

Michael Szkolnik

August 23, 1920 — March 26, 2002

Michael Szkolnik was Professor Emeritus in the Department of Plant Pathology at the New York State Agricultural Experiment Station in Geneva. He joined the department as an Assistant Professor in 1951 and retired in 1984. After receiving a B.S. degree in Biochemistry from Rutgers in 1943, Mike served in the U.S. Army in the European Theater during World War II before returning to Rutgers for his Ph.D. degree in Plant Pathology in 1949. Prior to joining Cornell, he worked in Guatemala from 1949-51 for Experimental Plantations, Inc., a subsidiary of Merck and Company.

Mike was born in Clifton, New Jersey and attended high school in Freehold, New Jersey, where he developed an interest in vocational agriculture, biology and chemistry. Early in his life, he gained practical experience working on several different types of farms as well as employment for three summers with the Dutch elm disease program of the Bureau of Entomology and Plant Pathology, U.S. Department of Agriculture.

The chemical control of fungal diseases of deciduous orchard fruit crops was the focus of Dr. Szkolnik's research throughout his career at Cornell. During his tenure, the arsenal of fungicides available to fruit growers shifted from a small number of inorganic compounds with broad-spectrum activity to organic compounds with very different properties. These included systemic activity in plants and, in some cases, the ability to eradicate disease in the early stages of the infection process rather than having to be present as a protectant before arrival of a pathogen on a plant surface. Mike developed procedures to evaluate these new types of fungicides and determine how growers could best use them to obtain practical and economic control of diseases.

In addition to field trials conducted in the experiment station and growers' orchards, Mike maintained several thousand potted apple, pear, peach and cherry trees that were used in conjunction with a precision sprayer, artificial rainfall facility, and walk-in, temperature-controlled mist chambers to conduct research on trees year-round in the greenhouse. In addition to using the chambers to determine the practical mode of action of fungicides, a term Mike may have coined, he used the chambers for disease-biology studies including determination of the effect of split-wetting periods on scab infection and the time required for scab infection to occur at temperatures below 42 F. This facility, which Mike helped design, was probably one of the finest in any university at the time and was used for studies on control of scab and cedar-apple rust of apples and leaf spot disease of cherry, among other major fungal diseases occurring in the northeastern United States.

One practical mode of action of fungicides that Mike discovered was particularly interesting. By hanging strips of cheesecloth or cords that had been soaked in certain ergosterol biosynthesis-inhibitor fungicides in a closed greenhouse, he determined that powdery mildew could be controlled for two to six months through “vapor action.” This was impressive because mildew is particularly hard to control in greenhouses, even with weekly sprays of conventional fungicides.

Dr. Szkolnik was one of the very first to prove the development of resistance to a fungicide, in this case resistance to dodine, also called Cyprex. Szkolnik and others had demonstrated the effectiveness of this chemical and it was widely used by apple growers to control scab disease. After a few years, some growers reported that the chemical was no longer effective. Laboratory studies by Mike demonstrated that a strain of the fungus had evolved that was resistant to dodine. Although some individuals tried to persuade Mike not to disclose this information, he felt strongly enough about the need to inform the growers and suggest other control products that he and his colleagues decided to do so immediately.

Mike was committed to helping the New York tree-fruit industry obtain effective and economical control of the numerous fungal diseases that affect their crops. He was often invited to speak to growers at meetings in the state and he was a regular speaker at the annual pesticide conference at Cornell that was attended by a large number of researchers, industry personnel, and extension and other agricultural service providers from throughout the northeastern United States and beyond. Chemical companies that conducted research to develop new fungicides followed the results of his research closely.

Dr. Szkolnik was a member of the American Phytopathological Society, the New York State Horticulture Society, and the New York Academy of Sciences. He was the author of research publications in outlets ranging from scientific publications to those with fruit growers as the primary audience. He was a serious gardener and an avid card player, especially of poker, with his colleagues at the experiment station.

Dr. Szkolnik is survived by his wife, Louise, of 57 years, three daughters, two sons, nine grandchildren and two great-grandchildren.

George S. Abawi, Herb S. Aldwinckle, James Hunter