

NUTRITION

Protein in Diet Unchanged

The quality and quantity of this important nutrient have not changed since rationing, and great quantities can safely be spared for relief abroad.

► THE PROTEIN in the average American diet has not changed in either amount or quality since food rationing, Dr. R. J. Block, of the New York Medical College, Flower and Fifth Avenue Hospitals, declared at the meeting of the American Public Health Association, in New York.

His statement was based on a recent personal communication from Dr. Frank Gunderson of the National Research Council as well as on his own biochemical studies of the quality of protein in various foodstuffs.

"The protein reserves of this country are very large," Dr. Block gave as his own opinion, "and if properly handled, great quantities of proteins and protein concentrates can be sent abroad for relief and rehabilitation without in any way harming the American diet."

So long as there is enough to eat and whatever the diet, especially if there is plenty of bread and flour, the average person will get enough protein, Dr. Block said. The question, therefore, is one of the quality of the protein. This is measured by its content of the 10 essential amino acids, essential because they are required for growth and development and cannot be synthesized from other chemicals in the body of growing mammals.

Proteins of animal origin, such as meat, fish and eggs, are generally considered superior in quality to those of plant origin, such as the protein in corn, wheat and other grains. Certain proteins of plant origin, however, are decidedly superior to some of animal origin, Dr. Block reported.

Egg proteins, he found, are the best balanced proteins of any he studied. Muscle proteins appear to have the same amino acid composition whether from steak, hamburger, chicken, fish or seafood. The protein nutritive value of various meats will vary depending on the "cut." A poor cut of meat, which is full of collagen and elastin will not, he said, have the protein value of one composed largely of muscle tissue with a minimum of connective and elastic substances.

Among proteins of plant origin, Dr. Block found that rice and oats are some-

what lower than milk and meat in lysine, but reasonably well supplied with all the other essential amino acids. Wheat gluten is markedly deficient only in lysine, while corn meal protein is deficient in both lysine and tryptophane.

A whole wheat cereal, especially with wheat germ added, was found superior to farina type products, rolled or puffed wheat, among a number of commercial breakfast foods studied. This and similar findings on corn and rice breakfast foods suggest that heat and mechanical treatment may have a harmful effect on certain amino acids.

A puffed oat cereal, on the other hand, showed no significant changes from the unpuffed product.

Yeast has an excellent balance of essential amino acids, Dr. Block found in his study of plant protein concentrates. Soy proteins also seem to be good sources of the amino acids except for

cystine and methionine. Since corn gluten is abundantly supplied with methionine, a mixture of soy and corn should be a very nourishing food.

Sunflower seed proteins have considerable promise as a protein supplement. They are a popular article of diet in Russia, but the solvent extracted meal is just being introduced into this country.

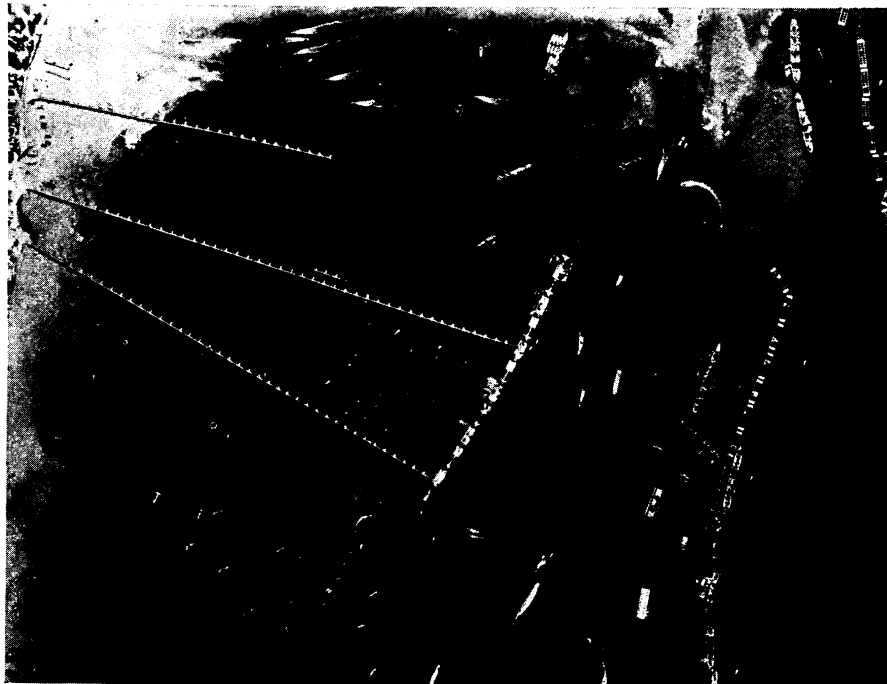
Science News Letter, November 4, 1944

CHEMISTRY

Several Rubber Patents Assigned to Goodrich

► SEVERAL patents on rubber and its products have been assigned to the B. F. Goodrich Company by their inventors. One, covering a new type of synthetic rubber, is covered by patent 2,360,864, issued to C. F. Fryling of Silver Lake, Ohio. It is on a synthetic rubber composition consisting of a butadiene-acrylonitrile copolymer, with the addition of dibutyl meta cresol or a related compound to impart the necessary degree of tackiness. This tackiness or stickiness is necessary in the successful fabrication of the rubber; it has been difficult to obtain with previously used materials.

Science News Letter, November 4, 1944



MAN-MADE HARBOR—In the invasion of Normandy, we did not have to depend on the harbors damaged by the enemy, but brought our own. In front of the prefabricated pier in this aerial photograph, is seen a breakwater of concrete caissons and blockships. This is an official British photograph.