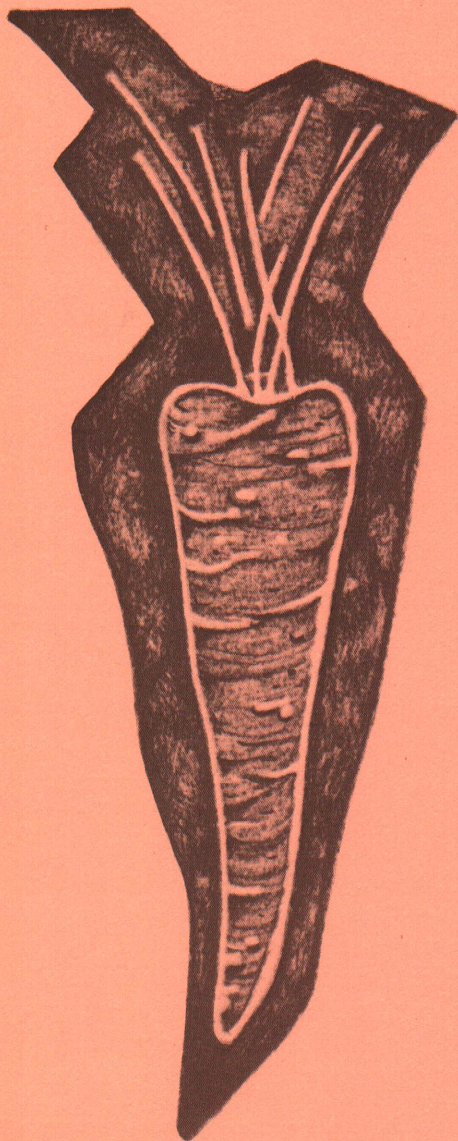


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**Consumer  
Preferences  
and Opinions  
on  
Carrots**



# Consumer Preferences and Opinions on Carrots

By: Mrs. Sheila Morley, District Extension Consumer  
Marketing Information Agent, Saginaw  
and Mrs. Maryann Beckman, District Extension Consumer  
Marketing Information Agent, Kalamazoo

In early August 1971, the National Carrot Conference requested information on consumer preferences and patterns regarding carrots, to present at their annual meeting Sept. 28, 1971 in East Lansing, Mich.

Because such current information was not readily available, a four-page carrot opinionaire, consisting of 12 questions, was developed and sent to 700 Michigan consumers on Aug. 23, 1971. These consumers, who had previously participated in Michigan State University's Consumer Marketing Program state-wide Consumer Preference Panels, represented both urban and rural households within the Saginaw and Kalamazoo areas.

The master group of panelists, from which the 700 were selected, is not a demographically representative sample of the Michigan population. Those who participate in the MSU panels have somewhat higher levels of education, larger families and slightly higher incomes than the state averages. More fall within the 30 to 60 age range than the state as a whole, but while this group is under represented in the "under 30" and "over 60" age ranges, it is more heavily weighted with homemakers in the major buying age group of 30 to 44.

Nine of the 12 questions were designed to gain information from consumers about frequency, form and volume of purchases, length of home storage, how and how often carrots are served and key characteristics that influence the decision to buy carrots. In the other three questions, consumers were given a chance to express their general attitudes and preferences about carrots, as well as to air their gripes and complaints and to offer suggestions for improvements of carrots and carrot packages.

About five hundred (495) surveys were returned by the September 1, 1971 deadline, representing an unusually high 71 percent response. More surveys came in too late to be used. The authors believe these usually high returns are due, in part, to the fact that this group of consumers recognizes the MSU Consumer Marketing programs as a source of unbiased, educational food marketing information and is willing to cooperate in any and all activities related to the programs. Consumers in this group are taking more interest in food buying, industry practices, value received and levels of quality than in recent years and are more willing to "speak their minds" and make suggestions for changes they'd like to see in the industry. They do have opinions and like to be asked to express them. And they like to express their opinions on a collective rather than face to face confrontation basis, as they can do in such opinionaires.

## Findings

### FREQUENCY OF PURCHASE

"How often do you buy carrots in any form (canned, fresh, frozen or dried?)" was the first question. When asked to check one answer only, 60 percent indicated they were frequent purchasers--i.e., at least twice a month. Nineteen percent said they purchased carrots once a week or more often, while 41 percent said they purchased twice a month. One-fourth of the respondents purchased carrots once a month and 14 percent indicated purchases three to four times a year. Only one percent said they rarely or never purchased carrots. Many of those who seldom or rarely bought carrots indicated that they raised their own.

### FORM PURCHASED

Respondents were asked to check all that apply and then estimate the proportion of each in answering the question . . . "Of the four forms available, which have you bought within the last year?" The fresh form was the most frequently purchased, by 94 percent of the respondents. Canned and frozen carrots were purchased by 26 and 24 percent respectively. No one purchased dried carrots.

### HOW LIKED

Carrots appear to be well liked, by 87 percent of the respondents. Respondents were asked to check one answer only (on the seven-point scale), to the question . . . "How do you and your family like carrots?" "Very much" was the answer of 41 percent while 46 percent answered "Moderately well". "Slightly" and "Neutral" were answered by seven percent and three percent respectively. Two percent disliked carrots, "Slightly," "Moderately," and "Very much". Those that disliked carrots very much were all reported to be children.

### PACKAGE SIZE PURCHASED

When asked "What size package of fresh carrots do you usually buy?", 58 percent indicated the one-pound bag. Two pounds were purchased by 38 percent. The remaining four percent were divided as follows: three percent for "other--specify" and one percent "never buy". Those who checked "never buy" stated that they grow their own or get them from a friend's garden. "Other--specify" included responses such as "whatever is available" . . . "whichever is the best value that day" . . . "buy in bulk" and "by the bushel".

### LENGTH OF TIME KEPT

Even though carrots were purchased fairly frequently, we wanted to know more about usage so asked the question . . . "About how long do you keep a package of carrots in the refrigerator before you use them all up or they're past their prime and need to be thrown out?" Though consumers were asked to check only one answer, some checked more. Twenty-five percent listed "one week", while 45 percent listed "two weeks". Twenty-six percent keep them one month, and four percent keep them three months. One percent even listed the "longer" category.

### CHARACTERISTICS IN BUYING

Question six "What characteristics do you look for in buying fresh carrots?"--was designed specifically as an open-ended question to get consumers to comment in their "very own words". As a result, comments ranged from "soup to nuts" but fell generally into eight categories. Most gave more than one

answer. With this type of question, the tabulators must make some arbitrary judgements as to how to classify the open-ended answers.

"Size and shape" led the list with a 76 percent response. "Color" was the second most important at 67 percent, followed by "firm, fresh looking", with a 55 percent response. Twenty-one percent listed "no decay or spoilage" while "clean", "smooth--no hairs" and "no green ends" rated six, five and four percent respectively. A miscellaneous category included such things as no broken carrots, tops on, tops off, flavor, young and tender, etc.

#### WHERE PURCHASED

The supermarket or grocery store was the most popular place to buy fresh carrots in answers to the question . . . "Where do you usually buy fresh carrots?" Ninety-four percent listed "supermarket or grocery store" while 19 percent indicated they purchased at "roadside, city or farmer's markets". Twenty-four percent indicated that they "grow own--in season". The one percent who checked "Other--specify", indicated that they are given to them by friends who grow them or that they buy from door to door peddlers.

#### WHY PURCHASED

"Why do you buy fresh carrots?" was another open-ended question designed as a thought-provoking question to get consumers to list the underlying reasons why they buy carrots. We wanted to have them give their own answers instead of giving any suggestions. Probably, though, because of the wording, including the word "fresh", consumers confused the question and gave their reasons "as compared with frozen and canned" in many cases. Again, the tabulators had to exercise judgement in grouping the answers, and again, everyone listed more than one reason.

The categories generally were as follows: "Versatile", 41 percent; "Just like them", 30 percent; "Flavor-taste", 23 percent and "Nutritious, vitamins, good for you", 19 percent. Other groupings, of smaller percentages, were as follows: snack favorite, convenient, kids like them, price favorable, add color to meals, like texture, low calorie, easy to store and keep, always available, good in lunch boxes, like quality and habit.

One panelist confided that she always kept carrots on hand for the horse. "For the snowman's nose" was another comment. Another said she ate them because her mother told her to eat carrots and her hair would be curly. (She also confided that she's been eating them for 50 years and that her hair is still straight!)

There were no responses for the question "If you don't buy fresh carrots, why not?".

#### HOW USED

Respondents were asked to check use categories related to how they had used fresh carrots within the past year. "Carrot sticks or curls for snacks or relish trays" topped the list with 89 percent. Next most popular was "Raw in salads . . . chopped, grated, etc.", listed by 85 percent. Eighty-two percent used fresh carrots "cooked in stews or casseroles", while 64 percent "cooked carrots, plain . . . (slices, strips or whole)". Only 28 percent used them as "creamed or glazed carrots". "Whole, out-of-hand" was listed by 56 percent. Twenty-one percent used fresh carrots in "desserts . . . (cakes, cookies, etc.)" and 10 percent "home can or freeze carrots for later use". Five percent listed "other uses, such as in soups, carrot juice and food for pets".

### FREQUENCY OF USE

Frequency of use was also asked, and respondents checked one answer only to the question . . . "How often do you serve fresh carrots?". Fifty-eight percent use carrots "once a week or more often" while 27 percent serve them "twice a month". "Once a month" was listed by nine percent, while five percent said they served carrots only "three to four times a year". One percent said they served carrots "rarely or never".

### GRIPES, PROBLEMS, COMPLAINTS

Consumers were asked an open-ended question . . . "Do you have any gripes, problems or complaints about carrots and/or carrot packages?". Seventy percent of the panelists listed NO complaints about the carrots themselves and 71 percent reported NO complaints about the carrot packages. These were not necessarily the same 70 percent, however.

Thirty percent did have some complaints about carrots, however, and their responses were broken down as follows. Twenty-two percent had complaints about "quality", listing such things as broken, sprouting, withered, wet and just plain "kept too long" carrots. "Taste" came in for 15 percent of the complaints. Panelists listed their taste complaints as medicinal, bitter, strong, tasteless and off-flavors. "Size and shape" rated 14 percent of the complaints. Mixed sizes in the bag, too large, cripples and odd shapes were listed most often in this category.

Woody, pithy, fibrous, tough, grainy, and hard core were the "texture" complaints listed by four percent of the respondents. Two percent listed "price" as a complaint, saying carrots were overpriced for what you get. One percent complained about "color added".

Of the 29 percent that had complaints about carrot packages, 16 percent complained about "visibility" and six percent complained about "opening and closing" factors. Those who complained about visibility objected to orange colored packages, dark colors at package ends, stripes and/or a lot of "copy" on packages. They wanted to see the carrots. Another three percent complained about excessive moisture in the bags, which tended to hide the carrots, making it difficult to check quality.

Opening and closing the bags came in for some comment. Respondents objected to hard-to-open sealing tapes, plastic bags that you had to "claw" and "rip" open, bags that don't tear, tapes that don't pull, strips that don't zip, etc. Many also objected to the fact that bags could not be easily reclosed once they finally did get them open.

### CARROT BUYING PREFERENCES

"If you had your choice, how would you like to buy carrots?" This question was designed to learn consumer preferences for size of unit and size of carrots, and whether they wanted to buy tops on or topless carrots in bulk or in packages. One- and two-pound packages were the preferences though many people asked for larger and smaller sized packages also (smaller than one pound). These respondents definitely wanted small and medium sized carrots and said very adamantly that they did not want large carrots! Topless carrots came out on top and the respondents favored packages over bulk by a ratio of about three to one.

Panelists were also asked what convenience forms and features they would like. Suggestions included fresh grated carrots, IQF (individually quick frozen) carrots that could be easily separated, carrots already cut into

strips, fresh chopped carrots, frozen diced carrots, frozen slices and frozen creamed carrots.

#### CHANGES AND IMPROVEMENTS

The last question sought suggestions for changes and improvements: "In your opinion, what changes and/or improvements could be made in carrots, carrot packages or the marketing of carrots?" Since this was another open-ended question not answered by all, no accurate tabulation was done. Many people stated that they were very happy with the way carrots are presently being sold and had no suggestions for changes and improvements in either carrots or carrot packages. Many others did list suggestions, however, in the areas of packages, size units available, size and shape of the carrots and care and handling.

"Carrot packaging" and "size and shape" of the carrots rated most of the suggestions for changes and improvements. These respondents wanted more visible packages with less printing and no deceptive color on the bags. They suggested clear plastic bags with easy-to-open as well as reclosable features added.

They suggested improvements in both size and shape of the carrots available and noted particularly that they wanted uniform shape and uniform size within each package. Both larger and smaller size units than currently available in most markets were also requested.

Many who listed suggestions for improvement suggested strongly that super-markets "police" displays better and that old, withered, moldy, etc. carrots be removed from the displays. As one woman said . . . "They wouldn't buy them themselves, why do they expect us to".

Several mentioned the desire to have code-dates of some kind to help with this problem, and others suggested that recipes for use be included with the carrots sold.

### Summary

When all the answers are put together, they say some things that are not immediately apparent when you look at each question individually. For example, questions 1, 5 and 10, taken together, indicate that carrots are considered a staple item in most of the homes responding. Eighty-five percent of the panelists served carrots at least "twice a month", and 70 percent used their supply within two weeks. It is reasonable to assume that they also promptly replaced their supply, for 60 percent purchased carrots at least "twice a month" and another 25 percent reported at least "once-a-month" purchases. Many of those who seldom or rarely bought carrots indicated that they grew their own or received them from friends. It's fairly obvious that they liked carrots and viewed them favorably.

This was further substantiated by the fact that, in question 3, eighty-seven percent indicated they liked carrots "very much" and "moderately well". Ten percent showed no strong feelings for or against carrots while two percent disliked them. Those that disliked them very much were all reported to be children. Not a single respondent checked "don't use fresh carrots" in question 7.

When quizzed as to the reasons for purchases, these panelists suggested that one of the reasons they liked them was because of their versatility.

Fifty-three percent indicated that they bought them because they just plain "like them" and like the "flavor-taste", and a surprising 19 percent recognized their nutritious qualities when they wrote in "nutritious, vitamins and good for you". (Mothers of America and perhaps the carrot industry, too, have obviously done a fairly good selling job on "Eat your carrots, they're good for you!") Note, too, however, that the nutritious aspects were the fourth most important listing. The respondents purchased carrots first because they liked them and felt they could use them in a variety of ways.

With all these plus factors going for them, it sounds like carrots are really in the Number One spot on the vegetable hit parade, but consumption facts indicate otherwise. Quantity used per week per U.S. household is only 0.52 pounds; North Central region consumption is 0.61 pounds per household per week. Only 40.6 percent of U.S. households serve carrots each week while 43.1 percent of North Central households serve carrots each week. The panelists who responded to this questionnaire served more carrots than the average North Central household, with 57 percent serving them weekly.

An explanation for this seemingly low consumption may be found in question 9, which reported on use of fresh carrots. The two heaviest uses were in raw form--sticks or curls and raw in salads. A third major use was as an ingredient in stews, casseroles, etc. In all these . . . a little bit of carrot goes a long way. The industry might want to work harder at trying to increase this consumption. One way might be to include more recipes, as these respondents suggested, in packages of carrots. Recipes using "lots" of carrots especially might be included in carrot packages and/or in carrot package displays.

Carrots as a garnish or an added ingredient were obviously very popular, judging from the use ideas given by respondents, but few people used very many carrots in many other ways. Recipes or recipe suggestions for creamed carrots, glazed carrots, grated carrot salads, etc., in which carrots are the main ingredient, might be most appropriate. Unusual recipes featuring carrots as a major ingredient, such as carrot cookies, carrot cake, carrot pudding, etc., might also be appropriate as a means of enticing consumers to use more carrots. Carrot recipes are relatively hard to come by for most consumers and might be well worth the time and money spent in development for the industry, if increased consumption is a goal.

Another area that might merit some attention is in new product development. Fresh carrots were the form purchased most often while only approximately one-fourth of the respondents purchased either canned or frozen carrots. Although present processed availability is limited, the industry might well consider new products as an area for expansion. Though these respondents had few ideas on new products, convenience features, etc., those that were mentioned are worthy of attention. Suggestions included fresh grated carrots, IQF (individually quick frozen) carrots that could be easily separated, carrots already cut into strips, fresh chopped carrots, frozen diced carrots, frozen slices and frozen creamed and glazed carrots. Some of these products are already available, but it is obvious that the industry has not spent enough time and money in promotion of the products, since these consumers were not even aware that some of them exist.

When asked where they purchased carrots, in question 7, ninety-four percent indicated they purchased from a supermarket or grocery store. Nineteen percent purchased from roadside, city or farmer's markets part of the time. And a surprising twenty-four percent grew at least some carrots themselves. There is probably not much the industry can do for those who grow their own, but some changes might be made at retail level or markets level to help increase consumption and/or satisfaction.



A variety of sizes and forms might be offered, for example. One- and two-pound units were most commonly purchased (by 96 percent) because these are primarily the only sizes available. Many respondents asked for and suggested that both smaller and larger sized units be available. Since these families are larger than the state averages, the larger sized units would be more appealing but might also be worthy of some marketing effort, particularly in seasons of largest supply. Since consumers seem to be more economy-minded other families might also be interested in purchasing larger sized units, on a lower cost per pound basis. But the industry would also have to include and/or promote information on care, handling and storage.

The families who requested smaller sized units obviously had little information on the keeping time or length of storage time for carrots. Since their families were smaller they wanted units that would more nearly fit their consumption patterns primarily. However, it was clear that they were unfamiliar with the length of storage time, for many made comments about carrots "going bad" before they could use them up and/or that they threw them away because they "didn't think they'd keep that long". Proper care, handling and storage information could help these families especially.

Though most of the respondents wanted carrots with the tops off, quite a few mentioned that they wanted to buy "tops on" carrots when purchased from a roadside, city or farmer's market. The appeal of fresh-looking carrots with fresh-looking green tops cannot be overlooked as a selling factor, particularly for roadside, city or farmer's market operators. Having a supply of both tops on and topless carrots should definitely be considered for these markets, though this idea might not be practical for a supermarket. However, a supermarket interested in building a fresh produce department quality image might do well to consider this, too.

Another idea that merits attention for progressive marketers is the "cocktail carrot". Since snacking has become so popular, and since so many people are looking for "different ideas" to satisfy their creative urges, cocktail carrots might be considered for specialty markets or as an added "special attraction" in any produce market.

These tiny, two- to three-inch carrots, picked before reaching maturity, almost always command a premium price that consumers are willing to pay. In addition, they create a special image for the market that sells them and caters to the "specialty" crowd. They're especially tasty with a sour cream or curry dip, for example, so ideas for use should be promoted along with the specialty product. This market is very limited, but worthy of attention if marketers are looking for progressive ideas on how to sell and appeal to a populace that now has more leisure time and changing life styles.

In the open-ended questions, the panelists were very candid in expressing their opinions--freely and at length--about the characteristics they looked for in buying carrots. While they were agreed in question 6 that size, shape and color were important to them, they did not all agree on which size, shape or color they wanted. The differences were individual rather than geographic, so marketers again might have more choices available to suit all customers.

When questioned about carrots and carrot packages, 70 and 71 percent respectively had no complaints. Those who did have complaints, however, were vociferous. Many of the suggestions for improvement deserve attention by the industry and most could be adopted quite easily.

For example, both larger and smaller size units than currently available in most stores were requested. This could easily be accomplished, at least during periods of large supply of local production. Five-pound bags, pecks or

half-bushel cartons might be offered both at retail as well as roadside, farmer's or city markets during peak seasons of supply.

These respondents strongly favored improving both size and shape of carrots. They were particularly interested in uniform size and shape within packages. This could be easily accomplished by grading or sorting for size on the packaging tables.

They requested small and medium sized carrots especially. They did not want large sized carrots. Most commented that large carrots were often woody, fibrous, pithy and had hard cores. One woman suggested that producers leave the large ones at home and/or feed them to pigs. Large size does not always mean overmaturity, of course, so a market could probably be easily found for larger carrots, too, if they were packaged together in one bag, rather than interspersed with small and medium sizes within one bag.

Package complaints came in for a good deal of comment and could be fairly easily handled by the industry. Consumers today are very aware of deception in the marketplace (or what they feel is deception) and feel carrot packages fall into this category to a certain extent. They greatly disliked packages that they felt were deceptive: those with dark colors on the ends of the bags (that hid the green ends); those that were covered with orange stripes, orange checks and/or other color that concealed the carrots in the bags; those that were "loaded" with writing and those that were hard to open.

These respondents suggested more visible packages (i.e., more visible contents), with less printing on the bags and no deceptive color. They requested easy-to-open features as well as reclosable bag features. Several suggested clear plastic bags with logo and all descriptive information contained on a cardboard sleeve. With all the packaging technology available today there would appear to be no reason why packages couldn't be changed to make consumers more satisfied. Though carrot packaging might seem very insignificant to producers and marketers, it appears to be very important to consumers. And if the industry wants satisfied carrot buying consumers, it might be well worth the time and attention spent on packaging to fit her desires. "Happiness" may well be the carrot bag.

Last, but by no means least, were the written-in comments and compliments for the industry. These respondents seemed very favorable to carrots and the carrot industry. "I'm satisfied with carrots the way they are", "They're doing a good job", "I like carrots" and "Seems to be one vegetable we can always depend on at the store" were typical comments.

In addition, they commented favorably, in most cases, on being involved in a study of this kind. "Refreshing to know someone is finally interested in consumer opinion", "Thanks for asking me and for your interest", "Glad to know someone asks the consumer once in a while" and "Wish more people would bother to ask us" were comments given over and over again.

Many wanted copies of the survey results and many more were interested to find out if any changes were made by the industry as a result of these comments. Only time and the industry can answer that last charge, but hopefully the information provided here will help the industry do an even better job of producing and marketing carrots.

COOPERATIVE EXTENSION SERVICE

Michigan State University

and U. S. Department of Agriculture Cooperating

420 W. Kalamazoo Avenue  
Marketing Information for Consumers  
Kalamazoo, Michigan 49006  
382-2860

August 23, 1971

CARROT OPINIONAIRE

Dear Consumer Panelist:

Would you kindly take a few minutes to answer some questions about carrots for us? We'd like your opinions for a special project we're doing in mid-September.

Keep in mind there are no right or wrong answers.

Please fill out this opinionaire and return it to me within 7 days in the envelope enclosed (no postage is necessary).

\* \* \* \* \*

1. How often do you buy carrots in any form (canned, fresh, frozen or dried)?  
Check one.

- Once a week or more often
- Twice a month
- Once a month
- 3 to 4 times a year
- Rarely or never

2. Of the four forms available, which have you bought within the last year?  
Check all that apply. Then estimate the proportion of each.

<u>Form purchased</u>	<u>% of Total</u>
Canned _____	_____
Fresh _____	_____
Dried _____	_____
Frozen _____	_____
	_____
	100%

3. How do you and your family like carrots? Check one.

- Very much
- Moderately well
- Slightly
- Neutral
- Dislike slightly
- Dislike moderately
- Dislike very much

(Turn to page 2)

4. What size package of fresh carrots do you usually buy? Check one.

- One pound
- Two pounds
- Other (specify) \_\_\_\_\_
- Never buy

5. About how long do you keep a package of carrots in the refrigerator before you use them all up or they're past their prime and need to be thrown out? Check one.

- One week
- Two weeks
- One month
- Three months
- Longer

6. What characteristics do you look for in buying fresh carrots? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

7. Where do you usually buy fresh carrots? Check those that apply.

- Supermarket or grocery store
- Roadside, city or farmer's market
- Other (specify) \_\_\_\_\_
- Grow own -- in season
- Don't use fresh carrots

8. Why do you buy fresh carrots?

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

8a. If you don't buy fresh carrots, why not? \_\_\_\_\_

\_\_\_\_\_

9. How have you used fresh carrots within the past year? Check those that apply.

- Carrot sticks or curls for snacks or relish trays
  - Whole, out-of-hand
  - Raw in salads...(chopped, grated, etc.)
  - Cooked in stews or casseroles
  - Creamed or glazed
  - Cooked carrots, plain...(slices, strips or whole)
  - In desserts...(cakes, cookies etc.)
  - Home can or freeze for later use
  - Other (specify) \_\_\_\_\_
- \_\_\_\_\_

10. How often do you serve fresh carrots? Check one.

- Once a week or more often
- Twice a month
- Once a month
- Three to four times a year
- Rarely or never

11. Do you have any gripes, problems or complaints about carrots and/or carrot packages?

Carrots? \_\_\_\_\_

\_\_\_\_\_

Carrot packages? \_\_\_\_\_

\_\_\_\_\_

12. If you had your choice, how would you like to buy carrots?

In what size units? \_\_\_\_\_

Tops on or off? \_\_\_\_\_

What size carrots? \_\_\_\_\_

Bulk or packages? \_\_\_\_\_

What convenience forms or features? \_\_\_\_\_

\_\_\_\_\_

Other (Specify) \_\_\_\_\_

\_\_\_\_\_

12a. In your opinion, what changes and/or improvements could be made in carrots, carrot packages or the marketing of carrots? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_

Thank you very much for your cooperation. Please return the completed carrot opinionaire within 7 days in the enclosed envelope (no postage is necessary).

Please return to: Miss Maryann Meldrum, District Consumer Marketing Information Agent, 420 W. Kalamazoo Avenue, Kalamazoo, Michigan 49006.

Sincerely,

*Maryann Meldrum*

Maryann Meldrum  
District Extension Consumer  
Marketing Information Agent

MM/mt

Enclosures



Issued in furtherance of cooperative extension work in agriculture and home economics, acts of May 8, and June 30, 1914, in cooperation with the U.S. Department of Agriculture. G. S. McIntyre, Director, Cooperative Extension Service, Michigan State University, E. Lansing, Michigan.

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