

## PUBLICATIONS

## INDIGENOUS FERMENTED FOODS SYMPOSIUM

*Handbook of Indigenous Fermented Foods.* Edited by K. H. Steinkraus. Pp. 671. ISBN 0-8247-1848-8 (Marcel Dekker, Inc., New York: 1983) \$79.50.

This volume is based upon papers presented at the 1977 Symposium on Indigenous Fermented Foods, held in connection with the Fifth International Conference on the Global Impacts of Applied Microbiology in Thailand. This symposium grew out of a feeling that there was no authoritative, comprehensive text on indigenous foods.

Indigenous fermented foods are not defined, but appear to be those fermented foods that are ancient in origin, characteristic of a country or region, and often little known in the West. Thus, under acid-fermented cereal gruels, the book describes such foods as Nigerian *ogi*, Kenyan *ugi*, South African *mahewu*, Nigerian *gari*, Ghanaian *kenkey*, Mexican *pozol*, and Ethiopian *kocho*. When available, the nutritional and chemical composition of the foods are presented in table form. This information includes amino acids, vitamins, ash, water, fat, protein, fiber, iron, and other trace elements.

A typical account of a fermented food is the section on African *kaffir* (*kaffir*corn, sorghum) beer, beginning with a description of the beer. This is followed by material on pat-

terns of production and consumption, steps in preparing large-scale brewing, a process flowsheet, microbiologic details, biochemical changes during the process, and nutritional and economic considerations. One should not assume, however, that such a complete account will be found for the majority of the fermented foods, because the information just does not exist.

The number of contributors to this handbook is very large, and it seems that most of the people studying indigenous foods in the Orient and Southeast Asia have contributed. A listing of the program of papers presented, together with each contributor, would have aided the reader. The index seems to be good, as it cross indexes the names of indigenous foods. For example, *kishk* is listed under acid-fermented milk and milk cereal foods, as well as being listed alphabetically under the general heading of foods.

The book contains a great many photographs of the indigenous foods, fermentation equipment, methods of preparation, and the final food product from various countries. There are also numerous flowsheets that illustrate the manner in which the fermentation is conducted—including times, temperature, and the preparation of the substrate for fermentation. These pictures and the flowsheets alone are good reason for

anyone concerned with indigenous fermented foods to obtain a copy of this book. However, the excessive cost puts the book out of reach of most people in developing countries.

Besides being a reference book on the indigenous foods of the world, the publication serves another purpose. Hopefully, it will stimulate more research on indigenous foods, especially those from countries where millions of people must depend upon fermentation, in part, for their protein and for certain vitamins—such as vitamin B<sub>12</sub> which must come from either meat or from microorganisms. In addition, there are an estimated 10,000,000 vegetarians in the United States who need fermented foods in their diet for proper nutrition and to make their diets more appetizing.

This book may also stimulate government administrators and research directors to become more interested in the importance of research on this type of food. Practical research is needed to learn more about the nutritional value of the food, to improve the product by reducing costs, to increase the use of certain plants, and to insure product safety.

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## THE WORLDWIDE REVIVAL OF ALCOHOL FUELS

*Alcohol Fuels: Options for Developing Countries. Report of an ad hoc panel of the Advisory Committee on Technology Innovation, Board of Science and Technology for International Development.* Pp. 109. ISBN 0-309-03386-1 (National Academy Press, Washington, D.C.: 1983). \$8.95

The current worldwide revival of interest in alcohol fuels reflects the rise in petroleum prices to a level that may make alcohol fuels competitive, at least in many developing countries. In 1983, for example, almost 90 percent of all Brazilian-made passenger cars used straight alcohol, while about eight million Brazilian

cars run on 20 percent alcohol blends. That same year Brazil produced almost 100,000 barrels/day of petroleum equivalent from biomass sources. It is not only Brazil, however, there are many other countries with alcohol fuel projects, such as the United States, Australia, Philippines, Sudan, Kenya, Indonesia, and Thailand, to name just a few.

Alcohol fuels are becoming a focus of interest in many developing countries because they can reduce the burden of foreign exchange payments for petroleum products and can be produced locally. Furthermore, it offers a nation the possibility of developing a chemical sector. The ethanol-

based chemical industry requires less capital and less advanced technology than the petroleum-based chemical industry. India and Brazil have already made such investments. In September 1983, the 2nd Brazilian Congress of Alcohol Chemistry reported the following products to be competitive with those of the petrochemical industry: ethylene, acetaldehyde, acetic acid, butanol, and octanol.

Alcohol fuels are also becoming important as substitutes for diesel oil. In Brazil it is intended that by 1987 all trucks used in the sugar and alcohol sector will be using straight ethanol instead of diesel. Ethanol blended with an additive, in order to improve