

CHEMISTRY

You May Soon Eat Grass; Rich in Vitamin Content

Maybe There Was Method in Nebuchadnezzar's Madness; Kentucky Blue Grass Best Among Varieties Tested

YOU MAY soon be eating grass! Scientists have just discovered how to put the rich vitamin content of grass into palatable foods for man.

This new achievement, which makes the diet of old King Nebuchadnezzar seem not so crazy after all, was reported to the American Chemical Society, in Cincinnati.

Scientists W. R. Graham, G. O. Kohler, and C. F. Schnabel of the American Butter Company, Kansas City, Mo., who performed the experiments, said their work was "the first successful scientific effort to transmit the unique properties of grass directly into human nutrition."

The vitamin content of grass leaves, say the scientists, is vastly greater than the vitamin content of the four standard classes into which fruits and vegetables are divided. Grass leaves, known as cerophyl, on an equal weight basis contain 280,000 international units of vitamin A whereas potatoes and sweet potatoes contain only 1,000 units. By the same rating tomatoes and citrus fruits contain only 2,000 units, leafy, green and yellow vegetables 12,000 units. Other fruits and vegetables contain 1,290 units on the same scale.

In crucial vitamin B₁ content, grasses contain 1,300 international units, about ten times the amount obtainable from any other vegetables and fruits.

"These new grass products," the report continued, "recommended themselves as food constituents not only because of their wealth in supplying the better known vitamins but because animal assays have shown vitamin A, B, C, E, G, K, nicotinic acid, grass juice factor, B₄, B₆, R, U, and Factor W to be present in significant quantities. Recent experiments have shown that the processed product contains sufficient of all the vitamins both known or unknown to support the normal rapid growth of laboratory animals when fed only cerophyl and water."

In America an extract of grass juice has been tried out experimentally to enrich cattle feed during the winter months when the stock cannot obtain fresh grass.

In South Africa, Dr. F. W. Fox of the South African Institute for Medical Research reported in 1937 that experiments were being made with alfalfa as a

vitamin-rich food for the native miners. He reported that the tender young shoots of alfalfa could be eaten raw or cooked like spinach. He found that the alfalfa diet was rich in elements that helped to prevent scurvy among the miners.

In the latest research, now reported by the Kansas City chemists, it is essential that the grass be dried artificially to prevent the destruction of the often-unstable vitamins.

Of all grasses the richest in vitamin A is the one you probably have walked on many times in your own yard: Kentucky blue grass.

Science News Letter, April 13, 1940

BIOLOGY

Viruses Thought to Hold Secret of Life's Origin

VIRUSES, best known as causing diseases like infantile paralysis and influenza, may some day reveal the secret of the origin of life. Discovery of the exact transition point between living and non-living, however, even if it can be made through virus studies, will be difficult, Dr. Thomas M. Rivers, director of the Hospital of the Rockefeller Institute for Medical Research and noted authority on viruses, declared at a meeting at the New York Academy of Medicine.

When bacteria, slightly larger disease-causers, were discovered, Dr. Rivers pointed out, scientists thought these tiny organisms were the key to the origin of life in the world in general. Now some scientists believe this is the case for viruses.

"At present there are a number of ideas regarding the nature of viruses," Dr. Rivers said. "According to one, viruses represent the results of retrograde evolution that might have proceeded to the point of a single living molecule; to another, they are examples of how life begins; to still another, they are autocatalytic agents, that is agents, presumably without life, which in some unknown manner, are capable of inciting the production of more of themselves through the building up, breaking down, or rearrangement of materials or molecules in their host cells; and finally, they are transitional forms between the living and the non-living.

"There is one objection to all of these ideas, namely, each stresses the point that all viruses must be similar in na-

ture. However, to me it appears not unlikely that if the concepts set forth by the different workers are within the realm of possibility more than one of them may hold within the virus group and that viruses are not necessarily all alike in nature.

"In other words, I am of the opinion that some of the viruses may be minute, highly parasitic microorganisms, the mid-gets of the microbial world, capable of reproduction only within susceptible host cells; that others may represent forms of life more or less unfamiliar to us; and that still others may be fabrications of their host cells aided by the processes of autocatalysis.

"What life is and where the transition from the non-living to the living takes place, if it does, in the scheme just set forth is not known. Indeed, the transition may be so gradual that it will be difficult for investigators to determine the particular point at which it occurs."

Science News Letter, April 13, 1940

● Earth Trembles

Information collected by Science Service from seismological observatories resulted in the location by U. S. Coast and Geodetic Survey of the following preliminary epicenter:

Wednesday, March 27, 7:31 a.m., EST

Under the sea off the western end of the Aleutian Island Chain. Latitude, 52 degrees north. Longitude, 176 degrees east.

For stations cooperating with Science Service, the Coast and Geodetic Survey, and the Jesuit Seismological Association in reporting earthquakes recorded on their seismographs, see SNL, Feb. 24.