

BIOLOGY

One-Celled Plant Life

► PHYTOPLANKTON, microscopic floating marine plant life, may hold the key to the food supply of the human race when the soil's productivity has become insufficient to nourish world populations.

The most efficient producers of food known to man, these minute algae are being studied by Dr. Ruth Griffith, assistant professor of biology at Hood College, Frederick, Md.

Working under the auspices of the Maryland State Department of Research and Education, Dr. Griffith is preparing an illustrated key to the types and relative numbers of the common phytoplankton to be found in the estuaries of the lower Chesapeake Bay.

Although speculation about this potential source of human nourishment is widespread, the work of Dr. Griffith and other scientists in assembling ecological information about the phytoplankton is a necessary forerunner of experiments in methods of gathering and using the one-celled green plants as food.

Of more immediate value is the possibility of a relationship between the phytoplankton and oyster populations of the Chesapeake Bay. Infant oysters, in the form of free-swimming larvae, fasten themselves at one stage of their development to old oyster shells on the bottom.

Oystermen, to increase and localize oyster yields, drop old shells into the water to serve as setting places for the maturing oysters, the so-called "spat." If dropped too soon before the larvae are ready to set, the shells become covered with dirt and debris, sponges and other organisms, and cannot serve as setting places.

If the shells are dropped too late, the larvae have already passed the stage where they become spat and presumably die.

If scientists can, as they hope, discover some correlation between the population

of phytoplankton, the larval oysters' food supply, and the population of oysters ready to set as spat, they will be able to tell oystermen the best time for dropping shells in the water and will thereby take the guesswork out of oyster seeding.

Twice weekly during last summer Dr. Griffith strained three 100-liter samples of bay estuary water and counted and classified the algae that she found by this method. Samples since summer have been collected once monthly.

This frequent testing of the water of the bay has as its immediate goal determination of how various physical and chemical conditions of the water affect the presence of the tiny green plants.

Dr. Griffith experimented with the phytoplankton of Lake Michigan before beginning her Chesapeake Bay research.

Science News Letter, February 25, 1956

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