

## NUTRITION

## Food Supply Keeps Pace

The U.S. food supply, in contrast to that of Latin American countries, will be sufficient in the year 2000 despite the expected population increase.

► INCREASED food supply is expected to keep pace with increased population in this country even if we have 350 million inhabitants by the year 2000.

This is in direct contrast to conditions in the Asian and Latin American countries, the American Public Health Association meeting was told in New York. It also contradicts the theories of the English economist, Malthus, who could not foresee scientific improvements in agricultural production.

Malthus lived in the late 18th and early 19th centuries. He advised late marriages and sexual continence to forestall a too-rapid population growth, which he believed would continue to outdistance the food supply.

The United States faces other difficulties along with its increasing population, however. Even if economic growth continues, in spite of inflation and automation, it must be distributed in such a manner as to avoid social conflict. If rural and certain occupational groups are not kept employed on a par with others more likely to have good jobs, economic progress could be impeded.

Prof. Donald J. Bogue of the University of Chicago, and Prof. Reynolds Farley of

Duke University, Durham, N.C., collaborated on the study.

The greatest challenge in the near future, they said, is the raising of living standards of Negroes, along with the wiping out of occupational discrimination.

"Negroes compete most effectively with whites for jobs at either the top or the bottom of the educational scale," the researchers said.

Professional and technical workers will be the fastest growing occupational group, they believe, but they predict slow growth for the managerial, official and proprietor occupations.

A rapidly developing blue-collar group will be craftsmen and foremen for the rising volume of construction work. Skilled workmen also will be needed for repairing and keeping pace with likely growth in tool, die and sheet metal fields.

There will also be more policemen, practical nurses and hospital attendants in the future and bus and truck drivers will continue to be needed. Certain industries such as the needlework trades will automate slowly, the researchers predict.

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## RADIOLOGY

## Pacific A-Tests Blamed For 'Hot' Iodine in Milk

► ATMOSPHERIC NUCLEAR testing on far-off Christmas Island and not underground nuclear testing in Nevada was the principal contributor in raising the levels of radioactive iodine-131 in milk during May and June 1962, three meteorologists reported.

Other experts had blamed underground nuclear tests at that time for the sudden rise in radioactivity in Midwestern milk.

However, the meteorologists, all with the U.S. Weather Bureau, said in Washington, D.C., that milk samples and other evidence indicated only one of the underground tests made between September 1961 and December 1963 can be blamed for a sizeable increase of iodine-131 in milk.

The meteorologists compared readings of radioactivity in the atmosphere after the Pacific and Nevada tests. Unusually high readings were registered at an altitude of about 50,000 feet over sections of the midwestern United States after Christmas Island blasts in April and May of 1962.

The Nevada tests, on the whole, ran well with little radiation increase in the atmosphere.

They also reported that thunderstorms over the midwestern states were responsible for depositing much of the radioactive debris on the land at this time.

R. J. List, K. Telegadas, G. J. Ferber, all of the Bureau's Washington office, reported their findings in Science, 146:59, 1964.

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## FOOD TECHNOLOGY

## Irradiated Food Tested

► FISH, CLAMS AND LOBSTERS are first on the menu in the study of food preservation by harmless radiation at the new Marine Products Development Irradiator Facility in Gloucester, Mass.

Seafoods are best suited to the radiation process at present, reported John Kaylor, superintendent of the new operation that will use cobalt-60 to kill many bacteria responsible for decomposition of food.

This is part of a long-term research program that will eventually revolutionize the food packaging and storage industries, just as canning and freezing processes brought startling new changes to the food industries many years ago.

Harmless dosages of radiating gamma rays, like heat rays, can kill bacteria, naturally present in all foods. The tiny one-celled creatures break down or decompose tasty substances into other substances unpalatable to humans.

Fish and other sea animals are best suited for the radiation process at this stage for several possible reasons, explained Mr. Kaylor. The bacteria associated with the fish are cold-loving creatures, and they are not too resistant to the radiation rays.

Fruits and vegetables are also on the list of foods to be radiated in the continuing experimental research program. Not all

foods take kindly to being preserved, Mr. Kaylor pointed out. For instance, artichokes and pineapples are difficult to preserve. The bottled or canned products seem like completely different foods from the original materials.

The Marine Laboratory, under the Bureau of Commercial Fisheries, U.S. Department of the Interior, has been put under contract by the Atomic Energy Commission to carry out the radiation research on seafood. Under this program, the food subjected to low doses of radiation can be expected to remain fresh three times longer.

By using harmless low doses, the flavor, shape and appearance of the food remain the same. It is as if you took the food, held it out under the sunlight for a few minutes, then returned it to your kitchen, explained Mr. Kaylor.

Once radiated, the food must be kept in air-tight containers to prevent recontamination. Or it must be refrigerated, for although 99% of the decomposing bacteria have been destroyed by gamma rays, the remaining one percent can still cause damage.

Food preservation research with stronger radiation doses is being conducted by the U.S. Army in an effort to sterilize the food completely.

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*RELATIVES ON MARS? — Primitive bacteria whose life cycles may have similarities to those that could exist on other planets are being studied by Dr. M. I. Hussain Aleem of Martin Company's Research Institute for Advanced Studies in Baltimore. RIAS is using a new approach which assumes that the "organisms" use water as a solvent for the chemical reactions in their metabolism.*