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# NONCITRUS FRUIT NEW PRODUCT CONCEPTS 

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Preliminary Survey Results<br>Working Paper

February 1976

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## NONCITRUS FRUIT NEW PRODUCT CONCEPTS

This study explored consumer reactions to six new product concepts. A split sample technique lightened the burden on the respondent, i.e., each respondent considered only three of the six product concepts. Each color-coded version of the questionnaire--blue and white--surveyed a different set of three product concepts:

White
Dehydrated sugar-coated fruit slices
Fruit packed in juice of different fruit
Frozen fresh Bartlett pears

Blue
Carbonated apple beverages Dehydrated instant applesauce Whole cored frozen baking apples

After reading a description of a new product, respondents were asked the following questions:
a. If this product were available, would you try it or not?
b. Why doesn't this product appeal to you? (If "No" to Q. a)
c. What is it about this product idea that appeals to you? (If "Yes" to Q . a)
d. How sure are you that you would try it--absolutely sure, quite sure, a little doubtful? (If "Yes" to Q. a)
e. Assuming that you like the product, do you think you would use it regularly or just once in a while? (If "Yes" to Q. a)

The data reported simply represent homemakers' reactions to new product concepts. Since little or no attempt was made to inform the respondents as to how these products might be packaged or priced, it would be misleading to conclude that a verbal expression of interest reflects any firm intent to purchase these products.

Data were collected during March and April 1973 in personal interviews with l,ll6 homemakers-- the persons with major responsibility for decisions on purchasing food items for household use. The sample was a regional probability sample consisting of two geographic divisions as defined by the Bureau of Census--Mid-Atlantic (New York, New Jersey, Pennsylvania) and East North Central (Ohio, Indiana, Illinois, Michigan, Wisconsin). The completion rate was 74 percent.

## Relative Interest in New Product Concepts

As shown in the following tabulation, better than 6 in 10 respondents reacted favorably to the concept of canned fruit packed in the juice of a
Wi.
ent

different fruit. Roughly half the homemakers indicated their receptivity to carbonated apple beverages, whole cored frozen baking apples, frozen fresh Bartlett pears, and dehydrated sugar-coated fruit slices. Much less interest was shown in dehydrated instant applesauce.
"If this (PRODUCT) were available, would you buy it or not?"
Would buy
Percent
$\begin{array}{ll}\text { Canned fruit packed in the juices of } & \\ \text { one or more different fruits } & 61 \\ \text { Carbonated apple beverages } & 49 \\ \text { Whole cored frozen baking apples } & 48 \\ \text { Frozen fresh Bartlett pears } & 45 \\ \text { Dehydrated sugar-coated fruit slices } & 43 \\ \text { Dehydrated instant applesauce } & 20\end{array}$
Dehydrated Sugar Coated Fruit Slices
The description of dehydrated sugar-coated fruit slices, presented to the respondent on a card read:

Dehydrated slices of apple, peach, pineapple, or banana with a natural sugar-coating. They are dry, crisp, and crunchy with natural fruit flavor. They can be used for snacks or in dry cereal.

Better than 4 in 10 homemakers said that if dehydrated sugar-coated fruit slices were available they would try them. East North Central homemakers, those residing in small metropolitan or rural areas, and those 30 years and older were more likely than corresponding demographic subgroups to say they would try them.

Roughly a third of the homemakers who said they would try dehydrated sugar-coated fruit slices cited the appeal as a snack; about as many mentioned curiosity saying they like to try new products; and, as many again noted inherent conveniences such as being easy to keep on hand, easy (quick) to prepare, and portable.

Better than a third of the homemakers who said they would not try them declared their preference for fresh fruits. Nearly as many objected to the sugar-coating as being too sweet, fattening, or bad for health. Some felt that the rruit would not have natural flavor or would lose flavor.

## Carbonated Apple Beverages

Carbonated apple beverages such as apple juice and sparkling cider. Thesc products are natural juices with natural fruit flavor-no artificial flavoring is used.


About half the homemakers said that if carbonated apple beverages were available they would try them. The concept appealed more to younger homemakers, those in households with children, and those living in urban areas.

Nearly half the homemakers who said they would try carbonated apple beverages if they became available cited the appeal of a good, natural apple flavor (not artificial flavor). Presumably, they like carbonated beverages and consider that using a natural juice, rather than artificial flavoring, as a base will give them superior flavor. Turning this around, about a fourth of the respondents said they "like the idea of carbonating apple juice and apple cider." Perhaps they feel carbonation will add a little zest or excitement to a drink they already like.

The major reasons given by homemakers for their lack of interest in trying carbonated apple beverages were dislike of carbonated beverages or apple beverages and preference for regular apple juice or cider.

## Canned Fruit Packed in the Juice of a Different Fruit

Canned (or jar) fruit packed in the natural juices of one or more different fruits.

Six in ten homemakers said they would try canned fruit packed in the natural juices of one or more different fruits, if it were available. Homemakers under 60 years were more likely to say they would try it, and those with higher family incomes were more apt to say they would use it "regularly."

About half the homemakers who expressed interest in trying it felt it would have a good, natural, unusual taste and would not be too sweet. About 2 in 10 said they "like the idea of natural juices," and nearly as many said they "like the idea of combining different fruits and juices." About equal proportions--1 in lo--cited the fact that, with no sugar added, the fruit would be less fattening and would be more nutritious and healthful than fruit packed in syrup.

Lack of interest in trying canned fruit packed in the natural juices of one or more different fruits stemmed mainly from an objection to the idea of mixing different fruit flavors. Many of these people liked the concept of canned fruit packed in its own juice.

Dehydrated Instant Applesauce
The product concept was presented to respondents simply as "dehydrated instant applesauce" with no additional description or explanation. Only 2 in 10 homemakers expressed interest in trying it if it were available. Older homemakers were more likely than younger ones to say they would try it.

Convenience would be the prime appeal of dehydrated instant applesauce, according to homemakers who said they would try it. Particularly, it would be easy to store and prepare and would be quite portable.


Many of those who had no interest in the product mentioned dislike of dehydrated products and preference for regular forms of applesauce. Some said it would not have a good, natural taste or would lose flavor. Others felt it presented no advantage, particularly when regular canned applesauce is ready to eat.

## Frozen Fresh Bartlett Pears

Frozen fresh Bartlett pears in halves, quarters, or slices for salads, desserts or other uses. They are quite similar in flavor to fresh pears, but--like all frozen fruits--should be used promptly after thawing for the best texture, flavor and appearance.

Forty-five percent of the homemakers stated they would try frozen fresh Bartlett pears if they were available. The more highly educated homemakers, those in the 45 to 59 age group, and those with high family incomes were more apt than corresponding subgroups to say they would try this new product.

Convenience factors were the major appeal of frozen fresh Bartlett pears-availability regardless of season and the ease of keeping them on hand without spoilage. Some felt they would have a good, fresh taste.

Homemakers who said they would not buy frozen fresh Bartlett pears indicated they "prefer fresh or canned pears." About 2 in 10 disliked pears per se. Some thought pears would not thaw satisfactorily. Others suspected that they would be too expensive.

Cored Whole Frozen Baking Apples
Cored whole frozen baking apples for use in apple pies and other baked apple dishes. They are quite similar in flavor to fresh apples, but--like all frozen fruits--should be used promptly after thawing for the best texture, flavor, and appearance.

Nearly half the homemakers said they would try cored whole frozen baking apples, if they were available. Homemakers under 60 years, those with children, those who had a high school education (as opposed to grade school or college), and those with a middle level family income were more likely than corresponding subgroups to say they would try them.

Homemakers who had no interest in trying whole cored frozen baking apples said they saw no need for them, since fresh apples were always available. Better than 2 in 10 said they never use apples for cooking or baking. About that many suspected the new product would be too expensive.


Question 42a--'Here is a brief description of a new product.....If dehydrated sugar coated fruit slices were available would you try them or not?"



Question 42b--'Why doesn't this product appeal to you?'' (Asked only of those respondents who said they would not try dehydrated sugar coated fruit slices.)

| Reasons | Total |
| :---: | :---: |
|  | Percent |
|  |  |
| Dislike dehydrated food/fruit; prefer fresh | 35 |
| Object to sugar coating; fattening; bad for health | 24 |
| Would not have good natural, true flavor; would lose fruit flavor | 10 |
| Would be too expensive | 6 |
| Texture would not be crisp; juicy | 4 |
| Would not be as nutritious or healthful as fresh fruit | 4 |
| Family would not eat/like | 4 |
| No need for this product; fresh available | 3 |
| Bad for health; fattening | 3 |
| Would have no use for them; do not eat snacks or cereal | 2 |
| Would not look appealing/appetizing | 2 |
| Dislike over-processed/artificial food | 2 |
| All other mentions | 4 |
|  | Number |
|  | 317 |

Question $42 \mathrm{c}-\mathrm{-}^{\prime \prime}$ What is it about this product that appeals to you?" (Asked only of those respondents who said they would try dehydrated sugar coated fruit slices.)

| Reasons | Total |  |
| :--- | :---: | :---: |
|  | $:$ | Percent |
| Use as a snack | $:$ | 29 |
| Like to try new products; a change | $:$ | 28 |
| Use on cereal | $:$ | 16 |
| Easy to keep on hand; no spoilage | $:$ | 12 |
| Nutritious/healthy | $:$ | 7 |
| Family would like it | $:$ | 6 |
| Easy to prepare/use (quick) | $:$ | 6 |
| Convenient | $:$ | 11 |
| Portable; good for camping, hiking, etc. | $:$ | Number |
| All other mentions | $:$ | 235 |
|  | $:$ |  |

Question 42d--'How sure are you that you would try it?" (Asked only of those respondents who said they would try dehydrated sugar coated fruit slices.)

| Response | $:$ | Total |
| :--- | :--- | :--- |
|  | $\vdots$ |  |
| Absolutely sure | $\vdots$ | Percent |
| Quite sure | $\vdots$ | 40 |
| A little doubtful | $\vdots$ | 44 |
|  | $\vdots$ | 15 |
| Cases | $\vdots$ | Number |
|  |  | $\vdots$ |

Question 42e--'Assuming that you liked it, do you think you would use it regularly or just once in a while?"
(Asked only of those respondents who said they would try dehydrated sugar coated fruit slices.)

|  | Response | $\vdots$ |
| :--- | :--- | :--- |
| Regularly | $\vdots$ | Total |
|  | $\vdots$ | Percent |
| Once in a while | $\vdots$ | 44 |
|  | $\vdots$ |  |
|  | $\vdots$ | 55 |
| Cases | $\vdots$ | Number |
|  |  |  |

Question $42 a--1$ Here is a brief description of a new product....If carbonated apple beverages were available would you try them or not?"


Question 42b--!'Why doesn't this product appeal to you?'" (Asked only of those respondents who said they would not try carbonated apple beverages.)

| Reasons | $:$ | Total |
| :--- | :--- | :---: |
|  | $:$ | Percent |
| Dislike carbonated beverages | $:$ |  |
| Don't like apple juice/cider | $:$ | 30 |
| Would not like carbonated apple juice/cider; prefer regular | $:$ | 29 |
| Doesn't sound appealing | $:$ | 5 |
| Carbonated beverages harder to digest (causes gas) | $:$ | 4 |
| Taste | $:$ | 3 |
| All other mentions | $:$ | 8 |
| Not stated | $:$ | 2 |
|  | $:$ | Number |
|  |  | 281 |
| Cases | $:$ |  |

Question 42c--'What is it about this product that appeals to you?" (Asked only of those respondents who said they would try carbonated apple beverages.)

| Reasons | $:$ | Total |
| :--- | :--- | :--- |
|  | $:$ | Percent |
| Taste; good/natural/apple flavor; not artifical flavor | $:$ | 47 |
| Like idea of carbonating apple juice/cider; | $:$ | 24 |
| more appeal for family | $:$ | 15 |
| Like to try new products; a change | $:$ | 11 |
| Nutritious/healthful; no additives | $:$ | 11 |
| Like apple juice/cider; like apples | $:$ | 4 |
| Sounds refreshing | $:$ | 3 |
| All other mentions | $:$ | Number |
|  | $:$ | 276 |
|  |  |  |




Question $42 \mathrm{e}-$-''Assuming that you liked it, do you think you would use it regularly or just once in a while?" (Asked only of those respondents who said they would try carbonated apple beverages.)

| Response | $:$ | Total |
| :--- | :--- | :--- |
|  | $\vdots$ |  |
| Regularly | $\vdots$ | Percent |
|  | $\vdots$ | 44 |
|  | $\vdots$ |  |
|  | $\vdots$ | 55 |
| Cases | $\vdots$ | Number |
|  |  |  |

Question 43a--'Here is a brief description of a new product...If canned fruit packed in the natural juices of a different fruit were available, would you try it or not?"



Question 43b--''Why doesn't this product appeal to you?' (Asked only of those respondents who said they would not try canned fruit packed in the natural juices of a different fruit.)

| Reasons | Total |  |
| :--- | :--- | :---: |
|  | $:$ | Percent |
| Prefer fruit in its own juice; dislike mixture of fruits | $:$ | 75 |
| Not interested; sounds unappealing | $:$ | 7 |
| Would not have a good taste | $:$ | 4 |
| Would be too expensive | $:$ | 3 |
| Don't like to try new products | $:$ | 12 |
| All other mentions | $:$ | Number |
|  | $:$ | 214 |
| Cases | $:$ |  |

Question $43 \mathrm{c}--1$ 'What is it about this product that appeals to you?' (Asked only of those respondents who said they would try canned fruit packed in the natural juices of a different fruit.)

| Reasons | : Total |
| :---: | :---: |
|  | Percent |
|  |  |
| Taste; more/good/natural/unusual/different taste; not too sweet | 43 |
| Like the idea of natural juices/foods | 19 |
| Like the idea of mixing fruits/juices | 14 |
| Like to try new products | 13 |
| Nutritious/heal thful | 7 |
| Like fruit/canned fruit | - 4 |
| All other mentions | : 3 |
|  | Number |
| Cases | 338 |



Question 43d--"How sure are you that you would try it?" ((Asked only of those respondents who said they would try canned fruit packed in the natural juices of a different fruit.)

| Response | $:$ | Total |
| :--- | :--- | :--- |
| Absolutely sure | $\vdots$ |  |
|  | $\vdots$ | Percent |
|  | $\vdots$ | 40 |
|  | $\vdots$ | 49 |
|  | $\vdots$ | 11 |
| Cases | $\vdots$ | Number |
|  |  | $\vdots$ |

Question $43 \mathrm{e}--$ 'Assuming that you liked it, do you think you would use it regularly or just once in a while?'"
(Asked only of those respondents who said they would try canned fruit packed in the natural juices of a different fruit.)

| Response | $\vdots$ | Total |
| :--- | :--- | :--- |
|  | $\vdots$ |  |
| Regularly | $\vdots$ | Percent |
|  | $\vdots$ | 44 |
|  | $\vdots$ |  |
|  | $\vdots$ | 55 |
| Cases | $\vdots$ | Number |
|  |  |  |



Question 43a--'Here is a brief description of a new product...If dehydrated instant applesauce were available would you try it or not?''


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Question 43c--' What is it about this product that appeals to you?' (Asked only of those respondents who said they would try dehydrated instant applesauce.!) applcauce.)

| Resporeasons | Total | : Total |
| :---: | :---: | :---: |
|  |  | : |
|  | Percent | Percent |
|  | 3 | 25 |
| Needs little storage room; easier to store | 3 | : 21 |
| Portablengood for camping/hiking, etc. | 61 | 16 |
| No spoilage |  | 9 |
| Convenient ma her | ? | 6 |
| Can make amount needed/desired |  | 5 |
| Like to try new products; a change | Nunber: | 22 |
| All other mentions |  | 16 |
| 1. ${ }^{\circ}$ | 110 |  |
|  |  | Number |
| Cases |  | 110 |
|  |  |  |



Question 43d--"Assuming that you liked it, do you think you would use it regularly or just once in a while?" (Asked only of those respondents who said they would try dehydrated instant applesauce.)

| Response | $\vdots$ | Total |
| :--- | :--- | :--- |
|  | $\vdots$ |  |
| Regularly | $\vdots$ | Percent |
|  | $\vdots$ |  |
|  | $\vdots$ | 37 |
|  | $\vdots$ | 61 |
|  | $\vdots$ | 2 |
| Cases | $\vdots$ | Number |
|  |  | $\vdots$ |

Question 44a--'Here is a brief description of a new product...If frozen fresh Bartlett pears were available would you try them or not?"


Question 44b--''Why doesn't this product appeal to you?" (Asked only of those respondents who said they would not be willing to try frozen fresh Bartlett pears.)

| Reasons | Total |
| :---: | :---: |
|  | Percent |
| Dislike frozen; prefer fresh or canned | 33 |
| Dislike pears | 19 |
| Frozen would not taste as good as fresh | 15 |
| Texture would not thaw well; becomes soft/mushy/watery | 13 |
| Would be too expensive | 12 |
| Would have to eat all at once; would spoil quickly | 5 |
| No need for this product; fresh or canned available | 2 |
| All other mentions | 9 |
|  | Number |
| Cases | 305 |

Question $44 \mathrm{c}--$ 'What is it about this product that appeals to you?' (Asked only of those respondents who said they would try frozen fresh Bartlett pears.)

|  | Reasons | Total |
| :--- | :--- | :---: |
|  | $:$ | Percent |
| Would have good/fresh taste | $:$ |  |
| Always available; could have when out of season | $:$ | 27 |
| Would be similar to fresh; better than canned | $:$ | 18 |
| Easy to keep on hand; keeps longer; no spoilage | $:$ | 14 |
| Like to try new products; a change | $:$ | 12 |
| Like pears | $:$ | 9 |
| Convenient | $:$ | 4 |
| All other mentions | $:$ | 18 |
| Not stated | $:$ | 6 |
|  | $:$ | Number |
| Cases | $:$ | 246 |




Question $44 e^{--" A s s u m i n g ~ t h a t ~ y o u ~ l i k e d ~ i t, ~ d o ~ y o u ~ t h i n k ~}$ you would use it regularly or just once in a while?" (Asked only of those respondents who said they would try frozen fresh Bartlett pears.)

| Response | $:$ | Total |
| :--- | :--- | :--- |
|  | $\vdots$ |  |
| Regularly | $\vdots$ | Percent |
|  | $\vdots$ | 37 |
|  | $\vdots$ |  |
|  |  |  |
| Cases | $\vdots$ | Number |
|  |  |  |

Question 44a--'Here is a brief description of a new product.... If whole cored frozen baking apples were available would you try them or not?"'

| Respondent characteristics | Cases | Whole cored frozen baking apples |
| :---: | :---: | :---: |
|  |  | : Would |
|  |  | Would try : not try |
|  |  | Percent |
|  | Number |  |
| Total | 562 | 48 52 |
|  |  |  |
| Geographical division: |  |  |
| Mid-Atlantic | 273 | 45 |
| East North Central | 287 | 5050 |
| Community size: |  |  |
| Metro areas--1 million and over | 261 | 4456 |
| Other metro | 200 | $51 \quad 49$ |
| Nonmetro | 101 | $51 \quad 49$ |
| Education of homemaker: $\quad$ : 64 |  |  |
| Grade school or less | 64 | 36 . 64 |
| Some high school | 106 | $52 \quad 48$ |
| High school graduate | 238 | 53 47 |
| Some college or more | 146 | 4258 |
| Age of homemaker: |  |  |
| Under 30 | 123 | $52 \quad 47$ |
| 30-44 | 177 | 4950 |
| 45-59 | 158 | $51 \quad 49$ |
| 60 and over | 94 | 3466 |
| Household income: : |  |  |
| Under \$8,000 | 150 | 45 55 |
| \$8,000-\$ 12,999 | 201 | $53 \quad 47$ |
| \$13,000 and over | 203 | 44 |
| Household composition: : |  |  |
| Adults only | 237 | 4456 |
| Children: |  |  |
| Under 6 | 149 | $50 \quad 49$ |
| 6-12 | 187 | 51 |
| 13-18 | 159 | 5050 |
| Family size: $\quad: \quad 10$ |  |  |
| 1-2 members | 196 | 4456 |
| 3 members | 87 | 4951 |
| 4 members | 121 | 45 |
| 5 or more members | 158 | 53 46 |



Question 44c--'What is it about this product that appeals to you?" (Asked only of those respondents who said they would try whole cored frozen baking apples.)

| Reasons | Total |  |
| :--- | :--- | :---: |
|  | $:$ | Percent |
|  | $:$ |  |
| Easy to use/prepare (quick) | $:$ | 63 |
| Use apples for cooking/baking/etc. | $:$ | 21 |
| Easy to keep on hand/keep longer/no spoilage | $:$ | 17 |
| Good taste; true/fresh flavor | $:$ | 11 |
| Convenient | $:$ | 6 |
| Like to try new products; a change | $:$ | 5 |
| Would be similar to fresh; better than canned or dehydrated | $:$ | 4 |
| Like baked apples | $:$ | 3 |
| All other mentions | $:$ | 7 |
|  | $:$ | Number |
|  | $:$ | 2 |

(1)


Question 44e--''Assuming that you liked it, do you think you would use it regularly or just once in a while?" (Asked only of those respondents who said they would try whole cored frozen baking apples.)

| Response | $\vdots$ | Total |
| :--- | :--- | :--- |
|  | $\vdots$ |  |
| Regularly | $\vdots$ | Percent |
|  | $\vdots$ | 28 |
|  | $\vdots$ |  |
|  | $\vdots$ | 70 |
|  | $\vdots$ | 2 |
| Cases | $\vdots$ | Number |
|  |  |  |

