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### GREENBUG APHID ON BLUEGRASS TO BE STUDIED IN OHIO

Wooster, Ohio--Stepped up efforts are planned for 1979 to learn more about a tiny insect that's been causing increasing levels of damage to turfgrasses in Ohio and other states. Studies will focus on gathering data on the biology, ecology and control of the greenbug, an aphid with the scientific name *Schizaphis graminum* (Rondani). Dr. L. R. Nault, nationally known aphid specialist at the Ohio Agricultural Research and Development Center, will be co-investigator in the study.

The goal of the study is to learn more about the greenbug and to develop effective and economical methods of controlling damage. Information on the insecticides tested in the study could lead to the granting of a state or national label for the use of materials not presently registered for greenbug control. Funds to help support the project are invited from the turfgrass industry.

The greenbug is not a new insect pest. It's been a problem in a number of grassy crops including barley, wheat, oats, and sorghum. Perennial bluegrass is also a host, but in the past the aphid has rarely caused serious damage in turfgrass. The recent losses may indicate a new association between the greenbug and turfgrasses.

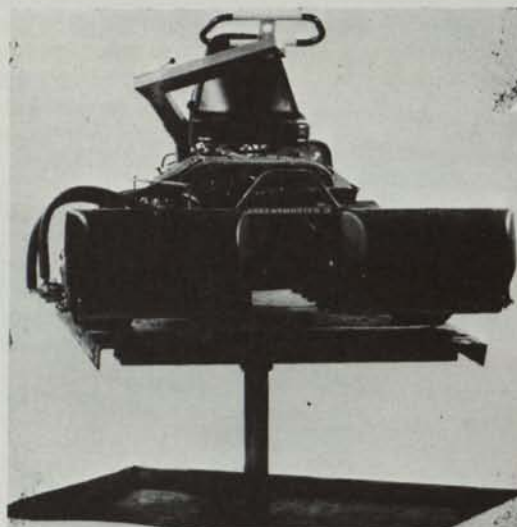
Various "biotypes" of the greenbug have developed which attack specific grass hosts. Speculation is that a new bluegrass adapted biotype of the greenbug has evolved in Ohio and other midwestern and eastern states.

The greenbug damages grasses in several ways. With piercing-sucking mouth-parts it feeds on phloem sap. Large numbers of the insects seriously weaken plants. In addition, the greenbug secretes a salivary phytotoxin which is injected into the plant, resulting in yellow and orange spots on the foliage. There is the possibility the toxin may also move within the plant and weaken the root system.

The possible involvement of the greenbug in the transmission of virus diseases will be studied. The aphid is known to be a vector (carrier) of three isolates of the barley yellow dwarf virus. There may be implications for bluegrass in the virus vector picture.

Greenbug damage first appears in late June and continues through September. In some cases, sections

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of lawns have been damaged so severely that turf had to be replaced. Some degree of control has been achieved with liquid sprays of some organophosphates but as many as three or four followup applications were needed to keep damage under control.

The new research effort will attempt to establish whether or not there actually has developed a bluegrass-specific greenbug biotype and if so, determine whether or not it overwinters in bluegrass and if certain management practices affect overall populations.

Varieties of bluegrass will be screened to see if any exist with resistance or tolerance to the greenbug.

Infested turfgrasses will be indexed for barley yellow dwarf virus and other possible greenbug transmitted viruses to determine the possible involvement of virus diseases and their impact on bluegrass.

Greenbug populations will be carefully screened to determine whether or not the insect has developed resistance to various organo-phosphate insecticides, a problem already occurring with this pest in certain other crops.

Finally, various insecticides will be tested to determine their effectiveness in controlling the greenbug. Optimum rates, times of application, and volume of carrier will be determined. Tests will be conducted on home lawns where greenbug populations have reached damaging levels.

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As his golf ball rolled toward the cup, the dentist murmured, "Open wider, please."