REPORT TO THE CONGRESS

Food Labeling: Goals, Shortcomings, And Proposed Changes

Department of Health, Education, and Welfare

Department of Agriculture

Department of Commerce

BY THE COMPTROLLER GENERAL OF THE UNITED STATES

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COMPTROLLER GENERAL OF THE UNITED STATES
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To the President of the Senate and the
Speaker of the House of Representatives

This is our report on the implementation of the Fair Packaging and Labeling Act and related food labeling laws and the improvements needed by the Food and Drug Administration, Department of Health, Education, and Welfare; the National Bureau of Standards, Department of Commerce; and the Agricultural Marketing Service, the Animal and Plant Health Inspection Service, and the Economic Research Service, Department of Agriculture, to provide the consumer with more usable information for making the value comparisons contemplated by the Congress and for determining which brands are best suited to their specific needs or preferences.

We made our review pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53), and the Accounting and Auditing Act of 1950 (31 U.S.C. 67).

Copies of this report are being sent to the Director, Office of Management and Budget; the Secretary of Health, Education, and Welfare; the Secretary of Agriculture; and the Secretary of Commerce.

Comptroller General
of the United States

Contents

ABBREVIATIONS

FDA	Food and Drug Administration
FD&C Act	Federal Food, Drug, and Cosmetic Act
FPLA	Fair Packaging and Labeling Act
FTC	Federal Trade Commission
GAO	General Accounting Office
HEW	Department of Health, Education, and Welfare
NAFC	National Association of Food Chains
NARGUS	National Association of Retail Grocers of the U.S., Inc.
RDA	recommended daily allowances
USDA	Department of Agriculture

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FOOD LABELING: GOALS, SHORTCOMINGS, AND PROPOSED CHANGES

Department of Health, Education, and Welfare
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D I G E S T

WHY THE REVIEW WAS MADE

GAO wanted to find how well the Government had carried out the Fair Packaging and Labeling Act (FPLA) and related food packaging and labeling laws to

--promote honest and fair dealings with consumers and

--insure that packages and labels provide information to help consumers compare products and determine which best provide for their specific needs or desires.

GAO also appraised the probable effect of proposed changes in these laws on industry and consumers.

FINDINGS AND CONCLUSIONS

Although most food products comply with Federal packaging and labeling laws and regulations, improvements are needed so that labels tell consumers what they need to know to compare and select those products best suited to their needs or wants.

Several bills were introduced in the 93d Congress to amend FPLA and related food labeling laws to require food labels to include information concerning

--identity of ingredients,

--nutrient values,

--percentage of main (or characterizing) ingredients,

--quality grades of characterizing ingredients,

--product freshness, and

--unit pricing (the price per standard measure, such as price per ounce, pound, pint, etc.).

The ability to compare these factors (or the lack of it) affects the ability of consumers to select the products most suited to their specific needs or preferences. (See pp. 1 and 2.)

Need for full disclosure of ingredients

The Food, Drug, and Cosmetic Act requires that most food products have their ingredients listed on their labels. In accordance with the Food, Drug, and Cosmetic Act, however, the Food and Drug Administration (FDA) has established standards of identity specifying mandatory and optional ingredients for 284 food product categories. These "standardized" products are exempt from having some of their ingredients listed.

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In addition, the Food, Drug, and Cosmetic Act permits spices, flavorings, and colorings to be listed in general terms rather than by specific name. FDA also permits vegetable oils to be listed in general terms.

As a result, products exempted or permitted to have a generalized ingredient listing may not provide consumers--especially those on special diets--the information needed to choose those products best suited to their specific needs or preferences. Consumers who need this information include

--approximately 23 million people with heart conditions,

--over 4 million diabetics and kidney patients, and

--over 7 million people suffering from allergy reactions.

GAO's review of 284 food categories exempt from listing some of their ingredients showed that at least 1 of 10 ingredients avoided by consumers on special diets was an optional ingredient in 127 food categories and was not required to be listed on the label.

GAO randomly selected 1,000 food products from Detroit area supermarkets and found that labels for 129 disclosed none or only some of their ingredients. Also 64 percent listed spices, flavorings, colorings, and vegetable oils in general terms. (See pp. 3 to 9.)

Nutritional labeling

Many Americans suffer dietary and health problems due, in part, to the lack of good nutrition. Deficient diets are caused frequently by poor food choices resulting, to some extent, from lack of nutritional information on food labels and the lack of education in nutrition.

Nutritionists believe that improved diets help prevent diseases or reduce their impact.

FDA began a program in March 1973, requiring detailed nutritional information on the labels of foods that are fortified or for which nutritional claims are made and encouraging manufacturers of other foods to voluntarily include nutrient information on their labels.

In March 1974 GAO's retail shelf survey of labels on 252 food products showed that 48 percent had the nutritional information in the format prescribed by FDA.

FDA did not initiate its multimedia consumer education program to explain the nutritional labeling format to consumers until May 30, 1974. Moreover, no money was provided; instead FDA is relying on public service announcements frequently made on non-prime time slots on radio and television. (See pp. 12 to 21.)

Need for percentage of characterizing ingredients on labels

Labels frequently lack information concerning the amount of characterizing ingredients in the product--that is, the amount of beef in beef stew or apples in apple pie.

Manufacturers can and do vary the percentage of characterizing

ingredients and thus vary the value or acceptability of their product without consumers' knowledge.

GAO reviewed recipes for 57 products in 21 meat and other food categories and found that the percentage of ingredients varied. For example, beef in beef stew varied by as much as 22 percent between brands.

In addition, an October 1972 article in Consumer Reports showed that the significant differences in the drained weight of canned foods were not always related to the retail prices.

GAO's examination of 317 randomly selected products which had characterizing ingredients showed that only 4.1 percent of the labels stated an amount or percentage of characterizing ingredients.

FDA, in March 1973, established regulations for requiring the labels of some food products to show the percentage of each characterizing ingredient. The Commissioner of FDA concluded that

--percentage labeling should be used when this information may have a material bearing on price or consumer acceptance of a food or when such information may prevent deception and

--percentage labeling often is necessary for consumers to choose between competing products.

FDA required percentage labeling on two specific products--diluted orange juice and seafood cocktail--when it established the regulations. The regulations provide for interested parties to petition FDA to have products bear percentage labeling. However, as of March 1974, only one petition had been submitted.

Although percentage labeling may not be appropriate for all products, little has been done to judge the practicality and need for percentage labeling on an individual product basis.

FDA officials said a review of the percentages of ingredients in all foods is not warranted or worth the expense.

If FDA continues to rely on petitions by interested parties to identify products appropriate for percentage of characterizing ingredient labeling, it appears to GAO that few products will be labeled this way. (See pp. 25 to 33.)

Quality grading--help or handicap?

Many consumers can't compare the value of competing products without opening the container because labels generally don't bear information or grades concerning the quality--that is, color, size, texture, flavor, blemishes or defects, and consistency.

The Department of Agriculture (USDA) has suggested that consumers use its quality grading system to compare competing products. The USDA grading system, however, was intended for use at the wholesale and manufacturer level, and it can present problems to consumers trying to use it.

A USDA study reported that most consumers knew little about the USDA system. They could not identify correctly the Government grades of the products they purchased. The several sets of grade names and designations tend to confuse consumers. Ten different top quality grade designations are used by USDA for different food categories.

A USDA official said the current cost of voluntarily grading less than 100 percent of only six categories of food products was about $183 million annually. If grading became mandatory, the cost of grading all food products in these same six categories would increase by about $327 million to a total of about $510 million annually. If all food products were graded the costs would be significantly greater. (See pp. 36 to 40.)

Need for uniform open-dating system

Freshness is obviously important in comparing perishable and semiperishable food products. After a few days some foods begin to lose their color, taste, and nutrient values. This period is called shelf life.

Food manufacturers for years have dated their products for their inventory control and to help retailers rotate stock on the shelves, but this information was usually coded and was of no use to consumers. Uncoded dating information is commonly referred to as open dating.

Most food products are properly rotated by retailers, but a study in Dade County (metropolitan Miami), Florida, of supermarket inventories before and after open dating was introduced there in 1971 showed that about 5 percent of the perishable products were still on the shelves past the prescribed last day of sale.

In an unusual case, one consumer wrote FDA that she had purchased a frozen turkey roast in December 1972 with a coupon for a meat thermometer enclosed. The coupon, however, expired on June 30, 1971--18 months earlier. Was the coupon date erroneous? Was the roast actually 18 or more months old (twice the recommended shelf life)? The consumer had no way to know.

Many food store chains voluntarily, or by State or local law, have begun open dating many perishable and semiperishable products. However, the variety and types of dates used and the general misunderstanding of their meaning have resulted in limited consumer use of the dates. (See pp. 43 to 48.)

Unit pricing--old idea, new application

Despite the FPLA program to reduce the number of package sizes, studies show that consumers trying to select the lowest priced product made inaccurate selections at least 40 percent of the time.

Unit pricing helps consumers to compare prices without having to make complicated mathematical calculations, and can--if presented effectively--significantly reduce price comparison errors by consumers.

For example, the average percentage of correct choices (the package which gave the most quantity for the least money) was 23 percent higher when unit pricing was provided and the average shopping time was significantly less, one study showed.

Unit pricing is available in about 50 percent of the chain-operated supermarkets and in 25 percent of the independent supermarkets.

But variations in the number of products covered by individual stores or chains, problems in the design and maintenance of shelf labels, inappropriate units of measure, and lack of promotion and explanatory materials have all contributed to problems consumers have in understanding and using unit pricing. (See pp. 51 to 68.)

Unit pricing--[illegible]

Surveys showed a considerable range

(9 to 68) in the percentage of shoppers claiming any use of unit pricing, and the average was only 34 percent. One main reason for this limited use has been the lack of awareness and understanding of unit pricing.

Estimates show the annual cost of providing unit pricing for the majority of consumers could be as high as $133.8 million. This cost would have to be passed on to consumers in the form of higher prices.

The estimated increase in food prices would be about $5.71 a year, or 11 cents a week for a family of four. This estimate is based on the 1973 annual cost of food estimated by USDA and the 0.17 percent of sales cost estimate found in studies of unit pricing systems in operation.

Although few consumer studies of dollar savings from unit pricing have been made, one survey showed that about 8.8 percent of the purchases observed probably involved the use of unit pricing and another study concluded that participants had actually saved about 3 percent of the purchase price through the use of unit pricing. This is 0.264 percent of the cost of all purchases and indicates that consumers, by using unit pricing, can offset the cost of providing it. (See pp. 69 to 86.)

Consumer and industry comments

Officials from 22 food manufacturing and retail firms, 4 food manufacturer and retailer trade associations, and 5 consumer groups were interviewed.

Although in many instances both consumer and industry representatives stated that consumers needed more information to readily make value comparisons as intended by FPLA, they often disagreed on how such information should be presented and on how it should be controlled to insure that consumers received the maximum benefits.

Basically industry and consumer representatives differed on whether any change in food labeling requirements is justified and on the impact of the change on food prices. (See pp. 8, 20, 32, 39, 47, and 85.)

RECOMMENDATIONS

The Secretary of Health, Education, and Welfare (HEW) should direct the Commissioner, FDA, to:

--Promulgate regulations requiring labels of food products to identify the specific vegetable oils used. (See p. 10.)

--Monitor the effectiveness of relying on public service announcements to present FDA's consumer education program, and, if appropriate, develop more effective means of presenting the information to consumers. (See p. 22.)

--Identify foods that would be appropriate for percentage of characterizing ingredient labeling and require such foods to include this information on their labels. (See p. 34.)

The Secretary of Agriculture should revise existing regulations to make grade designations uniform and easier for consumers and industry to understand. (See p. 41.)

AGENCY ACTIONS AND UNRESOLVED ISSUES

Generally, HEW and USDA concurred in

GAO's recommendations and advised GAO of the positive actions they were taking. (See pp. 10, 22, 34, 41, 48, and 87.)

GAO also obtained the views of the Department of Commerce on matters in this report. (See pp. 48, 87, and 89.)

MATTERS FOR CONSIDERATION BY THE CONGRESS

The Congress should consider amending FPLA, the FD&C Act, and related food labeling laws to:

--Require full disclosure of all ingredients on packaged food products including "standardized" products.

--Authorize FDA to require food labels to specifically identify spices, flavorings, and colorings where a proven need exists. (See p. 10.)

--Establish a uniform open-dating system for perishable and semiperishable foods. (See p. 48.)

--Establish a unit pricing program, including guidelines for the design and maintenance of unit pricing information and the education of consumers about its use and benefits. (See p. 90.)

CHAPTER 1

INTRODUCTION

In the last two decades, the retail food industry has undergone considerable change. The supermarket with its self-service aisles and rows of prepackaged food has, to a large extent, replaced the neighborhood grocery store. Modern manufacturing techniques, improved transportation, and chemical additives and preservatives have enabled food manufacturers to provide consumers a greater variety of food products as well as more prepared or convenience-type food products than ever before. The average supermarket carries over 8,000 different selections of products--more than 4 times the number available in the neighborhood grocery store 25 years ago.

With these changes has come more variety in our menus and more time away from the kitchen for homemakers; but also more confusion for shoppers who rely on food labels to help them compare and choose those products best suited to their specific needs. Since 1906 the Congress has enacted several laws which prohibit the mislabeling of food products.

The Food and Drug Administration (FDA) administers the Federal Food, Drug, and Cosmetic Act, as amended (FD&C Act) (21 U.S.C. 301); the Department of Agriculture (USDA) administers the Federal Meat Inspection Act (21 U.S.C. 601) and the Federal Poultry Products Inspection Act (21 U.S.C. 451); and the Federal Trade Commission (FTC) administers the FTC Act (15 U.S.C. 58) for other consumer products.

In 1966, the Congress enacted the Fair Packaging and Labeling Act (FPLA) (15 U.S.C. 1451) which went beyond previous labeling requirements. In addition to prescribing labeling requirements to prevent deception and misbranding of food products, FPLA stated that food labels should be informative. Section 2 of FPLA, "Declaration of Policy," states that:

> "Informed consumers are essential to the fair and efficient functioning of a free market economy. Packages and their labels should enable consumers to obtain accurate information as to the quantity of the contents and should facilitate value comparisons. Therefore, it is hereby declared to be the policy of the Congress to assist consumers and manufacturers in reaching these goals in the marketing of consumer goods."

Most food labels are required to provide four basic pieces of information to consumers:

--Common or usual name of the product.

--Name and place of business of the manufacturer, packager, or distributor.

--Net quantity of contents.

--Ingredients listed by common or usual name in order of decreasing predominance.

Federal laws also provide minimum quality standards for certain food commodities or standards for grading the quality of certain agricultural commodities to promote honesty and fair dealings in the interest of consumers. These standards affect a relatively small number of products.

Since FPLA goals were established in 1966, the debate over food labeling has continued. Consumer groups have been advocating that certain provisions of the law need to be strengthened to accomplish FPLA's objectives, and industry groups have been concerned about whether the proposed changes to FPLA would be ineffective, expensive, and unfair to the food industry.

Over 50 legislative proposals were introduced in the 93d Congress to amend FPLA and other laws concerning food labeling. These proposals, if enacted, would require food manufacturers and retailers to

--fully disclose all ingredients,

--provide information on nutrient values,

--disclose percentage and quality grade of characterizing ingredients,

--use open dating, and

--use unit pricing.

CHAPTER 2

NEED FOR FULL DISCLOSURE OF INGREDIENTS

Consumers' ability to compare competing food products and determine which brands are best suited to their specific needs or preferences depends in part on their ability to identify the specific ingredients used in each product. The FD&C Act requires most food products to have their ingredients listed on their label. In accordance with the FD&C Act, however, FDA has exempted many different product categories from having some of their ingredients listed. In addition, the FD&C Act permits food manufacturers to list spices, flavorings, and colorings in general terms rather than by specific name. FDA also permits food manufacturers to list vegetable oils in general terms.

As a result, products which are exempted or permitted to have a generalized ingredient listing may not provide consumers--especially those on special diets--the information needed to choose those products best suited to their specific needs or preferences.

SOME PRODUCTS ARE EXEMPT FROM LISTING THEIR INGREDIENTS

Since 1938, FDA has established standards of identity for 284[1] different food products, which specify the mandatory as well as optional ingredients used in a specific type of food. The standards also specify the mandatory or optional ingredients which must be disclosed on the label. However, certain ingredients--whether mandatory or optional--in these "standardized" foods are exempt from any labeling requirement.

For example, the standard for ice cream requires it to contain milk (a mandatory ingredient), however, optional ingredients, such as sugar, sodium compounds, salt, eggs, and nuts, can be included at the manufacturer's discretion. The standard does not require label disclosure of any of these mandatory or optional ingredients. In contrast, the standard for canned peas requires labeling of some optional ingredients--sodium compound, salt, and monosodium glutamate--while another optional ingredient, sugar, can be included in the product without labeling.

Commonly used products which have standards of identity include cereal flours, macaroni and noodle products, bakery products, milk and

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[1] In March 1973, FDA suspended Federal regulations (21 CFR 27.150-27.168) which established definitions and standards of identity for 19 diluted orange juice beverage and related product categories.

cream, cheeses, frozen desserts, canned fruits and fruit juices, fruit pies, jellies and preserves, oleomargarine, nut products, and canned vegetables. (A complete list of standardized products is shown in app. IV.)

Impact on consumers on special diets

Knowledge of food ingredients, while important to all consumers, is especially important to those on special diets because of illness, allergy or other reasons. For example, officials of the American Heart Association estimate that about 23 million people who have heart conditions should be avoiding saturated fats, sodium, and caffeine. Over 4 million diabetics and kidney patients must avoid or restrict their intake of sugar and potassium, respectively, and both should restrict their intake of sodium. In addition, allergy physicians estimate over 7 million people suffer from allergy reactions to ingredients, such as milk, eggs, gluten, wheat, corn, tartrazine, nuts, and monosodium glutamate.

We compared 10 ingredients--sugar, sodium, milk, wheat, eggs, gluten, tartrazine, nuts, monosodium glutamate, and caffeine--that should be avoided by consumers on special diets, with standards for 284 food categories. Results showed that 127, or about 45 percent, of these standards included as optional at least 1 of these ingredients but did not require manufacturers to list them on food labels.

For example, sugar, sodium, eggs, and monosodium glutamate are optional ingredients in mayonnaise. Because the standard for mayonnaise does not require labeling of those ingredients, consumers cannot determine whether they are present.

Officials of the Michigan Diabetic Association and a Veterans Administration hospital told us they advise those with certain health problems to avoid foods, such as mayonnaise, without full ingredient listings on their labels. For example, we interviewed three patients on low sodium diets at the Veterans Administration hospital who told us they avoid most canned foods unless the label lists all ingredients.

FDA's files showed other problems consumers face because they do not know what ingredients are used in foods. The Allergy Foundation of America and many individual consumers informed FDA of difficulties in following special diets because some products' food labels do not list all of their ingredients. For example, one lady wrote:

"I have several food allergies among which the latest is MSG [monosodium glutamate]. I know of other people who are bothered by this and who cannot tolerate meat tenderizers which I also find a problem. I am careful to read labels but when there is nothing on the label to read I am at a loss."

Current industry practices

Although many products do not have all ingredients listed on their labels, the food industry appears to be voluntarily moving closer to full disclosure.

We interviewed officials from four food manufacturing firms with national distribution that are now voluntarily labeling the ingredients on all standardized foods or plan to do so in the near future. The officials generally expressed the opinion that there was no reason not to provide this information if consumers want it.

However, our review of the labels for 1,000 food products randomly selected from 7,022 products on inventory lists of 2 supermarkets in the Detroit metropolitan area showed that 129, or about 13 percent disclosed none or only part of the ingredients contained in the product. In each case, FDA, in accordance with the law, had exempted these foods from having some or all of their ingredients listed.

Proposed changes in laws and regulations

In February 1971, the Law Students Association for Buyers' Education and Labeling petitioned FDA to require full disclosure of ingredients on all food labels to allow consumers to make more knowledgeable choices in the food they eat.

In the March 9, 1972, Federal Register, the Commissioner of FDA, having evaluated the Association's petition and related correspondence, concluded he did not have the authority to promulgate blanket regulations requiring full disclosure of ingredients. FDA can require disclosure on individual products; however, FDA officials told us such a task is time consuming and expensive.

FDA officials told us FDA supports legislation introduced in the Congress which would require all standardized foods to list their ingredients. In the 93d Congress, several legislative proposals (such as H.R. 1106, H.R. 1235, H.R. 1525, H.R. 3700, H.R. 3701, H.R. 5861, H.R. 5953, H.R. 16392, S. 904, S. 1197, S. 2110, and S. 2373 were introduced which would so amend the FD&C Act.

In the meantime FDA can and has under its present authority started to require full disclosure of optional ingredients as a part of its more recent standards. FDA also plans to require labeling of all optional ingredients in future standards. In addition, according to FDA, if such legislation is not enacted, all prior standards will eventually be amended to require full disclosure of optional ingredients. FDA has no timetable for revising present standards.

SOME INGREDIENTS DISCLOSED IN GENERAL TERMS

The FD&C Act requires foods without standards of identity to display the common or usual name of each ingredient. However, it has been industry practice to list some ingredients in general terms, such as vegetable oils and fats. In addition, the FD&C Act allows spices, flavorings, and colorings in all products to be listed in general terms. As a result, food labels frequently list "vegetable oil" as an ingredient without specifying whether it is coconut oil, cotton seed oil, corn oil, etc.; or list "artificial coloring," without specifying the number and kinds of colorings or combination of colorings.

General listing of these ingredients is permitted to provide industry flexibility to change from one ingredient to another as the supply and demand for ingredients fluctuated. In addition, the use of general terms for listing specific ingredients was intended to protect manufacturers recipe trade secrets.

Impact on consumers

Recently consumer interest in knowing the exact nature of ingredients used in food products has increased. Some consumers are concerned because of allergies to specific ingredients and others are concerned about the cholesterol level and saturated fat ratios of certain oils. The use of general terms for ingredients such as spices, flavorings, colorings, and vegetable oils can create a potential hazard for consumers with allergies or other specific health problems.

The American Academy of Allergy estimated about 300,000 cases of allergies to tartrazine (yellow dye No. 5), which is an ingredient commonly used in foods such as powdered orange drink products. However, tartrazine is not specifically identified on the label of products in which it is used.

While some individuals may be allergic to specific spices, flavorings, or colorings; consumer organizations, medical associations, and some of the Nation's leading allergists advised us that, except for tartrazine, such ingredients were not the cause of significant numbers of allergy problems.

Many studies have been made concerning the association of high cholesterol diets and coronary heart disease. Researchers' analyses of case histories of patients with heart disease have identified several factors, including high levels of cholesterol and saturated fats, in the diet which are associated with the high risk of heart disease.

For example, researchers found coronary relapses were reduced by 25 percent to 50 percent among men whose diets were adjusted to reduce the intake of fat and cholesterol.[1] Another study[2] concluded that heart patients lived an average of about ' years longer when their diets were controlled. These studies, however, have not been conclusive. The importance of cholesterol and saturated fats in the diet when compared to other risk factors is still uncertain.

Although additional studies of the relationship between diet and heart disease are needed, definite results from these studies may be many years away. In the meantime many persons are already attempting to modify their diets. In addition many physicians are prescribing special diets for patients who have had heart attacks or who have been found to have high potential for heart disease. It is difficult to follow such modified diets, however, because of the lack of good information on the fat content and cholesterol levels of foods.

For example, a chart prepared by the American Heart Association showed that all vegetable oils--corn, cottonseed, soybean, coconut, etc.--contain 14 grams of fat (saturated and polyunsaturated) in each tablespoon. However, the ratio of saturated fats changes significantly from corn oil to coconut oil. A tablespoon of corn oil contains only 2 grams of saturated fat while a tablespoon of coconut oil contains 13 grams. Unless these oils are specified on food labels the consumer does not know what ratio of saturated fat is in the product.

A panel of the White House Conference on Food, Nutrition, and Health, initiated in June 1969, studied adults' food and nutrition problems. The panel concluded that consumers are entitled to know the

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[1]Based on a report entitled "An Evaluation of Research in the United States on Human Nutrition" prepared by a joint task group of the USDA and State universities and land grant colleges. The report was issued by USDA's Science and Education Staff, Aug. 1971.

[2]Averly M. Nelson, M.D., "Diet Therapy in Coronary Disease: Effect on Mortality of High-Protein, High-Seafood, Fat-Controlled Diet," Geriatrics (Dec. 1972), pp. 103-116. Study was performed by Averly M. Nelson, M.D., based on data he compiled from 206 patients over 16 to 19 years.

content of the food they consume, especially when such information is needed by persons attempting to modify their diets or by physicians who prescribe diets for heart disease patients.

Our review of 1,000 randomly selected products (see p. 5) showed that about 64 percent listed vegetable oils, spices, flavorings, and colorings in general terms. We also found that:

--133 of 177 products whose labels showed vegetable oils, listed vegetable oil in general terms;

--158 of 164 products whose labels showed spices, listed spices in general terms;

--388 of 413 products whose labels showed flavorings, listed flavorings in general terms; and

--235 of 316 products whose labels showed colorings, listed colorings in general terms.

Proposed changes in FDA regulations

In response to consumer interest, FDA proposed a regulation in June 1971 requiring fats and oils to be listed by their specific name. In proposing the regulation, the Commissioner stated that specific identification would not present significant problems to the food industry. As of April 3, 1974, the proposed regulation had not been finalized. FDA officials informed us that a final decision on the regulation was pending resolution of the impact such regulation would have on industry. (See AGENCY COMMENTS, p. 10.)

CONSUMER AND INDUSTRY COMMENTS

During our review we interviewed officials from 22 food manufacturing and retail firms, 2 trade associations, and 5 consumer groups to obtain a cross-section of opinions on the need for full disclosure. While most of those interviewed favored full ingredient disclosure on standardized foods, opinions varied between consumer and industry officials about specifically identifying vegetable oils, spices, flavors, and colorings.

Exempt products

Consumer groups expressed their desire to know the ingredients in the food they eat. They believe consumers have a right to know what food ingredients are being used to enable them to purchase foods which are best suited to their needs or preferences.

The food industry in general is willing to specify all ingredients on labels. This is evidenced by the Grocery Manufacturers of America, National Canners Association, and the National Association of Food Chains urging their members to voluntarily disclose on labels of standardized foods, those ingredients that have been exempted by FDA. Several food industry officials expressed the opinion that full disclosure would be costly for some products; however, several other officials did not believe it would be costly since they were already providing full disclosure of ingredients for most of their products.

Ingredients listed in general terms

Officials from all 5 consumer groups favored specific disclosure of ingredients now listed in general terms. They believe that consumers have a right to know what ingredients are used in the foods they eat. They said specific knowledge of vegetable oils, especially, would aid consumers in attempting to restrict their intake of cholesterol or saturated fats.

Of the 22 food industry officials interviewed, 17 opposed specifically identifying ingredients. Many officials contend there is no proof that a significant number of people are allergic to these ingredients. Some officials did, however, acknowledge the high cholesterol and saturated fat levels of tropical oils and stated that specifically identifying certain oils may be appropriate.

Most industry officials interviewed believed specific listing of ingredients, such as vegetable oils, would significantly increase prices. They contend these ingredients are frequently interchanged, depending on their availability, and that specifying them would require frequent label changes which would require the manufacturers to have several sets of labels in stock or uneconomical purchases of raw material which would be passed on to the consumer in the form of higher food prices.

CONCLUSIONS

The significant number of food categories exempted by the FD&C Act from listing some of their ingredients on their labels causes consumers--especially those on special diets because of allergy or other reasons to make uninformed choices. Because consumers do not have enough information to identify food ingredients used in specific products, they may not be able to select the products best suited to their specific needs or preferences, as intended by the FPLA. Legislation amending the FD&C Act to require full disclosure of all ingredients in packaged food products, including standardized products, would better assist consumers in their selection of products.

Medical problems related to a particular spice, flavoring, or coloring can occur as evidenced by the allergies to tartrazine. Therefore, FDA should have the authority to require that a specific spice, flavoring, or coloring be identified on food labels when a proven consumer need exists while allowing other ingredients to be listed in general terms.

Although the evidence supporting the relationship of cholesterol and saturated fat levels in diets to the risk of heart disease is not conclusive, enough evidence exists to cause many consumers to modify their diets and many physicians to prescribe special low cholesterol and low saturated fat diets.

RECOMMENDATION TO THE SECRETARY OF HEALTH, EDUCATION, AND WELFARE (HEW)

To improve the consumer's ability to follow low cholesterol and saturated fat diets, the Secretary of HEW should direct the Commissioner of FDA to promulgate regulations requiring labels of food products to identify the specific vegetable oils used.

AGENCY COMMENTS

HEW agreed with our recommendation and advised us that, based in part on comments to FDA's June 1971 proposal to require specific identification of fats and oils on food labels (see p. 8), FDA terminated the rule making proceedings begun by that proposal and promulgated a new proposal to require that the specific name of the fat or oil appear in food labeling. The new proposal was published in the Federal Register on June 14, 1974. (See app. I.)

USDA also supports our recommendation for specific identification of vegetable oils in shortenings and in meat and poultry products. USDA pointed out, however, that identification as animal fat or vegetable oil may be sufficient in certain meat and poultry products which use such small amounts of vegetable oil that their contribution to cholesterol intake would be insignificant. (See app. II.)

RECOMMENDATION TO THE CONGRESS

To improve consumers' ability to identify ingredients used in the foods they eat and to better enable them to make informed choices of those products best suited to their specific needs or preferences, we recommend that the Congress consider amending the FD&C Act to:

--Require full disclosure of all ingredients on packaged food products, including standardized products.

--Authorize FDA to require food labels to specifically identify spices, flavorings, and colorings, where a proven need exists.

In the 93d Congress, several legislative proposals were introduced which would so amend the FD&C Act. (See p. 5 for a listing of the specific proposals.)

HEW and USDA agree with our recommendation to the Congress concerning disclosure of all ingredients and identification of spices, flavorings and colorings.

HEW said it has submitted to Congress a legislative proposal (S. 1451 and H.R. 5642) to amend the FD&C Act so as to place standardized foods under the same legal requirements that presently apply to nonstandardized foods which are required to list all ingredients, except spices, flavors, or colors. In addition, HEW said it supports most aspects of a bill (S. 2373) passed by the Senate which addresses the issue of food ingredient labeling. This bill according to HEW, would differ from HEW's bill in that it would (1) require colors to be specifically named on all food labels, (2) replace FDA's general exemption authority with a list of detailed exemptions (which conform to those already granted by FDA by regulations), and (3) require percentage ingredient declaration for significant ingredients or where the Secretary finds such declaration would be useful to consumers. In addition, S. 2373 would require manufacturers to provide information on any individual spices and flavors which are not specifically labeled, upon request, and would authorize FDA to require specific spice or flavor declaration by regulation where disclosure is needed to protect public health or provide information useful to consumers. Furthermore, HEW would be required to conduct a study, to be completed 1 year after enactment, of the need to amend the FD&C Act to require individual designation of the common or usual name of every individual spice and flavoring used in the food.

USDA told us it requires full disclosure of all ingredients in both standardized and nonstandardized meat and poultry products, except for vegetable oils, spices, flavorings, and colorings. USDA said, however, it supports, and currently has the authority to require, specific identification of spices, flavorings, and colorings where a proven need exists.

CHAPTER 3

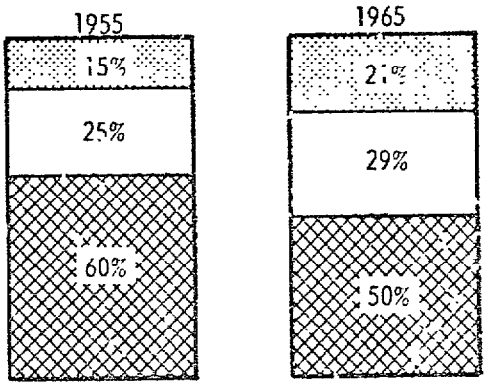
NUTRITIONAL LABELING

Consumers are concerned about the relative nutrient values of each food product when comparing the qualities of competing products. Recognizing the need for nutritional labeling, FDA initiated a program in March 1973 requiring detailed nutritional information on the labels of foods that are fortified or for which nutritional claims are made. FDA is also encouraging manufacturers of other food products to voluntarily include nutrient information on their labels. Although the program has only been in effect a short time, initial industry efforts to provide nutrient information on food labels seem to be good.

Although FDA began implementing its program in March 1973, it was slow in developing an educational program to explain the nutritional labeling format to consumers. FDA did not initiate its multimedia consumer education program until an industry conference on May 30 and 31, 1974.

STUDIES RELATE DIETARY PROBLEMS TO INSUFFICIENT NUTRITIONAL INFORMATION

Various studies indicate that consumers frequently make poor dietary choices because of insufficient information. USDA performed a study of household diets in the United States from April 1965 through March 1966. It compared the results of this study with a similar study of household diets in 1955. Good diets--those meeting "U.S. recommended daily allowances" (U.S. RDA) for protein, calcium, iron, vitamin A, thiamine, riboflavin, and ascorbic acid--were found in 60 percent of the households surveyed in 1955 and only 50 percent in 1965. Twenty-one percent of the diets in 1965 provided less than two-thirds of the RDA for one or more of the nutrients. As shown in the following chart, the nutritional value of individual household diets has declined. The definitions, "good," "poor," and "fair," were made by USDA.



Poor diets - less than two thirds of the U.S. RDA for one or more nutrients

Fair diets - less than the U.S. RDA but more than two-thirds for all seven nutrients

Good diets - met the U.S. RDA for all seven nutrients

Further analysis of household diets showed that, although inadequate diets are related to low income, income alone was not the problem. More than one-third (37 percent) of the households with incomes of $10,000 or over still had diet deficiencies in one or more nutrients. Nutrients most commonly below the U.S. RDA were calcium, vitamin A, and ascorbic acid.

In 1967, the Congress directed HEW to determine the magnitude of malnutrition and related health problems in the United States. As a result HEW made a nutrition survey in 10 States which indicated that participants surveyed were malnourished or were risking the development of nutritional problems. Among the reasons for nutrition problems cited by the survey were poor food choices leading to inadequate diets and poor use of money available for food and inadequate nutrient information on today's food supply.

Also, a HEW report entitled, "First Health and Nutrition Examination Survey, United States, 1971-1972: Dietary Intake and Biochemical Findings," reported evidence of a deficiency with respect to nutrient iron. On the basis of dietary intake and biochemical (blood and urine analyses) data, the study concluded that iron deficiency occurred at all ages and was not limited to persons from families with incomes below the poverty level.

In addition to efforts by HEW and USDA to determine the extent of dietary deficiencies, the President, on June 11, 1969, initiated the White

House Conference on Food, Nutrition, and Health. The Conference was intended to focus national attention and resources on solving our country's nutrition problems.

The White House Conference report, dated December 24, 1969, set forth several observations concerning the causes of poor diets, including the lack of nutrient information for consumers. The Conference report observed that the inability of consumers to make wise food choices leading to balanced diets was caused in part by misleading or incomplete information about food products. The report concluded:

> "Information about nutritional properties which are significant to consumers in relation to the use of a given food in the daily diet should be required to be made available to consumers. * * * Every manufacturer should be encouraged to provide truthful nutritional information to consumers about his products to enable them to follow recommended dietary regimens."

HEALTH PROBLEMS AND NUTRITION

While existing evidence is inadequate for estimating the potential health benefits from improved diets, nutritionists believe that improved diets can contribute to the prevention of diseases or can reduce their impact. A joint task group of representatives from USDA, State universities, and land grant colleges supported this position in its study entitled, "An Evaluation of Research in the United States on Human Nutrition."[1]

For example, the task force report associated osteoporosis (a bone disease) with diet deficiencies in calcium, phosphate, vitamin D, fluoride, and possibly magnesium. The task force report concluded that, although there was insufficient information to identify what dietary control was necessary to defer, modify, or avoid osteoporosis, tests on animals indicated a proper diet could prevent or alter osteoporosis in man. The report reached similar conclusions concerning the impact of diet deficiencies on kidney and urinary disorders and dental problems. The task force study also concluded that the incidences, duration, and severity of respiratory infectious diseases could be clearly associated with the diet.

The task force report cited a study in Guatemala which showed that improvements in diet significantly reduced the death rate. Health measures were introduced in two villages. Childrens' diets were supplemented with certain foods in one village and preventive and curative medical care was

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[1] See footnote 1, p. 7.

provided in the other. The study showed the death rate in the medical care village was reduced by 31 percent, while in the village with supplemental diets the death rate declined by 56 percent.

FDA NUTRITIONAL LABELING PROGRAM

On the basis of mounting evidence on the importance of nutrition, FDA invited the food industry to work with it to design a voluntary nutritional labeling program which would be both understandable and useful to the consumer.

FDA and industry initiated a research program aimed at developing a sound nutritional labeling policy. As a part of this program, the Consumer Research Institute performed a study[1] which indicated that:

--Some consumers will switch their purchases to the item with the better nutritional content when a product or brand has a real nutritional advantage over its competitors.

--Consumers, in some instances, will switch to products with lower fat content when presented with information describing the percentage of fat, carbohydrates, and proteins of products.

--Consumers improved their knowledge of nutrition, especially their familiarity with several key vitamins, when exposed to a nutrient labeling program.

--Consumer knowledge of nutrition seems higher than generally believed even among the underprivileged segments of society.

--Nutritional value is important to the consumers when choosing foods for the family.

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[1] Raymond C. Stokes and Rafael Haddock, "Interim Report of the First Two Phases of the CRI/FDA Nutritional Labeling Research Program," Consumer Research Institute, Inc., Washington, D. C., Aug. 1972. The study was conducted in three phases. Phase I--a face to face survey of 543 poor, uneducated participants--was completed in Sept. 1971. Phase II--a mail survey of 2,823 participants--was completed in Feb. 1972. Phase III--a purchase behavior experiment involving 981 participants--was completed in July 1972.

Another research project entitled "Consumer Reaction to Nutrition Information on Food Product Labels"[1] also showed considerable consumer interest in nutritional labeling. The study showed 58 percent of the participants believed they would use the labels and that 44 percent were willing to pay higher food prices for nutritional information on the labels. In addition, consumers believed that, because of nutritional labeling, (1) the public would learn more about nutrition, (2) food manufacturers would tend to make their products more nutritious, and (3) consumers would get better value for their food dollar.

Also, the "National Cooperatives Nutrition Survey"[2] showed 97 percent of the shoppers interviewed thought present voluntary labeling should be mandatory and 81 percent said they would be willing to pay more for mandatory nutritional labeling.

While all of the issues associated with nutritional labeling have not been fully resolved, the studies have answered some basic questions concerning consumers' interest in nutritional labeling and their ability to understand and use it. On the basis of these studies, the Commissioner of FDA proposed the establishment of regulations governing the nutrition labeling for packaged food products, including a standardized labeling format. After obtaining the views of both industry and consumers, FDA published regulations on nutritional labeling on January 19, 1973. The regulations (21 CFR 1.17) became final as of March 14, 1973.

The FDA nutritional regulations established Federal standards and procedures affecting both the public's perception of the food it consumes and advertisers' efforts to shape that perception. Under the regulations:

--Nutritional labeling of food products is voluntary unless the product is fortified with added nutrients or nutritional claims are made in labeling or advertising.

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[1]R. J. Lenahan, J. A. Thomas, D. A. Taylor, D. L. Call, and D. I. Padberg, "Consumer Reaction to Nutrition Information on Food Product Labels," Search Agriculture, Cornell University, Ithaca, N.Y., 1972, vol. 2, no. 15. This study was conducted during Mar. 15 through Apr. 8, 1972, at the Cornell University Agricultural Experiment Station and involved personal interviews with 2,195 participants.

[2]Conducted in 1971 by National Cooperatives, Inc., in agreement with FDA at Consumers Cooperative of Berkley, Inc., and involved interviews with 1,214 shoppers.

--Nutritional information must be put in a standard format on the label.

--Each label must list the amount of calories, protein, carbohydrates, and fat. In addition, the label may include a statement of cholesterol content listed in milligrams per serving and in milligrams per 100 grams. Fat composition may be described by listing fat in grams per serving and as a percentage of total calories and by listing grams of polyunsaturated fat and grams of saturated fat per serving.

--Eight important nutrients--protein, vitamin A, vitamin C, thiamine, riboflavin, niacin, calcium, and iron--and their amounts (as a percentage of the U.S. RDA) must ordinarily be shown on food labels. If the amount of a nutrient in a food product is less than 2 percent of the U.S. RDA the actual percentage need not be shown on the label.

--A serving must be defined as a reasonable quantity of food suited for consumption as part of a meal by an adult male engaged in light physical activity. The amount must be stated in terms easily identifiable or understandable by a purchaser, such as a cup or slice.

An example of FDA's suggested format for providing nutritional information for Vitamin A Skim Milk is below:

NUTRITIONAL INFORMATION

Serving Size: 1 Cup (8 Fl. Oz.)
Servings per Container: 4

Calories	90
Protein	9 Grams
Carbohydrate	12 Grams
Fat	1 Gram

PERCENTAGE OF U.S. RECOMMENDED DAILY ALLOWANCES (U.S. RDA)

Protein	20
Vitamin A	10
Vitamin C	4
Thiamine	6
Riboflavin	25
Niacin	0
Calcium	30
Iron	0

ACTIONS TAKEN AS A RESULT OF FDA'S PROGRAM

Our analysis of 1,000 randomly selected food products, discussed earlier, showed that 491 of the products had a sufficient impact on the diet to make nutritional information a meaningful aid to consumers. FDA officials confirmed the results of our analysis. In January 1973--before implementation of FDA's nutritional labeling regulations--we reviewed labels of the 491 food products to determine the extent to which they provided consumers nutritional information. Only 110, or 22 percent, of the labels specified their nutritional value, but not in a uniform manner such as would be required by the FDA regulations.

In May 1973, after issuance of the nutritional regulations, we surveyed the manufacturers of these same food products. We found the manufacturers were providing or planned to provide nutritional labeling in accordance with FDA regulations on 252, or about 51 percent, of their products (an increase of about 132 percent). Also, 36, or 83 percent, of 43 major supermarkets chains we surveyed planned to provide nutritional labeling on their store brands.

In March 1974, we did a retail shelf survey of the 252 products for which manufacturers planned to provide nutritional information in the prescribed FDA format. We found 121 of these products were already providing the information in the prescribed format.

For example, a can of green beans had this information on its label before the regulations.

Size of Can..No. 303/Net Wt...1 lb./Cups..Approx. 2

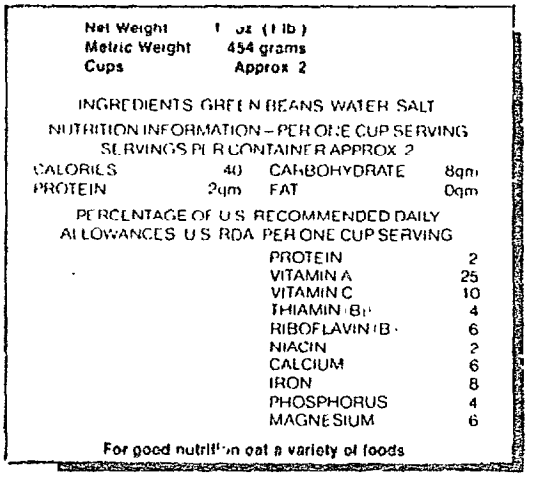
Tender, young Blue Lake green beans, carefully selected for quality and sliced lengthwise to bring out the full delicate flavor of the beans.

SUGGESTIONS FOR SERVING

Pour liquid into saucepan and boil rapidly down to one-half volume; add beans and heat quickly. Do not overcook. If desired, season with salt, pepper, butter or crisply cooked bacon bits. Add minced dill pickle or onion for a zippy flavor. Or serve with a sauce such as: horseradish, mustard, sour cream, tomato.

Nutritional information is available on request

The label for the same can of green beans now includes this information.



Net Weight 1 oz (1 lb)
Metric Weight 454 grams
Cups Approx 2

INGREDIENTS GREEN BEANS WATER SALT

NUTRITION INFORMATION – PER ONE CUP SERVING
SERVINGS PER CONTAINER APPROX 2

CALORIES	40	CARBOHYDRATE	8gm
PROTEIN	2gm	FAT	0gm

PERCENTAGE OF U S RECOMMENDED DAILY ALLOWANCES U S RDA PER ONE CUP SERVING

PROTEIN	2
VITAMIN A	25
VITAMIN C	10
THIAMIN (B1)	4
RIBOFLAVIN (B2)	6
NIACIN	2
CALCIUM	6
IRON	8
PHOSPHORUS	4
MAGNESIUM	6

For good nutrition eat a variety of foods

FDA NUTRITIONAL EDUCATION PROGRAM

A well planned and coordinated nutrition education program is needed to insure that maximum use and benefits are achieved by the nutritional labeling of food products. The White House Conference on Food, Nutrition, and Health concluded that consumer education programs are essential to improve the nutrition of all Americans. The objective of nutrition education is to promote optimum health through wise food choices.

Many nutritionists agree with the conclusions of the White House Conference. Questionnaires from 1,161 members of the American Institute of Nutrition showed the most frequent comments concerned the need for a good nutrition education program for the consumer.

FDA's efforts to develop and implement a nutritional education program, however, have not kept pace with its regulations concerning nutritional labeling. FDA anticipated that by the fall of 1973, nutritional labeling would appear on a sufficient number of food products to warrant a consumer education program. As shown in our retail shelf survey in March 1974, 121 of 252 products, for which manufacturers told us they planned to provide nutritional information, already included nutritional information on their labels.

FDA has conducted workshops and made presentations to various groups of professional nutritionists, dieticians, and home economists on the new nutrient labeling format. In addition, FDA developed a nutrition education program for consumers, including a multimedia campaign to explain the nutritional labeling format. However, this multimedia campaign was not started until its "kickoff" at an industry conference May 30 and 31, 1974. An FDA official said the complete campaign is now underway. It includes a 14-minute television presentation, 30- and 60-second public announcements on radio and television as well as newspaper and pamphlet presentations.

An FDA official responsible for the consumer education program expressed concern that no advertising or consumer education budget had been established for the multimedia campaign. He explained that, instead, FDA relies on public service announcements which are frequently made on non-prime time slots on radio and television.

CONSUMER AND INDUSTRY COMMENTS

We obtained views on the FDA nutritional labeling regulations from officials of 22 food firms and 5 consumer groups. Although industry officials from 15 of 22 firms stated their plan to provide nutritional information on their food labels, some were dubious about the value of such information to consumers. In contrast, officials interviewed from consumer groups believe nutritional labeling would benefit consumers. However, both industry and consumer officials agreed on the need for consumer nutritional education.

Consumer groups

Officials from all consumer groups interviewed concerning nutritional labeling stated that it is needed. But opinions varied as to whether it should be mandatory or voluntary. In addition, consumer associations believe that the consumer education program should have accompanied the new regulation. Here are a couple representative views:

--The new voluntary nutrient labeling program should be mandatory. The value of nutritional labeling will not be realized unless the public is properly educated.

--Voluntary labeling is best right now--pressure of the market place will make it moot whether or not this regulation is mandatory because products with nutritional labels will have a competitive advantage forcing others to follow. There is a need to educate the public on the meaning and use of the nutritional information.

Food industry

Industry officials also agreed on the need for a consumer education program. However, officials from 12 of the 22 firms said the benefits of the FDA voluntary nutritional labeling regulations were questionable. And, 7 officials said that, unless nutritional education was provided, the labels would tend to confuse consumers. Here are a few representative views:

--The food industry is being "driven" to nutritional labeling by "market forces." Consumers will not understand nutritional labeling and it will be of very little use.

--Consumers could be better served by educating them on the four basic food groups. Consumers could be educated on the types of essential foods needed, rather than expecting them to plan diets based on the complicated information on food labels.

--If consumers are not properly educated on the meaning of nutritional information, nutrient labeling could be misleading.

--Voluntary nutritional labeling is very important in aiding consumers. However, a good consumer education program is essential to get the full value from nutritional labeling. Consumer response to nutritional labeling has been very good.

CONCLUSIONS

Many Americans suffer from dietary and health problems due, in part, to the lack of good nutrition. Nutritionally deficient diets are frequently caused by consumers' poor food choices. These poor dietary choices can be attributed in part to the lack of nutritional information on food labels and the lack of nutrient education.

FDA has established nutritional labeling regulations and encouraged voluntary nutritional labeling to improve the dietary and nutritional well-being of all Americans. It is not certain how many food products will be nutritionally labeled as a result of the FDA nutritional labeling programs. However, in light of plans by the food industry and actions already taken, it appears a significant number of products will be nutritionally labeled. As a result, many consumers should become more aware of the nutrient value of foods and should be able to use nutritional labeling to safeguard their health.

Although FDA's development of a consumer education program was slow, their multimedia campaign is now underway. A consumer education program is needed to explain the purpose and best use of nutritional labeling and

to understand the new FDA labeling format. However, the lack of an appropriate budget, requiring the reliance on public service announcements, may hamper the effectiveness of the consumer education program.

RECOMMENDATIONS TO THE SECRETARY OF HEW

The Secretary of HEW should direct the Commissioner of FDA to monitor the effectiveness of relying on public service announcements to present FDA's consumer education program, and, if appropriate, develop more effective means of presenting the information to consumers.

AGENCY COMMENTS

HEW agreed with our recommendation and said:

--FDA is taking steps to measure the effectiveness of its entire nutritional education campaign. Before FDA initiated its education campaign, FDA conducted a nationwide survey to measure the status of consumer nutritional knowledge. The results of this survey are now being evaluated and will be publicized in government, scientific, and commercial publications.

--In June 1974 FDA awarded a contract for a followup survey. This survey will measure changes in consumer nutritional awareness since the first survey and it will evaluate the effectiveness of the media campaign and related education efforts on nutritional labeling. HEW said the results of this will help FDA develop more effective means of presenting nutritional information to consumers.

--FDA's consumer education campaign involves substantial direct contact with nutritionists, educators, trade associations, consumer organizations, media sources, and other specialists who influence many routes of communication with consumers. For example, FDA's 50 consumer affairs officers have devoted a considerable percentage of their effort to present nutritional information to influential local groups and organizations. In addition, FDA representatives, particularly from the Office of Nutrition and Consumer Sciences have made about 50 appearances around the Nation to national and regional groups to discuss nutritional information.

--FDA has sponsored with the food industry media three National Nutritional Labeling briefings involving more than 20 national trade associations. HEW expects all these efforts to have a substantial multiplier effect when these specialists in turn communicate nutritional information to consumers.

--HEW's Office of Consumer Affairs, USDA, and the Grocery Manufacturers of America sponsored the Advertising Council's Food, Nutrition, and Health Campaign initiated in December 1973. This campaign includes radio and television commercials and newspaper, magazine and car card advertisements calling the public's attention to the importance of nutrition--especially for women of childbearing age, pregnant women, young children, and the obese--and urges individuals to send for a free booklet entitled "Food is More than Just Something to Eat." This booklet includes specific information and illustrations of nutritional labeling and provides a framework of fundamental nutritional knowledge within which to use nutritional labeling effectively. Since the campaign began, some 2 million copies of the booklet have been distributed. Currently, elements of the food industry are exploring with the Advertising Council the possibility of producing, in conjunction with the campaign, additional television commercials focusing on nutritional labeling for exposure in food processors' and packagers' paid time.

USDA advised us it supports and is participating with FDA in a joint consumer education program to promote the use of nutritional labeling. USDA has been approving nutritional labels on the basis of a proposal published in the Federal Register, January 11, 1974. Since the program is a voluntary one which is desired by consumers, USDA agreed to this procedure to speed the process by which nutritional information could be supplied to the public. A final rulemaking is now under review by USDA officials. As of September 1974 USDA had approved approximately 400 labels for 60 companies. Products included such diverse items as wieners, frozen dinners and entrees, soups, meat patties, and pizzas. USDA said it is exploring ways in which standard information can be obtained and validated for specific products. This, according to USDA, would greatly enhance the amount of nutritional information made available to the consumer.

In addition, USDA has developed materials it plans to release early in 1975 which will assist consumers to get the most from the new information on food labels. These materials include: (1) a publication, "Nutritional labeling: Tools for Its Use," (2) a "nutrimeter" to compute one's daily intake of nutrients for comparison of the U.S. RDA, and (3) student and teacher guides for using these materials.

PENDING LEGISLATION

In the 93d Congress, several legislative proposals (such as S. 322, S. 1197, S. 2110, S. 2373, H.R. 1652, H.R. 1653, H.R. 3702, H.R. 3703, H.R. 8691, and H.R. 11448) were introduced concerning the need for nutritional labeling. These proposals would require any food commodity distributed in interstate commerce to bear a label specifying the product's nutritional value; and when the label indicates the number of servings it would also have to show the nutritional value of each serving.

In its deliberations of such proposed legislation, the Congress should consider the progress already being made by FDA's nutritional labeling program.

CHAPTER 4

NEED FOR PERCENTAGE OF CHARACTERIZING INGREDIENTS ON LABELS

Labels on food products frequently lack information concerning the amount of "characterizing ingredients" in the product--that is, the amount of beef in beef stew, apples in apple pie, or pears in canned pears. Most food labels do not provide consumers data on the amounts or percentages of such ingredients which have a material bearing on the price or consumer acceptance of the product. As a result, manufacturers can and do vary the percentage of characterizing ingredients and thus vary the value or acceptability of their product without consumers' knowledge. Without this information consumers can not readily make a value comparison between competing products as FPLA intended.

INGREDIENTS' PERCENTAGES DIFFER

Our review of manufacturers' recipes for 24 products in 9 nonmeat food categories showed the percentage of characterizing ingredients often differed in 4 categories by more than 10 percent. For example, the amount of fruit in frozen fruit pies varied from 47 to 65 percent of the total weight for all ingredients. One manufacturer's pies contained 47 percent fruit, while his competitor's products contain 65 percent fruit in apple pie and 54 percent fruit in cherry pie. Officials of the firm reporting 47 percent fruit opposed percentage labeling because it would not permit them to vary product contents without changing labels. They said that during periods of short supply and rising costs, their firm sometimes chooses to vary the percentage of ingredients if they feel the market will not bear an increase in price.

The percentage of characterizing ingredients in canned vegetables and baby food also varied. For example, the amount of corn in creamed corn ranged from 57 to 70 percent. The following table shows, on the basis of manufacturers' recipes, the range of percentages of characterizing ingredients for each of the nine categories.

Product category	Number of brands	Range of percentages	Percentage of differences
Apple pie, frozen	2	47-65	38.3
Creamed corn, canned	2	57-70	22.8
Fruit cocktail, canned	3	63-75	19.0
Cherry pie, frozen	2	47-54	14.7
Green beans, strained baby food	2	84-90	7.1
Peas, canned	5	65-69	6.6
Pear halves, canned	4	55-58	5.5
Strawberry jelly, packed in jars	2	45-45	0
Strawberry preserves, packed in jars	2	45-45	0
Total number of brands	24		

Meat and poultry products also differ in the amount of characterizing ingredients they contain. While USDA regulations establish minimum standards for the amount of meat and poultry for certain foods, some manufacturers include more than these minimum amounts. We compared manufacturer's recipes for 33 food products in 12 different categories; the percentage of meat or poultry varied by more than 10 percent in 5 categories.

For example, one manufacturer used 23.47 percent beef in its beef stew while a competitor used 28.57 percent. The recipe with only 23.47 percent beef is also below the minimum USDA standard of 25 percent. After we brought this to USDA's attention, it advised the manufacturer to bring the product up to the minimum standard.

Our analysis of label directions on food products showed that, when some products were prepared according to label directions, the percentage of meat in an average serving varied considerably. For example, the percentage of beef in both condensed and ready-to-eat vegetable beef soups, based on manufacturer recipes, was about the same (10 percent). If the condensed soup was diluted with water according to label directions, however, an average serving would contain only 5 percent beef.

The following table shows the ranges of percentages of meat or poultry found in each of the 12 product categories reviewed.

Product category	USDA minimum standards (percent)	Number of brands	Range of percentages	Percentage of differences
Poultry soup, canned	2	2	2.5- 6.0	142.9
Poultry chow mein, canned	4	2	4.3- 9.7	125.1
Beef stew, canned	25	6	23.5-28.6	21.7
Poultry with broth, baby food	43	2	46.1-51.8	12.4
Poultry pie, frozen	14	3	14.1-15.8	12.3
Vegetable and beef, baby food	8	2	8.2- 9.0	9.6
Beef dinner, frozen	25	3	25.0-26.5	5.8
Beef chow mein, canned	12	2	12.0-12.6	4.9
Poultry dinner, frozen	18	3	18.1-18.9	3.9
Meat pie, frozen	25	4	25.0-25.5	2.0
Spaghetti with meatballs, canned	12	2	12.6-12.8	1.3
Vegetable beef soup, canned	10	2	10.0-10.0	0
Total number of brands		33		

Drained weights

Labels for most food products are required to show the net weight but not drained weights. Drained weight is the weight of a food, excluding the weight of the juice or liquid packing media. Because the amount of liquid can vary from product to product, drained weight can be an important consumer consideration.

An October 1972 article in "Consumer Reports" entitled "Why Net Weight Spells Nonsense on Canned Food Labels," showed significant differences in drained weights of canned foods. The study also showed that variances in drained weights were not always related to retail prices.

For example, two 16-ounce cans of beans (products C and D) sell for 29 cents and 31 cents, respectively. On the surface the 29 cents can appears to be the more economical buy. However, when considering cost per pound of drained weight, the study showed the higher priced product to be more economical. Other comparisons, such as products B and D, M and N, or P and Q, showed similar results. The following data was extracted from the "Consumer Reports" analysis.

Product	Labeled weight in ounces	Averaged drained weight in ounces	Averaged drained weight as percent of labeled weight	Average price (note a) per can	Average price (note a) per lb.	Cost per lb. of drained weight
Canned cut green beans						
A	16	9.1	56.9	$.30	$.30	$.53
B	16	9.6	60.0	.31	.31	.52
C	16	9.3	58.1	.29	.29	.50
D	16	10.2	63.8	.31	.31	.49
E	15 1/2	9.2	59.4	.27	.28	.47
F	16	9.4	58.8	.27	.27	.46
G	15 1/2	10.0	64.5	.18	.19	.29
H	15 1/2	10.2	65.8	.15	.15	.24
Canned peas						
I	16	11.6	72.5	.43	.43	.59
J	17	11.2	65.9	.31	.29	.44
K	16	10.2	63.8	.27	.27	.42
L	17	11.5	67.7	.27	.25	.38
M	17	10.6	62.4	.20	.19	.30
N	17	11.3	66.5	.20	.19	.28
O	16	11.6	72.5	.17	.17	.23
Canned spinach						
P	15	8.8	58.7	.25	.27	.45
Q	15	11.2	74.7	.28	.30	.40
R	15	11.1	74.0	.27	.29	.39
S	15	9.1	60.7	.20	.21	.35
T	15	9.8	65.3	.20	.21	.33

[a]We calculated the price per pound by using the average price per can and the labeled weight.

FEW PRODUCTS LIST THE PERCENTAGE OF CHARACTERIZING INGREDIENTS

Our analysis of 1,000 randomly selected food products (see p. 5) showed that 317 had characterizing ingredients. FDA confirmed the results. We reviewed the labels of these 317 food products to determine the extent to which food labels provide consumers percentages of characterizing ingredient information. Our examination showed only 4.1 percent of the labels reviewed included amount or percentage of characterizing ingredients. Products not showing these percentages included foods where percentages vary, such as frozen fruit pies, canned vegetables, baby foods, beef stew, and vegetable beef soups.

Despite the absence of percentage labeling on most products, at least two food retailers have recognized the need for percentage labeling. Operating under the premise that consumers have a right to be informed and percentage labeling helps consumers get the best value for the food dollar, one eastern retail supermarket chain has undertaken a program to list the percentage of characterizing ingredients on some of its privately labeled foods: beef stew, pork and beans, cream of chicken soup, strawberry preserves, cane and maple syrups, juice drinks, and ice cream products.

A California retail cooperative has also established a policy to list the percentage of characterizing ingredients, whenever it is applicable. The cooperative lists (1) drained weights on its privately labeled canned goods that contain a liquid and solid food and (2) percentage of characterizing ingredients on juice drinks, tomato products, and maple syrup.

However, as indicated by our review of 317 food labels, these industry actions are only isolated examples. On the basis of interviews with 22 food manufacturers and retailers, it appears doubtful that many manufacturers will voluntarily provide percentage information on their labels. Officials interviewed from 16 of these firms stated they opposed including the percentages of ingredients on food labels. (See p. 32 for a more specific discussion of industry comments.)

PRESENT REGULATIONS ARE INADEQUATE

Although FDA regulations (21 CFR 1.8b and 1.10) require most food labels to state products' net weight and ingredients in order of predominance, these requirements are not adequate to enable consumers to distinguish between the percentage of ingredients in competing products.

The existing laws and regulations are of some help to consumers. For example, net weight tells consumers the weight of the food contained in the package. The regulation requiring ingredient listing in order of

predominance gives consumers some idea concerning the proportion of ingredients in food. However, the amount of an important ingredient can still differ significantly between two competing products without consumers' knowledge. For instance, two chicken noodle soup products list chicken as their third most predominant ingredient, but the percentage of difference between manufacturers' recipes for chicken in their product was 143 percent Also two chicken chow mein products list chicken as their fourth most predominant ingredient, but the percentage of difference between the manufacturers' recipes was 125 percent.

Consumers are also protected by FDA and USDA standards which, for some products, establish minimum amounts of characterizing ingredients a product must contain. The FDA "standard of identity" for fruit preserves, for example, requires a minimum of 45 percent fruit. USDA, under authority to approve labels, requires minimum amounts of meat and poultry in some products.

However, standards have only been established for a relatively small number of products. In addition, consumers may not be aware of the minimum standards or how much the product exceeds them.

FDA RECOGNIZES NEED FOR PERCENTAGE LABELING

Recognizing the need for additional information on food labels FDA, in March 1973, established regulations (21 CFR 102) to require some food labels to bear the percentage of each characterizing ingredient. The Commissioner of FDA in promulgating these regulations concluded that percentage labeling should be restricted to situations where it may have a material bearing on price or consumer acceptance of a food, or where such information may prevent deception. He also stated that percentage labeling is often necessary for consumers to choose between two competing products.

In conjunction with this regulation FDA promulgated additional regulations requiring percentage labeling on two specific products. Diluted orange juice beverages are required to declare the percentage by volume of orange juice, while seafood cocktails must state the percentage by weight of each seafood ingredient they contain.

In studying the need for new standards of identity for specific products (see p. 3) FDA is considering the need for putting the percentage of characterizing ingredients on labels. It has completed studies on five food products--table syrups, cottage cheese, sour cream, mixed nuts, and bread. The study of four selected bread products concluded that the label should state the percentage of characterizing ingredients. However, no regulations have been promulgated concerning the labeling of these products.

FDA officials informed us, however, they have no immediate plans to evaluate all foods to determine the need for percentage of characterizing ingredient labeling. They told us that neither consumers nor industry have expressed much interest in the percentage of characterizing ingredients. As of March 1974, FDA had received only one petition requesting regulations to require percentage labeling, and, as a result, it does not believe a review of the percentages of ingredients is warranted or worth the expenditure of funds.

CONSUMER AND INDUSTRY COMMENTS

During the course of our review, we interviewed officials from 22 firms, and 5 consumer groups with regard to percentage labeling. All consumer groups favored percentage of characterizing ingredient labeling, but most industry spokesmen were against it.

Consumer groups

Consumer representatives favored percentage labeling because they believe it would aid consumers in making value comparisons.

Representatives from two consumer groups stated that consumers have a right to know the percentage of major ingredients in food products. However, most consumer groups indicated percentage labeling would not be appropriate for all products and should not extend beyond those ingredients which affect the value or consumer acceptance of the product.

Food industry

Most food industry officials interviewed opposed percentage of characterizing ingredient labeling. They stated it would not benefit consumers and could result in higher food prices.

Most industry spokesmen believe percentage labeling would increase costs because more stringent controls would be needed to insure consistency between the product and the label. They contend most products are not packaged with machinery that would insure accurate percentage of ingredients, and costly upgrading or replacement of equipment would be necessary to achieve such accuracy consistently from can to can.

However, some of these officials contend the quality control and analytical problems could be resolved if percentages were based on recipes rather than the finished product. One official said he would not object to

listing the percentage of characterizing ingredients if compliance measures were similar to the present USDA methods of monitoring manufacturer recipes, batch records, and manufacturing practices, rather than reviewing the finished product on the retail shelves.

Industry officials also believe percentage labeling is improper for products where it is difficult to determine what ingredient characterizes the products. However, several stated that percentage labeling may be appropriate for some products, especially in cases where a valuable ingredient loses its identity in the total product, (e.g. maple syrup contained in some pancake syrups).

Some industry officials expressed concern that percentage labeling could result in "horsepower" races. They believe consumers could be misled and confused by manufacturers who provide high percentages but low quality ingredients. They believe the quality of the overall product, considering factors such as the quality of raw materials, special recipes, processing techniques, and care in handling, is more important than percentage of characterizing ingredients.

CONCLUSIONS

Many food products differ in amounts of characterizing ingredients. Providing the percentage of characterizing ingredients on food labels can give consumers additional information of value when comparing products without taking away from traditional methods of buying. Consumers can continue to judge according to individual needs, tastes, and past experiences; however, percentage labeling would give them added information on which to base their choice.

FDA has promulgated regulations requiring percentage labeling on two products. It has also considered the need for percentage labeling as part of its studies concerning new standards of identity. However, FDA officials informed us they have no immediate plans to evaluate all foods to determine the need for percentage of characterizing ingredient labeling. We believe more products may be appropriate for such labeling because they contain ingredients which have a material bearing on price or consumer acceptance.

Percentage labeling is not appropriate for products which have no characterizing ingredient. Because of practical problems and possible cost increases it may also be inappropriate for many other products. However, little has been done to assess the need and practicality of percentage labeling on an individual product basis. If FDA continues to rely on petitions by interested parties to identify products appropriate for percentage of characterizing ingredient labeling (as of March 1974 only one such petition had been submitted), it appears to us that few products will be labeled with the percentage of characterizing ingredients.

RECOMMENDATIONS TO THE SECRETARY OF HEW

The Secretary of HEW should direct the Commissioner of FDA to identify foods that would be appropriate for percentage of characterizing ingredient labeling and require such foods to include this information on their labels. Assessment should be based on the usefulness of percentage labeling in making value comparisons and determining the suitability of products to consumer needs. Because each food is unique, consideration should be given to probable costs and practical limitations when determining whether to require percentage labeling for a product.

AGENCY COMMENTS

HEW agrees with our recommendation and said FDA will promulgate or consider promulgating a regulation for percentage of characterizing ingredient labeling in the following instances: (1) where a commonly known food consisting of expected proportions of components is being abused as to the proportions of such components, (2) where the name of a food implies that the product contains a certain amount of valuable component or components and the consumer is mislead, and (3) if the food looks like and is used as a substitute for a particular food and contains less of the characterizing ingredient or components than the food for which it substitutes.

HEW believes that, to the extent resources permit, FDA is identifying foods appropriate for percentage of characterizing ingredient labeling and requiring their labels to include percentage information. HEW advised us that, FDA issued a final regulation, in addition to the regulations concerning seafood cocktail and diluted orange juice beverages (see p. 31), for beverages with no fruit or vegetable juice and has proposed regulations for oil mixtures with olive oil and for diluted fruit or vegetable juice beverages.

USDA said it:

--Supports voluntary percentage labeling and it recently published guidelines preparatory to the publication of proposed regulations.

--Believes voluntary percentage labeling will help consumers make value comparisons or determine which product best meets consumers' needs. USDA, however, believes percentage labeling should be voluntary.

--Is considering a request from its Animal and Plant Health Inspection Service for a study to determine whether percentage labeling of certain classes of food should be mandatory.

PENDING LEGISLATION

In the 93d Congress, several legislative proposals (such as S. 2373, H.R. 1848, H.R. 3700, H.R. 3701, and H.R. 5953) were introduced requiring the inclusion of percentage of ingredient information on food labels.

CHAPTER 5

QUALITY GRADING--HELP OR HANDICAP?

The general absence on food labels of information or grades concerning the quality--that is, the color, size, texture, flavor, blemishes or defects, and consistency--of food products or their main ingredients contributes to many consumers not being able to compare the value of competing products without opening the container. In recent years, USDA has suggested that its quality grading system be used to inform consumers of the quality of foods. This, however, can present problems to a consumer trying to use the system to compare the quality of competing products.

THE ORIGIN OF QUALITY GRADING

The first USDA quality standards were established in 1917 for potatoes. Since then grading standards have been established for many different foods. The Agricultural Marketing Act of 1946 (7 U.S.C. .621) and the U.S. Grain Standards Act (7 U.S.C. 71) authorize USDA to provide grading services to firms which voluntarily contract for them.

Grading standards were established to provide a common language for wholesale trading in the marketing of farm products, and as a means of measuring value or as a basis for establishing prices at the wholesale and manufacturer level.

However, throughout the years various food packers and processors have been using the grades to indicate the quality of their finished products at the retail level. Packages of butter, for example, were labeled by grade as early as 1924.

USDA is now telling consumers to use the grading system as a measure of value when purchasing food. For example in a pamphlet entitled, "Keys to Quality," it stated:

> "U. S. grades on food mean the same thing in all parts of the country, in any season, in any store, day in and day out. These grades are based on nationally uniform Federal standards. Their use is supervised by qualified Government graders. They offer you a reliable guide to quality and a means to compare quality with price."

In another pamphlet, "How to Buy Canned and Frozen Fruits," it stated:

> "Because different qualities of fruits are suited to different uses, you can make better buys by choosing processed fruits in the quality that fits your needs.

"U. S. grade standards--measures of quality--have been established for most processed fruits by the U. S. Department of Agriculture's Consumer and Marketing Service."

* * * * *

"Labels may also give the quality or grade, size, and maturity of the fruit * * *."

EFFECTIVENESS OF QUALITY GRADING SYSTEM STUDIED BY USDA

To determine the effectiveness and usefulness of its grading system as an aid to consumers, USDA initiated a study in December 1968 on (1) consumer knowledge and use of Government grades in buying food products, (2) the extent of confusion about grading terminology, and (3) consumer preferences for an alternative system of grade terminology.

The study concluded that consumers who were aware of the quality grading of food products found it helpful in making buying decisions, but most consumers knew little about it. For example, for 9 of the 10 products tested, the percentage of consumers unable to correctly identify the grades for the products they purchased ranged from 51.4 to 84.7 percent.

Further study of consumer awareness showed that, when tested on the number of grades for a product and the differences between these grades, over half the respondents received zero scores for the commodities surveyed except for eggs which had 36.5 percent zero scores.

Different sets of grade names or designations for food items confuse consumers. The following chart shows 10 different top quality grade designations used by USDA for different food categories.

Apple juice, canned	U.S. grade A or U.S. Fancy
Apples, fresh	U.S. Extra Fancy
Beef	USDA Prime
Beets, fresh	U.S. No. 1
Cantaloupes, fresh	U.S. Fancy
Carrots, fresh	U.S. grade A
Celery, fresh	U.S. Extra No. 1
Eggs	U.S. grade AA
Peanuts, Virginia in shell	U.S. Jumbo Hand Picked
Peanuts, Virginia shelled	U.S. Extra Large

Comparing the grades of two similar products is also confusing. The top grade for fresh pears is U.S. No. 1, but U.S. No. 1 fresh apples are only the third grade, as shown below.

Quality	Fresh apples	Fresh pears (note a)
1st	U.S. Extra Fancy	U.S. No. 1
2d	U.S. Fancy	U.S. Combination
3d	U.S. No. 1	U.S. No. 2

[a]There are two U.S. grade standards for fresh pears. We have used the standard for summer and fall pears.

Despite the low level of grade awareness found during the survey, USDA concluded that housewives who know and use Government grades apparently find them a valuable aid in purchasing foods. Between 59 and 81 percent of the respondents who were aware of Government grades rated them "very helpful."

As for consumer preferences for an alternative system of grade terminology, the study showed 44 percent of the respondents favored a letter system, 32 percent preferred words, and only 18 percent favored numbers.

EXTENT OF QUALITY GRADING IN THE MARKETPLACE

Thousands of different food products appear on supermarket shelves. However, the labels on many of these products do not indicate the USDA grade of the characterizing ingredients in the product, or if they were graded at all.

The quality grading of foods is voluntary. Each manufacturer determines whether to include grades on its product labels. For instance, during fiscal year 1971, USDA inspected and graded 35 percent of the canned fruits and vegetables and 75 percent of the frozen fruits and vegetables processed in this country. Of 317 products which had characterizing ingredients (see p. 30), only 4.7 percent were labeled with USDA grades.

CHANGES TO QUALITY GRADING PROPOSED

The absence of clear and meaningful information concerning the quality of food hinders consumer efforts to compare the value of competing products. The White House Conference on Food, Nutrition, and Health suggested the need for a universal simplified grading system for consumers and the food industry.

In the Congress, several legislative proposals (such as S. 1197, S. 2110, H.R. 1657, H.R. 3706, H.R. 5828, and H.R. 5950) were introduced concerning the need for improving the quality grading system for foods. One of the main points stressed in these proposals was the need for a quality grading system with uniform, easy-to-understand nomenclature which would be required for all food products. For example, S. 1197 and S. 2110 would require the quality grading system to

--express quality grade designations in a uniform nomenclature for all food products,

--require that any food product distributed in interstate commerce bear a label containing a quality grade designation, and

--provide for the following designations in descending order of quality of the food product:

--U. S. grade A.
--U. S. grade B.
--U. S. grade C.
--U. S. grade D.
--U. S. grade E.
--Substandard.

A USDA official said the requirement for all food products to be graded and to include the grade on their label was not a practical solution to the problems consumers face in comparing the quality of products. He said, for example, the current cost of grading less than 100 percent of only six categories of food products (see p. 38) on a voluntary basis was about $183 million annually. But, if grading became mandatory, the cost of grading all food products in these same six categories would increase by about $327 million to a total of about $510 million annually and, if all food products were graded, the costs would be significantly greater. (See app. V.)

While USDA supports the goal of reducing consumer confusion regarding grade designations, a USDA official told us problems in obtaining industry concurrence have hampered USDA's effort to make the system easier for consumers to use. He said USDA is currently studying the feasibility of uniform grade designations for fresh fruits and vegetables.

CONSUMER AND INDUSTRY COMMENTS

We interviewed officials from 22 firms, 2 trade associations, and 5 consumer groups to obtain a cross section of opinions concerning the need for quality grading information on food labels. Both consumer and

industry representatives agreed the existing system of quality grading is often confusing to consumers. They disagreed, however, as to whether a quality grading system for consumers was practical.

Consumer groups

All consumer groups interviewed favored a system of quality grading for most food products. They believe quality grading should be in uniform nomenclature with easy to understand standards and grade designations.

One consumer representative told us food manufacturers have a good system for buying their food; however, the consumer does not have a good system for evaluating his purchase. In addition, the consumer is confused because the grading system differs between foods. Two other consumer representatives stated that quality grading should be uniform and mandatory to enable consumers to make value judgments.

Food industry

Most industry officials agreed the current USDA grading system is complicated for consumers. However, many believe a consumer quality grading system would be very subjective and impossible to create to account for the varying consumer views of quality. Establishing a consumer system would also be very costly for the Government to enforce and for manufacturers to implement, and higher food prices would result.

One industry official told us a consumer quality grading system would not be in the best interest of the consumer or the food industry. A system could not be devised which can account for the individual tastes of consumers.

Food industry officials from another company told us their company would be against a consumer quality grading system. Quality is subjective and each consumer has his own idea of quality. The present grading system was designed for use by manufacturers and was not adaptable to consumer needs.

CONCLUSION

Although not originally intended to help consumers make value comparisons, the USDA quality grading system is, for some products, being used to give consumers some indication of the quality of the food product inside the package. Many consumers, however, have a problem in understanding and using the system because the nomenclature is often very technical and difficult to understand and grade designations vary from product to product.

Despite the problems which hamper consumer use of USDA grades, those consumers who understand the system seem to find it useful in comparing the value of competing products. Revising existing grade designations to make them uniform and easy to understand therefore, could assist consumers trying to use the system.

The system is voluntary and many food labels do not provide any quality grade information. However, establishing and enforcing mandatory quality grading standards for all products could be very costly. As discussed on page 39, for example, some products in six categories are now being graded voluntarily and USDA estimates that it would cost an additional $327 million to require grading for all products in these categories. Thus, to require that all food products be graded would cost substantially more.

RECOMMENDATION TO THE SECRETARY OF AGRICULTURE

To assist consumers trying to use the USDA grading system, we recommend that the Secretary of Agriculture revise existing regulations to make grade designations uniform and easier for consumers and industry to understand.

AGENCY COMMENTS

USDA supports the goal of reducing consumer confusion regarding grade designations, but believes the number of quality variables among food products negates the possibility of developing one system of grade designations to cover all food products. USDA, therefore, suggested that a practical goal may be to seek uniform grade names within groups of similar products, such as fresh meats, poultry, or processed fruits. USDA is studying uniform grade designations for fresh fruits and vegetables. It has already established uniform grade standards for some 150 processed food products based upon a simple A, B, C system.

USDA noted, however, that little would be accomplished for most processed meat products in that the grade of the raw material is only one of several factors which affect the finished product characteristics. The surveillance required in a grading or acceptance program to insure the validity and accuracy of such a label would be extremely costly. Those costs likely would far outweigh any benefits and eliminate the voluntary use of such a labeling program.

Also, USDA supports the need for strengthened educational programs to help consumers understand and use grade information while making shopping decisions.

PENDING LEGISLATION

In the 93d Congress, several legislative proposals were introduced concerning the USDA quality grading system. (See p. 39.) Some of the proposals would require that all food products be graded and the grade designation shown on the food label. In its deliberations of such proposed legislation, the Congress may wish to consider whether the benefits to the consumer would justify the large cost of providing mandatory grading.

CHAPTER 6

NEED FOR UNIFORM OPEN-DATING SYSTEM

In comparing the qualities of competing products, freshness is important. This is especially true for perishable and semiperishable foods. Some foods have a shelf life of only a few days before they begin to lose their color, taste, and nutrient values. Consumer knowledge of how long such products have been on the retail shelf and how well they have been stored (proper temperature, humidity, etc.) is important if they are to protect themselves from purchasing stale or spoiled foods.

Food manufacturers for years have dated their products to provide themselves an inventory control and to aid retailers in controlling the rotation of stock on their shelves. This information, however, was usually coded and consumers could not readily compare the age of the food they purchased.

Most products are properly rotated and usually are sold to the public fresh; but consumers do buy some spoiled or stale food without knowing it. A study was made by Consumer Research Institute in Dade County (metropolitan Miami), Florida, of supermarket inventories before and after open dating (uncoded dating) was introduced in the county in 1971. The study showed that about 5 percent of the supermarket inventory of perishable products was still on the retail shelves past the prescribed pull date.

CONSUMERS SOLD STALE OR SPOILED FOOD

A USDA study during the period June 1971 to July 1972[1] analyzed consumer attitudes toward supermarkets. The study showed that 92 percent of the consumers interviewed were either "very" or "fairly" satisfied with the freshness of the food they purchased, and 93 percent stated they never or rarely purchased food which was spoiled or stale.

However, when these same consumers were asked if they had purchased any food in the previous 2 weeks which had spoiled or become stale sooner than they would have expected, 18 percent reported they had. About half

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[1] "Food Dating: Shoppers' Reactions and the Impact on Retail Foodstores," USDA, Economic Research Service, Washington, D. C., Jan. 1973. Study performed by USDA and Consumer Research Institute over a 12-month period which involved three phases. Phase I was a telephone survey of 1,531 shoppers; phase II was a survey of complaints about stale or spoiled food in 12 Ohio chain stores; and, phase III was an analysis of complaints in these same stores after open-dating was introduced.

these problems were noticed on the same day the food was purchased. These problems involved perishable products, such as meat, dairy products, baked goods, and fresh produce.

Phase II of the USDA study showed over 20 percent of the 4,540 shoppers interviewed reported purchasing stale food. The results from the 12 Ohio stores are shown below.

Cities	Total shoppers interviewed	Percent of shoppers reporting stale food
Hamilton (5 stores)	1,096	19.4
Middletown (3 stores)	1,386	20.1
Cincinnati (4 stores)	2,058	22.6
Total	4,540	21.1

Although unusual, an example of a problem shoppers can face was brought to FDA's attention in a letter from a consumer. She wrote that she had purchased a frozen turkey roast in December 1972. Enclosed with the roast was a coupon for a meat thermometer. The coupon, however, had expired on June 30, 1971--18 months earlier. The turkey roast label gave no indication of the date processed or the age of the product. Was the coupon date erroneous? Was the coupon included accidentally? Was the roast actually 18 or more months old (twice the recommended shelf life)? The consumer had no way of knowing.

OPEN DATING POSSIBLE SOLUTION TO CONSUMER PROBLEM

Because of problems with stale or spoiled foods as discussed above, many consumers have favored an open-dating system. A recent consumer survey[1] showed 89 percent of a nationwide sample of 250,000 shoppers reported they favored an easy-to-understand dating system. In another survey by the trade journal, "Chain Store Age," almost 50 percent of those interviewed called open dating "the single most important (consumer) service," and in response to another question 95 percent listed open dating of food products as the consumer service "most useful" to them. These figures seem to show consumers' need to be reassured that the food purchased is fresh.

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[1]Ringler, M. & Berner, G. A., "Consumer Attitudes Toward the Food Industry," paper presented at the 38th Annual Meeting of the National Association of Food Chains in 1971.

Many food store chains have recognized the consumer interest in open dating by voluntarily providing it on many of their perishable and semi-perishable products. The USDA study published in 1973 showed that over 60 retail food chains, comprising about 15,000 food stores nationwide, have introduced such systems. The study also identified 10 States and 2 local governments that had adopted laws or regulations requiring open dating of certain perishable or semiperishable products.

Consumer reaction to these programs has been quite favorable. A 1971 USDA study of a Chicago grocery chain's food dating program showed more than half of the 1,710 shoppers interviewed were aware of the open-dating program, and of the 429 shoppers interviewed in depth, almost two-thirds indicated they used the dates at least once. The most frequent items mentioned in the use of open dating were bread and milk.

Further evidence of the benefits of open dating was found in the 1973 USDA study in 12 Ohio food stores. A comparison of consumer reports of spoiled or stale food showed that, before implementing an open-dating system in eight stores, about 20 percent of the shoppers reported purchasing stale food. After 8 weeks of promoting open dating, only about 10 percent of the shoppers reported purchasing stale food.

During this time the percentage of shoppers reporting the purchase of stale products actually rose slightly in four stores where open dating was not introduced. After open dating was implemented in these stores, the percentage of shoppers reporting purchases of stale products dropped. The following table shows the results of the 1973 USDA study.

	Hamilton 5 stores	Middletown 3 stores	Cincinnati 4 stores
	(percent of shoppers reporting stale food)		
Food not open dated	19.4	20.1	22.6
8 weeks later			
Food open dated	9.9	11.0	-
Food not open dated	-	-	25.7
11 months later			
Food open dated (in all stores)	13.8	13.6	14.6

CONFUSION OF DATES LIMITS IMPACT OF OPEN DATING ON CONSUMER CHOICES

While open dating may influence the shopper's attitude, the actual use or understanding of open dating appears to have been limited. The consumer's lack of understanding, the variety of dates (pull date, packed date, expiration date, etc.) used in open-dating systems, and the general misunderstanding of the meaning of open dating have limited the use of the dates.

The 1971 USDA study of the Chicago grocery chain's food dating program showed 63 percent of the 429 shoppers interviewed had used open dating at least once; however, only 20 percent of these shoppers knew that the open date was the last date the product should be sold or the pull date. Forty-five percent believed the date was either the date manufactured, packaged, delivered, or put on display--a past date. The pull date used in the food dating program is, in fact, a future date.

Much of this confusion is caused by the failure of food labels to explain the significance of the open date and by the variety of dates used either voluntarily or as required by law. As of May 1973, 10 States had laws or administrative regulations which required open dating for perishable foods. These laws differed in their requirements.

For example, in Washington and California the law required the open date to be the pull date. However, Oregon which shares a common border with both Washington and California gives the manufacturer the option of using either a pack or a pull date.

The dates used voluntarily are also confusing. These dates can vary, not only between stores in the same community, but also between products in the same store. For example, on March 7, 1974, we purchased three food products in a Detroit area supermarket with each product having a different form of open date:

--Baby food had a packed date (Jan. 3, 1974).

--Tartar sauce had a pull date (Jan. 18, 1975).

--Bake and serve dinner rolls had an expiration date (Mar. 27).

Several other products--cereals, jellies, salad dressings, milk, and cheeses--had various dates but no indication of what the dates meant.

A 1969 study by the Department of Food Science of Rutgers University[1] concluded that open dating of the packed date or the pull date for products would not benefit consumers. The study found that time alone is not the controlling factor in determining the freshness of food and that both dates tend to confuse consumers.

The study stated that the packed date is misleading to consumers because it does not indicate the expected shelf life of the product when stored properly. In addition, the date only describes the age of the product but does not indicate freshness because there is no assurance the product was stored properly. The study further stated that the pull date can also present problems for consumers. An accurate pull date depends on the handling and storage of the product. Unless manufacturers or distributers can show that proper controls have been established for their products, pull dates, according to the study, should not be used.

Instead of using packed dates or pull dates, the study recommends the retailer use the date of shelf display to facilitate stock rotation and to give consumers an awareness of how long the product has been on the retail shelves. The study states that the date of shelf display does not suggest anything about the shelf life of the product, whereas packed and pull dates imply some judgment can be made on product durability. In addition, the study recommends the food industry inform consumers on home storage conditions and on the maximum length of time food items may be wisely stored before being used.

CONSUMER AND INDUSTRY COMMENTS

We obtained the views of officials from 5 consumer groups and 18 food firms on the need for an open-dating system. Officials of both groups stated that, without open dating consumers cannot determine the age of perishable and semiperishable foods. They also agreed that an easy-to-use uniform system of open dating is needed.

Consumer groups

Officials from all five consumer groups interviewed agreed a uniform system of open dating is needed. They also favored a mandatory system that would require all perishable and semiperishable food products to include open dating on their labels. The main reason cited for open dating was the need for consumers to know or determine the freshness of food products.

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[1]"Food Stability Survey," USDA, Economic Research Service, Washington, D.C., Feb. 1971.

Food industry

Of the 18 industry officials interviewed 12 stated open dating of perishable food is needed. They also generally agreed a uniform open-dating system should be established. Several officials complained about the lack of consistency between current State and local laws concerning open dating.

In a speech, the president of the National Association of Food Chains stated the supermarket industry is much in favor of open dating. He said there is no question that the consumer has the inalienable right to make a choice on freshness. He also pointed out open dating makes it easier for the retail store to rotate stock.

Industry representatives from one firm said open-dating of perishable foods (shelf life of 60 days or less) would provide useful information to consumers. Manufacturers are reluctant to move toward open dating because legislation being considered in various States is not consistent. They said there is a need for Federal pre-emption or a model dating bill which would give uniformity to dating laws.

CONCLUSION

Although most products are properly rotated by stores to insure product freshness, some are not. A USDA study has shown over 20 percent of the consumers interviewed reported purchasing stale or spoiled food. When open-dating information is provided, however, consumers are often confused and cannot readily determine when a product was processed or packaged or when it will lose its freshness.

A uniform open-dating system would eliminate consumer confusion and facilitate the comparison of products. Such a system is especially important in selecting food products with limited shelf lives.

RECOMMENDATION TO THE CONGRESS

To eliminate consumer confusion and facilitate consumer value comparisons, we recommend that the Congress consider amending the FD&C Act to establish a uniform open-dating system for perishable and semiperishable foods. In the 93d Congress, several legislative proposals (such as H.R. 1654, H.R. 1655, H.R. 1989, H.R. 3704, H.R. 3705, H.R. 7008, H.R. 11448, S. 1197, S.2110, and S. 2375) were introduced which would so amend FPLA or the FD&C Act.

AGENCY COMMENTS

HEW, USDA, and Commerce generally favor establishing a uniform easy-to-understand system of open-dating for perishable and semi-perishable foods.

There is some disagreement, however, as to which procedure would get the best results.

HEW said that FDA has authority to require open dating in any case when its absence may result in a food being adulterated. HEW would not object, however, to explicit statutory authority concerning open dating by amendment to the FD&C Act. A bill (S.2373) as passed by the Senate on July 11, 1974, would provide authority for FDA to issue regulations requiring sell or use dates and storage instructions to be shown on food labels.

USDA supports voluntary open dating of meat and poultry products and has published regulations which were to go into effect December 8, 1974. These regulations will require that, if an open date is used, it must be clearly designated as a "packing," "sell by," or "use before" date. USDA plans to monitor the voluntary program to determine if changes are necessary or if it should be made mandatory. USDA said the voluntary approach is best so consumers, industry, and Government can gain necessary experience before making additional judgments.

Generally, Commerce agrees that a uniform system of open dating for perishable and semiperishable foods is desirable. However, it suggests that this can be achieved more effectively with appropriate revisions to the Model State Open Dating Regulation adopted by the National Conference on Weights and Measures. Commerce stated that experience to date indicates that the best method of open dating appears to vary with the commodity in question and it does not appear that enough is known at this time to legislate a solution. The National Conference on Weights and Measures, according to Commerce, offers the opportunity for consumers and industry representatives to meet with Federal, State and local officials, in a combined effort, to move the model regulation forward.

Commerce recommended that a fully flexible system be tested to determine the best method for open dating for various perishable and semiperishable foods. Commerce believes the Model State Open Dating Regulation can be revised to permit this kind of flexibility. Commerce stated that, in any event, open dating should always be presented with a complete explanation and in a manner which is uniform for each method.

The suggestions to wait for additional experience with open dating, either through a voluntary program or by modifying the Model State Open Dating Regulation would, in our opinion, only prolong the confusion consumers are experiencing. It would also add to the confusion, because as open dating is used on more products, it would continue letting each manufacturer, retailer, or State choose its own open dating system.

We believe the experience to date indicates that, for open dating to be an effective tool for consumers buying perishable and semiperishable products, it must be uniformly presented and easy to understand. We believe legislation establishing such an open dating system will benefit consumers and the food industry.

CHAPTER 7

UNIT PRICING--OLD IDEA, NEW APPLICATION

To compare the value of competing commodities, consumers must be able to readily compare the prices. However, studies of consumer abilities to compare prices showed that--despite FPLA--consumers make inaccurate price comparisons 40 percent or more of the time. The presentation of unit prices--which has been done for years on fresh meats--could facilitate price comparisons of each brand and size of competing commodities. Studies have shown that unit prices can reduce price comparison errors. However, FPLA currently does not require retail grocery stores to provide unit pricing.

FPLA PROVISIONS FAIL TO OVERCOME OBSTACLES IN COMPARING PRICES

To facilitate consumer price comparisons FPLA provides that labels of all consumer commodities show net quantity of contents and a voluntary program be established to standardize and reduce the number of package sizes for consumer commodities.

The House of Representatives report on FPLA (H. Rept. 2076, 89th Cong., 2d sess.) stated that the purpose of the requirement for providing information on the net quantity of package contents was:

> "* * * to provide a total ounce statement which will facilitate the computation of costs per ounce and thus aid the consumer in making value comparisons among comparable commodities."

The Senate version of the FPLA bill (S. 985, 89th Cong., 2d sess.) stated that, before using the voluntary program to standardize and reduce the number of package sizes for a product, it should be determined that the weights or quantities in which the commodity is being sold are likely to impair consumers' ability to compare prices per unit. Although the final version of FPLA substituted "value" for "price" throughout, the Conference Report of the House and Senate (H. Rept. 2286, 89th Cong., 2d sess.) explained this change by stating that price comparison is " * * * a very important factor in making a value comparison."

Surveys of consumer abilities to compare prices showed consumers often could not compare prices correctly. In October 1968,[1] five college-educated housewives were asked to buy from a Sacramento supermarket[2] the package for each of 14 grocery products that, in their judgment, offered the best unit price. Thirty-eight or 54 percent, of the 70 choices were incorrect.

In May 1969, a similar survey[3] required two groups of shoppers to select the lowest unit-priced item for several grocery products in New York City. A group of 16 shoppers made a total of 196 choices from the list of products and were incorrect on 85, or 43 percent. A group of 10 shoppers made a total of 111 choices and were incorrect on 50, or 45 percent.

In addition, Department of Commerce officials testified on March 23, 1970, in the Consumer Subcommittee, Senate Committee on Commerce, hearing on FPLA, that the package size standardization program was not removing all major obstacles to value comparisons as was hoped. They stated it was not practical to reduce the number of package sizes and have a mathematically desirable relationship which would facilitate price comparisons.

The package sizes for heavy duty, normal density, dry detergents, for example, had been reduced from 22 sizes to 6; however, because of packingcase requirements the sizes were not evenly divisible. For example, the three most popular sizes are 20, 49, and 84 ounces. Although the reduction in package sizes made cross brand price comparisons for each size easier, the comparison, for example, of the prices for 20-ounce and 84-ounce boxes of detergent still required a complicated calculation.

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[1] "What's Happened to Truth-in-Packaging?" Consumer Reports, (Jan. 1969), p. 41. Study commissioned by Consumers Union and directed by the Consumer Research Foundation.

[2] For the purposes of this report, "supermarkets" are defined as retail grocery stores with annual sales of $500,000 or more.

[3] Jack D. Richardson, "The Question of Unit-Pricing," Testimony in Public Hearings, New York City Department of Consumer Affairs (May 26, 1969), pp. 4-6. Study conducted by New York City Department of Consumer Affairs.

A more detailed study[1] also found that the efforts to standardize package sizes offered little assistance to shoppers who attempt to compare prices. The study tested how effectively price comparison problems could be solved by selected shoppers of an inner-city supermarket and a suburban supermarket in the Washington, D.C., area.

Each responding shopper was asked which of two differing package sizes for each of five products cost less per measure, and how much less. Two groups of shoppers were tested on evenly divisible package sizes (e.g., each package size being a whole multiple of the smallest package size). One group was tested with singly priced items (e.g. 24 cents each) and the other with multiple priced items (e.g. 2 for 49 cents). Another two groups of shoppers were tested on unevenly divisible package sizes--one with singly priced items and the other with multiple priced items. The following table shows the number of responding shoppers in each group and the average percentage of correct answers.

	Inner city		Suburban	
	Number of respondents	Percentage of correct answers	Number of respondents	Percentage of correct answers
Evenly divisible package sizes:				
Singly priced	84	16	89	38
Multiple priced	80	14	90	32
Unevenly divisible package sizes:				
Singly priced	82	10	80	14
Multiple priced	85	16	86	12

The preceding study only required shoppers to compare prices between two package sizes. In a typical supermarket, shoppers would have to consider two or more package sizes among several competing brands. For example, our survey of heavy duty, normal density, dry detergents available in 6 Detroit area supermarkets showed shoppers would have as

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[1] Monroe P. Friedman, "Dual-Price Labels: Usage Patterns and Potential Benefits for Shoppers in Inner-City and Suburban Supermarkets," Center for the Study of Contemporary Issues, Eastern Michigan University, Ypsilanti, Michigan, no publishing date, pp. 62-85. Study funded by Safeway Stores, Inc., and the National Association of Food Chains and directed by Monroe P. Friedman.

many as 4 unevenly divisible package sizes (20, 49, 84, and 171 ounce) and from 9 to 13 brands to choose from. The stores we surveyed averaged 22 selections of detergent.

UNIT PRICING REDUCES PRICE COMPARISON ERRORS

A method for facilitating consumers' price comparisons would be to present unit prices for each brand and size of competing products. Unit pricing eliminates complicated mathematical computations. Studies have shown that unit price information significantly reduces consumers' price comparison errors.

Unit pricing provides a common denominator--such as price per ounce, pound, pint, etc.--for comparing prices of products which come in various package sizes, have several competing brands, and are subject to multiple-item pricing. It has been used for many years to facilitate price comparisons of store-packaged meat, poultry, and fish because of the randomness of the package weights. For example, packages of ground beef show the price per pound as well as the total price.

The study which tested shoppers' price comparison ability in an inner-city and a suburban supermarket in the Washington, D.C., area also found that unit pricing would have significantly improved the percentage of correct answers for the products in evenly and unevenly divisible package sizes.

In the study a group of selected shoppers in each store was asked to compare the prices of two selections for each of five products in a simulated unit pricing situation (simply comparing the package prices for two selections of the same size packages). Eighty-five inner-city shoppers answered correctly 56 percent of the time and 91 suburban shoppers answered correctly 86 percent of the time. The director of the study believed that the other groups of shoppers mentioned earlier could have done as well if unit prices had been available for the evenly and unevenly divisible package sizes.

In a 1970 study[1] a sample of 53 housewives was randomly divided among 3 different supermarkets with instructions to buy the most economical brand and size in each of 13 products. One store provided

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[1]Michael J. Houston, "The Effect of Unit-pricing on Choices of Brand and Size in Economic Shopping," Journal of Marketing, vol. 36 (July 1972), pp. 51-54. Experiment conducted in a midwestern town of 15,000-20,000 people using outlets of three major supermarket chains.

unit pricing while the others emphasized either singly priced items or multiple priced items. The shoppers with unit pricing bought the minimum unit price item on an average of 64 percent of their choices. The other shoppers were successful on an average of only about 50 percent of their choices. Also, there was a greater difference in cost between the item purchased and the minimum unit price item in the stores without unit pricing, especially those emphasizing multiple pricing.

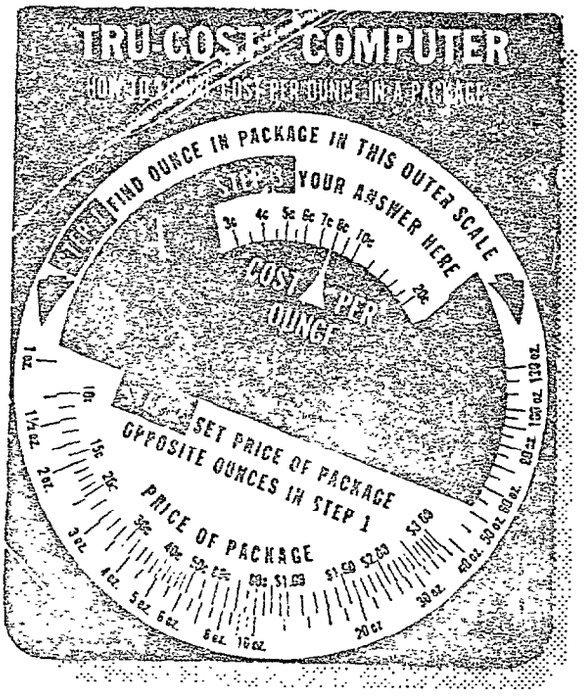
A study[1] of consumer behavior in a simulated supermarket shopping situation showed that the average percentage of correct choices was not only higher when unit pricing was provided, but the average shopping time was significantly less. Seventy-five volunteers--64 of whom were women--were assigned randomly to 3 groups of 25 each. Each volunteer was told, "to choose that package which gave the most quantity for the money" from each of nine product groups. One group of volunteers was given unit prices, one group used a computational device[2] to determine unit prices, and one group had only the net weight and/or servings and the total price on each package. The following table shows the average results for volunteers in each group.

Information used	Average percent of correct choices	Average shopping time (minutes)
Unit prices	89	4
Package prices	64	24
Computational device	66	32

[1]Robert D. Gatewood and Robert Perloff, "An Experimental Investigation of Three Methods of Providing Weight and Price Information to Consumers," Journal of Applied Psychology, vol. 57, no. 11 (1973), pp. 81-85. Study was based on a doctoral dissertation submitted to Purdue University.

[2]Required the volunteer to match the total price of the package with its net weight so that the cost per ounce would show in a box in the center of the device. All volunteers using the device were trained to a criterion of three successful computation before the study began. A device similar to that used in the study is pictured on page 56.

DEVICE FOR COMPUTING UNIT PRICE



In another experiment,[1] 200 randomly selected housewives were asked to choose among different sizes of their regular brands of detergents and soft drinks, first when only package price was given and then when unit price was added. The study concluded that prices were of clear importance in the selection of package size, but many housewives did not have a clear idea of the relative prices of different sizes, measured in terms of cents per pound or the like When unit pricing was provided many housewives switched to sizes which had lower unit prices.

AVAILABILITY OF UNIT PRICING

Since June 1970, many grocery stores have voluntarily instituted unit pricing in response to the consumer movement or because of State or local laws. Our survey as well as other surveys indicate that unit pricing is being instituted primarily by supermarket chains (firms with 11 or more stores). About half of the chain supermarkets have unit pricing.

The "Progressive Grocer," a trade magazine, surveyed the availability of unit pricing among chains for 1971 and 1972 as well as independent retail stores and wholesalers for 1971 through 1973. The following table shows the percent of respondents in each category that had unit pricing.

	Category	Number responding	Percent with unit pricing
1971	Chains	126	45
	Independent stores	1,578	34
	Wholesalers	269	20
1972	Chains	120	48
	Independent stores	1,315	36
	Wholesalers	203	23
1973	Chains	No survey	-
	Independent stores	1,410	39
	Wholesalers	196	26

[1] C.W.J. Granger and A. Billson, "Consumers' Attitudes Toward Package Size and Price," Journal of Marketing Research, vol. 9 (Aug. 1972), pp. 239-248. Study funded by the Consumer Research Institute, Inc., Washington, D. C.

In 1971, the Super Market Institute, Inc., a research and education institute of the grocery industry, surveyed the availability of unit pricing among supermarkets with annual sales of $1 million or more. Most of these supermarkets were operated by chains. The survey showed that 37 percent of the 7,093 responding stores had unit pricing.

The availability of unit pricing in grocery stores has been due to some extent to laws requiring unit pricing. As of September 1973, five States and at least three cities required unit pricing in some of their stores.

State and local unit pricing laws are generally directed at grocery stores but certain types or sizes are excluded. The most frequent exemptions pertain to owner-operated single stores and stores with limited sales volumes. In this last category, the New York City law exempts any retail entity (one or more stores) with annual sales of less than $2 million. Seattle and Maryland exempt stores with annual sales of less than $750,000, and Vermont exempts stores with annual sales of less than $500,000.

The following table shows the States or cities, the effective dates of the laws, and the estimated number of stores covered by each law.

State or city	Effective date	Number of stores
Massachusetts	Jan. 1, 1971	2,000
Connecticut	Oct. 1, 1971	4,500
Maryland	Jan. 1, 1972	100
Vermont	July 1, 1972	75
Rhode Island	Oct. 1, 1972	(a)
New York City	Mar. 31, 1971	1,200
Seattle	Aug. 1, 1972	91
Ann Arbor	June 12, 1973	35
Total		8,001

[a]No estimate furnished.

To obtain information on the availability of unit pricing in areas where it is not required by law, we surveyed supermarket chains in 10 metropolitan areas during July and August 1973. The 10 "standard metropolitan statistical areas" had a combined population of 34.5 million in the 1970 census. We identified the supermarket chains from a 1972 directory, "Supermarket Grocery and Convenience Store Chains," published by Business Guides, Inc., an affiliate of Chain Store Age. Only about a third of these chains provided unit pricing to their shoppers. The survey results follow.

Metropolitan area	Number of supermarket chains contacted	Number of supermarket chains with unit pricing
Atlanta, Ga.	5	1
Chicago, Ill.	9	3
Dallas, Tex.	9	2
Denver, Colo.	5	3
Detroit, Mich.	6	3
Los Angeles-Long Beach, Calif.	23	5
Newark, N.J.	11	4
Philadelphia, Pa.-N.J.	6	3
San Francisco-Oakland, Calif.	12	3
St. Louis, Mo.-Ill.	6	1
Totals	92	28

During March through July 1973, we surveyed members of the National Association of Food Chains (NAFC) and the National Association of Retail Grocers of the U.S., Inc. (NARGUS), to determine the number of stores providing unit pricing or planning to provide it within 18 months. We received responses from 110 chains and 303 independents. Sixty percent of the chains and 17 percent of the independents had unit pricing in some or all of their stores. The following table recaps the responses. An estimated 95 percent of these stores are supermarkets.

	Total stores	Stores with unit pricing	Percent of total
Chains	16,553	7,904	48
Independents	706	142	20

Each respondent was also asked its plans through 1974 for beginning unit pricing or expanding it to more stores. Nineteen chains and 18 independents plan to have unit pricing in a total of 1,153 and 34 more stores, respectively. This would increase the percentage of stores providing unit pricing from 48 to 55 percent for chainstores and from 20 to 25 for independent stores.

NEED TO IMPROVE PRESENTATION OF UNIT PRICING

Many supermarkets have installed unit pricing programs to provide consumers additional information to facilitate consumer value comparisons.

Improvements are needed, however, to insure that unit pricing information is more effectively presented. Success of these programs depends on the extent of unit pricing coverage, the design of the shelf label, the maintenance of shelf labels, the unit of measure used, and the promotion and explanatory material provided consumers.

Extent of unit pricing coverage

Although unit pricing has been used for many years on random weight products sold in the meat and produce department of a supermarket, the major categories[1] of products suitable for the new application of unit pricing are generally found in the dry grocery and frozen food departments. Dry groceries average about 41 percent and frozen foods about 3 percent of supermarket sales.[2] Dry groceries include packaged, canned, and bottled food products for people and pets; alcoholic and nonalcoholic beverages; tobacco products; household cleaning compounds and supplies; laundry supplies; soap and detergent products; and paper products.

The size of each of these departments varies among supermarkets. For example, NAFC and NARGUS members' responses to our survey showed the number of items (different brands and/or sizes of products) ranged from 2,600 to 10,800 for dry groceries and from 200 to 2,600 for frozen foods. However, the extent of unit pricing in the dry grocery and frozen food departments and in many of the product categories which comprise these departments varied considerably.

Based on the questionnaires received from NAFC and NARGUS members who provide unit pricing, the percentage of items in the dry grocery and frozen food departments which were unit priced ranged from 10 to 100 percent with a median of 82 percent for dry groceries. About 40 percent of the respondents stated that no frozen food products were being unit priced.

We also visited 100 supermarkets throughout the 10 major metropolitan areas that were providing unit pricing on a voluntary basis. We

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[1] A group of products similar in nature and/or use; for example canned fish includes tuna, salmon, sardines, etc.; and household cleaning compounds include all-purpose cleaners, scouring cleanser or pads, bowl cleaners, drain cleaners, etc.

[2] Percentages and description of dry groceries based on a study by "Progressive Grocer" magazine in cooperation with The Great Atlantic & Pacific Tea Co., Inc. See "Progressive Grocer," Apr. 1973, p. 208.

observed the extent of unit pricing in each of 36 dry grocery product categories and each of 7 frozen food product categories. (See app. IV for list of categories.)

For the most part, industry practices were consistent in the product categories for which unit pricing was provided. Most of the stores were providing unit pricing for 26 dry grocery product categories. In two other product categories--alcoholic beverages and tobacco products--unit pricing was not provided by most of the stores surveyed. However, in the eight remaining categories--candy and chewing gum, cookies, crackers and toasted products, dried fruit, household supplies, snacks, soft drinks, and dry vegetables--unit pricing coverage varied considerably.

We estimate that at least 58 supermarkets were either not applying unit pricing to any of the 7 product categories in the frozen food department or had applied it to only a few items in each category. The seven categories were baked goods, fish products, fruits, fruit juices, prepared foods, potatoes, and other vegetables. An industry spokesman said one of the reasons for not unit pricing frozen foods was the many problems with mounting shelf labels on the supermarket frozen food displays. He stated that there is a big technical problem caused by the cold humid air; ink runs, labels frost over, labels fall off, etc.

In 1971 the National Conference on Weights and Measures sponsored by the Department of Commerce, National Bureau of Standards, adopted the Model State Unit Pricing Regulation. This model was to provide a uniform approach to unit pricing for those jurisdictions choosing to require unit pricing.

Our comparison of State and local laws and the Model State Unit Pricing Regulation as to which product categories should be covered by unit pricing programs showed several differences among the laws and the model regulation for the 36 dry grocery categories and the 7 frozen food categories. There was:

--Complete agreement on 17 dry grocery categories; 14 categories should be covered; 3 should not.

--General agreement (less than 3 laws in conflict) on 12 dry grocery categories; 9 categories should be covered; 3 should not.

--Inconsistency between model regulation and laws on 4 dry grocery categories.

--General disagreement on 3 dry grocery categories.

As for frozen foods, six laws and the model regulation required unit pricing of fruits and vegetables, and juices and drinks; but generally did not require it for baked goods; fish, meat, and poultry products; and prepared foods. The New York City unit-pricing law excludes frozen foods from unit pricing. (See app. IV for the detailed results of our comparison of laws governing frozen food and dry grocery categories.)

Display of and readability of unit price data

The shelf tag or label affixed to the edges of display shelves has been the most popular method of displaying unit price. The label also contains other data, such as the unit of measure, product description and weight, and the retail price, which is essential to the consumer's use. However, in the 100 supermarkets we visited, the data on the labels was often poorly displayed and/or hard to read. This could make the labels difficult for consumers to understand and use.

Because of the thin shelf edge, the label has limited space for data which is essential to the consumer. The space problem was further complicated on some labels by including store names or slogans or by accentuating stock data which is of interest only to store personnel. See examples A and B on page 64.

Retail and unit prices appearing on labels are sometimes left unexplained and some labels use obscure abbreviations to describe the product. See examples C and D on page 64.

The legibility of the essential data is poor on some labels because the printing is small or numbers are made up of dots or dashes. In addition, the visibility of the unit price is sometimes considerably less than that of the retail price due to the difference in the size of print. See examples E and F on page 64.

Two studies of consumers' use of unit pricing have also touched on the problems consumers face in trying to read some shelf labels. During a study[1] in Toledo, Ohio, some shoppers complained they could not read the label because the print was too small.

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[1]T. David McCullough and Daniel I. Padberg, "Unit Pricing in Supermarkets: Alternatives, Costs, and Consumer Reaction," Search Agriculture, Cornell University, Ithaca, New York, vol. 1 no. 6 (Jan. 1971), pp. 2 and 10. Study financed by Consumer Research Institute, Inc.

During another study[1] in Arlington, Virginia, the difficulty shoppers have in reading labels aided observers in determining which shoppers actually use unit pricing. The study report stated that use of unit pricing was:

> " * * * readily detectable because of the small, computer print size displaying the unit-price information on the labels. Since the labels were located on the shelf moldings below the appropriate product, shoppers often had to bend down (to the point of hands and knees for products on the botton shelf), go up on thwir (sic) toes, step closer to the molding, use their fingers to aid in reading the labels * * *."

The model regulation contains no requirements on the lay out and legibility of the shelf label. Five State and three local laws contain some requirements on these matters. The most frequent requirements included

--color of labels (six laws),

--location of unit price on labels (four laws),

--specific identification of unit pricing (seven laws), and

--minimum size of print for the unit price (seven laws).

If unit pricing is to be understood and used by consumers, we believe that improvements must be made in the shelf label's display of essential data and its legibility. "Money"[2] magazine proposed a model label which we believe does a good job of accomplishing this. See example G on page 64.

Maintenance of shelf labels

The maintenance of shelf labels is also important in the success of the unit pricing program. Our survey of 12 products in 100 stores showed missing labels for some brands and sizes of products was the

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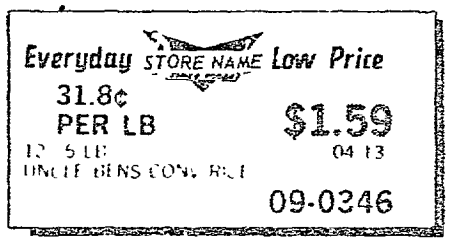
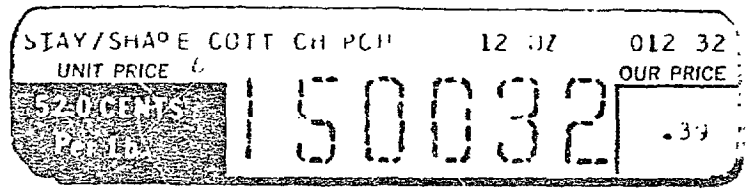
[1]John Paul Rowe, "An Inquiry Into a Consumer Information Issue: Unit Pricing," Thesis, School of Government and Business Administration of the George Washington University, Washington, D.C. (May 1973), p. 18. Reported and observed usage were compared in this study.

[2]Ed Henry, "Shopping by the Numbers," Money (May 1973), pp. 63 and 64.

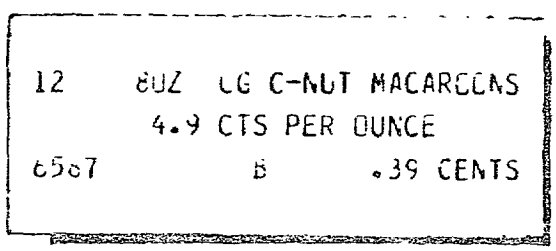
EXAMPLES OF SHELF LABELS



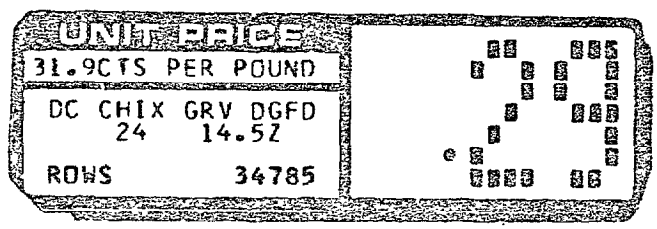
A-Store name and slogan limits space for essential consumer data.



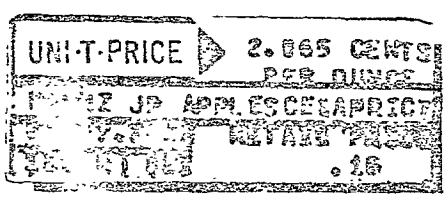
B-Accentuated store stock number limits space for essential consumer data.



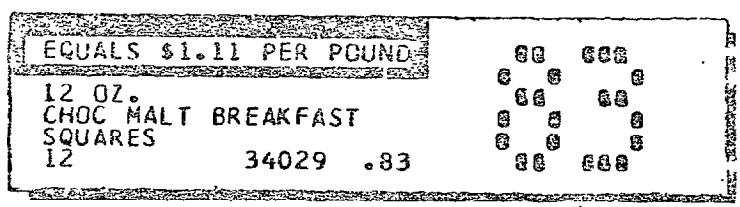
C-Unit and retail price left unexplained.



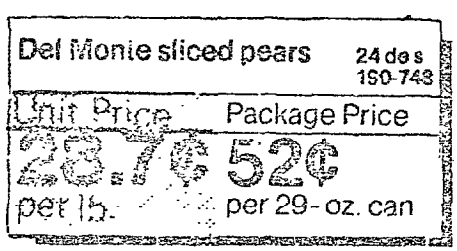
D-Abbreviations hinder identity of product.



E-Size of print very small especially unit and retail prices.



F-Confusing series of dots show retail price. Note extreme difference in size of retail and unit prices.



G-Model label from Money magazine.

most prominent maintenance problem. The total number of missing labels for all 100 stores ranged from 10 to 20 percent among the 12 products reviewed.

Other problems with maintaining some labels included:

--Labels obscured from consumer view by overhanging shelves or merchandise.

--Labels in poor physical condition.

--Labels not adjacent to the product.

--Discrepancies between retail prices or net weights shown on the labels and those on the product.

--Substitutions for out-of-stock brands without changing the labels.

The total number of labels with these problems for all 100 stores ranged from 7 to 30 percent among the 12 products reviewed.

Other surveys have found similar problems. In September and October 1971, a study[1] on maintaining shelf labels was completed in New York City. Again the problems of adjacency, discrepancies in net weight, and discrepancies in prices were found.

In February 1972, the President's Office of Consumer Affairs surveyed 12 supermarkets with unit pricing in the Washington, D.C., metropolitan area. Its findings also included

--missing labels,

--labels not adjacent to products, and

--dirty and "dog-eared" labels.

This survey also found that problems of cleanliness and maintenance of unit pricing labels were more pronounced in older stores.

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[1]Robert Aitchison, "Some Facts on Unit Pricing in New York City and Upstate New York Supermarkets," Cornell Agricultural Economics Staff Paper, no. 72-1, Cornell University, Ithaca, New York (Jan. 1972), pp. 8 and 9.

--Supermarket management personnel indicate that some of the causes for the maintenance problems are:

--Shoppers (especially children) removing labels from the shelf.

--Shoppers (especially children) moving labels so that labels are no longer adjacent to the products.

--Store personnel making mistakes in matching the labels with the products.

--Shoppers (especially children) defacing the labels.

--Labels not provided for products delivered to the store from manufacturers rather than from the retailers central warehouse.

--The store's policy to replace all labels periodically (e.g. every six months) despite the frequency of marred or lost shelf labels.

Some of these problems are inherent in the shelf label method, and regulation of unit pricing will not, by itself, solve them. Store management must require an active maintenance program by its employees to insure proper presentation of unit pricing information.

Unit of measure affects unit pricing

The unit of measure used to show the unit price should enable shoppers to properly determine price differences between brands or sizes. The model regulation and the State and local laws have generally established units of measure which should assist the shopper.

In the study of unit pricing performed in Toledo, (see p. 62) the following rationale was used to determine the applicability of units of measure:

--The unit must be the one commonly used to measure the product.

--It should most accurately reflect price differences in the usual sizes purchased.

The study suggests, for example, that unit prices for dry or liquid products be quoted on a per-ounce basis only if all sizes of the product are less than a pound or pint, respectively.

However, our analysis of 10 products in the 100 supermarkets throughout the country voluntarily providing unit pricing showed that, although the products were packaged in some sizes which exceeded a pound or a pint, these products were not always unit priced by pound or by pint. The following table shows the percentage of selections from all stores that used inappropriate units of measure.

Product	Percent of selections with inappropriate measures
Ketchup	51
Peanut butter	37
Pork and beans	34
Pancake syrup	27
Canned corn	25
Applesauce	21
Elbow macaroni	20
Coffee	20
Tomato juice	16
Laundry detergent	13

When selections of a product exceed a pound or a pint but show their unit prices on a per ounce basis, the price differences between brands and/or sizes is deemphasized. It also requires consumers to comprehend fractional cents or three place decimals when reading price per ounce. For example, in one store, the prices per ounce for 49- and 84-ounce sizes of a brand of laundry detergent were $0.018 and $0.014, respectively, or a difference of $0.004. If the unit price for each size had been by pound, the unit prices would have been 29 cents and 22 cents, respectively. The difference of 7 cents per pound would appear to be more easily understandable by most consumers.

Promotion and explanatory material

In-store promotion and explanatory material was not present on a continuing basis in many stores which had unit pricing. Only 26 of the 100 supermarkets had some form of explanatory or promotional material available to consumers on the day of our visit to each store. Some store personnel told us such materials were provided when unit pricing was introduced in their stores, but none was provided on a continuing basis.

In addition, the President's Office of Consumer Affairs' survey of unit pricing stores noted a total lack of promotional or explanatory materials in 10 of the 12 stores it surveyed.

While the model regulation and six of the State and local unit pricing laws do not require promotional or explanatory materials, New York City and Seattle do. In New York, stores are required to post explanatory signs for every 2,000 square feet of sales area with no less than two and no more than five signs in each store. In Seattle, stores are required to provide conspicuous explanations of the use of unit pricing in each grocery store or department.

CONCLUSIONS

Facilitating the consumer's ability to compare the prices of competing products is an important step in achieving the objective of FPLA--facilitating consumer value comparisons. Despite the provisions of FPLA and Commerce's efforts in reducing the proliferation of package sizes, consumers still find it difficult to accurately compare prices. Studies show that consumers, when trying to select the lowest priced product, make inaccurate selections at least 40 percent of the time.

Although unit pricing does not take into account differences in the quality of competing products, studies have shown it can significantly reduce consumer price comparison errors if effectively presented.

Our analysis showed about 50 percent of the chain supermarkets and 25 percent of the independent supermarkets were providing unit pricing information. Although unit pricing data is available in many stores it has not been as successful as it could or should be because of the problems of presenting and explaining the data. Problems and variations in the extent of coverage, the design of shelf labels, the maintenance of shelf labels, the unit of measure, and the lack of promotion and explanatory materials have all contributed to the problems consumers have in trying to understand and use unit pricing.

CHAPTER 8

UNIT PRICING--IMPACT ON CONSUMER AND RETAILER

The impact of present-day unit-pricing programs on the consumer and retail grocer has been studied in terms of their benefits in facilitating consumer price comparisons and their costs (passed on by retailers to consumers in higher food prices). Our analysis of the results of these studies and our comments on other factors related to the effectiveness of current unit pricing programs are discussed in this chapter.

BENEFITS OF UNIT PRICING

For consumers to use unit pricing they first must be aware of and understand the unit pricing labels, and to benefit they must apply it in making their buying decisions. Several surveys of consumers where unit pricing was available have shown, however, that consumers lack an awareness and understanding of unit pricing. The following table shows the results of these studies.

Investigator or sponsor (note a)	Sample size	Percentage of sample: Not aware	Aware but not understanding	Not aware or not understanding
In-store survey:				
Jewel Food Stores				
Test I	517	53	(b)	-
Test II	429	37	(b)	-
Monroe Peter Friedman				
Inner city	798	48	21	69
Suburban	878	40	12	52
T. David McCullough and Daniel I. Padberg	1,584	34	17	51
McCann-Erickson Advertising Ltd. and Elliott Research Corporation	200	(b)	(b)	58
Robert Aitchison				
New York City	350	(b)	(b)	79
Upstate New York	530	(b)	(b)	80
Telephone surveys (note c):				
Lawrence M. Lamont, James T. Rothe and Charles C. Slater	816	18	(b)	-
Consumer Research Institute, Inc.	338	35	(b)	-
Mail survey (note d):				
Supermarket News	8,923	12	(b)	-

[a]See app. III for specific study acknowledgements.

[b]Not surveyed or not separately determined.

[c]Represents that part of the total sample who shopped in stores offering unit pricing

[d]The mail survey did not determine if consumers questioned patronized stores offering unit pricing.

Although none of the studies attempted to determine the causes for the lack of awareness or understanding, several studies concluded there was a strong association between the consumers' education, income, and age levels and their awareness and understanding of unit pricing. For example, the survey by T. David McCullough and Daniel I. Padberg[1] showed the percentage of those surveyed with a grade school education that were aware of unit pricing but did not understand it was more than three times greater than the percentage of college graduates. In the case of income, the percentage of respondents with low incomes (less than $4,000) who did not understand unit pricing almost doubled the percentage of respondents with incomes over $16,000 that did not understand unit pricing. Over 50 percent of the respondents 60 years or older were not aware of unit pricing, while only 29 percent 39 years or younger were not aware of it. The following table shows the results of their analysis.

	Percent unaware of labels (note a)	Percent not understanding labels (note b)
Education of respondent:		
Grade school	50	52
Some high school	39	29
High school graduate	31	25
Some college	32	19
College graduate	28	17
Annual family income:		
Less than $4,000	54	37
$4,000 to $7,999	39	24
$8,000 to $16,000	27	24
Over $16,000	28	19
Age:		
18 to 29	29	24
30 to 39	29	24
40 to 59	34	28
60 and over	52	31

[a]Based on all respondents.

[b]Based only on respondents who were aware of labels.

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[1]See footnote 1 on p. 62, McCullough and Padberg, pp. 16-20. Interviews were conducted in six Toledo area stores about 4 months after unit pricing was introduced.

The Jewel Food Store Test II[1] also showed that, generally lack of awareness increased with less education, diminishing income, or age. The survey was conducted in three stores--each in a different neighborhood. The following table shows the respondents' average demographic characteristics by store and the percent of respondents in each store who were unaware of the unit-pricing program.

Store	Education	Income	Age	Percent unaware
1	2.1 years of college	$15,090	36	0.8
2	1.1 years of college	9,057	44.5	32.2
3	3.1 years of high school	6,735	45.5	71.4

One of the telephone surveys[2] also found indications that consumer awareness of unit pricing was significantly related to income. The most knowledgeable consumers had a family head, who was a white collar professional or manager, with an annual income of $10,000 or more.

Consumers use

Researchers have used a variety of methods to determine the extent of consumer usage of unit pricing. Some researchers interviewed consumers in stores; others used telephone or mail surveys; and one researcher even disguised his interviewers as shoppers so the consumers being interviewed were not aware they were participating in a survey.

Our analysis of surveys of consumer usage of unit pricing showed a considerable range (9 to 68) in the percentage of shoppers claiming any use of unit pricing, with the average percentage only 34.4 percent.

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[1]"Background Information of Jewel Compar-A-Buy Pricing Study," supplement to news release, Jewel Food Stores, Melrose Park, Illinois, for release Oct. 11, 1970, pp. 4-8. Interviews conducted at three Chicago area stores about 1 (test I) and 3 (test II) months after introduction of unit pricing.

[2]Lawrence M. Lamont, James T. Pothe, and Charles C. Slater, "Unit Pricing: A Positive Response to Consumerism," The University of Colorado, Boulder, Colorado (no publish date), pp. 5 and 7. Telephone interviews conducted during second month after introduction of unit pricing in a Denver area supermarket chain.

One of the main reasons for this limited use has been the lack of awareness and understanding of unit pricing as discussed above. For example, one study[1] showed of those that reported not using unit pricing, 28 percent said they were not aware of the system.

The study also showed that for many products, consumers decide what to buy before they go shopping, on the basis of personal perference, family preference, and inability to store larger sizes. Of the 48 respondents who used unit pricing, 42 did not use it on all products. The most frequently cited reasons were previous purchase experiences and preconceived buying decisions. Twenty-two of the respondents stated they did not use unit pricing on certain items because they already knew the best or most economical buy on the brand they preferred. The study concluded that consumers do not make brand or size decisions each time they purchase a product, but rely on their initial decision most of the time.

Further evidence of this conclusion was found in the Monroe Peter Friedman study. Of the shoppers who had noticed labels but had declined to use them, 23 percent in the inner-city store and 36.5 percent in the suburban store stated they knew what brands and sizes they wanted and had no need for unit pricing labels.

One problem with the preceding surveys of consumer usage, however, is that they are based on consumer claims of usage which may be exaggerated. For example, the John Paul Rowe survey[2] compared usage claimed by a sample of consumers with the actual usage reported by trained observers who watched as consumers selected products from the shelves. Of the sample of 100 shoppers, 43 claimed to have used unit pricing in their selections. However, the trained observers found only 11 of the 43 shoppers had actually used it.

Also, the Monroe Peter Friedman survey found that claims of use of unit pricing to compare prices for different package sizes of two products for which there were no shelf labels were made by 5.6 and 6.8 percent of the shoppers in the suburban sample.

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[1]"Unit Pricing and the Consumer - Does she understand it? - Does she like it? - Does she use it?" McCann-Erickson Research Services (July 1971) pp. 1-9 and section on method, no page number. Interviews conducted in five Toronto area stores about 2 months after introduction of unit pricing.

[2]See footnote 1 on p. 63, Rowe pp. 29, 43, 44, and 65.

Consumer claims of benefits

Consumers who claim to use unit pricing have been asked whether it changed their buying decisions. They gave various answers. In one telephone survey,[1] 72 percent of the unit pricing users claimed they had purchased a different size of the same product, and 52 percent claimed to have switched brands because of unit pricing.

The T. David McCullough and Daniel I. Padberg in-store survey found that 28 percent of the unit pricing users in their survey could name the product on which they had switched from their usual brand or size as a result of unit pricing. Another 22 percent thought they had switched products because of unit pricing but could not remember which product.

In this same survey unit pricing users were also asked the ways the labels had benefited them. About 78 percent believed it made price comparisons easier, 24 percent thought it saved shopping time in the store, and 22 percent said it had helped them save money.

Studies of consumer savings

In addition to determining awareness, understanding, and usage, studies have also attempted to determine whether unit pricing information resulted in savings for consumers. The McCullough and Padberg study[2] and the Isakson and Maurizi study[3] are, in our opinion, of sufficient scope and depth to be worth noting. The results of these two studies, however, are contradictory and, therefore, the picture concerning consumer savings remains clouded.

Each of the two studies generally used the same technique and based their analysis on the same assumption--shifts in purchases to lower unit priced brands and/or sizes of products result in consumer savings. The studies compared selected sales data for unit pricing and non-unit pricing stores.

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[1]See footnote 2 on p. 72.

[2]See footnote 1 on p. 62, McCullough and Padberg, pp. 11-16.

[3]Hans R. Isakson and Alex R. Maurizi, "The Consumer Economics of Unit Pricing," Journal of Marketing Research, vol. 10, (Aug. 1973), pp. 277-285.

The McCullough and Padberg study compared unit and non-unit pricing stores in both high and low income neighborhoods. The study showed that product movement in unit and non-unit pricing stores was very similar. It concluded that the availability of unit pricing information did not cause consumers to shift to unit priced selections in either the high or low income neighborhoods and therefore would not result in any consumer savings.

The Isakson and Maurizi study included unit and non-unit pricing stores in low, middle, and high income areas. The comparison of sales movement data between unit and non-unit pricing stores led to the following results:

--Middle and high income shoppers were taking advantage of the unit price information to pay lower unit prices (regardless of brand) than their counterparts in the non-unit-pricing stores.

--Middle income shoppers also tended to purchase lower unit priced sizes within specific brands.

--Low income shoppers generally were not paying lower unit prices than their counterparts in the non-unit pricing stores.

Industry benefits from unit pricing

Unit pricing programs can improve a store's operating efficiencies and public image even though the extent of consumer usage may be small. Although unit pricing has been intended to benefit the consumer, many grocery retailers have noted benefits to their operations.

A representative of one of the largest grocery chains, commenting on its unit pricing program stated:[1]

"Our internal studies showed (that) while there were definite additional costs in going into dual pricing [unit pricing], there were some compensatory savings in the program, too. It has been estimated that by having the product code numbers on the shelf, some labor savings in stocking would result. Also, these code numbers would be helpful in inventory control, re-ordering, and in training new employees."

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[1]Joseph S. Coyle, "Dual Pricing," Progressive Grocer, (Feb. 1971), p. 50.

An official of a local grocery chain in Iowa, which was one of the first grocery retailers to adopt unit pricing on a chain-wide basis, also commented on how unit pricing helped them get a firm grip on the prices of products delivered directly to their stores and where pricing was the responsibility of store managers.[1] He stated:

> "I used to think we had good control in this area, but when we started centralized pricing of store deliveries to accommodate * * * [unit pricing] we found out how chaotic it was. Retail prices were very irregular, and we even found we were selling some items below cost. Now, with direct delivery cost and retail price centrally recorded on computer, we have real control in this area for the first time. In a sense, this one side-benefit may be better for us than * * * [unit pricing] itself."

Many of the grocery retailers who responded to our questionnaire on unit pricing gave reasons for operational benefits similar to those stated above. The primary reasons were improved pricing accuracy and improved shelf space allocation.

In its press release on the results of its consumer reaction surveys, Jewel Food Stores commented that their unit pricing program had been most successful in terms of customer response and interest. It, therefore, had been a good marketing tool, creating customer satisfaction and assuring customers of Jewel's interest in providing them with helpful information.

Some grocery retailers responding to our questionnaire had similar views on unit pricing's effect on a store's public image.

COST OF UNIT PRICING

Studies concerning the costs of current unit pricing programs have estimated the annual cost of providing unit pricing to be as much as 0.17 percent of grocery sales for an average supermarket. Most State and local governments which have unit pricing laws have reportedly been able to implement enforcement programs generally without a major increase in cost and staff.

Cost to the grocery store

Two studies which estimated the nationwide costs of unit pricing in grocery stores based their estimates on the shelf label method of

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[1] Joseph S. Coyle, "What Cost Dual Pricing?" Progressive Grocer (Nov. 1970), p. 81.

unit pricing. Each estimated the one-time-only cost to install and the annual cost to maintain unit pricing. The McCullough and Padberg study based its estimates on a test of unit pricing in six chain company supermarkets in Toledo, during a 16-week period--February 21 through June 13, 1970.

The second study by A. T. Kearney and Company, Inc., dated July 1971, covered both major chains and independent stores. Its estimated cost of unit pricing in food chains was based on the actual experience of seven major chains. The costs of unit pricing for independent stores were obtained by an industrial-engineering-type approach in 21 stores, which is discussed on page 79.

McCullough/Padberg study

In this study, computer-printed shelf labels were installed and maintained on about 5,000 items in each store. The sales for each store exceeded $1 million a year. The following table shows the direct costs for unit pricing, including division level as well as store level costs, determined during the study. Salaries of management officials were not considered in the direct cost of the chain's unit pricing operation.

One-time installation:	
Division (allocated to stores)	$ 8,885.64
Store	449.15
Annual maintenance:	
Division (allocated to stores)	11,873.26
Store	2,073.24

The estimated cost of unit pricing for all U.S. grocery stores was developed from these costs on the basis that most grocery sales occur through stores whose operations benefit from a fairly close cooperation with a distribution center, such as chain companies and independents which are affiliated with wholesalers.

On the basis of 60 stores per distribution center, the computed annual weighted average cost of unit pricing across the entire retail grocery industry was 0.59 percent of sales. However, supermarkets, which account for about three-fourths of grocery sales for the Nation, had a weighted average cost of 0.17 percent of sales.

The study concluded that the cost of unit pricing for small stores (sales less than $150,000 a year) would be very discriminatory because there would be a significant cost to sales disadvantage. However, these stores have only about 12 percent of nationwide grocery sales. The

study also concluded that cost levels for unit pricing were apparently lower than industry expectations, but large in relation to the very narrow margins typical for food distributors. It also stated that the burden of keeping unit price labels readable, accurate, and in proper location is not trivial and that regulatory enforcement would have to recognize reasonable tolerances.

Kearney study

The objectives of this study were to conduct a thorough study of the impact of unit pricing on all types of retail grocery stores and to estimate the costs to the various types, ranging from large chain operations to small, unaffiliated independent stores.

In developing its cost estimates the study applied the following assumptions:

--The shelf tag or label method would be used to display unit prices.

--All U.S. stores would unit price 80 percent of grocery and frozen food items but would not unit price any meat, produce, dairy, bakery, or nonfood items beyond those already unit priced.

--The costs of maintaining a unit pricing system depend, in part, on the number of labels subject to change each week.

--If unit pricing became subject to regulation, it would

  --permit labels or tags to be printed on a press, computer-printed, or typed;

  --not require stores to advertise or conduct educational programs; and

  --give stores a reasonable time to comply so as to avoid higher costs of a crash program.

The following table shows the range of costs and the median cost--estimated by seven major supermarket chain companies which had unit pricing--for system installation and annual system maintenance per store. Each store was unit pricing 5,000 items except for 1 chain where 4,000 items were unit priced in each store.

	System installation	System maintenance
Range	$283 to $667	$260 to $3,474
Median	$521	$1,476

The wide range of installation costs between chains was attributed to differences in (1) the number of stores in the chain, (2) management time and expense, (3) computer programs, (4) computer time and cost, and (5) mix of labor and labor rates. The wide range of maintenance costs was caused by the degree to which unit pricing procedures could be substituted for, or incorporated in, other procedures by each chain.

On the basis of this data, it was estimated that if all U.S. chains established unit pricing, the average cost per store would range from $400 to $550 for installation and from $1,000 to $1,600 for maintenance. The study also estimated that average annual maintenance costs for all chains would likely be substantially under 0.10 percent of average sales.

At the time of the Kearney study no independent stores were known to have unit pricing, therefore, an industrial-engineering-type approach was used to develop cost data. Under this approach, cost estimates were developed by analyzing the numerous detailed tasks involved in installing and maintaining unit pricing in various types and sizes of stores, which were affiliated and unaffiliated with wholesalers. The following table shows the average cost per store and the percent of cost to annual sales.

	System installation		System maintenance	
	Cost	Percent of sales	Cost	Percent of sales
Affiliated				
Supermarket	$ 620	.0411	$1,378	.0913
Superette (note a)	300	.0901	881	.2646
Small store	-	-	-	-
Unaffiliated				
Supermarket	$1,302	.0863	$1,919	.1272
Superette	598	.1526	1,058	.2698
Small store	153	.2512	213	.3495

[a]Retail grocery stores with annual sales from $150,000 to $500,000.

Because of wholesalers' unit pricing assistance (e.g., data gathering, calculations, and computer-printed labels) the cost as a percent of sales was substantially lower for affiliated stores than for unaffiliated stores of the same size. All small stores were considered to be unaffiliated.

As did the McCullough/Padberg study, the Kearney study concluded that small stores would be at a significant cost to sales disadvantage in maintaining unit pricing systems. It demonstrated that the supermarket would be in a favorable position to institute unit pricing because about 93 percent are owned by major chain companies or affiliated with wholesalers which provide many services to the stores, including product pricing, shelf label preparation, and planning of new systems and programs. The study shows that annual maintenance costs for these supermarkets would probably not exceed 0.10 percent of sales

The study also stated that most unit pricing costs would be passed on to consumers in price increases. It suggested that regulation of unit pricing should be reasonable as to the number of items included and possibly even exclude items on short-term sales and promotions in order to minimize costs. It said consideration should be given to excluding small stores from regulation because their sales are only a minor portion of groceries sold in the United States (10.8 percent in 1972) and regulation would add significantly to their burden in terms of competition. The study also suggested superettes be excluded, but to a lesser extent because they have been more profitable than small stores in recent years.

Cost of enforcement

The experience of the few State and local governments which are enforcing unit pricing regulations indicates that unit pricing adds little to the taxpayer's burden. The primary reason for this was best stated by Commerce officials when commenting on the Kearney study suggestion that total costs of unit pricing could be substantially higher if unit pricing was regulated. These officials observed that many items now sold in food stores are covered by State and local weights and measures laws so that the cost of enforcing unit-pricing regulations could be absorbed by using the existing inspection force.

Officials of [illegible] State and local governments regulating unit pricing stated that active enforcement programs are being carried out with existing personnel. However, one jurisdiction complained about an inadequate inspection force; this was apparently due to a lack of cooperation by store owners and management since about 35 percent of the stores showed a fairly high degree of noncompliance, which required follow up inspections. The remaining respondents indicated that

cooperation by retail stores was generally satisfactory. (A table showing the estimated number of stores with regulated unit pricing program is on p. 58).

Each of the eight laws excludes certain types or sizes of stores from regulation. Five of the laws contain more than one exemption. As discussed in chapter 7, the most frequent exemptions relate to single owner-operated stores and volume of sales. In this last category one law exempts any retail entity (one or more stores) with annual sales of less than $2 million, two laws exempt stores with annual sales of less than $750,000 and one law exempts stores with annual sales of less than $500,000. In our opinion, these exemptions would tend to keep down the cost of enforcing unit pricing regulations in these jurisdictions as well as avoid the competitive disadvantage for smaller stores due to their heavier cost-to-sales burden for unit pricing.

Nationwide impact of cost on the grocer and consumer

We believe, on the basis of recent studies, supermarkets would be in the best position to offer unit pricing at the least cost. Regulating unit pricing in supermarkets would involve only one in five grocery stores in the United States but it would have the greatest impact in terms of availability of unit pricing to the consumer. According to 1972 statistics, 77.4 percent of nationwide grocery sales occurred in supermarkets.

On the basis of the McCullough/Padberg and Kearney studies, the annual cost of installing and maintaining unit pricing systems in all supermarkets could be as high as 0.17 percent of total sales. If this percentage is applied to estimated nationwide supermarket sales of $78.7 billion for 1972, the total costs for unit pricing would be about $133.8 million.

Supermarkets cannot be expected to absorb these costs since their average operating profit margin before taxes are low. For example, food chain profits before taxes were .94 percent of sales in fiscal year 1972-73. If the cost were passed on to consumers, the estimated cost of unit pricing for a family of four, assuming they purchased their food in 1973 in a unit pricing supermarket, would have been about $5.71 a year, or 11 cents a week.[1]

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[1]Based on the average cost of food for a family of four ($3,359 a year or $64.60 a week per USDA statistics) multiplied by the estimated annual cost of unit pricing (0.17 percent of sales).

Using unit pricing to select lower unit cost products, however, enables consumers to offset these costs. Although few studies of overall consumer use of unit pricing have been made, the John Paul Rowe survey of shoppers in suburban Washington, D.C., showed that 11 percent of the consumers actually used unit pricing and that about 8.8 percent of the purchases observed probably involved the use of unit pricing. Michael J. Houston's study (see p. 54) concluded that participants had actually saved money by using unit pricing. It showed that the use of unit pricing significantly reduced the error rate when participants tried to choose the most economical selection. This reduced error rate was also measured in terms of the dollar difference between the minimum price for the most economical purchases and the actual price paid by the participants. Analysis of these dollar differences showed about a 3-percent savings for the shoppers in unit-pricing stores. This 3-percent savings was attributed to the use of unit pricing.

By combining the estimated usage rate (8.8 percent) with the estimated savings (3 percent), an estimated savings of 0.264 percent on total purchases is derived. This exceeds the estimated cost of providing unit pricing (0 17 percent of sales) and indicates that consumers, by using pricing, can offset the cost of providing it.

OTHER LABELING FACTORS' IMPACT ON EFFECTIVENESS OF UNIT PRICING

Unit pricing, as generally used today is based on the net weight of the content in the can or package. However, for some products net weight may not be the measure of quantity that is needed for consumers to readily compare prices between competing products.

These products include those which

--are in a packaging liquid (e.g. canned fruits and vegetables),

--must be reconstituted before use (e.g. dry and condensed soups), and

--contain differing percentages of active ingredients and where use is based on volume (e.g. detergents).

To avoid inaccurate price comparisons among competing brands of such products, unit pricing should be based on some other measure--drained weight, yield, volume, etc.--which would enable consumers to more accurately compare prices.

As discussed in chapter 4, food products which are packed in liquid can have significant differences between drained weight and net weight. The "Consumer Reports" analysis found that food processors

disclosures of drained weight for such products--especially canned fruits and vegetables--is needed so that retail stores can realistically calculate unit prices for shoppers. (See p. 27.)

The following table shows comparative information on a can of vacuum packed corn and a can of corn packed in liquid in which the number of kernels was virtually identical. This table comes from an industry sponsored study conducted by Consumer Research Institute, Inc.[1]

	Brand A (less moisture)	Brand B (more moisture)
Net weight of contents	12 oz	17 oz
Price per can	25¢	25¢
Normal unit price per ounce	2.08¢	1.47¢
Price per serving (usage unit)	6.25¢	6.25¢

The usage unit selected for the study was a 3 ounce drained weight serving. Although arbitrary, the unit selected makes little difference if it is consistent across brands. If drained weight rather than net weight had been disclosed on the brands' labels in ounces, the usage unit could have been the ounce or pound.

As can be seen from the preceding table, shoppers could believe they were getting a better choice with brand B. However, if unit price was based on drained weight, shoppers could tell there was no price difference.

Yield information is particularly suitable for prepared mixes and products that must be reconstituted before use. Commerce recognized this in its attempt to simplify package quantity patterns when the package standard for dry milk is based on the number of quarts of milk resulting from reconstitution rather than attempting to establish a weight standard for the powdered product.

The following table from the Consumer Research Institute, Inc., study shows the problem which occurs when net weight of contents rather than yield is used to calculate unit prices for reconstituted products. The table presents comparative information on four brands of vegetable beef soup with brands A and B requiring reconstitution before use.

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[1]Raymond C. Stokes, "Unit Pricing, Differential Brand Density and Consumer Deception," Consumer Research Institute, Inc., Washington, D.C., (June 1973), pp. 1-18.

	Brand A (dehydrated)	Brand B (condensed)	Brand C (ready to serve)	Brand D (ready to serve)
Net weight of contents	3 1/2 oz	10 3/4 oz	14 3/4 oz	19 oz
Price per can or package	40¢/pkg	23¢/can	25¢/can	57¢/can
Normal unit price per oz	11.43¢	2.14¢	1.68¢	3¢
Price per serving (usage unit)	7¢	9¢	14¢	28¢

The usage unit selected for the study was one cup. However, if yield information had been disclosed on brand A and B labels in ounces, the usage unit could have been the ounce or quart.

The application of yield information in computing unit price shows that the dehydrated soup is the cheapest rather than the most expensive as indicated by the normal unit price based on net weight of contents.

Detergents and other such products with active ingredients are sold by weight but are used by volume. However, the amount used each time depends on the package directions for each brand. For example, directions for laundry detergents specify different amounts depending on the type of washer, the hardness of water, and the condition of the fabrics to be washed. These directions may also state that the final amounts used are subject to the consumer's judgment. The Consumer Research Institute, Inc., computed the price per washload for three brands of detergents on the basis of usage data obtained from package directions. The results are shown below.

	Brand A (tablet)	Brand B (concentrated)	Brand C (regular)
Net weight of contents	46 oz	49 oz	20 oz
Price per package	79¢	79¢	38¢
Normal unit price per ounce	1.7¢	1.6¢	1.9¢
Price per washload	6.00¢	6.00¢	6.78¢

On the basis of these examples, we believe price comparisons of competing brands for some products should be based on usage or drained weight rather than the net weight. If manufacturers of such products included usage or drained weight information on their product labels, it would be feasible for retailers to base unit prices on more meaningful measures of quantity and would make unit pricing even more effective in facilitating consumer price comparisons.

UNIVERSAL PRODUCT CODE

Plans are well underway within the grocery industry to make possible the automation of the supermarket checkout process. Under this system each product will have a distinct code on the label. When the coded items are passed across a scanner at the cash register, they will automatically be rung up and the customer will receive a receipt describing the product and its price. The system for assigning a distinct code to each product has been designated the Universal Product Code. Once operational, the system should save time, reduce labor costs, eliminate errors, and reduce operating costs which may be passed on to the consumer in lower food prices.

Because this system will not require the marking of prices on individual packages, individual retailers may decide to eliminate this cost and use shelf labels to provide the pricing information consumers need. Although such a practice could encourage the availability and use of unit pricing, it could also create problems for consumers. Because of the problems of design and maintenance of shelf labels for unit pricing, as discussed in chapter 7, we believe that, before such a system is implemented, the design and maintenance of shelf labels should be improved. The savings offered by the system may provide an incentive to the retailer to do this.

CONSUMER AND INDUSTRY COMMENTS

The officials from 3 trade associations and 5 consumer groups we interviewed concerning unit pricing stated that consumers experience difficulties in comparing the prices of competing products. They also generally agreed that unit pricing was a possible answer to the problem. They disagreed, however, as to whether unit pricing should be mandatory for supermarket-size (over $500,000 in annual sales) stores.

Consumer groups

Officials from all five consumer groups stated that unit pricing should be mandatory. One official stated that all of the qualitative labeling information would be meaningless without unit pricing to help consumers make the final economic comparison. Another official stated that without unit pricing consumers will not be able to compare the value of competing products; and, still another official stated that unit pricing should be legible and easy for consumers to understand and use.

Food industry

Officials from the trade associations stated that mandatory unit pricing was not needed and could put some small retail food stores out of business. They said that unit pricing is available in most

metropolitan areas under voluntary programs. Making unit pricing mandatory would add to food prices and require Federal Government monitoring which would be costly to taxpayers.

While industry officials agreed that the design and implementation of some unit-pricing systems needed improvement, they believe the programs are evolving and new and improved systems are being instituted. They are concerned, however, about the cost of improved systems when there is no assurance that consumers will use the unit pricing information.

Industry officials also expressed concern about passing the costs of unit pricing on to the consumers. They stated the profit margin for most retailers was so small that most firms could not absorb the cost of the program but would have to pass it on to consumers in the form of higher food prices.

One optimistic viewpoint taken by industry is that with the increased use of the Universal Product Code, the cost of providing unit pricing information will be minimal. In addition, because the shelf labels will have the only price information, they will take on added significance and retailers will have to improve their design and maintenance.

CONCLUSIONS

Despite the potential benefits of unit pricing, its actual impact on consumers has been limited. Because of either a lack of awareness or a lack of understanding, a relatively small percentage of consumers have actually used unit pricing and they generally have used it on only selected purchases.

While there has been no study of the reasons for a lack of understanding or awareness and, therefore, limited use of unit pricing, several studies showed a strong association between consumer education, income, and age levels and the awareness and understanding of unit pricing. In our opinion, this association is caused, at least in part, by the lack of consumer education on the meaning and benefit of unit pricing and by the problems of design and maintenance of unit pricing on shelf labels. While voluntary programs have been beneficial, food retailers should be given specific criteria for presenting unit pricing and educating consumers on its use.

To insure that unit pricing information is presented to consumers in a meaningful way and that they can understand and use it in making value comparions, national standards should be established for designing and maintaining such programs. These standards should also prescribe

the basis for computing unit price (net weight, drained weight, usage) and for selecting the unit of measure (per pound or per ounce) to be used. In addition, a consumer education program should be established to acquaint consumers with the prescribed format and the benefits of using unit pricing.

The need for national standards and consumer education will also increase with the use of the Universal Product Code and the planned automation of the supermarket checkout process. As now planned, the shelf label would be the sole source of information for consumers for the package price as well as the unit price. When such plans are put into operation consumer understanding and the design and maintenance of shelf labels will take on added importance.

Estimates show the annual costs of unit pricing could be as much as $133.8 million. The costs would have to be passed on to consumers in the form of higher grocery prices. However, consumers could offset these costs by using unit pricing to select lower unit cost products.

AGENCY COMMENTS

HEW, commenting on our recommendation to the Congress to consider establishing a unit pricing program, advised us that its Office of Consumer Affairs endorses the concept of uniformity of unit pricing as well as education of consumers as to its uses and benefits. USDA did not comment on our recommendation, but did note that with unit pricing information consumers could more readily make both price-quantity and price-quality judgments. USDA also noted that price comparison is not the only basis for consumer buying decisions. Quality, convenience, personal tastes and preferences, and utility of a particular size are other key factors that are not reflected in unit pricing.

Commerce questioned whether a mandatory unit pricing program would be sufficiently used by consumers to justify the higher food prices they would be asked to pay. Commerce believes that various surveys cited in our report indicate that consumers would not offset these higher costs by using unit pricing to select lower unit cost products. Also Commerce stated that mandatory unit pricing would require Government monitoring and in this period of rapid inflation it seemed inadvisable to endorse any program that would unnecessarily add to the cost of food and/or increase the cost of government when the benefits in so doing are doubtful.

Although Commerce recognizes that not all chains in metropolitan areas under voluntary programs have unit pricing, it believes the existence of at least one such chain in any area provides the consumer with the option of using it. Commerce believes also that free market pressure should be sufficient to persuade other chains to adopt unit pricing so as

to remain competitive and, therefore, there is no need for government to intervene where the market operates efficiently.

Moreover, Commerce believes more attention should be devoted to studying the impact of mandatory unit pricing rules on small retailers, which, as pointed out in our report, could force some of them out of business. Commerce indicated that the Federal Trade Commission is studying concentration in the retail food industry and stated that it would be inadvisable to take steps that could result in fewer firms in the industry and, therefore, nothing should be done to reduce the diversity of the industry while the matter is under study.

Concerning whether consumers would use unit pricing provided under a mandatory program, one of the main reasons for the limited use of unit pricing has been the lack of awareness and understanding. Problems and variations in the extent of coverage, the design and maintenance of shelf labels, the unit of measure, and the lack of promotion and explanatory materials have all contributed to the problems consumers have in trying to understand and use unit pricing. A mandatory uniform program should reduce the obstacles limiting consumer awareness and understanding of unit pricing.

Also studies cited in this report indicate that, when consumers use unit pricing, they use it on about 8.8 percent of their purchases and achieve savings of about 3 percent, which results in an estimated savings of 0.264 percent on total purchases. This exceeds the estimated cost of providing unit pricing (0.17 percent of sales) and indicates that consumers, by using unit pricing, can offset the cost of providing it.

We believe it becomes even more important to consumers during a period of rapid inflation to have unit pricing to help consumers compare the cost of competing food products.

With regard to the cost of monitoring unit pricing requirements, the experience of the few State and local governments which are enforcing unit pricing regulations indicates that unit pricing adds little to the taxpayers' burden. Officials of six of the eight State and local governments regulating unit pricing stated that active enforcement programs are being carried out with existing personnel.

Unit pricing is available in about 50 percent of the chain-operated supermarkets and in 25 percent of the independent supermarkets. But variations in the number of products covered by individual stores or chains, problems in the design and maintenance of shelf labels, inappropriate units of measure, and lack of promotion and explanatory materials have all contributed to problems consumers have in understanding and using unit pricing. Unit pricing programs with such problems should not be

expected to develop sufficient market pressure to persuade other chains to adopt unit pricing to remain competitive. Further, in an area where no retailer is providing unit pricing, there is no such market pressure for a retailer to adopt unit pricing.

This report cites the concern of industry officials that mandatory unit pricing could put small retailers out of business. However, the legislative proposals under consideration by the Congress exclude any retail outlet with gross annual sales of less than $250,000 or a firm with several outlets with total annual sales of less than $500,000 from the requirement to provide unit pricing.

ADDITIONAL COMMENTS OF THE DEPARTMENT OF COMMERCE

Commerce made the following general comments on our report, in addition to its comments on specific matters (open dating and unit pricing),

> "The basic premise underlying the report is that informed consumers are essential to the fair and efficient functioning of a free market economy. An important consideration in attaining this goal is the extent to which consumers would utilize the information that would be available if the proposals in the six basic areas (full disclosure of ingredients, nutritional labeling, percentage of characterizing ingredients, grading, open dating and unit pricing) were enacted. The studies quoted in the report indicate that the consumer is not utilizing the information he or she now has available.
>
> "With approximately 8,000 items available in the average supermarket and as many as 230 assortments of one food category (cheese), the consumer theoretically could have 48,000 pieces of information to weigh in selecting 'best' buys if information in all six areas of the report became mandatory. If the average housewife were to buy only 20 different products she would have 120 pieces of information to evaluate. Given changing prices, sales, and differences in prices between stores, a consumer would be hard pressed to make efficient use of the information the report proposes providing and for which he or she would have to pay in the form of higher food prices."

Our report demonstrates that incomplete information, the confusing presentation of information, and/or the lack of explanatory material provided by the food industry or the retailers have contributed to the limited use of the information by consumers. In fact, several studies

cited in this report indicate the consumers' desire for easy-to-use information.

Many of our recommendations are directed toward providing information in a more useful form or making it more uniformly available, rather than toward providing new types of information. For example, where ingredients are now only listed in order of predominance, the percentage of the main characterizing ingredients would be shown and, where now only non-standardized foods have to have their ingredients listed, "standardized" foods would also have their ingredients listed.

The recommendations in this report are directed toward providing the consumer more usable information for making the comparisons contemplated by the Congress and for determining which brands are best suited to their specific needs or preferences.

RECOMMENDATION TO THE CONGRESS

To insure the most effective presentation of unit pricing information and to insure consumer awareness and understanding of unit pricing, we recommend the Congress consider amending FPLA to establish a unit pricing program, including guidelines for the design and maintenance of unit pricing information and education of consumers about its use and benefits. H.R. 3708 was introduced in the 93d Congress to amend FPLA to require a disclosure of retail unit prices of packaged consumer commodities. If enacted, this proposal would require any retail outlet, which has gross sales of $250,000 or more annually, or any firm with a number of outlets whose total sales exceed $500,000 annually, to display the total selling price and the retail unit price either on the package or in close proximity to the point of display. This legislation would not, however, establish standards for the designing and maintaining of such systems, nor would it provide for consumer education--two essential factors in the success of the unit pricing program.

CHAPTER 9

SCOPE OF REVIEW

Our review was directed to determining the effectiveness of FPLA and related packaging and labeling laws and their implementation primarily by FDA, USDA, and Commerce in achieving their objectives of:

--Promoting honest and fair dealings in the interest of consumers.

--Ensuring that packages and their labels are sufficiently informative to facilitate consumer value comparisons and determine which products are best suited to their specific needs.

We also:

--Analyzed the potential impact on the food industry and on consumer behavior if food labels were required to provide additional information which is now being proposed in the Congress.

--Reviewed the legislative history of FPLA; other related laws; and FDA, Commerce, and USDA regulations, policies, and practices for monitoring food labels.

--Examined food labels from 1,000 randomly selected products and obtained detailed product information from food manufacturers.

--Reviewed certain merchandising practices of 100 supermarkets in 10 metropolitan areas--Detroit, Atlanta, Chicago, Dallas, Denver, Los Angeles, Newark, Philadelphia, St. Louis, and San Francisco.

--Interviewed officials from FDA, Commerce, and USDA as well as consumer groups, medical associations, and industry associations.

--Interviewed representatives from 22 food manufacturers and retailers and obtained additional data from questionnaires received from over 560 food retailers and manufacturers.

In addition we obtained information from questionnaires sent to the 50 States and our study of other research projects involving consumer behavior and attitudes toward supermarket shopping and food labeling. Certain information in chapters 7 and 8 was based on empirical studies obtained from various Federal information repositories; academic and professional literature; and officials of Federal agencies, trade associations, consumer groups, and academic researchers.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
WASHINGTON, D.C. 20201

OFFICE OF THE SECRETARY

OCT 3 1974

Mr. Gregory J. Ahart
Director, Manpower and
Welfare Division
U.S. General Accounting Office
441 G Street, N.W.
Washington, D.C. 20548

Dear Mr. Ahart:

The Secretary has asked that I respond to your request for our comments on your draft report to the Congress entitled, "Food Labeling: Concepts and Problems: Analysis and Impact". They are enclosed.

We appreciate the opportunity to comment on this draft report before its publication.

Sincerely yours,

John D. Young
Assistant Secretary, Comptroller

Enclosure

COMMENTS ON THE GENERAL ACCOUNTING OFFICE FINAL REPORT TO CONGRESS ENTITLED, "FOOD LABELING: CONCEPTS AND PROBLEMS: ANALYSIS AND IMPACT"

GAO RECOMMENDATION:

The Secretary of HEW should direct the Commissioner of FDA to:

> Promulgate regulations requiring labels of food products to identify vegetable oils.

DEPARTMENT COMMENT:

We concur. In June of 1971, FDA published a proposed statement of policy on ingredient statements regarding fats and oils. Based in part upon the comments to that statement, FDA has now terminated the rule making proceedings begun by that proposal and has promulgated a new proposal. The new proposal published in the Federal Register of June 14, 1974 (39 FR 20888) would require the specific name of the fat or oil to appear in labeling.

GAO RECOMMENDATION:

The Secretary of HEW should direct the Commissioner of FDA to:

> Monitor the effectiveness of relying on public service announcements to present FDA's consumer education program, and, if appropriate, develop more effective means of presenting the information to consumers.

DEPARTMENT COMMENT:

We concur. FDA is taking steps to measure the effectiveness of its entire nutritional education campaign. Before FDA initiated its education campaign, the Agency conducted a nationwide survey to measure the status of consumer nutritional knowledge. The results of this survey are now being evaluated and will be publicized in government, scientific, and commercial publications. In June 1974, FDA awarded a contract for a follow-up survey. This survey will measure changes in consumer nutritional awareness since the first survey and it will evaluate the effectiveness of the media campaign and related education efforts on nutritional labeling. The results of this will assist FDA in developing more effective means of presenting nutritional information to consumers.

Although the recommendation infers that FDA's consumer education campaign relies principally on public service announcements, it should be noted that the campaign actually involves a substantial degree of direct contact with nutritionists, educators, trade associations, consumer organizations, media sources and other specialists who influence many routes

of communication with consumers. For example, FDA's 50 consumer affairs officers have devoted a considerable percentage of their effort to present nutritional information to influential local groups and organizations. In addition, FDA representatives, particularly from the Office of Nutrition and Consumer Sciences have made about fifty appearances around the nation to national and regional groups to discuss nutritional information. Also, FDA has sponsored with the food industry media three National Nutritional Labeling briefings involving more than 20 national trade associations. All of these education efforts are expected to have a substantial multiplier effect when these specialists in turn communicate nutritional information to consumers.

GAO RECOMMENDATION:

The Secretary of HEW should direct the Commissioner of FDA to:

> Identify foods that would be appropriate for percentage of characterizing ingredient labeling and require labels of such foods to include percentage information.

DEPARTMENT COMMENT:

We concur. The Food and Drug Administration will promulgate or consider promulgating a regulation for percentage of characterizing ingredient labeling in the following instances: (1) Where a commonly known food consisting of expected proportions of components is being abused as to the proportions of such components; (2) Where the name of a food implies that the product contains a certain amount of a valuable component or components and the consumer is mislead; and (3) If the food looks like and is used as a substitute for a particular food and contains less of the characterizing ingredient or components than the food for which it substitutes.

The subject of percentage of characterizing ingredient labeling is covered in the general principles for common or usual names of foods, 21 CFR 102.1, subpart A, (38 FR 6966) and is applicable to foods generally. Subpart B covers specific foods. Specific finalized regulations include §102.5 seafood cocktails, §102.9 diluted orange juice beverages and §102.10 beverages with no fruit or vegetable juice. Proposals have been published on other foods such as §102.19 oil mixtures with olive oil and §102.23 diluted fruit or vegetable juice beverages.

By virtue of 21 CFR 102.1 the Commissioner of Foods and Drugs requires that the common or usual name of a food shall include the percentage(s) of any characterizing ingredient(s) or component(s) when the proportion of such ingredient(s) or component(s) has a material bearing on price or consumer acceptance. The same section also requires a declaration of the absence of ingredient(s) if such information has a material bearing

on price or consumer acceptance. Recently, in the Federal Register of June 14, 1974 (39 FR 20887) the Commissioner proposed an addition to §102.1, "When the percentage of a characterizing ingredient is stated on the label or in labeling or advertising, other than as a percentage of a particular ingredient in a complete statement of ingredients as provided in §1.10(4) and §10.8(a) of this chapter, it shall be declared on the label as part of the common or usual name of the food in accordance with the provisions of this paragraph."

To the extent that current resources permit, we believe these efforts demonstrate that the Food and Drug Administration is identifying foods that would be appropriate for percentage labeling and is requiring the labels of such products to include percentage information.

GAO RECOMMENDATIONS TO CONGRESS:

In addition to the preceding recommendations to the Secretary of HEW, the report contains several recommendations to the Congress regarding legislation on which we offer the following comments.

GAO RECOMMENDATION:

The Congress (should) consider amending the FD&C Act to require full disclosure of all ingredients on packaged food products, including "standardized" products, and give FDA authority to require food labels to specifically identify spices, flavorings, and colorings, where a proven need exists.

DEPARTMENT COMMENT:

The Department has submitted to Congress a proposal to amend the Act so as to place standardized foods under the same legal requirements that presently apply to nonstandardized foods. i.e., all ingredients must be listed, in order of decreasing predominance, except that spices, flavors, or colors may be declared as such without naming their individual components, and except where FDA allows exemptions. These bills were introduced as H.R. 5642 and S. 1451.

In addition, the Senate has passed a bill, S. 2373, which addresses the issue of food ingredient labeling. S. 2373 as passed differs from the Department's bill in that it would (1) require colors to be specifically named on all food labels, (2) replace FDA's general exemption authority with a list of detailed exemptions (which conform to those already granted by FDA by regulations), and (3) require percentage ingredient declaration for significant ingredients or where the Secretary finds such declaration would be useful to consumers. In addition, S. 2373 as passed would require manufacturers to provide information on any

individual spices and flavors which are not specifically labeled, upon request, and authorize FDA to require specific spice or flavor declaration by regulation where disclosure is needed to protect public health or provide information useful to consumers. Furthermore, the Department is to conduct a study, to be completed one year after enactment, of the need to amend the Federal Food, Drug, and Cosmetic Act to require individual designation of the common or usual name of every individual spice and flavoring used in the food.

The Department supports most aspects of S. 2373 as passed, as expressed in a report dated May 28, 1974, to the Chairman of the Senate Committee on Commerce on Amdt. No. 1261 as passed.

GAO RECOMMENDATION:

Congress (should) amend FPLA to establish a uniform system of open dating for perishable and semi-perishable foods.

DEPARTMENT COMMENT:

S. 2373 as passed by the Senate on July 11, 1974, provides explicit authority to issue regulations requiring use of sell dates or use dates and storage instructions. FDA has authority to require such information in any case where lack of such label information may result in a food being adulterated. However, we would not object to explicit statutory authority in this area, by amendment of the Federal Food, Drug, and Cosmetic Act.

GENERAL COMMENTS:

Following are a number of comments that you may wish to consider in developing the final version of your report.

1. With respect to that section of the report discussing the effectiveness of relying on public service announcements to present FDA's consumer education program, we suggest consideration be given to the Advertising Council's Food, Nutrition, and Health Campaign sponsored by HEW--through the Office of Consumer Affairs, HEW - USDA, and the Grocery Manufacturers of America. This campaign includes radio and television commercials and newspaper, magazine and car card advertisements calling the public's attention to the importance of nutrition--especially for women of child-bearing age, pregnant women, young children, and the obese--and urges individuals to send for a widely applauded free booklet, FOOD IS MORE THAN JUST SOMETHING TO EAT. This booklet includes specific information and illustrations of nutritional labeling and provides a framework of fundamental nutritional knowledge within which to use nutritional labeling effectively. Since the campaign's inception in December 1973, some two million copies of the booklet have been distributed,

a little more than half of them through paid food industry promotions. Currently, elements of the food industry are exploring with the Advertising Council the possibility of producing, in conjunction with the campaign, additional television commercials focusing on nutritional labeling for exposure in food processors' and packers' paid time."

These, as well as other activities by USDA and industry, should be included in the review of Federal efforts to educate consumers on nutritional labeling.

2.

(See GAO note.)

3.

(See GAO note.)

4. With respect to Congress establishing a unit-pricing program including guidelines for the design and maintenance of unit-pricing information and the education of consumers as to its use and benefits -- we suggest the following:

"The Office of Consumer Affairs endorses the concept of uniformity of unit pricing as well as education of consumers as to its uses and benefits."

5. Also, we suggest consideration of the following comments:

(See GAO note.)

GAO note: Omitted comments pertain to material contained in the draft report but omitted from the final report or to suggestions for improving presentation of matters in the report which have been considered in preparing the final report.

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
WASHINGTON, D.C. 20250

1974

SEP 19 1974

Mr. Henry Eschwege
Director
Resources and Economic
Development Division
U.S. General Accounting Office

Dear Mr. Eschwege:

Thank you for the opportunity to comment on the draft of your report entitled, "Food Labeling; Concepts and Problems; Analysis and Impact." Although the report contains no recommendations directed specifically to the Secretary of Agriculture, the substance of the report bears directly on many of the regulatory, marketing and consumer education activities of this Department. This response combines the comments made by officials in the Animal and Plant Health Inspection Service (APHIS), the Agricultural Marketing Service (AMS), the Economic Research Service (ERS), the Extension Service (ES), and the Agricultural Research Service (ARS). In general, the officials expressed concurrence with most of the conclusions and recommendations.

General Statement of USDA's Role in Food Labeling

1. The Federal Meat Inspection Act and the Poultry Products Inspection Act assign the responsibility for meat and poultry product labels to the Department. Under these Acts the Department must see to it that meat and poultry product labels contain all necessary information and are not false or misleading. By regulation, all labels must be approved prior to their use. These activities are carried out by APHIS.

2. The Agricultural Marketing Act gives the Department the authority to administer a voluntary quality grading program. Federal grades are widely used as a common language at all levels of trading from producers to consumers. This use of grades also provides a means to reflect consumer preferences for the various products back through marketing channels to producers. These activities are carried out by AMS.

3. As part of the general responsibility of the Department, economic evaluations are continually made of the impact of various policies and programs affecting agricultural producers, marketing firms and consumers. The lead agency for these evaluations is ERS.

4. The Smith-Lever Act authorizes cooperative extension work between Land-Grant Universities and USDA to disseminate information in agriculture, home economics and related areas, and give instruction to persons not enrolled in college. Major emphasis in programming is continuously placed on helping consumers determine which products are best suited to meet their specific need or preference within the family budget. These activities are carried out by ES.

5. The Consumer and Food Economics Institute (CFEI) of ARS has for over 50 years compiled and published information on the nutritive value of foods and prepared guidance materials for consumers, teachers, dietitians and the food industry relating to the selection of a nutritionally good diet.

Specific Comments on Each Chapter in the Report

Chapter 2. Need For Full Disclosure of Ingredients

USDA supports the recommendation for full disclosure of the source of vegetable oils in shortenings and in meat and poultry products. There are, however, certain meat and poultry products which use such small amounts of vegetable oils that their contribution to cholesterol intake would be insignificant. Identification as animal fat or vegetable oil may be sufficient in these products.

USDA also supports, and has the authority to require, specific identification of spices, flavors, and colorings where a proven need exists.

With the exception of the specific identification of vegetable oils, spices, flavors, and colorings, APHIS already requires the full disclosure of all ingredients in both standardized and nonstandardized meat and poultry food products.

Chapter 3. Nutritional Labeling

USDA supports and is participating with FDA in a joint consumer education program to promote the use of nutritional labeling.

APHIS has been approving nutritional labels on the basis of a proposal published in the Federal Register, January 11, 1974. Since the program is a voluntary one which is desired by consumers, APHIS agreed to this procedure in order to speed the process by which nutritional information could be supplied to the public. A final rulemaking is now under review by Department officials. During the first year, approximately 400 labels were approved for 60 companies. Products included such diverse items as wieners, frozen dinners and entrees, soups, meat patties, and pizzas.

APHIS is exploring ways in which standard information can be obtained and validated for specific products. This would greatly enhance the amount of nutritional information made available to the consumer.

In addition, CFEI, because of the advent of nutritional labeling, is adding new initiatives to its continuing program. The first of these activities is the establishment of a nutrient data bank as a repository and retrieval system for food composition data including that developed by food manufacturers as a basis for their nutritional labels. The second of these new activities is aimed at assisting the consumer toward getting the most out of the new information available on the labels. A publication, "Nutrition Labeling; Tools for Its Use," has been developed by the Institute and will be released through the Government Printing Office (GPO) early in 1975. The publication, together with a computational device called a "Nutrimeter," can be used to compute the daily intake of various nutrients and compare that intake with recommended daily allowances. The Institute also has prepared student and teacher guides for using the Nutrimeter, the new publication and the nutrition information or food labels. The Nutrimeter and guides will also be available through GPO.

Chapter 4. Need for Percentage of Characterizing Ingredient Labeling

USDA supports voluntary percentage labeling and has recently published guidelines preparatory to the publication of proposed regulations. We believe voluntary percentage labeling will assist consumers in making value comparisons or otherwise assist in determining suitability to consumer needs. Officials of APHIS have asked that a staff study be conducted to determine whether mandatory percentage labeling of certain classes of product should be considered at this time.

The report briefly mentions the issue of showing the grade of the major or characterizing ingredient on the label of processed foods. Little would be accomplished for most processed meat products in that the grade of the raw material is only one of several factors which affect the finished product characteristics. The surveillance required in a grading or acceptance program to assure the validity and accuracy of such a label would be extremely costly. Those costs likely would far outweigh any benefits and eliminate the voluntary use of such a labeling program.

Chapter 5. Quality Grading - Help or Handicap

USDA supports the goal of reducing consumer confusion regarding the use of grade nomenclature. However, the number of quality variables among food products effectively negate the possibility of developing one system of grade designations which would cover all food products. Under these circumstances, a practical goal may be to seek uniform grade names within

several groups of similar products, such as fresh meats, poultry, or processed fruits. We are currently studying the feasibility of uniform grade nomenclature for fresh fruits and vegetables, and have already established uniform grade standards for some 150 processed food products based upon a simple A, B, C system.

We support the need for strengthened educational programs to help consumers understand and use grade information while making shopping decisions. ES has the communication channels for effectively providing such services.

Chapter 6. Need for Uniform Open Dating System

USDA supports the voluntary open dating of meat and poultry products and has published regulations which go into effect December 8, 1974. These regulations require that if a calendar date is used, it be accompanied by a clear statement of its meaning in terms of "packing" date, "sell by" date, or "use before" date. Further, qualifying phrases to bring additional product information to consumers are permitted.

This program of voluntary open dating will be monitored closely by USDA to see if further changes are necessary or to decide if a mandatory approach is needed. In the meantime, we believe a voluntary approach is best so that consumers, industry and government can gain necessary experience before making additional judgments.

Chapter 7 and 8. Unit Pricing

The two chapters on unit pricing cover a number of issues quite thoroughly, especially the problem of using net weight or drained weight as a basis for determining unit price. It should be noted that the primary thrust of those advocating unit pricing was to provide consumers with a simplified tool by which to make price comparisons between differing size packages of a particular brand, as well as between competing brands. At the same time, however, it must be recognized that price comparisons through unit pricing are not the only basis upon which consumers will make buying decisions--since quality, convenience, personal tastes and preferences, and utility of a particular size package are other key factors in selecting purchases, and are not reflected in unit pricing. The problem of placing grade information on these labels was briefly covered in our comments for Chapter 4. With this information, however, the consumer could make both price-quantity and price-quality judgments.

Sincerely.

G. H. Wise
Acting Administrator

UNITED STATES DEPARTMENT OF COMMERCE
The Assistant Secretary for Administration
Washington, D.C. 20230

September 24, 1974

Mr. Victor L. Lowe
Director
General Government Division
U.S. General Accounting Office
Washington, D. C. 20548

Dear Mr. Lowe:

This is in reply to your letter of July 30, 1974, requesting comments on the draft report entitled "Food Labeling: Concepts And Problems; Analysis And Impact - B-164031(2)."

We have reviewed the attached comments of the Assistant Secretary for Science and Technology and believe they are responsive to the matters discussed in the report.

Sincerely yours,

Guy W. Chamberlin, Jr.
Acting Assistant Secretary
for Administration

Attachment

UNITED STATES DEPARTMENT OF COMMERCE
The Assistant Secretary for Science and Technology
Washington, D.C. 20230

13 SEP. 1974

Mr. Victor L. Lowe
Director, General Government Division
United States General Accounting Office
Washington, D.C. 20548

Dear Mr. Lowe:

Thank you for giving the Department of Commerce the opportunity to review and comment on your draft of a proposed report to Congress entitled "Food Labeling: Concepts and Problems; Analysis and Impact".

The material presented in chapters 2,3,4 and 5 is outside the scope of the responsibilities assigned to the Department of Commerce by the Fair Packaging and Labeling Act; therefore, we will not comment on the findings, conclusions or recommendations of those chapters. However, it is our belief that any recommendations that have the potential of increasing food prices be carefully scrutinized to insure that these actions and the likely subsequent price increases are more than outweighed by benefits that will be utilized by the consumer.

We shall confine our comments to the conclusions and recommendations concerning open dating and unit pricing. The enclosed (Attachment I) details the Department's views on the findings and conclusions of the proposed report in these areas.

Generally, there is no disagreement with your conclusion that a uniform system of open dating for perishable and semi-perishable foods is desirable. However, it is recommended that this can be achieved more effectively with appropriate revisions to the Model State Open Dating Regulation (Attachment II) through the National Conference on Weights and Measures. Experience to date indicates that the best method of open dating appears to vary with the commodity in question. Therefore, it does not appear that enough is known at this time to legislate a solution. The National Conference on Weights and Measures offers the opportunity for consumers and industry representatives to meet with Federal, state and local officials, in a combined effort, to move the model regulation forward. For this reason we disagree with your

GAO Note: Attachment II, the Model State Open Dating Regulation, is not included in this report.

recommendation that the Congress amend FPLA to establish a uniform system of open dating for perishable and semi-perishable foods.

We also disagree with the recommendation that the Congress amend FPLA to establish a unit pricing program. Based on the information contained in the draft report, we question whether such a program would be sufficiently utilized by consumers to justify the higher food prices they would be asked to pay.

If you have any questions you should contact Mr. Harold F. Wollin, Program Representative at the National Bureau of Standards, who can arrange a meeting. His phone number is 921-2401.

Sincerely.

Betsy Ancker-Johnson, Ph.D.

Enclosures

ATTACHMENT I

Comments on a Draft of a Proposed General Accounting Office Report to Congress Entitled "Food Labeling: Concepts and Problems; Analysis and Impact"

The following are Department comments on the subject report.

Open Dating

We do not agree with your recommendation that the Congress amend the Fair Packaging and Labeling Act to establish a uniform system of open dating for perishable and semi-perishable foods. Experience to date indicates that not enough is known at this time to legislate a solution on open dating. For example, freshness is a quantity which is important to commerce, and an efficient open dating system is needed to avoid economic loss to sellers as well as to protect consumers. Nevertheless, freshness is difficult to define and measure. Levels of freshness must be established arbitrarily and the most effective method of determining freshness may vary from commodity to commodity. For example, oven-fresh bread is desirable to many consumers but another consumer market exists for "stale" bread which has been returned to the bakery. The former requires the date the bread was baked while the latter demands the date at which the bread is no longer fit for human consumption.

It is recommended that a fully flexible system be tested to determine the best method for open dating for various perishable and semi-perishable foods. "Pull dates" may offer more consumer protection for certain commodities; but for others, "packed dates" or "expiration dates" may be more informative. The Model State Open Dating Regulation referred to in the text of the letter can be revised to permit this kind of flexibility. In any event, open dating should always be presented with a complete explanation and in a manner which is uniform for each method.

We specifically oppose one aspect of open dating as outlined in the report calling for "date-of-display" information. The report [47] (pg. 85) discusses a study recommending that a retailer be required to date merchandise as to the "date of display". This is a meaningless requirement resulting in extra costs to the retailer and subsequent higher prices to the consumer due to added labor requirements. The critical factor is not always how long an item has been on the store shelf, but how much time has elapsed since it was produced.

GAO note: Page 85 refers to the draft report. It is page [47] in this final report.

Unit Pricing

We also disagree with the recommendation that the Congress amend FPLA to establish a unit pricing program. Based on the information contained in the draft report, we question whether such a program would be sufficiently utilized by consumers to justify the higher food prices they would be asked to pay.

From the Department's point of view, unit pricing is an issue which requires careful attention. The draft report recommends that Congress establish a unit pricing program including guidelines for the design and maintenance of unit pricing information and the education of consumers as to its uses and benefits. The report concedes the cost could be as much as $133.8 million, which would ultimately be passed on to the consumer. The report assumes, however, that consumers could offset these costs by using unit pricing to select lower unit cost products. This assumption is not supported by the studies discussed in the text of the report (pgs. 123-125). Various surveys indicate consumer [72] usage of any unit pricing ranged from 9 to 68 percent, with an average of 34.4 percent. In addition, one of these studies showed that 87.5 percent of those who indicated they used unit pricing did not use it on all products. Therefore, it is doubtful that consumers would in fact offset higher prices through the use of unit pricing. Furthermore, the effect of a consumer education program is ambiguous, with no guarantee that it would increase consumer usage of unit pricing. This is reinforced by the aforementioned survey results.

There is no doubt that mandatory unit pricing would add to the price of food and require government monitoring. In this period of rapid inflation it would seem inadvisable to endorse any program that would unnecessarily add to the cost of food and/or increase the cost of government when the benefits in so doing are doubtful.

Part of the proposed report notes that unit pricing is available in most metropolitan areas under voluntary programs. Although the study indicates that not all chains in an area have unit pricing, the existence of at least one such chain in any area provides the consumer with the option of utilizing it. Free market pressure should be sufficient to persuade other chains to adopt unit pricing so as to remain competitive. There is no need for government to intervene where the market operates efficiently.

GAO note: Pages 123-125 refer to the draft report. It is page [72] in this final report.

The report also notes (page 147) that industry officials believe mandatory unit pricing could put some small retailers out of business. Substantially more attention should be devoted to studying the impact of mandatory unit pricing rules on small retailers, with particular emphasis on whether they would be forced out of business. With the Federal Trade Commission studying concentration in the retail food industry it would be inadvisable to take steps that could result in fewer firms in the industry. It is the Department's view that nothing should be done to reduce the diversity of the industry when concentration is under study.

In concluding, we would like to make the following general comment. The basic premise underlying the report is that informed consumers are essential to the fair and efficient functioning of a free market economy. An important consideration in attaining this goal is the extent to which consumers would utilize the information that would be available if the proposals in the six basic areas were enacted. The studies quoted in the report indicate that the consumer is not utilizing the information he or she now has available.

With approximately 8,000 items available in the average supermarket and as many as 230 assortments of one food category (cheese), the consumer theoretically could have 48,000 pieces of information to weigh in selecting "best" buys if information in all six areas of the report became mandatory. If the average housewife were to buy only 20 different products she would have 120 pieces of information to evaluate. Given changing prices, sales, and differences in prices between stores, a consumer would be hard pressed to make efficient use of the information the report proposes providing and for which he or she would have to pay in the form of higher food prices.

GAO note: Page 147 refers to the draft report. It is page [85] in this final report.

LIST OF 284 FOOD CATEGORIES FOR WHICH A STANDARD OF IDENTITY HAS BEEN ESTABLISHED[1]

1. Cacao nibs, cocoa nibs, cracked cocoa.
2. Chocolate liquor, chocolate, baking chocolate, bitter chocolate, cooking chocolate, chocolate coating, bitter chocolate coating.
3. Breakfast cocoa, high fat cocoa.
4. Cocoa, medium fat cocoa.
5. Low fat cocoa.
6. Sweet chocolate, sweet chocolate coating.
7. Milk chocolate, sweet milk chocolate, milk chocolate coating, sweet milk chocolate coating.
8. Skim milk chocolate, sweet skim milk chocolate, skim milk chocolate coating, sweet skim milk chocolate coating.
9. Buttermilk chocolate, buttermilk chocolate coating.
10. Mixed dairy products chocolates, mixed dairy product chocolate coatings.
11. Sweet chocolate and vegetable fat (other than cacao fat) coating.
12. Sweet cocoa and vegetable fat (other than cacao fat) coating.
13. Milk chocolate and vegetable fat (other than cacao fat) coating, sweet milk chocolate and vegetable fat (other than cacao fat) coating.
14. Cocoa with dioctyl sodium sulfocussinate for manufacturing.
15. Flour, white flour, wheat flour, plain flour.
16. Enriched flour.
17. Bromated flour.
18. Enriched bromated flour.

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[1]Extracted from 21 C.F.R. part 14-53.

19. Durum flour.

20. Self-rising flour, self-rising white flour, self-rising wheat flour.

21. Enriched self-rising flour.

22. Phosphated flour, phosphated white flour, phosphated wheat flour.

23. Instantized flours, instant blending flours, quick mixing flours.

24. Whole wheat flour, graham flour, entire wheat flour.

25. Bromated whole wheat flour.

26. Whole durum wheat flour.

27. Crushed wheat, coarse ground wheat.

28. Cracked wheat.

29. Farina.

30. Enriched farina.

31. Semolina.

32. White corn meal.

33. Yellow corn meal.

34. Bolted white corn meal.

35. Bolted yellow corn meal.

36. Degerminated white corn meal, degermed white corn meal.

37. Degerminated yellow corn meal, degermed yellow corn meal.

38. Self-rising white corn meal.

39. Self-rising yellow corn meal.

40. White corn flour.

41. Yellow corn flour.

42. Grits, corn grits, hominy grits.

43. Yellow grits, yellow corn grits, yellow hominy grits.

44. Quick grits, quick cooking grits.

45. Enriched corn meals.

46. Enriched corn grits.

47. Enriched rice.

48. Macaroni products.

49. Milk macaroni products.

50. Whole wheat macaroni products.

51. Wheat and soy macaroni products.

52. Vegetable macaroni products.

53. Noodle products.

54. Wheat and soy noodle products.

55. Vegetable noodle products.

56. Enriched macaroni products.

57. Enriched noodle products.

58. Enriched vegetable macaroni products.

59. Enriched vegetable noodle products.

60. Macaroni products made with nonfat milk.

61. Enriched macaroni products made with nonfat milk.

62. Enriched macaroni products with fortified protein.

63. Bread, white bread, and rolls, white rolls, or buns, white buns.

64. Enriched bread and enriched rolls or enriched buns.

65. Milk bread and milk rolls or milk buns.

66. Raisin bread and raisin rolls or raisin buns.

67. Whole wheat bread, graham [illegible] bread; and whole wheat rolls, graham rolls, entire wheat rolls; or whole wheat buns, graham buns, entire wheat buns.

68. Cream class of food.

69. Light cream, coffee cream, table cream.

70. Whipping cream class of food.

71. Light whipping cream.

72. Heavy cream, heavy whipping cream.

73. Evaporated milk.

74. Concentrated milk, plain condensed milk.

75. Sweetened condensed milk.

76. Condensed milks which contain corn syrup.

77. Dried skim milk, powdered skim milk, skim milk powder.

78. Nonfat dry milk fortified with vitamins A and D.

79. Cheddar cheese, cheese.

80. Cheddar cheese for manufacturing.

81. Low sodium cheddar cheese.

82. Washed curd cheese, soaked curd cheese.

83. Washed curd cheese for manufacturing.

84. Colby cheese.

85. Colby cheese for manufacturing.

86. Low sodium colby cheese.

87. Cream cheese.

88. Neufchatel cheese.

89. Cottage cheese dry curd.

90. Cottage cheese.

91. Lowfat cottage cheese.

92. Granular cheese, stirred curd cheese.

93. Granular cheese for manufacturing.

94. Swiss cheese, emmentaler cheese.

95. Swiss cheese for manufacturing.

96. Gruyere cheese.

97. Samsoe cheese.

98. Brick cheese.

99. Brick cheese for manufacturing.

100. Muenster cheese, munster cheese.

101. Muenster cheese for manufacturing, munster cheese for manufacturing.

102. Edam cheese.

103. Gouda cheese.

104. Blue cheese.

105. Gorgonzola cheese.

106. Nuworld cheese.

107. Roquefort cheese, sheep's milk blue-mold cheese, blue-mold cheese from sheep's milk.

108. Limburger cheese.

109. Monterey cheese, monterey jack cheese.

110. High-moisture jack cheese.

111. Provolone cheese, pasta filata cheese.

112. Caciocavallo siciliano cheese.

113. Parmesan cheese, reggiano cheese.

114. Mozzarella cheese, scamorza cheese.

115. Part-skim mozzarella cheese, part-skim scamorza cheese.

116. Low moisture mozzarella cheese, low moisture scamorza cheese.

117. Low moisture part-skim mozzarella cheese, low moisture part-skim scamorza cheese.

118. Romano cheese.

119. Asiago fresh cheese, asiago soft cheese.

120. Asiago medium cheese.

121. Asiago old cheese.

122. Cook cheese, koch cheese.

123. Sap sago cheese.

124. Cammelost cheese.

125. Hard cheeses.

126. Semisoft cheeses.

127. Semisoft part-skim cheeses.

128. Soft ripened cheeses.

129. Spiced cheeses.

130. Part-skim spiced cheeses.

131. Hard grating cheeses.

132. Skim milk cheese for manufacturing.

133. Pasteurized process cheese.

134. Pasteurized blended cheese.

135. Pasteurized process cheese with fruits, vegetables, or meats.

136. Pasteurized process pimento cheese.

137. Pasteurized blended cheese with fruits, vegetables, or meats.

138. Pasteurized process cheese food.

139. Pasteurized process cheese food with fruits, vegetables, or meats.

140. Pasteurized process cheese spread.

141. Pasteurized cheese spread.

142. Pasteurized process cheese spread with fruits, vegetables, or meats.

143. Pasteurized cheese spread with fruits, vegetables, or meats.

144. Cream cheese with other foods.

145. Pasteurized neufchatel cheese spread with other foods.

146. Cold-pack cheese, club cheese, comminuted cheese.

147. Cold-pack cheese food.

148. Cold-pack cheese food with fruits, vegetables, or meats.

149. Grated American cheese food.

150. Grated cheeses.

151. Ice cream.

152. Frozen custard, french ice cream, french custard ice cream.

153. Ice milk.

154. Fruit sherbets.

155. Water ices.

156. Nonfruit sherbets.

157. Nonfruit water ices.

158. Vanilla extract.

159. Concentrated vanilla extract.

160. Vanilla flavoring.

161. Concentrated vanilla flavoring.

162. Vanilla-vanillin extract.

163. Vanilla-vanillin flavoring.

164. Vanilla powder.

165. Vanilla-vanillin powder.

166. Mayonnaise, mayonnaise dressing.

167. French dressing.

168. Salad dressing.

169. Canned peaches.

170. Canned peaches with rum.

171. Artificially sweetened canned peaches.

172. Canned apricots.

173. Canned apricots with rum.

174. Artificially sweetened canned apricots.

175. Canned prunes.

176. Canned pears.

177. Canned pears with rum.

178. Artificially sweetened canned pears.

179. Canned seedless grapes.

180. Canned cherries.

181. Canned cherries with rum.

182. Artificially sweetened canned cherries.

183. Canned berries.

184. Canned fruit cocktail, canned cocktail fruits, canned fruits for cocktail.

185. Artificially sweetened canned fruit cocktail.

186. Canned plums.

187. Canned pineapple.

188. Canned pineapple juice.

189. Artificially sweetened canned pineapple.

190. Canned prune juice.

191. Canned figs.

192. Canned preserved figs.

193. Artificially sweetened canned figs.

194. Canned applesauce.

195. Canned grapefruit.

196. Lemonade.

197. Colored lemonade.

198. Frozen concentrate for lemonade.

199. Frozen concentrate for colored lemonade.

200. Frozen concentrate for artificially sweetened lemonade.

201. Orange juice.

202. Frozen orange juice.

203. Pasteurized orange juice.

204. Canned orange juice.

205. Frozen concentrated orange juice, frozen orange juice concentrate.

206. Canned concentrated orange juice, canned orange juice concentrate.

207. Orange juice from concentrate.

208. Orange juice for manufacturing.

209. Orange juice with preservative.

210. Concentrated orange juice for manufacturing, orange juice concentrate for manufacturing.

211. Concentrated orange juice with preservative.

212. Canned pineapple-grapefruit juice drink.

213. Canned fruit nectars.

214. Cranberry juice cocktail--a juice drink.

215. Artificially sweetened cranberry juice cocktail--a juice drink.

216. Limeade.

217. Water-extracted soluble orange solids.[1]

218. Dehydrated water-extracted soluble orange solids.

219. Comminuted oranges.

220. Dehydrated comminuted oranges.

221. Extract of comminuted oranges.

222. Dehydrated extract of comminuted oranges.

223. Juicy orange pulp for manufacturing, pulpy orange juice for manufacturing.

224. Dehydrated juicy orange pulp for manufacturing, dehydrated pulp orange juice for manufacturing.

225. Orange juice drink.

226. Concentrate for orange juice drink.

227. Powdered orange juice drink.

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[1]In March 1973, FDA stayed Federal regulations (21 C.F.R. 27.150-27.168) which established definitions and standards of identity for 19 diluted orange juice beverage and related product categories (categories 217 through 235).

228. Orange juice drink blend.

229. Powdered orange juice drink blend.

230. Orange drink.

231. Concentrate for orange drink.

232. Powdered orange drink.

233. Orange flavored drink.

234. Concentrate for orange flavored drink.

235. Powdered orange flavored drink.

236. Frozen cherry pie.

237. Fruit butter.

238. Fruit jelly.

239. Preserves, jams.

240. Artificially sweetened fruit jelly.

241. Artificially sweetened fruit preserves, artificially sweetened fruit jams.

242. Soda water.

243. Canned oysters.

244. Oysters, raw oysters, shucked oysters.

245. Extra large oysters, oysters counts (or plants), extra large raw oysters, raw oysters counts (or plants), extra large shucked oysters, shucked oysters counts (or plants).

246. Large oysters, oysters extra selects, large raw oysters, raw oysters extra selects, large shucked oysters, shucked oysters extra selects.

247. Medium oysters, oysters selects, medium raw oysters, raw oysters selects, medium shucked oysters, shucked oysters selects.

248. Small oysters, oysters standards, small raw oysters, raw oysters standards, small shucked oysters, shucked oysters standards.

249. Very small oysters, very small raw oysters, very small shucked oysters.

250. Olympia oysters, raw Olympia oysters, shucked Olympia oysters.

251. Large Pacific oysters, large raw Pacific oysters, large shucked Pacific oysters.

252. Medium Pacific oysters, medium raw Pacific oysters, medium shucked Pacific oysters.

253. Small Pacific oysters, small raw Pacific oysters, small shucked Pacific oysters.

254. Extra small Pacific oysters, extra small raw Pacific oysters, extra small shucked Pacific oysters.

255. Frozen raw breaded shrimp.

256. Frozen raw lightly breaded shrimp.

257. Canned tuna.

258. Canned Pacific salmon.

259. Liquid eggs, mixed eggs, liquid whole eggs, mixed whole eggs.

260. Frozen eggs, frozen whole eggs, frozen mixed eggs.

261. Dried eggs, dried whole eggs.

262. Egg yolks, liquid egg yolks, yolks, liquid yolks.

263. Frozen yolks, frozen egg yolks.

264. Dried egg yolks, dried yolks.

265. Egg whites, liquid egg whites, liquid egg albumen.

266. Frozen egg whites, frozen egg albumen.

267. Dried egg whites, egg white solids, dried egg albumen, egg albumen solids.

268. Oleomargarine, margarine.

269. Liquid oleomargarine, liquid margarine.

270. Peanut butter.

271. Mixed nuts.

272. Canned peas.

273. Canned dry peas.

274. Canned green beans.

275. Canned wax beans.

276. Canned corn, canned sweet corn, canned sugar corn.

277. Canned field corn.

278. Canned vegetables other than those specifically regulated.

279. Tomato juice.

280. Yellow tomato juice.

281. Catsup, ketchup, catchup.

282. Tomato puree, tomato pulp.

283. Tomato paste.

284. Canned tomatoes.

ESTIMATED COSTS OF
USDA VOLUNTARY INSPECTION AND GRADING PROGRAM
AND ADDITIONAL COSTS OF A
MANDATORY CONSUMER GRADE LABELING PROGRAM

	Dairy	Fruit and Vegetable		Grain	Live-stock	Poultry	Total
		Fresh	Processed				
1974 FY costs:	(000 omitted)						
Grading--fee	$2,693	$3,443	$11,179	$3,730	$9,869	$8,648	$39,589
Grading--appropriated	0	561	0	2,742	0	214	3,517
Standardization--appropriated	156	134	435	270	333	99	1 427
Cost for State and private graders	-	80,000	-	30,000	-	28,000	138,000
Total grading costs	$2,849	$84,138	$11,614	$36,742	$10,202	$36,961	$182,506
Additional costs of mandatory program	13,500	85,000	75,000	9,000	23,500	121,000	[a]327,000
Total costs of mandatory program	$16,349	$169,138	$86,614	$45,742	$33,702	$157,961	[a]$509,506

[a]Includes $10 million agency overhead.

COMPARISON OF LAWS WITH RESPECT TO
UNIT PRICING OF DRY GROCERY AND FROZEN FOOD PRODUCT CATEGORIES
IN A SUPERMARKET (note a)

Dry grocery product categories (note b)	Laws (note c)							
	Model Regulation	Conn.	Mass.	R.I.	Vt.	Ann Arbor	N.Y.C.	Seattle
1. Cereals	R	R	R	R	R	R	R	R
2. Coffee, regular	R	R	R	R	R	R	R	R
3. Coffee, instant	R	R	R	R	R	R	R	R
4. Condiments	R	R	R	R	R	R	R	R
5. Fish, canned	R	R	R	R	R	R	R	R
6. Fruit, canned	R	R	R	R	R	R	R	R
7. Household cleaning compounds	R	R	R	R	R	R	R	R
8. Jams, jellies, spreads	R	R	R	R	R	R	R	R
9. Juices and drinks, vegetable, fruit	R	R	R	R	R	R	R	R
10. Paper products	R	R	R	R	R	R	R	R
11. Pet foods	R	R	R	R	R	R	R	R
12. Shortening and oils	R	R	R	R	R	R	R	R
13. Soaps and detergents	R	R	R	R	R	R	R	R
14. Vegetables, canned	R	R	R	R	R	R	R	R
15. Beer, wine, ale	N	N	N	N	N	N	N	N
16. Cigarettes, cigars, tobacco	N	N	N	N	N	N	N	N
17. Desserts	N	N	N	N	N	N	N	N
18. Cookies	R	R	R	R	R	R	N	N
19. Crackers, toast products	R	R	R	R	R	R	N	N
20. Fruit, dried	R	R	R	R	R	R	N	R
21. Laundry supplies	N	N	N	N	R	N	N	R
22. Meat and prepared food, canned	Meat	Meat	Meat	Meat	Meat	Meat	N	R
23. Milk, canned and dry	N	N	N	N	N	N	N	Dry
24. Salad dressings	R	R	R	R	R	R	N	R
25. Soft drinks	R	R	R	R	R	R	R	N
26. Soup, canned and dry	Can	R	R	R	Can	R	N	Can

Dry grocery product categories (note b)	Laws (note c)							
	Model Regulation	Conn.	Mass.	R.I.	Vt.	Ann Arbor	N.Y.C.	Seattle
27. Sugar	N	N	N	N	R	N	N	R
28. Tea	R	R	R	R	R	R	N	R
29. Vegetables, dry	R	R	R	R	R	R	N	R
30. Baby foods	N	R	R	R	R	R	R	R
31. Baking mixes	N	R	R	R	R	R	R	R
32. Candy, chewing gum	Candy	N	N	N	Candy	N	N	N
33. Macaroni products, dry	N	R	R	R	R	R	R	R
34. Baking needs (includes flour)	N	Flour	R	R	Flour	R	N	Flour
35. Household supplies, primarily:								
polish	N	R	N	N	R	N	N	R
waxes	N	R	R	R	R	R	N	R
disinfectants	R	N	N	N	N	N	N	R
air fresheners	N	R	R	R	R	R	N	R
36. Snacks	N	R	R	R	R	R	N	N
Frozen food product categories								
1. Baked goods	N	N	N	N	R	N	N	R
2. Fish, meat, poultry	R	N	N	N	R	N	N	R
3. Fruits	R	R	R	R	R	R	N	R
4. Juices and drinks	R	R	R	R	R	R	N	R
5. Potatoes	R	R	R	R	R	R	N	R
6. Prepared foods	N	N	N	N	N	N	N	N
7. Vegetables	R	R	R	R	R	R	N	R

Legend

R--Regulated
N--Not regulated
Meat--When specific products or forms of products are listed (meat, candy, flour, dry, canned, etc.) only that specific product group is regulated by unit pricing laws.

[a]This comparison involved broad product categories--some containing numerous products--and lists of products regulated by each law. Therefore, each product category is generally classified as being regulated or not regulated although this may not be the case for each product within a category. To make the comparisons, we used data published in the July 1969 and April 1973 issues of "Progressive Grocer" to establish the product categories and relate products to product categories.

[b]Recap of dry grocery product categories on whether or not to unit price:

--1 thru 17 complete agreement among laws and model regulation.
--18 thru 29 general agreement with no more than two laws differing from other laws and model regulation.
--30 thru 33 laws not consistent with model regulation.
--34 thru 36 general confusion among laws and model regulation.

[c]Maryland law was not included in this comparison because it did not contain a detailed list of regulated products.

APPENDIX VII

STUDIES THAT IDENTIFY THE PERCENTAGE OF SHOPPERS EITHER NOT AWARE OR AWARE BUT NOT UNDERSTANDING UNIT PRICING

Jewel Food Store	"Background Information of Jewel Compar-A-Buy Pricing Study," supplement to news release, Jewel Food Stores, Melrose Park, Illinois, for release Oct. 11, 1970, pp. 4-8.
Monroe Peter Friedman	Monroe P. Friedman, "Dual-Price Labels: Usage Patterns and Potential Benefits for Shoppers in Inner-City and Suburban Supermarkets," Center for the Study of Contemporary Issues, Eastern Michigan University, Ypsilanti, Michigan, no publishing date, pp. 62-85. Study funded by Safeway Stores, Inc., and the National Association of Food Chains and directed by Monroe P. Friedman.
T. David McCullough and Daniel I. Padberg	T. David McCullough and Daniel I. Padberg, "Unit Pricing in Supermarkets: Alternatives, Costs, and Consumer Reaction," Search Agriculture, Cornell University, Ithaca, New York, Jan. 1971, vol. 1, no. 6, pp. 16-20. Interviews conducted in six Toledo area stores about 4 months after introduction of unit pricing.
McCann-Erickson Advertising Ltd. and Elliott Research Corporation	"Unit Pricing and the Consumer - Does she understand it? - Does she like it? - Does she use it?" McCann-Erickson Research Services, July 1971, pp. 1-9 and section on method, no page number. Interviews conducted in five Toronto area stores about 2 months after introduction of unit pricing.
Robert Aitchison	Robert Aitchison, "Some Facts on Unit Pricing in New York City and Upstate New York Supermarkets," Cornell Agriculture Economics Staff Paper, Cornell University, Ithaca, New York, Jan. 1972, no. 72-1, pp. 8-9.

Lawrence M. Lamont, James T. Rothe, and Charles C. Slater	Lawrence M. Lamont, James T. Rothe, and Charles C. Slater, "Unit Pricing: A Positive Response to Consumerism," The University of Colorado, Boulder, Colorado, no publishing date, pp. 5 and 7. Telephone interviews conducted during second month after introduction of unit pricing in a Denver area supermarket chain.
Consumer Research Institute	"A Study of Consumer Reaction to Unit Pricing and Open Dating in Metropolitan Washington, D.C.," Consumer Research Institute, Inc., Washington, D.C., July 1971, pp. 15 and 17. Telephone interviews conducted after a 7-month period during which three supermarket chains had introduced both unit pricing and open-dating in Washington, D.C. area.
Supermarket News	"Consumer Profile '73: A Study of Consumer Attitudes Toward Food Shopping," Supermarket News, New York, New York, 1973, pp. 1, 28, and 31. Nationwide mail survey conducted during 1972. All participants were women.

APPENDIX VIII

PRINCIPAL OFFICIALS OF HEW
RESPONSIBLE FOR ACTIVITIES
DISCUSSED IN THIS REPORT

	Tenure of office	
	From	To
SECRETARY OF HEALTH, EDUCATION, AND WELFARE:		
Caspar W. Weinberger	Feb. 1973	Present
Franck C. Carlucci (acting)	Jan. 1973	Feb. 1973
Elliot L. Richardson	June 1970	Jan. 1973
Robert H. Finch	Jan. 1969	June 1970
Wilbur H. Cohen	Mar. 1968	Jan. 1969
John W. Gardner	Aug. 1965	Mar. 1968
ASSISTANT SECRETARY FOR HEALTH:		
Charles C. Edwards	Mar. 1973	Present
Richard L. Seggel (acting)	Dec. 1972	Mar. 1973
Merlin K. Duval, Jr.	July 1971	Dec. 1972
Roger O. Egeberg	July 1969	July 1971
Philip R. Lee	Nov. 1965	Feb. 1969
COMMISSIONER, FOOD AND DRUG ADMINISTRATION:		
Alexander M. Schmidt	July 1973	Present
Sherwin Gardner (acting)	Mar. 1973	July 1973
Charles C. Edwards	Feb. 1970	Mar. 1973
Herbert L. Ley, Jr.	July 1968	Dec. 1969
James L. Goddard	Jan. 1966	June 1968
Winton B. Rankin (acting)	Dec. 1965	Jan. 1966

APPENDIX IX

PRINCIPAL OFFICIALS OF USDA
RESPONSIBLE FOR ACTIVITIES
DISCUSSED IN THIS REPORT

	Tenure of office	
	From	To
SECRETARY OF AGRICULTURE:		
Earl L. Butz	Dec. 1971	Present
Clifford M. Hardin	Jan. 1969	Nov. 1971
Orville L. Freeman	Jan. 1961	Jan. 1969
ASSISTANT SECRETARY, MARKETING AND CONSUMER SERVICES:		
Richard L. Feltner	Apr. 1974	Present
Clayton K. Yeutter	Jan. 1973	Mar. 1974
Richard E. Lyng	Mar. 1969	Jan. 1973
DIRECTOR, AGRICULTURAL ECONOMICS:		
Don Paarlberg	Mar. 1969	Present
ADMINISTRATOR, ANIMAL AND PLANT HEALTH INSPECTION SERVICE:		
Francis J. Mulhern	May 1972	Present
Francis J. Mulhern (acting)	Apr. 1972	May 1972
ADMINISTRATOR, AGRICULTURAL MARKETING SERVICE:		
Erwin L. Peterson	June 1972	Present
George R. Grange (acting)	Apr. 1972	May 1972
ADMINISTRATOR, ECONOMIC RESEARCH SERVICE:		
Quentin M. West	Jan. 1971	Present

APPENDIX X

PRINCIPAL OFFICIALS OF THE
DEPARTMENT OF COMMERCE
RESPONSIBLE FOR ACTIVITIES
DISCUSSED IN THIS REPORT

	Tenure of office	
	From	To
SECRETARY OF COMMERCE:		
Frederick B. Dent	Jan. 1973	Present
Peter G. Peterson	Feb. 1972	Jan. 1973
Maurice H. Stans	Jan. 1969	Feb. 1972
Cyrus R. Smith	Mar. 1968	Jan. 1969
Alexander B. Trowbridge	June 1967	Mar. 1968
Alexander B. Trowbridge (acting)	Feb. 1967	June 1967
John T. Conner	Jan. 1965	Jan. 1967
ASSISTANT SECRETARY FOR SCIENCE AND TECHNOLOGY:		
Betsy Ancker-Johnson	Apr. 1973	Present
Richard O. Simpson (acting)	Aug. 1972	Apr. 1973
James H. Wakelin, Jr.	Feb. 1971	Aug. 1972
Richard O. Simpson (acting)	Dec. 1970	Feb. 1971
Myron Tribus	Mar. 1969	Nov. 1970
Allen V. Astin (acting)	Feb. 1969	Mar. 1969
John F. Kincaid	Oct. 1967	Feb. 1969
Allen V. Astin (acting)	July 1967	Sept. 1967
J. Herbert Hollomon	May 1962	July 1967
DIRECTOR, NATIONAL BUREAU OF STANDARDS:		
Richard W. Roberts	Feb. 1973	Present
Lawrence M. Kushner (acting)	May 1972	Feb. 1973
Lewis M. Branscomb	Sept. 1969	May 1972
Allen V. Astin	June 1952	Aug. 1969