

Algae Found Growing in Plastic Enclosures Covering Ears of Popcorn Plants

WILLIAM A. DAILY and RAY T. EVERLY, Lilly Research Laboratories and Purdue University

In a field experiment on the State Hospital farm at Evansville, Indiana, during the period from August 1 to October 10, 1962, new, previously unopened, plastic bags were placed over ears of popcorn and securely tied in place. The purpose was to prevent infestation of the ears by the *Angoumois* grain moth. The earliest time of covering an ear was when the tassel appears in the whorl but prior to pollen shedding by a week or ten days. Others were put on at about pollen-shedding time, and the remaining bags were put on when the ears were in full silk.

Early in October some of the bags contained very wet green growths of algae. The contents of four of these bags were examined microscopically and the algae noted were: Chlorophyceae-*Chlorella* sp., *Chlorococcum* sp., *Scenedesmus* sp. and *Chlamydomonas* sp. (Dr. Harold Bold, University of Texas, suggested not assigning specific names to any of the four genera), Myxophyceae-*Plectonema nostocorum* Born. (Identified by Dr. Francis Drouet, Philadelphia Academy of Natural Sciences.) A very few protozoan cysts were also observed but not identified.

Samples of the contents of the four bags were cultured in Bristol's algal medium, but this procedure did not add any new names to the list.

In this short study of the unusual algal aspect of the field experiment, the most plausible explanation for the presence of the algae in the bags is that vegetative cells and/or spores and cysts settled out from the air onto the popcorn plants. Insects and higher animals acting as vectors of dissemination cannot be ruled out, but research done in the past few years weighs heavily in favor of air distribution.

Schlichting (1) published a review of work in this general field of air dispersal of organisms as well as his researches and noted many kinds of algae and some protozoa in the air, but did not cite filamentous myxophyceae or the genera *Scenedesmus* and *Chlamydomonas*. Very lately, Maguire (2) published a thorough study concerning the passive dispersal of small aquatic organisms in which these two genera and *Plectonema* are cited.

The algal collections were preserved in liquid as well as by dried herbarium specimens and are on file in the Ray C. Friesner Memorial Herbarium of Butler University.

Literature Cited

1. SCHLICHTING, H. E. 1961. Viable Species of Algae and Protozoa in the Atmosphere. *Lloydia* 24:81-88.
2. MAGUIRE, JR., B. 1963. The Passive Dispersal of Small Aquatic Organisms and Their Colonization of Isolated Bodies of Water. *Ecol. Monographs* 33(2):161-185.