

CIBA-Geigy Award

Sponsored by the CIBA-Geigy Corporation, this award is given to individual plant pathologists who have made significant recent contributions to the advancement of knowledge of plant diseases or their control. The award consists of a trophy and an expense-paid trip to Basel, Switzerland.

Gene R. Safir



Gene Safir was born January 7, 1944, in New York City and received his B.S. degree in biology with a minor in mathematics from Bates College in 1965. He then went to the University of Illinois for his graduate work in plant pathology where he received his M.S. in 1968 working on vesicular-arbuscular (VA) mycorrhizae and his Ph.D. degree in 1970 studying mycorrhizal enhancement of water transport in soybeans. In 1971 he joined Michigan State University where he has been research associate,

assistant professor, and since 1977, associate professor of plant pathology.

The CIBA-Geigy Award is for outstanding contributions in teaching, research, or extension and Dr. Safir qualifies in all of these categories. He has made major pioneering research contributions in VA mycorrhizae, the remote sensing of crop diseases, and the water relations of certain host-parasite interactions.

Dr. Safir was first to demonstrate that VA mycorrhizal root colonization could offer a plant protection against a root pathogen

working with pink root of onions. Several years later he demonstrated that VA mycorrhizal plants differed from non-VA plants in their water absorption characteristics and were able to recover faster from water deficits and tolerate drought more than nonmycorrhizal plants largely because of a greater ability to take up phosphorus. Following his research, the subject received much worldwide attention and thus invitations to discuss his work at national and international conferences.

Dr. Safir was one of the first plant pathologists to study remote sensing of plant diseases. He and co-worker Dr. Suits studied the spectral properties of corn plants infected with *Helminthosporium maydis* and found very poor results in pre-visual detection of diseased plants but they did propose that crop canopy geometry could be a major determinant for disease detection. From this they developed and verified a mathematical spectral reflectance model useful in predicting spectral properties of diseased and healthy fields when the appropriate geometrical and spectral inputs are made. Dr. Safir has used aerial photography for assessing disease in sugar beets, sugar cane, and wheat. He has been a consultant to several agencies including NASA, the Department of Defense, and The Environmental Research Institute of Michigan. He and his students have also conducted innovative research on the water relations of host-pathogen interactions.

Professor Safir's teaching responsibilities have included a graduate level course in epidemiology and another in environmental plant physiology. He is in charge of undergraduate advising and also has five graduate students.