been phenomenal. Tobacco plants grew 22 feet high. Gladioli surprised even Californians. Each of four heated greenhouse tanks produced an average of 306 pounds of tomatoes, and the vines grew until the huge clusters of fruit had to be harvested with the aid of a step-ladder. One tank, providing exactly a hundredth of an acre of water surface, produced 25.6 bushels, or three-quarters of a ton, of potatoes.

So while Professor Gericke insists that his work is still an experiment, he is willing to admit that it looks rather like a hopeful experiment.

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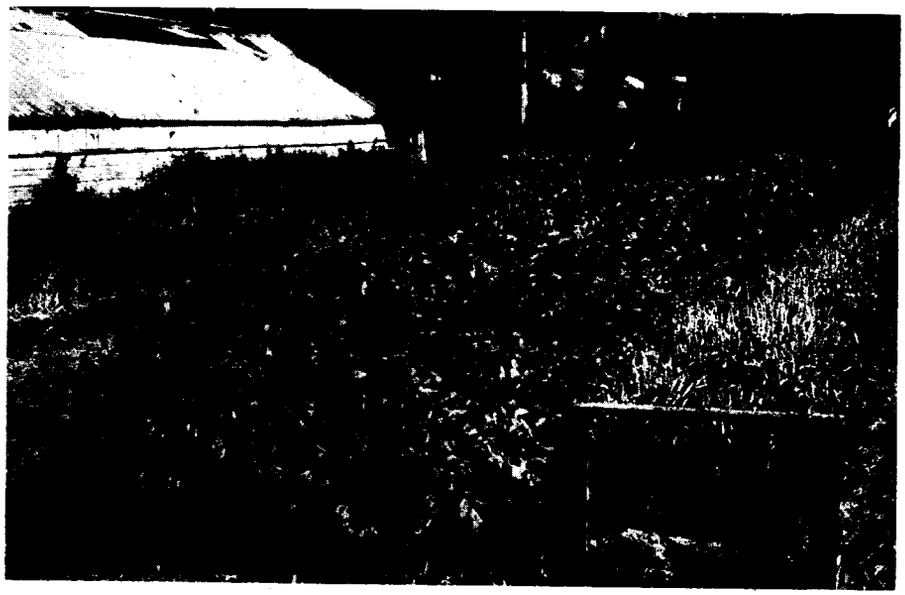

TANK BED

Potatoes growing in two of Professor Gericke's tanks. Alongside is a little experimental wheat, growing in another tank.

ASTRONOMY

Did the Moon Kill Eel-Grass on the Coast?

DID the moon have something to do with the way the economically important water plant, eel-grass, died out all along the Atlantic coasts of both North America and Europe during the years 1930-32?

Dr. Neil E. Stevens of the University of Illinois thinks it is a possibility (*Science,* July 24). He sets forth reasons why.

He admits risk in offering such opinions: "One of the surest ways to incur ridicule among scientists is to suggest a relation between some natural phenomenon and the moon. So strong is this feeling and of such long standing that it is of record that Galileo, in comment on Johann Kepler's suggestion that ocean tides were influenced by the moon, expressed regret that so acute a man should have produced a theory which seemed to re-introduce the occult."

Dr. Stevens' tentative explanation introduces the moon in a slightly different role. He notes that the wasting of the eel-grass occurred at the time of the moon's greatest north declination, that is, when the moon's somewhat wavering path took it farthest to the north of the celestial equator. This northward shift also coincided with at least one other season of wholesale death in the eel-grass beds.

These northward marches of the moon are followed by, and presumably to some extent causally connected with, mass movements of warmer Atlantic water toward the north, called transgressions. These invasions of the colder areas of the ocean by warmer water from the south are frequently followed by disturbances in the biologic balance of the ocean, which sometimes amount to outright disaster to fisheries.

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CHEMISTRY

Destroyer of Bacteria Is Proved To Be Chemical

THE PUZZLING bacteriophage (bacteria-eater), that destroys harmful germs, is declared by a Rockefeller Institute scientist to be protein, a chemical substance which nevertheless has the ability to "grow" by creating more of itself.

This latest advance in understanding how bacteria are combated was made by Dr. John H. Northrop, working at the laboratories of the Rockefeller Institute for Medical Research (*Science,* July 24). Dr. Northrop is known for his researches upon trypsin, protease and other such substances within the body that are called enzymes.

From a growth of staphylococcus, pus-forming bacteria (that look like bunches of grapes under the microscope) that had been affected by bacteriophage, Dr. Northrop isolated a protein preparation which possesses the properties of bacteriophage. Proteins constitute one of the three major classes of foods and also they are found to be the basis of insulin, the enzymes and other substances the body creates. Important is the fact that proteins have definite chemical compositions, which can be determined by chemical methods.

Extremely minute amounts of this bacteriophage protein will cause what the scientists call "lysis," that is, a dissolving of the staphylococcus cultures. Less than a trillionth of an ounce (1×10^{-10}mg) of the newly found protein is effective. Important also is the fact that as this reaction proceeds more of the bacteriophage protein is formed, a phenomenon that caused early investigators of the bacteriophage to conclude that it was alive and reproducing.

First Tests Disappointing

A score of years ago something that combated bacteria in test tubes was discovered by Twort and d'Herelle. Since it destroyed germs in test tube cultures, great hopes were raised that bacteriophage would prove useful in actual treatment of diseases, particularly some that were difficult to control. But the practical tests of bacteriophage were disappointing.

Dr. Northrop's new work may provide a new point of departure for use of bacteriophage in disease treatment, as scientists will now have a concentrated, definite substance with which to work. The protein preparation he obtains is a highly viscous, slimy solution.

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