

MEDICINE

Find "Granddaddy" Virus

Believe that a new viral agent that may be a "stem" virus of sleeping sickness has been found. May mean earlier immunization than now possible.

► WHAT MAY BE the first "granddaddy" virus, a new encephalitis agent, has been reported by Dr. W. McD. Hammon, University of California epidemiologist.

The scientist says that the new viral agent, known now only as BFS-867, may prove to be a "stem" virus from which the other "sleeping sickness" viruses, such as western equine and St. Louis encephalitis viruses, are descended.

Many virus researchers have long believed, on the basis of the close kinship of many viruses and their ability to mutate, that such progenitor types do exist. However, none has ever been reported before.

Discovery and identification of such viruses would have great implications for the control of many diseases. Presumably vaccination with a "granddaddy" virus of influenza, if one existed, would immunize against "A" and "B" types as well as others which may not now be known.

This would enable scientists to carry out an immunization program much earlier than is now possible. Because "A" type vaccine, for example, does not protect against "B" type, considerable time is lost in identifying the agent responsible for an epidemic before control measures are effected.

Dr. Hammon said that identification of BFS-867 as a "stem" virus of encephalitis is not yet positive; indeed, positive evidence may never be obtained.

However, exhaustive analyses of the agent, obtained from wild bird mites collected in the Bakersfield area, show that it cannot be explained as a simple mixture of encephalitis viruses.

To the astonishment of Dr. Hammon and Dr. W. C. Reeves, leader of the University's field party in the Bakersfield area, BFS-867 in high concentrations showed characteristics of the following encephalitis viruses: western equine, St. Louis, eastern equine, Japanese B, West Nile, and the "California virus."

In low concentrations it exhibited characteristics only of western equine and St. Louis types.

Dr. Hammon said that postulation of the theory that the new agent is a "stem" virus would explain much confusing evidence gathered in his researches on encephalitis in recent years.

For example, he and his colleagues have encountered a number of cases of double infection, patients with both western equine and St. Louis viruses. The number of these double infections is too high to be considered as due to chance alone.

Further, double infections in chickens,

one of the reservoirs of the disease, have been about twice as frequent as could be expected on the basis of chance alone.

"The existence of a stem virus containing antigens to both would offer an easy explanation for these confusing findings," Dr. Hammon stated.

The scientist said he expects new viruses of encephalitis will be found, and that further evidence of a common origin for all of this group will be found.

At the present time the scientist and his colleagues are attempting to propagate BFS-867 and other encephalitis viruses in one of their natural hosts, the wild bird mites. The difficulties of doing this may prevent positive identification of BFS-867. The scientists have recently found that the bird mites appear only with the hatching of a clutch of eggs, and so it is necessary to have mating birds in order to have mites to infect and work with.

"Sleeping sickness" appears seasonally in the hot coast valleys, in the Midwest, in the Orient, in Africa and in other parts of the world. It strikes the higher nerve centers, sometimes causes death, and, par-

ticularly in the young, sometimes results in permanent brain injury.

Dr. Hammon's research is sponsored by the National Foundation for Infantile Paralysis, the U. S. Army Virus and Rickettsial Disease Commission and California public health agencies.

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CHEMISTRY

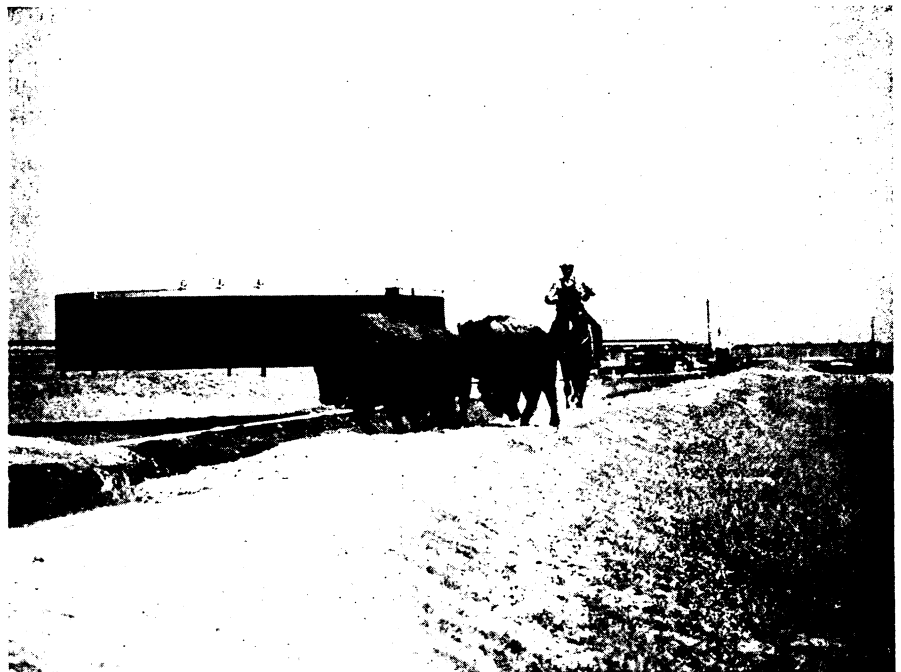
Yellow Powder Developed That Gives Off Oxygen

► A YELLOW POWDER which makes it possible for a man to carry his own atmosphere along with him was developed by chemists working for the Naval Research Laboratory during the war. This yellow powder is a potassium oxide. It has the ability to give off life-sustaining oxygen.

This use of a potassium oxide was described by Dr. B. D. Van Evera of George Washington University as a guest of Watson Davis, director of Science Service, on Adventures in Science heard over the Columbia network.

This potassium oxide promises to play an important part in fire fighting, high altitude flying, submarines and possibly even rockets to the moon. It can be used to supply oxygen in a mask, providing this necessary element to a man inside a burning building or outside the earth's own atmosphere. A small can of it will last for hours.

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BUFFALO PUT TO WORK—Probably for the first time these animals are being used in industry to reduce grass cutting bills. They are being experimented with around tanks and pipelines in Gulf Oil's refinery.