents each year (28% in 2017-18; 23% in 2018-19). About 40% of the identified participating farms only supplied vegetables over both years (45% in 2017-18; 39% in 2018-19). The percentage of identified farms supplying only fruits to schools increased from 26% in 2017-18 to 38% in 2018-19.

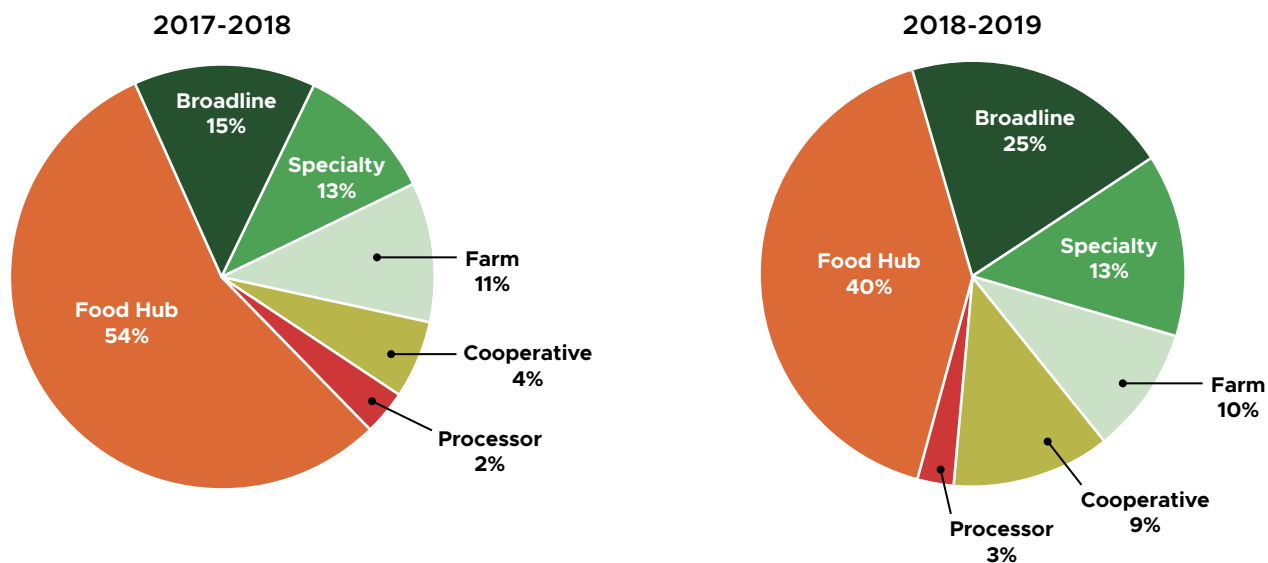
## Purchases by Market Channel

Most 10 Cents purchases came through intermediated channels to participating school districts. For this analysis, these food suppliers were categorized as broadline distributors, specialty distributors, processors, food hubs, farmer cooperatives, or grocery stores. **The majority of non-farm direct purchases were from food hubs.** The percentage of purchases from broadline distributors increased from 15% to 25% from 2017-18 to 2018-19. Purchases from farmer cooperatives more than doubled from 4% to 9% over the two years. Purchases from grocery stores were negligible and are not shown here.

## Percent of Dollar Value of Total Annual 10 Cents Purchases by Market Channel

Most of the 10 Cents food purchases through broadline distributors were from one large distributor (87% in 2017-18; 93% in 2018-19). Three other broadline distributors each participated to a lesser extent. In 2018-19, six food hubs supplied grantees with Michigan-grown fruits, vegetables, and legumes, though the majority of these purchases were from one food hub (99% in 2017-18; 92% in 2018-19).

Additionally, 11 farmer cooperatives were involved in the 10 Cents food supply chain over both years. Some cooperatives sold products directly to grantees, while others sold to broadline and specialty distributors that in turn supplied 10 Cents grantees. Within the category of farmer cooperatives, apple growers sold the most to grantees. Other cooperatives included cherry and blueberry producers.



Both years, **most participating FSDs sourced 10 Cents products from 2-3 different market channels** (75% in 2017-18; 63% in 2018-19). Approximately 20% of grantees sourced from more than 3 market channels both years (22% in 2017-18; 21% in 2018-19). Only 3% sourced from a single distributor type in 2017-18 which increased to 18% in 2018-19 when more districts participated in the program. Just four grantees (7%) purchased 10 Cents products only from broadline distributors in 2018-19, while none did so in 2017-18.

# Nearly 200 Farms and Food Businesses Involved in the 10 Cents Food Supply Chain (cont.)



## Conclusion

The impact on farm and food businesses is a key aspect of 10 Cents and is critical for making the case to policymakers and taxpayers to both continue and expand the program. Available data only tell us what was purchased through 10 Cents as reported by FSDs, without the context of the scope and sales of suppliers' overall businesses that would help us better understand the impact, including any increases in sales to schools as a result of the program.

Interviews and/or surveys of farmers and other food suppliers would offer valuable first-hand feedback and supplier perspective. Increased understanding of suppliers may also help to verify eligible purchases and ease some of the reporting burden.

Further evaluation is needed to contextualize the economic impact on Michigan farmers and food suppliers and to better understand the social (qualitative) impact of 10 Cents on strengthening local food networks, such as relationship building between schools, farmers, and suppliers.



Photo Credit: Khalid Ibrahim  
Courtesy of MSU Center for Regional Food Systems

# 10 CENTS ON THE MENU: Fruits, Vegetables, and Legumes Served through the Year

## Product Diversity

One of the potential outcomes of 10 Cents is for school food service directors (FSDs) to purchase and serve a wider variety of fruits, vegetables, and legumes (FVL). Purchasing data indicated this is happening; a tremendous diversity of Michigan-grown fruits and vegetables was used by the 32 grantees in 2017-18 and 57 grantees in 2018-19.

- Cumulatively, FSDs reported purchasing 15 types of fruits and 41 types of vegetables in the two program years.<sup>1</sup> For this evaluation, products were standardized into product types.

**FSDs reported purchasing 15 types of fruits and 41 types of vegetables in the two program years.**

For example, Gala apples were categorized as apples and different types of herbs (parsley, cilantro, etc.) were categorized under that single product type. *The resulting number of product types is smaller than but does not conflict with reporting for 10 Cents pilot years.*

- On average, a grantee purchased seven types of fruit and 14 types of vegetables in 2017-18, and six types of fruit and 12 types of vegetables in 2018-19. The range of fruit types purchased varied from 1 to 12 in 2017-18, and up to 13 in 2018-19. Vegetables types varied to as many as 29 in both years, from as few as two in 2017-18 and 1 in 2018-19.
- There were four Michigan-grown fruits used by a majority of FSDs. **More than half of grantees served blueberries, cherries, peaches, and strawberries in school food programs both years, and all but one served apples.**
- There were eight widely popular Michigan-grown vegetables used by a majority of FSDs. Both years, **more than half of FSDs incorporated Michigan-grown asparagus, carrots, cucumbers, lettuce, peppers, tomatoes, and summer and winter squashes into their school meals.**
- Students had the opportunity try varieties of produce that are uncommon in school meal programs. These included saskatoon berries, microgreens, mustard greens, rainbow carrots, and tomatillos.

Beyond fruit and vegetable product types, FSDs offered students even greater diversity through the many varieties of products they served. For example, in 2018-19, FSDs reported serving a total of 14 varieties of apples, five varieties of beets, nine varieties of winter squash, six different types of radishes, and five types of melon including watermelon.

FSDs also purchased Michigan-grown legumes through 10 Cents. In 2017-18, one quarter of participating districts served dry beans, and this increased to 35% the following school year. Types of legumes included black beans, garbanzo beans, and Great Northern beans.<sup>2</sup>



Photo Credit: Khalid Ibrahim  
Courtesy of MSU Center for Regional Food Systems



<sup>1</sup>Products were standardized into product types (e.g., Gala apples were categorized as apples). <sup>2</sup>See *What Foods Were Served charts* for the percent of participating districts serving Michigan-grown fruits and vegetables by product types in 2018-19.

# 10 CENTS ON THE MENU: Fruits, Vegetables, and Legumes Served through the Year (cont.)

## Seasonality

Across all grantees, Michigan-grown products were purchased each month of the traditional school year. Product types included apples, blueberries, peaches, and strawberries, which were served each month both years. Cherries and cranberries were also served each month in 2018-19. Vegetables used throughout the school year in both years were asparagus, carrots, green beans, and peppers. Celery, corn, summer squash, beets, and lettuce were also served every month of the school year in 2018-19. Michigan-grown legumes were purchased most months of the school year both years (excluding February in 2017-18 and June and July in 2018-19).<sup>3</sup>

Looking beyond which products were purchased by month, the frequency and dollar value of purchases reflects the seasonality of agricultural production. By dollar value, the most 10 Cents purchases were made in October in both years. Across all districts, the highest number of vegetable types purchased was also in October: 37 in 2018-19, and 33 in 2017-18.

**The frequency and dollar value of purchases reflects the seasonality of agricultural production. By dollar value, the most 10 Cents purchases were made in October in both years.**

The number of fruit types purchased peaked in the fall, in September, both years (15 in 2018-19; 13 in 2017-18). The variation in the number of products types served across all districts both years can be seen in the adjacent table.



## Total Number of Product Types Purchased by Month in 2017-18 and 2018-19

	PROGRAM YEAR	FRUITS	VEGETABLES
	17-18	13	32
SEPTEMBER	18-19	15	35
	17-18	12	33
OCTOBER	18-19	13	37
	17-18	7	30
NOVEMBER	18-19	11	32
	17-18	8	24
DECEMBER	18-19	10	31
	17-18	8	29
JANUARY	18-19	10	30
	17-18	7	24
FEBRUARY	18-19	9	28
	17-18	7	18
MARCH	18-19	12	29
	17-18	9	25
APRIL	18-19	11	28
	17-18	7	30
MAY	18-19	9	30

**Note:** Yellow indicates the month with the least number of product types and orange indicates the month with the greatest number of product types across all districts. This table includes months when schools are traditionally in session for a full month during the regular school year. Schools are typically in session only part of June so it is not included here.

<sup>3</sup> See *What Foods Were Served* charts for the range of types of fruits, vegetables, and legumes purchased by month in 2018-19.

## 10 CENTS ON THE MENU:

# Fruits, Vegetables, and Legumes Served through the Year (cont.)

### What's on the Menu

Tracking data showed that FSDs incorporated Michigan-grown products into their school meal programs in different ways and to different degrees throughout the year. School menus and experiences for students were unique at each participating district. The examples below help illustrate what students may have seen on the menu, from limited produce usage to a wide variety of Michigan fruits, vegetables, and legumes.<sup>4</sup>

- **Example A:**

In one district, a student would have regularly been served Michigan-grown apples and blueberries from September through March and often served strawberries, peaches, plums, and cranberries.

Asparagus, green beans, and lettuce would have appeared on their menu every month from September through April. During the peak Michigan harvest months of September and October, this student would have had an opportunity to eat 9 types of Michigan-grown fruits and 15 types of vegetables including carrots, cucumbers, peas, tomatoes, and sweet peppers. They would have seen winter squash at least once every other month throughout the school year. Example A is represented in the Calendar Snapshot chart by the foods listed in orange.

- **Example B:**

In another district with more moderate program utilization, a student would have been served Michigan apples from November through March, and other fruits intermittently such as blueberries and cherries in February, peaches in November and March, and even Saskatoon berries in January. Periodically from November to March, 14 types of vegetables would have been on the menu, including green beans, radishes, beets, and winter squash. Michigan-grown black beans were served in February. Example B is represented in the Calendar Snapshot chart by the foods listed in blue.

- **Example C:**

A student in another district with much more limited program utilization would have had the chance to enjoy Michigan-grown apples in October, December, and April. Example C is represented in the Calendar Snapshot chart by the foods listed in green.

**School menus and experiences for students were unique at each participating district.**



<sup>4</sup> See What's on the Menu: A Calendar Snapshot of Three 10 Cents School Districts for another illustration of these data.



# 10 CENTS ON THE MENU: A Calendar Snapshot of Three 10 Cents School Districts

The chart below helps illustrate what students in participating 10 Cents districts may have seen on the school lunch menu throughout the year. Michigan-grown products served each month in 2018-19 from three districts are shown below in different colored text. Refer to 10 Cents on the Menu: Fruits, Vegetables, and Legumes Served through the Year for a full summary on foods used by 10 Cents grantees.

September		October	
Apples	Corn	Apples	Cucumber
Blueberries	Cucumbers	Blueberries	Green beans
Peaches	Green beans	Cranberries	Lettuce
Pears	Kale	Grapes	Onions
Plums	Lettuce	Peaches	Peas
Strawberries	Onions	Pears	Peppers
Asparagus	Peas	Strawberries	Potatoes
Broccoli	Peppers	Asparagus	Tomatoes
Cabbage	Potatoes	Broccoli	Winter squash
Carrots	Tomatoes	Cabbage	Apples
Cauliflower		Carrots	
		Corn	
November		December	
Apples	Apples	Apples	Apples
Blueberries	Cherries	Blueberries	
Peaches	Peaches	Cranberries	Apples
Strawberries	Asparagus	Peaches	Asparagus
Asparagus	Beets	Asparagus	Carrots
Broccoli	Radishes	Beets	Green beans
Carrots	Winter squash	Broccoli	Greens (cooking)
Corn		Cabbage	Potatoes
Cucumbers		Carrots	Radishes
Green beans		Cauliflower	Shoots/sprouts/ microgreens
Lettuce		Corn	Summer squash
Onions		Cucumbers	Winter squash
Peas		Green beans	
Peppers		Lettuce	
Potatoes		Onions	
		Peas	
		Peppers	
		Potatoes	
		Winter squash	

## 10 CENTS ON THE MENU:

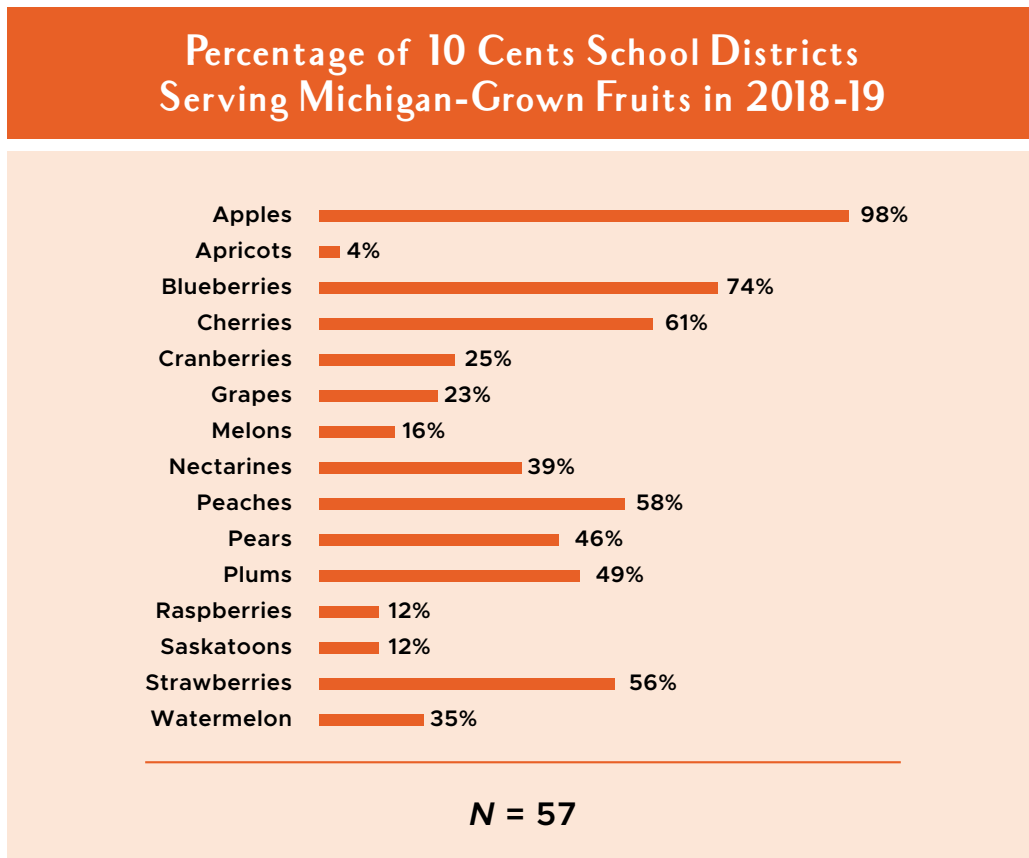
# A Calendar Snapshot of Three 10 Cents School Districts (cont.)

January		February	
Apples	Onions	Apples	Apples
Blueberries	Parsnips	Blueberries	Blueberries
Cranberries	Peas	Strawberries	Cherries
Peaches	Summer squash	Asparagus	Beets
Strawberries		Carrots	Cucumbers
Asparagus	Apples	Corn	Peppers
Beets	Saskatoon berries	Green beans	Radishes
Carrots	Beets	Lettuce	Summer squash
Corn	Broccoli	Peas	Legumes
Green beans	Carrots	Winter squash	
Lettuce			
March		April	
Apples	Apples	Blueberries	Green beans
Blueberries	Peaches	Cranberries	Kale
Cranberries	Carrots	Asparagus	Winter squash
Strawberries	Green beans	Carrots	
Asparagus	Lettuce	Corn	Apples
Cauliflower			
Green beans			
Lettuce			
May		June	
Cucumber			
Peppers			
July		August	
		Apples	Corn
		Blueberries	Green beans
		Nectarine	Peas
		Peaches	Winter squash
		Carrot	

**Note:** In the above chart, orange indicates a wide variety of produce, blue indicates a moderate variety of produce, green indicates a limited variety of produce in this district.

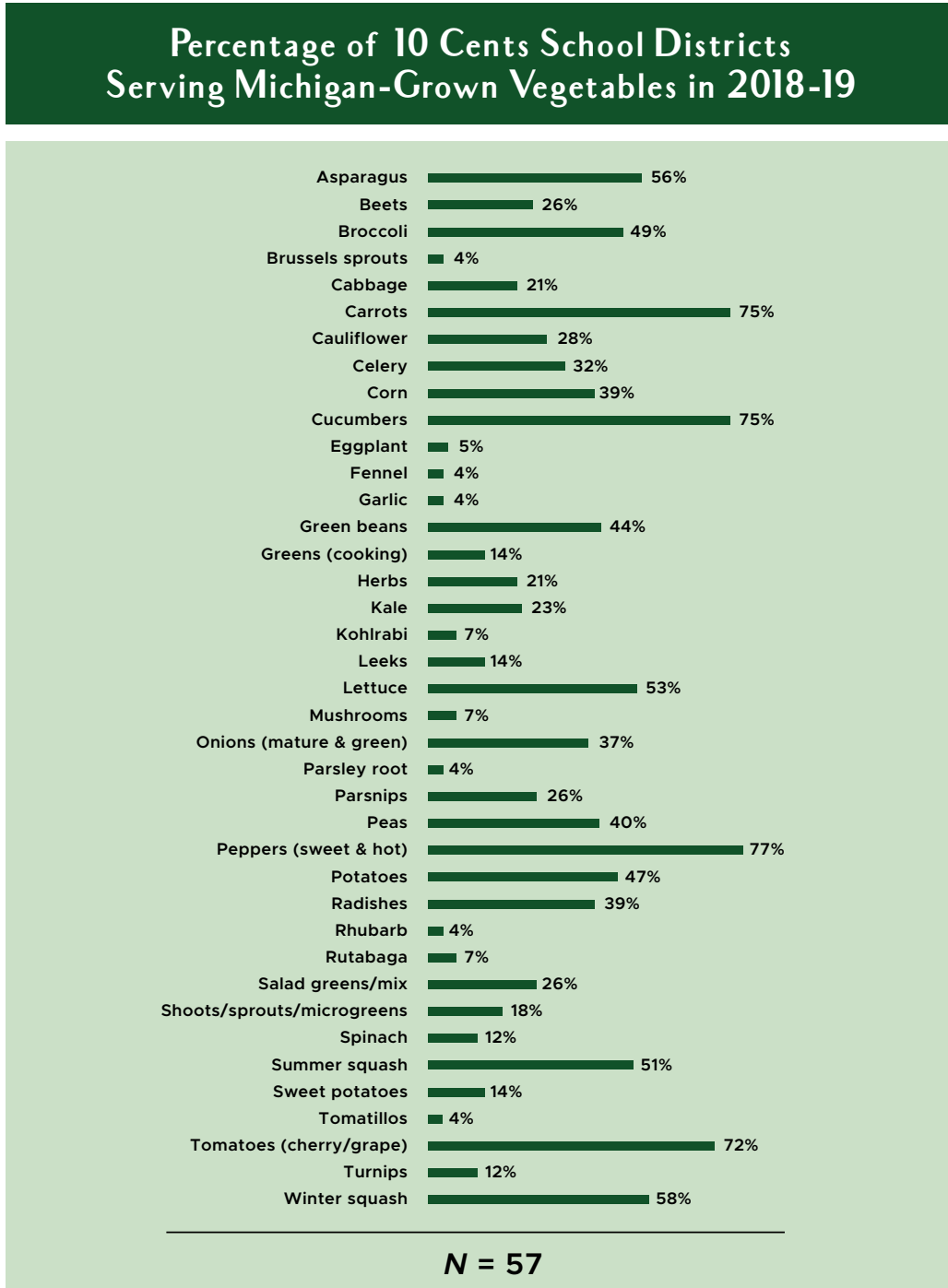
## What Foods Were Served: Fruits

The chart below shows the percentage of 10 Cents food service directors who served Michigan-grown fruits in 2018-19 by product type. Products were standardized into product types (e.g., Gala apples were categorized as apples). Refer to *10 Cents on the Menu: Fruits, Vegetables, and Legumes Served Through the Year* for a full summary of foods used by grantees.



# What Foods Were Served: Vegetables

The chart below shows the percentage of 10 Cents food service directors who served Michigan-grown vegetables in 2018-19 by product type. Products were standardized into product types (e.g., Gala apples were categorized as apples). Refer to *10 Cents on the Menu: Fruits, Vegetables, and Legumes Served Through the Year* for a full summary of foods used by grantees.



# School Food Service Directors Use 10 Cents Grants Differently: Insights from Interviews

Food service directors (FSDs) have different strategies for purchasing local foods and using 10 Cents grants in their school food service programs. This is according to information from the 10 Cents pilot program in 2018-19, including applications to participate, food purchasing data, and results of surveys of participating school food service directors (FSDs).

To begin to understand how FSDs use 10 Cents differently and some factors that drive their decision making, a series of short interviews was conducted with FSDs awarded grants in 2018-19. We sought out grantees with a wide range of purchasing behavior, based on the number of different fruit, vegetable, and legume (FVL) types purchased, both prior to participating and during the 10 Cents program.

Of the 57 grantees in 2018-19, 18 grantees were invited by email to participate in 30-minute phone interview with one member of the evaluation team from the Michigan State University Center for Regional Food Systems (CRFS). Phone interviews were conducted in November 2020 with six FSDs. A summary of interview findings, along with information on the interviewees purchasing records, is outlined below.

Key characteristics of the FSDs and their food service programs in 2018-19 include the following:

- **Region.** Interviewees represented four of five geographic regions eligible for 10 Cents in 2019-19.<sup>1</sup>
- **Enrollment.** Two FSDs had districts with enrollments of less than 2,000 students. The other four represented districts with student enrollments between 3,000 – 10,000 students.
- **Free and reduced-price lunch (FRPL) eligibility.** None of the grantees' school districts had FRPL eligibility percentages above 50%. The average FRPL was 30%. This average was lower than the average of all 10 Cents school districts at 45.7%. (The state average FRPL was 50.74% in 2018-19.)<sup>2</sup>
- **Program type.** Four FSDs had self-operated programs run by the school district, and two represented contract managed food service programs, which are run by an external company.
- **10 Cents participation.** Of the first three years of the state-funded 10 Cents pilot program (2016-17 through 2018-19), two FSDs participated for one year, two for two years, and two for all three years.
- **Grant spending.** One FSD, a returning 10 Cents grantee, underspent the initial matching grant award, while the others spent more than the grant amount initially awarded by Michigan Department of Education (MDE).

All FSDs interviewed indicated that the 2018-19 school year was one of fairly typical operations for their food service programs. One FSD noted that some new salad bars might have slightly increased local food purchases that year.



Photo Credit: Khalid Ibrahim  
Courtesy of MSU Center for Regional Food Systems



<sup>1</sup> See the [10 Cents a Meal for School Kids and Farms 2018-2019 Legislative Report](#) for a map of Michigan Prosperity Regions eligible for 10 Cents grants. <sup>2</sup> See the [10 Cents a Meal Pilot: 2018-2019 Evaluation Results, Reflections, and Recommendations](#) report for more information on the student population reached through 10 Cents grants.

# School Food Service Directors Use 10 Cents Grants Differently: Insights from Interviews (cont.)

## Local Food Products

The chart below shows the number of fruit and vegetable types used each month and the total over the year for the FSDs interviewed. Most of these FSDs purchased a diverse set of Michigan products, and they did so throughout the school year although with some variability by month.<sup>3</sup>

School District Grantee	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN-AUG	Month Unknown	Total Fruit Types	Total Veg Types
A	15	16	13	10	12	11	16	20	19	15		7	20
B	16	7	5	14	6	5	12	4	7	1		7	16
C	5	1	14	9	9	4	11	11	6		22	11	20
D	21	21	15	19	15	9	7	8	2	9		9	19
E		4	3		3	3	3	2			2	3	3
F	11	10	7	8	4	7	6	7	2			7	7

The FSDs who were interviewed affirmed that their reported 10 Cents purchases – fresh and minimally processed (including frozen) Michigan-grown fruits, vegetables, and legumes - represented most of their total local food spend. These FSDs mentioned local dairy purchases (milk and yogurt). Some other 10 Cents grantees are known to use local meats, as well.

FSDs’ decisions about which food products to purchase and use in their school meals programs were influenced by product availability, preparation requirements, menu possibilities, and student preferences. Three FSDs sought to use grant funds to serve different types of foods more frequently, i.e., foods that were not typical of their standard menus or not yet familiar to students.

## Market Channels

Fresh or minimally processed (including frozen) Michigan-grown fruits, vegetables, and legumes from any Michigan-based source are eligible for 10 Cents grants, as long as the farm of origin is known. One grantee purchased local foods from a specialty distributor and another from a farmer cooperative. Two purchased foods directly from a food processor. All purchased from at least one broadline distributor and food hub, although these purchases represent very different percentages of their total 10 Cents spending. All but one of the six grantees purchased foods directly from farmers.

### Percent of Purchases by Market Channel

School District Grantee	Broadline (Full Service) Distributor	Specialty Distributor	Food Processor	Food Hub	Farmer Cooperative	Farm Direct
A	54%	25%		19%		2%
B	49%			50%		1%
C	37%		21%	24%	14%	4%
D	2%		3%	61%		34%
E	95%			5%		
F	49%			41%		10%

<sup>3</sup> See 10 Cents on the Menu: Fruits, Vegetables, and Legumes Served Through the Year for a summary on foods used by grantees.

# School Food Service Directors Use 10 Cents Grants Differently: Insights from Interviews (cont.)

## Market Channels (cont.)

A number of factors affect FSDs' decisions about vendors for 10 Cents food purchases and reporting.

- While it varies somewhat by distributor, **FSDs felt that broadline distributors cannot yet be relied upon to provide information about local foods**, either at the point of sale (typically through online ordering) or for purchasing reports. Since FSDs did not always have the necessary information to choose local foods over conventional sources when they purchase, some of the 10 Cents purchases from these sources are unintentional, meaning they just happened to be local, so they got to be counted after the purchase is made. The FSDs' comments indicated that while the availability of this information may be slowly improving overall, the information shared with an FSD may depend most on the individual sales representative to which they are assigned.
- **Information about local foods was more reliable through specialty distributors and food hubs, which specialize in local and regional food** aggregation and distribution, than through broadline distributors. One grantee said that purchases from these sources represented more intentional local food and 10 Cents purchases.
- **FSDs balanced local food purchasing for 10 Cents against student preferences and the availability of low-cost foods** primarily available from federal sources, including Department of Defense Fresh Program and broadline distributors.
- **FSDs weighed convenience** and the additional cleaning and preparation required for whole fresh fruits and vegetables, when they decided which local food products to purchase from which source and how frequently they wanted to serve them.
- **FSDs who purchased directly from farmers had varying experiences.** Challenges were related to delivery to multiple school buildings, preparation required for whole fresh foods, and the volume of farm products available, as well as competitive pricing for the school food market in one case and consistent availability throughout the year in another. One FSD had planned with farmers for planting in 2018-19 and another expressed interest in a forward contract arrangement.

## Spending of Grant Awards

FSDs who were successful in spending more than their initial grant awards on eligible Michigan-grown foods suggested a few different factors that helped. They mentioned getting to know farmers, including through farm tours; product-specific factors like whether the apple season was a good one; and promotion of local foods in school meals, including through letters to community members, social media, and a video.

One FSD attributed the inability to meet the initial grant award to difficulty finding local sources with sufficient volumes of vegetables to meet the 10 Cents grant amount and the matching requirement. According to this FSD, finding local sources of high-volume products that students like, such as winter squash and carrots, could have helped to meet the required spending in 2018-19 and is still a priority as of the 2020-21 school year.

## Meal Participation Rates

Participation in school meals was referred to as a reinforcing loop for 10 Cents success. Two FSDs reflected that student participation in school meals was an important outcome of their grants. Both FSDs ran school food programs with relatively low FRPL percentages and both mentioned being grateful for these grants because their programs are not often eligible for funding assistance given that a 50% or greater percentage is often an eligibility requirement.

In one case, participation in school lunch among teachers also increased by at least 50% from participation prior to the grant program.

The FSD's assessment was that excitement and communication about 10 Cents generated more participation in school meals, which led the FSD to purchase and serve more local foods, which in turn further drove participation.

# School Food Service Directors Use 10 Cents Grants Differently: Insights from Interviews (cont.)

## Future Evaluation

Similar evaluation interviews of 10 Cents participants in future years could confirm and solidify these findings. A larger sample of FSDs will be available in the 2020-21 year as an increase in funding and expanded geographic area will allow for more grant awards.

Additional research into how FSDs use grant awards could provide more generalizable results in the future, including:

- If and how much FSDs increase the diversity of food products in their food programs,
- how food preparation and service might evolve, and
- how the number and type of food vendors FSDs use for Michigan-grown foods change as a result of participating in 10 Cents.

These findings could also inform practical support for future grantees and provide a basis for investigating student-focused impacts of 10 Cents.





# Farm to School Experience Matters: Insights from an Analysis of Food Service Director Behavior

Analysis of 10 Cents purchasing data from 2017-18 and 2018-19 shows there was a wide range in the number of fruit, vegetable, and legume (FVL) types that participating school food service directors (FSDs) purchased.<sup>1</sup> Two other program outcomes reveal further differences in how FSDs used the 10 Cents program: changes to the 10 Cents grant awards and changes in the number of FVL types purchased before and during the program. These differences and highlights of some emerging patterns underlying the diversity in food service behavior are explored below.

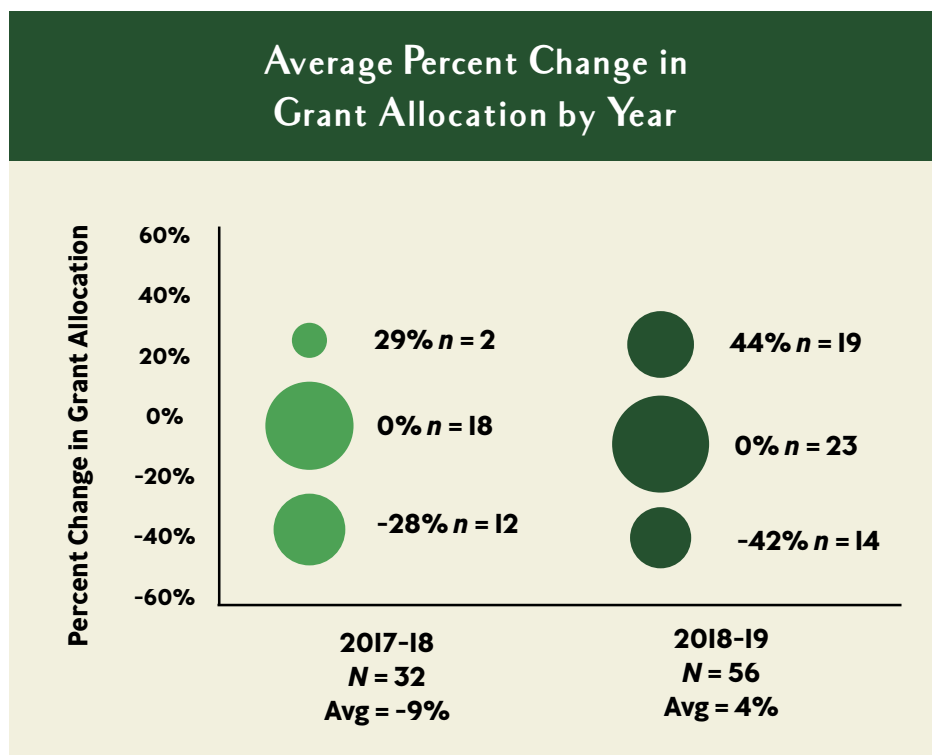
## Changes in Grant Awards

Our findings suggest that **FSDs use grant dollars more fully as their experience with the program increases.** Midway through both the 2017-18 and 2018-19 school years, staff at the Michigan Department of Education assessed how much of the required match amount each grantee had spent and determined whether their grant award should be increased or decreased.

“**FSDs use grant dollars more fully as their experience with the program increases.**”

Among the 27 districts that participated in both 2017-18 and 2018-19, only three spent less than they did the first year, relative to their original grant amount in their second year of the program. The other 24 grantees were either equally successful (10 districts) or more successful (14 districts) in spending their original grant amounts.

Only two of the 32 grantees<sup>2</sup> were allocated additional funds after the mid-year review in 2017-18, while 19 of the 56 grantees were provided additional grant funds after the mid-year review in 2018-19.<sup>3</sup> The adjacent chart shows the average percent change in grant awards in both 2017-18 and 2018-19 for three groups: 1) grantees whose award increased, 2) grantees whose award stayed the same, and 3) grantees whose award decreased.



<sup>1</sup>See 10 Cents on the Menu: Fruits, Vegetables, and Legumes Served Through the Year for additional information about patterns of fruit, vegetable, and legume purchases. <sup>2</sup>Application data was unavailable for one of the 57 grantees in 2018-19, so this analysis includes only 56 districts.

# Farm to School Experience Matters: Insights from an Analysis of Food Service Director Behavior (cont.)

## Changes in Fruit, Vegetable, and Legume Types Purchased

Stakeholders see 10 Cents as a way to increase the diversity of fresh fruits and vegetables in school meals.<sup>3</sup> To see if this increase was present in the data, we compared the number of FVL types FSDs reported purchasing in their 2018-19 applications for 10 Cents with the number of FVL types reflected in their program purchasing records.<sup>4</sup>

After looking at these numbers side by side, we divided the participating school districts into four categories based on whether the number of FVL types purchased prior to 10 Cents was relatively low or high compared with other grantees and whether the number of FVL types purchased during 10 Cents was relatively low or high compared with other grantees. These categories are shown in the following table.

## Categories of Changes in Fruit, Vegetable, and Legume (FVL) Types Purchased by 2018-19 Grantees

For each of these categories and the group overall, we looked at the average number of FVL types purchased before and during the 2018-19 pilot year. (See figure below.) Of the 56 grantees, 22 FSDs, or approximately 40%, substantially increased the number of FVL types purchased during the program. Another 8 FSDs were able to maintain their purchases of a relatively high number of FVL types through the program. On the other hand, 18 grantees started and ended the program with a relatively low number of FVL types purchased. And most interestingly, 8 districts started with a relatively high number of FVL types purchased but ended with 10 fewer types of FVL purchased on average. In other words, **when looking at the breadth of FVL types purchased, different FSDs used and experienced the 10 Cents pilot differently.**

### Low to High

- **22 FSDs** purchased at least 15 types of FVL during 10 Cents and increased the types of FVL they purchased by more than 50%.
- On average, this group purchased 11 types of FVL prior to the 2018-2019 10 Cents program and 22 types of FVL during the program.

### High to High

- **8 FSDs** purchased at least 15 types of FVL during 10 Cents and increased the types of FVL they purchased by more than  $\leq$ 50%.
- On average, this group purchased 21 types of FVL prior to the 2018-2019 10 Cents program and 23 types of FVL during the program.

### Low to Low

- **18 FSDs** purchased at fewer than 15 types of FVL either prior to or during 10 Cents and/or their purchases changed by  $\leq$ 50%.
- On average, this group purchased 10 types of FVL prior to the 2018-2019 10 Cents program and 2 types of FVL during the program.

### High to Low

- **8 FSDs** decreased the number of FVL types purchased by more than 50%.
- On average, this group purchased 16 types of FVL prior to the 2018-2019 10 Cents program and 6 types of FVL during the program.

### Overall Average

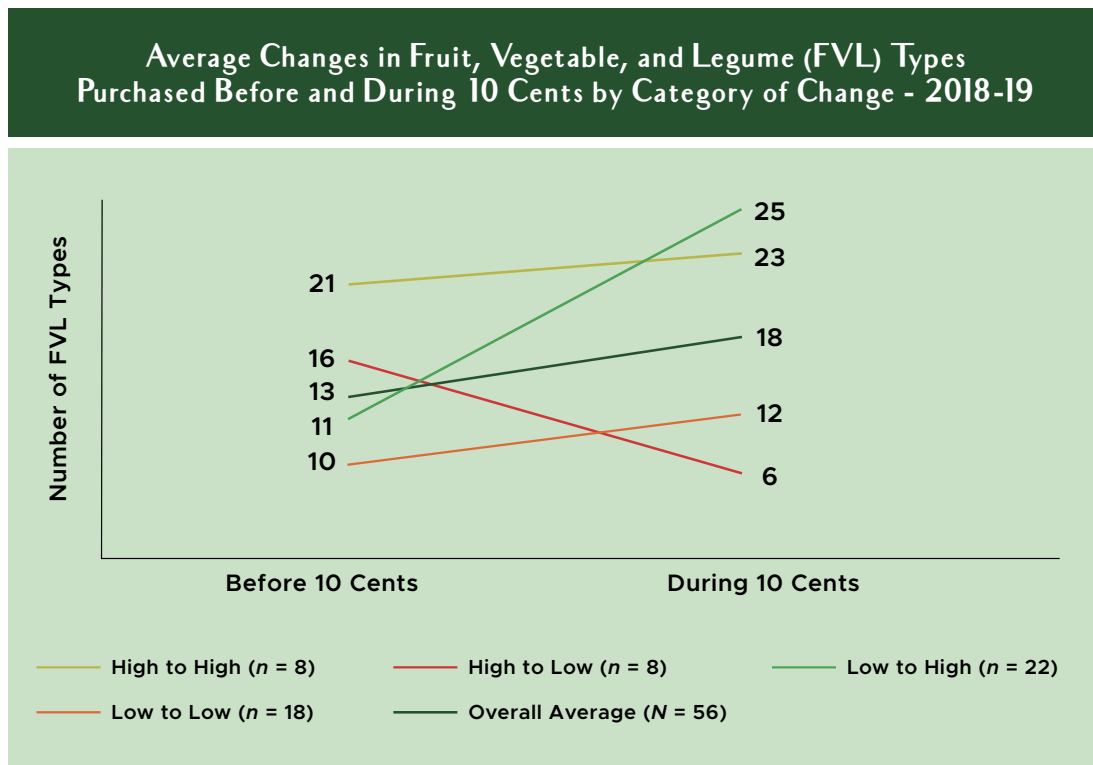
- The 56 FSDs purchased 13 types of FVL prior to the 2018-2019 10 Cents program and 18 types of FVL during the program on average overall.
- Overall, FSDs increased the types of FVL purchased during the program by 55%.

<sup>3</sup>Eight of the grantees whose award stayed the same were on track to spend more than their required match amount but because they had already been awarded the maximum of ten cents per school meal, they were ineligible to receive additional grant funds. <sup>4</sup> See [Why 10 Cents Matters: A Framework](#) for this and other potential outcomes of 10 Cents.

# Farm to School Experience Matters: Insights from an Analysis of Food Service Director Behavior (cont.)

## Changes in Fruit, Vegetable, and Legume Types Purchased (cont.)

This chart shows the average changes in the number of FVL types purchased before 10 Cents and during the program for four different categories of grantees as well as the overall average. The change is calculated from the applications to participate and purchasing data from the grant year.



## Explaining Changes in FVL Types Purchased

Assuming the comparison of FVL types purchased before and during 10 Cents is valid despite the different data sources,<sup>5</sup> our evaluation findings point to two potential explanations for why some FSDs' purchases of FVL types either decreased or remained low.

- First, **one FSD interviewed reported difficulty sourcing eligible Michigan products, which led to purchasing fewer FVL types and more difficulty meeting the match required by the original grant amount.**<sup>6</sup> The bar chart below shows that purchasing a low number of FVL types was associated with difficulty spending the full grant award for other FSDs as well. Both of the categories of FSDs who purchased a low number of FVL types during 10 Cents spent less than their initial grant amounts in 2018-19.
- In contrast, both of the categories of FSDs that purchased a high number of FVL types during 10 Cents were able to spend more than their original grant amount. This indicates a relationship between these two behaviors and means that the purchase of few FVL types could reflect FSDs who struggled to source Michigan foods.
- However, these relationships were less apparent in the 2017-18 data. This could be because there were fewer grantees overall that year. Furthermore, in 2017-18 there was only one grantee in the high to low category and only two whose grant awards increased, which made it harder to see trends. Even so, the nine grantees in the low-to-low category that year had the lowest average change in grant allocation with a decrease of 20%.

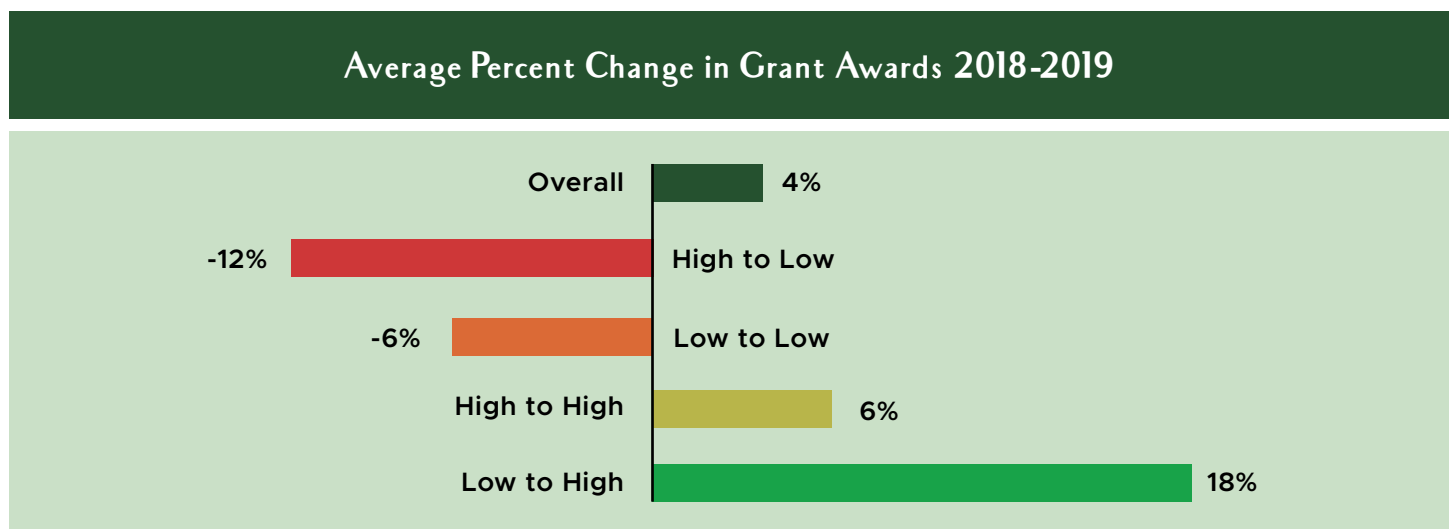
<sup>5</sup> See the Technical Notes document for a detailed explanation of this comparison. <sup>6</sup> See School Food Service Directors Use 10 Cents Grants Differently: Insights from Interviews for additional detail about this FSD's experience.

# Farm to School Experience Matters: Insights from an Analysis of Food Service Director Behavior (cont.)

## Explaining Changes in FVL Types Purchased (cont.)

- Second, based on a small series of interviews with six FSDs, some FSDs chose to strategically use 10 Cents grants for certain types of purchases as just one component of their overall farm to school efforts.<sup>7</sup> Because the 10 Cents purchasing records represent only a small portion of FSDs' overall purchases, **it is likely that some who purchased a small number of FVL types through 10 Cents actually purchased a much larger number of local FVL types in their food service program overall.** However, we do not have the data to show whether this explanation holds true.

This chart shows that the districts that purchased more types of FVL in the 10 Cents program were more likely to have their grant award increased.



In short, our analyses of purchasing and application data indicate a relationship between the number of FVL types purchased by FSDs and the ability to meet the match amount required by the original grant awards. However, interviews indicate that not all FSDs strive to purchase a large number of FVL types through 10 Cents. If that is the case, then the change in FVL types purchased is not a reliable indicator of optimal use of 10 Cents grants.

While purchasing relatively few FVL types may indicate challenges with local sourcing, it may also reflect challenges obtaining the required information on farm origin or different FSD priorities, such as serving local food as frequently as possible, purchasing foods that are not otherwise affordable, establishing new vendor relationships, or purchasing foods that represent the best value. Further evaluation with additional information about FSDs' goals for the 10 Cents program could help clarify these relationships.

<sup>7</sup> See School Food Service Directors Use 10 Cents Grants Differently: Insights from Interviews for further information about interviews.

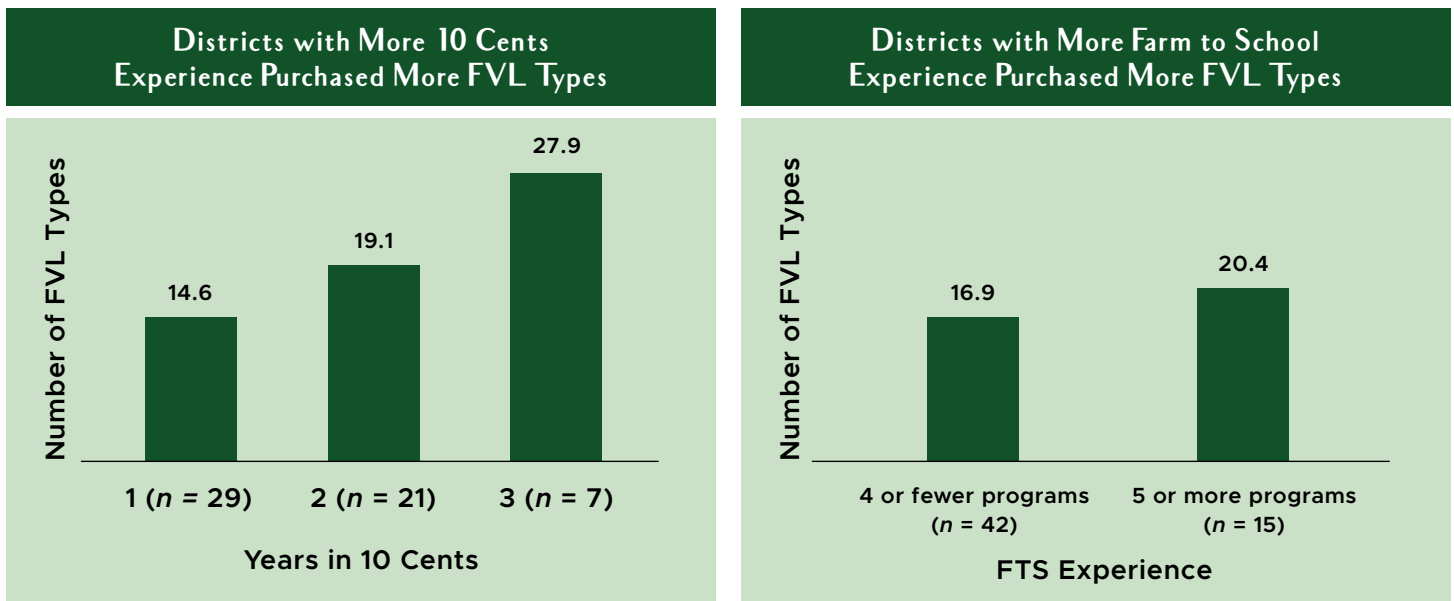
# Farm to School Experience Matters: Insights from an Analysis of Food Service Director Behavior (cont.)

## The Influence of Experience

We consistently found that **more experience with farm to school programs<sup>8</sup> correlated with the purchase of more types of FVL through 10 Cents.** This relationship was evident in three different ways.

- First, the longer grantees participated in 10 Cents, the more FVL types they purchased on average. There were, however, only 7 FSDs who participated in 10 Cents all three years, so this trend is based on a small sample.
- Second, as the number of years in which a grantee participated in one or more farm to school programs increased, the average types of FVL purchased also showed a general upward trend.<sup>9</sup>
- Third, grantees that had participated in five or more types of farm to school programs purchased more FVL types on average than those that had participated in four or fewer programs.

On the other hand, we did not see any relationship between farm to school experience and change in grant award, whether we looked at years of participation in 10 Cents, the years of participation in one or more farm to school programs, or the total number of different farm to school programs that FSDs participated in.



Note: These charts are based on 2018-19 purchasing records for 10 Cents. They show apparent relationships between the number of fruit, vegetable, and legume types purchased and, first, the number of years of participation in 10 Cents and, second, the number of types of farm to school programs, including 10 Cents.

<sup>8</sup> See Technical Notes for how we calculated farm to school experience. <sup>9</sup> See Technical Notes for the full data.

# Farm to School Experience Matters: Insights from an Analysis of Food Service Director Behavior (cont.)

## Conclusion

In both 2017-18 and 2018-19, a portion of 10 Cents grantees (38% in 2017-18 and 25% in 2018-19) had difficulty spending enough on Michigan fruits, vegetables, and legumes to meet the match amount required by their initial original grant awards. The FSDs who struggled the most to meet the required match were also those who reported purchasing the fewest types of fruits, vegetables, and legumes through the program (including both those who reported purchasing a relatively high number and those who reported purchasing a relatively low number of FVL types before the program).

Our findings show that experience with both 10 Cents specifically and farm to school programs generally relates to the purchase of more FVL types during the program. However, this experience does not relate to changes in grant awards. Moreover, interview findings point to a range of explanations for purchasing a wide diversity of FVL types, only some of which relate to sourcing challenges.

In conclusion, farm to school experience seems to be related to effective use of the 10 Cents program if defined by the number of FVL types purchased. However, **a deeper understanding is needed of the perspective of FSDs on the extent to which diversity of product types is an appropriate goal of the program as well as the ways in which 10 Cents integrates with other farm to school programs or local sourcing efforts.** A broader set of interviews with FSDs could shed light on the range of their priorities for school food service programs and the ways in which they use 10 Cents and other programs to achieve these priorities.



# Local Food Purchasing in a Pandemic: A Summary of 2019-2020 Grantee Survey Results

The coronavirus pandemic has required extraordinary and ever-changing adjustments to school food service operations since March of 2020. Schools statewide were mandated to close for in-person education for a time, but many food service operations continued providing meals to children and families, including through sack lunches, to-go meals, meal kits, and in bulk.

Although the total amount available from the state legislature remained the same as the previous year (\$493,500), 10 Cents grants looked very different in 2019-20. Due first to political negotiations and then to pandemic-related delays, state funding was not available until August when the traditional 2019-20 school year was complete. At that time, the Michigan Department of Education disbursed funds to 41 grantees to reimburse previous purchases of eligible products – Michigan-grown fruits, vegetables, and legumes in fresh and minimally processed (including frozen) forms - for which FSDs had receipts and invoices that indicated the farm of origin.

Findings from a survey of 10 Cents grantees for the 2019-20 school year show that all participating FSDs (41) planned to continue purchasing and serving local foods in the 2020-21 school year, despite the ongoing challenges of the pandemic.

## 10 Cents Funding Matters to Food Service Directors

Since 10 Cents funds remained unavailable to FSDs until after the traditional school year was over, we asked FSDs how the absence of grants affected their programs. While four FSDs (about 10% of grantees) indicated that the absence of 10 Cents funding did not affect their food service programs, most reported some negative impacts during the 2019-20 school year. Some FSDs cited more than one type of impact or a combination. Adjustments related to product sources were mentioned four times and adjustments related to products purchased for school food programs were mentioned 15 times.

“We didn’t purchase ‘unique’ or ‘different’ produce that we normally would have with the grant money for our salad bar and taste testing activities,” reflected one FSD. Without 10 Cents grants, cost and/or budget concerns related to local food purchasing were reported 15 times.

One FSD provided insight into how school food budgets work:

“**Any amount of funding loss, even 10 Cents, affects the bottom line of a school food budget. Most schools get \$1.00 per plate (and) that includes milk, which is 28 cents on average.**”

**Despite the delay in funding availability, about half of all grantees (21 of 41, 51%) indicated that 10 Cents grants helped their school meals programs in some way during the shutdown caused by COVID-19 in spring 2020.**

Some of these FSDs noted they were able to serve additional items or had more options and variety with local food products, “ensuring we are providing ‘the rainbow’ to our students,” as one FSD put it. Greens and asparagus were mentioned specifically as local items FSDs used during this time.

Michigan fruit, especially whole hand fruits (such as apples) and bagged fruit, seemed especially helpful and enjoyed by families. Reduced cost of local foods was mentioned for two school districts (although the reason was unclear), reduced labor was associated with bagged Michigan apples for another, and yet another indicated increased participation after advertising “fresh farm products.” Another FSD was able to support more farmers than in previous years and two mentioned using farm surplus, products that had lost their intended markets.

## Local Food Purchasing in a Pandemic: A Summary of 2019-2020 Grantee Survey Results (cont.)

Three FSDs noted the reliability of local vendors during the pandemic. Other distributors, especially broadline (full-service) distributors that are more reliant on the national food supply chain, were reported as struggling to fulfill orders. One FSD's experience illustrated well some of the pandemic-related supply chain challenges:

**“Our main distributor had trouble keeping produce items in stock. We had a local farm reach out to us. They serviced restaurants and since they were closed the produce was just going to be composted. We were able to purchase produce from them for our meal kits.”**

Just seven grantees indicated that local food purchasing did not help their school meals programs during the shutdown. (Ten FSDs provided no response to this question, and two replied “not applicable,” one because of a school shutdown.) Some FSDs were not able to maintain sourcing local foods as they made necessary adjustments.

One FSD noted,

**“The rapid change in programming during the pandemic reduced our capacity for seeking out local items to include in our program.”**

Other concerns related to local food purchasing were cost and a lack of available prepackaged Michigan items. One FSD who was unable to source local foods during this time voiced appreciation for serving as a distribution site for USDA Farmers to Families Food Box Program.<sup>1</sup>

Among the FSDs who maintained some local food purchasing in 2019-20, FSDs from 11 school districts reported using 10 Cents grants to purchase and serve specific types of Michigan-grown foods for the first time. One FSD, who managed more than one food service program, listed five fruits and five vegetables: asparagus, corn, cucumbers, green beans, tomatoes, apples, strawberries, blueberries, cherries, and plums – that were purchased and served for the first time. The greatest number of “new foods” mentioned by any other FSD was three. Across all responses, FSDs reported purchasing and serving the following local foods for the first time: <sup>2</sup>

- plums (three times) and apricots, Asian pears, peaches, saskatoon berries, and yellow watermelon (once each), and
- beets (two times) and kale (two times), and Brussels sprouts, rainbow carrots, mixed greens, lettuce, microgreens, onions, parsnips, squashes, and watermelon radishes (once each).

Twelve FSDs mentioned Michigan-grown foods they would like to use but have been unable to find or buy for their food service programs: cherries (three), asparagus (two), and carrots (two) in ready-to-eat or small forms; Asian pears; peaches (whole); celery; cherry tomatoes; corn; parsnips; Romanesco; and chickpeas. Two FSDs said they would like to try any Michigan-grown foods that would be new to their students.



<sup>1</sup>The USDA Farmers to Families Food Box Program was part of the federal Coronavirus Food Assistance Program beginning in April 2020. The USDA Agricultural Marketing Service partnered with distributors to purchase food from producers that was then packaged into boxes and distributed through food banks and other sites, like schools, to families in need. Learn more at [ams.usda.gov/selling-food-to-usda/farmers-to-families-food-box](https://ams.usda.gov/selling-food-to-usda/farmers-to-families-food-box).<sup>2</sup> This count excludes the duplicate responses from a single FSD who manages multiple school food service programs.



# Local Food Purchasing in a Pandemic: A Summary of 2019-2020 Grantee Survey Results (cont.)

## Farm to School Support

FSDs were asked what they need to support their efforts to purchase and serve more Michigan-grown fruits, vegetables, and legumes in the 2020-21 school year. Two indicated they did not need anything, and 16 did not respond to this question. The themes among the 23 FSDs who did indicate a need for support are shown below.

- Vendors and food supply chain (11):
  - a Michigan produce box that meets requirements of weekly meal packs
  - delivery to individual school buildings
  - more farmers
  - a food hub and a distributor to carry more Michigan foods and more information about local food products available
  - connections to food suppliers - more demand from nearby school districts
- Financial support (four)
- Marketing and education support (three):
  - premade free and reduced-priced materials to promote local foods including signage, flyers, clings, social media posts, and posters, including a 10 Cents grantee poster specifically
  - information about local foods and student taste testing with fresh fruits and veggies
  - information about how 10 Cents works, including for school and community members
- Food service support (two):
  - recipes students like
  - menu development for fresh fruits and veggies
- General support (two):
  - flexibility related to forecasting 10 Cents spending due to the pandemic
  - “continued overall support from all those involved in this wonderful program”

FSDs were also asked about farm to school support needed beyond the 2020-21 school year. These responses included:

- additional food service staff and equipment, including for processing and proper refrigeration,
- lower prices for local products,
- a network of farmers to sell and deliver to schools (in southern Michigan),
- a food processing business that could use bulk foods for minimally processed items,
- financial support for purchasing other (meats and milk) or all Michigan products,
- matchmaking opportunities with vendors,
- opportunities similar to MDE Town Halls, hosted by video and phone conference, for FSDs to share ideas with each other, and
- political support and advocacy for 10 Cents to help FSDs continue to purchase and serve more Michigan-grown foods.

# Local Food Purchasing in a Pandemic: A Summary of 2019-2020 Grantee Survey Results (cont.)

## Conclusion

Overall, these survey results point to the value of local food purchasing, including the reliability of local food sources, in the midst of uncertainty and crisis, in this case caused by the coronavirus pandemic.

Despite the ever-changing conditions that FSDs had to respond to throughout 2020, all grantees remained committed to trying to source local foods.

**“10 Cents grants are one critical way the state can provide financial support for local farms and food businesses while also ensuring healthy and local foods are provided to students by FSDs, even in the most uncertain of times.”**

# Recommendations for Future Evaluation

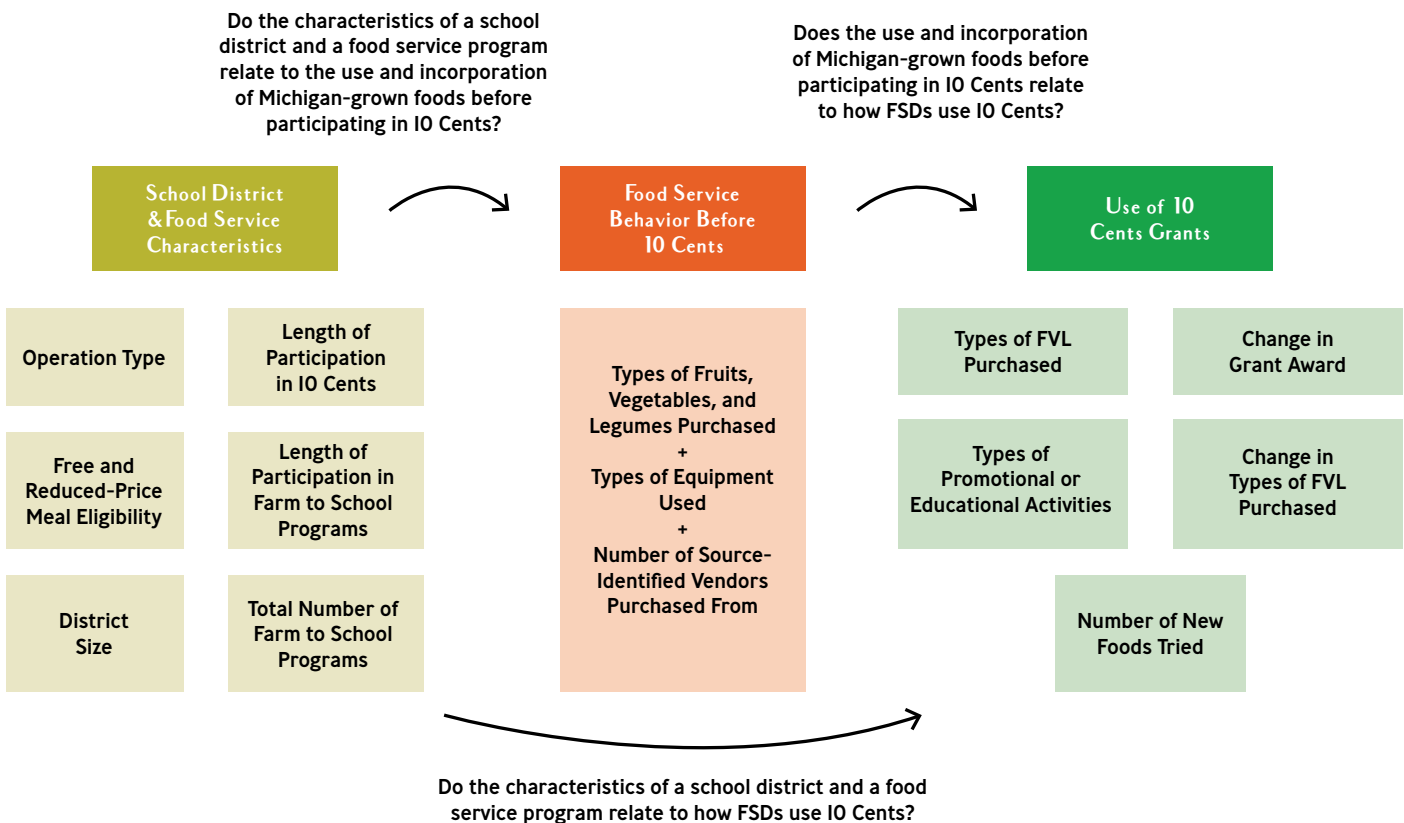
As part of our evaluation of 10 Cents, we were interested in understanding the culture of food service programs and ways that food service culture related to either school district and food service characteristics or food service directors' (FSDs) use of 10 Cents.

While culture has many elements, including knowledge, beliefs, attitudes, values, norms, and behavior, we focused only on behavior. To do this, we created a composite variable that reflected three data points from FSDs' applications to participate in 10 Cents: 1) reported purchases of Michigan-grown fruits, vegetables, and legumes (FVL), 2) types of equipment used to prepare Michigan-grown foods, and 3) the number of source-identified vendors purchased from.<sup>1</sup>

We then looked at whether the characteristics of school districts and their food service programs related to this composite measure of food service behavior. We also looked at whether food service behavior related to FSDs' use of 10 Cents. Finally, we looked at whether the characteristics of school districts and food service programs directly related to FSDs' use of 10 Cents.

These potential relationships are shown in the conceptual model below. Based on our analyses of these potential relationships, we offer the following recommendations for future evaluation.

The diagram below depicts a conceptual model of potential relationships between district characteristics, food service behavior prior to participating in 10 Cents, and how food service directors used 10 Cents grants.



<sup>1</sup> See Technical Notes for additional details on how this measure was calculated.

## Recommendations for Future Evaluation (cont.)

### Consider other ways to capture the extent to which 10 Cents leverages additional spending on Michigan foods.

Current 10 Cents tracking mechanisms only capture what is spent on local foods within the program. While some grantees report additional purchases, most only reported the purchases needed to demonstrate their required match. In other words, the data is a better reflection of reporting behavior than of purchasing behavior. Initial interview findings indicate that 10 Cents does capture the vast majority of spending on local FVL, but this may not be universally the case or remain true indefinitely.

If understanding whether participation in 10 Cents leverages additional local purchases is a priority for future evaluation, it will be important to incentivize or compensate this additional reporting. Presumably, many districts only reported the minimum required because of the burden involved with identifying eligible products and submitting invoices.

One potential approach could be considering overspending in the program as a factor in the 10 Cents application and selection process for the following program year. Another approach is to work with distributors to add information on FSDs' purchases of Michigan-grown foods directly to the tracking platform used for 10 Cents, rather than expecting FSDs to input all of the required information themselves.

### Continue to track the percent change in grant awards and match spending.

At the midpoint of the school year in 2017-18 and 2018-19, MDE reviewed what FSDs participating in 10 Cents had spent to date and reallocated funds for some of the districts to ensure that all 10 Cents grant awards were fully spent by the end of the year.

MDE decreased the award for some grantees that were not on track to meet the required match and increased the award for some grantees that were on track to exceed the required match. Some districts that were on track to exceed the required match were not able to receive additional program funds because they had already been granted the maximum amount of ten cents per school meal.

Our analysis showed that the percent change in grant award – whether the award was increased or decreased and by how much – appears to relate to the direction of change in FVL types purchased before and during the program.<sup>2</sup> In other words, the FSDs who purchased fewer FVL types through 10 Cents than they reported purchasing in their application were also the FSDs who had the largest average decrease in grant awards.

Continuing to track the percent change in grant awards could show if this relationship continues to hold as well as help reveal if some FSDs struggle to meet the required match and why. At the same time, if future evaluations show that the ability to meet the match requirement increases with experience in the program, as indicated in our findings, this may cease to be a meaningful indicator. If fewer districts struggle to meet the match requirement, there will be less money to reallocate and there will be fewer districts with changes in their grant awards.

### Continue to track the number of fruit, vegetable, and legume types grantees purchase.

Our analyses show that increased experience with 10 Cents specifically and farm to school generally correlate with increased FVL types purchased. However, our findings also show that low numbers of FVL types purchased could be a reflection of sourcing challenges, sophisticated decision making, an effort to maximize multiple funding sources, including federal school food funds, and individual food service priorities.

In other words, it is not yet clear whether the number of FVL types purchased is a reliable indicator of optimal use of the 10 Cents program. For some food service programs, a large number of FVL types may not be an appropriate goal, and FSDs need the flexibility to determine what works best for their programs and students. Additional information from the perspective of FSDs is needed to better understand the extent to which purchasing a variety of FVL types is an appropriate program goal.

<sup>2</sup> For this analysis, see Farm to School Experience Matters: Insights from an Analysis of Food Service Director Behavior.

## Recommendations for Future Evaluation (cont.)

### Add a question on farm to school experience to the 10 Cents application.

We found that food service behavior appears to be related to the number of FVL types purchased in the program. Operation type (self-operated or contract managed food service programs), length of participation in 10 Cents, length of participation in different farm to school programs, and total number of different types of farm to school programs also related to food service behavior.

However, with the exception of operation type, which was related to food service behavior but not to the number of FVL types, we found all of these same relationships between the food service characteristics and FSDs' use of 10 Cents grant awards directly.

In other words, farm to school experience and food service behavior are similarly related to the FVL types purchased in the program. However, farm to school experience is simpler to measure and recall than the aspects of local food purchasing and use that comprise the food service behavior variable.

Therefore, **we recommend adding two questions to the 10 Cents application: one on the school district's experience and another on the FSD's individual experience with farm to school programs.** Both questions are necessary since FSDs' individual leadership and district level factors are both important to the success of local sourcing programs and because FSDs move positions fairly frequently.

Adding these questions to the application would allow for experience to be a factor in selection as well as provide insight into the level of support or technical assistance that grantees may need in the program.

### Do not rely on free and reduced-price meal eligibility or district size to predict utilization of 10 Cents.

We did not see any relationships between either the rate of free and reduced-price meal eligibility or the district size (measured by number of students as well as number of meals served) and any other variables in our dataset.

Because we saw no patterns with district size, which often correlates with community type (e.g., urban vs. rural), we would not expect to see any relationship between community type and 10 Cents program utilization. We did not run this analysis, however.

The one characteristic that may be relevant to how the program is used is operation type – whether a food service program is self-operated or contracted. While we did not see any relationship between operation type and the number of FVL types purchased or changes in grant awards, we did see a relationship between operation type and food service behavior.

### Do not rely on the number of new foods tried or the number of promotional/educational activities to predict utilization of 10 Cents.

While the number of new foods tried and the number of promotional and/or educational activities are helpful to describe the ways in which the program was implemented and supported within a school district, we did not find any relationships between these variables and experience with 10 Cents, experience with farm to school, or operation type. Nor did we find any relationship between these variables and food service behavior or any other elements of how 10 Cents grants are used.

## Recommendations for Future Evaluation (cont.)

## Do not rely on the number of new foods tried or the number of promotional/educational activities to predict utilization of 10 Cents. (cont.)

**We hypothesize that the lack of patterns in the number of new foods tried is partly due to variations in FSDs' enthusiasm for new foods as well as the fact that the possibility of trying new foods will decrease over time.**

The wide variation in promotional/educational activities may reflect differences in reporting behavior – since these figures reflect the number of types of activities each month rather than the number of actual activities each month, some FSDs may have counted individual activities in multiple categories while others may not have reported this way. The variation may also reflect differences in FSDs' awareness of activities happening outside of the cafeteria.

## Continue to explore food service culture.

Although there are many dimensions to food service culture, our evaluation was only able to look at behavior. Based on anecdotal conversations, it appears that a growing number of FSDs in Michigan are increasingly prioritizing local sourcing and food quality.

**Future evaluations could seek to capture these changes in priorities or better understand the ways in which the attitudes, beliefs, and values of FSDs and their staff influence behavior and use of 10 Cents grants.**

## Survey students to learn more about potential health impacts.

One of the legislative aims of 10 Cents is to positively impact students' daily nutrition and eating habits. **Student surveys would provide valuable insights about how Michigan-grown fruits, vegetables, and legumes served in 10 Cents districts are being received by students and help assess potential health impacts** of the program.

Through this project, we developed a scalable electronic survey tool and protocol, though surveys could not be administered due to school closures resulting from the coronavirus pandemic. These tools were adapted from instruments devised and tested by FoodCorps<sup>3</sup> and informed by insights from classroom teachers and participating FSDs through prior 10 Cents evaluation activities.

Additionally, while not an area of focus for 10 Cents as currently funded, student awareness of and connection to the foods they eat and where they come from may help support healthy eating behaviors.

## Continue to examine purchasing data to learn more about 10 Cents suppliers and how products are prepared and served to students.

**Learning more from FSDs about the forms in which 10 Cents products are purchased (e.g., fresh, dried, or frozen) and how they are prepared would increase our understanding of how Michigan-grown foods are incorporated into school meal programs throughout the year.** To this end, FSDs could be asked to provide this information when submitting invoices.

Additionally, **increased knowledge of suppliers may help verify eligible purchases and meet the 10 Cents policy intention to track and report the farm of origin, while also easing some of the reporting burden** for MDE, 10 Cents partners, and participating FSDs.

We built on a draft categorization of suppliers and products as eligible or not for our internal use in this evaluation, but it could become a tool for more timely oversight of tracking purchases and real-time corrections. However, additional staff time would be needed to manage and vet purchasing data on a regular basis.

<sup>3</sup>Paxton, A., Domel Baxter, S., Fleming, P., & Ammerman, A. (2011) Validation of the School Lunch Recall Questionnaire to Capture School Lunch Intake of Third to Fifth Grade Students. *Journal of the American Dietetic Association*, 111, 419-424.

# Technical Notes

The following notes provide additional details on the processes used to collect and analyze the data reported in *What a Dime Can Do: An Evaluation of the 10 Cents a Meal Pilot*. The notes are grouped according to the title of the summaries that they apply to.

## Nearly 200 Farms and Food Businesses Involved in the 10 Cents Supply Chain and 10 Cents on the Menu: Fruits, Vegetables, and Legumes Served Through the Year

The purchasing data methodology overlaps and applies to both summaries about foods used at 10 Cents school districts and farm to food businesses that participated in the 10 Cents supply chain.

School food service directors (FSDs) who participated in the 10 Cents pilot were required to track their eligible Michigan-grown purchases through an online system developed and managed by an external contractor. FSDs provided detailed purchasing information including product type, farm of origin, distributor (if applicable), invoicing date, unit, quantity and price per unit, and total cost.

Submissions were reviewed by MDE. For analysis, data were cleaned, and food products were standardized into product types to allow for comparison of purchases from different vendors across districts. Product varieties were not consistently reported enough to allow tabulation.

New variables were added to the data to allow for further analysis including the following:

- **Product Type:** products were standardized into product types (e.g., Gala apples were categorized as apples)
- **Product Type Category:** products were assigned into the category of either fruits, vegetables, or legumes
- **Supplier Type:** food suppliers were categorized as broadline, processor, food hub, specialty, farmer cooperative, grocery, farm, or ineligible if supplier did not source product from Michigan growers
- **Invoicing Month:** a month was assigned based on the invoicing period. 'Multiple' was assigned for instances when the invoicing period extended beyond one month, and 'unknown' if this information was not available

For this analysis, we developed a vendor guide to categorize suppliers as individual farms, broadline distributors, specialty distributors, processors, food hubs, farmer cooperatives, or grocery stores. To make these determinations, we used internet research, vendor websites, personal knowledge, and a guide developed previously by another 10 Cents partner, Groundwork Center for Resilient Communities.

Reported purchases were excluded if the product types were unallowable, if purchases were from processors or distributors that did not source from Michigan growers, or if the product origin was unknown due to incomplete information. A total of \$7,214 was excluded in 2017-18 and \$16,813 was excluded in 2018-19.

## School Food Service Directors Use 10 Cents Differently: Insights from Interviews

Through a series of interviews, we sought to learn about FSDs with a range of experiences in their use of 10 Cents grant funds and some of the factors that affect their decision-making. Eighteen grantees were invited by email to participate in a short (30-minute) phone interview with one member of the evaluation team from the Michigan State University Center for Regional Food Systems (CRFS).

It was determined that four of the districts in the group of 18 grantees had a different FSD in place by the time the interview requests were made in October 2020. These grantees were excluded from the list since the new FSDs would not necessarily have the historical knowledge necessary to answer the interview questions about SY2018-19. One FSD declined an interview due to being too busy with ongoing adjustments in response to the coronavirus pandemic. Another who had initially responded positively to the invitation later had to decline due to family responsibilities as a result of the pandemic. A number of FSDs did not reply to up to three email invitations, and the evaluation team did not press FSDs to participate given the extraordinary circumstances under which they continued to work at that time.

## Technical Notes (cont.)

Phone interviews were scheduled and conducted in November 2020 with six FSDs. With permission of the FSDs, interviews were audio recorded in Zoom for future reference. A short interview script was used to ask FSDs about factors that affected their decision-making for purchasing local foods, with some customized questions based on whether the FSD over- or under-spent their initial 10 Cents grant award. Interview responses were grouped for reporting purposes.

For participating, interviewees received a customized snapshot summary of their local food purchasing for SY2018-19 that included the total number of Michigan-grown fruit, vegetable and legume types they purchased, a breakdown of those food types and dollar amounts spent by month, and the percent of those purchases by market channel.

### Farm to School Experience Matters: Insights from an Analysis of Food Service Director Behavior

While some of the analyses in this section include the 2017-2018 program year, many of them focus on the 2018-19 program year, which included 56 grantees, the largest number of the three pilot years included in our evaluation. (A total of 57 districts participated in the 2018-2019 pilot, but one was excluded from these analyses because application data was not available.)

#### *Changes in Fruit, Vegetable, and Legume (FVL) Types Purchased*

The calculation of changes in fruit, vegetable, and legume (FVL) types comes from two different sources of data: 1) what food service directors indicated purchasing in their applications to the 10 Cents pilot and 2) what was reported to Farm Logix to document their 10 Cents purchases.

We cannot assume that either of these data sources are perfectly accurate representations of all Michigan-grown FVL purchased. The former is limited by food service directors' memories. It is also potentially overinflated given that food service directors (FSDs) were submitting the applications with the hope of being selected to participate in 10 Cents.

The latter is limited by what food service directors were able to document and report through the pilot program. The comparison is also imperfect because it uses two different types of measures.

Furthermore, we were not able to consistently identify types or varieties of legumes purchased. Therefore, all legume varieties purchased are recorded as a single type in the FVL types measure.

Despite these limitations, the calculation provides an indication of the magnitude and direction of changes in FVL types purchased. The six food service directors interviewed also verified that this calculation was an accurate representation of their behavior.

### Defining Farm to School Experience

To measure experience in farm to school, we calculated two different numbers using internal records at the Center for Regional Food Systems and data from the Michigan Department of Education.

First, to measure the length of participation in farm to school programs, we tallied the number of years between 2011-2012 and 2018-2019 that districts participated in one or more of the following programs: 10 Cents, USDA Unprocessed Fruit and Vegetable Pilot, MI Farm to School Grant Program, and USDA Farm to School Grant program. This measure then ranged from one to eight. Note, however, that the years of participation in one or more farm to school programs were not necessarily consecutive.



# Technical Notes (cont.)

## Defining Farm to School Experience (cont.)

Second, to measure the total number of farm to school programs, we tallied all of the aforementioned programs that districts participated in during this time. In other words, if a food service director participated in two different programs in a single year, those would both be counted in this measure. This measure ranged from one to nine.

We also broke grantees into two categories, based on those that had participated in five or more programs and those that had participated in four or fewer programs.

### *Length of Farm to School Experience and Fruit, Vegetable, and Legume (FVL) Types*

This brief states that as the number of years in which a district participated in one or more farm to school programs increased, the average types of FVL purchased also showed a general upward trend. The data is shown in the table below.

The average number of FVL types increases linearly among the grantees with one to four years of farm to school experience. Although the average number of FVL types purchased by the group of grantees with five years of experience does not follow this pattern, (see chart below) the data overall indicate a general upward trend.

Years of Farm to School Participation	Number of Grantees	Average of Total FVL Types 2018-19
1 year	15	14.9
2 years	19	17.5
3 years	8	19.6
4 years	6	24.3
5 years	9	17.6

## Local Food Purchasing in a Pandemic: A Summary of 2019-2020 Grantee Survey Results

Delays in funding 10 Cents through the legislature for the 2019-2020 grant year pushed grant awards back so that they were reimbursement grants for previous purchases and did not require an application to participate. These delays required adjustments for evaluation surveys, which had been administered monthly in the 10 Cents pilot years (2016-2019).

One survey of 2019-2020 grantees was conducted in October 2020 about the previous school year. A survey tool was developed in Qualtrics with questions that would typically be found on 10 Cents evaluation surveys and in applications, including questions about sources, forms, preparation methods, and equipment used for local foods. The survey also included questions about local food and produce purchasing during the pandemic as well as FSDs' needs related to local food purchasing and farm to school, both in the next year and in future years.

The survey link was shared by MDE with all grantees, and MDE staff followed up with grantees to ensure 100% participation; 41 of 41 grantees submitted a survey although not all responded to each question. We did not report on responses to every question in this summary, and open-ended responses were grouped by topics for reporting.

## Recommendations for Future Evaluation

### *Food Service Behavior Composite Variable*

As a way to measure behavior in food service programs prior to their participation in 10 Cents, we created a new composite variable using data from three questions in the grant application: types of Michigan-grown FVL purchased, types of equipment used to prepare Michigan-grown FVL, and types of source-identified vendors.

## Technical Notes (cont.)

### Recommendations for Future Evaluation

#### *Food Service Behavior Composite Variable (cont.)*

Specifically, we calculated quartiles for both the types of FVL and the types of equipment and scored each district from one to four based on which quartile they fell into. For example, a district would be scored with a four for equipment types if the number of different types of equipment they were using was in the highest 25% compared to all the other districts that year. The number of vendor types was a direct count from zero to four based on food service directors' reports of sourcing from the following channels: farm direct, food hub, farmer cooperative, and farmers' market.

In the 2018-2019 data, we tried calculating food service behavior with quartiles from three additional data points included in the application data from that year: the number of preparation methods, the number of dish types, and the number of marketing types used for Michigan-grown foods. We found no meaningful differences between the two ways of measuring food service behavior and would therefore recommend using the simpler measure.



**Photo Credit: Khalid Ibrahim**  
Courtesy of MSU Center for Regional Food Systems



## WHAT A DIME CAN DO: An Evaluation of the 10 Cents a Meal Pilot

**10 Cents a Meal for School Kids & Farms** (10 Cents), administered by the Michigan Department of Education, matches what participating schools spend on Michigan-grown fruits, vegetables, and legumes with grants of up to 10 cents per meal. What a Dime Can Do is an evaluation report on two years of the pilot program (2017-18 and 2018-19).

To learn more about 10 Cents programming and evaluation, visit [tencentsmichigan.org](http://tencentsmichigan.org) and [canr.msu.edu/10-cents-a-meal](http://canr.msu.edu/10-cents-a-meal).

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