



Speakers at the dinner session of the Food and Drug Law Forum: Edgar J. Floro, Coca Cola Co. (left), and Charles W. Dunn, The Food Law Institute, who discussed the responsibilities and achievements of the food industry in helping to improve public health

Human Nutrition Studies Key to Many Chronic Diseases

Food enrichment programs should be extended either by cooperation or legislation, says Williams

ATLANTA, GA.—Increased knowledge of nutrition is fundamental to the solution of many major health problems, including such chronic disorders as cancer and heart disease, which are not associated with nutrition in the public mind.

Warren P. Dearing, deputy surgeon general, U. S. Public Health Service, made this statement at the first forum on food and drug law ever to be held at a university. The forum was sponsored by Emory University in cooperation with the Food Law Institute of New York. More than 150 representatives of federal and state governments, food and chemical industries, universities, research institutions, and food law students attended the one-day meeting.

Dr. Dearing feels that the striking advances made in public health in recent years will be continued. There will be a change in direction, however. In the past much effort has been centered on overcoming or controlling epidemic diseases; much future work will be devoted to human nutrition studies. Already much progress has been made in studies on vitamin B₁₂, folic acid, the chemistry of amino acid metabolism, vitamin-hormone relationships, and enzyme systems.

Such research may supply the answers

to many diseases not commonly associated with nutritional deficiencies. The more obvious deficiency diseases including pellagra, rickets, and goiter have been recognized as deficiency disorders. Obesity and other related disorders may be solved by a better knowledge of nutrition.

One significant nutrition study, Dr. Dearing reported, is being carried out in Central America by the Pan American Sanitary Bureau. This involves feeding undernourished children with vegetable protein supplemented with synthetic vitamin B₁₂. If successful this study will have far-reaching implications in feeding undernourished people in all parts of the world.

Food Enrichment Development. A relatively new development which has much promise and many problems is that of enriching general purpose foods. Robert R. Williams, director of grants, Research Corp., said that although food enrichment dates back 100 years to the time when it was found that addition of iodine to salt could prevent goiter, it has only been in the past few decades that the idea has taken hold.

Typical examples are addition of vitamin A to oleomargarine, vitamin D to milk, iodides to table salt, calcium and

iron to cereal products, and thiamine and nicotinic acid to white flour.

Certain legal problems arise, particularly with respect to establishing food standards under the food and drug law. This law requires that good reason be shown for the addition of chemicals to foods largely to prevent substitution of useless, harmful, or deleterious substances for essential nutrients. The Food and Drug Administration has cooperated in this program. To be successful, any food enrichment program requires the cooperation of the food processors. With respect to flour, Mr. Williams said, the millers and baking industry have been very cooperative.

Dr. Williams believes that enrichment programs should be extended not only through cooperation of the industry, but when necessary through compulsory legislation.

Modern Day Wonder—Processed Foods. The fact that a wide variety of processed foods of excellent quality is available today in large quantities, said William H. Gamble, vice president of Corn Products Refining, is taken for granted by the public at large. Yet it was only a few years ago that many of these foods were considered luxuries.

This development was no accident, but has been the result of improvements all along the line from the farmer to the processor, and to the retail outlet. Research on plant species leading to new hybrids, increased use of fertilizers and insect control chemicals, the tremendous improvements in processing and packaging foods, including frozen foods, are all typical examples of progress.

To maintain or improve present standards, Mr. Gamble said, poses many serious problems for all concerned considering such factors as limited crop acreage and an ever-increasing population.

Life span of 125 years? From the days of the Greeks up to 1880, life span increased only about 10 years to 45. Since then life span has increased to about 70. This recent increase, believes Maurice L. Tainter, director of Sterling-Winthrop Research Institute, has been due to the development of the experimental method as applied to biological sciences.

Prior to 1850 very little effort was made to study biological phenomena in the laboratory in the same way that chemists did in their field. Application of this principle led to aseptic surgery and development of "chemical bullets" to kill bacteria within the body without injuring body cells.

Further efforts along these lines, Dr. Tainter believes, will give answers to such diseases as arteriosclerosis, hypertension, and cancer. One big problem, he feels, will be to overcome neuropsychiatric diseases and those of the central nervous

system. With the ever-increasing number of hospital cases in these categories, some answers must be found or these diseases will outrank all others. The difficulty at present is to reproduce these diseases in the laboratory where they can be studied.

A solution to these problems, Dr. Tainter believes, may well lead to a life span of 100 to 125 years between the years 2000 and 2200.

Public Service of Food Industry. The food industry takes very seriously its responsibilities and obligations to the public, Charles Wesley Dunn, president of the Food Law Institute, stated. This industry, with retail sales of \$64 billion a year, is the largest in the nation. It supplies the public with the highest standard food in history.

To make further improvements, this industry carries on extensive research and development programs as illustrated by its support of the Nutrition Foundation. It also is carrying on a research and education program in the area of food law through its support of the Food Law Institute.

Industry

ADM to Make Higher Alcohols From Linseed, Soybean Oils

Vegetable, animal, and marine fats and oils will serve as the raw materials for a plant to be built by Archer-Daniels-Midland for manufacturing unsaturated higher alcohols. The plant is to be built at Ashtabula, Ohio, 55 miles northeast of Cleveland, on a 40-acre site near the city's harbor. Ground-breaking for the plant will occur sometime in June. Actual production is slated to start a year later.

The plant will be close to a supply of



Organolectic Lab at Monsanto's Queeny Plant

The new organoleptic panel room at the enlarged and renovated analytical laboratories of Monsanto's John F. Queeny plant. Coded samples of Monsanto's flavor and odor products are prepared in the adjoining room and presented to experienced testers in chemically cleaned glassware. Panel judgments are interpreted statistically

metallic sodium, presumably National Distiller's Products Corp.'s metallic sodium plant at Ashtabula. The classical sodium reduction process will be used at the plant, according to Frank C. Haas, vice president of ADM's chemical products division, but new techniques have been developed by ADM researchers to give several manufacturing shortcuts.

Linseed, soybean, and marine oils will be the principal raw materials used for

the new alcohols. Soybeans will produce a 92% conversion into alcohols above C₁₈; linseed oil, 95%; beef tallow, 65%; and mutton tallow, about 73%. Coconut oil, the favored raw material for alcohol production, produces only about a 10% recovery of the higher alcohols.

According to Haas, use of linseed and soybean oils as a major raw material for higher alcohols is long past due. The linseed molecule, he pointed out, contains more than 800 combinations of fatty acids, while the composition of the soybean oil is almost as complex. In Haas' opinion, these two oils are some of the most promising, but least explored, molecules in existence.

Glycerol and caustic soda will be by-products of the plant.

Feed Consumption Down; Prices Down 17% from Last Season

Consumption of animal feedstuffs for the first half of the 1952-53 season declined 520,000 tons from the same period last season to a total of 8.9 million tons, according to the Department of Agriculture. Per-animal consumption is also below that for last season and prices have dropped about 17% since the beginning of the season in October.

Among the different types of feedstuffs, USDA reports that consumption of soybean cakes and meals, cottonseed,

On The Cover

Small Amounts of Chemical Products Improve Nutrition Quality

MAN's years of study of the chemical nature of food products and of the nature of the nutrients required by the body are now beginning to pay dividends at an increasing rate. Years ago he began to understand that proteins, fats, and carbohydrates were needed and he thought that he had come to high understanding of food and health needs. But the discovery of vitamins made him realize that the matter was extremely complex and delicately balanced. Now he is finding increasingly that deficiencies, which can be corrected by mere traces of the right chemical material, can cause serious imbalances and damage. Also

he is seeing ample demonstration that merely having enough to eat doesn't keep a body running right. For example, there are requirements not only for sufficient protein, but also for certain kinds of protein. However, protein quality deficiency can be corrected by supplementation with a small amount of certain chemically pure amino acids or with other foods which are sources of the necessary acids.

On the cover is a graphic demonstration of the small amount of amino acids needed to improve markedly the growth of animals on a cereal diet as shown in the graduate cylinder.