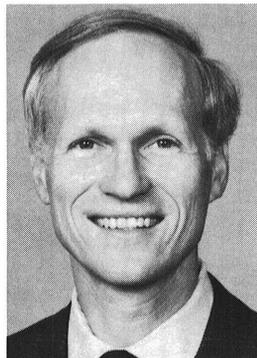


# Lee M. Hutchins Award

The Lee M. Hutchins Fund was established in 1979 by means of gifts from the estate of Dr. Lee M. Hutchins. The award, consisting of a certificate and income from the invested fund, is made for the best contribution to basic or applied research on diseases of perennial fruit plants (tree fruits, tree nuts, small fruits and grapes, including tropical fruits but excluding vegetables). The results of the research must have been published in an official journal of the Society.

## Turner B. Sutton



**Turner Bond Sutton** was born on October 24, 1945, in Windsor, NC. He earned a B.A. degree in botany and chemistry in 1968 from the University of North Carolina and M.S. and Ph.D. degrees in 1971 and 1973, respectively, from North Carolina State University. From 1973 to 1974 Dr. Sutton served in a postdoctoral position at Michigan State University where he worked with Dr. Alan Jones. He returned to North Carolina State in 1974 as a post-doctorate to assume responsibilities for developing a disease management

program for apples in North Carolina. In 1976 he accepted a tenure-track position in the Department of Plant Pathology with teaching and research responsibilities in fruit diseases.

The primary thrusts of Dr. Sutton's research include the biology and ecology of major apple pathogens, the role of fungicides in apple disease management, and the development and assessment of strategies for pesticide use. A research emphasis on summer diseases of apples has resulted in a better understanding of inoculum sources, periods of spore release, and factors that affect fruit susceptibility and disease development throughout the season. For instance, the role of the four mycelial types of *Gloeodes pomigena* in infection and their sensitivity to fungicides are being determined. Methods to quantify sporulation of *Zygothiala jamaicensis* have been developed and environmental factors affecting disease development have been quantified. The effects of pruning on the incidence and severity of flyspeck and sooty blotch also have been elucidated. Studies with these fastidious pathogens and the more common ones, such as *Botryosphaeria obtusa*, *B. dothidea*, and *Glomerella cingulata*, are resulting in the development of more timely and effective disease management recommendations.

Dr. Sutton and his students have studied factors affecting the ontogeny of *Venturia inaequalis* under North Carolina conditions and have developed a model for predicting pseudothecial

maturation. They determined that a period of dormancy was required, irrespective of environmental conditions. A model developed in New York State, based on temperature after leaf fall, was found to be inadequate in North Carolina. It predicted maturation much earlier than the date when ascospore discharge actually occurred.

Other investigations have focused on the use patterns of fungicides in the orchard and the efficacy of nonregistered fungicides. Professor Sutton demonstrated the widespread presence of benomyl-resistant strains of *V. inaequalis*, which led to the removal of this fungicide from North Carolina recommendations in the mid-1970s. Moreover, weakness in the broad spectrum activity of captan and mancozeb against summer diseases led to the evaluation of combinations of these compounds with a benzimidazole fungicide for improved control, resulting in recommendations for these combinations in North Carolina and other southeastern states. Other research has led to the development of protocols for use of the ergosterol biosynthesis inhibiting fungicides where summer diseases are a concern. Since the application of pesticides is necessary for an effective and economical disease management program, Dr. Sutton and colleague, Dr. C. R. Unrath, studied pesticide deposition and provided information for the refinement of a tree-row-volume model. Use of the model permits consistent application of pesticide deposit throughout the season as well as between orchards.

Among his many research accomplishments, his recent paper, "Biology and epidemiology of *Mycosphaerella pomi*, cause of Brooks fruit spot of apple" (*Phytopathology* 77:431-437), is a unique and important contribution to the literature on apple diseases. In this 1987 paper, Dr. Sutton and co-workers elucidated the disease cycle of *M. pomi*, an ascomycetous fungus, which causes Brooks fruit spot on apple. Although it was previously known that *M. pomi* was the causal agent for this disease and that pseudothecia in fallen leaves was the overwintering stage, no leaf symptoms had been associated with the disease and it was not known how or when leaves became infected. The careful and thorough research reported reveals not only the answers to the scientific mystery of the relationship between *M. pomi* and apple leaves, but also provides epidemiological information essential for the successful management of this disease.