



An inter-American meeting jointly planned by the Consejo Nacional de Ciencia y Tecnología and the American Association for the Advancement of Science.

20–23 June

Nutrition and New Food Technology

“Nutrition and new food technology” (20–23 June), is a central theme of this meeting and is being arranged in cooperation with T. C. Byerly (U.S. Department of Agriculture). The purpose will be to identify the appropriate type and level of technology suitable for application in Mexico and in Central and South America.

Good nutrition for the rapidly growing populations of Latin America can only be assured by efficient food production and distribution, food technology, and dissemination and use of nutrition information.

It is a well-known fact that in Latin America approximately 2 hectares of cultivable land per person are available, without taking into consideration the unexplored but potentially productive areas. A comparable figure in Asia and Europe is 0.4 and 1.3 hectares, respectively. However, the low land productivity in the subcontinent counteracts this favorable situation. Thus, it is very important to analyze the effect of the high-yielding and high-quality food crops and all that is necessary for assuring adequate handling, processing, storage, and distribution of foods. It



should be borne in mind that mankind depends on grain crops for 70 percent of its consumption of protein and that the vast populations of the underdeveloped countries are unable to afford the luxury of animal protein.

The perspectives offered by seafoods and single-cell protein, and their contribution to eliminate the protein shortage, which constitutes the main nutritional deficiency in Latin America, will also be considered.

The exodus of the rural masses toward urban centers has revealed new problems since this emigration could only be justified in countries with a highly mechanized agriculture. Under these circumstances, the possibilities that exist for developing the food industry in rural sectors of the subcontinent will be analyzed.

Many Latin American families are so large that it is difficult to adequately feed all members of the family. This situation restricts the number of human beings able to develop (physically and mentally) into useful and productive adults. Not enough attention has been given to the contribution that can be made to society by nutritional education. The main objectives of such an education should be to improve nutrition, to make known—taking into account sociocultural factors—the appropriate ways of feeding at lowest cost to the family. This makes it necessary to improve the nutrition awareness of low-income groups and the effectiveness of community nutrition programs. Such points will be analyzed during this meeting.

Special attention will be paid, from several points of view, to food technology. Since cereal grain is the most important source of protein in the daily diet in most Latin American countries, a better knowledge of grain storage at the lowest possible cost is necessary.

High priority will also be given to postharvest handling of tropical fruits and vegetables. The faulty systems of handling and storage contribute substantially to the high price of vegetables, fruits, and meat products in the developing countries, where losses are much higher than those of the industrialized countries.

The possibilities for the industrial production of natural enzymes in order to satisfy the needs of Latin American countries will be examined carefully:

Mankind depends on grain crops for 70 percent of its consumption of protein and the vast populations of the underdeveloped countries are unable to afford the luxury of animal protein. [William H. Lachman, University of Massachusetts]

new developments in food packaging, microbial toxins, heavy metals and pesticide residues in food products, food plant sanitation, and utilization and management of food processing wastes.

Scientists from the United States, Latin America, and the Food and Agri-

culture Organization will discuss food quality protection, food standards and regulations, and the value and implications of the Codex Alimentarius.

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25 June

Effects of Malnutrition on Human Development

It is well known that about half of the children who are born in underdeveloped areas suffer inadequate nutrition during an important period of their lives.

The below-normal birth weight of these children is, in most cases, the result of the poor nutritional status of their mothers. This condition also leads to inadequate lactation which is charac-

terized by the fact that somewhere between the second and sixth month of life the production and quality of milk becomes insufficient to support the baby's needs. The effects of such a situation are cumulative and they produce a progressive deterioration of the infant. During the second year of life this condition results in severe malnutrition and the deaths of many children and

in the chronic retardation in the physical, mental, and social development of others.

At the present time malnutrition in early infancy is being intensively studied by many scientists in the continent. This condition affects not only the individual but also society, and in the long range perhaps also the species.

It is known that the whole life cycle is affected in poor communities. Maturation and learning in the school-age child is retarded, leading quite possibly to an adult who does not adequately develop his potentialities. The woman reaches the crucial reproductive age in poor condition, thus closing the vicious cycle of limitations and incapacities so characteristic of malnourished societies.

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28-29 June

Drug Addiction

Participants in the symposium on drug addiction (28-29 June) will include researchers from Brazil, the United States, and Mexico who are currently working in the field of drug dependence. Two sessions will deal with marijuana and one with narcotics.

The botany of cannabis and variations among plants from different geographical areas will be mentioned—pointing out that active constituents in plants from various origins is not uniform, and is one of the main reasons for the controversial reports on marijuana. Finer methodology is necessary in order to detect slight behavioral and

organic changes associated with continual use of cannabis derivatives.

Pharmacological data on Δ^9 -tetrahydrocannabinol and other plant derivatives are to be reviewed. Studies on their abuse potential, psychodysleptic actions, brain damage, aggressive behavior, or changes in the central nervous system induced by this drug will be presented. The relationship of initial marijuana abuse and possible escalation to other types of drugs and the sociocultural implications will be discussed.

The narcotics session will deal with narcotic antagonists and their analgesic actions in experimental models.

Prediction of abuse potential using intravenous self-administration of drugs in primates will be explained and the results of these studies presented. Such studies attempt to correlate patterns of self-injections with the risk of dependence in clinical use of substances that react on the central nervous system.

Preventive measures to control further increases of drug abuse, current hospital management, and proper use of other pharmacological adjuncts in the therapy of opiate-dependent patients will be discussed in detail. Rehabilitation aspects and probable development of better drugs to cure this disease are to be explored.

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25-26 June

Natural Products

Within the structure of the joint meeting of AAAS/CONACYT, there will be a symposium (25-26 June) on research in natural products that abound on the American continents.

For various reasons, the primitive inhabitants of the continents gave much attention to the natural resources that were so abundant. They accumulated a great deal of knowledge with respect to medicinal plants, poisonous animals, and the psychoactive elements of insects—both attractive and repellent. This research, together with the traditions and customs of the people, were in part

adopted by the first European settlers who had contact with the indigenous peoples. Other practices were presented in the form of Aztec codices, one of the most famous being the *Codice Badiano*.

As would be expected, the chemists of the Americas have been extremely well informed about these ideas and practices since the last century, and have attempted to learn the origins and uses of the products used by primitive cultures. In this century, the role of natural products in chemistry has been the task of hundreds of chemists in the

United States, Canada, and Latin America.

Studies will be presented by distinguished scientists in the field, who have made important contributions in this area of research. Among them will be R. M. Manske, who will present his work on alkaloids, and Noji Nakanishi, who will speak about the physiological activity of insect hormones.

The co-arrangers for the symposium are Xorge Alejandro Domínguez (Technological Institute of Monterrey, Monterrey, Nuevo Leon, Mexico) and Thomas E. Taylor (Universidad de las Américas, Puebla, Puebla, México).

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