

## 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 virus or viruslike infectious diseases of fruit plants. The results of the research must have been published in an official journal of the Society.

### Srecko M. Mircetich



**Srecko (John) M. Mircetich** is honored by the Lee M. Hutchins Award for his research in the etiology and epidemiology of the economically important virus diseases of prune and walnut, known as "brownline" and "blackline," respectively. Work on the prune disease was published in *PHYTOPATHOLOGY* 71:30-35 (1981) and 72:277 (1982) and work on the walnut disease was published in *PHYTOPATHOLOGY* 70:962-968 (1980), 72:988 (1982), and 72:1261-1265 (1982).

Dr. Mircetich described prune brownline as a destructive new disease of prune trees (*Prunus domestica*) a few years ago. It was found to occur in several California growing areas on *Prunus domestica* 'French' trees grown on *Prunus cerasifera* (Myrobalan plum) or *Prunus persica* (peach) rootstocks, and successive annual surveys showed that it spread naturally from diseased to adjacent healthy trees. The disease was characterized as causing death of cambial phloem at the graft union of scion and rootstock, resulting in a serious decline and death. In some areas of California a high incidence of brownline was found, causing serious economic losses.

In a definitive analysis by Mircetich a mechanically transmissible virus was found to be associated with the brownline syndrome. The virus, isolated from cambial and inner bark tissues of affected trees, was transmitted to herbaceous hosts and characterized as tomato ringspot virus. In further work an enzyme-linked immunosorbent test was developed for routine identification of the virus in field-

collected samples.

In extensive graft inoculation tests the virus was reintroduced into peach or Myrobalan plum French prune trees and typical symptoms of brownline disease were induced. In these experiments it was shown that the plum and peach rootstocks were systemically infected, whereas French prune resisted infection by graft inoculation. The systemic infection by tomato ringspot virus of Myrobalan plum and peach rootstocks carrying French prune scion caused death of cambium and phloem of the graft union by a hypersensitive reaction of the prune scion: the characteristic "brownline" symptom of the disease in the field. Dr. Mircetich's "reconstruction" of the disease thus proved its origin from the tomato ringspot virus.

This investigation demonstrated excellent scientific perception and analysis by Dr. Mircetich. His explanation of the brownline disease should lead rapidly to control by use of resistant combinations of *Prunus* spp. (eg, French prune/Marianna 2624), with great economic benefit to the California prune industry.

Walnut blackline is a major threat to walnut production in California. Like prune brownline it involves girdling at the rootstock-scion union, with subsequent tree decline. Since walnut blackline was noted in Oregon in 1924, investigators suggested a wide variety of noninfectious causes of the disorder. A spontaneous scion-rootstock incompatibility was most often suggested as the cause of walnut blackline. However, work of Mircetich and colleagues demonstrated that the situation is the reverse of that for brownline, in that the scion is systemically infected with the causal virus (cherry leaf roll), while common rootstocks the northern California black and Paradox (*J. hindsii* × *J. regia*), are hypersensitive.

In other work, Mircetich and co-workers have shown that cherry leaf roll can spread between walnut tree scions by pollen

transmission, and is also transmitted through seed. These findings have important implications for control, suggesting, for example, the need for careful checks in the pollination of pistillate flowers on healthy trees, which is done to induce cross-pollination for nut production.

Born in 1926 in Skela, Yugoslavia, Dr. Mircetich received his Engineer of Agronomy degree in 1952 from the University of Sarajevo, and his Plant Protection Specialist degree from the University of Belgrade in 1954.

As a youth, Dr. Mircetich was an active fighter against the German occupation of his native country during World War II.

After his studies at the University of Belgrade, he was employed as assistant plant pathologist at the Experiment Station, Bar, Yugoslavia, and later was appointed head of the Plant Protection Department. He immigrated to the United States in 1956 and became a U.S. citizen in 1960. In 1958, he was appointed as a research associate in George A. Zentmyer's laboratory at the University of California at Riverside. He was awarded a Ph.D. degree in 1966 from the University of California at Riverside. Since that time he has been employed as research plant pathologist, USDA, ARS. He was stationed in Beltsville, MD, until 1972, and is presently at the University of California at Davis.