Consumer Research

U.S. DIETARY GOALS: WHAT ARE THE CONCERNS?

Consumers in the developed nations around the world are increasingly conscious of the relationship between health and the foods they eat. This consciousness is already being reflected somewhat in changing food consumption patterns. The increased per capita consumption of both "lowfat" and "natural" foods are examples. At this early stage, however, the emphasis is on "raising the level of awareness."

National dietary goals have already been adopted in Norway, Finland, and Sweden. These countries have initiated action programs to change dietary patterns and upgrade health.

Approximately 1 year ago the Senate Select Committee on Nutrition and Human Needs (SSC) released a report entitled *Dietary Goals for the United States.* These goals have not been formally implemented. In fact, they are being hotly debated by nutritionists, producer groups, and elements of the food industry. While many have agreed on the "general direction" for a U.S. nutrition policy, the *specifics* of any such program continue to be debated.

Do we need a national set of nutritional goals? Are there consistent recommendations that could be used to establish a national food and nutrition policy? Is it possible, given the existing scientific data base, to prescribe nutritional goals for a nation with a population as large and diverse as ours? Many would answer "yes", at least in a qualitative sense. Others would argue, just as convincingly, that we are in no position to make major policy decisions on food choices at this time.

These questions were addressed recently by speakers at the Annual Food and Agricultural Outlook Conference sponsored by the U.S. Department of Agriculture. Dr. Mark Hegstead of Harvard University presented the case for U.S. dietary goals. He said, "We know so much (about diet and health) that we cannot afford to ignore what we do know." Dr. Gilbert A Leveille stressed what he considers the shortcomings of the proposed goals. His approach is to develop goals based more firmly on stated criteria. Betty Peterkin of USDA's Agricultural Research Service delivered a paper outlining what she believes to be some of the food consumption changes implied by the goals. Her diets would involve substantially more of the grain product foods than others believe are required to satisfy the suggested requirement. Presentation of these papers probably will do little to alter presently held opinions. Surely the debate will continue.[1]

[1]Copies of the papers from the Outlook Conference are available on request from: Committee on Agriculture, Nutrition and Forestry, 322 Russell Senate Office Bldg., Washington, D.C. 20250.

Our purpose is to focus attention on the goals as reported by the SSC. We isolate and discuss some of the major questions now being raised regarding potential impacts implied by adoption of these goals. We begin by discussing the "goals" as they now stand.

U.S. Dietary Goals

Publication of proposed dietary goals by the SSC should not imply that the United States has been without any form of a national nutrition policy. The Recommended Dietary Allowances (RDA) were initially established by the Food and Nutrition Board of the National Research Council in 1941 and have been periodically revised since then. The purpose of the RDA's was to insure that diets contained the recommended minimum amounts of specific nutrients required "for maintenance of good nutrition." These dietary standards have had important influences on both the mix and nutritional content of the foods we eat. What then is different about the SSC goals and why have some felt that goals were needed?

The dietary goals are rather specific statements about how the "average diet" might best be altered to prevent certain diseases considered to be public health hazards, specifically, cardiovascular diseases, stroke, cancer, and diabetes. They differ from the RDAs most fundamentally in that they deal with suggested *max-*

imums for various components of the diet. The goals are:

- Increase carbohydrate consumption to account for 55 to 60 percent of the energy (caloric) intake.
- Reduce overall fat consumption from approximately 40 to 30 percent of energy intake.
- Reduce saturated fat consumption to account for about 10 percent of total energy intake; and balance that with polyunsaturated and monounsaturated fats, which should each account for about 10 percent of energy intake.
- Reduce cholesterol consumption to about 300 mg. a day.
- Reduce sugar consumption by about 40 percent to account for about 15 percent of total energy intake.
- Reduce salt consumption by about 50 to 85 percent to approximately 30 grams a day.[2]

Obviously, these goals are rather general statements. There are literally hundreds of food combinations which would yield the recommended dietary balance. This fact alone has generated most of the controversy surrounding their publication. Just how would we develop policy statements regarding *food* choices based on these *nutritional* goals? The SSC proposes the following:

1. Increase consumption of fruits and vegetables and whole grains.
2. Decrease consumption of meat and increase consumption of poultry and fish.
3. Decrease consumption of foods high in fat and partially substitute poly-unsaturated fat for saturated fat.
4. Substitute nonfat milk for whole milk.
5. Decrease consumption of butterfat, eggs and other high cholesterol sources.
6. Decrease consumption of sugar and foods high in sugar content.
7. Decrease consumption of salt and food high in salt content.

There has been a great deal of reaction (both positive and negative) regarding the publication of these suggested national goals and the resulting proposals for implementation. Without a doubt, changes in food choices, as proposed, would impact in different ways on segments of the population and on the commodity groups.

Questions To Be Answered

As the interest groups continue to debate the pros and cons of the goals, these questions are being raised:

1. *To what extent would adoption of the goals and changes in food choices reduce the incidence of cardiovascular diseases, strokes, diabetes, and cancer*? Some have argued that these are the most important "hoped for" results, and that the available scientific evidence supports the direction, if not the magnitude, of the changes sought. For example, there appears to be rather strong evidence linking the intake of fat to the incidence of heart diseases. Others have argued that there is little scientific evidence establishing an identifiable causal relationship between present diets and the target health problems. Some are willing to admit a probable benefit from dietary change but disagree with specifics in the goals. Others have warned that the goals are inappropriate for various groups in society and that their adoption could have adverse effects on the health of some.

2. *Who has the authority to adopt the goals and what implementation policies would need to follow*? These questions appear to be basic to the prediction of ultimate outcomes. Clearly, the simple adoption of the goals by some groups or agencies may have little influence on the formulation of policy. The techniques applied to influence diets are also important. Some have argued that "educational" programs would not be sufficient to influence the needed changes. They often cite the Government stance on the health hazards of smoking as an example. Without regulations, could consumers be expected to change their diets and, if so, at what rate?

3. *What agricultural production adjustments would be required if food choices were altered significantly and what farm income problems, if any, would result*? Understandably, some agricultural producer groups are quite concerned about proposals to enact policy based on the SSC goals; meat, egg, and milk producers in particular. To minimize any adjustment problems which might be created if consumers alter food choices as suggested by SSC, this issue will have to be addressed directly by those in policy positions.

A related issue concerns the maintenance of some internal consistency regarding various national food-related policies. For years, agricultural programs have been operated primarily to support the income of producers of various commodities. Will we be forced to re-evaluate our national dairy price support policy giving full weight to the dietary goals? Will we be forced to find new outlets for various commodity

[2]Upward revision of this figure is now underway. Many nutritionists have concluded that its low level is practically impossible to achieve.

surpluses? What adjustments, if any, can be encouraged by targeted agricultural research?

4. *To what extent would food prices be affected by adopting the particular food item selection implied by the dietary goals?* Our economic system is based on the principle of individual choice. Farmers have choices as to what crops or animals they will produce. These choices are partly dependent upon economic factors (prices). Similarly, consumer choices are also made taking into consideration relative product prices. Therefore, shouldn't the development of national dietary goals as part of a national food and nutrition policy be coordinated with companion programs to facilitate an orderly transition to the new supply/demand conditions? Would this transition be attained most simply by programs and policies which send appropriate market signals (prices) to producers and consumers alike? Just what programs will be necessary to ensure such an orderly transition? Presumably, at least in the short run, the prices for the increase items would be influenced upward—making them relatively more expensive. To what extent then would national food price policies and programs be needed to facilitate the desired changes?

These questions are all difficult to answer. They present new challenges to those familiar with agricultural and food policy analysis. Most often in the past policy interventions have occurred at the farm production end—in this case, the intervention would occur at the food consumption end and its impacts would need to be traced back through food retailers and food processors to the farm production sector. As the list of unanswered questions indicates, there is a great deal which is unknown. The challenge for those involved in food policy research is to have answers ready in time to be of use in the decisionmaking process. (*William T. Boehm, Thomas A. Stucker, and Corinne LeBovit*)

THE RELATIONSHIP BETWEEN HOUSEHOLD FOOD EXPENDITURES AND HOUSEHOLD SIZE AND COMPOSITION

By

Larry Salathe and Rueben Buse

Between 1960 and 1976, average household size in the United States decreased from 3.33 to 2.91 persons and the share of the population 65 years and older increased from 9.2 to 10.62 percent. For the next few decades, at least, these trends will continue. Less understood is the impact they will have on domestic consumption of food.

Since the U.S. domestic demand for food is a composite of the demand for food by all households, the relationship between household food expenditures and household size and composition should be examined. Cross-sectional surveys of households, such as the 1965 USDA Household Food Consumption Survey (HFCS), provide a rich source of data on household food expenditures and household characteristics. A new survey is underway, but data will not be available until mid-1978.

In the 1965 survey, data were collected by personal interview with a knowledgeable household member, usually the homemaker. The interviewer recorded the kinds, quantities, and cost of food used at home during the 7 days preceding the interview as well as a count of meals eaten at home and away from home for each household member. Data were also collected on the household, including the age and sex of each member and after-tax income of the household.

Most economists have ignored the impact of household composition on household food expenditures. Stated differently, economists have usually not attempted to explain the variation in household food expenditures due to differences in the age and sex of the household's members. But the age and sex of household members are important factors affecting household food expenditures. For example, nutritionists have shown that the cost of a balanced diet is lower for a retired couple than for a middle-aged couple and increases as a child matures.

Adult equivalent scales are one device for specifying the effects of household members' age and sex on household food expenditures. These scales are in essence an index, expressing the consumption of a commodity by a person of a given age and sex as a proportion of that consumed by a "base" person. Generally, the base person is an adult male.

Adult Equivalent Scales for Six Food Groups

Data collected in the spring portion of the 1965 survey were used to estimate the adult equivalent scales for six food groups: total food, vegetables, grain products, beef and pork, dairy products excluding butter, and fruits.

The adult equivalent scales indicate the impact of individuals on household food expenditures relative to an adult male between 20 and 55 years of age. For total

food, the scale values were lower for children than for adults, lower for the elderly than for middle-aged persons, and lower for females than for males. In comparison with an adult male between 20 and 55 years of age, infants and elderly females cost about one-half as much to feed and adult females and elderly males cost about three-fourths as much.

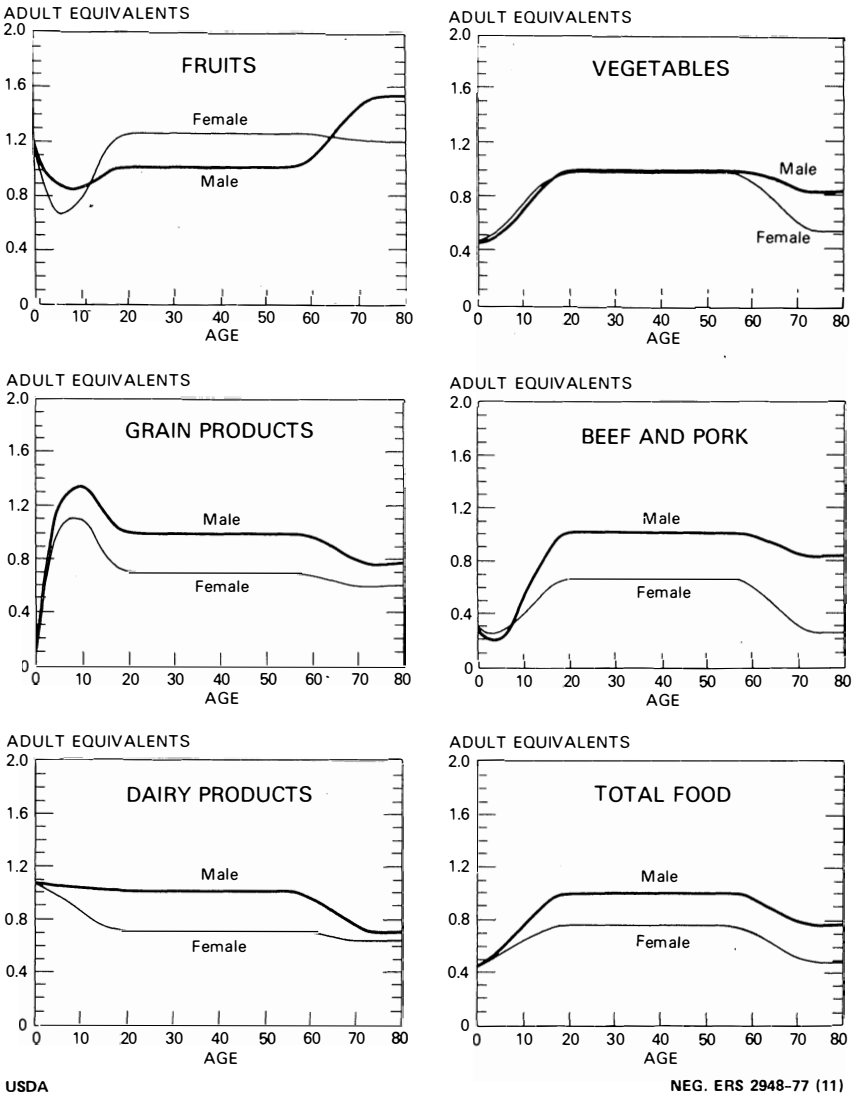
Holding household size constant, these results imply that household food expenditures (1) increase as the age of children in the household increase, (2) are higher for a household having male children than for a household with female children of the same age, and (3) are lower for a household consisting of elderly persons than one consisting of middle-aged persons.

The impact of household composition varies substantially across the five food sub-groups. The adult equivalent scales for the five food sub-categories indicate that male children add less to household expenditures for vegetables, beef and pork, but add more for grain products and about the same for dairy products and fruits as adult males.

On the other hand, female children add less to household expenditures for vegetables, fruits, and beef and pork, but add more for grain products and dairy products than adult females. Adult females consume less beef and pork, grain products, dairy products, about the same amount of vegetables as adult males and a larger amount of fruits than adult males. In addition, the elderly consumed less of each food product, except fruits, than the middle-aged.

The estimated adult equivalent scales quantify the impact of household size and composition on household food expenditures. However, household income also affects the amount any particular household spends on food.

ADULT EQUIVALENT SCALES



Food Budgets for Households Differing By Size and Composition

To estimate food budgets for households differing by size and composition, household income must also be specified. If household income is held constant across all household types, then the impact of household size and composition on household food expenditures can be isolated. The table presents the estimated 1965 food budgets for households differing by size and composition with household income set at the average for households in the 1965 USDA HFCS. The food budgets are expressed in dollars per week at 1965 food prices.

The estimated food budgets follow the same patterns as the adult equivalent scales. The cost of the food budget (1) increases as the age of the children increases,

(2) is higher for males than for females, and (3) is higher for the middle-aged than for the elderly. Household expenditures on dairy products decline as the children's ages increases, and the expenditures on grain products decline as the average age of children in the household increases from 10 to 15 years.

The household food budgets increase at a decreasing rate as household size increases with age and sex of household members constant. For example, the food budget is $4.89 per week higher for a three-person household containing an adult male, an adult female, and one child of age 10 than for a two person household consisting of an adult male and female. However, the food budget is $4.61 per week higher for a four-person household containing an adult male, an adult female and 2 children (average age of 10) than for a three-person household containing one child age 10.

Future U.S. Domestic Demand for Food

In the foreseeable future, a smaller but positive rate of population growth will cause the demand for food in the United States to increase. The rate of population growth in turn will affect household size and the age distribution of the population. A lowering of the population growth rate will cause household size to decline and the average age of the population to increase over time.

It can be concluded that...Since household food budgets increase at a decreasing rate as household size increases, per capita demand for food and its sub-categories will increase as household size declines....The effect of children entering adulthood will be to increase per capita demand for food, vegetables, beef and pork and lower per capita demand for dairy and grain products, while the per capita demand for fruits will be affected little...As a larger

Table 1—Estimated Weekly Food Budgets by Household Type, 1965*

Household type	Total food	Vegetables	Grain prod.	Beef and pork	Dairy prod.	Fruits
			Dollars			
One person						
Adult male	18.64	2.13	1.92	4.64	2.17	1.33
Adult female	16.84	2.12	1.66	4.06	1.86	1.45
Elderly male	16.96	2.00	1.73	4.37	1.85	1.59
Elderly female	14.70	1.74	1.58	3.36	1.80	1.43
Two person						
Adult male, adult female	24.33	2.96	2.54	5.74	2.88	1.92
Elderly male, elderly female	20.73	2.48	2.27	4.81	2.52	2.13
One parent, child (10)**	22.97	2.74	2.84	5.09	2.96	1.77
Three person						
Adult male, adult female, child (0)	27.50	3.34	2.57	6.23	3.83	2.42
Adult male, adult female, child (10)	29.22	3.53	3.54	6.44	3.73	2.26
One parent, 2 children (10)	27.93	3.33	3.82	5.81	3.81	2.13
Four person						
Adult male, adult female, 2 children (5)	31.92	3.81	4.19	6.51	4.60	2.57
Adult male, adult female, 2 children (10)	33.83	4.07	4.47	7.12	4.50	2.59
Adult male, adult female, 2 children (15)	35.48	4.33	4.17	7.93	4.41	2.73
One parent, 3 children (10)	32.61	3.88	4.72	6.50	4.56	2.46
Five person						
Adult male, adult female, 3 children (5)	35.47	4.21	4.93	6.88	5.30	2.86
Adult male, adult female, 3 children (10)	38.16	4.58	5.32	7.79	5.17	2.88
Adult male, adult female, 3 children (15)	40.48	4.93	4.91	8.95	5.05	3.08
One parent, 4 children (10)	37.03	4.40	5.55	7.18	5.23	2.77
Seven person						
Adult male, adult female, 5 children(5)	42.02	4.94	6.26	7.61	6.40	3.38
Adult male, adult female, 5 children (10)	46.02	5.49	6.80	9.06	6.25	3.40
Adult male, adult female, 5 children (15)	49.33	5.99	6.23	10.85	6.10	3.67
One parent, 6 children (10)	45.03	5.33	6.99	8.49	6.29	3.31
Ten person						
Adult male, adult female, 8 children (5)	50.62	5.91	7.86	8.66	7.25	3.97
Adult male, adult female, 8 children (10)	55.76	6.61	8.47	10.84	7.17	4.00
Adult male, adult female, 8 children (15)	59.71	7.19	7.83	13.36	7.07	4.26
One parent, 9 children (10)	54.99	6.49	8.60	10.31	7.19	3.93

*Households were assumed to have an income (after tax) equal to the average for households in the 1965 USDA Household Food Consumption Survey.

**When sex is not given, the food budgets were determined by taking a simple average of the scale values for males and females at the specified age.

share of the population enters the post middle-aged or elderly age categories, per capita demand for all food groups except fruit will decline.

We can only speculate on the relative impact these factors will have on the future per capita demand for food in the United States. However, these results suggest that the per capita demand for dairy products will suffer the most as a result of projected trends in household size and the age distribution of the U.S. population.

CONSUMER LIFESTYLES AND SHOPPING BEHAVIOR

By

Effie H. Hacklander

The basic premise of lifestyle research is that the more you know about consumers the more effectively you can understand and predict behavior and formulate policy.

The common theme of economic analyses in consumer-oriented research has been that price and quantity alone are not enough to explain consumer behavior. There is a need for good descriptions of groups of consumers to improve estimates of aggregate household consumption behavior and of the relationships between food consumption and the national economy. Lifestyle analysis provides demographic, social class, and psychological profiles for a three-dimensional view of consumers.

Data from 1,174 respondents collected in Spring 1976 were used in this analysis. Attitude statements describing various aspects of food shopping were read for respondent reactions using a 6-point scale consisting of always, almost always, sometimes, seldom, never, and not sure. The "not sure" category was used by fewer than 1 percent of the respondents and was not used in the analysis nor were cases with missing data.

In this study, three basic profiles of shopping behavior were constructed. Shoppers whose major concern is with efficient use of time and money seem to feel shopping for food is a necessary chore, but not particularly enjoyable. Thus, a minimum of time and effort is expended for shopping. These shoppers operate within a food budget, buy extra quantities of food at lower prices to save money and time, and generally use price as the dominant deciding factor for a purchase. This group included 32 percent of the sample.

The careful shopper image is characterized by planning menus in advance, making out shopping lists, taking advantage of advertised specials, comparing prices between brands, etc. This group is also aware of nutritional information labeling and food additives and preservatives. This was the smallest group with 18 percent of the sample.

A third type of shopper is characterized by a satisfaction appeal type of relationship with food—buying favorite brands, although they cost a little more, a general liking for food shopping activities, and experimenting with new or different food products and recipes because of sensory appeal. In general, this group spends more time in food preparation simply because they enjoy it. This was the largest group with 39 percent of sample.

The remaining 11 percent did not fit clearly into any of the three groups.

Although only one group—time/money conscious—is overtly concerned with prices and cost of food, all three groups care about price. For example, careful shoppers read ingredient labels and are concerned with food safety and nutrition, behaviors which are associated with price.

If consumers prefer and buy products in a certain processed form, there are built-in price dimensions. However, this also indicates that factors such as quality, uniqueness, newness, and sensory appeal are more important than price for shoppers with a satisfaction appeal orientation.

The orientation of different consumers toward food will affect their shopping behavior—the foods they buy, the stores they choose to shop in, the uses they make of labeling information. Further ERS research will explore the dimensions.

The first results are provocative—

—the biggest group (39 percent) is motivated more by the satisfaction appeal.

—the next largest group (32 percent) is more interested in efficient use of time and money.

—only 18 percent fit the careful shopper image.

USDA RESEARCH IN HUMAN NUTRITION: HISTORICAL NOTES

by

Jane M. Porter

The Department of Agriculture has a long history of work in the field of human nutrition. The Department was, in fact, a pioneer in nutrition investigations in the United States and the world. Over the years, the Department,

alone and in cooperation with the land grant colleges, has been involved in much of the nutrition research and has made many contributions to our knowledge of nutrition.

From time to time, human nutrition work under the aegis of the Department has been restricted by attitudes of farmers and/or their legislative representatives that human nutrition was not properly within the purview of the agricultural institutions established by the Federal Government and/or the States.

Wilbur Olin Atwater (1844-1907) was responsible for the construction of the first respiration calorimeter for use in research with human subjects and established the study of human nutrition as a science. Most of his research was conducted in Connecticut, at Middletown and Storrs, but under the auspices of the Department of Agriculture which had special appropriations for human nutrition research in the 1890's. Colleges, schools, experiment stations, public welfare institutions and private organizations were enlisted as cooperators in carrying out dietary experiments and determining the effect of various methods of food preparation on the nutritive value of foods.

Atwater prepared the first tables showing the caloric value of various foods. Dietary investigations furnished information on food habits of various sectors of the population and facilitated the establishment of dietary standards for home or institutional use.

Research on foods was a major mission of the Department's Division of Chemistry, which became the Bureau of Chemistry in 1901. Its most publicized work was the research carried out under the supervision of Harvey W. Wiley on the adulteration of food. This led to the passage of the Pure Food and Drug Act in 1906. But research on the chemistry of foods and human nutrition was also a major mission of the Bureau of Chemistry. When plans for reorganizing the Department were being considered in 1913, a Bureau of Nutrition was proposed.

Nutrition work was also closely allied with extension work. It began in the Office of Experiment Stations and that agency's support of the movement of nationwide extension work with women as well as men led to the development of the field of home economics as a profession.

In the reorganization following the passage of the Smith-Lever Act of 1914, an Office of Home Economics was established in the States Relations Service. The Bureau of Home Economics was established in 1923. By this time, divisions of home economics had been established in many of the land grant colleges. Research on human nutrition had progressed from the study of caloric requirements and of carbohydrates, proteins, fats and fibers in foods to the study of minerals and the discovery of vitamins. In 1939, the Department established a regional research laboratory on human nutrition at Ithaca, N.Y.

When the great depression laid both agriculture and industry prostrate, economists in the Department concerned with the "crisis of under-consumption" turned to the nutritionists for information on human diets and nutritional requirements. In the mid-1930's, the Department conducted the first national food consumption studies. In the late 1930's, balanced diets at various cost levels were developed as guides for nutrition education, institutional feeding, including school lunch and school milk programs, and a pilot food stamp program. The pilot food stamp program lasted from 1940 to 1942 and was ended due to U. S. involvement in World War II.

The war brought a new emphasis to the Department's nutrition studies. During the period between the two world wars, a number of other institutions had begun investigations on human nutrition. These included the National Research Council, the Food and Drug Administration (a spin-off from the USDA assigned to the Federal Security Agency), the Childrens' Bureau of the Department of Labor, the U. S. Public Health Service, Columbia University and the University of Chicago. In 1941, a National Nutrition Conference for Defense was held in Washington at the call of President Roosevelt.

As a part of the general reorganization of Government agencies to provide wartime concentration of authority over food in the USDA, the nutrition functions of the Office of Defense Health and Welfare Services were transferred to the Department of Agriculture in 1943. They became the Nucleus of the Nutrition and Food Conservation Branch of the Food Distribution Administration. The Bureau of Home Economics was re-named the Bureau of Human Nutrition aand Home Economics and enlarged by the transfer of the Division of Protein and Nutrition Research from the Bureau of Agricultural Chemistry and Engineering.

These administrative moves helped to establish the preeminence of the USDA as the seat of nutrition research and programs among Government agencies. Nutrition research findings were applied in determining food requirements for military and civilian populations and for our allies and these, in turn, were

reflected in wartime production goals. During the war, great emphasis was placed on nutrition education and this, combined with food rationing and improved incomes, effected a remarkable improvement in the American diet.

After World War II and the food crisis of the immediate postwar period had passed, emphasis on nutrition research and education waned in the Department. It was felt that, with abundant supplies and adequate incomes, people would choose to eat foods which would provide an adequate diet. Research priorities shifted to food processing and marketing while the American people went on a consumption binge.

As long as food shortages persisted in Europe, nutrition research in USDA continued to be well funded. In 1948, one branch of research in the Bureau of Human Nutrition and Home Economics was investigating the distribution of the national food supply among different groups in the population. Bureau research on human nutrition requirements was being carried on in cooperation with many of the State experiment stations and leading universities. Other research was developing improved methods of determining national requirements for various nutrients and translating these into national food supply adequacy estimates.

The return of agricultural surpluses in 1953 and a reorganization of the Agricultural Research Service in 1954 marked the beginning of a progressive deemphasis of human nutrition research. Initially, the Bureau was abolished, as were all of the old-line scientific bureaus of the Department. Human Nutrition Research and Home Economics Research became branches under a Deputy Administrator. Twenty-one months later "Human Nutrition" was dropped from the title of the Deputy Administrator and Human Nutrition Research became one of three home economics research divisions. After 18 months, the Institute of Home Economics was established in connection with a general reorganization of the Agricultural Research Service. The Human Nutrition Research Division was the largest of three divisions in the institute but one of the smaller divisions in the Agricultural Research Service. Research was becoming fragmented by 1961 as each commodity division had established a Human Nutrition and Consumer Use Project. Human Nutrition was not mentioned in a 1961 listing of the 16 major objectives of agricultural research although its application was to the study of "Consumer needs, wants, and preferences" and "Satisfying levels of living."

Government concern began to revive in the mid-1960's when research showed that the American diet was deteriorating. People were consuming increasing amounts of sugars and fats and the consumption of fruits, vegetables, dairy products and eggs (so-called "protective foods") was declining. The Agricultural Research Service conducted a major survey of food consumption in the United States in 1965-66. In 1965, only 50 percent of the households had "good" diets, while a similar survey in 1955 had shown that 60 percent of the households had met the standards for a "good" diet. In 1965, 20 percent of the households had "poor" diets, as compared with 1955 when 15 percent had "poor" diets.

Partly as a consequence of this survey, but also as a result of mounting public pressure to abolish hunger and malnutrition in America, research on nutrition began, once more, to be emphasized by the Department. Nutrition education for the disadvantaged in urban areas began in 1968 through the Cooperative Extension Services.

A White House Conference on Food, Nutrition and Health was convened in December 1969 at the call of President Johnson. This became a rallying point for consumer advocates and nutritionists.

A 1976 Congressional Research Service report on the Role of the Federal Government in Human Nutrition Research pointed out that funds spent on human nutrition research represented about $10 million, or 2.6 percent of the total USDA agricultural research budget. This was regarded as "rather small for a Department of the Federal Government which is so importantly placed in the center of the food enterprise. Moreover, the facilities, manpower, and funds seem minimal to support the only Federal department which: (1) sponsors basic research to discover new nutrients, to investigate foods for nutritive content, and to establish nutrient levels required for optional health; and (2) applies these research results to various studies on national food consumption patterns on specific nutritionally vulnerable groups; and on improving food and dietary habits."

The Food and Agriculture Act of 1977 designated USDA as the lead agency for Food and Agricultural research including nutrition, except for research on nutrition and disease. An expanded research program was funded.

NEW PUBLICATIONS

Publications may be obtained by writing the source listed at the end of items. For publications without addresses, write to Publications Unit, Rm. 0054, Economics Statistics and Cooperative Service, U.S. Dept. of Agriculture, Wash., D.C. 20250. All publications are free of charge, unless otherwise noted.

Consumer Attitudes About No Repricing in Supermarkets. Farrell E. Jensen and Frederick A. Perkins. *Journal of the Northeastern Agric. Econ. Council*, Vol. VI, No. 1, 1977, pp. 93-104.

A survey of 503 New Jersey consumers in April 1975 found favorable attitudes toward no repricing of food products, mostly because consumers thought that it was a source of savings when prices rose. There were no indications that shopping behavior changed—no flavor, brand, or variety switching. Department of Agricultural Economics, Rutgers University, New Brunswick, N.J. 08903

Farm and Food Policy Symposium. Great Plains Agricultural Council Pub. No. 84, 1977, 173 pp.

Proceedings of a meeting Feb. 22-24, 1977, in Kansas City, Mo. O.W. Holmes, Great Plains Agricultural Council, 205 Filley Hall, University of Nebr., Lincoln, Nebr. 68583.

Recent and Prospective Developments in Food Consumption: Some Policy Issues. James D. Gavan and John Strauss. International Food Policy Research Institute, Research Report 2, July 1977, 61 pp.

Recent trends in world food supplies and consumption; the calorie gap; effect of reduced food supplies in 1972-74 on consumption in developing countries; stocks as a possible solution; implications for national and international policy. International Food Policy Research Institute, 1726 Massachusetts Ave., N.W., Washington, D.C. 20036.

Is It Meat? D.G. Hendricks, A.W. Mahoney, and V.T. Mendenhall. *Utah Science*, Sept. 1977, pp. 67-70.

Comparisons of mechanically deboned and hand deboned meat in terms of composition, yield, and mineral nutrients. Beef shank, beef plate, turkey, and carp are compared. Utah Agricultural Experiment Station, Utah State University, Logan, Utah 84322.

Does Shopping at More Than One Store Cut Total Food Costs? P.M. Crowell and J.S. Bowers, *Ohio Report*, Sept.-Oct. 1977, pp. 67-69.

Study of four supermarket chains in Columbus, Ohio, for 5 weeks in Spring 1974. A consumer could save 7-14 percent on the cost of a market basket of 95 items by buying at the lowest price available in one of the 4 supermarkets. Adding transportation costs did not alter the results, but adding time costs, the lowest cost basket was obtained by shopping in two supermarkets. Ohio ARDC, Wooster, Ohio, 44691.
Washington, D.C. 20250.

Annual Report of the National Advisory Council on Child Nutrition. Oct. 1977.

Recommendations on nutrition education, Federal-State cost sharing, and free milk provisions of the Special Milk Program. Child Nutrition Division, Food and Nutrition Service, USDA,

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Delves into the background and reasons for the sharp rise in U.S. retail coffee prices in 1976/77. Three key points made by the report are: Congress has apparently recognized that consumers pay higher prices for coffee under International Agreements and that the higher prices represent assistance to the producing countries; Although some gaps and weaknesses exist, data and information collected and compiled by the Government are sufficient to analyze current supply and demand; Information is not available to reliably forecast future supply and demand and the resulting price of coffee. U.S. General Accounting Office, Distribution Section, Room 4522, 441 G. Street N.W. Washington, D.C. 20548. Free copies to Government officials, the press, faculty, students, and non-profit organizations, $1.00 per copy to others.