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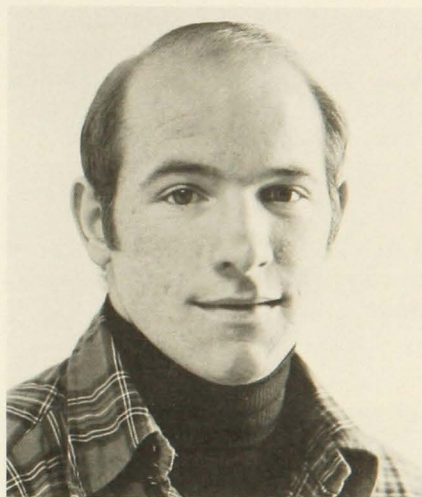
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Consumers Find Alternative Food Sources in Minnesota

Henry Kinnucan and Ben Sexauer*

Major shortages of canning jars and lids for home food preservation and some spot shortages of home gardening supplies are dramatic indications of a ground swell rippling through American food buying patterns. Home gardening and home food preservation have many new enthusiasts. Patrons of farmers markets, roadside stands, pick-your-own establishments, food cooperatives, and other food buying arrangements are growing rapidly. All these alternative food sources, if summed up, still account for only a small proportion of the total food consumed by Americans. However, the remarkable factor is the very rapid growth in just the last half dozen years in use of these sources as alternatives to the normal retail outlets, grocery stores, and supermarkets. These shifts reverse the dominant 20th century trend toward increased centralization of the food supply system and increased food processing and merchandising.

Consumers are turning increasingly to alternative food sources in reaction to high food costs, concern over food's wholesomeness, and changing lifestyles and values. Food prices have increased 50 percent in the last 5 years. Of the consumers interviewed in a recent survey by the Agriculture Council of America, 85 percent were dissatis-



Henry Kinnucan

fied with food costs. In the same survey, 50 percent were unhappy with the quality and nutritional value of food. People view raising their own food and purchasing more directly from the producer as a way of improving food purity, nutritional value, and quality, all factors resulting from consumer consciousness raising in recent years. Then, too, behavior and values have been shifting. Many people now derive considerable satisfaction from time spent more directly in supplying their own food needs. This desire for more active involvement is seen in increased use of home gardens and food co-ops, as well as other alternative food sources. In fact, a mixture of these factors, plus the desire for outside recreation and relaxation, and feelings about ecology and nature have made gardening the most popular outdoor activity in the United States.



Ben Sexauer

A major problem has been the lack of solid data on food sources outside regular commercial channels. For this reason, a telephone survey was conducted among 500 randomly selected households in Minnesota in August 1976 on use of alternative food sources. The survey results, together with information drawn from other sources, form the basis of this issue of the *Minnesota Agricultural Economist*.

Home Gardening

Home gardening has become an increasingly popular activity in the United States. In just 5 years, from 1971 to 1976, the number of households attempting to grow some of its own food increased from 20 to 50 percent. The survey results indicate that 62 percent of all Minnesota households had a vegetable garden in 1976. This makes home food production more popular in Minnesota than the nation.

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Table 1. Vegetable gardening by place of residence

Place of residence*	Percent having gardens	Percent of gardeners:	
		Obtaining More than \$25 worth of food	With gardens larger than 20 by 20 feet
City	45.2	70.2	31.9
Suburb	55.3	73.0	25.4
Town	60.4	70.2	47.6
Farm	84.0	92.1	84.1
Rural nonfarm	74.2	83.7	69.4

*City defined as population greater than 25,000; suburb, a community outlying a city; and town, population less than 25,000 and not a suburb.

In Minnesota, increased interest in gardening has dramatically increased both the supply and demand for community garden sites. These are municipal, county, or university sponsored tracts of land which are divided into garden plots and rented on a seasonal basis (usually \$5 for each 20 by 20 foot plot). The number of these plots coordinated through the Ramsey County Extension Service increased from 893 in 1975 to 3,480 in 1976. According to Joseph Peterson, extension agent, even this fourfold increase lagged behind the demand. All plots available on the university/county-sponsored Gibb's Farm site are rented during the first week applications are open.

Gardening in Minnesota is not restricted to rural areas. Some 45 percent of residents in city households indicated they grew some fruits and vegetables in 1975 (table 1). Many of these people are serious gardeners—70 percent harvested food worth more than \$25. As one would expect, however, people living in rural areas tend to have larger gardens and harvests of greater value. For instance, of those farm people who garden, 84.1 percent have gardens larger than 20 by 20 feet and 92.1 percent harvest more than \$25 worth of food.

Vegetable gardening in Minnesota appears to be slightly more popular among high income than low income households. Survey results indicate that 62.4 percent of the households earning more than \$20,000 had vegetable gardens in 1976 compared to 57.4 percent for those earning less than \$5,000. The income category with the greatest percentage of gardeners (72.2 percent) is the \$15,000 to \$19,999 cate-

gory (table 2). An explanation may be that higher income people are more likely to own homes with large enough yards for a vegetable garden while lower income families often reside in housing such as rented apartments where they do not have access to sizable yards. Indeed, 67.1 percent of survey households who owned their residence had gar-

Table 2. Households, by income groups, having vegetable gardens

Income group	Percent with vegetable gardens
Less than \$5,000	57.4
\$5,000 - \$9,999	57.5
\$10,000 - \$14,999	56.3
\$15,000 - \$19,999	72.2
\$20,000 and over	62.4

Table 3. Households, by household size, with vegetable gardens

Household size	Percent with vegetable gardens
Less than 3	51.2
3 - 5	66.4
6 or more	76.0

Table 4. Households, by age of head, with vegetable gardens

Age of head	Percent with vegetable gardens
Less than 22	25.0
22 - 31	53.3
32 - 41	70.1
42 - 51	62.9
52 and older	61.5

dens, compared to 35.3 percent for those renting.

Larger households tend to take advantage of vegetable gardening benefits to a greater extent than smaller households. Among households consisting of six or more members, 76.0 percent had gardens, compared to 51.2 percent for households with less than three members (table 3). To the extent that large households can make better use of the harvest and have more labor available for garden work, vegetable gardening may make good economic sense.

Viewing vegetable gardening by age of the head of the household reveals that 70.1 percent of the households headed by a person from 32-41 years old had a garden in 1976. This is the highest percentage in any age category (table 4). In light of the correlation between family size and popularity of vegetable gardening, this pattern conforms to expectations. Families with a large number of at-home members are likely to have a head of family in this age range.

Reasons for this recent surge of interest in growing one's own food are gradually appearing. A 1976 U.S. Department of Agriculture (USDA) national survey on home gardening showed "a preference for the taste of fresh fruits and vegetables" (mentioned as a reason by 50 percent of the respondents), "to save money and cut down on the food budget" (mentioned by about 40 percent), and "as a hobby" (mentioned by 33 1/3 percent) were the main reasons given for having a home garden. A 1975 Cornell survey of a five-county area of New York state found slightly different responses. "Economy" was the most frequently given reason for gardening (73 percent) with "hobby" (56 percent) and "quality of produce" (46 percent) secondary reasons. It appears that a substantial number of people feel they save money by gardening. Since recreation and quality produce are given as important reasons for gardening, interest in gardening should continue even as economic conditions improve.

Whether one actually does save money growing food depends on a

number of factors. Money saving is possible if no value is attached to the time one spends working in the garden. A 1975 Cornell study showed that a bushel of green peas can be grown for \$1.17. Purchasing an equivalent amount from a roadside stand would have cost \$6, or \$3 if obtained from a pick-your-own establishment. A Wisconsin extension agent estimated that "profits" from a 30 by 30 foot plot are around \$152 when labor costs and land value are not included. Besides enjoying gardening (so that one is willing to value garden work time at zero) at least two other factors are important if it is to be economical: a bountiful harvest and good use of the produce.

Home Food Preservation

According to USDA-conducted household food consumption surveys, U.S. households preserving food dropped from 44 percent in 1954 to 34 percent in 1964. With renewed interest in home gardening, this downward trend ought to reverse in the 1970's. A national study of Consumer's Food Related Behavior, Attitudes, and Motives, conducted by USDA in 1976, indicated that just under half of the survey households froze some fruits and vegetables in 1975, and around 30 percent canned or preserved fruits or vegetables from the household garden. It was noted that the percentage of households canning could well have been higher if there hadn't been shortages of canning materials. Approximately two-thirds had difficulty obtaining canning items, particularly jar lids. According to U.S. Department of Commerce estimates, demand for home canning materials increased 170 percent between 1973 and 1974. It appears that if supplies had been available, home food preservation would have been greater in 1975 than in 1964.

Home food preservation is obviously important to many Minnesotans when one looks at the dramatic increase in requests for information on canning and preservation techniques. Phone call questions on home food preservation received by the consumer answering service (maintained by the College of Home Economics and the Agricultural Ex-

Table 5. Households, by age of head, preserving food in 1975

Age of head	Percent preserving food
Under 30	51.2
30 - 39	64.1
40 - 49	62.1
50 - 59	65.8
60 and older	60.5

Table 6. Households, by place of residence, preserving food, having vegetable gardens, and raising livestock for home use

Place of residence	Percent pre-serving food	Percent having gardens	Percent raising live-stock for home use
City	36.5	45.2	1.9
Suburb	47.4	55.3	0.9
Town	66.2	60.4	2.2
Farm	88.0	84.0	74.7
Rural non-farm	80.3	74.2	24.2

tension Service at the University of Minnesota) increased from an August 1973 daily average of 61 to 96 in 1975. Printing of Agricultural Extension Folder 100, "Home Canning of Fruits and Vegetables," increased from 7,500 in 1972 to 40,000

in 1975. Some 52,250 Fact Sheets containing information on food preservation techniques were distributed in 1976.

One reason for the increased demand for home food preservation information is that younger people are becoming involved. According to Isabel Wolf, University of Minnesota extension specialist, Food and Nutrition, the age of students attending an evening course on food processing has changed from mostly middle aged to mostly under age 25. Evidence from the Minnesota survey indicates that although the highest incidence of food preservation households is in the 50-59 year-old category (65.8 percent), over half of the households whose head is under 30, preserve food (table 5).

The pattern of popularity for preserving food is similar to that exhibited for home gardening (table 6). The percentage of households preserving food is less than the percentage having vegetable gardens in city and suburban areas, whereas the opposite is true among town, farm, and rural nonfarm households. For example, 66.2 percent of town households preserve food and only 60.4 percent have gardens while 36.5 percent of city households preserve food, but 45.2 percent have gardens.

Much of the recent interest in home food preservation has been attributed to rising food prices. But

Table 7. Comparison of costs of home and commercially canned food* (quart of canned product)

Product	Source of jars	Source of produce	Cost/home canned (using electricity)	Cost/store bought
Peaches	On hand	Gift	20.5¢	94¢-\$1.10
	On hand	Bought	66.8¢	
	Purchased	Gift	44.2¢	
	Purchased	Bought	90.5¢	
Tomatoes	On hand	Gift	4.3¢	64¢-90¢
	On hand	Bought	29.3¢	
	Purchased	Gift	25.9¢	
	Purchased	Bought	50.9¢	
Green beans	On hand	Gift	3.9¢	62¢-78¢
	On hand	Bought	41.4¢	
	Purchased	Gift	25.5¢	
	Purchased	Bought	63.0¢	

*Canned food price range: April 1975 (Ithaca, NY)

the question remains—Are savings realized from home food preservation more assumed than actual? Recent studies provide highly conditional answers. Researchers at Cornell's Division of Nutritional Sciences found that the level of savings realized from home canning depends largely on the source of produce and jars. For instance, for tomatoes (the most popular item to can in Minnesota) a savings of 60-86 cents per quart is possible if both jars and tomatoes did not have to be purchased (table 7).¹

Potential savings drop to between 13 to 39 cents per quart if tomatoes and jars must be bought. Notice, however, that savings from canning green beans vary from 94 cents per quart to a loss of 1 cent per quart, depending on source of jars and beans and local market prices. Thus, savings from canning can vary from a loss to a significant gain, depending on what is being canned, local market prices, and whether the necessary equipment and produce is on hand or must be purchased.

Cost studies on home food preservation generally show freezing food as the least economical means of food preservation. When amortization of the freezer, electricity, water, and packaging costs are considered, freezing food costs an estimated 22.4 cents per pound. Cornell researchers report that storage costs may add up to 20 cents a pound to the food price during a year's time.

Food Co-ops and Buying Groups

Food co-ops and buying groups are mechanisms some people are using in an attempt to gain greater control over food quality and price. Volunteer labor, minimum packaging expenses, and selective purchasing policies allow these organizations to charge a lower price for many products.

Minneapolis-St. Paul is considered by many as the mecca of the co-op movement. From a solitary buying group in 1971, cooperative food marketing had grown by 1976

¹ Labor costs were not included and no premium was attached to the value of home canned food even if it was superior quality.

Table 8. Households, by place of residence, shopping at food co-op or with a buying group

Place of residence	Percent shopping at a food co-op	Percent shopping with a buying group
City	11.5	—
Suburb	1.8	.9
Town	3.6	.7
Farm	5.3	2.7
Rural nonfarm	6.1	—

Table 9. Households, by income group, shopping at a co-op

Income	Percent shopping at a co-op
Less than \$5,000	1.6
\$5,000 - \$9,999	11.5
\$10,000 - \$14,999	9.8
\$15,000 - \$19,999	7.8
\$20,000 and over	3.5

to 20 stores and four buying clubs in the Twin Cities area. Rough estimates gained from interviews at 12 of the 20 co-ops indicate that from \$3.5-\$4.5 million in food—mostly fresh fruits and vegetables and certain processed dairy products—moved through this channel in 1975.

Seven percent of all households in the Minnesota survey indicated they shop at a food co-op or with a buying group. Table 8 shows that city people are the most frequent users (11.5 percent). Farm people also shop at co-ops and are the most frequent participants in buying clubs. However, co-ops the farm people are referring to are more

likely the diversified supplier type stores rather than the volunteer labor food co-ops typical of the Twin Cities area.

An informal survey of shoppers at four "representative" co-ops in the Twin Cities revealed that "to obtain wholesome food" was the most important reason for shopping at a co-op, according to 50 percent of the respondents. Of next importance was "to save money" (21 percent of the respondents said). Other reasons were "to support the co-op movement," "convenience of location," and "feeling of community and friendship."

Most respondents felt they saved from 16-27 percent by shopping at a co-op rather than a grocery store or supermarket. A breakdown of co-op shoppers by income groups indicates that people in the middle income brackets use co-ops more than those in lowest and highest income categories (table 9). Certainly savings realized at food co-ops do not apply to all food categories. On the average, co-op shoppers spend only about one-half of their food budget at a co-op, partly because they cannot obtain certain foods such as meat, but also because "sales" and "loss leaders" offered by commercial chains provide strong price incentives to buy from these sources.

Roadside Stands and Farmers Markets

Roadside stands, farmers markets, and direct purchases from the farm are all receiving increased use from price and quality conscious consumers. Over 47 percent of the surveyed households indicated they obtained food worth more than \$10 in 1976 directly from farmers, while

Table 10. Households, by place of residence, buying food directly from farmers, at roadside stands, or from a farmers market

Place of residence	Direct from farmer	percentage	
		Roadside stand	Farmers market
All residences	47.2	34.8	6.4
City	35.6	33.7	10.6
Suburb	47.4	51.8	6.1
Town	51.1	32.4	3.6
Farm	44.0	22.7	5.3
Rural nonfarm	59.1	25.8	7.6

Table 11. Households, by income, buying food directly from farmers, at roadside stands, or from a farmers market

Income group	Direct	Roadside	Farmers
	from farmer	stand	market
	percentage		
All income groups	47.2	34.8	6.4
Less than \$5,000	32.8	21.3	4.9
\$5,000 - \$9,999	43.7	23.0	9.2
\$10,000 - \$14,999	51.8	34.8	8.0
\$15,000 - \$19,999	60.0	52.2	4.4
\$20,000 and more	56.5	48.2	7.1

34.8 percent purchased food from roadside stands and 6.4 percent from farmers markets (table 10). The patterns of use are not surprising—direct purchases from farmers is most popular among people living in rural areas, suburbanites are the most frequent users of roadside stands, while farmers markets are most popular with city people.

Although it was not possible to discern which type of food is most frequently purchased from each type of market—across all markets—eggs are the most popular item (indicated by 64 percent of the households shopping at these markets), followed by meat (50 percent), vegetables (31 percent), and poultry (23 percent).

Analyzing households by income reveals that a positive correlation may exist between income and the use of roadside stands as a source of food (table 11). Remembering that suburbanites, who tend to have higher incomes, are the most frequent users of roadside stands lends credence to this possibility. Farmers market customers, however, are predominantly middle income. This may indicate that people who shop at farmers markets do so to save money, while noneconomic motivations are more important to those buying food from roadside stands and/or directly from a farmer's residence.

Among the farm households surveyed, 20 percent indicated they sold food directly to consumers. Private sales of beef were the most common form of direct marketing (sold by 56 percent of the farm households selling directly to consumers), followed by private sales of eggs (25 percent), private sales of poultry (19 percent), and finally private sales of dairy products (12 per-

Table 12. Households by place of residence buying food from a U-pick operation

Place of residence	Percent shopping at U-pick
All residences	13.2
City	9.6
Suburb	17.5
Town	14.4
Farm	12.0
Rural nonfarm	9.1

cent). Only one farmer interviewed indicated using a roadside stand and none sold food at the farmers market. Apparently the percentage of farmers using these markets is so small that the probability of their being included in a sample size of 500 is almost nil. Alternatively, people selling food at roadside stands and/or at farmers markets may be middlemen who buy from the farmer and then sell to the consumer.

Pick-Your-Own Operations

Over 13 percent of the Minnesotans surveyed had bought food from a U-Pick operation in 1975 (table 12). U-Picks are most popular among suburban residents (17.5 percent), followed closely by people living in towns (14.4 percent).

Conversations with several U-Pick operators located near the Twin Cities indicated that most of their customers are young. Survey results supported this observation—over 63 percent of the households shopping at U-Picks were younger than age 42. In addition, U-Pick tends to be more popular among higher educated households—12.3 percent of households with a high school diploma vs. 28.8 percent of households with a college degree went to a U-Pick operation in 1975.

Furthermore, proportionately more people from higher rather than lower income groups shop at U-Picks. There also appears to be a positive correlation between household size and popularity of U-Picks as a food source. Thus it appears that obtaining food from a pick-your-own operation is most popular among younger, larger size households which are generally well educated and receive a comfortable income.

It appears that the demand for pick-your-own produce in Minnesota has been enjoying a steady increase. Four of the five growers interviewed in the Twin Cities area have either recently or are currently expanding their U-Pick operations. One of the growers, in business 20 years, estimated an annual 10-15 percent strong increase in numbers of pickers. Another grower indicated that strong demand in recent years for his U-Pick strawberries and raspberries has necessitated a quota and reservation system for customers.

Why do people go to a pick-your-own operation? Economic motivations are certainly secondary if they exist at all. For instance, the typical strawberry U-Pick customer drives 25 miles to spend 1-2 hours picking between 15-20 pounds of berries. However, according to grower Pat Frattalone, people do it "to save money, socialize, and satisfy a desire for fresh fruits and vegetables."

Conclusions

The recent enthusiasm for home gardening and the increased use of other alternative food sources in Minnesota and nationally have important implications for the food industry, small farmers, and agricultural support institutions. Commercial food retailers might want to develop new merchandising strategies in response to changing values and increased cost-consciousness of consumers. Less packaging is just one option. In addition, direct farmer-to-consumer marketing has very strong growth potential especially for small farmers near population centers. Some 89 percent of those interviewed by the Agricultural Council of America felt direct sales would be a good idea. Finally, these shifts offer a challenge and opportunity to agricultural agencies to de-

velop programs to support direct sales, consumer co-ops, and home production. One bill introduced in

the Congress would have required USDA to develop programs to foster direct farmer retailing. Another

bill would direct the Cooperative Extension Service to encourage and support home gardening.

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