

NUTRITION

Pellagra Threat

Faces the population of the Danube basin if they are forced to eat too much maize. Addition of niacin to bread may prevent this.

► A NEW NUTRITIONAL worry on top of all the food shortages appears in FAO plans for feeding the world next year. The worry is that pellagra, hard times disease of our own southern states, may strike the population of the Danube basin.

FAO estimates that continental Europe outside the USSR will in 1946-1947 produce enough food to supply about 2100 calories daily per person. These estimates, however, are based on three conditions, including the one that in the Danube basin humans consume much more maize, or corn, than before the war.

Pellagra has always occurred in regions where the staple cereal is corn or maize, instead of wheat or rice. At one time it was thought there was something in maize that caused pellagra. Now it appears that it is a lack of something in corn, specifically the amino acid, tryptophane, that causes the pellagra in persons relying on corn for their staple food.

Pellagra, as was discovered some years ago, can be both cured and prevented by a vitamin called niacin or nicotinic acid. People in the Danube basin can eat more maize, to help the world food situation, and still escape pellagra if they get additional amounts of this vitamin. The vitamin could be added to their bread and other foods made from corn, as we now add it to our bread made from wheat. Medical and health authorities, knowing the danger, can be on the alert to detect early signs of pellagra and give the necessary vitamin to cure it.

The relation between tryptophane, an amino acid which is one of the building blocks of protein, and the vitamin, niacin, has only recently come to light. The late Dr. Joseph Goldberger of the U. S. Public Health Service, who discovered the way to prevent and cure pellagra, first thought the cause of the disease was lack of a protein or amino acid in protein. He abandoned this idea when he found the pellagra-preventing factor or vitamin, as it was then called. It was much later that this vitamin was identi-

fied as the chemical, nicotinic acid.

This identification of the vitamin came from the discovery of Prof. C. A. Elvehjem at the University of Wisconsin that nicotinic acid cured and prevented black-tongue in dogs, a condition which is the canine counterpart of pellagra in man. It is Dr. Elvehjem who has given us the latest information on pellagra and diet, the relation between tryptophane and nicotinic acid or niacin. Since he is not a physician, his findings come from studies of laboratory animals.

Rats, he has discovered, fail to grow when fed a diet consisting chiefly of maize. The growth failure can be cured, however, with either tryptophane or nicotinic acid. Other scientists have found that animals fail to grow on any diet containing a lot of protein of a kind that is low in tryptophane as corn protein is. The reason for this has not yet been learned, though many scientists are now working on that phase of the problem.

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ASTRONOMY-PHYSICS

Artificial Meteor Showers from V-2 Rocket

► SCIENTISTS are planning to pepper the earth with an artificial shower of meteorites launched into the ionosphere from some of the other V-2 rockets to be fired this summer.

A variety of small pellets believed to be the equivalent of "stones from outer space" will be placed in the head of the giant rocket and flung out from it at about 75 miles above the earth. An artificial shower of "shooting stars" will result.

Observed by astronomical photographic telescopes and possibly tracked by special radar sets, the synthetic meteor shower thus created is expected to tell scientists about the action and the composition of natural meteorites at that high altitude. The light given off by the meteorites from outer space will be compared with the light created by the similar friction-heating of the artificial ones as they rush into the atmosphere.

The Army's ordnance experts are as in-

terested as astronomers, physicists, and meteorologists in such prospective tests because any information about just what is contained in space beyond the reach of sounding balloons will prove practically useful as effective ranges for military rockets increase beyond the 250 miles of the present V-2.

Scientists cooperating with the Army have not yet solved the problem of ejecting from the rocket in full flight scientific instruments carrying with them records of observations. First hope was to place instruments in armored spheres that would withstand the terrific impact when the rocket returns to earth. But test spheres in the first rocket were not recovered from the crater about 20 feet deep and 25 feet across. So work is being begun on some method of dropping off the instruments before the rocket as a whole gets back to earth.

Parachutes won't help because there is not enough air to open and float them.

Science News Letter, June 1, 1946

MEDICINE

BAL Has Now Been Released to Physicians

► BAL, LIFE-SAVING drug for victims of bichloride of mercury and arsenic poisoning, is now available to physicians generally. Prior to release by the U. S. Food and Drug Administration it was available only to a small group who were testing its value and determining best methods of use.

The drug was developed by British scientists to combat the war gas, Lewisite. Its name comes from the initials for British anti-lewisite. Much of the research that developed it into a remedy for mercury and arsenic poisoning was done by medical scientists of the Chemical Warfare Service at Edgewood Arsenal, Md., and civilian physicians working with them.

The very existence of the drug was a closely guarded secret during the war. First public announcement was made late in 1945.

Even now, the drug will be available only to physicians and must be used only by prescription and under a doctor's care. It is being manufactured, in the form of ampules to be swallowed, by Hynson, Westcott and Dunning of Baltimore.

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Sleepwalking is an attempt to obtain protection from a threatening environment and represents a flight to security.