

NUTRITION-PSYCHIATRY

Poor Diet Affects Mind

Lack of vitamin B complex in diet produces mental abnormality within two years if the deficiency is not drastic, tests with patients show.

► **LIVING ON A DIET** which does not contain enough of the vitamin B complex ordinarily obtained from meat or whole grains causes mental abnormality. This was found in an experiment with a small group of men patients at the State Hospital in Elgin, Ill.

The changes come slowly and insidiously, if the dietary deficiency is not drastic. Decline in mental ability may not be noticed until after about 18 months of poor diet and then no one can be certain of a definite date when the symptoms started.

Men who had been moving about actively, helping in the ward work or talking to one another, lost interest and ambition, became dull, sat in their chairs or lay on their beds. They were disinterested in their surroundings.

These symptoms occurred in one group of 12 men patients whose diet contained plenty of all the essential nutritional elements except that the vitamin B content was reduced from a normal 1,200-2,000 micrograms to 400 micrograms, or about a third of normal. (A microgram is a unit of weight equal to 35 billionths of an ounce.) The riboflavin was cut from a normal of 1,600 to 2,600 to 800 micrograms, or about half.

Much more dramatic results occurred with another group for which the riboflavin intake was cut to 800 daily and the thiamin to 200 micrograms.

After only four to six months on this more severely restricted diet, mental abnormalities became much worse. One old man who had been quite amiable, became infuriated and threatened to break up the furniture and escape. A young man who had been subject to bad temper fits which ordinarily lasted a minute or so, once or twice a year, went into blind rages.

These occurred in quick succession and lasted a half hour to an hour. During this time, he would scream at the top of his lungs, throw heavy objects at anyone within reach and curse at the women attendants.

Just as dramatic as the onset of these symptoms was the recovery when the inadequate diet was supplemented with yeast extract to provide the missing vitamin B.

The rage of the terrible-tempered old man subsided overnight and he became his former amiable self again. The young man who had endangered the lives of all around him, appeared self-controlled the day after he was given the vitamin B. Only one old man took several weeks to regain his former contentedness.

Patients on the less severely restricted diet whose mental abnormalities had been

very slow and gradual in development were also comparatively slow in recovery.

Persons who have a low energy output can get along for a longer period on a diet lacking somewhat in vitamin B, the investigators conclude. They found that the regressed patients with schizophrenia, who ordinarily have interests and ambitions dulled and are relatively inactive showed the changes later than did the patients with cerebral arteriosclerosis and other mental illnesses not associated with general decrease of energy output.

Because of the slow and insidious way that mental symptoms appear, it is not possible, the investigators feel, to be sure that a diet is not dangerously deficient in vitamin B, if study of it is not continued for at least two years. Details of the study are reported in the *AMERICAN JOURNAL OF PSYCHIATRY* (August).

Science News Letter, August 28, 1948

BACTERIOLOGY

New Laboratory Set Up To Study Shellfish Bacteria

► **A NEW ATTACK** on the bacteria which can infect oysters, clams and mussels and in turn infect the people who eat shellfish will be made in a new laboratory of the U. S. Public Health Service at the Woods Hole Oceanographic Institution.

Scientists at the laboratory will study shellfish bacteria and determine any changes needed in present shellfish-raising regulations. Oysters, soft clams, hard clams, and mussels will be included in experiments.

James L. Dallas, who is on leave from the Massachusetts Department of Health, will head the new laboratory.

Science News Letter, August 28, 1948

BOTANY

More Vanilla Expected From New Experiments

► **VANILLA** will presently become more abundant, and possibly more fragrantly flavored, as a result of experiments conducted at Cornell University by Prof. Lewis Knudson. He has succeeded, through the use of a special nutrient medium, in germinating the seeds of the vanilla vine, once considered an impossible botanical feat.

Two hundred hybrid vanilla seedlings have now been shipped to the U. S. Agricultural Experiment Station in Puerto Rico, where they will be tested for resistance to

root disease and for quality and quantity of yield.

The best vines will be propagated by cuttings. If vanilla grows well in Puerto Rico, the island's contribution to this country's \$10,000,000 annual demand for the flavoring beans will do something towards relieving its chronic rural unemployment.

Science News Letter, August 28, 1948

INVENTION

Age of Eggs Revealed by Color Under Ultraviolet

► **OLD EGGS** can be separated from fresh ones by their color under ultraviolet light. This was revealed by Willett R. Wilson, a Westinghouse lamp engineer who has been experimenting with the effects of this invisible "black light" for years.

In the ultraviolet light an old egg shows up purple while a really fresh egg glows scarlet. The outer shell of a hen's egg and its protein covering are fluorescent, he explained. Probably the color switch occurs when oxidation causes a chemical change in the shell.

Ordinarily, unrefrigerated eggs kept under average temperature and humidity turn gradually from a scarlet fluorescence to purple in eight to ten days. Properly refrigerated eggs retain their freshness and scarlet fluorescence longer. Brown eggs and white eggs both show scarlet under black light if they are fresh.

Science News Letter, August 28, 1948



FRESH OR OLD EGGS?—Invisible ultraviolet rays differentiate old from fresh eggs by their color under a black light projection unit. Fresh eggs glow scarlet and old eggs purple, new Westinghouse tests show.