

Consumers, Vendors, and the Economic Importance of Iowa Farmers Markets: An Economic Impact Survey Analysis

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Summary

The results of a 2009 survey of Iowa farmers markets are presented and contrasted with results from an earlier survey of farmers markets conducted in 2004.¹ The goal of this study is to recognize the continued success of these popular markets through an assessment of market participation and the resulting overall economic impact. The Iowa Department of Agriculture and Land Stewardship collected demographic and market participation information from more than 4,000 consumers and more than 1,200 vendors during the 2009 market season.

This study identifies the total sales resulting from Iowa's busy 2009 market season through an analysis of the survey data. This study then estimated the economic impact associated with the total statewide sales activities at farmers markets using the IMPLAN Input-Output (I-O) model.

The analysis estimates approximately \$38.4 million in sales based on what the consumer reported, while the vendors reported a more conservative estimate of \$11.2 million in 2009. The 2009 consumer estimate represents 92% growth in the five-year period - an \$18 million increase from the \$20 million estimate in 2004 using a comparable methodology.

Although the consumer estimate may be somewhat liberal due to the nature of consumer reports and market attendance estimates, this estimate (\$38.4 million in sales) was based on a larger sample and is taken as the more accurate estimate of the two. This \$38.4 million in sales was used to assess the overall economic impact of Iowa farmers markets.

Because there is a greater motivation for vendors to underestimate sales information possibly to reduce their sales tax liability, this analysis is based on the consumer estimate.

Applying the I-O model to that number yields an estimated \$59.4 million of gross sales in the Iowa economy as a result of the indirect and induced effects. In addition, \$12.2 million of personal income effects were directly or indirectly related to farmers market activity, according to the I-O model. Based on these estimates, the calculated multipliers were 1.55 and 1.59, respectively. In addition to the 374 direct jobs attributed to farmers markets, over 200 jobs within the economy were indirectly attributed to the activity.

¹ Otto, Daniel and Theresa Varner, "Consumers, Vendors, and the Economic Importance of Iowa Farmers Markets: An Economic Impact Survey Analysis", March 2005. See http://www.iowaagriculture.gov/Horticulture_and_FarmersMarkets/pdfs/FarmMarketReportMarch2005.pdf.

Though findings regarding consumer and vendor characteristics may be no surprise, they do reveal opportunities for increased marketing toward certain participants.

On average, approximately 99,000 consumers and 1,500 vendors gathered for at least one weekly market session. The typical market consumer was 51-65 years of age, buying mostly fruits, vegetables, and baked goods. Evidence suggested that consumers patronizing the largest markets were slightly younger, traveled farther, and spent more.

Markets benefited from much repeat business with the average consumer making approximately 11 market visits per season. The average vendor was also 51-65 years of age and received the most revenue from the sale of produce and baked goods.

Evidence also suggested that market participation might be increased through the targeting of urban consumers and participants approaching retirement age, as well the development of new strategies to attract younger consumers and those who have little experience with farmers markets.

According to the consumer reports, farmers markets in Iowa's five largest urban areas generated approximately 72 percent of all sales. Evidence that Iowa farmers markets are largely an urban phenomenon is further provided by mapping of markets and market participants which indicates that within Iowa, as within other states, these markets are an important place for rural producers and urban consumers to come together to exchange goods and information.

Background

Interest in farmers market activity has continued to increase in the past few years as consumers' apparent desire for fresh, locally-produced food has led them to shop the markets in increasing numbers. Within the state of Iowa alone, the number of farmers markets has increased more than 75 percent over the past 15 years.² With over 200 markets in operation in 2009, Iowa still boasts the greatest number of markets per capita in the nation.³

Various reasons, both social and economic, for increased market participation may exist. For instance, in a 1999 survey of Iowa farmers market vendors, over 85 percent of surveyed vendors assigned much importance to the satisfaction derived from providing quality foods and interacting with consumers and fellow vendors [3]. More than half of surveyed vendors assigned at least some importance to the net profits earned through market participation with

² A 1994 Iowa Farmers Market Directory, compiled by the Iowa Department of Agriculture and Land Stewardship (IDALS), listed 116 operating markets for that year. The current directory lists 203 operating markets for 2009.²

³ This estimate was cited in [2]: Farmers Market Survey Report, July 1996, but may have originated earlier. The methods used to calculate this sales figure are unknown.

almost half indicating that the closure of the surveyed market would mean a significant loss to their businesses. Consumers benefit from interaction with food producers, engaging in an out-of-the ordinary shopping experience [1, 2, 4], as well as enjoying the availability of locally-produced food.

The goal of this study was to assess both market participation and the local economic impact that can be credited to market activity. Some of the many relevant questions that this study addresses include:

- Who is the typical market consumer, and what do consumers buy?
- What characterizes the typical Iowa vendor, and how far and how often do vendors travel to sell goods at these markets?
- What are the overall economic benefits of farmers market activity, and what factors determine market success?
- How have marketing patterns changed since 2004?

The importance of farmers markets as a link between rural, production-centered areas and urban centers has been noted [2]. The evidence from this report suggests that Iowa markets are no exception.

Both market consumers and market vendors were the subject of the statewide survey. The following discussion aims to characterize both consumers and vendors at these markets using the resulting data. Included are estimates of the total statewide farmers markets sales, as well as estimates of the impacts of Iowa farmers market activity on the local economy, based on total market sales estimated from consumer reports.

Few previous estimates of the total dollar sales from Iowa's lively farmers market scene are available. A widely known estimate of Iowa farmers market sales was produced about 15 years ago. At that time, an extension estimate put total statewide sales at \$5 to 5.5 million. Another useful indicator of Iowa farmers market sales is the Census of Agriculture report of direct sales to consumers. The 2002 Census of Agriculture puts this value at approximately \$11.7 million of sales by 2,455 farmers [5]. In the 2007 Census of Agriculture, the numbers increased to \$16.5 million of direct sales by 2,987 famers [6]. Vendors need to be classified as farmers in order to have been included in that survey. However, not all these sales are likely to take place at farmers markets.

In contrast, this study uses a direct survey of actual farmers markets. Estimates of farmers market sales using market participant reports may be problematic. Consumers were asked to estimate the value of their purchases within a general range and may not be reliable, while vendors may underreport sales for strategic reasons.

Because of these acknowledged concerns, collection of sales information from both consumers and vendors, and two separate estimates of Iowa farmers market sales using each of these two data sets, were performed. Discrepancy between the two estimates is not unexpected.

Methods

Consumer Survey

As in 2004, the 2009 statewide survey of Iowa farmers market consumers was conducted by the Iowa Agricultural Statistics Service. A large sample of markets was selected from a list of all operating markets which was provided by the Bureau of Horticulture and Farmers Markets for IDALS. The method of survey was interview by trained enumerator. The interview was based on a set of questions suggested by the author and sponsors.

The total number of customers interviewed at each market was approximately one tenth of the estimated average per session consumer attendance at each market⁴. Interviews were conducted during three points of the 2009 market season: early-season, mid-season, and late-season. For most markets, interviews were conducted during all three seasonal periods with equal representation across all seasonal periods. Because consumers may spend differing amounts of money per seasonal period, this equal representation across seasonal periods helps ensure greater accuracy when dollar purchases are averaged for the entire season.

Vendor Survey

The 2009 statewide survey of Iowa farmers market vendors was also conducted by the Iowa Agricultural Statistics Service. The markets selected for customer interviews were also selected for the vendor survey. The managers of the selected markets were given copies of paper surveys to distribute to the vendors who had been in regular attendance at the market. The survey was based on a set of questions suggested by the author and sponsors. The vendors were asked to return the survey to the manager for submission.

The surveys were distributed once at the end of the 2009 season to allow respondents to accurately estimate income and expense information for the entire season. It was possible for a vendor who attends more than one Iowa market to receive more than one survey; however, it is assumed that vendors took, at most, one opportunity to respond.

Estimation of Total Farmers Markets Sales

One estimate of Iowa farmers markets sales involved the use of consumer survey information, estimates of the average per session consumer attendance at each of the markets, and information on the number of sessions per season for each market. The estimate of total 2009 sales per market for markets where all the information was available was simply a product of

⁴ Estimates of the average per session consumer attendance at each market were provided by the Bureau of Horticulture and Farmers Markets for IDALS. Most of these estimates originated with market managers.

the midpoint of the average range of dollar purchase per session reported by consumers interviewed at that market, the average number of consumers per session, and the number of sessions during 2009.

Two points regarding this estimation should be noted: (1) the range of dollar purchase per consumer per session was averaged across three different points in the season to account for any variation in purchasing, and (2) the use of a single estimate of per session consumer attendance may result in a liberal estimate of overall sales if this estimate does not account for relatively low consumer numbers during early season market sessions.

To estimate consumer purchases for the markets not included in the survey or markets for which average attendance was not available (51 markets, or 25 percent of all markets, were not surveyed), total sales per market for 2009 were estimated by interpolating average per capita sales values from markets in similar-sized communities that had been surveyed. Total Iowa farmers market sales for 2009 are a summation of the market sales estimates from all Iowa farmers markets.

A second method for estimating total farmers market sales involved the use of vendor survey information and estimates of the average vendor attendance per market provided, as well as other market and market locale information. For markets with vendor survey information and an estimate of the average vendor attendance, the estimate of total revenue for 2009 was simply a product of the midpoint of the average range of dollar sales reported by vendors surveyed at that market and the average vendor attendance at that market.

For markets not included in the survey, markets for which there were no responses, or markets for which average vendor attendance was not available, total revenue per market for 2009 was estimated by interpolating average per capita sales values based on market performance in similar sized communities that had been surveyed. Total Iowa farmers market sales are a summation of the sales estimates from each of the individual farmer markets.

Two points regarding this estimation should be noted: (1) vendors may tend to underreport sales for strategic reasons, and (2) although estimation of total statewide sales using vendor reports was accomplished by tying vendor sales to markets (because the use of market locale variables was instrumental in estimating sales), this method was complicated by the finding that half of vendors do not obtain their revenue from one market exclusively.

Findings

Total Sales, Participants, and the 2009 Iowa Farmers Markets

During the 2009 Iowa farmers market season, thousands of consumers visited both new and established outdoor markets which averaged over a dozen vendors. Iowa markets (for which information is available) were open an average of 1.4 days per week for an average of 21

weeks⁵ and featured an average of 17 vendors. Fourteen new markets emerged since 2004, while over half of the established markets had been in business more than ten years. In a typical week during the market season an average of nearly 99,400 Iowans attended at least one weekly session of these numerous markets. Approximately 2.2 million consumer visits occurred at Iowa farmers markets at some point during the season, receiving goods and information from approximately 1,500 vendors.⁶

All this commerce adds up. According to the analysis previously described, a little over \$38.4 million in sales occurred during the 2009 market season as reported by market consumers. A more conservative estimate of \$11.2 million originated from vendor reports for the 2009 market seasons. Based on reported distances travelled, both consumers and vendors appeared to participate in mostly local markets,. Iowa’s urban centers accounted for much of the statewide market activity. Appendix I is a map showing the location of the markets included in the survey along with consumer participants and the vendors by their zip code of residence.

Tables 1a (for 2004) and 1b (for 2009) show estimates of the total and per capita sales for the major Iowa urban areas. For 2009, nearly \$27.7 million, or 72 percent of the \$38.4 million in total sales estimated with consumer reports, was generated by those markets in urban centers. Although dollar value of sales for 2009 in these five urban center markets had increased 92 percent, their relative share of statewide farmers market sales has stayed at about 72 percent. This implies that non-metro farmers markets increased their dollar value of sales as well. Sales at rural farmers markets increased through increasing the number of markets as well as increased sales volumes.

Table 1a: Market Sales per City or Urban Center, 2004

City	Estimated Sales (\$1000's)	Population	Per Capita Sales (\$)
Cedar Rapids	\$480	120,758	\$3.97
Davenport/Bettendorf	\$3,300	129,634	\$25.46
Des Moines Area	\$9,500	274,157	\$34.65
Sioux City	\$340	85,013	\$4.00
Waterloo	\$760	68,747	\$11.06
Total	\$14,380	678,309	\$21.20

Des Moines Area includes West Des Moines and Urbandale

⁵ Information gathered from market directories and estimates compiled by the Bureau of Horticulture and Farmers Markets. Estimates include three markets open six days a week, three markets open year-round, and the Downtown Des Moines Farmers Market, which features approximately 175 vendors.

⁶ Rough approximations based on the estimated per session consumer and vendor attendance at farmers markets, the length of the market season, the finding that half of vendors attended more than three markets, and the finding that consumers visited markets an average of 13 times per season. Number of sessions was obtained from current market directories provided by the Bureau of Horticulture and Farmers Markets for IDALS.

Table 1b: Market Sales per City or Urban Center, 2009

City	Estimated Sales (\$1000's)	Population 2008	Per Capita Sales (\$)
Cedar Rapids	\$4,788	128,056	\$37.39
Davenport/Bettendorf	\$2,394	133,411	\$17.94
Des Moines Area	\$19,178	290,847	\$65.94
Sioux City	\$574	82,807	\$6.93
Waterloo-Cedar Falls	\$736	104,721	\$7.03
Total	\$27,670	739,842	\$37.40

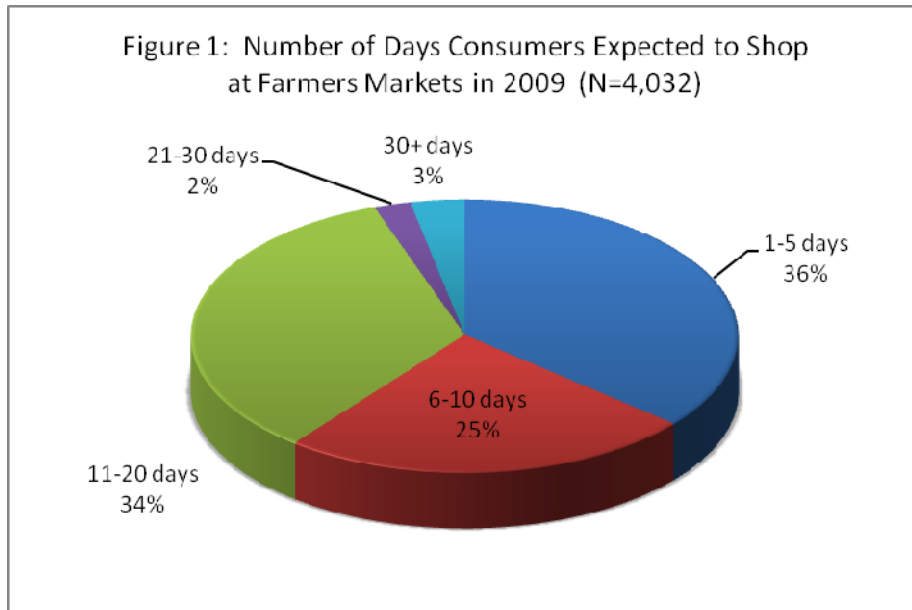
Des Moines Area includes West Des Moines and Urbandale

Consumer Summary

Iowa farmers market consumers were asked for demographic characteristics as well as market participation information. Consumer observations resulting from this survey totaled 4,031 and represented 152 different markets (75 percent of the estimated 203 operating markets). Responses from markets that are held year round and from markets that feature bulk sales were eliminated although these observations were used in determining the above sales estimate. The following is a summary of the survey results based on these categories of products:

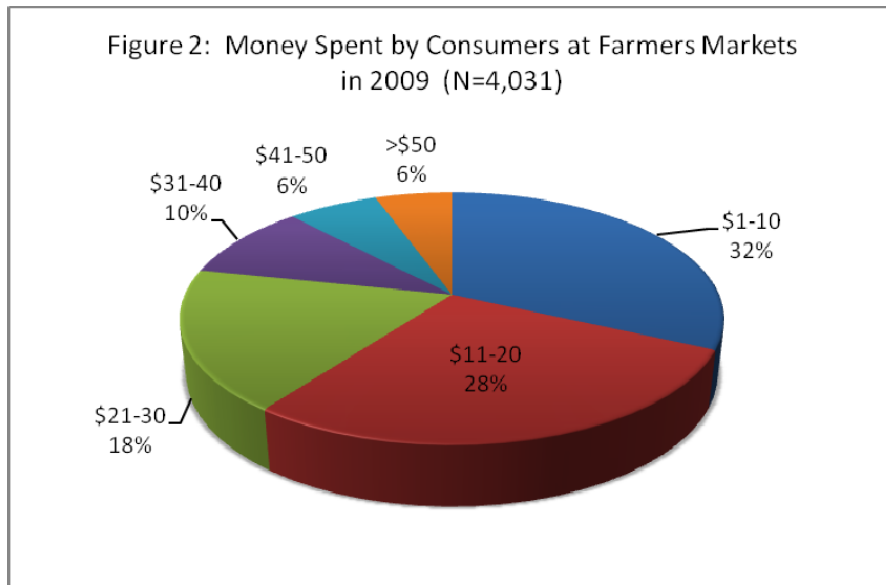
- Fruits/Vegetables
- Meat/Fish/Poultry/Dairy/Eggs
- Crafts
- Flowers
- Baked Goods
- Honey/Jam/Wine/Prepared Foods

Consumers reported they expected to shop at farmers markets on average 11 times per season (Figure 1) and reported traveling an average of eight miles to get to a market. In 2009, consumers reported spending an average of \$17.12 per market visit (Figure 2).



The average age of shoppers is about 53 with the most frequently reported age range of market consumers being 51-65 years (Figure 3).

The average reported number of visits to a market, miles traveled, expenditure per visit, and age range of consumers varied by the size of the farmers market at which interviews were conducted (Table 2).



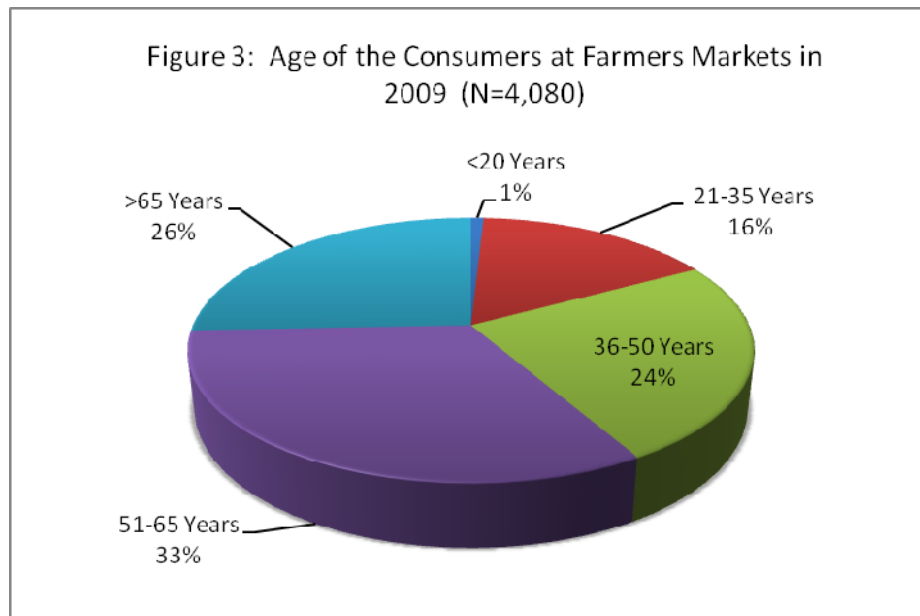
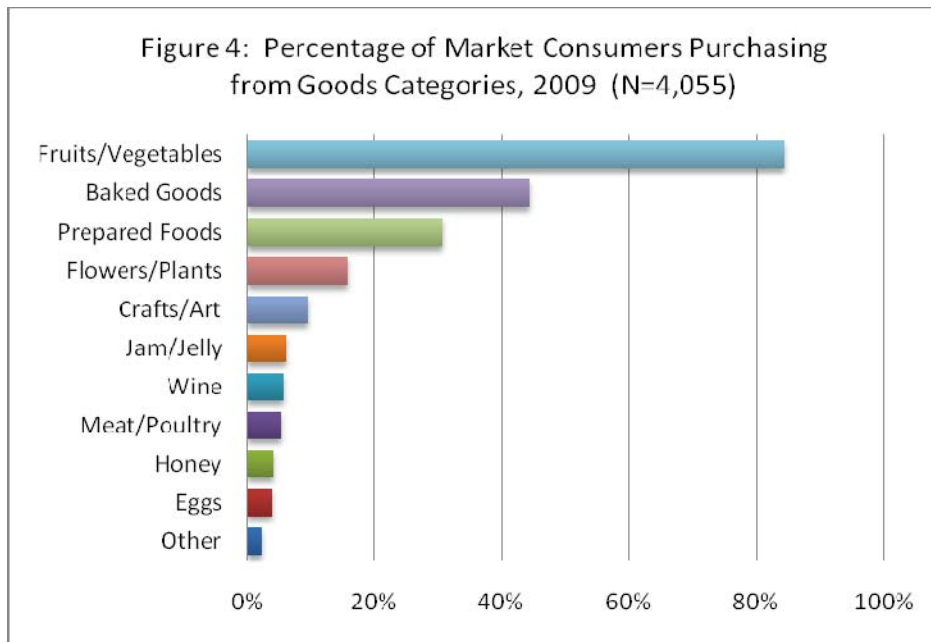


Table 2: Consumer Characteristics by Market Size , 2009

Market Size	N	Visits	N	Miles	N	Expenditure	N	Age
1-9 Vendors	1,404	11	1,387	5	1,357	\$11-\$20	1,395	51-65 Years
10-20 Vendors	379	12	375	7	356	\$21-\$30	377	51-65 Years
21-40 Vendors	633	9	625	8	597	\$21-\$30	633	51-65 Years
>40 Vendors	1,115	7	1,101	16	1,050	\$21-\$30	1,103	36-50 Years

Consumer Purchasing

The most common farmers market purchasing by consumers are fruits and vegetables by 85 percent of attendees followed by purchased baked goods at over 40 percent (Figure 4).



About 30 percent of consumers reported buying only fruits and vegetables in 2009 compared to 37 percent in 2004. Another nine (9) percent also reported buying exclusively from one of the other categories in 2004 compared to about five percent in 2009 (Table 3).

Table 3: Percent of Purchases by Consumers from Single Categories

Groups	2004	2009
Fruits/Vegetables	37	29
Meats/Fish/Poultry/Eggs	<1	1
Crafts	<1	<1
Flowers	1	<1
Baked Goods	5	<1
Honey/Jam/Wine/ Prepared Foods	2	3.5

However, most consumers reported purchasing goods from more than one of the categories during their visit to a farmers market. The mix of purchases by consumers is displayed in Table 4. Nearly 85 percent of the consumers reported purchasing fruits and vegetables. The share of consumers purchasing from the fruits and vegetables and/or baked goods categories increased the share to 92.8 percent. Including purchases from the honey/wine and jam category raises the share of consumers buying from at least one of the categories to 93.6 percent. Expanding the option to at least one of three categories (baked goods and/or the honey/wine and jam, and/or fruits and vegetables) accounted for 98.1% of the purchasers.

Table 4: Consumer Purchasing by Product Categories, 2009

Consumers who bought goods from the following categories*	Number of consumers	Share of consumers surveyed
Consumers who bought from any category	4,092	100.0%
Consumers who bought Fruits/Vegetables	3,456	84.5%
Consumers who either bought Fruits/Vegetables and/or Baked Goods	3,797	92.8%
Consumers who either bought Fruits/Vegetables and/or Honey/Jam/Wine	3,830	93.6%
Consumers who either bought Fruits/Vegetables and/or Honey/Jam/Wine and/or Baked Goods	4,014	98.1%

* irrespective of whether they also bought goods from any other category

Vendor Summary

Vendors were surveyed through questionnaires covering demographic and market participation information. Vendor observations resulting from this survey totaled 1,231 and represented 152 different markets (75 percent of the estimated 203 operating markets). For all markets surveyed, vendor response rate was approximately 58 percent.⁷ For some markets included in the sample, vendor response rate was zero (0). Responses from markets that are held year round or featured bulk sales were eliminated although these observations were used in determining the overall sales estimates. The following is a summary of the survey results.⁸ For the following analysis, market goods were assigned to one of the same five categories that were used for the consumer analysis:

- Fruits/Vegetables
- Meat/Fish/Poultry/Eggs
- Crafts
- Flowers
- Baked Goods
- Honey/Jam/Wine/Salsa/Prepared Foods

⁷ Using estimates of average vendor attendance per market provided by the Bureau of Horticulture and Farmers Markets for IDALS and the finding that half of all vendors attend more than three markets. Estimates of vendor attendance originated with market managers.

⁸ A similar summary of the 2004 vendor survey data was released by the Iowa Agricultural Statistics Service URL: <http://www.nass.usda.gov/ia/misc/2004VendorSummary.pdf> Results are very similar to some of those reported in [3]: The Experiences and Views of Iowa Farmers Market Vendors: Summary of Research Findings

Market vendors reported selling at a market an average of 2 days per week or in the range of 25-49 days during the 2009 season (Table 5).

Table 5: Vendors by Frequency of Vendor Attendance

Attendance	Percentage of Vendors, 2004 (N=754)	Percentage of Vendors, 2009 (N=1,179)
0-24 days/1 day per week	48	52
25-49 days/2 days per week	31	26
50-75 days/3 days per week	10	11
75-100 days/4 days per week	11	5
More than 100 days	0	6

Market vendors indicated they attend two different markets during the season, on average (Figure 5). Vendors reported participating for an average of eight years in farmers markets and most frequently reported an average age range of 51-65 years. Evidence suggested that the average age, years of participation, revenues and expenses varied by the size of market for which the survey was completed (Table 6). The largest markets tended to have younger vendors with higher average levels of sales.

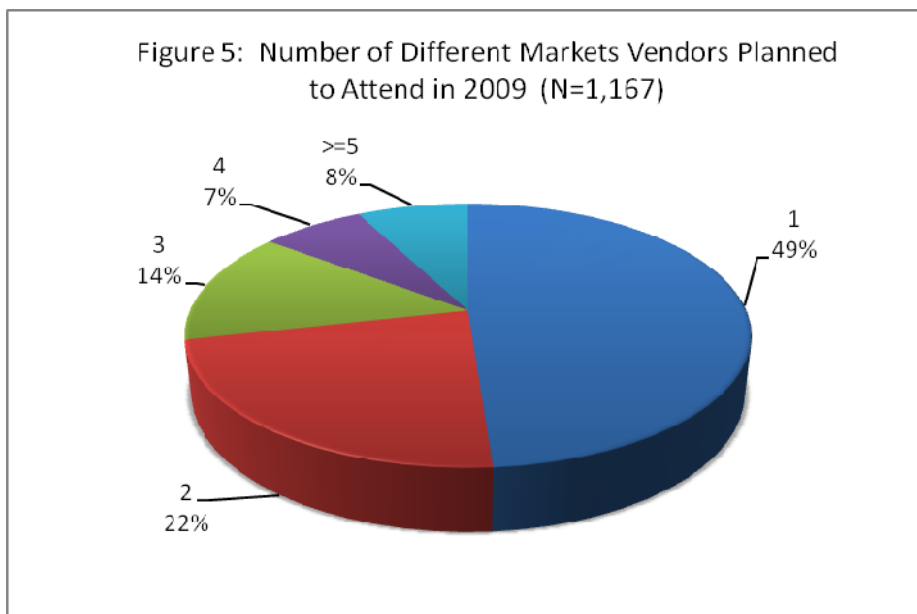


Table 6: Vendor Characteristics by Market Size, 2009

Market Size	N	Age	N	Years	N	Sales/Vendor
1-9 Vendors	614	51-65 Years	601	8	689	\$21,389
10-20 Vendors	318	51-65 Years	314	7	346	\$10,420
21-40 Vendors	138	51-65 Years	133	8	116	\$17,643
>40 Vendors	114	36-50 Years	113	9	115	\$115,395

Goods Sold

A little less than half of vendor revenue came from sales of fruits and vegetables in both 2009 and 2004, with 21 and 22 percent of vendor revenue coming from the sale of baked goods (Table 7).

Table 7: Percent Revenue from Different Goods

Groups	2004 (N=756)	2009 (N=1,139)
Fruits/Vegetables	49	45
Meats/Fish/Poultry/Eggs	3	4
Crafts	7	14
Flowers	4	3
Baked Goods	21	22
Honey/Jam/Wine/ Prepared Foods	15	13

Numbers may not total 100% because of rounding

Most vendors report selling goods from one or two groups (Table 8: Three percent of vendors indicated they sell only from the 'Other' category). Most vendors who sold from only one (1) group sold fruits and vegetables (Table 9).

Table 8: Percent of Sales by Vendors From Multiple Categories

Groups	2004	2009
Fruits/Vegetables	44	67
Meats/Fish/Poultry/Eggs	28	14
Crafts	17	24
Flowers	5	15
Baked Goods	3	41
Honey/Jam/Wine/ Prepared Foods	0	35

Table 9: Percent of Sales by Vendors from Single Categories

Groups	2004	2009
Fruits/Vegetables	23	19
Meats/Fish/Poultry/Eggs	2	1
Crafts	4	11
Flowers	1	0
Baked Goods	10	7
Honey/Jam/Wine/ Prepared Foods	4	6

Economic Impact of Farmers Market Activity

The estimate of total statewide farmers market sales was used to estimate the economic impact resulting from market activity. Details are provided below. Recall that two different estimates of total sales were generated; \$38.4 million in sales were estimated using consumer reports while a much smaller estimate originated with vendor reports.

Although the consumer estimate may be prone to some estimation error due to the nature of consumer reports and market attendance estimates, this estimate (\$38.4 million in sales) is taken as the more accurate of the two and was used to assess the overall economic impact of Iowa farmers markets.

Because there is a greater motivation for vendors to underestimate sales information possibly to reduce their sales tax liability, the sales numbers used in this study was based on the consumer estimates.

The estimation of the total economic impact of Iowa farmers market sales activity generated estimates of three different measures of the Iowa economy:

- the total value of all economic transactions
- the overall level of household income
- the number of jobs impacted in the economy

These estimates were generated using the IMPLAN Input-Output (I-O) model. An I-O model is a matrix of data that represents a point-in-time set of relationships among the economic sectors of an area (in this case Iowa). Sectors along one axis represent industrial inputs or suppliers to the industries on the other axis they represent industrial users or demanders.

Each of the cells of the matrix is mathematically linked to all of the other cells by production functions. Changing the values of goods supplied or demanded by any of the industries causes the model to rebalance the matrix, showing how that initial change affects all of the industries that supply inputs to or demand outputs from the industry altered. (See Appendix II for more discussion of how the I-O model works).

Tables 10a through 10c present the economic effects associated with farmers markets sales. The total sales figure used was the value estimated from the consumer survey results. The initial in-state expenditures of just over \$38.4 million are identified in Table 10a as the total “Direct” economic transactions.

These are the input to the I-O model that then rebalances to estimate the value of linkages to the rest of the Iowa economy. Table 10a shows the “Indirect” and “Induced” effects in terms of the value of economic transactions that result from this rebalancing.

- “Indirect” effects measure the total value of supplies and services supplied to vendors by the chain of businesses which serves market vendors.
- “Induced” effects accrue when market vendors and workers in the indirect industries spend their earnings on goods and services in the region. “Induced” effects are also often called household effects.
- “Total” effects are the sum of direct, indirect, and induced effects. They are the total of transactions attributable to the direct activity that we are measuring.

The sum of these “Direct,” “Indirect,” and “Induced” effects are the “Total” effects linked to the initial \$38.4 million of sales by market vendors.

Overall, an estimated \$59.4 million of gross sales transactions are directly or indirectly related to Iowa farmers market activity, implying an output or gross sales multiplier of 1.55 (\$59.38 million/\$38.4 million). Nearly \$11.5 million of these effects are “Indirect,” meaning that they represent the wholesale or supply transactions that support market vendors.

Table 10a: Output Impact of Iowa Farmers Market Activities, 2009

Sectors	Direct Impact	Business-Related Indirect Impact	Consumer-Related Induced Impact	Total Impact
Agriculture & Mining	\$24,960,000	\$915,629	\$123,876	\$25,999,504
Construction	0	1,060,974	111,077	1,172,052
Manufacturing	0	2,374,500	862,535	3,237,035
Wholesale & Retail Trade	13,440,000	1,080,607	1,819,466	16,340,074
Transportation & Utilities	0	1,702,314	708,567	2,410,881
Finance, Insurance & Real Estate	0	2,164,023	2,450,352	4,614,374
Professional Services	0	1,173,101	1,856,549	3,029,650
Personal Services	0	966,701	1,610,661	2,577,362
Total	\$38,400,000	\$11,437,850	\$9,543,083	\$59,380,932

Approximately \$9.5 million of these effects are “Induced,” meaning that they are the result of personal purchases made by the market vendors and workers (payroll recipients) in the businesses that directly serve vendors.

Tables 10b and 10c show these impacts in terms on income and job effects. Table 10b translates these effects from market purchases into personal or household income. The dollar values in Table 10b are substantially smaller than those in Table 10a, because personal income is only one of the components of any transaction price. Even so, Table 10b shows that the personal income component of the \$38.4 million in “Direct” expenditures is nearly \$11.2 million.

The initial \$11.2 million of direct income generates an additional \$3.7 million of “Indirect” and \$2.95 million in “Induced” personal income. This gives a total personal income component effect of over \$17.8 million in the form of payrolls resulting from market-related expenditures and the back-office transactions that support these expenditures. This implies an income multiplier of 1.59.

Table 10b: Income Impact of Iowa Farmers Market Activities, 2009

Sectors	Direct Impact	Business-Related Indirect Impact	Consumer-Related Induced Impact	Total Impact
Agriculture & Mining	\$6,716,860	\$113,933	\$9,564	\$6,840,356
Construction	0	857,471	33,099	890,570
Manufacturing	0	307,385	138,574	445,959
Wholesale & Retail Trade	4,466,500	449,769	736,628	5,652,896
Transportation & Utilities	0	440,276	165,479	605,755
Finance, Insurance & Real Estate	0	598,556	359,902	958,458
Professional Services	0	517,673	936,900	1,454,573
Personal Services	0	387,924	572,454	960,378
Total	11,183,359	3,672,986	2,952,599	17,808,944

Similarly, Table 10c translates these expenditure and income effects into an estimate of the number of jobs in the Iowa economy that are tied to farmers market activity. An estimated 374.4 jobs are directly related to farmers market activities. An additional 104.8 “Indirect” and nearly 96.9 “Induced” jobs are linked to this activity.

Because vending of goods at farmers markets is a primarily seasonal and often a secondary occupation, the estimate of “Direct” jobs linked with farmers markets – and the associated multiplier effect - should be interpreted cautiously.

Table 10c: Jobs Impact of Iowa Farmers Market Activities, 2009

Sectors	Direct Impact	Business-Related Indirect Impact	Consumer-Related Induced Impact	Total Impact
Agriculture & Mining	228.9	4.7	0.4	234.0
Construction	0.0	32.7	0.8	33.4
Manufacturing	0.0	4.6	2.5	7.1
Wholesale & Retail Trade	145.5	9.1	26.1	180.6
Transportation & Utilities	0.0	8.0	3.1	11.1
Finance, Insurance & Real Estate	0.0	20.0	9.0	29.0
Professional Services	0.0	13.8	22.9	36.8
Personal Services	0.0	12.0	32.2	44.2
Total	374.4	104.8	96.9	576.2

“Direct” jobs refer to employment positions in the economy that are generated directly by the measured activity (see Appendix II). The direct employment due to farmers markets, namely vending, often cannot be characterized as employment directly generated by farmers market activity. Market vendors are more often otherwise employed so market activity is often a residual use of time. Accordingly, the equivalent of 229 full-time “Agriculture” jobs and almost 146 “processing and retail trade” jobs are directly attributed to the combined activity of approximately 1600 seasonal vendors⁹.

Summary and Conclusions

During the summer of 2009, staff from the USDA National Agricultural Statistics Service collected demographic and market participation information from over 4,000 consumers and over 1,200 vendors. This study presents the results of that statewide survey of Iowa farmers markets along with an assessment of the economic impact of statewide market activity.

Using the data collected from the surveys, the author estimated total sales, and the associated economic impact for Iowa’s farmers markets. The reports from consumers indicate that approximately \$38.4 million in sales occurred at those markets. The vendors reported a more conservative estimate of \$11.2 million. Although the former estimate may be somewhat liberal due to the nature of consumer reports and market attendance estimates, this estimate (\$38.4

⁹ Vendors sell unprocessed agricultural goods like vegetables and plants, and retail goods like baked items. The calculated jobs multiplier is approximately 1.54 (576.2/374.4); this effect applies to the combined activity of four to five market vendors.

million in sales) was taken as more accurate and was used to assess the overall economic impact of Iowa farmers markets.

Because there is a greater incentive for market vendors to misrepresent sales information and because the estimation of total statewide sales was relatively more complicated, use of the latter estimate may have resulted in a relatively less accurate assessment of the economic impact.

Applying the relevant multiplier impacts identified with the IMPLAN I-O model, this study estimates \$59.4 million of gross sales (using the total sales estimate from consumer reports) and \$17.8 million of personal income effects directly or indirectly related to farmers market activity. Based on these estimates, the calculated multipliers were 1.55 and 1.59, respectively. The Model also identified over 200 secondary jobs within the economy indirectly attributed to farmers market activity.

Findings regarding consumer and vendor characteristics may be no surprise but may reveal opportunities for increased marketing toward certain participants. The typical market consumer was 51-65 years of age, buying mostly fruits, vegetables, and baked goods. Evidence suggested that consumers patronizing the largest markets were slightly younger, traveled farther, and spent more.

The average vendor was also 51-65 years of age and received the most revenue from produce and baked goods. The relative popularity of city-based markets was apparent. Approximately 72 percent of all sales were generated by five urban market areas. Evidence that Iowa's farmers markets are largely an urban phenomenon is further provided by mapping of markets and market participants.

Those who patronized farmers markets apparently shopped frequently throughout the season (the average consumer visited a market approximately 11 times during the 2009 season). This high level of repeat business may indicate that consumers are satisfied by their shopping experiences and are dedicated farmers market consumers.

This high level of repeat business may also reveal opportunities to increase market participation by developing new strategies to encourage more visits by those who typically shop infrequently and to encourage those unfamiliar with the markets to give them a try. Consumer data suggests that attendance at markets could be increased through efforts to attract younger consumers in addition to targeting urbanites and those approaching retirement age.

Because the typical consumer is a city resident and not necessarily familiar with local agriculture and the types of goods available throughout the season, greater market participation might result from increased marketing (including market and agriculture-related education) in urban areas. Efforts to increase the amount and variety of produce and other goods offered (through the participation of more vendors) would be complementary to increased marketing as well as encouragement of the purchase of a greater variety of goods.

As an established feature of the Iowa spring and summer, farmers markets continue to thrive and offer quality of life opportunities.

Studies like this one which provide improved knowledge of current market participants and their market impact may provide greater appreciation of this valuable seasonal activity and increased future participation.

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Appendix II

Input-Output Model Description

An I-O model is essentially a generalized accounting system of a regional economy that tracks the purchases and sales of commodities between industries, businesses, and final consumers. Successive rounds of transactions stemming from the initial economic stimulus (such as a new plant or community business) are summed to provide an estimate of direct, indirect, induced (or consumer-related) and total effects of the event. The impacts are calculated using the IMPLAN Input Output modeling system, originally developed by the US Forest system and currently maintained by the Minnesota IMPLAN Group. This modeling system is widely used by regional scientists to estimate economic impacts.

I-O models are capable of providing many types of reports on regional data and interactions among sectors. For economic studies, several of the more important indicators are: 1) total output, 2) personal income, 3) value added, and 4) jobs. Total output for most industries is simply gross sales. For public institutions we normally include all public and private spending, all direct sales and subsidies received in order to isolate the economic value of their output. Personal income includes the wages and salaries of employees, along with normal proprietor profits. Value added is another appropriate measure of economic effects. Value added is analogous to gross regional product. It includes all personal income, plus estimates of returns to investors, and indirect business taxes paid to state and local governments. In short, value added gives us a measure of the income or wealth that accrues to individuals and governments as a result of industrial activity in an area. Jobs, the fourth measure, represent the number of positions in the economy, not the number of employed persons.

We also get detailed breakdown of this data into direct, indirect, induced, and total economic effects. Direct effects refer to the operational characteristics of the firm that we are studying. Indirect effects measure the value of supplies and services that are provided to the direct firm (the dairy operation) by industries in the region. Induced effects accrue when workers in the direct and indirect industries spend their earnings on goods and services in the region. Induced effects are also often called household effects. Total effects are the sum of direct, indirect, and induced effects. They are the total of transactions attributable to the direct activity that we are measuring.

The term multiplier is also often used when referring to economic effects or economic impacts. A multiplier is simply the total effects divided by the direct effects. It tells how much the overall economy changes per unit change in the direct effects (a dollar of output, a dollar of personal income, a dollar of value added, or a job). Multipliers help us to anticipate the potential change in the regional economy attributable to a change in direct activity in a particular industry. Firms with strong linkages to area supplying businesses or that pay relatively high earnings may yield high multipliers. Firms that are otherwise not connected strongly locally or that pay lower than average wages will have lower multipliers. Urban areas with their more developed economies have, on the average, much higher multipliers than rural areas.