

Fresh Mushrooms 2000

Report of a National Telephone Survey on Mushroom Usage and the Marketing Potential of Selenium Enrichment

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The Survey and Its Implications for Action

Any mushroom marketing effort faces the challenge that mushrooms are not a “top-of-the-mind” vegetable for most meal preparers. The findings of this survey are a reminder of the problem the industry has faced in keeping mushrooms in the public eye. Mushrooms were seldom named as a favorite vegetable. Despite this, only 31 percent of the meal preparers surveyed said they never serve mushrooms or could not recall the last time they were served. Other responses indicated that mushrooms are widely liked and prepared in a variety of ways.

Another significant barrier to use which was frequently named in the survey was that someone in the household did not like mushrooms. This barrier to more frequent use was mentioned by 26 percent of the respondents.

Any effort to build a marketing campaign dealing with selenium enrichment of mushrooms faces several additional challenges. One is that many meal preparers are unfamiliar with selenium and its benefits. Only 55 percent of the respondents said they had heard of selenium prior to the survey. A follow-up concern is whether those who have heard of selenium consider it to be of importance nutritionally. The survey results suggest that about 43 percent of those who had heard of selenium prior to the survey consider selenium to be either somewhat important or very important nutritionally. This group which was both aware of selenium and considered it important constitutes about 23 percent of the total sample.

Teaching the broader public about the selenium and its nutritional benefits seems beyond the resources of the mushroom industry. Producing changes in nutritional attitudes and behavior is both complex and difficult. The most promising course of action appears to be focusing on the fairly sizable group who already know about selenium and informing them of the nutritional benefits of mushrooms. This will be challenge enough.

Targeting those who already know about selenium and consider it to be important is a niche marketing approach. Fortunately, the target group has some identifiable characteristics which can make it easier to reach. It is higher in income, has more education, and is somewhat older. It also tends to be nutritionally-involved, with many users of dietary supplements.

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About the Survey

The data for this report were collected in May 2000 by TMR Inc., a professional telephone interviewing firm in Parsippany, New Jersey. The survey interviews were obtained using random-digit dialing techniques to reach households with both listed and unlisted telephone numbers in the contiguous 48 United States. The interviewers screened to obtain the principal household food preparer. A total of 674 usable interviews was obtained. The characteristics of the respondents were as follows:

- 76.9 percent were females
- 52.7 percent had household incomes over \$40,000 a year
- 81.3 percent were white
- 8.8 percent were African-American
- 4.3 percent were Hispanic
- 1.9 percent were Asian

Mushrooms' Popularity

In order to gain the respondents' attention, the initial question of the survey asked them to name their favorite vegetables (multiple responses were accepted). Mushrooms were named by only a few of the respondents:

broccoli	52.5%
green beans	38.3%
corn	33.2%
carrots	29.2%
peas	18.2%
tomatoes	16.3%
potatoes (white)	15.1%
asparagus	15.0%
spinach	10.8%
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mushrooms	2.2%

This weak response may be more an indication that mushrooms are not "top of the mind" than that they are not liked.

Recency of Fresh Mushroom Use

When questioned about the last time they had prepared and served fresh mushrooms one-third of all respondents said they had served them in the past week. Over one-half said they had served them in the past month.

In this question, and several others in the survey, respondents were asked about the time elapsed since they last had engaged in a particular behavior. This question form is considered by survey researchers to reduce some of the biases which can occur when people are asked how often they engage in a particular behavior. Clearly, if it has been six months since someone has prepared fresh mushrooms, we know they are not a frequent user.

The distribution of responses on the last time fresh mushrooms were prepared was as follows:

Last 2 - 3 days	16.3%
Last 4-7 days	16.9%
1 - 7 weeks ago	19.0%
Over 2 months ago	18.4%
Never	29.3%
Don't know	1.9%

Demographic Characteristics and Fresh Mushroom Usage

The demographic characteristics identified for more frequent users conform to those identified in past studies. More frequent users were younger, had more formal education, and had higher household incomes.

Usage in the last 2 - 3 days by age of the respondent (principal food preparer) was as follows:

18 - 35 years	18.6%
36 - 49 years	21.8%
50 - 64 years	11.5%
65+ years	7.3%

Reports of never preparing fresh mushrooms and "don't know" were higher among preparers age 50 and over.

Reports of use in the last 2-3 days were highest among those with education beyond the bachelor's degree (17.4 percent used). Only 20.0 percent of those in this educational category group said they "never" served fresh mushrooms or didn't recall the time of last use. This contrasts with usage for those with a high school education or less. Only 13.5 percent of this group had served fresh mushrooms in the previous 2 - 3 days, and 38.1 percent gave "never" or "don't know" responses.

Usage frequency was highest among higher income households, and at the same time reports of "never" and "don't know" were lowest among these households. The distribution was as follows:

	<u>Last 2-3 days</u>	<u>Last 4-7 days</u>	<u>Last 1-4 weeks</u>	<u>Over 1 month</u>	<u>Never / don't know</u>	<u>Total</u>
Under \$25,000	11.5%	12.5%	14.6%	20.8%	40.6%	100%
\$25 - \$40,000	14.5	13.8	19.3	17.9	34.5	100%
\$40 - \$60,000	13.7	14.4	20.1	23.7	28.1	100%
\$60 - \$80,000	22.7	20.5	15.9	17.1	23.9	100%
Over \$80,000	21.6	24.5	22.6	13.7	17.7	100%
Refused / DK	16.4	18.3	20.2	15.4	29.8	100%

There also were differences in recency of use by region. Those in the West were most likely to have served fresh mushrooms in the past 2-3 days (19.5 percent in the past 2-3 days, and 36.4 percent in the past week). However, those in the North Central, North East, and West were about equally likely (36 percent) to have served them in the past week. Those in the South were least likely (27 percent) to have served them in the past week. The South had the highest percent reporting they never served fresh mushrooms or did not know the last time they served them (40.2 percent). This contrasts with the West with only 19.5 percent reporting “never/don’t knows.”

Important differences by race also should be noted. Blacks were most likely (50.9 percent) to report “never/don’t to know” about using fresh mushrooms in contrast to only 27.7 percent of whites. Among whites, 33.7 percent reported use in the last week, while only 16.9 percent of Blacks reported using fresh mushrooms in the past week. Usage was fairly frequent among the small number of Hispanic households (n=29), with 34.5 percent reporting use in the past week. It was quite frequent (61.5 % in the past week) among the quite small number of Asian households (n=13) included in the sample.

Although differences in usage by sex of the respondent (principal food preparer) might have been expected, the differences which occurred were not statistically significant.

Menu Usage of Fresh Mushrooms

Respondents who used fresh mushrooms (n=476) were asked to indicate whether they used fresh mushrooms in a list of different dishes. (Respondents who said they “never” served fresh mushrooms or gave “don’t know” responses were not asked this question).

Pasta dishes and casseroles were the most frequent uses of fresh mushrooms indicated. Some 74.4 percent indicated this use. Usage was more frequent among households with incomes over \$60,000 per year, with 83 percent using fresh mushrooms this way.

Salads were the second most frequently mentioned use, with 68.9 percent indicating this use. Usage was notably more frequent at higher income levels, with 82.1 percent of households with incomes of \$80,000 and over indicating this use. This usage was higher at higher educational levels, with 78.3 percent of those with postgraduate education indicating this use.

Beef dishes were another frequent use of fresh mushrooms. Some 64.1 percent of the

respondents indicated this use. Households with children 12-17 mentioned this use more frequently (72.2 percent) than did others.

Chicken dishes also were mentioned frequently, with 63.5 percent indicating this use. This usage differed regionally. It was most frequent in the Northeast region (71.4 percent) and least frequent in the North Central region (52.6 percent).

Homemade pizza was a somewhat less common use, with 49.2 percent reporting this use. This use appears related to the presence of children. It was more common in households with children 12-17 present (58.8 percent using). This use also differed by age of the respondent:

18-35 years	50.6%
35-49 years	60.9%
50-64 years	43.2%
65 and over	26.8%

Other uses were reported as open-end responses by 48.3 percent of the fresh mushroom users questioned. The most frequently mentioned uses were as separate items: sauteed, appetizers. Usage in these ways differed among the income categories, and was most common in the top income category \$80,000 and over. For this category, 56.0 percent reported uses of this type. Reports of other use also differed by race/ethnicity:

white	49.8%
African-American	27.6%
Hispanic	52.4%
Asian	41.7%

Those who reported having used a nutrition label in the past week reported these uses more frequently than those who did not. Of the recent label users, 51.5 percent reported other uses of fresh mushrooms

Appealing Characteristics of Fresh Mushrooms

The respondents were asked to name the things they like about fresh mushrooms. More than one response was accepted. The responses were as follows:

taste/flavor	81.3%
texture	12.6%
add variety/are different	9.0%
easy to prepare	8.2%
special/ a treat	3.2%
color	1.7%
variety of other answers	27.5%

Barriers to Mushroom Use

When those interviewed were asked why they don't serve fresh mushrooms more often, the barrier indicated most frequently was household members' preferences. The responses were as follows (more than one response was accepted):

household member does not like mushrooms	26.4%
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cost, or expense	10.1%
forget about using them	9.3%
spoil too quickly at home	8.3%
too much work	6.1%
not readily available	5.5%
poor quality in stores	4.6%

The response that someone in the household does not like mushrooms is of particular interest for marketing purposes. Analyses were done to learn whether these households had any identifiable characteristics. African-American households tended to report this barrier more frequently than others, with 37 percent naming this as a barrier to more frequent use. This response was more frequent from female respondents (29.7 percent) than from male respondents (15.4). This response was not related, however, either to the presence of children (11 and under), or youth (12 to 17) in the household. The “dislike” response was related to usage frequency. Among those who said they never serve mushrooms, or don’t remember the last time they were served, 57 percent said that a household member disliked mushrooms.

The response that the meal preparer forgot about using mushrooms also is of interest for marketing and promotional purposes. Males were somewhat more likely to report this barrier to more frequent use (12.8 percent), than were females (8.3 percent). The mention of this barrier was not related to other demographic characteristics, or to recency of mushroom usage.

Mushrooms as a Nutritional Source

Mushrooms were viewed as offering at least some nutritional benefit by about half of the respondents (10.2 percent said they can make a big contribution to a healthy diet, 38.6 percent said they can make some contribution). Of the rest of the respondents 16.0 percent said they can make a small contribution, while 14.4 percent they make little or no contribution. The remaining 20.8 percent did not know how to evaluate them.

More frequent users of fresh mushrooms rated the nutritional contribution of mushrooms more favorably than did non-users. Of those who had used fresh mushrooms in the previous 2 -3 days, 76.8 percent said they can make some or a big contribution to a healthy diet. In contrast, among those who gave “never / don’t know” responses on recency of use, 59.2 percent said fresh mushrooms make no contribution to a healthy diet or little contribution.

There were few demographic differences in beliefs about the nutritional contribution of mushrooms. Those in the North East and West ascribed less benefit to them than did respondents in the South and North Central regions.

The respondents did indicate they would be responsive to information that mushrooms “had important nutritional benefits.” Overall, 61.4 percent said they would serve mushrooms more often if they had such information. Those who did not respond favorably may be restrained

by family preferences or other considerations. Younger respondents seem more potentially responsive to information, while those 65 and over were less responsive (set in their ways?).

Concern with Dietary Improvement

If mushrooms are to be positioned as having significant nutritional benefits, it is important to assess the size of the market with dietary concerns and nutritional interests. Several questions suggest that there is widespread interest in dietary improvements. The responses indicate that use of dietary supplements is very common. Substantial percentages of the respondents said that one or more household members were using dietary supplements. Many of these supplements are based on plant sources.

vitamin and mineral supplements	83.1%
other dietary supplements (not including vitamins and minerals)	34.3%
garlic pills and tablets	18.5%
other herbal supplements (e.g., ginseng, ginkgo biloba)	28.5%

The respondents' nutritional ideas clearly are in flux, with changing ideas about what constitutes a healthy diet. When asked how much their ideas had changed in the past 2 - 3 years, 38.4 percent said their ideas had changed a lot, and an additional 30.9 percent said that there had been some change in their ideas.

The respondents appear to be active in the use of nutritional information. 75.2 percent said they had checked a nutritional label within the past week. [Note that this question asked about the recency of usage behavior to deal with the positive bias which results because label use generally is seen as a desirable thing to do].

The Appeal of the Term "Mineral Rich"

The responses indicate that the fortification of orange juice with calcium has gotten wide acceptance. A total of 59.8 percent said that they used orange or other fruit juices with calcium added. The idea of increasing the vitamin and mineral content of other foods got a generally favorable reaction, with 70 percent saying this was a good or very good idea. Negative responses were infrequent (only 13.2 percent said this was a bad idea or a very bad idea).

The respondents were asked to indicate what they thought would be meant if a vegetable was termed "mineral rich." The responses were about equally divided among three interpretations:

the vegetable contains important minerals	35.6%
the vegetable contains several different kinds of minerals	30.9%
the vegetable contains large amounts of minerals	27.9%

When asked if they would be more likely to buy a vegetable which was termed “mineral rich,” 29 percent said they would be much more likely to buy, while 49 percent said they would be somewhat more likely to buy. Only 6.9 percent said they would be less likely to buy (4.7% said a little less likely, 2.2 percent said a lot less likely).

The Importance of Certain Vitamins and Minerals

The respondents were asked to rate the importance of nine different vitamins and minerals on a 1 to 10 scale (1=not important at all, 10=very important). Don’t know responses also were accepted. Don’t know responses are of particular interest because of the insights they provide into public familiarity with each of the nutrient items. Vitamins C and E clearly were familiar to almost all, and also received high importance ratings. Potassium also was quite familiar, and also received high importance ratings. In contrast, selenium, chromium and pantothenic acid had many “don’t know” responses, and a relatively small proportion of high importance ratings.

Recency of use of fresh mushrooms was not found to be related to the importance ratings in any ways which suggest marketing possibilities.

The rating responses are summarized in the following table. The dietary constituents are listed in the order of questioning in the survey.

	Importance Ratings*					Total	
	Don't know	1-2	3-5	6-8	9-10		
Chromium	37.4	18.7	20.0	13.4	10.5	100%	
Potassium	4.8	3.7	12.8	36.8	42.0	100%	
Selenium	37.7	14.2	19.1	18.6	10.4	100%	
Vitamin C	2.1	1.5	3.9	24.0	69.6	100%	
Vitamin E	2.4	2.4	7.6	29.2	58.5	100%	
Niacin		17.2	7.1	17.5	34.9	23.3	100%
Riboflavin	23.7	9.8	20.0	27.7	18.7	100%	
Folic Acid	12.3	7.3	15.1	29.3	36.1	100%	
Pantothenic Acid	45.9	14.4	17.1	14.2	8.5	100%	

* Importance ratings: 1= not important at all, 10= very important

Who Rated These Micronutrients as Important?

Chromium was rated as more important by those who had household members using vitamin and mineral supplements, other diet supplements, garlic pills and herbal supplements.

Potassium was rated as very important (9 or 10), increasingly by age. Of those 65 and

over, 51.4 percent rated it as very important. It was rated as very important more frequently by African-Americans (64.4 percent), and by Hispanics (58.6 percent), than by whites (39.1 percent). It also was rated as very important by those with lower household incomes than by those with incomes over \$40,000 a year. It was rated as very important more often by females than by males.

Selenium was rated as very important (9-10) by those 35 and over more often than by those in the youngest age category. Respondents with household members using dietary supplements other than vitamins and minerals, and using garlic pills, and herbal supplements rated it as more important.

Vitamin C was rated as very important (9-10) more frequently by African-Americans (84.8 percent) and Hispanics (86.2 percent) than by whites (65.7 percent). It also was rated more important by those who had used nutritional labels in the past week, than less recent users. Those from households with vitamin and mineral supplement users, other supplement users, garlic pill users, and herbal supplement users also tended to give it higher importance ratings.

Vitamin E was rated as very important (9-10) more frequently by those age 50 and over. African-Americans tended to rate it as very important (79.7 percent) more frequently than did others. Those with household members using vitamin and mineral supplements, garlic pills, and herbal supplements also tended to rate it as more important.

Niacin was rated as very important (9-10) more frequently by those age 35 and over, and by those with more than four years of college education. It was rated as very important by 28.8 percent of African-Americans, by 24.1 percent of Hispanics, and by 22.6 percent of whites. Respondents who had used nutritional labels in the past week also gave it higher ratings. Those with household members using garlic pills gave it higher importance ratings.

Riboflavin was rated as more important by those with higher household incomes, and those with 4 years of college or more. It also was rated higher by those who used diet supplements, garlic pills, and herbal supplements.

Folic Acid was rated as more important by those with four years of college or more, and by women. It also was rated as more important by recent nutrition label users. Those with household members using vitamin and mineral supplements, garlic pills, and herbal supplements also rated it as more important.

Pantothenic Acid was rated as very important (9-10) more frequently by those with more formal education. It also was rated as very important more frequently by those with household members who used vitamin and mineral supplements, other dietary supplements, garlic pills, and herbal supplements.

Awareness of Selenium

The majority of the respondents (55 percent) indicated that they had heard of selenium prior to the survey. Awareness of selenium was greater among those 35 and over:

35-49 years	59.3%
50-64 years	64.8%
65 and over	65.1%

Awareness increased with educational level and income. Women were not, however, significantly more aware of selenium, as might be expected.

Respondents who reported household use of vitamin and mineral supplements, other dietary supplements, garlic pills, and herbal supplements were more aware of Selenium.

The Appeal of Selenium

Of the respondents who had heard of selenium prior to the survey, 69.9 percent (or 239 of the respondents) also indicated that they had heard of its nutritional benefits. Awareness of the nutritional benefits was higher at higher income levels. Among respondents who had heard of selenium prior to this survey, 77.4 percent of those with household incomes of \$80,000 or more also had heard of its nutritional benefits.

Awareness also was higher among those in households with dietary supplement users. In these households, awareness of the nutritional benefits was as follows:

users of dietary supplements (other than	
vitamins and minerals	75.7%
garlic pills and tablets	88.5%
herbal supplements	77.4%

Targeting Selenium-Focused Mushroom Promotion

A major goal of the survey was to assess the feasibility of promoting mushrooms on the basis of their selenium content. The success of such a promotion depends, of course, on public awareness of selenium and assessment of its importance. Changing the public's nutrition attitudes and behavior concerning a nutrient is both complex and difficult. Large-scale changes in attitudes toward selenium are beyond the resources of the mushroom industry. For this reason, the best strategy for the industry seems to be to take current public attitudes about selenium as given, and build upon what already exists. Building a connection between selenium and mushrooms will be challenging enough.

We noted above that 55 percent of the respondents said they had heard of selenium prior to the survey. In targeting this group, a key concern is the proportion which considers selenium important. Of those who had heard of selenium previously (370 of the 674 respondents), 25.7 percent indicated that they considered selenium as somewhat important (importance ratings of 6-8). Another 17.3 percent of those who had heard of selenium previously rated selenium as very important (ratings of 9-10).

These respondents represent 23.6 percent of the sample. Those who were aware of selenium and rated it as somewhat important were 14.1 percent of the sample, and those who were aware and rated it as very important were 9.5 percent of the sample. This is a fairly sizable group. But, does the group have characteristics which will make it identifiable and reachable? The answer seems to be yes.

The target group is more common at higher income levels:

\$60-80,000	27.3% were in target group
\$80,000 and over	34.3% were in target group

The target group was more common at higher educational levels:

College graduate	33.0% were in target group
Post-graduate work	27.8% were in target group

The target group was somewhat older:

35-49 years	30.6% were in target group
50-64 years	27.3% were in target group
65 and over	25.7% were in target group

The percent in the target group did not differ significantly by sex, race/ethnicity, or region.

Those in the target group were nutritionally involved. Awareness of selenium and higher ratings of its importance were more common for respondents who indicated household members were using various dietary supplements:

Vitamin and mineral supplement users in the household:
25.9% were in the target group

Users of dietary supplement other than vitamins and minerals in household:
33.8% were in the target group

Users of garlic pills or tablets in the household:
45.6% were in the target group

Users of herbal supplements in the household:
35.8% were in the target group

Awareness of selenium and higher importance ratings was not found to be related to recency of mushroom use. Recent users of mushrooms were not more likely to have heard of selenium and to rate it as important than were less recent users. Thus, the industry does not have a headstart with those who already are frequent users.