

cuits. Rationed out to the men at the rate of six cans a day, this reserve chow provides four pounds of food for a day. This is less than the American soldier is accustomed to regularly, but then the reserve ration is intended only for use when normal transport is interrupted, and the Quartermaster Corps does not recommend its use even then for more than three days.

That brings us back to Ration D, which is the newest equivalent of the old British Iron Ration, and all the other last-ditch rations in history.

The Iron Ration was so distinctly a last-resort meal that British soldiers used to say the orders were:

"Never eat your Iron Ration until after you've starved to death!"

Even the present tinned emergency ration supplied to British fighters carries the warning, "To be consumed only when no other ration of any other kind is procurable."

The American soldier's chocolate bar carries no stern warning—only instructions to eat it slowly. Nor has any effort been made to make the new ration unpalatable, Major Logan states. After all, a man who sits down to a chocolate bar supper, when somewhere back in camp other men are getting a round meal, needn't be additionally harassed by finding the ration is deliberately made just barely edible.

Uses of the new emergency ration by civilians are not the Army's problem. But Quartermaster Corps officers can see that the energy ration might fit into other situations, provided the public recognizes its limitations.

The Army's Ration D may become familiar to a public that will never get even a taste of Rations A, B, and C.

Science News Letter, June 22, 1940

ICHTHYOLOGY

Higher Fish Species Born Alive in Membrane

THE EMBRYOS of higher fish species that are born alive instead of being hatched from eggs laid in the water are surrounded before birth with sheathing membranes somewhat resembling those of the warm-blooded animals that are uniformly born alive, Dr. C. L. Turner of Northwestern University has found. Although there are considerable differences in detail and in mode of functioning, even the technical names are the same: amnion, chorion, allantois.

Science News Letter, June 22, 1940



CANNED CHOW FOR THE ARMY

The U. S. Army's new reserve ration, alphabetically called C, is shown served up. For real emergency use, the doughboy is supplied with Ration D, a specialized chocolate bar, shown lower right, partly opened.

NUTRITION

Vitamin Famine Prevalent In the United States

Chronic Deficiency is Due to Unbalanced Diet And Also to Loss of Vitamins in Processing of Food

WAR may be causing famine in Europe but here in America, even without war, there is a chronic famine, Dr. Tom D. Spies, of Birmingham, Ala., declared at the meeting of the American Medical Association. The chronic famine we have here is a starving for vitamins, minerals and other precious substances found in minute amounts in foods. Large numbers of people are starved for these substances partly because they do not eat enough of the foods containing them and partly because foods as they come to the table today have lost much of their normal content of these protective substances.

About 90 per cent. of the vitamin B₁, preventive of beriberi, in bread has been lost from the flour in the milling process. Water soluble vitamins are also lost to us by being washed out of the soil, so

the plants today do not furnish enough of these to the animals and men that live on them, Dr. Spies said.

Death figures do not show the extent of this chronic famine in America, Dr. W. H. Sebrell of the U. S. Public Health Service declared. This, partly, is because deaths from this cause are not all recorded as pellagra or scurvy or beriberi deaths. Partly, too, it is because this famine does not kill, although it keeps people ailing and miserable and unfit for work. At least 100,000 people are probably suffering from pellagra, Dr. Sebrell estimates.

For a more complete picture of the extent of the vitamin deficiency in the country, Dr. Sebrell turned to figures on consumption of vitamin pills and similar preparations. In 1938 the people of the United States spent more than \$100,000,-

000 for vitamin preparations manufactured or sold through pharmaceutical channels, it is estimated. Maybe not all of this vast amount of vitamin-taking by the people was necessary to stave off vitamin famine or repair its ravages. The sum of \$26,000,000, however, was spent in 1937 on vitamins prescribed by physicians, Dr. Sebrell said.

"A figure of this magnitude," he explained, "must mean that physicians are becoming increasingly aware of the value

of the preparations in treatment and, conversely, that vitamin deficiency symptoms are widely prevalent."

The figures on vitamin consumption today are probably much higher, he said, because in 1937, latest year on which figures are available, neither nicotinic acid nor riboflavin were widely used.

"Prevention and proper treatment of the nutritional diseases," he declared, "constitute one of the greatest medical problems in this country today."

Science News Letter, June 22, 1940

MEDICINE

Pill Protects Children Against Scarlet Fever

Drug Which Aids in Battle Against Brain Syphilis And Preventive of Diabetes in Dogs Also Reported

A PILL or tablet that can be swallowed to give protection against scarlet fever was announced by Dr. George F. Dick and Dr. Gladys Henry Dick, Chicago, at the meeting of the American Medical Association in New York City.

The tablet contains purified scarlet fever toxin such as is now used to give immunity by injections under the skin. The tablet was designed for use in patients who cannot be given the injections. Such patients include those suffering from hemophilia, for which a hypodermic needle injection may mean dangerous bleeding; patients with severe heart injury; and persons in institutions under quarantine for scarlet fever when speed in immunization is a prime consideration.

Science News Letter, June 22, 1940

Drug Aids Against Paresis

SUCCESS of a new drug, thio-bismol, in helping the fight against brain syphilis, or paresis, was reported by Dr. Harold N. Cole, of Cleveland.

The new drug controls the fever of malaria which is now being widely used in treatment of this form of syphilis, Dr. Cole explained. By means of this bismuth compound, the chills and fever can be kept from becoming too severe without stopping the malaria treatment altogether. For terminating the malaria quinine must still be used.

Collaborating with Dr. Cole in trial of the new drug were Dr. Gerard A. De-Oreo, Dr. James A. Driver, Dr. Herbert

H. Johnson, of Cleveland, and Dr. Walter F. Schwartz, now of Pasadena, Calif.

Science News Letter, June 22, 1940

Prevent Diabetes in Dogs

THE FIRST steps toward prevention of diabetes have been made by medical scientists, among them Dr. C. H. Best of Toronto, declared Dr. H. F. Root of Boston, at the meeting of the American Medical Association.

The disease has actually been prevented in dogs, though not yet in humans, he explained. This prevention has been accomplished in two ways. It depends on the discovery that diabetes can be caused either by failure of the insulin-producing part of the pancreas or by overwork of this insulin factory in the pancreas. In dogs this overwork is due to stimulation of the insulin-producing cells by injections of an extract from the pituitary gland in the head.

Insulin given at the same time as the pituitary extract, however, prevents the diabetes. It can also be prevented by fasting the dog before the pituitary extract is given.

If the diabetes is allowed to develop under pituitary stimulation, giving insulin allows the overworked insulin factory in the body to rest and renew or regenerate itself. This regeneration of insulin-producing cells occurs in humans also, Dr. Root said. The star-shaped cells called mitotic figures, which are signs of rapid regeneration of body tissue, have been discovered in the insulin-producing

part of human pancreases. The question now, Dr. Root explained, is to learn how to favor this regeneration in humans.

Many people, he pointed out, are on the border of diabetes. If these persons get pneumonia or a bad tonsil infection, perhaps, they will be tipped over the border because the infection caused too much strain on their insulin factories. With the right treatment and diet, however, they can be helped to recover from their diabetes. Their insulin-producing cells may regenerate as do those of the dogs studied.

New synthetic sex hormones are helping women with diabetes to have babies successfully, Dr. Priscilla White of Boston reported. Loss of babies by diabetic mothers has been cut in half since treatment with these hormones was started two years ago, she announced.

The hormones used are called stilbestrol and pranon.

Not every expectant mother with diabetes needs this treatment. Blood tests can now be made, however, to show whether the diabetes is severe enough to upset the glandular balance of the mother's body and so cause her baby to be born so far ahead of time that it cannot live.

Science News Letter, June 22, 1940

Operation Saves Ulcerous

ONLY hope for saving the lives of one-third of the older patients having massive bleeding from stomach ulcers is prompt operation, Dr. John H. Blackford and Dr. Robert H. Williams, Seattle, conclude from a study of the grisly records in the city bureau of vital statistics of patients who died of stomach ulcer.

Among 23,965 deaths they found 116 which could be attributed to hemorrhage from ulcer. More than 97% of the group were over 45 years old and 78% of them died of the first hemorrhage. Late operations performed after other methods of treatment have proved unsuccessful have usually resulted in death, the Seattle doctors emphasized.

The risk of death from ulcer hemorrhage, grave hazard for the older person, is less than 1% for younger persons.

Science News Letter, June 22, 1940

Sulfanilamide for Impetigo

SULFANILAMIDE is an efficient remedy for one type of the distressing skin disease, impetigo, but not for the other, Dr. Stephan Epstein, Marsh-