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REPORT BY THE  
**Comptroller General**  
OF THE UNITED STATES

**Formulated Grain-Fruit Products:  
Proposed Restrictions On Use In School  
Breakfast Program Should Be Reevaluated**

The Department of Agriculture has proposed to prohibit using the two-component meal of formulated grain-fruit products (fortified pastries) and milk in the school breakfast program. Although grain fruit products are not used widely or frequently, some schools find them to be popular, convenient, and less costly. Also, they often contain more nutrients than the foods that would replace them.

Agriculture wants to ban the two-component breakfast because many nutritionists believe it has too much sugar and fat, may lack trace elements and other unknown nutrients, and may teach poor eating habits. Little substantive information is available on these issues. Further, these same criticisms also could apply to other breakfasts which would still be allowed in the program.

GAO believes the Department should consider available alternatives, such as revising its grain-fruit product specifications and limiting the frequency with which the two-component breakfast may be served. More importantly, Agriculture should take the lead in getting research performed to provide needed information on these issues and should apply pertinent research findings broadly to the foods used in school feeding programs.



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DECEMBER 26, 1978



COMPTROLLER GENERAL OF THE UNITED STATES  
WASHINGTON D C 20548

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The Honorable James O. Eastland  
United States Senate

Dear Senator Eastland:

Your letter dated January 19, 1978, written jointly with Senators Stennis and Talmadge and the late Senator Allen, expressed concern about the Department of Agriculture's controversial proposal to withdraw authorization of the two-component school breakfast (formulated grain-fruit product and milk) and the slow rate at which the school breakfast program is expanding. After discussion with your office, we agreed to perform a two-phase review of these issues. This report deals with the first phase--an evaluation of the Department's proposal. Our evaluation resulted in specific findings, conclusions, and recommendations on the Department's proposal; but because of the many unanswered questions concerning the relationship between food and nutrition, we believe it would be inappropriate to apply the results of our evaluation to other formulated or fortified products. Phase two, a review of factors affecting program expansion, is the subject of a separate study which we expect to complete next year.

The controversy over the proposal to withdraw authorization of the two-component breakfast centers on whether a breakfast of milk and a formulated grain-fruit product (a cake or doughnut-type product which does not contain fruit but which is fortified with nutrients) may be served to children in place of a three-component conventional breakfast of bread or cereal, fruit or juice or vegetable, and milk (or alternate meals containing these components plus meat or a protein-rich substitute, such as fish, cheese, eggs, or peanut butter).

In 1974 the Department authorized schools to use the two-component breakfast in which the formulated product replaces both the bread/cereal and fruit/juice/vegetable components. The Department believed that this would (1) encourage more schools to enter the program, (2) provide a more convenient, less costly breakfast, (3) add variety to school breakfasts, and (4) help eliminate plate-waste.

To be authorized for use in the school breakfast program, grain-fruit products must meet specific standards set by the Department. A grain-fruit product and milk breakfast was designed to provide at least 25 percent of the Recommended Dietary Allowances for 10- to 12-year-old children for most recognized nutrients except magnesium and kilocalories, which are provided at approximately 13 percent of the Recommended Dietary Allowances.

In August 1977 the Department proposed withdrawing its authorization, stating that conventional foods provided a better source for a well-balanced diet. The proposal would not prohibit schools from serving the formulated product but would require that a fruit/juice/vegetable component also be served--just as is now required if an unfortified pastry product is served.

In its proposal, the Department said it was responding to numerous complaints and allegations by nutritionists and others that formulated grain-fruit products teach poor eating habits; are excessively high in sugar and fat; lack fiber, trace elements, and as yet "unknown nutrients" necessary for good health; and generally are not beneficial to the school breakfast program. Our evaluation of these matters and of related issues concerning acceptability of the products, menu variety, convenience, and cost are summarized below and discussed in more detail in appendix I, along with the Department's comments. The Department's letter commenting on the matters discussed in this report is included as appendix II.

Little substantive information exists about most of the issues raised in connection with the Department's proposal. Many nutritionists and other experts advocate less sugar and fat in our diets, but there are no generally accepted standards for judging the nutritional acceptability of sugar and fat levels of particular foods. The sugar and fat levels in the two-component breakfast are as low as, or lower than, those in several other breakfasts whose approval would be continued. If the Department believes it necessary to reduce sugar and fat levels in grain-fruit products, it could revise its specifications for these products. Manufacturers have expressed willingness to reformulate their products to meet revised specifications.

The Department and many nutritionists have stated that during processing, highly refined products, such as the grain-fruit product, lose fiber, important trace elements, and perhaps other necessary nutrients which have not yet been identified. Accordingly, they believe that conventional unrefined foods provide better sources of nutrition. This may be so, but there are other measures available to deal with this possibility. Also, children have access to trace elements and other substances found in milk and other foods consumed as part of their total diets.

To provide for possible shortages of trace elements and other nutrients, the Department could, for example, require grain-fruit products to be made with whole-grain flour (although program regulations generally treat refined- and enriched-grain products as being as good as whole-grain products). The Department could also limit the frequency with which the two-component breakfast may be served. Limiting the use of the two-component breakfast to once or twice a week would not significantly interfere with local school district practices and would help ensure that, overall, the program provides sufficient trace elements, fiber, and other nutrients through a variety of foods. The Department could, of course, require additional nutrients, such as trace elements, to be added as information becomes available showing how much of these nutrients children need.

In contrast to the uncertainty surrounding the complaints about certain nutritional aspects of grain-fruit products, it is firmly established that under today's standards, these products contain ample quantities of many nutrients long recognized as being important for good health. The Department has noted that the nutrient levels provided by the two-component breakfast are higher than those provided by the conventional pattern established in the regulations.

The Department is concerned that serving the two-component breakfast might teach children that pastries are acceptable breakfast foods and that this idea might carry over into their adulthood. No studies exist showing this, and the Department's concern seems inconsistent with its proposal which would allow continued use of pastries--including grain-fruit products--in the program as long as juice is served. The view that adding juice to a pastry and milk breakfast has an overriding effect on children's eating habits has not been

demonstrated. It also seems that a well-planned nutrition education program could specifically teach children that fortified products, such as grain-fruit products, are different from unfortified ones and that they have certain benefits and certain limitations when compared with other types of breakfasts.

The use of grain-fruit products in the school breakfast program is not widespread. Our review covering 2,265 schools in 42 school districts in 14 States showed that the two-component breakfast was used in only about 1 of every 8 schools participating in the program during the 1977-78 school year and normally was served no more than once or twice a week. Some schools using the two-component breakfast had experienced greater acceptability and menu variety and increased convenience.

Adequacy of cooking and serving facilities is not a significant issue. Both two-component and three-component meals require only refrigeration and a place for the children to eat.

The two-component breakfast is less costly than other breakfasts. Our analysis of costs of the Cleveland, Ohio, school district showed that the district saved about \$100,000 in the 1977-78 school year by not serving a separate juice component on the days that formulated grain-fruit products were served. (The Cleveland food service director's claimed savings of \$277,500, which you cited in your letter, were not realized because the breakfast program did not expand as anticipated )

Nationwide savings cannot be precisely estimated because no one knows how many two-component breakfasts are served and cost data on the wide variety of alternate meals is not readily available. According to Department estimates, however, discontinuing authorization of the two-component breakfast could increase program costs at least \$1.7 million annually. This amount could be higher depending on the types of meals substituted and the number of additional schools entering the program.

The Department recognizes that conclusive proof does not exist to show that eating formulated grain-fruit products is harmful to a child's health, dietary habits, or attitudes. However, it believes the two-component breakfast should be

banned partly because of the majority opinion of nutrition experts and some members of the general public who have expressed concern that the grain-fruit product may not be as beneficial as conventional foods.

On the basis of these opinions and the fact that use of the grain-fruit products has not created the expansion anticipated in the breakfast program, the Department has concluded that any benefits which may be realized from using the products are outweighed by the potential negative impact upon the agricultural sector, nutrition education, and the nutritional well-being of participating children.

We recognize that conclusive proof is difficult to obtain and that many questions are unanswered in the nutrition field. However, a logical extension of the Department's inclination to ban an approved meal based on opinions that a food product may be undesirable could logically result in eliminating other presently accepted foods from the program. In addition, the Department seems to regard the two-component breakfast as a major contributor to broad nutrition problems related to total diet intake of trace elements, fiber, sugar, and fat. In reality, the two-component breakfast's limited use would not seem to permit it to have such an impact. This limited use would also seem to result in grain-fruit products' having little, if any, impact on agricultural commodity markets.

The Department had planned to make a final decision on its proposal by the end of the 1977-78 school year. However, Senate Report 95-884 (May 15, 1978) by the Committee on Agriculture, Nutrition, and Forestry suggested that the Department withhold its proposed withdrawal until our report and the Department's own study on this matter were available. Also, the House-Senate conference report (H. Rept. 95-1579, Sept. 18, 1978) on the Department's fiscal year 1979 appropriations bill provided that, for the 1978-79 school year, in instances where there are insufficient facilities or personnel to provide a regular breakfast, each school would have the option to serve formulated grain-fruit products. In addition, the Child Nutrition Amendments of 1978 (Public Law 95-627) provide that the Secretary shall not limit or prohibit the use of grain-fruit products during the 1978-79 school year. The act also requires the Secretary to consider the findings and recommendations in this report.

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Because of the uncertainties involved in the issues surrounding grain-fruit products and because some schools find the two-component breakfast to be a popular, convenient, and less costly alternative to conventional breakfast patterns, ~~we recommend~~ that the Department <sup>should</sup> carefully evaluate and consider the following alternatives to banning the two-component breakfast:

- Requiring that grain-fruit products be made with whole grains.
- Revising the products' specifications to require less sugar and fat.
- Limiting the frequency with which the two-component breakfast may be served.

*In Addition*

Moreover, because the Department lacks evidence on the nutritional value of conventional breakfasts compared with that of the two-component breakfast, we recommend that ~~the~~ Department <sup>should</sup> take the lead in getting any needed research performed on possible child nutrition problems related to fat, sugar, fiber, and trace elements. Research findings should, of course, be used as a basis for revising child nutrition program requirements, but ~~we recommend~~ that instead of singling out one specific product, standards and requirements <sup>should</sup> be developed and applied broadly to the foods used in school feeding programs.


The Department of Agriculture generally concurs with these recommendations.

As arranged with your office, we are sending copies of this report to Senators Stennis and Talmadge and to Senator Allen's successor; the Senate Committees on Appropriations, Governmental Affairs, and Agriculture, Nutrition, and Forestry; the House Committees on Education and Labor, Appropriations, and Government Operations; other interested

B-176994

committees and Members of Congress; the Director, Office of Management and Budget; and the Secretary of Agriculture.

Sincerely yours,

  
Comptroller General  
of the United States



C o n t e n t s

	<u>Page</u>
APPENDIX	
I      SUMMARY OF INFORMATION ON THE FORMULATED GRAIN-FRUIT PRODUCT CONTROVERSY	8
Scope of review	8
School breakfast program	10
Types of breakfasts	10
Introduction and proposed withdrawal of two-component breakfast	10
Formulated grain-fruit products not widely used	12
Controversy over the use of formulated grain-fruit products: Issues and answers	15
Central issues in the controversy	15
Nutrition	16
Nutrition education	21
Acceptability	23
Menu variety	25
School facilities	26
Cost savings	27
Conclusions	29
Recommendations to the Secretary of Agriculture	31
Agency comments and our evaluation	31
II      Letter dated August 14, 1978, from the Assistant Secretary for Food and Consumer Services, Department of Agriculture	34

SUMMARY OF INFORMATION ON THE FORMULATED  
GRAIN-FRUIT PRODUCT CONTROVERSY

SCOPE OF REVIEW

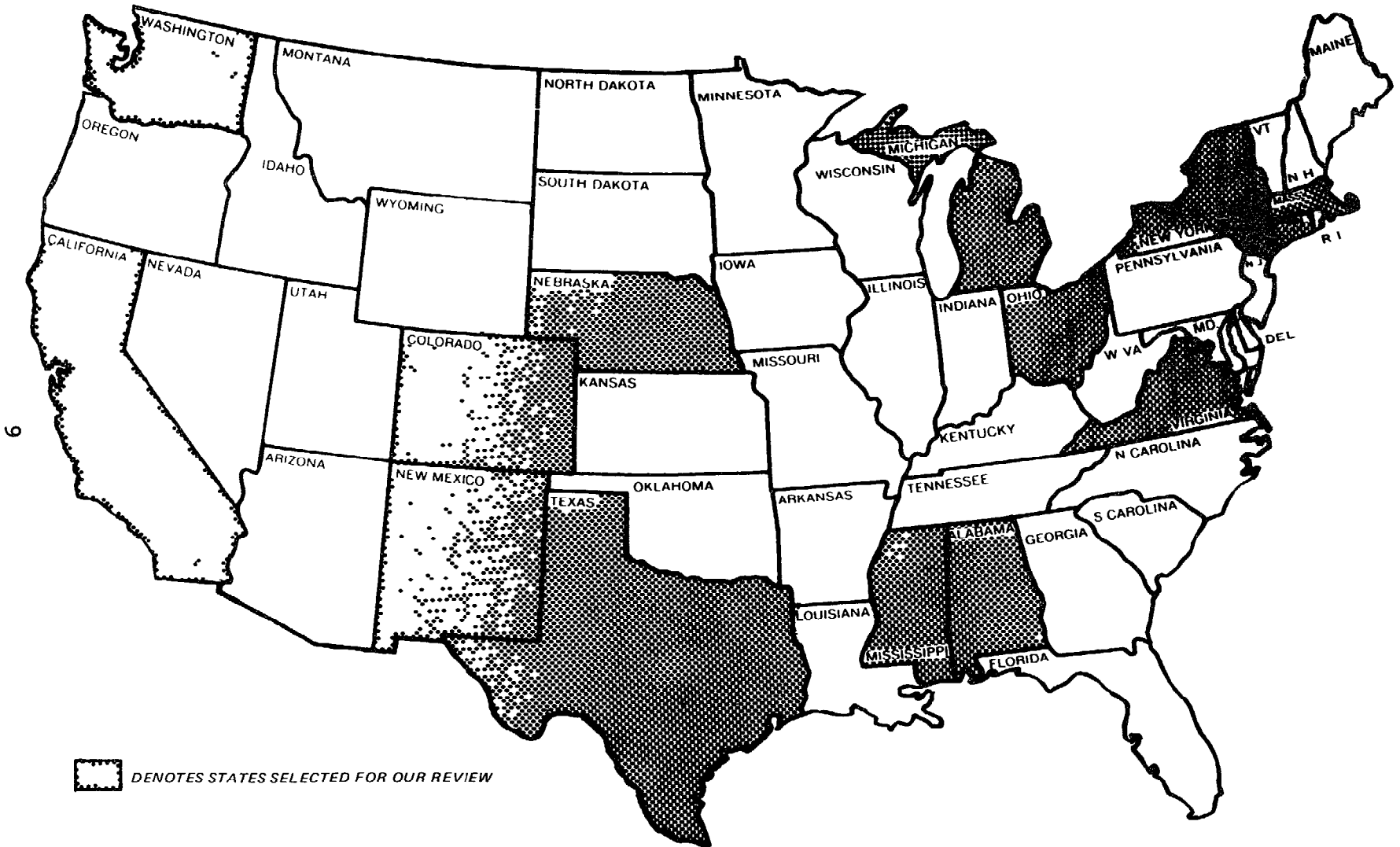
Senators Eastland, Stennis, Talmadge, and the late Senator Allen, requested this review.

We obtained national statistics on the school breakfast program and Department of Agriculture views on the formulated grain-fruit product controversy from Food and Nutrition Service personnel at Department headquarters in Washington. We reviewed Department regulations and examined statistical reports, various studies, and other pertinent records pertaining to the breakfast program and the grain-fruit product controversy, including comments on proposed regulations regarding grain-fruit products.

To determine the types of school breakfasts being served and the extent to which grain-fruit products are used, we analyzed October 1977 breakfast menus from 42 school districts representing 2,265 schools participating in the school breakfast program. We also determined that subsequent menus in the sampled school districts were identical or substantially the same as the October menus. One large, one medium-size, and one small school district were selected from each of 14 States geographically dispersed throughout the country. (See map on p. 9.)

While our sample was not scientifically chosen to enable statistically valid projections of our findings, it was sufficiently broad in coverage to allow us to make general observations about the breakfast program and the use of formulated grain-fruit products. As of October 1977 (the latest date that statistical data was available), the schools in our sample represented 11 percent of all schools in the breakfast program. The 7.8 million breakfasts served in the sampled schools were 16 percent of all breakfasts served nationwide in October 1977.

From school food service officials in the selected cities and States, we obtained various information on their breakfast programs. In Cleveland, Ohio, we examined cost records to determine the amount saved in the 1977-78 school year as a result of serving two-component breakfasts using the grain-fruit product.



SCHOOL BREAKFAST PROGRAM

The school breakfast program started in October 1966 when, under Public Law 89-642, the Congress authorized a 2-year pilot program. Initially, the school breakfast program was available to schools which drew children from economically poor areas and to schools where a substantial portion of the children enrolled had to travel long distances daily. Over the years the program became less restrictive and more schools became eligible for participation. Public Law 94-105 gave permanent authorization to the school breakfast program in October 1975.

All schools, public and private, and residential child care institutions are now eligible for participation in the school breakfast program where it is needed to provide adequate nutrition for children in attendance. However, national statistics indicate that the program has not been widely implemented. As of October 1977 only 20,500, or 19 percent, of a total of 109,500 schools nationally had a breakfast program. Further, school breakfasts were being served to only about 1 of every 4 children in the participating schools and to only 1 of every 20 school children, nationwide. These figures and other data provided throughout this report exclude residential child care institutions for which data is less readily available. As of October 1977 about 2,400 such facilities were participating in the breakfast program.

Types of breakfasts

Basically, the Department has approved three types of meals for use in school breakfasts: (1) the formulated grain-fruit product with milk, the only two-component breakfast currently allowed, (2) the conventional three-component breakfast consisting of a cereal or bread product, a juice or fruit or vegetable item, and milk, and (3) the so-called protein-rich breakfast in which meat or meat alternates (e.g., fish, cheese, eggs, or peanut butter) are used with a conventional breakfast.

Introduction and proposed withdrawal of two-component breakfast

In an attempt to expand the school breakfast program to more schools, the Department, in March 1974, authorized the use of formulated grain-fruit products with milk as an alternative to the previously required three-component breakfast. The Department intended these products, which have to meet specific Department nutritional and other

standards, to be primarily for schools which lacked adequate kitchen or serving facilities. The Department believed that more schools would enter the program if given the option of serving grain-fruit products. The Department also believed the two-component breakfast would be more convenient and less costly than the conventional three-component breakfast of milk, bread/cereal, and fruit/juice. Further, the grain-fruit products were intended to add variety to school breakfasts and help eliminate plate-waste.

The Department authorized the two-component breakfast using formulated grain-fruit products despite opposition from many school food authorities, community interest groups, nutritionists, and other individuals and organizations. In August 1977 the Department proposed withdrawing its authorization on the grounds that formulated grain-fruit products (1) did not bring schools without facilities into the school breakfast program, (2) do not promote good food habits, and (3) are not the preferred source of adequate nutrition according to some health and nutrition specialists.

Contrary to publicized accounts, the proposed withdrawal would not entail a ban of formulated grain-fruit products in school breakfasts. Such products would still be allowed as an alternate to the bread/cereal component, but a fruit, juice, or vegetable would also have to be served--along with the milk. The proposal would strongly discourage use of grain-fruit products, however, because other bread/cereal foods would meet the Department's requirements at less expense.

The Department had planned to make a final decision on its proposal by the end of the 1977-78 school year. However, Senate Report 95-884 (May 15, 1978) by the Committee on Agriculture, Nutrition, and Forestry suggested that the Department withhold its proposed withdrawal until our report and the Department's own study on this matter were available. Also, the House-Senate conference report (H. Rept. 95-1579, Sept. 18, 1978) on the Department's fiscal year 1979 appropriations bill provided that, for the 1978-79 school year, in instances where there are insufficient facilities or personnel to provide a regular breakfast, each school would have the option of serving formulated grain-fruit products. In addition, the Child Nutrition Amendments of 1978 (Public Law 95-627) provide that the Secretary shall not limit or prohibit the use of grain-fruit products during the 1978-79 school year. The act also requires the Secretary to consider the findings and recommendations in this report.

The Department was still deliberating its final decision on its proposal at the beginning of the 1978-79 school year.

FORMULATED GRAIN-FRUIT  
PRODUCTS NOT WIDELY USED

Only 7 of the 42 sampled school districts and 304, or 13 percent, of the 2,265 schools participating in the program in these 42 districts were using formulated grain-fruit products in their breakfast programs. Generally, the schools served grain-fruit products once or twice a week. None of the schools served them daily. Significantly, only 4 percent of the 7.8 million breakfasts served in the 2,265 sampled schools during October 1977 contained formulated grain-fruit products. A Department survey in January 1978 (involving 213 schools) showed that grain-fruit products were being served in 13, or 6 percent, of the schools sampled.

In the districts we sampled, use of the formulated grain-fruit products followed no consistent pattern as far as district size. Three of the school districts serving the grain-fruit products were in the largest cities from the sampled States; three were in medium-size cities; and one district was in a small rural area.

As shown in the table below, none of the 304 schools in our study served the formulated grain-fruit products every day. The one school in the Department survey which used these products daily offered them as an item of choice along with conventional meals. As shown, 65 percent of the schools serving formulated grain-fruit products served them once a week or less.

Weekly frequency of formulated grain-fruit product usage	Number of schools			Percent
	GAO study	Agriculture survey	Total	
1 (or less)	199	8	207	65
2	56	2	58	18
3	49	2	51	16
4	0	0	0	0
5 (optional)	<u>0</u>	<u>1</u>	<u>1</u>	<u>1</u>
Total	<u>304</u>	<u>13</u>	<u>317</u>	<u>100</u>

When compared with all school breakfasts, the number of formulated grain-fruit product meals is not significant. Of the 7.8 million breakfasts served during October 1977 in our

sampled schools, only 310,000, or 4 percent, contained grain-fruit products. On the basis of information it obtained on 6,500 schools in January 1978, the Department estimated that 6-1/2 percent of all meals in the school breakfast program use grain-fruit products. Although the results of these studies cannot be projected with the precision provided by statistical sampling, they indicate that formulated grain-fruit products may be used in only 16 to 26 million of the approximately 400 million meals served annually in the breakfast program.

As shown in the table on page 14, the two-component breakfast using grain-fruit products was not the predominant meal pattern even in those schools in our sample which used the products. On an average, only 30 percent of the breakfasts served in these schools contained a formulated grain-fruit product. Except in the two districts which served a large number of protein-rich breakfasts, the conventional three-component cold breakfast (generally consisting of cereal or a pastry product with juice and milk) was the meal pattern most frequently used in all the sampled school districts. In the 7 districts that used grain-fruit products, 38 percent of the meals were cold three-component breakfasts; in the 33 other districts, 59 percent were. As the table also shows, the three-component hot breakfast was served as frequently in both the schools using and not using grain-fruit products, although the protein-rich breakfast was used more often in the schools not using grain-fruit products.

Types of Breakfasts Served in GAO-sampled  
School Districts During October 1977

<u>Breakfast types</u>	<u>Number of breakfasts served during October 1977</u>							
	<u>In 7 districts using grain-fruit products</u>		<u>In 35 districts not using grain-fruit products</u>		<u>In 33 districts not using grain-fruit products (note a)</u>		<u>In 42 sampled districts</u>	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Total</u>	<u>Percent</u>
Protein-rich	225,209	21	4,565,854	67	595,183	30	4,791,063	61
Cold, 3-component	392,922	38	2,014,735	30	1,145,615	59	2,407,657	31
Hot, 3-component	116,773	11	218,200	3	218,200	11	334,973	4
Fortified, 2- component	<u>310,256</u>	<u>30</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>310,256</u>	<u>4</u>
Total	<u>1,045,160</u>	<u>100</u>	<u>6,798,789</u>	<u>100</u>	<u>1,958,998</u>	<u>100</u>	<u>7,843,949</u>	<u>100</u>

a/ Two of the 35 school districts not using formulated grain-fruit products are extremely large--1,200 schools which served 4.8 million breakfasts during October 1977, mostly of the protein type. Therefore, this separate analysis is shown for the remaining 33 districts not serving the grain-fruit product.



CONTROVERSY OVER THE USE OF FORMULATED  
GRAIN-FRUIT PRODUCTS: ISSUES AND ANSWERS

Despite Department regulations that require grain-fruit products to meet established nutrient levels, many nutritionists have repeatedly questioned the overall desirability of this type of product. Substantive information which would support definite conclusions regarding the nutritionists' questions is generally lacking, making policy decisions difficult as well as subjective. However, banning the two-component breakfast is not the only available response to the nutritionists' questions and concerns; other measures are available if immediate action is needed and long-range efforts should apply broadly to the foods used in child nutrition programs.

Central issues in the controversy

The controversy over whether to permit the two-component grain-fruit breakfast centers on six basic issues.

- Nutritional quality. How much protein, fat, sugar, carbohydrates, minerals, fiber, trace elements, and vitamins do grain-fruit products contain?
- Nutrition education. Will such products promote poor eating habits?
- Acceptability. How popular are the grain-fruit products compared with conventional foods?
- Menu variety. To what extent are different breakfasts offered?
- School facilities. Do schools have adequate facilities to serve conventional three-component breakfasts?
- Cost. How does the delivered cost of a grain-fruit breakfast compare with costs of other breakfast types?

These issues were first raised when the Department proposed using formulated grain-fruit products in school breakfasts. At that time opponents of the grain-fruit products said such products were nutritionally inferior to conventional foods, taught poor eating habits, were high in sugar and fat content, were not as popular with children as conventional foods, and offered little convenience over other meal patterns. Despite these opinions, the Department authorized the use of grain-fruit products meeting specific nutrition and other standards.

Now, the Department has decided these same opinions have enough merit to remove the two-component breakfast using grain-fruit products from the school breakfast program. In the following sections, we examine each of these issues and discuss what we found to support or contradict these opinions.

### Nutrition

The Department has stated that it is not opposed to the use of enriched or fortified foods in school breakfasts; however, it believes in the concept that the preferred source of adequate nutrition is a well-balanced diet of conventional foods. Influenced by health and nutrition specialists who hold this view, the Department has proposed withdrawing approval of the two-component breakfast although earlier it viewed such a breakfast as providing substantial nutritional benefits because the grain-fruit products were fortified with various vitamins and minerals long recognized as being essential for good health.

The Department's current position is based on several questions being repeatedly raised by the nutrition community on how to evaluate the nutritional benefit of various foods. Although most of these questions were raised before the two-component breakfast was authorized, they have become more important to the nutrition community since the two-component breakfast was approved. These questions involve the grain-fruit products' (1) apparent lack of trace elements and fiber normally found in whole grains and other unrefined foods and generally regarded as being important for good health, (2) possible lack of nutrients which have not been identified or whose relationship to health is unclear, and (3) sugar and fat content.

Scientific data or other explicit information is generally not available showing that health problems are caused by foods such as grain-fruit products. In fact, such information regarding most of the general health problems discussed in connection with the two-component breakfast is inadequate or nonexistent. Although not directly related to health or health problems, the Department has funded a \$340,000 study that may provide some basis for comparing nutrient levels of various types of school breakfasts. Scheduled for completion in September 1979, this study is supposed to assess, among other things, the levels of nutrients in various types of school breakfasts--including those using formulated grain-fruit products.

Proper nutrition for children is critical. The National Institute for Child Health and Human Development has stated that the nutritional needs of the growing and developing individual are different from those of the nongrowing adult. For example, the effects of malnutrition in adulthood can be reversed but malnutrition in infancy may cause irreparable damage. Moreover, research has shown that the origins of such adult disorders as obesity, diabetes, hypertension, and vascular disease can be traced to nutritional factors and dietary habits in infancy and childhood.

It should be recognized, however, that formulated grain-fruit products provide substantial quantities of nutrients. Before being approved for use in the school breakfast program, these products have to undergo various chemical and protein analyses to demonstrate that their nutrient levels meet nutritional and other standards set by the Department. A grain-fruit product and milk breakfast was designed to provide at least 25 percent of the Recommended Dietary Allowances for 10- to 12-year-old children for most recognized nutrients except magnesium and kilocalories, which are provided at approximately 13 percent of the Recommended Dietary Allowances. The Department has approved about 20 such products.

The Department contends that a precise comparison of the nutritional value of a conventional breakfast with a formulated grain-fruit product breakfast cannot be made because of the many unknowns concerning the composition and nutritional value of foods. Although we agree, we note that for most of the nutrients listed in the Department's publication, "Nutritive Value of American Foods in Common Units," the nutrient levels of formulated grain-fruit products exceed those of a breakfast of a glass of orange juice, one egg, two strips of bacon, one slice of bread, and a pat of butter. Proponents of fortified foods contend that these products are ideal for a nutrient-oriented diet which stresses variety and quantity of nutrients to obtain a particular nutrient level rather than the number of foods consumed.

Some nutritionists contend that compared with conventional foods, formulated grain-fruit products are lower in fiber and possibly lower in trace elements that are present in only minute quantities in some foods. A Department official said that trace nutrients have not been thoroughly studied and that while some of them may be absent in grain-fruit products, they are also missing in most conventional breakfasts. He said that some of these nutrients are present in only protein-rich meals where meat or a meat alternate is served.

In commenting on this matter (see app. II), the Department said that regardless of the predetermined nutritional content of formulated grain-fruit products, their use only ensures that children receive those nutrients with which the product is fortified. The Department said that although research in trace mineral nutrition is far from complete, highly refined products, such as the grain-fruit product, generally lack or contain only limited amounts of trace mineral elements even when fortified. It said that fruits are generally a good source of trace elements, but that the two-component breakfast does not include fruit. The Department, citing the many unknowns and the constant evolution of knowledge about nutritional needs, also expressed concern that trace nutrients and elements as yet unknown may not be available in formulated foods. Consequently, the Department believes children must be given access to trace elements and other substances which may be contained in conventional foods.

We recognize that many questions are unanswered in the nutrition field. In three recent reports, "The National School Lunch Program--Is It Working?" (PAD-77-6, July 26, 1977), "How Good Are School Lunches?" (CED-78-22, Feb. 3, 1978), and "Federal Human Nutrition Research Needs A Coordinated Approach To Advance Nutrition Knowledge" (PSAD-77-156 and 156-A, Mar. 28, 1978), we pointed out the need for more and better information in such areas as the nutritional value of foods and the relationship between nutrition and health.

As pointed out earlier, the formulated grain-fruit product and milk breakfast is served infrequently and contains levels of nutrients as high as or higher than many other breakfasts served in the school breakfast program. Also, children have access to trace elements and other substances found in milk and other foods consumed as part of their total diets.

To help cover needs for trace elements, fiber, and unknown nutrients, the Department could require that the grain-fruit products be made with whole grain instead of refined flour. Further, limits on the frequency of use of grain-fruit products would also insure that, over time, children are provided a variety of the more conventional foods that would cover such needs.

Some nutritionists and parents have expressed concern about the amount of sugar and fat in formulated grain-fruit products. The Department has not alleged that the levels of sugar and fat in grain-fruit products are too high. But it has cited pressure from others about the potential effects

of too much sugar and fat as one consideration for its proposal to withdraw authorization of the two-component breakfast.

There are no generally accepted health and nutrition standards for the sugar and fat content in children's diets or in specific foods, although the fat content of grain-fruit products may not exceed 22 percent of their weight. Available studies and reports and our discussions with Department officials revealed no substantive evidence to demonstrate that the sugar and fat contained specifically in formulated grain-fruit products were excessive or harmful. One official noted that some other approved breakfasts are probably higher in sugar and fat and that little evidence is available to show what specific consumption levels are bad.

Less is known about sugar and its impact than is known about fat and other nutrients. In its publication, "Nutritive Value of American Foods In Common Units," the Department shows the fat but not the sugar content of foods. Also, the Department has not established a standard for sugar content of grain-fruit products, although one could be established if the Department believes the products contain excessive sugar. Manufacturers have expressed willingness to reformulate their products to meet revised specifications.

The Department has no analytical data on the exact sugar content of formulated grain-fruit products other than that received from two manufacturers of these products. According to their product formulations, sugar comprises 20 percent of the total weight of one of the products and 15-1/2 percent of the other product. Information on the sugar content in many foods commonly used in school breakfasts is not available; therefore, comparisons of sugar content in grain-fruit products and all the other foods used in school breakfasts cannot readily be made.

There are studies that show that sucrose (table sugar) in large amounts or at frequent intervals contributes to the development of dental caries and that overconsumption probably contributes to obesity. However, a 1976 study conducted by the Federation of American Societies for Experimental Biology entitled "Evaluation of the Health Aspects of Sucrose as a Food Ingredient" concluded that there is no clear evidence to demonstrate that sugar is a hazard when used at normal levels. The study, made for the Food and Drug Administration, examined sugar content in various foods, including some frequently found in school breakfasts. For example, the study found that the average breakfast cereal contains 27 percent sucrose. Although the report did not say

grain-fruit product use, indicate that most school officials do not favor their use.

School food service personnel in 35 districts where grain-fruit products were not used and some State officials preferred conventional breakfasts for the following reasons:

- Teaches better nutritional habits.
- More appetizing.
- Personal preference.
- Facilities were available to prepare conventional breakfasts.
- More nutritious.
- Less expensive.
- Less sugar, less additives, more milk consumed.
- Bad publicity on grain-fruit products.

In the seven districts where formulated grain-fruit products were used, school officials told us these products led to increased participation, less plate-waste, more variety and convenience, and cost savings.

How children view grain-fruit products is not well documented. The Department has little statistical data on children's views, although several comments on its proposed withdrawal cited greater acceptability and little plate-waste as reasons for retaining grain-fruit products in school breakfasts.

The Memphis (Tennessee) school system conducted studies on the acceptability of grain-fruit products in its local schools. In experimenting with formulated grain-fruit products in 1970-71, the school system noticed a dramatic rise in its breakfast program participation. Of the eligible children, 80 percent participated whereas only 28 percent had participated 2 years earlier when conventional breakfasts were served. Responses from principals and teachers in the school system indicated a positive attitude toward the products and improvement in student behavior and attitudes.

In 1975 the Memphis school system conducted another acceptability study. This time formulated grain-fruit breakfasts were studied along with conventional breakfasts.

Slightly higher acceptability ratings were reported for conventional breakfasts than for the grain-fruit products. The study pointed out that regardless of the breakfast pattern, the acceptability rating was high. Further, the study concluded that the consumption level for all breakfast patterns, including the grain-fruit product breakfast, was about the same--slightly over 90 percent.

The August 1977 edition of the "Journal of the American Dietetic Association" presented the results of a survey which compared conventional and fortified foods in school lunches. With few exceptions, students consumed a higher percentage of the foods served in the fortified meals. It was determined that the nutrient intake was higher with the fortified foods, especially for ascorbic acid (vitamin C) and iron. Comparing a typical grain-fruit product breakfast with a conventional breakfast of cereal, juice, and milk, we noted the grain-fruit breakfast contained significantly higher levels of some nutrients--about 6 times as much iron, for example.

In its comments (see app. II), the Department said that the above information seemed to indicate that we support a "more is better" approach concerning nutrition. We are not advocating such a philosophy, but would point out that additional iron would seem to be beneficial in light of the findings in the Ten State Nutrition Survey 1/ and the HANES study 2/ which identified iron deficiency as a nutrition problem affecting school children.

#### Menu variety

Opponents of the Department's proposal to withdraw authorization of the two-component breakfast contend this will result in less menu variety in schools now using the grain-fruit products. The Department initially concluded that menu variety was not an issue because its January 1978 survey (see p. 13) showed little difference in menu variety between the 13 schools serving grain-fruit products and the 200 not serving them. In its comments (see app. II), the Department said that menu variety is a pertinent issue,

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1/U.S. Department of Health, Education, and Welfare, Health Services and Mental Health Administration, "Ten-State Nutrition Survey, 1968-1970," HEW Publications (HSM) 72-8130 to 72-8134, Atlanta, Ga., 1972.

2/"Preliminary Findings of the First Health and Nutrition Examination Survey," HEW Pub. (HRA) 74-1219-1.

but that eliminating the two-component breakfast would not decrease menu variety in schools serving them relative to schools not serving them, based on its survey.

In our opinion, the Department's survey does not support such a conclusion. The question should not be whether menu variety is currently greater or less in schools using grain-fruit products, but rather what impact the Department's proposed withdrawal of the two-component breakfast will have in the future.

On the basis of comments from the Department and school officials, it appears that schools currently serving grain-fruit products will probably replace these meals with other breakfasts they are now serving. The Department believes the schools using grain-fruit products will probably substitute the next least expensive breakfast pattern--a three-component conventional meal of cold cereal, juice, and milk. This is a reasonable assumption, particularly if a school is using the grain-fruit product to keep costs down. Because many schools already provide the three-component conventional meal on days when grain-fruit products are not served, additional servings of the same foods will mean less variety in breakfast menus.

#### School facilities

When first introduced, formulated grain-fruit products were thought to be needed in schools where preparation and/or serving facilities were not available to provide a conventional breakfast. However, both the grain-fruit breakfast and the typical cold breakfast of cereal, juice, and milk require basically the same facilities--refrigeration and a place for the children to eat. Adequacy of facilities appears to be an issue only when a school wants to serve hot or protein-rich breakfasts.

Most schools which serve formulated grain-fruit products already provide a three-component conventional breakfast. School officials in schools using grain-fruit products cited convenience as a reason for using them, but none said they could not serve a conventional cold breakfast. In fact, a majority of the schools not only provided cold breakfasts but also hot and protein-rich meals in their breakfast menus. Also, according to data the Department has collected in connection with the school lunch program, 86 percent of the Nation's schools can serve hot lunches. All, or nearly all, of these schools would seem to have adequate facilities for serving breakfasts. Therefore, lack of facilities does not appear to be a significant issue.



Several school officials did indicate, however, that the two-component breakfast could be served quicker. This allowed for some labor savings and less inconvenience in meeting tight class schedules. In at least one instance, the Department found that use of formulated grain-fruit products allowed some schools to serve breakfast on buses.

#### Cost savings

Without a doubt, the two-component formulated grain-fruit breakfast is less costly than the protein-rich or conventional three-component breakfast. How much is saved nationally by using grain-fruit products cannot be precisely estimated because (1) no one knows how many grain-fruit breakfasts are being served and (2) cost data for the wide variety of meals served is not readily available. It appears, however, that at least an additional \$1.7 million annually might be required for school breakfasts if the Department discontinued its authorization of the two-component breakfast. But the potential cost increase could be much higher depending on the meals substituted and the extent of school breakfast program expansion.

The Department estimates a savings of 7.2 cents a meal when grain-fruit products and milk are provided instead of a conventional meal of cold cereal, juice, and milk. Almost the entire savings is attributed to the cost of juice (or fruit or vegetable) which is not incurred with the two-component breakfast. According to Department figures, the cost of the grain-fruit product is offset by the cost of the cereal, with no savings on milk because it is required in both breakfast patterns. No labor savings are included because, it is reasoned, the same number and type of personnel would be needed for both the two-component and the conventional cold breakfasts. Assuming an estimated 24 million two-component breakfasts are served annually, the Department calculated that \$1.7 million a year is saved when formulated grain-fruit products are used in school breakfasts.

The Department estimate appears reasonable--at least for the comparison between the two-component breakfast and the conventional three-component cold breakfast. However, when hot or protein-rich meals are served, the increased costs could be much higher. In the Cleveland district, for example, we noted a 17.8 cents a meal differential between the formulated grain-fruit product breakfast and a protein-rich breakfast of a toasted cheese sandwich, juice, and milk. If the school district substituted this breakfast for the two-component breakfast now being used in about 1.3 million meals a year, the additional annual cost would be about \$240,000.

Data on food costs is skimpy and statistical data on potential labor savings is lacking. Some contend there could be additional labor costs if the two-component breakfast were eliminated, but we were unable to substantiate this. In fact, in Cleveland, Ohio, where we analyzed cost data (as discussed below), we found no difference in labor costs among the various types of meals served. The Department contends that additional labor costs would be minimal, since schools now using the two-component breakfast would probably substitute the least expensive, most convenient alternative--usually cold cereal, juice, and milk. The Department recognizes, however, that the quality of substituted breakfasts might be reduced in those schools now using the grain-fruit products as a means to keep costs down.

The Department commented (see app. II) that program reimbursement levels are adequate for schools to provide conventional breakfasts and implies that we agree with its assessment. We agree that reimbursement is sufficient to cover cost of food items, but not that reimbursement is sufficient for all school districts to cover total costs of serving breakfasts. In our survey, school districts reported a wide range of total breakfast costs--food and labor. Some were within the maximum Federal reimbursement allowed and others exceeded maximum reimbursement levels. Funds from other sources make up the difference.

Analysis of Cleveland, Ohio, school system's claim of cost savings--The food service director for public schools in Cleveland, Ohio, had claimed that the use of formulated grain-fruit products in Cleveland's school breakfast program would save \$277,500 in the 1977-78 school year. Similar to the Department's projection, the director's estimate was based on savings realized when the juice/fruit/vegetable component is not served. In Cleveland, orange juice was served in conventional and protein-rich breakfasts at a cost of 7.31 cents a meal. Using 1976-77 school year records, the director determined that 1,365,000 formulated grain-fruit breakfasts were served without orange juice in the 55 participating schools. At a savings of 7.31 cents a meal, it was estimated that \$99,800 could be saved if the same number of grain-fruit breakfasts were provided during the 1977-78 school year. No labor costs were included in the estimate.

The food service director projected an additional \$177,700 savings for an anticipated expansion of the breakfast program to 81 more schools by September 1977. An estimated 2,432,000 additional two-component breakfasts were projected for these schools. Expansion of the program to these schools

was required by a State mandate which said that a breakfast program had to be established in all schools where one-third of the children enrolled were eligible for free meals.

After discussing this matter with Cleveland school food service officials and after reviewing cost and related breakfast program records, we determined that the \$277,500 claimed savings would not be realized. The claim was overstated by about \$10,400 due to clerical errors in computing the number of breakfasts served. More importantly, the Cleveland school breakfast program did not expand as anticipated. None of the 81 additional schools were added to the program during the 1977-78 school year. Further, because the Cleveland public school system has been experiencing severe financial problems, we doubt that the program will expand in the foreseeable future. School officials chose not to comment on the future of Cleveland's breakfast program.

Undoubtedly, Cleveland's school system, which is in a financial crunch, would be adversely affected by a decision to withdraw the two-component breakfast from the program. Because Cleveland is already receiving the maximum Federal reimbursement for meals, additional costs would have to be borne by the school system. How much additional cost would be involved is speculative at this time. A lot depends on the number of schools participating in the school breakfast program. Also, additional costs would depend on whether orange juice was added to the grain-fruit product and milk breakfast or whether another type of breakfast currently on the menu was substituted for the two-component breakfast.

Additional costs for each breakfast would be: 7.3 cents if orange juice was added to the two-component breakfast; 5.7 cents if cold cereal, juice, and milk were substituted; 8 cents if a honeybun, juice, and milk were substituted; and 17.8 cents if a toasted cheese sandwich, juice, and milk were substituted. Assuming no expansion of the program in Cleveland and substitution of a cold cereal breakfast and a honeybun breakfast for the two weekly formulated grain-fruit product breakfasts, the estimated annual additional cost would be about \$92,000. This additional cost would be born by the local school district because its cost per meal already exceeds the maximum Federal reimbursement.

#### CONCLUSIONS

Withdrawing approval of the two-component breakfast is not the only available response to the various questions and concerns about formulated grain-fruit products. The two-component

breakfast contains high levels of nutrients and provides a less expensive alternative to a three-component conventional or protein-rich breakfast. Conservatively the Department estimates increased program costs of \$1.7 million annually if the two-component breakfast is discontinued. Further, grain-fruit products' effects seem to have been overstated considering that these breakfasts are probably served in only about one of every eight schools in the breakfast program and normally are served no more than once or twice a week. Since grain-fruit products are served infrequently, children have access to a variety of other foods in their total diets from which trace elements and other substances can be obtained.

The Department is proposing to withdraw its approval of the two-component breakfast because it prefers the use of conventional foods, not because it has strong evidence that grain-fruit products are bad for children or detrimental to the breakfast program. Since the Department recognizes the need for more research in the areas of sugar and fat, fiber, and trace elements, it should take the lead to assure that such research is performed. Research findings should be the basis for making decisions on child nutrition program requirements, but instead of singling out one product, standards and requirements should be developed and applied broadly to the foods used in the school feeding programs.

In regard to the Department's concern that children may not receive certain trace elements and other substances found in conventional foods if they are served a two-component breakfast, we believe other approaches are available. The Department could restrict the frequency with which grain-fruit products can be served and, if necessary, revise the specifications to require whole grains in the formulated product. Restricting the use of grain-fruit products to twice a week would not interfere with the benefits received by most of the school districts using the products, and would insure that children continue to receive a variety of foods in the breakfast program.

Most schools serving the two-component breakfast could provide a three-component conventional breakfast because adequacy of facilities does not appear to be an issue; nevertheless, some schools have benefitted from the grain-fruit products in terms of greater acceptability, greater menu variety, and increased convenience--in addition to cost savings. Although large numbers of schools will probably not leave the breakfast program if approval is withdrawn, some schools undoubtedly would have to sacrifice some of the benefits now received through the use of grain-fruit products.

RECOMMENDATIONS TO THE SECRETARY  
OF AGRICULTURE

Because of the uncertainties involved in the issues surrounding grain-fruit products and because some schools find the two-component breakfast to be a popular, convenient, and less costly alternative to conventional breakfast patterns, we recommend that the Department carefully evaluate the merits of the following alternatives to banning the two-component breakfast.

- Requiring that grain-fruit products be made with whole grains.
- Revising the products' specifications to require less sugar and fat.
- Limiting the frequency with which the two-component breakfast may be served.

Moreover, because the Department lacks evidence on the nutritional value of conventional breakfasts compared with that of the two-component breakfast, we recommend that the Department take the lead in getting any needed research performed on possible child nutrition problems related to fat, sugar, fiber, and trace elements. Research findings should, of course, be used as a basis for revising child nutrition program requirements, but we recommend that instead of singling out one specific product, standards and requirements be developed and applied broadly to the foods used in school feeding programs.

AGENCY COMMENTS AND OUR EVALUATION

The Department commented on the matters discussed in this report in a letter dated August 14, 1978. (See app. II.) Because of changes in the report's recommendations, we asked the Department to review and give us oral comments on the revised draft report in November 1978. In its November comments, the Department generally agreed with our recommendations.

The Department recognizes that conclusive proof does not exist to show that eating grain-fruit products is harmful to a child's health, dietary habits, or attitudes. The Department points out that knowledge of nutritional needs, food consumption habits, and food preferences is constantly evolving and is far from complete. It believes it should take a cautious approach in developing child nutrition program requirements.

On the basis of opinions of many nutritionists and the general public and the fact that use of grain-fruit products has not created the anticipated breakfast program expansion, the Department has concluded that any benefits which may be realized from using the products are far outweighed by the potential negative impact on the agricultural sector, nutrition education, and the nutritional well-being of participating children.

We recognize that conclusive proof is difficult to obtain and that many questions are unanswered in the nutrition field. However, formulated grain-fruit products, which are required to meet specific nutritional and other standards set by the Department, contain relatively large amounts of nutrients considered to be important for good health. If grain-fruit products are included in a school breakfast program with a variety of other foods--as we found to be the case--they would not seem likely to cause substantial nutritional shortcomings.

We think it unreasonable to imply that one type of product is a major contributor to broad nutritional problems, especially in the absence of information showing the product is less beneficial than other meals served in the breakfast program. If the Department obtains substantive evidence that children's nutritional well-being is adversely affected by certain types of products or ingredients, its actions should be directed broadly to such products or ingredients used in child nutrition programs.

Without substantive evidence that children will receive better nutrition from a breakfast substituted for the two-component breakfast, the Department's proposal to ban the two-component meal seems highly questionable. Its action is also inconsistent with the Department's regulations which would still allow the use of highly processed, sweetened cereal and pastry products at breakfast. On the basis of this inconsistency and the lack of answers to questions concerning nutritional values of various type breakfasts, including those with a grain-fruit product, we believe the Department should take the lead in getting needed research performed.

The Department is also concerned that use of formulated grain-fruit products might diminish Federal support of the fruit and vegetable markets. A basic objective of the school breakfast program and other child nutrition programs, as stated in the authorizing legislation, is to encourage domestic consumption of nutritious agricultural commodities. The Department said that if its sole concern was that

commodities were slightly more costly than grain-fruit products, a logical policy would be to rely on inexpensive vitamin supplements.

Grain-fruit products' limited use would seem to us to result in little, if any, impact on agricultural commodity markets. Moreover, the Department should recognize that we are not advocating that the total diet be revolutionized into a myriad of highly processed, fortified foods.

The Department also noted that authorizing the two-component breakfast was an exception to the prevailing regulations which required three components. This is the only exception to the Department's meal pattern which allows a single product to replace two food items.

We recognize that the two-component breakfast was an exception when it was approved in 1974. However, it has become an accepted part of the program in some schools, and its approval should be withdrawn only if there is adequate justification for doing so.

The Department's comments also imply, we think unfairly, that we are not interested in safeguarding the health of children because--in view of the relatively small number of children that are involved--we believe the issue has been overstated. Our concern for children's nutrition has been well established. In our recent reports concerning Federal feeding programs (see p. 18), we have consistently urged the Department to improve its programs and to obtain the additional knowledge necessary to do so. Perhaps the current study 1/ funded by the Department and scheduled for completion in September 1979 will contribute to such knowledge, especially in areas affecting the proposed ban of the two-component breakfast.

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1/The study is entitled "Nutritional Evaluation of the School Breakfast Program." The contractor is Opinion Research Corporation; the subcontractor is Colorado State University. The study was initiated September 1977. The study will assess the level of nutrients in a school breakfast as served and as consumed, and the amount of plate-waste, food and labor costs, and acceptability of various school breakfasts.



DEPARTMENT OF AGRICULTURE  
OFFICE OF THE SECRETARY  
WASHINGTON D C 20250

AUG 14 1978

Mr. Henry Eschwege, Director  
Community and Economic Development Division  
United States General Accounting Office  
Washington, D. C. 20548

Dear Mr. Eschwege

This is in response to the preliminary draft of the General Accounting Office report.

[See GAO note 1, p. 43.]

(1) Responsibility of the Secretary

Since the original National School Lunch Act was enacted in 1946, the Secretary's responsibility in child nutrition programs has been to ensure that program recipients receive safe and nutritious food. The Secretary is not required to prove that certain foods are harmful. When data on human nutritional needs and on the nutrient composition of foods are incomplete, a conscious policy of caution is required to "safeguard the health and well-being of the Nation's children." This is what Congress mandated.

It is the Secretary's responsibility to establish meal patterns and guidelines in order to help local schools serve balanced, nutritious meals to children. The breakfast meal pattern informs local school officials how much of which component (vegetable/fruit, milk, bread product) is required to be served.

The formulated grain-fruit product in the School Breakfast Program is a single substitute for two required components. It significantly deviates from the basic meal pattern, and its authorization therefore required an exception to prevailing regulations. In 1974 the Department proposed to allow the formulated product, thus proposing an exception to its own rule.



Mr Henry Eschwege

Public comment was overwhelmingly opposed. Despite the opposition, the formulated product was authorized. It is the only exception to the meal pattern which allows a single product to replace two food items.

The child nutrition programs are not intended to be used as testing grounds for new food products. On the contrary, the Secretary is authorized to develop a model nutrition program. In proposing to withdraw authorization for formulated grain fruit products, the Secretary is simply proposing to withdraw an extraordinary exception to a fundamental rule.

The issue is not whether there is indisputable proof that eating formulated grain-fruit products is harmful to a child's health, dietary habits or attitudes. There is, in fact, significant concern by professionals and the general public that it may well be harmful. But the issue in a model nutrition program is whether there is any evidence that withdrawing authorization of the formulated product is harmful.

When consensus on specific causal relationships between diet and health has not yet been reached, we should rely on the majority opinion of nutrition experts. The majority of nutrition experts who have commented called for withdrawal of product authorization. Further, the GAO offers no evidence to contradict this cautious approach to nutrition.

(2) Department's Reasons for Reconsideration

When the Department first authorized the use of formulated grain fruit products, it did so in the belief that a more "convenient" breakfast item would encourage schools that lacked food preparation facilities to take part in the School Breakfast Program. The GAO report, and the Congressional letter requesting the report, acknowledge that the anticipated expansion has not taken place. Obviously, the availability of food preparation facilities has not figured in decisions to enter or leave the breakfast program. Indeed, studies show that few of those schools that use formulated grain-fruit products do so because of a lack of kitchen equipment or service facilities. Both the basic conventional breakfast and the formulated grain fruit product breakfast require refrigerated milk. Schools serving either type of breakfast must have refrigeration capacity. Therefore, the major justification for the original authorization has proven invalid.

This fact, plus the opposition of professional and public opinion, led the Department to reconsider its position. The Department has concluded that any benefits which may be realized from the use of the product are far outweighed by its potential negative impact upon the agricultural sector, nutrition education and the nutritional well-being of participating

Mr. Henry Eschwege

children. The report repeatedly charges the Department to give evidence of the product's harmful effects on nutrition and nutrition education, but it offers no evidence of the product's benefits. GAO does, however, acknowledge certain concerns with product utilization.

[See GAO note 1, p. 43.]

Mr Henry Eschwege

The contention that the proposed withdrawal is an action "blown out of proportion," because of the product's limited use, is especially disturbing. We cannot dismiss safeguarding the health and well being of even a single child so lightly. It is hard to imagine that GAO really believes that because only roughly 300,000 children are affected the issue should be dropped.

As regards "menu variety," the Department agrees that this is a "pertinent issue." We have assessed whether there are differences in menu variety between schools serving grain-fruit breakfasts and those serving a conventional breakfast. We do not see why withdrawal of authorization would decrease menu variety in schools which use the product relative to schools which do not.

The "cost savings" argument initially appears to be the most clear-cut issue. There is general agreement that a grain-fruit product costs less than food costs of the average conventional breakfast. However, as GAO notes, program reimbursement levels are adequate for schools to provide conventional breakfast foods. As a result, there is no evidence that withdrawal of the grain-fruit authorization will lead to children being denied breakfast. The report contends that the Cleveland school system, already experiencing financial difficulties, "would be adversely affected by a decision to withdraw two-component breakfasts from the program." However, in an informal analysis of Cleveland's breakfasts costs, the Department found the principal problem to be spiraling labor costs, rather than food costs. There should be other measures that can be taken to make the Cleveland program more efficient without sacrificing the nutritional integrity of the meals.

Moreover, it is possible that continued authorization of the formulated product could contribute to somewhat higher dental costs. Sugar, such as that used in grain-fruit products, contributes to the nation's dental caries bill of roughly \$6.5 billion. While grain-fruit consumption cannot causally be linked to that dental bill, there is no question that sugar consumption increases the risk of caries development. Even if certain conventional foods now allowed in the program have an equivalent level of sugar as the formulated product, that is not a justification for the product's continued authorization, particularly in light of other nutrition education concerns.

#### (4) Program Objectives

The stated objectives of the child nutrition programs are to protect the health and well-being of the nation's children and to encourage the

FTC staff report on Children's Advertising, February, 1978

Mr. Henry Eschwege

domestic consumption of nutritious agricultural commodities. Furthermore, the Congress recently amended the Child Nutrition Act to make specific provision for nutrition education and its relationship to food assistance programs. These three objectives mean that program regulations issued by this Department must not only prescribe meal patterns, but must promote measures to encourage the consumption of agricultural products, and must foster the development of nutrition education activities.

(5) Concern About Agriculture Support

Utilization of the grain fruit product reduces Federal support of the fruit and vegetable markets. The grain-fruit products served in schools contain no fruit. This failure to support the agriculture sector substitutes chemicals for commodities. If our sole concern is that the commodities are slightly more costly than the fortified product, then a logical policy would be a meal program which relies on inexpensive vitamin supplements. Congress has made it clear that the child nutrition programs should "encourage the domestic consumption of nutritious agricultural commodities." Wherever possible, this objective should be met.

(6) Concern About Impact on Nutrition Education

Section 19, of the Child Nutrition Act, states "(1) the proper nutrition of the nation's children is a matter of highest priority; (2) the lack of understanding of the principles of good nutrition and their relationship to health can contribute to a child's rejection of highly nutritious food and consequent plate waste in school food service operations; ... and (5) there is a need to create opportunities for children to learn about the importance of the principles of good nutrition in their daily lives and how these principles are applied in the school cafeteria." The Congress went on to designate the child nutrition programs as "a learning laboratory" for nutrition education.

Senator McGovern stated, "We can make the lunchroom a laboratory for nutrition education." Senator Dole said, "School feeding and education go hand in hand." And the late Senator Humphrey said, ". . . we must make sure that nutrition education is an integral part of our child feeding programs."

In carrying out Congressional mandates the Department is committed to exemplifying an established nutrition education principle: the preferred source of adequate nutrition is a well-balanced diet of conventional foods. This principle recently was reinforced by the Senate. It adopted an amendment, sponsored by Senator Robert Dole, to pending Senate Bill 12511 stipulating that "no alternate food items shall be presented to substitute for more than one food component in the basic meal requirement".

Mr Henry Eschwege

Senator Dole has stated that "Consistent with my concerns for improving the overall quality of school meals, strengthening their nutritional base, and supporting the recently enacted 50 cents per child nutrition education program, I introduced an amendment which directs the Secretary of Agriculture to occasionally review and consider the use of alternate foods in the child nutrition programs " He added that the public and specialists are concerned about "the inconsistency in the use of certain foods in the federally supported school meal program -- inconsistent with the educational process for developing good food habits among young people and with sound and accepted principles of good nutrition "

On Thursday, August 10, the Senate passed an appropriations bill (H.R. 13125) which contains report language on the grain-fruit product supporting the Secretary's authority in this area. It is in strong disagreement with the House version, which attempts to minimize the Secretary's authority. As previously noted, the conventional breakfast pattern consists of three components: bread or cereal, fruit, vegetable or juice, and milk. The formulated grain-fruit product is a pastry fortified with nutrients and replaces both the bread/cereal component and the fruit/vegetable/juice component.

The Department is concerned that children who are served the two-component breakfast, consisting of milk and a formulated grain-fruit product, are not learning to eat a variety of conventional foods to satisfy nutrition needs. In addition, the child is not learning to distinguish the fortified product from its unfortified counterpart. Such a breakfast is likely to suggest to the child that a pastry product and milk combination is a complete nutritional breakfast. Definitive evidence may be lacking to show that what a child eats in school breakfasts will affect his adult eating habits or render him unable to distinguish the formulated 'super-donut' from 'unsuper' pastries, but at least one study\*, conducted under USDA aegis, underscores this common sense concern. The study noted that "exposure to foods within and outside the home apparently influenced acceptance of (food) significantly." Clearly, 'serving the formulated product at school exposes the child -- and may well dispose the child -- to this type of pastry product.

Whether there is a special psychological influence when food is consumed or made available in the school or learning environment has not been studied. However, studies do indicate that to a large extent children's taste preferences are learned. If the school cafeteria is to be a "learning laboratory," (as Congress has designated), the child nutrition programs can influence children's taste preferences by teaching them that offered foods are acceptable, perhaps even desirable. Considerably more research in this area is needed but the possible implications for a pastry-like product are significant, particularly if such research underscores

\* Fruit and Vegetable Acceptance by Students" - Journal of the American Dietetic Association on March 1973, p. 269

Mr. Henry Eschwege

the common sense expectation that what the child learns successfully to do in school, he will do outside the school. If the child learns that a pastry-like product equals a nutritious meal then in the marketplace children may well buy pastry products which are not necessarily fortified and contain relatively high levels of sugar.

There may or may not be nutritional advantages in serving a fortified pastry rather than an unfortified one. Furthermore, many nutrition educators are concerned that even when children are taught the distinction between fortified and unfortified products at schools, they may well go ahead and buy unfortified products at the store, in the belief it could be a nutritious meal

[See GAO note 2, p. 43.]

The Recommended Dietary Allowances (RDA) developed by the Food and Nutrition Board of the National Academy of Sciences warns that there is no advantage to promoting the creation of formulated foods to replace a conventional diet. Further, the document adds: "Nutritional adequacy is best assured through the use of a wide variety of foods having complementary patterns of nutrients."

The RDA document serves as the basis for the fortification requirements of the formulated grain-fruit products. It incorporates a fundamental philosophy that conventional foods, not fortified formulated products, are the preferred source of nutrients

[See GAO note 2, p. 43.]

For these reasons the nutrition community has historically considered that a fundamental nutrition education objective is to teach children to rely on a varied diet of conventional foods to meet nutritional needs.

The Society for Nutrition Education, for example, recently passed a resolution calling for withdrawal of grain-fruit authorization largely on this basis.

(7) Concern About Nutrition, and Health and Well-Being

[See GAO note 2, p. 43.]

Mr Henry Eschwege

[See GAO note 2, p. 43.]

A more fundamental problem with the report is that it seems to support a "more is better" approach concerning nutrition which is not only outmoded but also may be harmful. In a comparison between a conventional and a grain-fruit breakfast, the report implies a preference for the grain-fruit product since it "contained about 6 times as much iron and 3 times as much ascorbic acid as the conventional breakfast." There is no evidence this excess is a benefit to children. Research has been undertaken concerning the ill effects of excessive consumption of specific nutrients.

The grain-fruit product is designed to meet predetermined levels of certain specified nutrients. Regardless of the predetermined nutritional content of formulated grain-fruit products, use of them can only ensure that children receive those nutrients with which the formulated product is fortified. This is no guarantee of nutritional adequacy.

Nutritional knowledge is constantly evolving. It is far from complete. Our knowledge of nutritional needs, food consumption habits, and food preferences remains in a constant state of flux. Given the amount we have yet to learn about food and nutrition, we cannot presume that specific substances added to grain-fruit products satisfy all nutritional needs. We are concerned that trace nutrients and elements as yet unknown may not be available in formulated foods.

We strongly believe that children must be given access to trace elements and other substances found in conventional foods. Walter Mertz, Chairman of the Nutrition Institute at Beltsville Agricultural Research Center has stated, "the recognition of our incomplete knowledge of essential nutrients is the basis for the recommendation of the Food and Nutrition Board that 'RDA should be provided from as varied a selection of foods as is practical.'"

The GAO report states that "trace elements have not been thoroughly studied and that while some nutrients may be absent from grain-fruit products, they are also missing from conventional breakfasts."

Although it is true that research in trace mineral nutrition is far from complete, experts in food composition in USDA attest to the following: (1) the category of foods which lack or contain limited amounts of trace mineral elements are highly refined grain products, and even when these products are fortified, trace elements are not added back.

Mr. Henry Eschwege

(2) The USDA recommends whole grain as well as enriched grain products for breakfasts for the very reason that these foods are more reliable sources of certain vitamins and trace mineral elements.

[See GAO note 2, p. 43.]

In short, since the grain in the formulated product is highly refined there are special concerns about the lack of trace nutrients. Since the "fruit" in the formulated product is not fruit it too lacks trace nutrients. Whole grain bread and an orange, on the other hand, contain essential vitamins and trace nutrients not found in the formulated product.

Research on trace minerals reveals that significant health problems may result from a deficiency of a particular trace mineral. For example, an absence of chromium may be associated with diabetes and of fluoride with bone degeneration.

Another nutritional concern is sugar and fat content of these products. There is evidence to suggest that excessive levels of sugar and fat in the diet are harmful. There is no evidence that reducing the level of these substances is harmful.

The Department is involved in a range of efforts to moderate sugar and fat consumption in child nutrition programs. These efforts include

- the development of guidelines and recommendations for use by State and local officials in reducing the levels of these substances in school lunches and breakfasts including a direct reference in meal pattern regulations.
- keeping the sugar levels in commodities donated to schools under the Food Distribution Program to the minimum needed to produce acceptable foods.
- planned revision of the USDA quantity recipes to reduce their sugar and fat levels,
- planned deletion of such items as doughnuts and sweet rolls from future editions of the menu planning guide,
- proposed regulations that would require local officials to make skim or low fat milk available to children;
- testing of the feasibility of significantly reducing levels of sugar fat, and salt in the meals,



Mr. Henry Eschwege

- planned comprehensive review of the use of sugar and fat in the child nutrition programs.

The report notes that breakfasts other than grain-fruit breakfasts may contain as much or more sugar and/or fat. That is fact. For this reason, we are planning to review other foods allowed in the school breakfast program. We focused first on the formulated product because it not only raises concerns with respect to sugar, but also with (1) our commitment to agricultural support, (2) nutrition education--with particular emphasis on the need for learning about a balanced diet of conventional foods and (3) nutrition problems inherent in fortification.

(8) Conclusions

In conclusion, we believe the Department's proposal to withdraw authorization of the use of formulated grain-fruit products in the School Breakfast Program has reasonable justification. The original rationale for approval of the formulated grain-fruit product is no longer valid and new problems and concerns may best be resolved through the proposed withdrawal.

We appreciate this opportunity to comment on the philosophy and specifics in the draft of your paper. We hope you will find reason to reconsider your approach to nutrition when developing your final report.

Sincerely,



GAO note 1: The deleted comments related to a proposal in the draft report which has been omitted or substantially revised in the final report.

GAO note 2: The report has been revised based on these comments; they are not reproduced herein.

(02395)

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