

## Knud George Swenson, 1923-1975

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Knud George Swenson, international authority on the relationships between plant viruses and their insect vectors, died in Corvallis, Oregon, on August 18, 1975. The son of Andrew and Helga Swenson, he was born in Brookings, South Dakota, in 1923. The family soon moved to De Smet, South Dakota, where they lived on a farm. After military service in

World War II, Knud earned the BS degree in Entomology at South Dakota State College, Brookings. As a student of H. C. Severin, Professor of Entomology, Swenson acquired a life-long interest in that field.

Following a year of graduate work at Iowa State University at Ames, he obtained his Ph.D. degree in plant virus vector relations in the Division of Entomology and Parasitology at the University of California, Berkeley. His thesis, which was completed in 1951, dealt with aphid transmission of alfalfa mosaic virus.

Dr. Swenson was appointed Assistant Professor of Entomology at the New York Agricultural Experiment Station, at Geneva in 1951. In 1954, he accepted an invitation to join the Entomology Department at Oregon State University as Associate Professor and (until 1967) Agent of the U.S. Department of Agriculture.

Throughout his career, Swenson conducted research in many areas of nonvector agricultural entomology, primarily with nursery and ornamental crops. A complete list of his publications may be obtained from the Department of Entomology, Oregon State University, Corvallis, OR 97331.

His research on plant virus vectors focused on determining sources of variability in experimental transmission of plant viruses and virus-like pathogens by insects. In one series of papers he studied the influence of insect-related sources of variability, including influence of insect biotype, life stage, age, diapause phenomena, sex, and mating and probing behavior on virus transmission. He advocated testing host susceptibility to infection by nonpersistent, aphid-borne viruses through the use of single probes by individual aphids. He pointed out that opposite conclusions regarding host susceptibility to a virus could be obtained by using single probe tests with individual aphids or by using several individuals together and allowing them each to make multiple probes.

In another series of papers, Dr. Swenson determined variation in vector transmission efficiency that was dependent upon the type of environmental conditions to which the virus host plant had been subjected. The effects

of light, nutrition, repeated serial passage of virus by sap-transmission, and plant age were examined. He demonstrated, with both bean yellow mosaic and cucumber mosaic viruses, that environmental conditions optimal for sap transmission are not necessarily optimal for virus transmission by aphids.

In all, he published 37 papers dealing with plant virus transmission by insect vectors and related fields.

As his international reputation grew, Dr. Swenson was asked to prepare review papers on various aspects of plant virus vector relations. He wrote four papers, including a chapter entitled "Plant Virus Transmission by Insects", in "Methods in Virology", Vol. I, which was edited by K. Maramorosch and H. Koprowski. In 1968, Swenson authored a paper titled "The Role of Aphids in the Ecology of Plant Viruses," which appeared in the *Annual Review of Phytopathology*.

He was the recipient of a Fellowship from the John Simon Guggenheim Memorial Foundation in 1960-61 to conduct plant virus-insect vector research at the Division of Entomology of the Australian Commonwealth Scientific and Industrial Research Organization in Canberra.

Dr. Swenson was a scholar as well as an able research worker. His quick, analytical mind, retentive memory, and strong self-discipline permitted him to remain constantly familiar with the scientific literature of his field. In his research and review papers he organized and integrated data in ways that outlined new concepts, proposed new hypotheses, and pointed out areas needing further investigation.

Knud Swenson worked as well with people as with things and ideas. He supervised dissertations in plant virus-insect vector studies by eight OSU graduate students, several of whom published more than one paper with him. In addition, he taught several courses at OSU, including one on insect transmission of plant viruses. Because of his strong background in both disciplines, he was able to broaden the horizons of entomology and plant pathology students who took his courses.

Dr. Swenson's ability to plan and to evaluate research made him a valuable University committee member. In 1971, he was appointed Chairman of the Entomology Department at Oregon State University, in which capacity he served until failing health forced him to retire in 1973.

Dr. Swenson was active in campus life at OSU and in the Corvallis community. He had many avocational interests including gardening, hiking, conservation, music, and poetry. His wife, Vaudis, and their daughter, Elin, continue to live in Corvallis. Their son, Harry, lives in California.