



How much impact can farm-to-school programs have on a regional economy?

Farm-to-school programs consist of sourcing local farm products for school cafeterias. Often, the purchases are combined with learning activities for the students, centered around nutrition and farm education. Programs are cropping up across America as a means to improve both student health and knowledge about food and farming. One oft-quoted reason for supporting farm-to-school programs is the economic impact programs will have on local communities, as dollars previously used to purchase food from outside the local area are directed toward local purchases. Very little research, however, has been done to measure the economic impact of farm-to-school programs on local communities.

Our University of Minnesota project team undertook an economic impact analysis of farm-to-school programs in Central Minnesota in response to a request by a group of regional partners, including Region 5 Regional Development Commission, Initiative Foundation, Renewing the Countryside, and Central Regional Sustainable Development Partnership. The results of our analysis are summarized in this fact sheet. We consider the results of this project to be of most interest to local food advocates, community leaders, and school officials interested in farm-to-school programs.

Key Findings:

- Processing is the most significant barrier for both growers and school districts. Few growers would consider using a processing facility if available or process on-farm themselves. All schools interviewed expressed concerns about the labor costs and time to process raw ingredients.
- There are some farm products which are both easy to incorporate into school menus and available from local farmers: carrots, sweet corn, cabbage, potatoes, apples, wild rice, oatmeal, and beef hot dogs.
- Overall prices for local foods are more expensive than foods schools are currently sourcing. However, some of local foods were quite cost competitive in Central Minnesota, namely apples, cabbage, and oatmeal.
- The potential annual economic impact of farm-to-school programs in the Region 5 counties range from \$23,000 for a monthly special meal to \$427,000 for sourcing a large amount of easily adapted products.
- The greatest potential economic impact or “ripple effect” occurs when schools are able to pay the price they currently pay distributors, rather than paying growers’ preferred prices. This is due to the fact that higher prices for schools means increased public costs, passed on (in one form or another) to taxpayers.



Background and Project Scope:

We collected information directly from farmers and schools to undertake an accurate analysis of economic impacts of farm-to-school programs in the Region Five Development District (Morrison, Todd, Wadena, Cass, and Crow Wing Counties). This information allowed the project team to estimate the potential demand for local food products from farm-to-school programs, and to assess the ability of local farmers to meet that demand. We also investigated the prices schools currently pay for products that could be supplied locally and the prices farmers would require to supply those products.

We collected information from schools and farmers to answer these key questions:

- What products are schools currently purchasing (and at what price)?
- What products are being grown by local producers (and in what quantities)?
- What products have the greatest potential for use in farm-to-school programs?
- What impact will increased sales to school districts have on farm production and marketing decisions?
- What challenges face Farm-to-School programs in Region Five?

In order to estimate the potential demand for all school districts in Region Five, we surveyed three school districts, with varying degrees of farm-to-school interest and experience. These schools represent a cross-section of the region, as they range in size from five hundred students to over three thousand. Although one of the schools is not located directly in Region Five, we included this district in the study because of their wealth of experience in the farm-to-school program.

To learn about grower challenges and pricing, we contacted a group of about thirty farmers who had participated in a survey earlier in the year (administered by the Pine and Lake Country local foods workgroup). The growers we contacted had stated that they were either currently selling to schools directly or through a wholesaler, or were interested in expanding their market to include institutions (schools, hospitals, etc). We got feedback from eleven producers¹.

What we found:

Potential Demand and Farm Products

According to the Minnesota Department of Education, 20,840 students attend schools in Region 5. Based on estimates from previous research² this translates into an estimated 7,400 students eating breakfast and 19,300 eating lunch for a total regional food budget of \$4.2 million. Although a significant amount of spending, it is unrealistic to consider all these dollars as potential market for local growers, especially considering few schools

¹ As our study was conducted during the summer months, it was quite difficult to get in touch with both producers and food service directors.

² The annual budget for the region was estimated using information from a 2006 study on the feasibility of using more local foods in Minnesota's schools (Berkenkamp). The MNSA study had important data on the number of breakfasts and lunches served per day for each of the schools in their study. Using this data, collected from over sixty schools throughout the state, as well as information on the number of students eligible for free and reduced price meals, we were able to estimate the total meals in Region Five.



currently have farm-to-school programs. Instead, based on input from the food service directors we interviewed, we focused on those farm products which have the greatest potential for use in farm-to-school programs. These target farm products include potatoes, carrots, sweet corn, cabbage, apples, oatmeal, wild rice, and beef hot dogs. Sales to local farmers for these farm products ranges from \$20K if schools in the region all featured a special local foods meal once a month to \$250K if schools sourced all these target products from local growers (see *Economic Impact* for details).

Processing barriers

Even focusing on our target farm products, there are still some challenges around processing. Schools can source some products directly from growers with minimal or no processing like apples, wild rice, hot dogs, oatmeal, and carrots. However, some products like sweet corn, potatoes, and cabbage may need basic processing like shredding to be in a form schools can readily use. The cost of processing must be taken up either by the school or the farmer.

Price differences

Prices for most of our target farm products are higher when purchased directly from local producers than from non-local sources, but some products are price competitive and local apples were actually cheaper than those from the distributor:

Table 1: Average food prices for farms and schools interviewed in Region 5

Product	\$/pound (school)	\$/pound (farm)	Product	\$/pound (school)	\$/pound (farm)
Carrots/Whole		\$0.86	Potatoes/Russet	\$0.30	\$0.68
Carrots/Processed	\$1.69		Apples	\$0.70	\$0.69
Carrots/Canned	\$0.60		Cabbage/Whole		\$0.50
Carrots/Frozen	\$0.61		Cabbage/Shredded	\$0.61	
Sweet Corn/Shucked	\$1.20		Beef Hot Dogs	\$2.08	\$3.48
Sweet Corn/Unshucked		\$0.52	Oatmeal	\$0.60	\$0.71
Potatoes/Russet	\$0.30	\$0.68	Wild Rice	\$4.87	\$6.50

Estimates by the University of Minnesota Department of Applied Economics

Economic Impact

The purpose of economic impact analysis is to measure the regional economic consequences of a given project or change in spending. For our project we are measuring the shift in school purchasing from non-local distributors to local producers (the direct effect). For farmers to meet this new demand, they purchase inputs like more seed, lumber, or local labor (indirect effect). Lastly, because of this “new” money in the region, workers have more to spend on a whole range of products and services from groceries to accounting services (induced effect). We conducted an economic impact analysis to estimate all these effects (direct, indirect, and induced) to give us a picture of the total effect of schools purchasing more food locally.

Since farm-to-school programs are at various levels of maturity, we set out three scenarios to model the effect of farm-to-school programs in Region 5. Our scenarios include:

1. Special meal scenario: all schools sourcing local farm products for a special meal once a month
2. Unprocessed scenario: all schools sourcing only those products which can be used in schools without any processing
3. Substitute-all scenario: all schools sourcing all of the target farm products from local farmers.

The substitute-all scenario assumes that farmers process food before delivery to local schools. Also, because there is a difference between farmers’ asking price and schools’ typical purchase price, we have run these scenarios with three different pricing scenarios. The current school price scenario uses the prices schools pay to their current food distributor. The farmer price scenario uses the prices farmers indicated they charge for the target farm products. And an intermediate price scenario uses prices halfway between the farmer and school price.

Table 2 shows the total economic impact (in terms of total sales) for each of the sourcing scenarios by pricing scenario. Overall, the substitute all, farm price scenario has the largest impact on total sales in the region. The special meal, school price scenario has the lowest total impact on sales.

Table 2: Total Economic Impact of Farm-to-School Programs in Region Five			
	Special Meal	Unprocessed	Substitute All
Farm Price	\$22,882	\$257,262	\$427,425
Intermediate Price	\$21,355	\$228,000	\$399,181
School Price	\$19,948	\$198,691	\$322,811
Estimates by the University of Minnesota Extension Center for Community Vitality			

What factors lead to these results and what other conclusions can be drawn from this analysis?

Table 3 can help address those questions. The substitute all, farm price scenario has the highest overall economic impact *primarily* because it has the highest direct effect. This is true because total sales equals price times quantity, and in this scenario both price and quantity are maximized. Note that the substitute all, farm price scenario have a negative induced effect. This is because in order to pay farmers the higher price they currently receive for their product, the schools would have to increase their lunch budget. This could be done either through an increased school lunch subsidy (increased taxes) or through higher lunch ticket prices. Either way, households in Region Five would have lower disposable incomes and therefore spending by households for other items would decline. Due to this, *even though the farm price scenario has the largest total economic impact, it actually has the lowest ripple effects.*

	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Farm Price	\$414,308	\$59,996	-\$46,879	\$427,425
Intermediate Price	\$335,740	\$48,211	\$15,229	\$399,181
School Price	\$257,176	\$36,428	\$29,208	\$322,811

Estimates by the University of Minnesota Extension Center for Community Vitality

Table 4 shows the economic impact of the special meal scenario. The special meal, school price scenario has the lowest total economic impact due to the lower quantities purchased and the lower prices paid. *Within the special meal scenario, however, the school price scenario has the largest ripple effect.*

Table Key

Direct Effect = Total spent to source food in schools

Indirect Effect = Additional production at other businesses due to increase in local farm production

Induced Effect = Additional spending due to workers earning more at benefitting businesses

Things to look for:

- At the farm price we have a negative induced effect because it costs more in taxes to pay for increased cost
- Add up indirect and induced to figure out which scenario gives the region the “best bang for its buck”



	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Farm Price	\$20,381	\$3,693	-\$1,191	\$22,882
Intermediate Price	\$18,085	\$3,167	\$103	\$21,355
School Price	\$15,795	\$2,673	\$1,479	\$19,948
Estimates by the University of Minnesota Extension Center for Community Vitality				

Thus far, we have focused on total economic impact in terms of sales. Our study also looked at the economic impact on employment and labor income. Please see the full report for more details on these economic impacts.

Implications for Communities, Schools, and Growers:

Communities

The analysis indicates that farm-to-school programs can have a modest economic impact in a region. Certainly as farm-to-school programs mature, we can expect the possibility of expanding to other farm products. Communities looking to support their local farm-to-school efforts can support their schools and local farmers by supporting infrastructure initiatives like processing and distribution. However, community members can also assist in connecting local growers to schools, as a strong relationship between farmers and schools is the bedrock for building a sustainable farm-to-school program.

Schools

Schools looking to start a farm-to-school program should build a solid relationship with local growers. Since few growers in Central Minnesota have experience selling wholesale, you can help by setting clear expectations around quality and price of products. Also explain your ability to support sourcing locally, considering your time and finances (although most farmers we surveyed understand the time and cost constraints schools are under). An unsuccessful farm-to-school program benefits nobody, so start small and make it work for yourself and your farm partners.



Growers

There is a real interest among schools to source more products locally and this is a market opportunity for farm products. However, growers must consider the pinch schools are in when they have on average \$1.15-\$1.25 per lunch to purchase food, and limited staff to meet processing demands. As such, growers that can match competitive wholesale prices (see Price differences) and meet product standards will hold a distinct advantage in selling their products wholesale. Growers interested in participating in a farm-to-school project may want to ask their school how products are typically delivered in terms of package size, cleanliness, and invoicing.

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