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CONVENIENCE FOODS—1975 COST UPDATE

[By Larry G. Traub, Economic Research Service and Dianne Odland, Agricultural Research Service, USDA]

With food prices increasing, with real incomes not improving appreciably, with rising awareness of good nutrition, with more social and work demands on the housewife, and with food processing firms continually introducing new products on the market, the homemaker's decision on what foods to buy for her family has become very complex. One such decision is whether to buy the convenience food form or to prepare the dish from scratch. The purpose of this paper is to provide information on the cost differential between selected convenience or proposed food forms and their home-prepared or fresh counterpart.

DEFINITION AND CHARACTERISTICS OF CONVENIENCE FOODS

First, let's discuss the characteristics and the meaning of the term "convenience foods." In 1963, USDA's Economic Research Service defined them as foods which have services added to basic ingredients to reduce the preparation required in the home (3).

Some have argued that this is a definition of prepared foods, while others interpret it to include items that are standard in today's diet such as frozen orange juice concentrate, frozen french fries, or canned and frozen vegetables.

Webster defines "convenience" as "service conducive to comfort." If convenience foods are considered within this framework, then many foods are in the convenience category. Canned green beans are a convenience food when compared to fresh green beans because the beans have been washed, snapped, cut and cooked. This product typifies a class of convenience food with built-in maid service. Even more convenience is built into frozen green bean casserole and other new products like frozen sweet and sour pork or frozen shrimp newburg which reflect convenience with built-in chef service.

Convenience can be associated with less preparation time or at least change in the preparation activities in the consumer's kitchen. Ease in storage, change in storage space requirements, and ease of transporting the food from the market to the home base of lighter weight or reduced bulk may also be considered as factors conducive to comfort.

Perhaps the convenience distinction could be based on newness of the food product and its related processes. Using this basis, we may define convenience foods as those recently introduced and processed by new technologies. Some refer to these products as "new generation" convenience foods.

The definition of convenience food for this report is "any fully or partially prepared food in which significant preparation time, culinary

skills, or energy inputs have been transferred from the homemaker's kitchen to the food processor and distributor." Products introduced prior to 1960 will be referred to as "established" convenience foods while those introduced during the past 15 years will be referred to as "new generation" convenience foods.

CONSUMPTION OF CONVENIENCE FOODS

Because of factors such as rising real incomes, value of homemaker's time, and desire for leisure, the consumption of some categories of convenience foods has been increasing. For example, frozen vegetables offered in bulk bags and pouches, garnished with sauces and creams, or combined with another vegetable or food, have helped increase the per capita consumption of frozen vegetables, on a fresh weight basis, from 15.4 pounds in 1963 to 21.9 pounds in 1973—a rise of over 40 percent. Frozen french fried potatoes have helped increase the per capita consumption of frozen potatoes by more than 300 percent. Dry-mix potato casserole dishes, introduced in the early 1960's, have increased per capita consumption of dehydrated potatoes from 5.1 pounds in 1963 to 12.8 pounds ten years later, an increase greater than 150 percent. In comparison, per capita food consumption increased by 5.6 percent from 1963 to 1973.

CONSUMER CONCERNS ABOUT CONVENIENCE FOODS

Although sales of convenience foods have grown, consumers and their advocates have some serious reservations about them. Some of their questions are: If a convenience food costs more than a similar home-prepared product, how much more? Is the convenience worth the added cost? How much time does the convenience product save? How does it compare in eating quality? Also, now that fuel consumption is an important consideration, does the convenience product save fuel compared with a home-prepared item?

PREVIOUS WORK

An extensive cooperative study on convenience foods was undertaken in the late 1950's by the Economic Research Service (ERS) and the Agricultural Research Service (ARS) of the U.S. Department of Agriculture. The study included foods in fresh, canned, dried, and frozen forms, representing several food categories including meat, fish, poultry, cheese, baked goods, desserts, vegetables, and fruits. A total of 247 items was studied. Cost, comparative yield, nutritive value, quality, and preparation time of convenience foods and their home-prepared counterparts were studied and the results reported in a series of publications (1, 2, 3, 4, 6, 7) which appeared in the 1960's.

In determining the cost of convenience products and their home-prepared counterpart, prices of convenience items and ingredients for home recipes were collected over a 1-year period (May 1959 to April 1960) from major food chain stores in four regions of the United States—Philadelphia, Milwaukee, Oakland, and New Orleans. Average cost per serving figures showed that 116 out of the 158 convenience

foods studied were more expensive than their home-prepared counterpart. These findings demonstrate the need for consumers to be selective in choosing from the convenience items available for purchase if lower food costs are to be achieved.

CURRENT STUDY

Food and fuel prices have risen substantially, value of homemaker's time has increased, and a number of "new generation" convenience products has been introduced to the market since the previous study. Therefore, ERS and ARS have conducted a study to evaluate cost, volume of sales, home preparation time and use of fuel, and eating quality of selected convenience foods and their home-prepared counterpart. Only ingredient cost information will be presented in this paper. Procedures and results of the other phases of the study will be reported at a later date.

Costs were computed for 295 foods. One hundred seven were either home-prepared or fresh foods. One hundred eighty-eight were convenience foods of which 162 have a home-prepared or fresh counterpart. Forty-three "new generation" convenience foods, which were not on the market in 1960, were also studied.

LABORATORY PROCEDURES

Fifty-one food items tested in 1960 were retested in the laboratory to determine differences in total yield and proportion of major ingredients since the previous study. In addition, laboratory tests were made for 36 "new generation" convenience foods and for several other products not previously tested. In most instances, home-prepared counterparts were also studied. Three tests were conducted for each product.

Convenience products were prepared according to package directions and each home-prepared item according to a recipe which, whenever possible, was formulated to contain the same types of ingredients as the corresponding convenience item. For example, if the ingredient label of a convenience food specified that it contained butter rather than margarine, then butter was used in the home-prepared food. Home-prepared items initially tested in 1960 were prepared using the same recipe as in the earlier study.

One market brand and container size of each convenience food available at a retail food store in the Washington, D.C., metropolitan area were tested. In cases where more than one brand or size was available, a nationally advertised brand of medium price and container size was selected for study. Food containers for the selected brand were chosen randomly from the grocery shelves. All foods requiring refrigeration were stored at 38°F, frozen items at 0°F, and canned goods at room temperature.

Finished products were weighed to the nearest gram and then grams converted to ounces. The number of servings per recipe for the home-prepared product or per market unit for the corresponding convenience item was calculated on the basis of equal weight servings.

Individual components of the prepared convenience products were weighed, except in instances where small particle size or consistency of the food did not permit separation of ingredients. For example, in the testing of pizza, tomato sauce and cheese could be separated from the crust but could not be separated accurately from each other. Components in the products were weighted to permit comparison between the quantity of the most costly ingredients such as the amount of shrimp in shrimp newburg.

The cost of each ingredient used in home-prepared products was based on the actual amount of food required. For example, in a recipe which required two cups of cooked diced chicken, the weight of raw chicken which must be cooked in order to obtain this amount was used for costing purposes. Vegetables which must be trimmed or pared or canned ingredients which must be drained before use are other examples of foods for which yield must be considered. In order to allow for differences due to such factors as variety, geographic location, season, container size, and brand of ingredients consumers commonly use in recipes, current data on food yields (5) were used in reporting the amount of food ingredients required for purchase. Because these data are average figures based on many samples, it is believed that this manner of reporting the "as purchased" weights of ingredients gives a more accurate representation than could be calculated using figures obtained in only three tests.

COST PROCEDURES

ERS collected price data for national and regional volume brand movers and non-brands (store brands, private labels, and contract labels) over 12 months (July 1974 through June 1975) from leading food retail chain stores in Philadelphia, Milwaukee, Oakland, and New Orleans. The initial step in computing costs was to weight each monthly price per ounce for brand and chain store effects. The brand effect is the ratio of brand food and non-brand food sales to their total sales. To compute the brand effect when both a brand and non-brand food product were sold by a given chain in a given city for a given month, the price of the volume brand mover was weighted (multiplied) by .82; the price of the non-brand was weighted by .18; and the two prices summed. These weights were provided by the National Association of Food Chains. The weights assume no difference in brand effect ratios among products. Although brand effect ratios differ among products, unfortunately, no data were available to compute unique brand effect ratios for each product.

The chain store effect is the ratio of food sales of an individual chain store relative to sales of all participating chain stores that sold the product in the market. To compute the chain store effect for each city during a given month, the price of a product at each chain store was weighted by its respective chain store ratio. The weighted prices for each chain store were then summed. The sales data for computing chain store ratios were from the 1975 Grocery Distribution Guide, Metro Market Studies, Inc.

The second step in computing costs was to multiply the weighted price per ounce by the number of ounces of the convenience form, or by the number of ounces of the ingredients in the home-prepared formulation for the months in the given city that all ingredients were available to prepare the food. Whenever possible, the most costly ingredient(s) was(were) held in the same proportion to all ingredients in the home-prepared recipe as was found in the convenience counterpart. Finally, costs were totaled and were divided by the number of servings of the food product. The result was a comparative cost for equivalent weight servings.

COST COMPARISONS

The cost of convenience is often a factor in the consumer's decision to buy a convenience food or to prepare the product from scratch. Consumers, however, may also want to consider factors such as nutritive value, family preferences, culinary skills, and time and equipment available for food preparation. All data presented in this paper are based on ingredient costs only. Unless otherwise indicated, results are average cost per serving figures computed from prices collected in 4 cities for 12 months.

Of the 162 convenience foods studied, only 36 percent had a cost per serving lower than their home-prepared or fresh counterpart. Only 8 of 43 "new generation" convenience foods were less expensive than similar products prepared from home recipes.

Vegetables: Of the 37 convenience vegetable products studied, 16 had a cost advantage over their fresh or home-prepared counterpart. These products were canned or frozen single ingredient items which are commonly used in today's diet, e.g., green peas, cut corn, and spinach. Included in this group was a "new generation" convenience product: green beans, individually quick-frozen and packaged in a bulk bag. Products prepared from dehydrated potatoes and frozen vegetable side dishes were more expensive than similar products prepared from scratch. But frozen french fried potatoes were less expensive than french fries prepared from fresh potatoes. Of the 6 vegetable products which were available both frozen and canned, 5 were cheaper in frozen form. Frozen au gratin potatoes, however, were more than twice as expensive as the dehydrated product.

Based on quarterly cost data, fresh asparagus spears, brussels sprouts and corn were a better buy during their growing season than in their frozen or canned forms.

Fruits and Berries: Sixty-one percent of the convenience fruit and berry products had a higher cost than their fresh counterpart. Reconstituted frozen orange juice concentrate was cheaper than fresh, canned or bottled orange juice, regardless of season. Six canned fruits and berries had a lower cost than their fresh form. However, canned red sour cherries were more expensive than fresh sour cherries during their growing season, but only in cities near cherry orchards. Canned strained cranberry sauce was also less expensive than its home-prepared counterpart, but this relationship existed because sugar, the most expensive ingredient in making it at home, was at its peak price during the cranberry season. All fruits and berries available both

frozen and canned were cheaper in the frozen form, except for raspberries and peaches. When fresh strawberries were not available, frozen strawberries in a bulk bag were the next best buy. Frozen sliced strawberries were less expensive in a thaw-and-serve pouch than in a carton, even though packaging in a pouch is usually more costly. Aseptically canned peaches cost 7 cents per serving more than regular canned peaches. Orange drink made from reconstituted frozen concentrate was found to be cheaper than that made from reconstituted crystals.

Beef, Poultry, and Pork: All frozen beef entrees and dinners and two skillet main dishes made from mixes were more expensive than their respective home-prepared counterpart (table 1). Beef patties with soy protein were less expensive when soy was added to ground beef at the grocery store rather than at home. The reason is grocery stores buy soy protein from soy processors at wholesale for about 2 cents to 3 cents per ounce, while the retail price for soy protein is over 13 cents per ounce. Both forms of soy protein beef patties were cheaper than plain beef patties. The ingredients to prepare sloppy joe

TABLE 1.—COST COMPARISON OF HOME PREPARED OR FRESH BEEF, CHICKEN, TURKEY, AND PORK PRODUCT WITH CONVENIENCE COUNTERPARTS, 4-CITY AVERAGE, JULY 1974 TO JUNE 1975

[Cents per serving]

Product	Home prepared or fresh	Frozen	Canned	Skillet main dish mix	Other
Beef:					
Chili-macaroni, skillet main dish (9.21) ¹	27.79			30.41	
Dinner (11.00).....	51.31	78.88			
Lasagne (9.80).....	52.42	² 84.07			
Lasagne, skillet main dish (8.69).....	35.33			² 26.20	
Patties (2.67).....	21.11	28.08			
Patties, soy protein added (2.67).....	³ 17.18				² ⁴ 14.95
Pie (8.00).....	20.70	39.63			
Sloppy joe sandwich sauce (2.76).....	11.11		² 17.02		
Stew (8.60).....	21.34		33.70		
Stroganoff, skillet main dish (7.96).....	45.90			² 47.41	
Meat loaf dinner (9.07).....	41.32	70.16			
Chicken:					
A-la-king (5.73).....	21.86	² 36.43			
Braised whole (2.00).....	24.74		25.75		
Chow mein (6.60).....	39.13	54.32	32.80		
Fried (2.00).....	⁵ 22.62				
	⁶ 25.12				
Batter dipped, deep fat fried (2.00).....	12.43	39.30			
Meat (1.50).....	10.37		31.39		
Pie (7.70).....	29.28	35.63			
Salad, sandwich spread (2.52).....	18.75		² 32.89		
Fried, dinner (10.07).....	39.94	62.70			
Turkey:					
Dinner (12.50).....	29.53	71.26			
Tetrazzini (8.07).....	41.50	² 78.57			
Pork:					
Ham (2.00).....			30.60		⁷ 28.92
Sweet and sour (5.98).....	31.94	² 52.27			² ⁸ 58.99
Sausage (2.0).....	⁹ 29.52	28.31	30.91		
	¹⁰ 38.44				

¹ Weight of serving in ounces.

² New generation convenience food.

³ Soy protein mixed with ground beef at home.

⁴ Soy protein mixed with ground beef at grocery store.

⁵ From cut-up fryers.

⁶ From whole fryers.

⁷ Fully cooked.

⁸ Packaged combination.

⁹ Bulk.

¹⁰ Linked.

sauce or beef stew cost about two-thirds as much as the canned products.

Eight of the nine chicken convenience products were more costly than similar products prepared from fresh chicken. The cost of home-prepared batter dipped chicken and chicken meat from whole fryers was less than one-third that of the convenience products. Both chicken a-la-king frozen in a pouch and canned chicken salad spread, two "new generation" convenience foods, were about 60 percent more expensive per serving than their respective counterpart.

Consumers paid approximately 40 cents more per serving for frozen turkey dinner or tetrazzini than for the separate ingredients to prepare these dishes at home. Consumers were also paying a premium for sweet and sour pork, whether in frozen form or in a packaged combination.

Baked Goods, Desserts, and Candy: Nearly all of the frozen, chilled, or ready-to-serve baked goods, desserts, and candy were more expensive than either preparing them from recipes or mixes (table 2). Better than one-half of the products made from a complete mix were less expensive than their home-prepared counterpart. Frozen pancakes and waffles cost approximately 3 times as much as pancakes

TABLE 2.—COST COMPARISON OF HOME-PREPARED BAKED GOODS, DESSERTS, AND CANDY WITH CONVENIENCE COUNTERPARTS, 4-CITY AVERAGE, JULY 1974 TO JUNE 1975

[Cents per serving]

Product	Home prepared	Frozen	Ready to serve	Chilled	Complete mix ¹	Incomplete mix ²	Other
Baked goods:							
Baking powder biscuits (1.40) ³	2.69			4.04	3.08		
Bread stuffing, range top (2.12).....	7.26					⁴ 5.37	
Brownies (0.70).....	4.91	6.30	5.87		4.19	4.54	
Angel food cake (1.70).....	⁵ 7.29		13.20		7.98		
Bundt cake (4.10).....	15.28					⁴ 15.76	
Devils food cake (1.70).....	7.92	13.09	12.19			5.45	
Poundcake.....	4.09					4.27	
Yellow cake (1.20).....	4.91					4.19	
Sugar cookies (0.50).....	2.20		2.55	2.86			
Corn muffins (1.50).....	3.82					3.37	
Chocolate frosting (0.87).....	5.53				4.52		
White frosting (0.52).....	⁵ 3.30				2.16		
Pancakes (5.30).....	11.15	34.40			7.31	13.13	
Apple pie (4.70).....	12.52	20.46	24.01		17.70	16.68	
Cherry pie (4.50).....	16.63	22.42	24.24		18.63		
Coconut cream pie (5.00).....	13.42	21.07	24.40		19.13	⁵ 14.04	
Yeast rolls (1.30).....	2.39	3.28	6.22		3.55		⁶ 6.93
Waffles (3.30).....	6.62	18.47			4.03	7.06	
Desserts and candy:							
Fudge, chocolate (0.40).....	1.75		3.27				
Pudding, chocolate (4.60).....	11.73		⁷ 17.12		⁸ 9.87		
					⁹ 9.24		
Sherbert, orange (3.20).....	6.38		7.31				

¹ Requires only milk or water and sometimes additional flavoring ingredient(s) such as vanilla.

² Requires eggs and other ingredients in addition to the water or milk needed for every dry mix.

³ Weight of serving in ounces.

⁴ New generation convenience food.

⁵ Based on cost of egg whites only.

⁶ Brown and serve.

⁷ Canned.

⁸ Cooked.

⁹ Instant.

and waffles made from a home recipe and nearly 5 times as much as those made from a complete mix.

Dairy Products: Very small price differences were found among forms of American cheese: loaf, sliced, or individually wrapped (table 3). The cost of American cheese food in an aerosol can was almost 3 times greater than cheese food in a loaf. Margarine in a tub cost about the same as in a squeeze bottle and both forms were higher in price than stick margarine; however, they were less expensive than either bulk or quartered butter. Scrambled eggs prepared from a frozen "cholesterol-free" egg product were almost twice as expensive as scrambled fresh eggs. Higher cost of this convenience product, however, may be of little significance to those purchasing it for dietary reasons.

TABLE 3.—COST COMPARISON OF HOME PREPARED OR FRESH DAIRY PRODUCTS WITH CONVENIENCE COUNTERPARTS, 4-CITY AVERAGE, JUNE 1974 TO JULY 1975

[Cents per serving]

Product	Home prepared or fresh	Frozen	Quartered	Loaf	Other
American cheese (2.0) ¹				16.53	³ 16.82
American cheese food (2.0).....				12.27	^{2 4} 16.75
Butter (0.33).....			1.94		^{2 5} 37.73
Cream, whipping (1.00).....	6.60				⁶ 1.86
Cheese, fondue (2.72).....	28.95				⁵ 8.60
Eggs, scrambled (4.10).....	14.67	² 26.07			^{2 7} 33.55
Margarine (0.33).....			1.41		^{2 8} 1.63
Milk, nonfat (8.47).....	9.13				^{2 9} 1.68
					¹⁰ 5.83

¹ Weight of serving in ounces.

² New generation convenience food.

³ Sliced.

⁴ Singles (individually wrapped).

⁵ Aerosol can.

⁶ Bulk.

⁷ Chilled.

⁸ Soft, tub.

⁹ Liquid, squeeze bottle.

¹⁰ Dry.

Pizza, Rice, Spaghetti, Soup, and Baby Food: Frozen and chilled cheese pizzas were about 60 percent more expensive than both home-prepared and packaged combination cheese pizzas (table 4). Buying canned or packaged combination spaghetti was less costly than preparing spaghetti from scratch, mainly because less expensive cheeses were used in manufacturing the convenience products, while parmesan cheese was used in making spaghetti at home. A serving of reconstituted condensed split-pea soup was considerably cheaper than soup from other processed forms. Baby foods prepared from fresh or canned peaches or peas were more costly than their commercial counterparts because other ingredients added during processing lower the manufacturer's per unit cost.

TABLE 4.—COST COMPARISON OF HOME PREPARED OR FRESH PIZZA, RICE, SPAGHETTI, SOUP, AND BABY FOOD PRODUCTS WITH CONVENIENCE COUNTERPARTS, 4-CITY AVERAGE, JUNE 1974 TO JULY 1975

[Cents per serving]

Product	Home prepared or fresh	Frozen	Canned	Packaged combination	Chilled	Other
Pizza, rice and spaghetti:						
Pizza, cheese (8.30) ¹ -----	37.31	61.89	-----	37.81	58.38	-----
		² ³ 126.91	-----			
Rice, cooked (3.35)-----	2.89	-----	-----	-----	-----	⁴ 4.35
						⁵ 5.08
Spanish rice (4.46)-----	12.43	-----	10.94	10.30	-----	-----
Fried rice (2.85)-----	13.19	25.33	-----	-----	-----	-----
Spaghetti (8.37)-----	22.23	-----	15.89	15.87	-----	-----
Soups:						
Split pea (8.48)-----	-----	38.39	⁶ 10.92	-----	-----	² ⁸ 15.81
			² ⁷ 27.59	-----	-----	-----
Baby food:						
Liver, beef (3.50)-----	29.29	-----	34.03	-----	-----	-----
Peas (4.75)-----	45.33	-----	16.16	-----	-----	-----
	⁹ 19.04	-----	-----	-----	-----	-----
	18.76	-----	15.27	-----	-----	-----
Peaches (4.75)-----	¹⁰ 21.86	-----	-----	-----	-----	-----

¹ Weight of serving in ounces.² New generation convenience food.³ Frozen appetizer pizza.⁴ Parboiled.⁵ Precooked.⁶ Condensed.⁷ Ready to heat.⁸ Dried, individually packaged servings (green pea).⁹ Prepared from canned peas.¹⁰ Prepared from canned peaches.

Fish and Shellfish: Frozen fish sticks and crabcakes were less expensive, but frozen haddock dinner, tuna noodle casserole, and shrimp newburg in a pouch were considerably more expensive than these products prepared at home (table 5). Three of eight convenience shrimp products had a lower cost per serving than their home-prepared counterpart—frozen fried shrimp processed from diced, reformulated bits of shrimp meat and frozen and canned cooked shrimp.

TABLE 5.—COST COMPARISON OF HOME-PREPARED FISH AND SHELLFISH PRODUCTS WITH CONVENIENCE COUNTERPARTS, 4-CITY AVERAGE, JUNE 1974 TO JULY 1975

[Cents per serving]

Product	Home prepared	Frozen	Canned	Skillet main dish mix
Fish:				
Pollock fish sticks (2.60) ¹ -----	34.02	22.43	-----	-----
Haddock dinner (11.54)-----	55.53	99.96	-----	-----
Tuna noodle casserole (7.78)-----	26.17	² 67.37	-----	² 23.16
Shellfish:				
Crabcakes (2.80)-----	60.36	52.25	-----	-----
Crab—devised (3.11)-----	29.45	39.57	-----	-----
Shrimp, cooked (2.14)-----	61.20	50.39	50.07	-----
Shrimp, fried (2.56)-----	39.74	³ 44.74	-----	-----
		⁴ 41.65	-----	-----
		⁵ 44.10	-----	-----
		² ⁶ 35.94	-----	-----
Shrimp, newburg (4.20)-----	68.88	² 112.77	-----	-----
Shrimp, creole (7.46)-----	38.48	59.79	-----	-----

¹ Weight of serving in ounces.² New generation convenience food.³ Partly prepared, cooked.⁴ Partly prepared, breaded.⁵ Prefried.⁶ Diced and extruded, breaded.

Coffee and Tea : Coffee made from instant coffee and tea made from tea leaves were less expensive than all other forms in their beverage category (table 6). Lemon flavored tea in a ready-to-drink can, a product which competes with canned and bottled soft drinks, was over 11 cents for a six-ounce serving.

TABLE 6.—COST COMPARISON OF ALTERNATIVE FORMS OF COFFEE AND TEA, 4-CITY AVERAGE, JUNE 1974 TO JULY 1975

[Cents per serving]

Product	Roasted, regular grind	Leaves	Bags	Instant	Freeze dried	Ready to drink
Coffee (6.00) ¹	2.34			1.07	² 2.40	
Tea (6.00).....		0.72	1.57	1.20		^{2 3} 11.27
				^{2 3} 1.01		

¹ Size of serving in fluid ounces.

² New generation convenience food.

³ Lemon flavored.

COST-DECREASING ITEMS

Even though food production and marketing costs have continued to rise, six convenience products did become less costly by at least 1 cent per serving from the first quarter (July through September 1974) to the last quarter (April through June 1975) of the study. In order of decreasing savings, they were: shrimp newburg frozen in a pouch, frozen beef dinner, frozen partly prepared fried shrimp, canned chicken meat, frozen peaches, and frozen partly prepared cooked shrimp. Excluding seasonally produced fruits and vegetables, none of the home-prepared or fresh foods were less expensive by 1 cent per serving from the first to the last quarter of the study.

SUMMARY

(1) Only 36 percent of the convenience foods studied had a cost per serving advantage over their home-prepared or fresh counterpart.

(2) Over 80 percent of the "new generation" convenience foods were more expensive than preparing them from basic ingredients.

(3) Of the 37 vegetable convenience products, single ingredient items in the canned or frozen form were cheaper than their fresh or home-prepared counterpart. Still, six of these 16 processed vegetables were more expensive than their fresh form during the fresh vegetable's growing season.

(4) Frozen orange juice concentrate was the best orange juice buy.

(5) For consumers desiring to save money by the addition of soy protein to ground beef patties, soy protein added to ground beef at the grocery store was found to render the most savings.

(6) No home-prepared foods and only 6 convenience foods decreased in cost from the first quarter to the last quarter of the survey.

REFERENCES

1. Chapman, Velma J., James P. Sweeney, Margaret E. Martin, and Elsie H. Dawson. *Fruits: Consumer Quality Characteristics, Yield, and Preparation Time of Various Market Forms*, Washington, D.C.: U.S. Department of

- Agriculture, Agricultural Research Service, Human Nutrition Research Division, Home Economics Research Report No. 29, June, 1965.
2. Gilpin, Gladys L., Elizabeth W. Murphy, Anne C. Marsh, Elsie H. Dawson, Ferne Bowman, Rose G. Kerr, and Donald G. Snyder. *Meat, Fish, Poultry, and Cheese: Home Preparation Time, Yield, and Composition of Various Market Forms*, Washington, D.C.: U.S. Department of Agriculture, Agricultural Research Service, Human Nutrition Research Division, Home Economics Research Report No. 30, August, 1965.
 3. Harp, Harry H. and Denis F. Dunham, *Comparative Costs to Consumers of Convenience Foods and Home-Prepared Foods*, Washington, D.C.: U.S. Department of Agriculture, Economic Research Service, Marketing Economics Division, Marketing Research Report No. 609, June, 1963.
 4. King, P. L., G. L. Gilpin, and E. H. Dawson. Comparison of Several Market Forms of Potato Products, *Journal of Home Economics*, Vol. 54, No. 10, December, 1962.
 5. Matthews, Ruth H. and Young J. Garrison. *Food Yields Summarized by Different Stages of Preparation*, Washington, D.C.: U.S. Department of Agriculture, Agricultural Research Service, Consumer and Food Economics Institute, Agriculture Handbook No. 102, September, 1975.
 6. Matthews, Ruth H., Elizabeth W. Murphy, Anne C. Marsh, and Elsie H. Dawson. *Baked Products: Consumer Quality, Composition, Yield, and Preparation Time of Various Market Forms*, Washington, D.C.: U.S. Department of Agriculture, Agricultural Research Service, Human Nutrition Research Division, Home Economics Research Report No. 22, July, 1963.
 7. Sweeney, J. P., V. J. Chapman, M. E. Martin, P. L. King, and E. H. Dawson, *Vegetables: Consumer Quality, Yield, and Preparation Time of Various Market Forms*, Washington, D.C.: U.S. Department of Agriculture, Agricultural Research Service, Human Nutrition Research Division, Home Economics Research Report No. 17, May, 1962.