



DEVELOPING LARGE-SCALE SUSTAINABLE LOCAL EGG MARKETS

The significant price advantage of local pasture-raised eggs over liquid eggs shows that there is great potential in food service applications.

Context

In the summer of 2016, a growers cooperative asked the Michigan State University Center for Regional Food Systems (CRFS) for technical assistance to grow their business. Specifically, the growers wanted to more effectively enter institutional and school markets. They also expressed a need and a desire for credit if this growth could be developed. CRFS deemed the growers' request appropriate to investigate through Michigan Good Food Fund technical assistance.

Further Exploration

Upon further exploration with the growers, CRFS found two key problems:

- 1) The growers' price for pasture-raised eggs was simply too high for many schools and institutions.
- 2) The growers' eggs were not in the correct format (patties and liquid) for large-volume institutional food service.

CRFS also found one significant opportunity: The growers were not selling their medium eggs because their retail markets wanted large, extra-large, and jumbo eggs.

This exploration revealed a key technical assistance question that needed to be answered:

How can we provide the right product at the right price and in the right format to school and institutional food service buyers?

Towards a Solution

Neither investment in a brick-and-mortar cracking facility nor custom cracking were feasible for the growers due to their relatively low volume of eggs. However, CRFS personnel had come across small-scale cracking machines being used at Bronson Healthcare in Battle Creek and Kalamazoo. These crackers were able to convert whole eggs to liquid eggs.

These egg crackers are small, portable, easy to use, and extremely efficient (in terms of labor). When these benefits were coupled with low-cost medium eggs, the growers were able to provide healthy, sustainable, low-cost local eggs to institutions interested in sourcing them. The growers made more money because they were able to sell the medium eggs that typically go to waste. Using egg crackers provided a solution that solved grower needs for new markets and increased income and provided low-cost, low-labor local eggs for price-sensitive food service buyers.



Table 1. Egg Patty Cost Comparison

	CONVENTIONAL EGG PATTIES	LOCAL PASTURE-RAISED EGGS	CONVENTIONAL LIQUID EGGS
Cost	369 patties per case \$33.21/case \$0.09/1.25 oz patty	1 dozen medium eggs; equals 20.5 fl oz \$1.40/dozen \$0.08/1.25 oz patty	20 pound package, in 2 bags; equals 640 fl oz \$60.06/2 boxes \$0.11/1.25 oz patty
Ingredients	Whole eggs (<i>not cage-free</i>), water, dry whole milk, soybean oil, salt, xanthan gum, citric acid, soy lecithin	Whole eggs <i>pasteurized, free-range, no antibiotic, GMO-free grass-fed chicken eggs</i>	Whole eggs, citric acid, water
Nutrition	50 calories 3 g fat, 1 g saturated fat 100 mg cholesterol 120 mg sodium 1 g carbohydrates 3 g protein	55 calories 4 g fat, 1 g saturated fat 133 mg cholesterol 44 mg sodium 0 g carbohydrates 4 g protein*	55 calories 4 g fat, 1 g saturated fat 133 mg cholesterol 44 mg sodium 0 g carbohydrates 4 g protein*
Eggs per patty	N/A	-1	-1
Shelf life	270 days in freezer	3 days after cracking, if kept below 40°F	7-10 days at 40°F or below, no more than 3 days after opening
Total time to prep, cook, and serve	Reheat and serve	~40 minutes <i>crack, pour into pitcher, pour into patty tray, steam 5-8 minutes, serve</i>	~20 minutes <i>pour into pitcher, pour into patty tray, steam 5-8 minutes, serve</i>

* The USDA states that eggs from hens raised on pasture have one third less cholesterol, one fourth less saturated fat, two thirds more vitamin A, two times more omega 3, three times more vitamin E, and seven times more beta carotene.

Local Egg Challenge Study

In November 2016, CRFS and two school districts in western Michigan did a challenge study comparing conventional commodity eggs, local pasture-raised eggs, and conventional liquid eggs for patties to be used in egg sandwiches. The results are shown in Table 1.

Conclusions

Strictly from a price perspective, well-priced medium eggs can work in school food service, as this challenge study shows. The significant price advantage of local pasture-raised eggs over liquid eggs shows that there is great potential in food service applications. In school food service, the price differential may not be enough to justify the increased labor unless we can further reduce the price for medium eggs. This will depend on individual kitchen situations. More kitchen experimentation is needed to find good labor efficiencies.



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