

## NUTRITION

# World's Food Outlook

► THE FREQUENTLY presented picture, of two-thirds of mankind facing a lifetime of malnutrition and actual hunger is painted in too somber colors. This is the opinion of Dr. M. K. Bennett, director of Stanford University's Food Research Institute, Calif.

In "The World's Food" (see SNL, May 29, p. 348), Dr. Bennett takes a much less gloomy view of the dangers of rapidly increasing numbers of hungry mouths with a definitely limited supply of food. This view is emphasized by the United Nations' Food and Agricultural Organization.

The word "hungry" may not mean the same to the statistician as it does to you, Dr. Bennett points out. Hunger used to mean those pangs that can be relieved when you eat food—any kind of food. But now it means lack of a sufficient amount of any of the 40 or more food constituents needed to maintain health.

To say that two-thirds of the world's population is hungry is a very different thing, he objects, from saying that two-thirds of the world's population is in some way malnourished from not getting enough of each of the nutrients to assure the maintenance of maximum health or to "measure up to standards alleged to be scientifically determined of desirable intake of each element."

A man may experience "pink tooth brush" from lack of enough ascorbic acid, or have eyes over-sensitive to light because he is not getting enough vitamin A, and still be quite unconscious of living an abnormal existence.

FAO, in mapping the world geography of hunger, Dr. Bennett explains, against

estimates of per capita caloric consumption of nations, sets other estimates of, or numerical assumptions about, per capita caloric requirements.

"Nobody," he comments, "familiar with the difficulties of crop estimation and the varying levels of its technique in different countries, or with the difficulties of ascertaining what quantities of humanly edible foods are fed to animals, used industrially and wasted, or with the difficulties of ascertaining population numbers and caloric content of foods, can feel altogether comfortable about the accuracy of all the FAO's estimates of per capita caloric consumption."

Dr. Bennett believes, however, that the FAO estimates are not far from the facts. "The problem," he says, "is less one of accuracy than one of interpretation."

It is necessary, he indicates, to realize the difference between various kinds of hunger. Hunger may mean famine when large proportions of the population die of starvation. It may mean what Dr. Bennett calls "siege hunger" or "preharvest hunger." Siege hunger is caused by war when the enemy cuts a group of people off from their food supply. Preharvest hunger is very common over many parts of the world.

For a people to be able to grow more than they need in one year and hold enough in stock to tide them over a possible year of crop failure, which may never come, involves a degree of forethought that one expects only of advanced and literate people.

It would be an important goal, he suggests, to eliminate such sporadic preharvest hunger.

Science News Letter, June 5, 1954

## TECHNOLOGY

## Scientific "Sniffer"

► A SCIENTIFIC "sniffer" that may be able to determine precisely the quality of food by its odor is being developed by scientists at the University of California.

Fine grading of such foods as fish, vegetables, fruit, cheese, butter, coffee, spices, pepper, etc., may one day be done by this laboratory "nose." Farmers might even use it to tell the best time to pick fruit for eating or for canning.

The instrument is an outgrowth of research by Dr. Lionel Farber for the better detection of fish spoilage. Dr. Farber started out to find something to detect incipient fish spoilage before it became apparent to that oldest and most reliable odor testing instrument—the human nose.

The nose cannot pick up some of the volatile substances in the early stage of spoilage. Moreover, personal opinion, odor sensitivity and other factors prevent the nose from being precise.

Dr. Farber came up with a simple device called the stinkometer. He passes clear air through a food sample and then into a vessel containing permanganate, which has a magenta color.

If the food is spoiled, the magenta color changes. Depending on the quantity of odor, the magenta goes to blue, gray blue, green blue, green and, in the worst cases, pale green. The final color shows the degree of spoilage.

The test is simple, quick and inexpensive for fish spoilage.

Dr. Farber noted that the stinkometer cannot tell whether the odor is good or bad. It just shows how much there is. So he began using it to test for quality. The quality of coffee, for example, can be measured by the amount of aroma it has left. The device he developed is able to measure this amount.

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## • RADIO

Saturday, June 12, 1954, 3:15-3:30 p.m. EDT  
"Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio Network. Check your local CBS station.

William P. Bittenbender, president of the International Selling Corporation, will discuss "The Centenary of Industrial Aluminum."

## AGRICULTURE

## Woodchips and Sewage Improve Soil and Crops

► WOODCHIPS, SAWDUST and sewage sludge will improve soil structure and crop yields if used carefully, Dr. Herbert A. Lunt, soil scientist at the Connecticut Agricultural Experiment Station, New Haven, Conn., has found.

Dr. Lunt warned that all health regulations must be followed in using sludge, the product of modern sewage treatment plants. Raw, unheated sludge should not be used under any circumstances.

Sludge supplies nitrogen and other important elements for plant growth. Dr. Lunt's research indicates, however, that it must be used in varying amounts depending upon the acidity of the soil and requirements of the plants. Some plants may be injured by too much sludge.

Woodchips and sawdust supply few nutrients for plants, but they improve the soil structure. Dr. Lunt found that chips increase the water and nutrient-holding capacity of the soil. Chips may not increase crop yields immediately. Sludge also is effective in improving soil structure.

A combination of sludge and chips is effective and less likely to injure plants sensitive to too much nitrogen.

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