

PHYSIOLOGY

Vitamin Against Cold

Experiments with rats indicate that vitamin B₁₂ added to diet enabled animals to withstand intense cold without retarding their growth and development.

► ONE of the new B vitamins, B₁₂ by name, may help our fighting forces withstand long periods in the cold, it appears from studies by B. H. Ershoff and H. B. McWilliams of the Emory W. Thurston Laboratories at Los Angeles.

The studies were made in cooperation with the Quartermaster Food and Container Institute for the Armed Forces.

Rats, not men, were the subjects of the experiments. When young rats were kept at room temperature and fed a purified ration, known as diet A, containing the B vitamins in synthetic form only, they grew and developed satisfactorily. But when the animals were kept continuously in a

walk-in refrigerator at a temperature just above freezing, their growth and development on this diet were markedly retarded.

Adding dried whole liver, or liver extract, or a water-insoluble liver residue to the diets of the rats in the cold room resulted in a marked increase in weight and development. A supplement of the known B vitamins was equally effective.

The effects of these diet supplements in protecting against the prolonged cold were due, at least in part, to their vitamin B₁₂ content, the scientists think.

The studies were reported in the PROCEEDINGS OF THE SOCIETY FOR EXPERIMENTAL BIOLOGY AND MEDICINE (October).

Science News Letter, December 2, 1950

BALLISTICS

Pix of Deep Sea Explosions

Better torpedoes, mines and underwater bombs may result from use of special motion picture camera which takes 20,000 pictures per second.

► WHAT happens when explosive weapons detonate deep down in the ocean is now being studied with the use of a special motion picture camera which takes 20,000 pictures per second. Better torpedoes, sea mines and underwater bombs may result from the use of the equipment.

The methods and equipment used to obtain these photographs were developed at the Naval Ordnance Laboratory, Silver Spring, Md. They are described by Dr. Paul M. Fye of the Laboratory. (JOURNAL OF THE SOCIETY OF MOTION PICTURE AND TELEVISION ENGINEERS, October).

The cameras used are modified commercial types shock-mounted in heavy, watertight cases. A camera for depths up to two miles has a spherical casing with an inside diameter of 22 inches and a wall 1.25 inches thick. The camera lens faces a one-inch thick window, an inch and a quarter in diameter.

In the camera, the image is focused on a spinning mirror which has the focal axis of the taking lens system for its axis of rotation. One hundred framing lenses provide 100 pictures. With the mirror revolving at 18,000 revolutions per minute, 100 pictures can be taken at the rate of 30,000 frames per second. Such frame speeds are required, according to Dr. Fye, for very deep photography, where oscillations of

the explosion bubble are much more rapid than in shallow water.

The method is primarily for use in recording the oscillations of explosion bubbles. These are gas globes that are formed by the hot, expanded gaseous products of explosions. In testing the camera, explosive charges from one ounce up to 300 pounds were used. The camera is for use in gaining new knowledge of the behavior, effectiveness, and design requirements of various types of underwater explosive weapons.

Science News Letter, December 2, 1950

INVENTION

Conquest of Snoring Claimed in Patent

► WIVES of snorers take notice. The U. S. Government has just issued a patent on a device to silence the noises that come from the open-mouth sleeper.

It is called a device to prevent mouth-breathing, but reading between the lines its real purpose is revealed. Incidentally, it could be worn by a woman as well as by a man, being conformable to chest and chin.

This plastic or metal device is worn covering the throat extending from chest to chin. Held in place by a strap around the neck it prevents the lower jaw from sagging and holds the mouth closed. The chin

support is cupped so that the head can not be turned.

The device can be made to fit the "different anatomical proportions" of different users. The inventor is Cyrus H. Johnston of Richmond, Mo. Patent 2,528,370 was issued to him.

Science News Letter, December 2, 1950

NUTRITION

Search for Extras For Maternal Diets

► RATS are being milked by research scientists in the hope of finding diet extras needed by expectant and nursing mothers.

Rat mammas do better and so do their young when the mammas are given doses of one of the new vitamins, B₁₂, and are fed beef and casein, the protein in milk and cheese. This much has already been discovered from the rat milking study by Miss Marian Meyer, biochemist working under the direction of Dr. Conrad A. Elvehjem.

But while B₁₂ peps up reproduction and nursing in beef and casein-fed rats the University of Wisconsin scientists suspect there are other still unknown diet factors needed for reproduction and lactation.

Search for these extras continues. Meanwhile, human mothers can be told that high quantities of all known B vitamins and a good source of proteins will help keep them in top condition. The diet supplying these will be advised by their own physicians.

Science News Letter, December 2, 1950



MILKING RATS—University of Wisconsin Biochemist Marian Meyer is milking the rat in her hand. The rats are milked in a study to find out what should be added to the diet of nursing mothers to make up deficiencies.