

SECTION 3

The Provision of Food as it Affects the Consumer: Guidelines for Federal Action

PANEL III-1: Traditional Foods: Long-Term Trends in Food Production and Supply. Trends that Affect Nutrition and Nutritionally Improved Foods. Trends in Modification and Merchandising of Traditional Foods

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REPORT OF PANEL III-1

INTRODUCTION

Panel III-1 was directed to review "Long-Term Trends in Food Production and Supply", this review to include "Trends affecting Nutrition and

Nutritionally-Improved Foods" and "Trends in Modification and Merchandising of Traditional Foods".

This has been done against the background of

the disclosures that certain segments of our population—particularly some infants, preschool and schoolchildren from low-income families—do not receive enough food.

The reported data disclose instances of low levels of caloric and protein consumption and unacceptable levels of iron, vitamin A, and vitamin C, as well as iodine.

The Panel concluded that its first assignment was to review all trends in food production and supply and determine what steps should be recommended to insure that there currently is, and for the foreseeable future will be, an adequate total supply of all of the essential nutrients.

The Panel reviewed in detail the comprehensive statistics that are published by the Department of Agriculture. It also had the assistance of several knowledgeable consultants and advisors from the Department of Agriculture, the United States Public Health Service, and the Office of the President's Committee on Consumer Interests.

The Panel is convinced that:

1. The current production of food commodities in this country is more than sufficient to supply the nutritional needs of every member of our population.
2. This country has the ability—provided proper food policies and programs are followed—to produce all of the nutrients our expanding population will require for the foreseeable future. In reaching this conclusion we have not considered world food needs outside the United States.
3. A state of urgency regarding hunger and malnutrition among the poor nevertheless exists and must be dealt with without delay.

Certain specific actions must be taken to deal with this emergency and to insure that our food supply will remain adequate to nourish all of our expanding population. These required actions are reflected in the recommendations that follow. These are not listed in any order of priority. All are considered by the Panel to be important.

Recommendation No. 1

Adequate income levels are essential to a permanent solution of poverty-caused malnutrition. But emergency measures are needed now. It is imperative for a permanent solution to the problem

of malnutrition among the poor that incomes of all segments of our population be high enough to support an adequate diet.

We recommend:

1. Adequate income levels are and should continue to be one of the highest national goals.
2. Until income levels are adequate, our Nation has no alternative except to make food available immediately to the needy through food stamp, food distribution, school lunch, school milk, and similar programs—or by providing the necessary purchasing power. Congress should appropriate adequate funds for that purpose without delay.
3. The President should use his emergency powers now to release funds to deal with hunger and malnutrition among the poor.
4. It is imperative that these programs be oriented toward good nutrition rather than surplus disposal.
5. Administration and evaluation of these programs will require periodic monitoring of the adequacy of nutrition among current and potential participants. Whenever existing delivery systems are not effective the Federal Government should insure prompt and equitable operation of the programs.

Recommendation No. 2

Nutritional programs should be based primarily on our traditional foods. The current production of traditional foods in this country is more than sufficient to supply the nutritional needs of every member of our population. Current problems are due—not to any shortage of nutrients—but rather to the following circumstances among others:

Low income levels in some segments of the population.

Insufficient nutritional emphasis in our Government policies.

Inadequate Government food distribution programs.

A substantial and serious lack of nutritional knowledge and/or motivation to use it on the part of many people including some members of the medical profession.

The increased costs of living.

There also can be no doubt this country has the ability—provided proper food policies and programs are followed—to produce all of the nutrients our expanding population will require at least through the remainder of this century, even though our population may increase substantially by then.

We recommend:

That the problem of malnutrition should be attacked with emphasis on nutritious and traditional foods that people are accustomed to consuming since we have an adequate supply of such foods and the thrust of our efforts should be toward protecting and developing this supply. This should not preclude the fortification and supplementation of traditional foods and the development and introduction of new foods, particularly such new food products as may offer significant nutritional value at low cost. The latter, however, should be presented and should find their place in the market on their merits and not as special food for the poor.

Recommendation No. 3

Nutritional programs must recognize the importance of the attractiveness of foods. The attractiveness of foods—their flavor, texture, odor, and appearance—is nutritionally important since foods are nutritious only when they are consumed. Consumer acceptance of foods is thus vital to their nutritional value.

We recommend:

Our nutritional programs must be built around nutritious foods that meet the test of ready acceptance.

Recommendation No. 4

We must monitor the nutritional adequacy of our food. Too little attention has been paid to the relationship between food production and human nutrition. For example, new plant varieties have been developed and new kinds of foods, some involving new preparation techniques, have been introduced with insufficient examination of their nutrient qualities and without considering their relationship to other foods consumed. Significant changes in our eating patterns are also taking place, including the consumption of more snack foods between meals, more eating away from home, and greater use of convenience foods.

We recommend:

An effective Federal program should be designed and instituted at the earliest possible date to monitor at regular intervals (1) the nutrient content of our national food supply, (2) the adequacy of the food supply in relation to the nutritional needs of our population, and (3) the relationship of food consumption and patterns of eating to the health of our population.

Recommendation No. 5

We need an aggressive agricultural research program. Our goal of producing all of the nutrients our expanding population will require can be accomplished only if we pursue an aggressive program of agricultural research and development. Although there is active research in the private sector, interest in agricultural research on traditional foods appears to be declining in the U.S. Department of Agriculture and in the State universities—probably because our national agriculture has been so strong and has repeatedly produced more than we need. Present Government research, moreover, is directed more toward farm production, farm income, and surplus utilization than it is toward the nutritional needs of people.

As population grows our surpluses could disappear. We must have an aggressive long-range agricultural research and development program (1) to improve productivity and adaptation of crops and animals, (2) to develop resistance to pests, and (3) to improve the nutritional value and consumer acceptability of our food supply—all of which are of equal importance.

We recommend:

1. The agricultural committees of the Congress and the Department of Agriculture should begin immediately to reexamine priorities in our Federal research expenditures¹ and should substantially expand research concerning our supplies of traditional foods and their nutrient content in relation to the nutritional needs of our population.
2. A larger proportion of increased Federal research funds should be allocated to nutrition-oriented agricultural research by educational institutions and State experiment stations under a grants program.

¹ The distribution of current Department of Agriculture research expenditures is shown in exhibits B-I and B-II in the appendix.

3. It is urged that both of these recommendations be made effective no later than fiscal 1971.

4. The scientific talent in our Federal departments and in educational institutions should be organized along interdisciplinary lines. This team approach should improve and broaden results. The present concentration of research within disciplines has led to a serious shortage of persons trained in basic sciences who can combine comprehensive knowledge of a major food commodity with ability to harness new developments in diverse disciplines.

Recommendation No. 6

Genetic research to improve nutritive value should be emphasized. Significant improvements in the nutrient quality of our food supply can be made through plant breeding. With proper emphasis on genetic research it appears quite possible to develop new varieties of cereal grains, legumes, potatoes, and other major food crops with higher total protein content, a better balance of the essential amino acids, and higher levels of other essential nutrients. Achievement here would produce higher nutritional quality in the foods people are accustomed to eating. This would mean ready acceptance and possibly lower costs than any other means of upgrading our food supply. At present, there are no legal restrictions on the use of breeding stocks for genetic purposes. It is important that this freedom be preserved.

We recommend :

1. Genetic research on the important food crops should be encouraged in educational institutions, foundations, Federal agencies, and private industry.
2. A federally-sponsored program of genetic research should be established and directed specifically toward nutritive improvements in cereal grains, legumes, potatoes, and other major food crops. At least \$10 million a year should be spent on this program and it should be continued at least 10 years.
3. Some of the funds should be used to support Government agency projects but the major portion should go to underwrite specific genetic projects in educational institutions and State experiment stations and to provide for interchange of knowledge among researchers.

4. Legal restrictions that may hamper the freedom to utilize breeding stocks for genetic research of food crops must be discouraged. Such restrictions would impede the genetic development work that is so vital to upgrading the quality of our major food crops.

Recommendation No. 7

Technical advances in agriculture should be used to help the rural poor. Substantial numbers of poor people living in rural areas, both on and off the farms, have inadequate diets. A variety of factors contribute: The benefits of technical advances in agriculture have not reached many farmers with little education, small farms, and limited financial assets. Few research resources have been allocated to their managerial problems. And educational programs in farm and home management have focused primarily on commercial farm operators in recent years. The Farm Security Administration demonstrated in the late 1930's its potential for increasing small farmers' and nonfarm families' food production for home use. The Rockefeller Foundation also has demonstrated the feasibility of such programs in a number of localities. Current programs are small and do not reach many rural nonfarm families.

We recommend :

1. Programs for research, financial assistance, and education should be expanded to help low-income farmers use their land more effectively so as to raise their income levels and produce more food for their own use. It is recognized that this program will require a high degree of interdisciplinary capability.
2. A program of financial and educational assistance should be developed to help low-income, rural, nonfarm families grow more food for their own use. Acreage withdrawn from commercial farm production and paid for under Federal programs should be made available without charge for production of foods for home use and not for resale.

Recommendation No. 8

Steps should be taken to prevent nutrient deficiencies from the decline in the consumption of milk. The Panel is concerned over the declining consumption of milk. Milk and dairy products supply about 75 percent of the calcium and 40 percent of the riboflavin in our national diet. This

decline in the consumption of milk can materially affect the supplies of calcium, riboflavin, protein, and vitamins A and D in our diets.

Per capita consumption of milk in various forms has declined significantly in the last two decades. It is anticipated that this decline will continue.

Although the consumption of nonfat milk solids has not declined appreciably to date, there is concern that it may do so if the consumption of dairy products generally continues to decline. Moreover, there appear to be substantial problems of maldistribution. Recent surveys have identified serious problems in the rates of consumption of milk by low-income families in rural areas and in urban ghettos. The situation is particularly critical for infants, small children, pregnant, and lactating women.

The noninstant dry milk distributed under food distribution programs is difficult to mix and not acceptable to many people.

We recommend :

1. There must be a continued effort in all Government nutritional programs, including the school lunch program, to encourage the provision of milk and dairy products for children of all ages and for pregnant and lactating women.
2. Only instant nonfat dry milk, fortified with vitamin A and vitamin D, should be made available under the food distribution programs.
3. In view of the declining trend in fluid milk consumption research should be undertaken to develop substitutes for fluid milk that will provide all the nutritive qualities of milk.
4. Consideration should also be given to encouraging or requiring the fortification of other widely used foods with calcium if surveillance studies indicate that critical groups in the population do not receive enough of this essential mineral. Specific attention should be given to meeting calcium needs of individuals who cannot tolerate milk in adequate amounts.
5. Milk pricing policies should be amended to encourage the production of milk with a lower fat and higher nonfat solids content by pricing milk on the basis of its nonfat solids rather than its butter fat content. This should be accompanied by breeding and feeding to produce milk of lower fat content.

6. We urge the removal of artificial barriers of all kinds in the pricing and marketing of milk.

Recommendation No. 9

An appropriate vehicle for iron fortification should be determined. The recent nutrition surveys have disclosed iron deficiencies among several segments of our population, particularly among women and young children. There appears to be no easy approach to solving this problem by fortification of a single food since most individual foods are not consumed in sufficiently uniform quantities each day to supply the iron needed. Furthermore, there is a potential health hazard if indiscriminate iron fortification of too many foods is permitted.

We recommend :

1. The Food and Nutrition Board of the National Academy of Sciences-National Research Council should be asked to determine within the next year, in collaboration with private industry, what are the preferred vehicles and compounds for iron fortification in order to insure adequate available iron for all of our population.
2. In the meantime, consideration should be given to a substantial increase in the level of iron fortification of all cereal products under both State and Federal regulations.

Recommendation No. 10

Most table salt should be iodized. Goiter which supposedly was eliminated in this country through the use of iodized salt is being identified in current surveys. Apparently iodized salt is not being distributed and consumed as generally as it once was. New generations are not aware of the importance of using iodized salt. It is not even available in some sections of the country or in many stores. In other areas there is a difference in price between iodized and noniodized salt that serves to reduce the consumption of iodized salt.

We recommend :²

1. The Government should require by whatever means are appropriate that all table salt

² Panel member does not agree that all table salt should be iodized. He would like scientific assurance that no segments of the population might be adversely affected by compulsory consumption of iodized salt and, in any event, would prefer to encourage use by educational efforts rather than by making it mandatory.

shipped in interstate commerce be iodized, except for noniodized salt for those who require it for medical reasons.

2. The Food and Nutrition Board of the National Academy of Sciences-National Research Council should be asked to determine whether and to what extent the use of iodized salt should be required in processed and restaurant prepared foods if all table salt is iodized.

Recommendation No. 11

We must protect our crops from pests and our population from pesticides. An indispensable factor in the adequacy of our current food supply is the protection of crops and animals from pests. Disease, insects, and rodents take a substantial toll, running into the billions of dollars each year, despite present control measures. Without the use of protective measures our production would be far below what it is.

Continued selective use of some of the older pesticides is needed until new techniques and materials have been developed and proved.

It is imperative that this problem be resolved by full and fair evaluation with the goal of protecting our food supply without serious side effects on natural resources and human health.

We recommend :

1. The administration should accord high priority and urgency to the study and solution of the problem of protecting our crops from pests and our population from pesticides. We commend the steps in this direction that have already been taken by the Secretary of Health, Education, and Welfare's Commission on Pesticides and their Relationship to Environmental Health.
2. The development of cultural and biological control techniques, and disease and insect resistant varieties should be strongly encouraged in educational institutions, foundations, and by private industry and Government. There is also urgent need for the development of effective pesticides that do not have serious side effects. The agricultural chemical industry is urged to concentrate on this development.
3. There must also be adequate field service work to prevent misuse of pesticides. This will re-

quire full collaboration between Government, industry, and the agricultural community.

Recommendation No. 12

The quality and efficiency of our meat, poultry, and fish production should be substantially improved. Meat, poultry, and fish represent our most important sources of protein. They also supply other important nutrients in substantial measure, including iron, vitamin A, thiamine, niacin, and riboflavin.

Since World War II striking advances have been made in poultry production through disease control and improvements in feed conversion. These results have not been paralleled in the production of other domestic animals.

U.S. fishing operations have been declining, even though the fishery resources of our coastal waters and the high seas represent an important reserve of high quality protein and other nutrients. This reserve is far greater than has been harvested to date.

We recommend :

1. The expanded research program should give primary emphasis to genetic improvement, disease control, and efficiency of feed utilization in animals, and to the production of animals of higher lean meat and lower fat content, all with the goal of improving quality and effecting economies for the consumer.
2. An aggressive program should be undertaken to develop the techniques needed to insure greater utilization of our fishery resources. Our Government should take proper steps to establish sound international policies and agreements for fisheries conservation.
3. Our Government should also study the potential of fish culture within the United States through the development of fresh water fish farms, particularly in the South.

Recommendation No. 13

Supplemental protein sources should be encouraged. This country has the capability of supplementing its supply of traditional foods with special or new foods primarily important for their protein content. Research and development work, largely by private companies, has resulted in developing new food sources of nutritional significance in the form of edible soy protein concentrates, isolates, and textured products. Possessing

substantial quantities of certain of the essential amino acids, these protein sources are now being used to supplement the nutrient content of some cereal products and food specialties. Additional protein sources that offer opportunities for future development include fish protein concentrate, glandless cottonseed, and proteins produced from micro-organisms.

While our supplies of traditional foods currently are more than adequate, these supplemental sources could become more important nutritionally should the time come when our Nation's capacity to feed its growing population becomes critical or should it become necessary to increase our food assistance to other parts of the world.

We recommend: The development of these supplementary protein sources should be encouraged.

Recommendation No. 14

A major effort should be made to determine what effect modifications of traditional foods and introduction of new foods have on our national diet. One of the Panel's major recommendations has been the establishment of a mechanism for monitoring the nutrient content of our food. This is particularly important in view of the trend toward modification of our traditional foods by substituting new ingredients. Sometimes the new ingredients are agricultural products such as modified vegetable proteins or fats. Sometimes they are chemical additives.

We recommend:

1. A study should be made of the extent to which traditional foods are being modified and substitute foods are being formulated with the objective of assessing the effect this may have on the nutritive content of our national diet and the health of the population.
2. Where a new food purports to be a substitute for a traditional food it should be required to provide equivalent nutritive qualities. This should be determined not only by analytical methods but also where appropriate by feeding studies.
3. Even where a new food is not a replacement for a traditional food it is imperative for the consumer to know what she is getting nutritionally. Studies should be undertaken to determine whether and to what extent signifi-

cant and meaningful nutritional information should be made available to the purchasers of packaged foods and how this can be done effectively.

Recommendation No. 15

We should dispel the confusion that surrounds the significance of fats in our national diet. Studies have suggested that diet, especially the presence of saturated as distinguished from unsaturated fats, may be one of several factors influencing the development of heart and circulatory diseases. Much of the information on this subject is controversial in the medical profession and confusing to the public at a time when there appears to be a trend toward higher total consumption of fats. The portion of our average caloric intake that comes from fats has increased from 32 percent in 1909-13 to almost 40 percent in 1968.³

Agencies concerned with health have a responsibility to make the public aware of the complexity of the causes of heart and circulatory diseases and to point out that there is no simple panacea for dealing with them and that simple recommendations dealing with only one facet of the problem are inadequate solutions.

We recommend: A critical review should be made of all research findings and definitive new research studies should be undertaken to determine the significance of fats to public health and the effect of the trends that are taking place. The results should be made known to the medical profession, the food industry, and the public generally.

Recommendation No. 16

Nutrition education must play an important part in the total program. The Panel recognizes the continuing need for more effective nutritional education. It is important that as much nutritional knowledge as possible be brought to all segments of our population, especially where malnourishment exists. This will require a substantial amount of behavioral research.

Nutrition education is also important—and this may be its greatest role—to bring home to the policymakers the nutritional needs of the population.

³ Details are shown in exhibits C-I and C-II.

We recommend: A strong emphasis on nutritional education should play an important part in the programs directed at solving the problems of malnutrition. Particular emphasis should be placed upon educating the people in government, agriculture, industry, education, and the medical and dental professions who deal with these problems, and other interested community groups involved in the implementation of social programs.

Recommendation No. 17

Many of the Panel's recommendations revolve around the need for more research related to nutrition. Others bear on food policy and program formulation. Since nutrition is a part of both preventive and therapeutic medicine it must be considered a part of total health care. There needs to be better coordination between agencies concerned with the distribution and availability of foods, agencies concerned with making policies and allocating resources for medical care, and agencies making determinations in which nutrition is involved. However, policy formulation and action programs related to nutrition are fragmented among several government agencies, in educational institutions, in foundations, and in industry.

We recommend: The establishment by the President of an effective mechanism to appraise budgetary allocations, to undertake the task of integrating research, education and action programs needed to encourage the consumption of an adequate diet by every American, and to coordinate the programs of existing Government agencies in this field. This mechanism should keep fully informed of research and development work in educational institutions, in foundations and in private industry as well as in the several Federal and State Government agencies.

SUPPLEMENT TO PANEL III-1 RECOMMENDATIONS

At the meetings with conference participants, a number of written suggestions were made for modification of the panel's recommendations. Some of these are reflected in the recommendations. Others are set forth below.

Recommendation No. 8

A large portion of the nonwhite population of the United States are partially or totally unable

to tolerate lactose (milk sugar), and thus are unable to consume milk in the usual recommended amounts. Alternative routes for providing the nutrients contained in milk, particularly calcium, are needed.

Recommendation No. 8

5. The production of milk with a lower fat content and a higher protein content should be encouraged by
 - (a) amending milk marketing orders so that milk prices are based on protein content as well as butterfat content, and
 - (b) supporting research which aims to increase milk protein production.
6. Legislation that governs the utilization of dairy products should be reviewed to mitigate restrictions on
 - (a) the composition of dairy products in ways which discourage further product improvement and development, and
 - (b) the pricing, distribution and marketing of milk in ways which unnecessarily increase the cost to the consumer.

D. S. KRONFELD

Recommendation No. 8

We recommend elimination of the \$100 million worth of unnecessary premium prices paid annually by consumers to dairy farmers in order to make milk more economical and thereby to encourage its consumption. Increased milk consumption would help alleviate nutritional inadequacies in the national diet, especially among the poor.

Discussion.—The 1965 USDA Food Consumption Survey showed that about 30 percent of U.S. households did not consume a diet sufficient to meet the Recommended Dietary Allowance set by the NAS/NRC for calcium. The U.S.D.A. found that nutrient shortages were associated with the use of less-than-recommended amounts of milk and milk products, reflected in a 10 percent decline since 1955 in the consumption of fresh milk and other dairy products that are primary sources of calcium. The importance of milk was underscored by the finding that, on the average, about 60 percent of the calcium in the diet was supplied by

milk and milk products. Milk is also a significant source of other essential nutrients.

U.S.D.A. establishes the minimum price which a milk distributor must pay a dairy farmer for fluid milk, under some 67 federal milk marketing orders that cover about two-thirds of the milk consumed in fluid form in the U.S. The law directs U.S.D.A. to establish a minimum price that will "insure a sufficient quantity of pure and wholesome milk, and be in the public interest." As of this moment, however, producers under the vast majority of Federal orders have required milk distributors to pay premium prices well in excess of the price determined by U.S.D.A. to be adequate and appropriate. The cost of these unnecessary premium payments, which range up to 5 cents per half gallon, is simply passed on to consumers in the form of higher prices. It is estimated that consumers are paying almost \$100 million annually in higher milk prices as a result of these premium payments.

Federal milk orders are therefore being used against the public interest. U.S.D.A. should take appropriate action to have these premium payments stopped. If necessary, the Department of Justice should investigate the market power by which dairy farmers have been able to achieve these excessive prices, far above the level found by U.S.D.A. to be in the public interest.

Recommendation No. 8

All nonfat dry milk solids for direct consumer use should be fortified with vitamins A and D.

Recommendation No. 10

Iodized salt should be available in bulk to those food concerns and food service institutions who desire this type of salt for food preparation. The labeling of salt cartons is very frequently misleading to the consumer. Iodized salt should be labeled in such a manner as not to suggest that the choice of the consumer is between free flowing and iodized, and that these have equal nutritional value.

MARY MORRISON
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Recommendation No. 14

2. Where a new food is produced, packaged, promoted or marketed as a substitute for a traditional food, it should be required to provide nutritive qualities at least as favorable. This should be determined not only by analytical methods but also where appropriate by feeding studies.

ARTHUR E. ROWSE

WOMEN'S VOLUNTARY ACTION PRIORITIES

1. Emergency action to alleviate hunger now.
2. Adequate annual wage guarantee.
3. O.E.O. amendment to allow funds for school lunch.
4. Immediate food reform.
5. Universal free school lunches.
6. National feed a child policy.
7. Administrative restructuring Department of Agriculture.

REGINA RAMBEAU

APPENDIX TO PANEL III-1

The Panel has stated its belief that the current production of agricultural commodities in this country is more than sufficient to supply the nutritional needs of every member of our population.

This has been clearly demonstrated. Since the end of World War II total farm output has increased more rapidly than population and now stands over 140 percent of 1950 total output. See Exhibit A-I. Our agricultural system has thus been able to provide for a growing domestic market as well as rapidly expanding exports, despite the fact cropland harvested has declined more than 10 percent since 1950. See Exhibit A-II.

This has been accomplished through greater mechanization, better farming methods, sharply increased use of fertilizer, reduction in losses from farm pests, and new plant varieties that have improved yields.

Farm output has in fact been large enough to create substantial surpluses and this has given rise to programs to expand markets, limit output, and improve farm income.

Exhibit A-III compares the nutrients available for consumption per capita per day, on a national basis for 1968, with the recommended dietary allowances of the Food and Nutrition Board, National Academy of Sciences—National Research Council. It will be observed that in every instance the nutrients available are more than adequate to supply the average needs of our population. This supports the conclusion that our problems are due to distribution rather than to any insufficiencies in our total supply.

The panel has also expressed the opinion that this country has the ability—provided proper Government food policies are followed—to produce all of the nutrients our expanding population will require for the foreseeable future.

This conclusion is dependent, of course, on the extent of this country's food exports and imports. Food imports are likely to increase at least as much as population. Exports probably will continue to grow at a faster rate than the domestic market though perhaps not so rapidly as from 1950 to 1965.

The technical studies undertaken for the National Advisory Commission on Food and Fiber in 1967 include extensive projections of food demands and production capacity for U.S. agricultural products through 1980.

These assume that U.S. population will reach 243.4 million by 1980; that food consumption per capita will follow the trends established over the past 25 years; that livestock-feed conversion efficiency will continue at rates established since 1940; and that yields of crops and costs of production per acre would follow trends established since the end of World War II.

Even with an assumption that exports will continue to grow at the current rate, it was estimated that both domestic and expanded export demands could be met by putting into production only about 20 percent of the land idle in 1965. (National Advisory Commission on Food and Fiber, Technical Papers—vol. I, August 1967)

Projections of food supplies and consumption accepted by the Panel take account of the substantial rising trend in crop production per acre. See exhibit A-II. It is believed that this trend can be continued. In addition, there is a substantial amount of idle land that can be put back into production. Much of this is land taken out of production under our farm programs. Approximately 435 million acres of our 2 billion acre land base are considered cropland. In 1968 less than 300 million acres were harvested. About 80 million acres were fallow or used for pasture, and an estimated 50 million acres were diverted under Government programs.

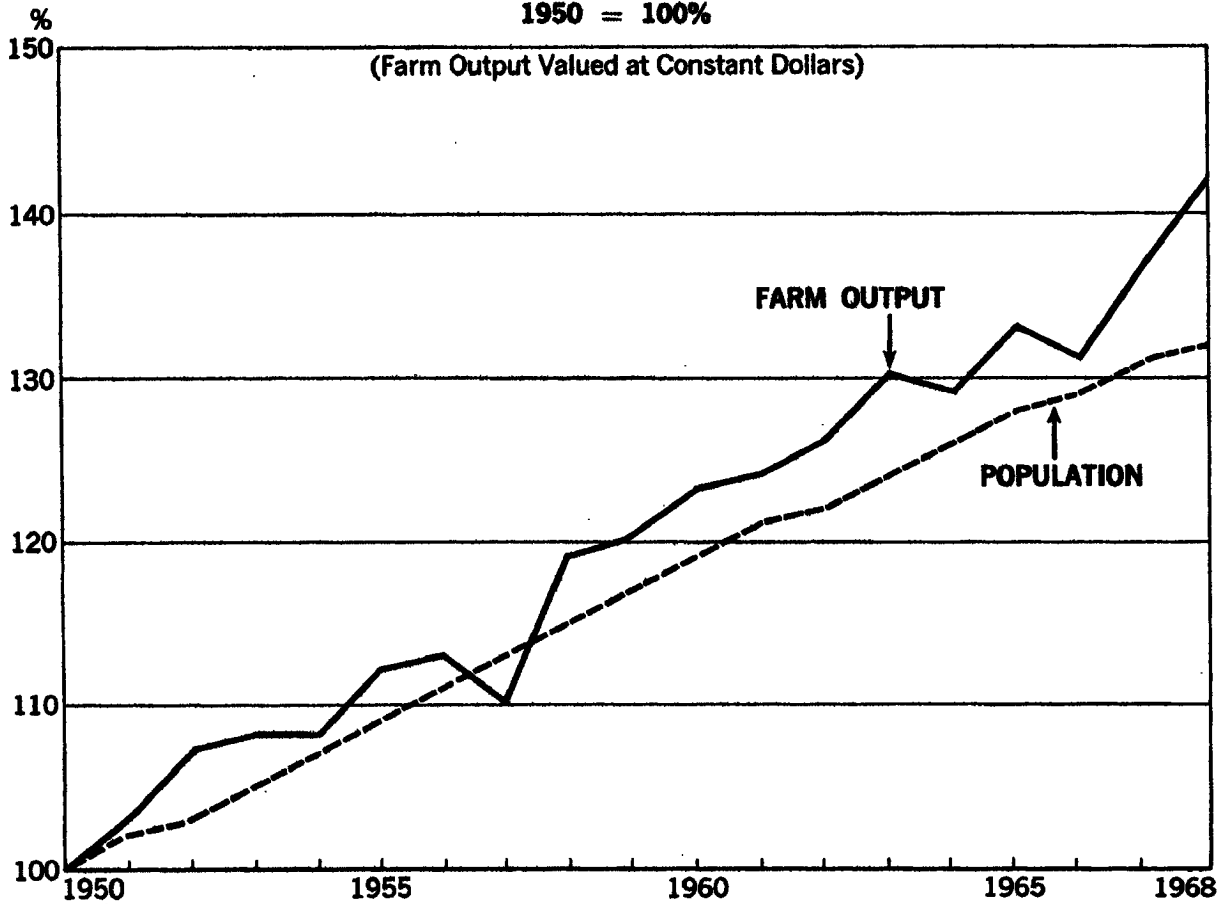
In addition, it is estimated that over 250 million acres of land—in addition to our 435 million acres of cropland—could be made suitable for regular cultivation or other agricultural use, although possibly at a higher cost than the acreage now diverted from production.

With the help of consultants from the Department of Agriculture, the Panel considered per capita consumption trends and projections for 1980 as shown in exhibit A-IV. These take into account both the trends in food supplies and consumer demand, under the assumption of current price relationships.

Considering our land resources and our demonstrated ability to improve yields, the Panel believed these demands to be well within our capabilities.

In fact, the Panel believes we can feed ourselves at least through the remainder of this century, even though our population (currently about 203 million) may increase substantially by then. The Panel has not attempted to estimate the country's ability to feed its population beyond this century.

FARM OUTPUT AND U.S. POPULATION
1950 = 100%

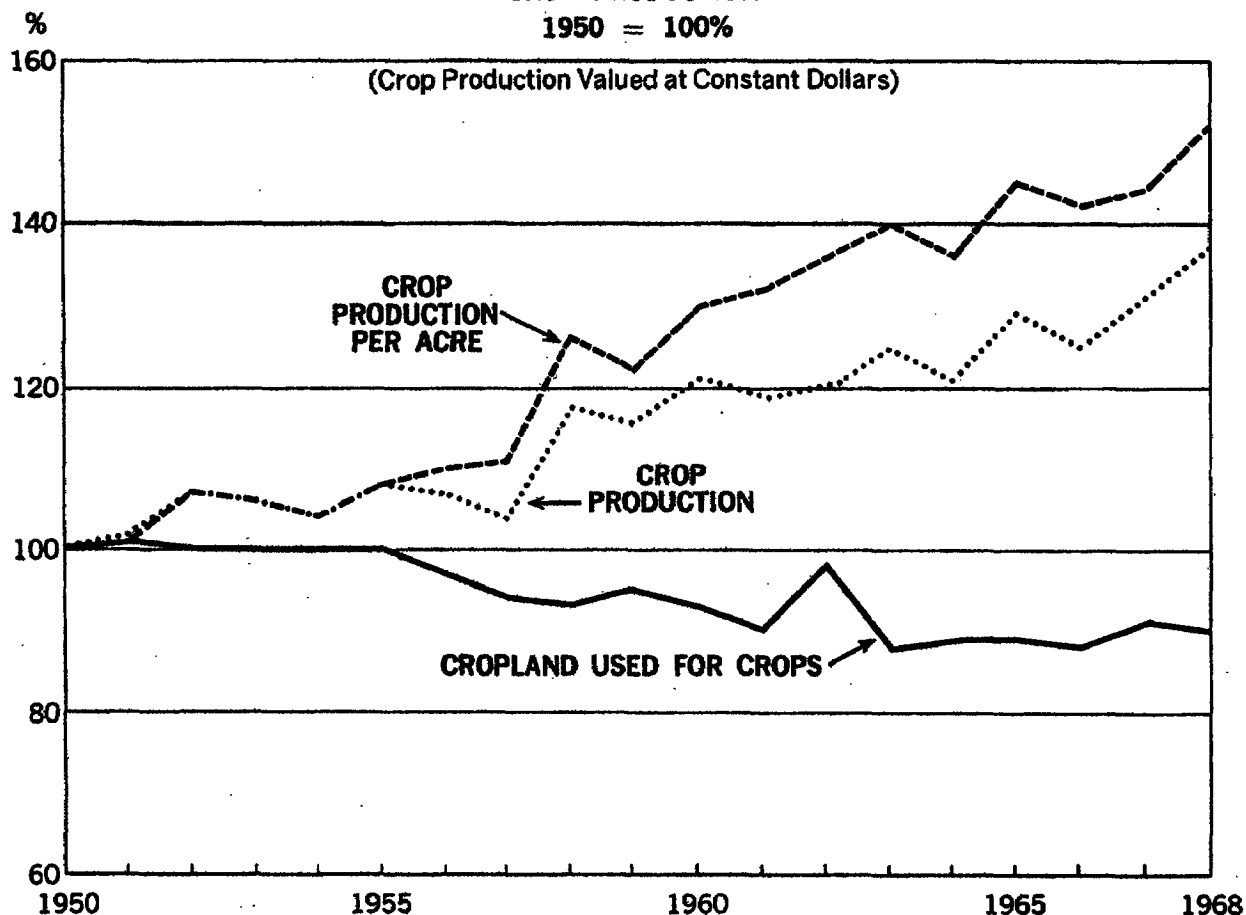


Source: U.S. Department of Agriculture.

Exhibit A-I

CROP PRODUCTION

1950 = 100%



Source: U.S. Department of Agriculture.

Exhibit A-II

EXHIBIT A-III.—Nutrients in U.S. food, 1968, and recommended allowances

(Average nutrients per person per day)

Nutrient	Unit	Food consumption ¹	Allowance ²	Food consumption as percent of allowance
Food Energy	Calories	3,250	2,150	151
Protein	Grams	99	55	180
Calcium	"	.98	.9	109
Iron	Milligrams	17.1	13	132
Vitamin A value	International units	7,800	4,500	173
Vitamin B ₁	Milligrams	1.94	1.1	167
Riboflavin	"	2.25	1.4	161
Vitamin B ₆	"	2.14	1.7	126

EXHIBIT A-III.—Nutrients in U.S. food, 1968, and recommended allowances—Continued

Nutrient	Unit	Food consumption ¹	Allowance ²	Food consumption as percent of allowance
Vitamin B ₁₂	Micrograms	9.3	4.8	194
Vitamin C	Milligrams	104	50	208
Magnesium	"	340	300	113

¹ Consumption measured by disappearance into civilian distribution channels.

² Recommended Dietary Allowances, revised 1968, NAS-NRC, weighted by resident population for 1965.

Source: U.S. Department of Agriculture.

EXHIBIT A-IV.—Civilian per capita food consumption, 1957-1959, 1968 plus 1980 projection

Item	1957-1959 (pounds)	1968 (pounds)	1980 (pounds)
Meat (carcass weight):			
Beef and veal.....	89.2	113.0	130
Pork.....	63.0	66.0	65
Lamb and mutton.....	4.4	3.7	3
Poultry (ready to cook):			
Chicken.....	27.5	37.1	49
Turkey.....	6.0	7.9	10
Fish (edible weight):			
Fish (edible weight).....	10.5	11.0	11
Eggs (shell eggs, farm weight).....	46.6	41.8	38
Dairy products, including butter (M.E.):			
Dairy products, including butter (M.E.).....	679.0	575.0	450
Cheese.....	7.9	10.6	11
Evaporated and condensed milk ¹	14.8	8.6	3
Ice cream (product weight).....	18.4	18.5	19
Nonfat dry milk ¹	5.7	5.9	5
Fluid whole milk (product weight).....	300.0	248.0	175
Fluid low fat milk (product weight).....	26.7	48.2	82
Fluid cream (product weight).....	9.4	6.5	3
Fats and oils—total (fat content).....	45.3	51.0	53
Butter (product weight).....	8.2	5.6	3
Lard.....	9.3	5.6	4
Margarine (product weight).....	8.9	10.8	14
Shortening.....	11.4	16.2	17
Other edible oils.....	10.8	16.0	18
Vegetables:			
Fresh (farm weight).....	104.1	96.2	92
Canned.....	44.8	52.5	52
Frozen.....	6.6	9.6	10
Fruit:			
Fresh (farm weight).....	95.5	77.9	70
Canned.....	22.4	23.0	22
Canned juice.....	13.5	12.6	14
Chilled, fruit and juice.....	2.5	4.6	9
Frozen fruit.....	3.6	3.8	5
Frozen juice.....	5.0	5.5	9
Dried.....	3.3	2.5	2
Melons (farm weight).....	25.1	22.3	19
Potatoes—frozen (product weight).....	1.6	8.5	9
Potatoes—other (fresh farm weight).....	102.6	90.8	87
Sweetpotatoes, excluding canned (farm weight).....	7.2	4.4	4
Peas and beans, dry.....	8.3	6.6	7
Coffee (green bean basis).....	15.7	14.8	15
Cocoa beans.....	3.5	4.3	4
Peanuts (kernel basis).....	4.6	5.7	7
Wheat flour.....	120.0	106.0	100
Wheat cereals.....	2.8	2.9	3
Rye flour.....	1.2	1.3	1
Rice.....	5.4	7.8	8
Corn flour and meal.....	7.4	5.5	5
Corn cereal.....	1.8	2.2	2
Cornstarch.....	1.9	1.6	1.4
Hominy.....	3.1	4.7	5
Oat food products.....	3.5	3.7	4
Barley products.....	1.0	1.1	1
Sugar, cane and beet ²	96.1	98.8	98
Syrups and honey.....	11.8	16.5	17

¹ Including duplication with other dairy products.

² Including duplication in foods listed elsewhere (ice cream, processed fruits and vegetables).

EXHIBIT B-I.—Use of U.S. Department of Agriculture and State Agricultural experiment station funds by commodity or resource

Commodity or resource	1964-1965 ¹		1967-1968 ²	
	Million dollars	Percent of total	Million dollars	Percent of total
National resources.....	45.5	11.6	58.3	12.6
Timber and forest products ³	34.5	8.8	40.2	8.7
Fruits and vegetables.....	52.0	13.2	57.7	12.5
Cereal crops.....	30.6	7.8	32.3	7.0
Other field crops.....	61.5	15.6	68.8	14.8
Animals and animal products.....	100.3	25.5	116.5	25.1
Agribusiness complex ⁴	9.7	2.4	16.7	3.6
Human needs and resources ⁵	21.2	5.4	20.7	4.4
Unallotted above.....	38.1	9.7	52.2	11.3
Total.....	393.4	100.0	463.4	100.0

¹ "A National Program for Research in Agriculture," p. 58.

² "Inventory of Agricultural Research," August, 1969, p. 5, table II-B and p. 17.

³ Excluding expenditures by forestry schools.

⁴ Includes general purpose farm supplies and facilities, farms as business enterprises, processing and marketing industries.

⁵ Includes clothing and textiles, food, housing and equipment, people as individuals, family members.

EXHIBIT B-II.—U.S. Department of Agriculture research expenditures for major crops, and number of professional and technical workers

Commodity	1964-1965 ¹		1967-1968 ²	
	Million dollars	Million dollars	Number of professional and technical workers ³	
Fruits and vegetables:				
Citrus and subtropical fruits.....	3.0	3.5	98	
Deciduous and small fruits, tree nuts.....	4.4	4.6	92	
Potatoes.....	1.6	1.5	32	
Vegetables.....	4.1	4.4	97	
Cereal crops:				
Corn.....	4.0	3.9	96	
Grain sorghum.....	.6	.7	17	
Rice.....	.6	.6	10	
Wheat.....	5.9	4.9	120	
Other small grains.....	1.1	1.2	27	
Other field crops:				
Pasture.....	.5	.6	15	
Forage crops.....	2.5	2.7	52	
Cotton.....	10.1	10.7	198	
Cottonseed.....	1.0	1.1	14	
Soybeans.....	2.1	2.3	41	
Peanuts.....	1.1	1.4	26	
Other oilseed crops.....	1.9	1.7	29	
Tobacco.....	2.5	3.0	82	
Sugar crops.....	2.6	2.4	55	
Miscellaneous and new crops.....	1.2	1.4	26	

¹ "A National Program for Agriculture," p. 233.

² "Inventory of Agricultural Research," August 1969, p. 135.

³ "Inventory of Agricultural Research," August 1969, p. 135.

EXHIBIT C-I.—Percent of available food energy furnished by protein, fat and carbohydrates

	Period							
	1908-1913		1935-1939		1957-1959		1968	
	Percent	Number of calories	Percent	Number of calories	Percent	Number of calories	Percent	Number of calories
Protein.....	11.7	408.3	10.9	356.4	12.0	376.8	12.2	390.4
Fat.....	32.1	1,120.3	36.3	1,187.0	40.7	1,278.0	41.8	1,337.6
Carbohydrates.....	56.2	1,961.4	52.8	1,726.6	47.3	1,485.2	46.0	1,472.0
Total.....	100.0	3,490.0	100.0	3,270.0	100.0	3,140.0	100.0	3,200.0

Source: Consumer and Food Economics Research Division, Agricultural Research Service, U.S. Department of Agriculture.

EXHIBIT C-II.—Nutrient fat available per capita per day, and sources of fat

Year	Fat (grams)	Percent of total	
		Animal sources	Vegetable sources
		Percent	Percent
1909-1913.....	125	83.0	17.0
1935-1939.....	133	73.2	26.8
1957-1959.....	143	70.7	29.3
1968.....	150	65.2	34.8

Source: Consumer and Food Economics Research Division, Agricultural Research Service, U.S. Department of Agriculture.

COMMENTS OF COMMUNITY ORGANIZATION TASK FORCE

PANEL III-1: Traditional Foods

Recommendation No. 2:

The Panel ignored the Community Organization Task Force recommendation that an additional causative factor be added. That addition should read: "Industry pricing and advertising policies."

Recommendation No. 5:

The task force repeats its suggestion that the priorities in the second paragraph of recommendation No. 5 be reordered to read:

As population grows, our surpluses could disappear. We must have an aggressive long-range agricultural research and development program; (1) to improve the nutritional value and consumer acceptability of our food supply, (2) to develop resistance to pests, and (3) to improve productivity and adaptation of crops and animals.

Recommendation No. 7:

Additional recommendations of the task force were ignored. They are:

3. Efforts should be made to aid financially and educationally the use of cooperatives in social

and economic development, including the provision of land at low cost or rental.

4. Children in preschool, day-care centers, and enrolled in school up to the fourth grade should be served breakfast. Special emphasis should be placed on rural communities. Children in the lower economic levels should be provided with at least one hot meal per day.

Recommendation No. 8:

The task force suggested alterations of part 4 were ignored. They read:

4. Consideration should be given to encouraging or requiring the fortification of other widely used foods with calcium and riboflavin if surveillance studies indicate that critical groups in the population do not receive enough of these essential substances.

Recommendation No. 11:

The task force suggestion that the recommendation be retitled "We Must Protect our Population from Pesticides and our Crops from Pests" was ignored. Likewise, the Panel ignored a suggested addition which read:

The Federal Government should not license or release agricultural chemicals without proper safeguards and training to agricultural workers. The consumer should be protected from agricultural chemical residue and other dangers.

Recommendation No. 17:

The Panel ignored the task force addition that read:

Emphasize quality rather than quantity in food research.

COMMENTS OF THE CONSUMER TASK FORCE

PANEL III-1: Traditional Foods

The Panel failed to study whether food prices can be reduced. This should be done.

Elements in excessive food prices include unnecessary processing, unnecessary sales promotion costs, proliferation of products, and restrictive trade practices. These matters should have been included in the analysis.

While nutritional education is desirable, as suggested by the panel, no amount of "education" can take the place of more reasonable prices.

Nutritional and shopping information is most useful at point of sale, which means on the package label. We need on the label a percentage breakdown of the list of ingredients. This percentage information is increasingly urgent as more and more foods are processed partly or wholly.

We also need higher standards and grades for both processed and some fresh foods, such as meat, and a universal simplified grading system.

Milk production and distribution particularly have become surrounded by restrictive trade barriers. Milk prices need to be reduced through their elimination.

PANEL III-2: New Foods: Standards of Food Identities that Simulate Traditional Foods. Impact of New Technologies on Nutritional Value. Nutritional Supplements

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REPORT OF PANEL III-2

Summary Recommendation: CREATING A NEW CLIMATE FOR A NATIONAL NUTRITION POLICY

In the midst of this Nation's affluent society, poverty exists in segments of the population, resulting in the presence of stark hunger.

In the presence of the world's most sophisticated food science and knowledge of nutrition, highly developed marketing systems, and comprehensive regulatory and protection systems, there is malnutrition in this country.

The immediate answer to hunger is purchasing power. Yet even with increased purchasing power the consumer can be faced with malnutrition.

This Panel supports increased consumer purchasing power. The method of carrying out this

necessary goal is the proper consideration of other Conference panels and Federal agencies. The panel is also certain that simple nutrient upgrading of common foods is possible now and of equal importance with the imperative remedy of income supplement.

The White House Conference on Food, Nutrition, and Health has seen anger and frustration from many sources and causes: Anger at the presence of the problem that caused the conference to be held; frustration that the problem exists in the midst of available solutions.

This Panel was given the charge of facilitating the development and utilization of new foods to help solve the problems of hunger and malnutrition. In the Panel's judgment, the primary bar-

riers to innovation in food product and process development are a small number of regulatory policies which, because they unduly restrict innovation and competition in the food industry, are no longer in the best interest of consumers. Accordingly, many of the Panel's recommendations relate directly to the regulatory area. The Panel did not review the food regulatory system with an eye toward destruction or sweeping revision. Rather it looked with an eye toward refinement and improvement—to make the system more responsive and realistic for consumer needs and demands.

We recommend that the provision of more nutritious, appealing, and economical food to all consumers be a new national goal.

New foods, as the Panel defined them, include (1) traditional foods nutritiously upgraded beyond present standards; (2) foods that simulate traditional foods; and (3) wholly new classes and types of foods.

Immediate and obvious benefit to hungry and malnourished people can be achieved by bringing technology to bear on their problems. The new national goal of providing economical nutrition requires a new consumer-industry-Government climate. An essential element of this climate is honoring the demands of consumers of all income levels for competition based on quality and price instead of packaging, advertising, games, and giveaways. The Panel believes that the primary bases of competition should be technological improvement and nutritional benefit.

For industry, Government, and consumers to participate effectively in this climate, there must be freedom coupled with responsibility: Freedom for industry to experiment and innovate, coupled with responsibility to consumer inquiry and Government regulation. Freedom for consumers to be informed, to inquire, and to petition; coupled with a responsibility to become knowledgeable and effective consumers, able to communicate intelligently to Government and industry. Freedom for Government to be flexible, coupled with responsibility to protect consumers.

Within this proposed climate, such existing consumer food protection laws as the prohibitions against economic adulteration or misleading promotions, and the requirement that functionality and safety be proved for food additives, should

remain applicable and be rigorously enforced. Inherent in the Panel's recommendations is the need for increased consumer nutrition education at all income levels.

In view of this recommendation to create a new climate for a national nutrition policy, the Panel has proposed 10 specific recommendations:

1. The implementation of an immediate food fortification program to relieve malnutrition.
2. The establishment of a single regulatory policy to achieve uniform practices for the protection of consumers.
3. A policy of truthful disclosure wherein names for foods accurately describe what the foods are.
4. The establishment of a meaningful, accurate, and useful method of presenting information to consumers through food product labeling.
5. A standard of characterization which may be required by the Government to guarantee the amount of the characterizing ingredient in food products i.e., what makes a food what it is.
6. A standard of nutritional quality which may be required by the Government to assure a food product's minimum and maximum values for nutritional purposes.
7. Fair and expeditious regulatory proceedings in which any person would have the right to participate.
8. Uniform application of all regulatory requirements throughout the Nation, enforceable by Federal, State, and local officials.
9. A separate Administration for Nutrition Science and Technology to maintain surveillance of the Nation's nutritional status and to develop National nutrition policies.
10. Modern inspection and quality control techniques for inspection of food.

Each of the above is a separate recommendation which can be considered on its own merits, but because of their inevitable interaction, taken as a whole, they represent a unified approach to creating a new climate for a national nutrition policy.

Recommendation No. 1: AN IMMEDIATE FOOD FORTIFICATION PROGRAM TO RELIEVE MALNUTRITION

Objective.—An immediate food fortification program to provide nutritionally complete foods to the public must be instituted to relieve malnutrition now.

Background.—Immediate, effective measures are urgently needed to attack problems of hunger and malnutrition among the poor. Simply supplying foods that are not nutritionally adequate will aggravate the extent of nutritional deficiencies among those who have low caloric intakes. American science possesses the knowledge necessary to attack malnutrition, and American food technology has the means of converting that knowledge into attractive and highly nutritious foods in the marketplace. A small number of staple foods, fortified with all the nutrients required for meeting complete daily human requirements, could have an immediate and major impact on the malnutrition problems of economically deprived citizens. The introduction of new foods to meet the urgent needs of this segment of the population could also contribute to the nutritional needs of all consumers. Instructions concerning the importance and proper use of such foods could be provided immediately to consumers.

Recommendations:

1. The Secretaries of Agriculture and of Health, Education, and Welfare should, within 90 days after this report is submitted to the President, publish a list of important foods, both standardized and unstandardized (such as flour, bread, noodles, rice, processed meat, corn meal, and corn products), to be immediately fortified with appropriate nutrients. In publishing this list, they shall take into account ethnic, social, cultural, and regional preferences. The Secretaries shall, for each product selected, specify the level of fortification that would make that food nutritionally as complete as possible without altering acceptability to the consumer through major changes in taste, flavor, appearance, or use characteristics. Each of these basic foods should be fortified with the nutrients selected to a level such that if it were consumed as the sole source of an adequate caloric intake, it would supply complete daily nutrient needs. Since consumption of

food is controlled by caloric intake, this concept would prevent either excessive or deficient intake of critical nutrients. These nutrient requirements should be based upon the general population, recognizing that such special groups as infants, preschool children, and expectant mothers have special needs requiring additional nutrients beyond those furnished by the fortified foods. Subject only to processing and handling limitations, industry should be urged to make such products broadly available in the regular commercial distribution channels. If any particular nutrients present a special processing or handling problem, industry may omit such nutrients until the problem is overcome. Such fortification should require the use of proteins, amino acids, vitamins, and minerals in ways that will employ the full range of nutritional knowledge and technology. Alternative sources of any nutrient should be permitted, to encourage development of nutritious foods at lowest possible cost.

2. Within 90 days of the order, at least all Government purchases of these foods for food distribution programs should be so fortified. All Federal, State, and local agencies responsible for various types of feeding programs, such as school lunches, should be urged to purchase fortified foods in their particular programs.
3. Food manufacturers should restrict price increases for fortified foods to no more than their cost for fortification.
4. The foods should be labeled in accordance with the recommendations made by this panel for labeling all foods.
5. Government agencies, private groups, professional nutrition educators, and industry should institute educational and other promotional programs to disseminate information about such fortified foods and to promote their widespread use.

Recommendation No. 2: A SINGLE FEDERAL REGULATORY POLICY

Objective.—There must be a single Federal regulatory policy for foods, adapted specifically to national nutrition goals.

Background.—Food products derived from, or utilizing inspected meat and poultry are presently subject to regulation under separate Federal laws administered by the U.S. Department of Agriculture. Virtually all other food products are regulated by the Department of Health, Education, and Welfare under the Federal Food, Drug, and Cosmetic Act. The policies, developed by USDA and HEW with respect to the labeling, safety, and sanitation of products under their jurisdiction, and the methods used to enforce the different laws governing these products, have differed significantly over the years. These differences have fostered consumer confusion and have hindered public protection. Policy under the Federal Food, Drug, and Cosmetic Act is determined by the Food and Drug Administration, which is also responsible for regulation of several other diverse types of products.

Establishing a single Federal regulatory policy for foods should result in consistent and uniform food labeling, sanitation requirements, inspection procedures, and other practices protecting the public health and welfare. Food labeling should become more understandable and meaningful to the consumer. Whether it would also be advisable to establish a single Federal regulatory agency for all foods, as was recommended by the Hoover Commission 20 years ago, requires further study.

Recommendations:

1. There should be one Federal regulatory policy with respect to safety, sanitation, identity, and labeling of foods. Different or inconsistent policies and practices among different Federal agencies should be reconciled, in accordance with the principles recommended by this Panel.
2. Within the Department of Health, Education, and Welfare, the policymaking functions with respect to food regulation should be placed in a separate and independent food administration in view of the unique aspects of food regulation and the paramount aim of implementing national nutritional and health goals.
3. Within 90 days after submission of this report to the President, the Secretary of Health, Education, and Welfare should issue an order establishing a separate food administration

within his Department to implement all Federal regulatory laws under his jurisdiction relating to food products.

4. Within 90 days after submission of this report to the President, the President should, by Executive order, establish an interdepartmental coordinating committee on Federal food regulatory policy, comprised of representatives of all Federal departments and agencies having jurisdiction with respect to safety, sanitation, identity, and labeling of any food. Within 6 months after formation of the committee, and at least once each year thereafter, the committee should issue a report on its progress in reconciling all pertinent Federal policies and practices and eliminating overlapping regulation and gaps in these areas. The committee should initially consider, and include in its first report, the question whether a single Federal regulatory agency for foods should be established, and particularly whether the jurisdiction of USDA over food products derived from or utilizing inspected meat and poultry should be transferred to HEW.

General Purpose of Following Recommendations

Recommendations Nos. 3 and 4: The following recommendations are designed as a set of concepts which will provide accurate, complete, and helpful label information to consumers, and assure that foods are truthfully named and that they meet appropriate nutritional requirements. Although these recommendations are presented individually for purposes of discussion, they represent a carefully integrated, positive, and comprehensive approach to food regulation having particular impact on new foods. The Panel intends that they be considered as a whole, with recognition that acceptance only in part could result in significant distortion or imbalance among these recommendations.

Recommendation No. 3

Objective.—The brand name of a food must not misrepresent the characteristics or properties of the product. Every food should bear a generic name that accurately identifies or describes it, in terms readily understandable to consumers.

Background.—There are two names by which consumers know foods: (1) The brand or proprietary name adopted by the manufacturer to identify his product, and (2) the generic name (the common or usual name or the statement of identity), which may be a coined term, that identifies or describes the product in terms that are uniform among all identical products and that conveys to consumers the basic nature of the product. Under present law, neither of these names may be false or misleading, and the generic name may be standardized by Government regulation.

Presently, new foods are often required by Government regulatory agencies to be called "imitation" products. The "imitation" label has been regarded as equally applicable when the new product is inferior to the old as it is when the new product is superior to the old. Thus, the use of such over simplified and inaccurate words are potentially misleading to consumers, and fail to inform the public about the actual characteristics and properties of the new product. More accurate and useful labeling is needed.

Under existing law, Government agencies could adopt an administrative policy no longer requiring or permitting over-simplified and inaccurate words. Instead, they could require an informative and descriptive generic name for every food. The existing legal prohibitions against false or misleading labeling and advertising could be utilized to prevent the use of any terminology that could mislead consumers about the identity or characteristics of the new product. Existing law could also be used to establish, by regulation, a uniform generic name that would accurately reflect reasonable expectations of consumers.

Such a policy would better serve the public interest. It would provide more accurate and useful information for consumer about the identity of foods than is presently the situation. It would also encourage the development and marketing of variations of traditional foods and of completely new foods, that can provide consumers a greater variety of acceptable, higher quality, and more nutritious food products at lower prices.

Recommendations:

1. The manufacturer of a food should be responsible for labeling the product with a brand name and a generic name (the common or usual name or the statement of identity). The

present law against the use of false or misleading names should be vigorously enforced. enforced.

2. The generic name of a food should accurately describe, in as simple and direct terms as possible, the basic nature of the food or its characterizing properties or ingredients. The generic name should describe the food affirmatively to show what it is, not negatively to show what it is not. Oversimplified and inaccurate terms such as "imitation" should be abandoned as uninformative to the public.
3. The generic name of a food should be reserved for use only by those products that fall within the limits reasonably expected by consumers. The limits of any generic food name may also be established by Government regulation. A new food that looks like a traditional food, or is used for the same purpose, should not use the traditional food name in any confusing or misleading way. Instead, the new food must be given its own generic name that states, in clear affirmative terms, exactly what it is.
4. The above three recommendations should be implemented for all foods, including processed meat and poultry foods, by policy directives of the Secretaries of Agriculture and of Health, Education, and Welfare within 90 days after submission of this report to the President. Consideration should be given to amending Federal regulatory laws to reflect this new policy by deleting the provisions for labeling products as "imitation." Where appropriate, generic food names should be recommended by the Food Standard Commission recommended by this Panel.

Recommendation No. 4

Objective.—The label or labeling of a food should bear whatever information relating to its composition and nutritional properties is important and useful to consumers, in a form that is meaningful and usable. Government standards should supplement but not supplant informative labeling.

Background.—As a result of the maze of present laws and regulations governing food labeling, consumers are presented with confusing or incomplete information about the products they purchase. The

label of an unstandardized food must bear a full statement of ingredients whereas the label of a standardized food need not disclose the mandatory ingredients. Nutritional information may be required on the label of a special dietary food but not on a general purpose food.

Consumers have requested and are entitled to more meaningful and useful information than is now provided them about food. Such reforms as a required statement of ingredients for all foods, information about nutritional properties, a declaration of the amount of any characterizing ingredient, and simplification of ingredient designation, will help the consumer understand the product more fully and help him to make more intelligent purchasing decisions.

Recommendations:

1. A complete statement of ingredients should be required on every food label, regardless of whether there is a Government standard for the product, except for coloring and flavoring, and where an exemption permitting designation of ingredients by generic class is justified.
2. The amount of a characterizing ingredient, if any, should be shown on the label on a percent basis or other accepted uniform method meaningful to the consumer, except where it would be irrelevant to the value of the product or misleading to consumers. This information should be given in terms of the product in its final consumable form, and may be expressed as a minimum amount in order to retain manufacturing flexibility. It should be the initial responsibility of the manufacturer to decide what ingredients are characterizing ingredients for which a label declaration of amount is appropriate. Failure to label the amount of any characterizing ingredient should constitute illegal misbranding. The characterizing ingredients in a food may also be designated by the Government, on the petition of any person, through a standard of characterization.
3. Technical chemical designations of ingredients should be simplified to make them more meaningful and understandable to, and more readily remembered by, consumers. This may initially involve use of both the technical and the simplified names on food labels as part of a consumer educational program.
4. 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. Insufficient data are available to show what nutritional information is significant for the various foods, or what type of nutritional information is meaningful and useful to consumers, or what form of disclosure—by the label, or by package leaflets, or through a central data bank, or to dietitians and physicians—is most informative. Special information may well be appropriate for professional health personnel. Every manufacturer should be encouraged to provide truthful nutritional information to consumers about his products to enable them to follow recommended dietary regimens.
5. Any information about nutritional properties required or permitted to be disclosed, regardless of how it is disclosed, may be shown within numerical ranges that should be no broader than are meaningful from a nutritional standpoint. Reasonable manufacturing variations should also be permitted as long as they are within good manufacturing practices.
6. Research should be undertaken to develop rapid and accurate methods of determining nutritional values in food.
7. Factory inspection of food establishments should extend to quality-control records, including those records necessary to permit verification of compositional and nutritional claims for any food product, without disclosure of such trade secrets as product formulas. Copies of all labeling material for any food should be available to a Government inspector during any factory inspection.
8. Nutritional claims in labeling and advertising for foods should continue to be closely scrutinized by Federal regulatory agencies, and there should be prompt and efficient enforcement action taken against misleading claims.
9. The above eight recommendations should be implemented in three steps. First, the Secretary of Health, Education, and Welfare should, within 60 days after submission of this report to the President, request industry

voluntarily to institute labeling changes consistent with these recommendations, and should then propose new legislation to make these recommendations mandatory. Second, the Secretary should immediately institute a program to simplify complex ingredient technology. Third, the Secretary should immediately institute research studies, to be completed within 1 year after this report is submitted to the President, in cooperation with industry and consumer organizations, to determine what nutritional information is important and useful to consumers, and the form in which it is most meaningful and usable.

Recommendation No. 5

Objective.—A standard of characterization for a food must protect the consumer's reasonable expectations in buying that product, and provide maximum flexibility and incentive for the marketing of new variations and new foods to the public.

Background.—The availability of new foods to consumers in the market is limited by present Government regulations. Wider consumer choice of foods could be made available, with the same protection against deceptive or unsafe ingredients, by emphasizing the basic purpose of food standards, to protect the reasonable expectations of consumers. This action could be taken by an immediate review and improvement of existing food standards and a policy directive, and would not require a change in the law.

Under present practice, a Government food standard usually specifies in detail the "recipe" required for the product. Improvements in any standardized food must therefore await a change in the Government standard, which may take many months or even years, before the improved food product can be made available to consumers. In addition, variations from a standardized food are usually prohibited without a change in the standard, under the interpretation that the standard is intended to encompass all similar products.

Because of this deadening effect on food technology, industry is encouraged to avoid the promulgation of standards, and to contest vigorously any proposed attempt at this form of regulation, which it might otherwise accept as reasonable and beneficial. Once promulgated, a detailed food standard of this kind impedes further research, hinders product improvement, and hence denies useful new products to the consumer.

New food technology has permitted development of new foods that are variations of traditional products or wholly new foods that resemble traditional products but are not tied to traditional ingredients. It is important that standards be sufficiently flexible to permit alternative safe ingredients within the limits of the basic nature of the food. A recent example of such a modern standard is the one for breaded shrimp, which guarantees the amount of shrimp the consumer receives but permits any safe and suitable breading ingredients with only a very few specified exceptions. It is equally important that new variations and new foods be permitted to be marketed under their own accurate and informative names and not subject to an old standard, in the way that special formula breads are marketed separate from the standard for enriched bread.

Present law prohibits economic adulteration of any food with cheap fillers or other nonfunctional ingredients, and requires proof of both safety and functionality for any food additive. These provisions will continue to protect against useless or unsafe or deceptive ingredients in food. Use of food standards that make no attempt to specify all permissible ingredients will, therefore, permit a greater selection of foods for consumers without weakening consumer protection safeguards.

Recommendations:

1. A standard of characterization for a food should specify the characterizing properties or ingredients of the food, and perhaps establish a required minimum level for them, but should not specify other ingredients that may properly be used by chemical name. The approach used in the standard for breaded shrimp should be followed.
2. Any functional ingredient that is the subject of a food additive regulation or a prior sanction, or that is generally recognized as safe (GRAS), should properly be available for use under any standard of characterization, as long as the standard does not inherently or explicitly preclude the use of such ingredients.
3. A standard of characterization should be used solely for purposes of regulating the type of product for which a given name may be used, and not to preclude or hinder the marketing of truthfully labeled new variations or new foods that resemble it or are

used for the same purposes. A new product should therefore always be permitted to be marketed outside any existing standard of characterization as long as it meets all labeling requirements and any broad standards or nutritional quality that may exist.

4. The present legal prohibitions against economic adulteration, and the requirement that all food ingredients be safe and functional, should be vigorously enforced.
5. The Secretary of Health, Education, and Welfare should immediately appoint a Food Standard Commission to supervise the review, improvement, and wherever possible, simplification of existing standards of identity to conform with these recommendations. The Commission should be comprised of representatives of Government, consumers, industry, and the academic world. The Commission should establish, by April 1, 1970, general guidelines and procedures for the work to be done, and should appoint a Panel for each existing food standard or class of standards and for important foods for which standards do not presently exist. Each Panel should include representatives of Government, consumers, industry, and the academic world. Each Panel should include its recommendations for any required minimum levels for characterizing properties or ingredients. The deliberations of the Panels should not be confidential, and an opportunity should be made for presentations to the Panels by any interested person. The recommendations of the Panels should be presented to the Commission by December 31, 1970, and after review and technical correction should immediately be published as proposals in the Federal Register.

Recommendation No. 6

Objective.—Minimum nutritional qualities must be assured for those foods used by the public as a significant part of the diet.

Background.—Consumers presently are not receiving sufficient assurance of, or information about, the nutritional quality of food products. Present law and regulations do not assure consumers that foods meet minimum nutritional standards. Most foods need not meet any nutritional requirements. Where nutritional require-

ments are promulgated, present law does not ban foods from the marketplace that fail to meet those requirements. Present Government policy regarding standards of identity discourages nutritional fortification of many foods. Consumers may therefore receive inadequate nutrition and nutrition information.

Recommendations:

1. A standard of nutritional quality for a food or class of foods should specify a minimum and maximum value for nutritional properties which are significant to consumers in relation to the use of the product or class of products in the daily diet. Such nutritional properties include, but are not limited to, vitamins, minerals, quantity and quality of protein, fatty acids, and calories. Overconsumption of any nutrient would be prevented by basing fortification on the caloric contribution of the food to the diet. Alternative sources of any nutrient should be permitted, to encourage development of nutritious foods at lowest possible cost.
2. No safe ingredient should be excluded from a food on the ground that its nutritional usefulness is not proved, but specific claims of usefulness should be prohibited until supportable by sound scientific evidence.
3. Special products containing particularly high or concentrated levels of nutrition should be permitted and encouraged for special purposes such as for the elderly, or school children who eat only one good meal a day, or sick persons who need special nutritional regimens, or disadvantaged families that need high nutrition at low cost.
4. Any food that achieves substantial importance in the Nation's diet may, and any food that is intended to supply an important part of a meal or the diet shall, be required to comply with a minimum standard of nutritional quality. For other foods, a standard of nutritional quality may be optional.
5. No one type of food should be preferred over another as a nutritional carrier, and therefore fortification of any food should not be prohibited. The consumer should be free to select, in the marketplace, any fortified food of her choice, whether of completely natural or completely synthetic origin or some combination.

6. The Food Standard Commission recommended by this Panel should review any existing nutritional requirements and consider the addition of new nutritional requirements. The Commission should also appoint a Panel to consider possible general standards of nutritional quality applicable to broad classes of foods.

Recommendation No. 7

Objective.—The administrative procedure must be improved to insure the fair and meaningful participation of all interested parties in the establishment of regulatory requirements for new foods. Regulation by arbitrary fiat—regardless of whether the fiat is handed down by Government, industry, scientific organizations, or consumers—is unacceptable. Discussion among consumers, industry, the Government, and other interested groups must be utilized to develop proposals, resolve issues, and minimize the need for formal and protracted public hearings.

Background.—The issues involved in the establishment of food standards and regulations are of fundamental importance to the public health and welfare. Despite this, there is often little discussion among all interested parties in initial stages of Government consideration before proposal or promulgation of new regulations. Consumers are seldom even aware of these discussions or proceedings and only infrequently make their views known. Formal public hearings called to resolve issues are usually protracted and bitter adversary proceedings.

Recommendations:

1. Any person should have the right to petition the appropriate Government agency to request a standard or any other form of regulation or exemption for foods. The Secretary must, within 90 days, inform the petitioner of his decision as to the merit of the request. If he believes the request to be of merit, with or without modification, it will proceed as a published proposal for consideration. If he believes the request is without merit, he must publish a statement in the Federal Register giving the reasons for that conclusion. The petitioner should then have the right to pursue the request further by referring it to an independent committee comprised of rep-

resentatives of industry, consumers, Government, and the academic world and chaired by an individual selected by the Administration for Nutritional Science and Technology. If the consensus of the committee is that the matter should not proceed further, it will end there. If the committee concludes that the matter has sufficient merit to proceed to a public hearing, such a hearing must then be held.

2. When the Secretary of Health, Education, and Welfare wishes to propose a regulation on his own initiative or on the initiative of a petitioner, he should first consult with the Administration for Nutrition Science and Technology recommended by this Panel, and other interested persons.
3. The proposed consumer register to be published by the Office of Consumer Affairs should be utilized to inform consumers of discussions about proposed regulations, published proposals for regulations, and formal public hearings, in a way meaningful to them. Consumers should be encouraged to participate at all levels of discussions and proceedings. The Office of Consumer Affairs should both participate in such discussions on behalf of consumers and encourage other consumer representatives to participate.
4. The Secretary of Health, Education, and Welfare should immediately institute a policy of undertaking discussions with interested persons on proposed regulations. The President should promptly propose legislation to the extent necessary to implement these recommendations.

Recommendation No. 8

Objective.—All Government regulations with respect to new foods must have uniform applicability throughout the Nation and must be enforceable by Federal, State and local officials.

Background.—Under present Federal, State and local law, different and often inconsistent regulatory requirements for the sanitation, labeling and marketing of new foods prevail throughout the Nation. These inconsistent and different requirements result in artificial trade barriers that impede the orderly marketing of foods, hinder sound nutrition, raise the cost of new foods to consumers, and directly interfere with the public interest. Other restrictive laws and regulations

have hindered the development of new foods regardless of higher nutritional value and lower cost to consumers. Some of these laws also have had the unexpected effect of preventing the adaptation of traditional foods to modern food technology and nutritional needs. This situation cannot be justified on public health grounds, and reflects the lack of any attempt to establish and maintain a national policy on foods that reflects the interests of consumers.

Recommendations:

1. Every food should be permitted in the marketplace if the food is truthfully labeled, safe for consumption, prepared under sanitary conditions, and nutritious.
2. A single code of regulatory requirements and standards should prevail which, upon petition by any person, would be open to amendment for sound reason.
3. Restrictive laws and regulations such as the Filled Milk Act, the regulations classifying filled milk as class I under Federal milk orders, the Filled Cheese Act, the Butter Act, the Adulterated Butter Act, and the Dry Milk Solids Act, should be repealed immediately in order to permit all foods to compete in the marketplace on the basis of their overall properties.
4. A comprehensive policy guide covering food ingredients and food products should be made available by the Federal Government to all State and local governments and to the public within 1 year after this report is presented to the President, with the request that the same policy be adopted throughout the Nation. This policy guide should be prepared in cooperation with representatives of consumers, industry, State and local government officials, and the Association of Food and Drug Officials of the United States. Close liaison should be established with State and local government officials to achieve the objective uniformity, and yearly reports should be made on progress. Assistance of State and local officials should be obtained to enforce National policies. The President should promptly propose legislation to assure uniformity of all requirements regulating new foods throughout the Nation, to authorize

State and local officials to enforce Federal laws and regulations, to provide manpower and training incentives to State and local jurisdictions for this purpose, and to repeal restrictive laws.

Recommendation No. 9

Objectives.—There must be an independent Federal agency which will devote its primary attention to national nutrition food policy and problems.

Background.—There is presently no separate and independent scientific organization within the Federal Government devoting its primary attention to national nutritional policy and problems. Although there is detailed scientific investigation and knowledge about the exact nutritional requirements of animals, there is incomplete knowledge of this type available for humans. Regulatory agencies are concerned primarily with enforcing the law and are neither intended nor equipped to undertake broad investigations of this type or to determine and enunciate national nutritional policy. Regulatory requirements therefore may not reflect broad nutritional goals, and as nutritional knowledge increases, regulatory requirements may not keep abreast of current developments.

Some results of this lack of a single Federal focus for nutrition policy and leadership are hunger, malnutrition, and the existence of laws and regulations that impede industry's ability to make the benefits of modern food technology promptly available to consumers. A new Federal agency, at a level directly under an assistant secretary, and with the authority to take action, to make policy, and to conduct research, should be established.

Based upon past performance, there are compelling reasons for the consideration of positioning this administration in either the Department of Agriculture or in the Department of Health, Education, and Welfare. Because of the health-related and surveillance activities of the latter, however, the panel is persuaded that this administration for nutrition science and technology should be assigned to the Department of Health, Education, and Welfare. In order for the administration to carry out the action role the panel envisions, it is necessary that it emphasize a concept borrowed from modern technology—that food be treated as a nutritional system. Regardless of which department is given

responsibility for this new administration, it is anticipated that the other department would work in close coordination with the administration.

Recommendations:

1. A separate administration for nutrition science and technology should be established, logically within the Department of Health, Education, and Welfare to:
 - (a) Maintain surveillance of the nutrition status of the Nation and methods being used to eliminate hunger and malnutrition;
 - (b) Develop new approaches to the eradication of hunger and malnutrition wherever it occurs in the United States;
 - (c) Develop and review broad national nutrition policy and purpose laws and regulations consistent with the national nutritional health and food goals;
 - (d) Consult with Federal regulatory agencies to develop and implement national nutrition policies;
 - (e) Encourage and accelerate the development of new foods designed to improve the nutrition status of the Nation;
 - (f) Coordinate knowledge and carry out research on the development of food science and technology relating to nutrition;
 - (g) Promote widespread nutritional knowledge and demonstrate, through Government purchases, sound nutrition practices;
 - (h) Conduct and encourage others to engage in basic and applied nutrition research.
2. The administration for nutrition science and technology should be properly funded to be able to deal effectively with hunger and malnutrition in the Nation.
3. The Secretary of Health, Education, and Welfare should establish an administration for nutrition science and technology with the responsibilities outlined in the above recommendations within 6 months after this report is presented to the President. The President should promptly propose new funding legislation to the extent necessary to implement these recommendations.

Recommendation No. 10

Objective.—Federal inspection methods for all food products must be improved and made less costly to consumers by the use of more effective and efficient quality control and inspection techniques to assure the wholesomeness of these products.

Background.—The consumer is entitled to wholesome food products. The policy of continuous inspection, used under the Federal Meat Inspection Act and the Federal Poultry Products Inspection Act, was established at a time when this was the only means available to assure the wholesomeness of meat and poultry products. Continuous inspection of this type is extraordinarily costly. The expense is borne by the consumer in the form of higher taxes and higher meat and poultry prices. Although continuous inspection is still merited for ante mortem and post mortem inspection of fresh meat and poultry, modern methods of inspection, already in use for other foods, are now available to replace this method of inspection for plants making food products derived from or utilizing inspected meat with the same or greater degree of confidence that the end product will be wholesome. Use of modern methods for all foods will drastically reduce the cost to consumers and improve the wholesomeness of the Nation's food supply.

Recommendations:

1. Continuous antemortem and postmortem inspection of fresh meat and poultry carcasses should be maintained and improved.
2. Continuous inspection of plants making food products derived from or utilizing inspected meat and poultry products should be replaced by modern inspection and quality control techniques, including statistical sampling, in orderly and deliberate steps consistent with protection of the public health. Information currently available on quality control and inspection in other industries, and as applied to other food products that are often manufactured in the same plants, should be brought to bear on the virtually identical problems with respect to processed and fabricated meat and poultry products. Further research should be conducted to improve quality control and inspection procedures for all foods. Inconsistencies between the quality control and inspection of processed and fabricated

meat and poultry products, and of all other foods, should be eliminated as soon as practicable. Particular attention should be paid by both industry and Government to adequate testing and standards for microbiological, bacterial, pesticide, or any other form of product contamination.

3. There should be neither an overlapping of Federal inspection activities nor any gap between them.
4. The Secretaries of Agriculture and of Health, Education, and Welfare should appoint an advisory committee, including representatives of Government, consumers, industry, and the academic world, to study and make recommendations on improvements in quality control and inspection procedures for food, including the use of modern methods and procedures to replace continuous factory inspection, on eliminating inconsistencies in current Federal food inspection practices and policies, on eliminating overlapping inspection or gaps in inspection, and on further appropriate research. Within 9 months after this report is submitted to the President, the advisory committee should make its initial recommendations on these matters. After review, appropriate changes in the present practices and procedures should be proposed in the Federal Register. The advisory committee should thereafter continue to make recommendations on these matters, on at least a yearly basis, and to review the effectiveness of the changes made.

COMMENTS OF THE CONSUMER TASK FORCE

PANEL III-2: New Foods

Attention must be given to preventing nutrition supplementation and labeling from becoming competitive forces in the marketplace in such a way as to raise food prices, limit consumer choices, and result in excessive supplementation.

Nutrient limits should be established by scientific experts outside the industry, such as the Food and Nutrition Board of the National Academy of Sciences. Fortification should not be used as an excuse to escalate food prices since the actual cost of fortification is infinitesimal.

We agree that a single regulatory agency for food should be created, consumer oriented and lodged in the Department of Health, Education, and Welfare.

The Panel on New Foods recommended an immediate program of fortification of at least basic foods that are commonly used. Mrs. Virginia Knauer, Chairman of the President's Committee on Consumer Interests, informally indicated support of such a program pending final report of the Conference. This suggestion originated in the Consumer Task Force, and we strongly endorse it.

Six basic foods which we suggest for fortification are: bread, protein-fortified teething biscuits, flour and cornmeal, rice, two fortified processed meat products, and citrus and soft drinks.

Additional Comment of the Consumer Task Force

In the final report there is not a harmonizing of the economic safeguards presently in the laws with the recommendations aimed at facilitating innovations in food products.

Although it was stated that it was not the intention of the panel to delete from the law the current food standard protections, the final recommendations pertaining to "Standards of Characterization" are drawn too loosely. The final wording dealing with standards does not sufficiently reflect consumer input and does not appear to be well thought through. The permissive stance regarding the floors on mandatory "characterizing" ingredients, coupled with the recommended permission to add virtually any low-cost, exotic optional ingredient, could well be an economic detriment to the consumer.

Similarly, the sections dealing with the statement of identity for foods do not come to grips with the problem of foods which, through their appearance or other characteristics, simulate traditional foods. Here, too, the panel obviously has legislation in mind, legislation which should not be approached until all ramifications of this proposal have been better explored.

Implicit in the recommendation of the panel is the premise that nutritional improvement and supplementation of foods, so needed by low-income groups, can only be accomplished by major legislative surgery. Not explored at all was the suggestion

from consumer representatives that the panel consider the device, presently recognized in FDA regulations, of immediate permits to deviate from standards so that nutritional improvements not be dependent upon legislative overhaul.

In summary, I would not want the record to suggest that the recommendations of this panel

are in full accord with the views of consumers and representatives of consumer organizations expressed during the Conference. I find, after consultation, that other consumer spokesmen concur in these views.

ROBERT J. McEWEN, S.J.,
Chairman, Consumer Task Force.

PANEL III-3: Food Safety

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REPORT OF PANEL III-3

INTRODUCTION

The rapid rise in our population, its urbanization and dependence on processed foods, the increased technology of food production, the expanding development and consumption of complex factory-produced foods, and the creation of new foods all tend to further the need for the usage of food additives and agricultural chemicals. These trends will accelerate in the future. Recognition must be given to the need for technological advances that will guarantee the availability and reliability of our food supply. Nevertheless such recognition must carry with it

the acceptance of the fundamental proposition that the well-being and health of the individual consumer is paramount.

There have been long-standing efforts on the part of governmental and other agencies to act to assure the safety of our food supply. Surveillance and testing throughout the stages of food production, storage, and packaging have increased in scope and complexity. Industry and government have responded to the challenge with commendable effort.

The establishment of a high level of nutrition for all of our people requires the recognition of the complex nature of this task. It is necessary to

supply everyone with adequate amounts of food. It is equally necessary that this food be nutritious and safe. Furthermore, an increasing population requires an expanding food supply.

It is obvious that the nature of these problems is so complex and the impact of their solution so grave in terms of human welfare that chances for error must be reduced to a minimum. It has been demonstrated many times: that the expenditure of relatively little funds on research may result in enormous benefits in the availability of foods, and the safety and nutritive value of our diets.

The need for such research in the area of food safety is especially important at this time. Hence, there is no contradiction in feeding people and supporting research. Each is an inseparable part of assuring a healthy and well-fed populace.

Inasmuch as the consumer is the primary consideration in deliberations on the safety and adequacy of the food supply, the consumer must be represented on panels convened to examine these problems.

It is clear that susceptibility to food components and additives may be influenced significantly by the physiological state of the individual. It is essential, therefore, that testing procedures for evaluation of safety take this fact into consideration by including, insofar as is possible, the effects of pregnancy, lactation, immaturity, growth, old age, and various disease states.

To insure that the increasing complexity of consumer safety is studied and understood, and protection achieved, the Panel agrees on the objectives and recommendations that follow.

INTRODUCTION OF NEW CHEMICALS

The ever-widening technological revolution has tremendously increased the number of new chemical materials offered for use in the food industry. Thus, it is advisable to develop guidelines for the determination of the acceptability of new chemicals for food use. These guidelines should be based on the concept that new additions to the chemical components of our food supply should have important reasons for their use.

Recommendation

In view of the fact that it is not possible to determine with absolute certainty the safety of the ever-increasing number of chemicals added to or present in our foods, and taking in account the

possible interaction of these chemicals with each other or natural food constituents, no additional chemicals should be permitted in or on foods unless:

They have been shown with reasonable certainty to be safe on the basis of the best scientific procedures available for the evaluation of safety and meet one or more of the following criteria:

1. They have been shown by appropriate test to be significantly less toxic than food additives currently employed for the same purpose.
2. They significantly improve the quality or acceptability of the food.
3. Their use results in a significant increase in the food supply.
4. They improve the nutritive value of the food.
5. Their use results in a decrease in the cost of food to the consumer.

REVIEW PROCEDURE FOR COMPOUNDS IN USE

The problems associated with the evaluation of safety of food additives are increasingly complex. There is a continual series of new studies of old compounds that are developing greater insight into their usefulness. There also is a constant search for new methods and techniques by which safety can be evaluated. The proper interpretation of these studies and the evaluation of new techniques demand the skills and talents of a large number of people with a broad range of abilities. Since such requirements cannot always be met by the resources of the Food and Drug Administration itself, the need for an extra-agency advisory group to provide independent assessment of these problems is evident.

Recommendation

Since review procedures for safety evaluation require reconsideration, and since the wide scope and complexity of the technological problems that the Food and Drug Administration faces today demand that greater use be made of outside independent advisory bodies, it is recommended that a statutory advisory group be established to provide the following services:

1. Review on an on-going basis (i.e. not only in times of crisis) all new scientific information and technical developments bearing on the

safety evaluation of all existing food or color additives and residues; make recommendations for action based on conclusions that may be drawn from time to time.

2. Maintain and expand current activities to carry out a constant overview of new procedures proposed for use in safety evaluation; assess the soundness of their scientific basis and the applicability of the results to conditions of human exposure; assist in the development of new procedures of this sort and their evaluation by coordinated cooperative studies.
3. Survey such weaknesses as exist in the present food additive situation, and thereby draw attention to those areas in which a need exists for new, safer, and more efficacious additives, to replace or supplement existing additives.

The advisory body or bodies for these purposes might best be set up under the auspices of the National Academy of Sciences National Research Council. Such bodies should include representatives of consumer groups.

CONTINUOUS DIETARY AND EPIDEMIOLOGICAL SURVEYS

One of the major problems involved in evaluating the effect of new chemical additions to the dietary environment is the lack of large-scale assessment of the existing chemical burden. This information is essential for the ultimate determination of the impact of new additions to the food supply. For example, what is the existing burden of compounds capable of affecting hemoglobin such as the nitrites? If this burden is high, due to the increasing consumption of smoked food products, should a new compound having similar biological effects be allowed even if its use is economically compelling? Thus to make this judgment, survey data are essential.

Similar argument can be made for the determination of the possibility of accumulation of additives in tissues. It is vital to know to what extent this occurs. A principal advantage of the use of such widespread surveys is the ultimate development of prospective surveys of the impact of the introduction of new major food chemicals into dietary environment.

Recommendation

To provide useful information in the evaluation of the total chemical burden and to allow a

continuing evaluation of the safety of compounds under the conditions of use, it is recommended that:

1. The nationwide monitoring for pesticides and radionuclides be expanded to continuously monitor the microbiological and the chemical content of the nation's food supply; particular emphasis should be placed on components of limited tolerance. These efforts should be integrated with those in other countries to provide some concepts of the total world burden.
2. Continuous epidemiological surveys be initiated to provide information of the effect on health of chronic exposure to chemicals in food and water. These should include surveys to delineate the spectrum of trace substances stored in the body of man. Analysis of the data should take into account age, sex, ethnic group, socioeconomic status, region, nutritional status, dietary habit, and disease state.
3. These surveys be performed by the pertinent agencies within the U.S. Department of Health, Education, and Welfare.

REVIEW OF THE GRAS LIST

It is essential that the chemical environment be controlled as completely as possible. Traditional or long-continued use of any additive can no longer be considered to be sufficient evidence of safety. Thus it is necessary that a continuing re-evaluation be maintained of all compounds whose use in foods is relatively freely allowed. This re-evaluation must be based upon objective investigation under controlled conditions. A mechanism must be provided by which these goals may be attained.

Recommendation

Since there is a need for better control of the chemical environment, it is recommended that the list of substances known as GRAS be systematically reviewed for safety in the light of new knowledge experience, new levels and new categories of food use.

NEED FOR HUMAN STUDIES

Since the entire population is likely to be exposed to any new food additive, prudence decrees that following appropriate animal tests, human

exposure to the additive under controlled conditions should be essentially part of safety evaluation.

Recommendation

Limited human exposure to new food additives should be performed with the following purposes:

1. Provision of exposure to the compound in a limited number of human volunteers at levels to which the general population is likely to be exposed.
2. Comparison of the fate in the human body of the compound with that demonstrated in the animal species employed in toxicity investigations.

REGULATION OF NUTRIENT ADDITIONS TO FOODS

Adequate intake of all nutrients by all consumers is obviously desirable. The development of new food products and changing food habits raises the need for review of the established guidelines for the enrichment and fortification of foods generally. However, widespread and indiscriminate additions of some nutrients to a large variety of foods raises the possibility of excessive intakes of certain factors. Therefore, provision for control of addition of nutrients to avoid excess is essential.

Recommendation

1. Control of food enrichment and fortification should be accomplished by restriction to appropriate foods. The practice of fortification and enrichment should be promoted where needed but also carefully restricted to avoid hazard. To this end the Food and Nutrition Board of the National Academy of Sciences-National Research Council should review their policy on the addition of nutrients to foods.
2. Guidelines for additions of nutrients to foods must include maximum as well as minimum levels for foods. Furthermore, it should be the policy of the regulatory agencies to enforce adherence to the maximum as well as the minimum level. In setting maximum levels for individual foods an estimated total intake from all possible sources should be taken into account.
3. The Department of Health, Education, and Welfare should continuously monitor the intakes and assess cumulative levels of those

nutrients that can be toxic in excess. This may be done as part of the studies discussed under recommendation on "Establishment of Continuous Dietary and Epidemiological Surveys."

REVISION OF THE DELANEY CLAUSE

Proper safety evaluation requires the exercise of scientific judgment of each case on its own merits. The Delaney clause contained in section 409 of the Federal Food, Drug, and Cosmetic Act restricts necessary flexibility on the part of responsible authorities in the pertinent scientific disciplines. Moreover, it places carcinogenicity in a special category as a manifestation of long-term hazard from the ingestion of foods.

Protection from potential hazards of foods and their components regardless of the nature of the hazard, can adequately be assured by resort to appropriate provisions in the act without relying upon the arbitrary and inflexible provisions of the Delaney clause as it now stands.

Furthermore, the automatic application of the principle contained in the Delaney clause may deny the American consumer the benefits of useful and safe food substances, including those that occur naturally.

Recommendation

1. The Panel recommends a revision, not repeal, of the Delaney clause to provide a more scientific and rational judgment in assuring the safety of foods.
2. We recommend that the Secretary of Health, Education, and Welfare request the appointment of an expert committee of the National Academy of Sciences to review the Delaney clause of the food additives amendment and review the current state of relevant, scientific knowledge with a view toward recommending such modification as they may deem advisable to permit the full exercise of informed scientific judgment in determining problems of food safety.

NATURAL TOXICANTS IN FOODS

A multitude of chemical substances, some known and many unknown, are normally present in natural products that constitute the diet of man. Many of these substances have recognized toxic

properties. However, the foods containing them have been accepted as safe because long experience has shown that their consumption in reasonable quantities does not cause injury in normal healthy individuals. When certain foods are consumed in excessive quantities, or eaten by persons made susceptible by disease, malnutrition, inborn errors of metabolism, allergic sensitivities, or by the simultaneous intake of drugs or other chemicals, then the natural chemical components of such foods may exert toxic effects. The possibility of increased susceptibilities in infancy, old age and pregnancy should also be considered.

The long-term significance of these food components, even in the healthy population, is not fully understood. Long delayed harmful effects are difficult to relate to their specific causes. Also, since the natural chemical composition of food is incompletely known, further investigations in this area are urged.

The food scientist and the food industry should maintain an awareness of the natural food components that have toxic properties so that they may be taken into account in new processes and new products.

Recommendations

1. That there be an intensification of efforts to evaluate the role of natural toxicants in foods in the overall long term status of human health. Special attention should be given to the long-delayed effects of toxic substances that occur widely in foods at low concentrations.
2. That methods of processing or genetic selection be developed for the elimination or the reduction of the levels of toxic components of natural food products in cases where potential hazards exist.

POLICY FOR DETECTION, INVESTIGATION, AND REPORTING OF FOOD-BORNE DISEASES

All data reported on food-borne diseases used in estimating the incidence of these diseases by the National Communicable Disease Center are supplied on a voluntary basis by States and local communities. Reporting is erratic and our knowledge in this area is fragmentary and incomplete.

While a total program may not be essential, an appropriate reporting mechanism should be de-

signed and given high priority. At best it will take several years to develop but it should be implemented within the next two years.

Recommendation

A long range national policy is recommended for the improved detection, investigation and reporting of food-borne disease. Not only do we need public awareness of the extent of food-borne ailments, but also a mechanism is essential to get the practicing physical and individual citizens to participate in the reporting system. A fiscal incentive obviously is needed so that States, cities and practicing physicians can and will participate in a uniform and satisfactory manner.

The reporting schema need to be begun as soon as possible and a high priority must be assigned to initiating its development. Within 5 to 7 years, a backlog of information should then accumulate that will reflect the status of the various food-borne illnesses. It is important that the National Communicable Disease Center, serving as the repository for data, be set up so that in the future, the information that is collated can be of most use. The cost of this activity is not known but at most, it would represent only a very small investment in terms of its value as an accurate barometer of the food situation.

IMPROVEMENT OF LABORATORY TESTING FOR MICROBIOLOGICAL SAFETY OF FOODS

Evaluation of food safety requires examination of products by sophisticated laboratory procedures to detect disease-producing microorganisms toxins, and viruses that impose health hazards. Differences in methodology or laboratory practices tend to produce divergent results that cause confusion and destroy confidence in these criteria of food safety. The national goal is to assure the reliability of laboratory findings from all sources with respect to the safety of commercial food products. Accomplishment of the following recommendation would establish a basis for standards for foods:

Recommendation

It is recommended that where feasible industrial, governmental, university and other private laboratories continue and extend joint efforts to establish a quality-assurance program for examining foods to provide uniform reliable information on health hazards of biological origin. This

needs to be an ongoing collaborative activity that is subjected to periodic review of a governing board. The Secretary of Health, Education and Welfare should immediately solicit the advice of the NAS-NRC Food Protection Committee to enlist the cooperation of public and private laboratories in attaining uniformity in the examination of foods.

It is recommended that tentative microbiological guidelines be set up for high-risk foods pending the development of official standards.

MORE EFFECTIVE SYSTEM OF FOOD PLANT INSPECTION

Additional legal authority and resources are urgently needed to expand and improve inspection of food plants.

Recommendations

1. That greatly increased appropriations be made to obtain a sufficient number of adequately trained personnel and supporting facilities to make plant inspections under existing laws.
2. That all plants which manufacture, prepare, propagate, process or repackage any foods be required to register biannually.
3. That food processors and distributors be required to report on a reasonably periodic basis cases of illness or other adverse effects allegedly attributable to any food or component thereof.
4. Where the necessary provisions for effective inspections are inadequate or nonexistent at the State and local level, such authority should be assumed by the appropriate Federal agencies.
5. That additional legislation be enacted to provide effective control of egg and fish processing operations.

NEED FOR NATIONAL FOOD SANITATION ACT

There are more than a half-million food service establishments in the United States. It is estimated that 60 percent are substandard. More than 38 billion meals are served annually from these establishments. Approximately a quarter of the food produced in the United States is served through such outlets.

While disease reporting is generally inadequate, reliable estimates indicate that from two to 10 million cases of food-borne illness occur each year in this country. Of the actual 345 outbreaks and 17,567 cases reported in 1968, 60 percent of the outbreaks and 75 percent of the cases originated in food service establishments. From this, it is readily apparent that food service sanitation is an extremely important area of consumer protection.

It is a widely accepted fact that the primary responsibility for the safety of foods served in these establishments lies with the State and local health departments since the problem is basically local in nature. However, the enormity of the job, the changing economic patterns of eating in this country, have created a need for stronger support from the Federal Government. This is provided through financial, technical and consultative assistance to assure the development and maintenance of effective State and local food service sanitation programs.

The Public Health Service Act of 1944 provides broad authority to assist States and localities and to carry out interstate quarantine activities, primarily directed at the control of communicable diseases. The law does not specifically mention food sanitation in relation to infectious disease control, nor does it consider the problems of non-living disease-producing agents.

Under this act, the Public Health Service has nevertheless engaged in milk, shellfish, food service, and interstate transportation sanitation activities designed to assist other Federal agencies, States, local governments and industry with programs for the prevention and control of food-borne diseases. These activities are a necessary unifying force in the national food safety effort, but they are only vaguely identified responsibilities and receive very limited Federal support. Recently they have been transferred to the Food and Drug Administration and are being integrated with the regulatory activities authorized by the Food, Drug, and Cosmetic Act.

Future leadership for this national cooperative endeavor depends on recognition of the essential functions, as well as clear authority and direct support for their conduct by the Food and Drug Administration apart from its direct regulatory functions.

Recommendation

Passage of a National Food Sanitation Act that will authorize:

1. Surveillance over insanitary practices or conditions that may occur in the food supply at any stage from production to consumption.
2. Promulgation and adoption of uniform public health measures.
3. Technical assistance to strengthen State and local food sanitation programs.
4. An undergirding program of research to assess the safety of technological innovations, develop criteria of safety, and investigate means for prevention of potential health hazards.
5. Specialized training in food sanitation for personnel of the processing and serving industries, as well as governmental control officials.
6. Enforcement of sanitation regulations on interstate passenger carriers, interstate highways, and marinas on interstate waterways.

We consider enactment of this measure of the greatest urgency.

DEVELOPMENT OF FDA RESEARCH RESPONSIBILITIES

Since 1938 the Federal Food, Drug, and Cosmetic Act has developed through amendments, judicial decisions and administrative interpretations and regulations. The growth of the Food and Drug Administration to meet the increase in number and variety of its responsibilities has been extremely rapid in recent years. This has created problems of organization, management, communication and efficiency. These problems and a series of reorganizations have tended to create uncertainties, confusion, and misunderstanding among consumers and the regulated industries.

The assurance that the general public has with regard to the wholesomeness of its food supply, and the freedom from unfair competition, by those who would put inferior products into the market place, on which the ethical manufacturer may depend, is based largely on the Federal Food, Drug, and Cosmetic Act and the organization responsible for fulfilling its intent and purposes. It is imperative that the faith of the American consumer in the ability of FDA to carry out its mission be kept intact. It is imperative that the con-

fidence of the regulated industry in the competence and integrity of FDA and its ability to function effectively, objectively, and sympathetically, be strengthened and maintained.

The essence of FDA's ability to fulfill its mission is firmly rooted and entirely dependent on the sciences. From its inception this has been a scientific organization. The nature of its responsibilities requires that it grow and develop in this capacity, that the problems it meets be dealt with by methods and tools of scientific research by those who have been trained in the scientific disciplines.

The long-range research concerned with the underlying phenomena of chemistry and biology is generally carried out in university laboratories and research institutes. However, the research problems that stem from the laws whose enforcement is the responsibility of FDA are often recognized only by FDA scientists and more often are of concern primarily only to them. These problems are often of a fundamental nature.

Past experience has taught that if FDA scientists do not address themselves to these problems, few if any others will. For example, the safety evaluation procedures that have served as prototypes for all the world have been products of FDA scientists. Enforcement of public health laws, such as the Federal Food, Drug, and Cosmetic Act, without intimate association in the same organization of related research activities, can only result in inadequate enforcement. Research activities essential to the solution of present and future enforcement problems will be sterile if separated organizationally from the enforcement activities to which they are related.

Like all organizations scientific institutions succeed only as they have inspired and effective leadership, and are capable of attracting and retaining well-trained and superior personnel. It is in the national interest that the stature of FDA as a scientific institution be increased and strengthened.

Recommendation

Congress should recognize the essential requirement for FDA to engage in basic and applied research programs relating to its responsibilities for insuring the safety and wholesomeness of foods by making this a mandatory function of the organization and providing the necessary manpower and other resources.

FOCAL POINT FOR HEALTH ASPECTS OF NUTRITION AND FOOD SCIENCE

A coherent Federal policy on nutrition and food science, as related to health, has been lacking because the safety, education, research, and other aspects of such policy are widely dispersed through Government agencies. Expansion and coordination of these activities are urgently needed.

Recommendation

A focal point should be established in the Department of Health, Education, and Welfare for formulation of national policies and coordination of programs on all aspects of nutrition and food science.

NEW FOODS

NEW APPROACHES TO SAFETY EVALUATION OF NEW FOODS

In a world in which protein-calorie malnutrition exists alongside massive technological advances, it is not surprising that a search for new and better sources of food for the expanding population will be a major enterprise in the years ahead. Changing patterns of food consumption in the United States, plus the development of nutritive substances from sources such as microbes, fish concentrates and leaf protein, require immediate attention.

Certainly the production of low cost, highly nutritious food would have great usefulness not only in emerging countries of the world, but in our own country as well. Furthermore, special foods designed to meet special circumstances of advanced technology, i.e., space flight, may be necessary. The Panel recognizes that most of what man eats today has been chosen by experience with trial and error, not by any carefully planned scientific method. However, modern methodology can and should establish safety guidelines for foods.

For the purposes of clarity of the following recommendations: A "new food" is defined as material for human oral consumption produced by the application of new processes (in the sense of new technology) applied to new or old ingredients or new ingredients treated by new or old processes. A "new process" is defined as any change in the processing of food which may significantly affect the safety or the nutritive value of that product. A "new ingredient" is defined as a material which

has not been previously consumed as a food for its nutrient value or which represents a significant change in an old ingredient by a manufacturing process.

The prime objective is to establish guidelines by which a new food can proceed through development steps necessary to reach the consumer market as a safe food from the toxicological point of view.

Recommendations

Each new food item as defined above should be cleared by the Food and Drug Administration according to the following chronological steps.

1. Assayed for gross chemical composition, expected impurities, and, where applicable, more specific characterization of nutrient components both in its natural state and in that form in which it will be consumed.
2. Meet requirements for microbiological safety as applied to conventional foods. In addition, cognizance must be given to the fact that different standards may be necessary to meet specific guidelines for animal toxicology studies to be established through a research program developed and coordinated by an expert committee.
3. Testing in animals at exaggerated dosage levels as are normally used for testing the safety of food additives cannot be applied to foodstuffs. Therefore, it is recommended that new and specific guidelines for animal toxicology studies be established through a research program developed and coordinated by an expert committee.
4. Controlled human exposure is a desirable component of any safety evaluation program.

The recommended steps for approval of a new food must be modulated depending upon the following considerations:

1. The extent of the projected use of the product.
2. The population group in which the product will be used, i.e. infants, adults, pregnant women, ethnic groups, etc.
3. Practical considerations of priority value to the consumer.
4. The use of background and pertinent information concerning similar foods or processes.

The implementation of the above modifying factors allows flexibility and should be monitored by experts in the specific field. The purpose of these recommendations is to encourage and not to inhibit the production of new foods. Statutory implementation of these recommendations should be studied.

CONSUMER INFORMATION

INTRODUCTION

Consumers have the inherent right to safe and nutritious foods which meet their specific individual needs and desires. This right cannot be assured unless the necessary information is available regarding the contents of foods and the safety of their components.

The objectives must be:

1. To facilitate the accumulation of information about food safety and quality.
2. To assure that the advertising and information policies of government and the food industry encourage dissemination of objective and impartial data.
3. To develop educational programs and methods for consumer feedback to Government and industry, whereby consumer needs and desires can exert greater influence on safety and quality of available foods. Achieving these objectives must be a major component of the national nutrition policy of the next decade.

IMPROVING FOOD LABELING

The consumer relies upon labels attached to packaged foods as a prime source of information about the contents, nutritional value and safety of those foods. It benefits him little to possess the knowledge and understanding of his personal food needs and desires if pertinent information regarding the constituents or properties of foods is not contained in the labeling, so as to afford a rational basis for selection.

Recommendation

It is recommended that all foods should have listed on their labels their food components in descending order of concentration. Where deemed necessary by the Food and Drug Administration, food labels should also list the percentage of food components as an aid to consumer assessment of

quality. The existence of definitions and standard of identity for any food should not exempt that food from all requirements for listing ingredients on the label, including such food additives as would be required on the label in the absence of a standard.

The labels of all foods, including foods for which a definition and standard of identity have been prescribed, should list the common or usual names of all ingredients including food additives and their functions, provided that, to the extent that compliance with this requirement as regards food additives are irrelevant, impractical, misleading, or may result in unfair competition, exemptions should be established by regulations promulgated by the Secretary, Health, Education, and Welfare. In the rare case where exception is deemed necessary, it should be arrived at by public procedure that assures consumer participation in that decision.

Food ingredients should be declared in terms of their sources such as "wheat protein-hydrolysate" rather than just "protein hydrolysate", "potato starch" rather than just "starch", and "peanut oil" rather than just "vegetable oil."

A feasibility study should be made by a broadly representative expert committee to be established by the Secretary of Health, Education, and Welfare of a uniform and easily understood system of dating and designating place of origin of those foods meriting such designation.

It is further recommended that present authority be invoked within the next 3 months to establish a practical and reasonable timetable for the full implementation of these policies.

POPULAR REFERENCE ON FOOD SAFETY

The public lacks understandable yet authoritative information about food safety and potential food toxicity. It is entitled to information about the food additives now in use, the foods in which they are used, the reasons for their use, the way decisions on their use and safety are reached, the degree of risk, the areas in which questions remain as to safety, and the steps being taken to correct those situations which are not completely satisfactory. Naturally occurring toxic substances in foods, microbiological hazards of foods, and methods by which these risks are being or should be lessened are also a matter of legitimate consumer concern.

Recommendation

It is recommended that a popular reference book on food safety be prepared. Appropriate governmental agencies and independent expert committees must join in preparation of this book in order to assure its acceptability as a work of scientific merit. There should also be participation by consumer representatives in order to assure coverage of all areas of concern.

Immediate steps should be taken to implement this recommendation, with the expectation of first publication within 2 years, and with provisions for periodic updating and revision, and for wide dissemination (including all public libraries) after printing.

COMPENDIUM OF FOOD COMPONENTS

Physicians, dieticians, nutrition educators, and related professional groups are seriously handicapped in providing detailed advice or services to consumers because detailed specific information about all aspects of the constituents (including additives) and nutritive value of individual foods (particularly of processed foods), is not and probably cannot be covered in labeling and is not generally available from the processor or distributor. There is need for a central repository for all such pertinent information.

Recommendation

It is recommended that the feasibility of compiling a compendium of all foods including individual brands or products be studied by the Food and Nutrition Board for the purpose of making available to consumers and other interested persons all information concerning the qualitative and quantitative contents relevant to safety and the nutritional value of such foods.

It is further recommended that the feasibility report be rendered by January 1, 1971.

INFORMATION ABOUT FOOD PURCHASED THROUGH RESTAURANTS AND OTHER SUCH VENDORS

It has been estimated that from 30 to 40 percent of the food consumed in this Nation is consumed away from home. The percentage is likely to increase. Furthermore, increasing amounts of pre-cooked foods and entire meals prepared elsewhere are consumed at home. At this time there is little or no way for the consumer to obtain information about the components and quality of the foods

purchased for his immediate consumption in restaurants or through similar vendors.

Recommendation

It is recommended, therefore, that a study be undertaken to assess the feasibility of making readily available to consumers information relevant to the components of food purchased in restaurants through other such food vendors so as to enable consumers to make safe selections based on their own needs.

TRADE SECRETS

Some important information with respect to the safety and composition of foods is presently treated as a trade secret and withheld from the public. Toxicological information supporting the safety of particular food additives, and quantitative formulations of processed food products are examples of information sometimes withheld from the public. This practice conflicts with the principle that the consumer has the right to know those facts concerning the contents, nutritional value, and safety of foods which will enable him to make informed judgments concerning use or purchase of food to meet his needs and desires.

The consumer should have assurance that his health is no way endangered by trade secrets.

Recommendation

That an expert committee investigate present practices involving trade secrets insofar as they bear upon potential hazards in food formulations and suggest modifications that it considers necessary in the public interest.

ADVERTISING OF FOODS

The highly competitive nature of food marketing and the use of mass advertising techniques increase the speed and extent of the dissemination of advertising claims concerning food. Since the consumer may base food selection on health and safety claims, it is important that no advertising claims about the health and safety of foods be misleading, deceptive, or convey misinformation. The consumer needs more effective guarantees that such claims made in advertisements for food are well founded.

In the case of radio and television, because of their pervasiveness, persuasiveness, and potential to influence mass audiences, extra safeguards are

necessary. Possible safeguards that have been suggested have ranged from mere admonition by regulatory agencies and increased appropriations for regulatory agencies, to actual censorship. There are no easy solutions to this problem in our free enterprise system. However, this in no way minimizes the dimensions of the problem or the necessity of doing something about solving it.

Recommendation

It is recommended:

1. That all printed advertising, in which health and nutritional claims are made should contain information (comparable to label information) concerning the properties of foods as is necessary to fully inform purchasers as to the food's value and safety for such uses.
2. That the appropriate Federal agencies be authorized to review and comment on, but not approve, prior to broadcast, radio and television advertising involving health and nutrition claims for foods. The full authority of existing agencies should be invoked to implement this recommendation, and, if necessary, legislation giving additional regulatory authority should be sought.

SURVEY OF CONSUMER FOOD KNOWLEDGE

Consumer desires and preferences, consumer knowledge with respect to the safety and nutritive value of foods, and consumer interpretation of statements made in labeling and advertising of foods, all are supposed to help determine Government and industry policies with respect to production, labeling, and advertising of foods. But accurate information as to what specific groups of the public know, understand, or desire, is not adequately available.

It is recommended that a program be setup by the Department of Health, Education, and Welfare to determine by scientifically controlled surveys, and by collection of information from other available sources, what the various segments of the population do, in fact, know, understand, and desire with regard to foods and nutrition.

The designation of a clearinghouse for the collection, evaluation, and dissemination of information currently available should be possible within 6 months. The design and execution of appropriate scientific surveys should be undertaken as soon as possible, preferably within 1 year, and on a high

priority basis. Provision should be made from the beginning that this be a continuing program, to permit evaluation of the effectiveness of educational and regulatory programs as well as changes in consumer attitudes.

CONSUMER EDUCATION

Consumers also need a program that will help them to acquire, understand and apply the knowledge that is available about the safety of food.

Recommendation

It is recommended that, in all programs of education in foods and nutrition, safety considerations should receive added emphasis, particularly in the training of physicians, nurses, teachers, social workers, food distributors, other groups directly serving consumers, and the consumers themselves.

It is further recommended that education in the area of food safety include information about the steps—and limitations—in the present food distribution system. Consideration should be given to the problems and limitations of this system in terms of food safety and the procedures necessary to improve the food supply.

CONCURRING REPORT—PANEL III-3

Before presenting its recommendations in public session, the Panel modified certain of its recommendations, including three concerning food additives. In the opinion of this writer, the modifications on these three chemical additive recommendations significantly changed the meaning of those recommendations.

This belief was pointed out at the public sessions of the Panel. As the individual who raised this issue, I wish to state that it is my opinion that the Panel worked honestly, diligently and with integrity in an effort to protect the consuming public. However, it is my belief that the changes on the three food additive recommendations could be interpreted to significantly change the original recommendations of the Panel.

In its final session discussing these recommendations, the consensus of the Panel was that the word changes in the three chemical additive recommendations did not in fact change the sense of concern that the Panel wishes to communicate to the President and the country.

The Panel has made clear its belief that "it is essential that the chemical environment be controlled as completely as possible."

It is my understanding that the Panel's recommendation on the Delaney clause, asking for scientific review of that clause, does not suggest that the Delaney clause be repealed; but in fact, suggests that a more scientific and rational way of dealing with certain disease hazards be devised. I do not understand this recommendation to be opposed to the concept that certain health hazards may require more direct legal action than other health hazards.

In its recommendation on the GRAS list, the Panel deleted the following two parts of its recommendation:

1. The concept of GRAS should be modified to restrict the use of such compounds to those food classes in which GRAS status was originally established. Approval by FDA should be required for use of new food classes or new applications.
2. Only those substances should be included on the GRAS list that are added to the food supply in toxicologically insignificant amounts, or in cases where levels of use are greater—those whose safety is assured. The Panel also modified the recommendation strengthening other language and changing it to read:

"It is recommended that the list of substances known as GRAS be systematically reviewed for safety in the light of new knowledge, experience, and *new food classes and levels of use.*" (Italics indicate addition.)

It was the consensus of the Panel that the recommendation, as rewritten, embodies the essence of the deleted language contained in 1 and 2 above.

In its recommendation on the introduction of new chemicals, the Panel changed the following requirement for the addition of food chemicals from being mandatory to being optional.

"No additional chemicals should be permitted in our food unless it has been shown that there is significantly less hazard in their use than with food or color additives currently employed for the same purpose."

It is the consensus of the Panel that this change is in no way an influence on the Panel's strong statement, that "no additional chemicals should be permitted in or on our foods unless they have

been shown with reasonable certainty to be safe on the basis of the best scientific procedures available for the evaluation of safety."

Nor is this change meant to undermine the Panel's position that there must be a positive use, as outlined in its recommendation, for a food additive before it is placed in or on the food supply. These recommendations of the Panel take a strong step toward placing the chemical environment under complete and effective control and I concur in them heartily.

JAMES TURNER, *Panel Member*

COMMENTS OF THE CONSUMER TASK FORCE

PANEL III-3: Food Safety

We suggest the need for consumer input in the implementation of all recommendations of this panel.

Introduction of new chemicals.—We support the original draft recommendation. We do not approve the restructuring of the recommendation in a way which effectively downgrades the importance of reducing hazards.

Dietary and epidemiological surveys.—We feel that monitoring should include testing of individual foods as well as aggregate surveys (as currently done).

GRAS list.—Any GRAS list review should aim toward giving consumers greater and more realistic protection (see concurring report of James Turner).

Need for human studies.—New food additives referred to in this section should have met the safety requirements outlined under recommendations for the "Introduction of New Chemicals" made by this Panel above.

In point 1, levels should be the maximum to which the general population is likely to be exposed. Many individual consumers need greater protection than the average.

Regulation of nutrient additions to foods.—We feel it is important to regulate fortification in the interests of the consumer. We would like the language of the first recommendation to indicate that control of fortification and enrichment may be better insured through the medium of the standard of identity.

Revision of the Delaney clause.—We agree that the Delaney clause as it now stands presents difficulties in effectively insuring the safety of food additives. We feel that study by a committee of scientists chosen to represent all points of view on this subject must precede any recommendations for revision. We suggest—

1. Exclude additives that cause significant disease or disability in humans.
2. Exclude additives that cause disease in suitably chosen animals following suitable test protocols (including appropriate safety factors) until such time as they can be shown unequivocally not to cause disease or affect the health or safety of humans—not only normal adults but high-risk people such as infants, pregnant women, the elderly, and so forth.
3. If there is any doubt about the safety of an additive, permission for its use should be refused.
4. The Delaney clause should not be repealed until a better law can be enacted (see concurring report of James Turner).

Guidelines for the safety evaluation of new foods.—The word “cleared” (first line under “Recommendations”) should be clarified to indicate “precleared” before marketing.

Improved food labeling.—We recommend the addition of the following points:

1. That all ingredients in food be listed in the percentages of which they occur.
2. That effective ways be devised to present essential nutritional information.
3. That all the above information (1, 2) should be prominent in food industry advertising.
4. Date coding should be mandatory for all foods whose safety would be affected by age and/or storage conditions.
5. The adoption by Federal regulation of the frozen-food code of the Association of Food & Drug Officials of the United States. Additionally, the Federal Government should develop or encourage the development of a low-cost indicator that integrates the time-temperature of storage.

Consumer education.—We should like to add the suggestion that the FDA be required to mount an extensive, popular program of consumer information on all aspects of food safety, using public service TV and radio time, and all other appropriate media.

PANEL III-4: Food Quality: Guidelines and Suggested Administrative Structure

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REPORT OF PANEL III-4

INTRODUCTORY STATEMENT

Food quality is determined by three criteria: nutritional quality, wholesomeness, and acceptability. Failure to meet any one of these will yield a product of inferior or unacceptable quality.

For a food product to have acceptable nutritional quality, it must be capable of providing those nutrients normally associated with its food group when consumed by a given human population of known dietary habits. For example, acceptable nutritional quality of a specific food may be sufficient for one consuming group and not for another depending upon the defined population or the manner in which the food is consumed in its normal diet.

Food safety assures the consumer, beyond a reasonable doubt, that foods offered to the public are free of all materials having deleterious effects upon health.

Acceptability encompasses all of those attributes for foods, both tangible and intangible, that motivate an individual to choose a food that contributes the sensation of enjoyment during consumption. Some of these attributes are appearance, flavor, texture, relation to ethnic background, and various esthetic factors such as minimal animal or insect infestation.

Quality, thus defined, should be available without requiring employment by the consumer of technical knowledge of nutrition or elaborate facilities for home preparation.

Recommendation No. 1: STANDARDS OF NUTRITIONAL QUALITY

The mounting importance of factory-formulated foods, snack foods, and others differing from traditional patterns causes the previous experience and education of many or even most consumers to be unreliable in the selection of a properly nutritious diet. The processor, in turn, has no authoritative guidance in the design of nutritionally sound new products because there is no framework of national policy into which he should fit.

We recommend: That an interdepartmental commission be appointed with a chairman designated by the Secretary of Health, Education, and Welfare and representatives not only of affected Government departments but also of consumers, industry, and academic institutions to review existing nutritional requirements and consider the addition of new nutritional requirements. The commission should appoint panels to develop general standards of nutritional quality applicable to broad classes of foods in accordance with the following recommendations:

1. That a standard of nutritional quality for a food or class of foods specify a minimum and maximum value for nutritional properties of significance to consumers in accordance with use of the product in the daily diet. Such nutritional properties include vitamins, minerals, proteins, fats and fatty acids, sodium, and calories.
2. That no safe ingredient be excluded from a new food on the basis of unproved nutritional usefulness but specific claims of usefulness must be supported by sound scientific evidence.
3. That special products high in nutrients be permitted and encouraged for special purposes for the elderly, for the sick, for school children and for disadvantaged families at high risk nutritionally.
4. That the consumer be free to select in the market place any fortified food of his or her choice, whether natural or a synthetic in origin, with no limitation on foods regarded as nutrient carriers.
5. That new foods of substantial importance in the diet be required to comply with a minimum standard of nutritional quality. For

other new foods a standard of nutritional quality may be optional.

6. That consideration be given to establishing maximum fat levels for foods high in invisible fat and to permitting optional replacement of saturated fats with polyunsaturated fats in much food.

Recommendation No. 2: INFORMATIVE LABELING OF FOODS

There are three reasons for uniform informative labeling of all processed foods:

1. To identify the product and tell the consumer how to use it effectively.
2. To inform the consumer of ingredients or properties which may be of significance in terms of particular nutritional or health needs.
3. To permit the food processor to advertise his product to the public in a competitive market.

We recommend: That labeling of all foods conform to the following:

1. The allowance of numerical ranges for expressing nutrient content of food (consistent with good manufacturing practice).
2. The extension of factory inspection of food establishments to quality control records needed for verification of composition and nutritional claims for a specific new food.
3. And that, regulatory agencies scrutinize nutritional claims for foods for truthfulness with prompt and strict enforcement action against misleading claims.

Recommendation No. 3: MANDATORY FORTIFICATION

Although States require fortification of some foods, usually bread, flour, or milk, there are no current Federal regulations covering mandatory enrichment. Certain basic foods, including new foods as they become important, should be carefully selected to be appropriate vehicles for added nutrients to promote better nutrition of all segments of the population, and with full regard for the safety conditions involved.

We recommend: That mandatory fortification, either to the original nutrient content or above, where appropriate, be established for certain basic foods.

Recommendation No. 4: GRADING STANDARDS

Grading standards as they now exist are largely in terms of physical factors. Nutritive content has not played an important role. There is also a lack of uniformity in nomenclature that results in confusion.

We recommend:

1. That for those foods for which grades are appropriate, the grading standards be adopted to give consideration where feasible to the nutritive content; and that designations be standardized so that a simple system is used and is consistent for all types of food for which grades are appropriate.
2. That grading standards be evaluated periodically to determine that they continue to aid the consumer in understanding food quality.
3. That grade standards for beef and lamb be designed to encourage the breeding and feeding of animals that produce high quality meat with a low ratio of fat to lean meat; and that consideration be given to the possibility of setting meaningful grades for pork.
4. That a Federal Interdepartmental Committee on Consumer Grades and Standards be established and that its deliberations be made part of the public record.
5. That a single code of regulatory requirements pertaining to grading standards prevail in all jurisdictions; Federal, State, and municipal.

Recommendation No. 5: HANDLING AND STORAGE

The complexity of the food distribution system, the increasing reliance on processed foods, in general, and the increasing role of frozen processed foods, in particular, have all accentuated the problems of deterioration of foods during handling and storage. It is therefore desirable to encourage the highest possible level of handling practices to insure the economical delivery to the consumer of foods that have not deteriorated from mishandling or age.

We recommend: That a research program be supported to investigate the changes in nutritive value and acceptability of foods caused by abuse in handling and length of storage.

Recommendation No. 6: FOOD INSPECTION

Some of the techniques now used in food inspection are cumbersome and expensive. Experience

with statistical application to insure that the product at various stages of processing or distribution meets a specified standard of quality, has demonstrated the practicality of such approaches to food inspection.

We recommend:

1. That the present practice of ante- and post-mortem continuous inspection of livestock to detect disease or unwholesome conditions be continued; and that in subsequent stages of meat processing there be a maximum use of statistical methods and similar techniques that would improve the overall efficiency of the inspection procedures.
2. That as new standards for food are established, the surveillance of such standards be accomplished to the extent possible by statistical methods.
3. Fish and seafood processing should be under continuous surveillance for compliance with good manufacturing practices. Furthermore, increased reliance should be placed on statistical methods of sampling and analytical evaluations.

Recommendation No. 7: INCORPORATION OF ACCEPTABILITY IN FOOD QUALITY STANDARDS

While acceptability forms the criteria for the delivery system for food and nutrition, the various criteria constituting the system are almost impossible to define in enforceable terminology for establishment of quality standards.

We recommend:

1. That the Government support, through administered grants by the Department of Health, Education, and Welfare, research on factors that influence the acceptability (flavor, texture, etc.) of food, with emphasis on quality (including nutritional value) of food as affected by food production, harvesting, processing, and delivery practices to develop objective methods for defining those criteria that correlate with quality.
2. That to assure adequate nutrition to poverty groups, the Government, with appropriate advice of representatives from the food industry and consumers, sponsor market research aimed at defining desirable accepta-

bility characteristics in selected low-cost foods of nutritional significance and of high acceptability in economic hardship areas.

Recommendation No. 8: MATTERS NOW BEING STUDIED BY APPROPRIATE EXPERT SCIENTIFIC COMMITTEES

This Panel has stated elsewhere the essential and closely interrelated roles of acceptability, safety, and good nutrition. We believe that evaluation of the safety of all ingredients, including those affecting acceptability, should properly be left to the judgment of appropriately qualified experts who have access to all relevant information.

We recommend:

That since such an advisory committee is being designated through the National Academy of Sciences, to consider possible problems in the use of modified starches, salt, and MSG, this Conference take no position on matters now officially placed before a more appropriately based, specifically qualified group. We think it appropriate to suggest that the meetings and conclusions of the group should be open to the public.

NOTE.—This recommendation was approved with one vote dissenting.

MINORITY REPORT

As a member of Panel III-4, I wish to submit the minority report regarding the deletion of labeling of foods provisions which initially appeared in our report but which was subsequently deleted. May I indicate that the following initial summary of the Panel's views continues to represent my own views and that of some other members (namely, that of Mr. Harrison Wellford). I hope that the White House Conference on Nutrition will have a strong statement on labeling foods in regard to chemical composition and will provide some background and recommendation as follows:

INFORMATIVE LABELING OF FOODS WITH REGARD TO CHEMICAL COMPOSITION

There are three reasons for the uniform labeling of all processed foods:

1. The freedom of the food processor to advertise his product to the public in a competitive market.
2. The protection of the consumer from harmful and unnecessary components of food which contain substances he may not wish to ingest.

3. To allow the millions of Americans suffering from various nutritional disorders, or who wish to prevent nutritional disorders, to make appropriate selection of processed foods as befits their particular health needs. Such nutritional disorders include diabetes, high blood pressure, coronary heart attacks, strokes, obesity and deficiency disorders (protein, vitamins, and minerals).

It is recommended: That labels must contain information about any food additive that has health implications; further that information about the major nutritional contents of processed foods be provided to the consumer at the discretion of the producer and not be prevented by regulatory agencies unless contrary to the truth.

These provisions should be carried out by the appropriate subagency of the Food and Drug Administration.

LABELING OF FAT AND CHOLESTEROL CONTENT OF FOODS

Background.—“Fats and oils are predominately trifatty acid esters of glycerine commonly called triglycerides.” They are commonly referred to as fats if in a solid or semisolid state, and oils if liquid.

They constitute an important part of the human diet, providing a concentrated source of energy and are the body's principal means of storing energy. Certain vitamins can be utilized by the body only when in a fat solution, and many of the flavors of foods are carried by the fats. Fats and oils may also be categorized on the basis of fatty acid composition. The three classes of fats are: saturated fatty acids (largely palmitic and stearic acids) or the hard fats, monounsaturated fatty acids (oleic acids), and polyunsaturated fatty acids (i.e., linoleic acid). Hydrogenated fat (margarines and shortenings) may also contain fatty acid isomers, (i.e., the transfatty acids). Cholesterol is a 27 carbon sterol found in foods of animal origin and accompanies animal fats.

On the average, Americans ingest about 100-pounds of fat per capita per year, and this makes up about 35 to 40 percent of the total calories consumed. Active people or growing youth need a high caloric intake and can utilize this magnitude of fats. There is, however, increasing evidence that for many consumers, particularly those in sedentary employment, or those subject to obesity or

coronary heart disease, this proportion of fat in the diet may be excessive. It has been suggested that this high consumption rate may be due in part to a lack of knowledge that there is a high level of fat in the normal diet. It is significant, however, that the proportion of the so-called invisible fats (those contained in milk, meat, etc.) has declined over the years while the proportion of the visible fats (butter, shortening, salad oils, etc.) has increased.

Objective.—Safe, wholesome food items should not be hedged in by Government regulation to the point where consumer choice is unduly restricted. Excessive regulation is costly to both industry and the Government and it tends to stifle changes which could be beneficial to the consumer both in cost and in range of choice.

The objectives of food regulation should be to:

(a) Permit a wide variety of consumer foods which are safe and wholesome.

(b) Provide the consumer with the necessary information about the nutritive makeup of the foods so that rational choices can be exercised.

(c) Accomplish effective and economical surveillance of the regulatory provisions.

Because a significant proportion of the food supply is consumed in or at public eating places where labels are not available, and because enforcement is facilitated by the setting of a maximum standard, it would appear that the above objectives can be best attained by the Government allowing the food processor to label his product with the kind and amount of fat and with the cholesterol content.

It is recommended:

That the Government set standards of maximum fat levels for all high fat level foods where such standards are applicable (mainly processed foods).

That processors who desire to produce foods with a lower fat level be given the option of stating the fat level on the label.

That processors who desire to label their products with the fat content, the fatty acid composition, and cholesterol content have the option of so stating this information.

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Member, Panel III-4.