



October 2008

Hoop Houses Help Meet Demand for Locally Grown Food

David S. Conner, Ph.D.
C.S. Mott Group for Sustainable Food Systems
Michigan State University

The growing demand for locally grown foods provides a niche marketing opportunity for farmers, as well as an array of potential benefits to society at large. In states such as New York and Michigan, however, the ability to supply locally grown produce is greatly limited by growing season length. One potential solution is the use of passive solar greenhouses, also known as high tunnels or hoop houses, which can extend the season of almost any vegetable or small fruit crop and permit year round production of certain cold tolerant species. Using hoop houses brings farmers greater opportunity for productive labor and income in cold months, and may keep consumers in the habit of buying local.

With USDA funding, we are testing the potential economic contributions of hoop houses for small and medium sized farms. Each of nine farmers in Michigan is collecting data to create enterprise budgets. Analysis of first year data shows farmers earning up to \$7,900 gross (\$5,400 net) in their first year of production, implying a two year payoff of initial investment. Additionally, we are conducting market research at three farmers markets where these farmers sell their products. The key research questions are: will consumers patronize farmers markets early and late in the season if fresh local produce is available? Will they pay a premium for locally grown produce? What attributes are most important to consumers?

The research was conducted at three Michigan farmers markets using four complementary methods: dot poster surveys (where consumers place sticky dots on flip charts containing questions with simple categorical responses), written surveys, focus groups and experimental auctions. The dot posters asked consumers the earliest and latest months they actually attended the markets, and the earliest and latest months they would attend if fresh local produce was available. Written surveys asked about willingness to pay for local produce and desired attributes. Focus group participants discussed consumers' motivations and behaviors at the markets. Finally, experimental auctions provided another measure of willingness to pay which requires tradeoffs with real money.

The results overwhelmingly show that consumers will attend both late and early season markets. While 23% actually attended markets in January-February, 68% indicated willingness to do so. Similarly, 61% last attended in November or December, but 91% would be willing to do so. Full results are presented in Table 1.

Table 1. First and Last Month of Market Attendance, actual and willingness, measured by dot posters (number of shoppers giving each response)

	January or February	March or April	May or Later
Earliest Actual	95	88	235
Earliest Willing	300	114	28
	July or Aug	September or October	November or December
Latest Actual	17	118	209
Latest Willing	1	37	402

On the written surveys, consumers were presented with the choice of a \$2.00 bag of organic salad greens which were not grown locally, and asked the most they would pay if local. More than 90% would pay some premium: the mean premium was 41%. Furthermore, 52% stated they would pay the stated premium for local on most or all their produce purchases.

Focus group participants expressed great loyalty to these markets, many attending every week and buying most or all their produce, meats and other goods there. The market is the only place where they can buy the quality of foods they desire. One stated only extremely inclement weather (an “ice storm”) would prevent her from coming to shop.

Experimental auction subjects, bidding on bags of local and non-local organic salad greens, paid an average premium of 31% for local. On average, auction subjects would repeatedly pay their bid amount on 64% of produce purchases. Auction participants also filled out an exit survey which repeated questions from the earlier written survey. The participants of the written survey and auctions rated a set of attributes on a 1-10 scale (1 being not important, 10 being most important). For each group, grown in Michigan and with organic methods were the two most important attributes (Table 2).

Table 2. Mean and Median rating of Selected Attributes (10 point scale)

Participant group	Attribute	Grown				
		Grown less than 20 miles away	less than 100 miles away	Grown in Michigan	Knowing the farmer who grew it	Organic methods
Farmers market shoppers	Mean	6.62	6.59	7.88	4.79	7.39
	Median	8	8	10	5	9
Auction participants	Mean	5.11	5.65	6.89	5.22	7.17
	Median	5	7	7	5	8

The results of this research suggest a viable market, with potential for growth, for local, hoop house grown produce at farmers markets; these markets can provide niche marketing opportunities for farmers. Several participating farmers expressed that having fresh produce drew consumers to their stands where they bought other items (e.g., eggs and meat) at that time or continued to buy through the season.

While our results are preliminary and only reflect the views and results of participating farmers and of consumers, we believe that hoop houses can enhance the profitability of farmers.

For more information, see:

<http://www.mottgroup.msu.edu/ProgramsActivities/HoopHousesforSeasonExtension/tabid/133/Default.aspx>

or contact:

David S. Conner, Ph.D.
C.S. Mott Group for Sustainable Food Systems
Department of CARRS
309 Natural Resources Bldg
Michigan State University
East Lansing MI 48823
Phone: 517-353-1914
Email: connerd@msu.edu

<http://www.mottgroup.msu.edu>



This research was supported by the National Research Initiative of the USDA Cooperative State Research, Education and Extension Service, grant number 2006-55618-16922. Professor Michael W. Hamm, Ph.D. is the project co-director.



“Smart Marketing” is a marketing newsletter for extension publication in local newsletters and for placement in local media. It reviews elements critical to successful marketing in the food and agricultural industry.

Please cite or acknowledge when using this material.