



IN MEMORIAM – George Aubrey Zentmyer

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George Aubrey Zentmyer was born in North Platt, Nebraska in 1913. He moved to Los Angeles, California where he attended public schools and obtained his A. B. degree in Botany from the University of California, Los Angeles in 1935. He enrolled in the University of California, Berkeley and received his M.S. degree in Plant Pathology in 1936, and his Ph.D. in Plant Pathology in 1938.

Dr. Zentmyer began his career as an Assistant Pathologist with the Division of Forest Pathology, USDA, in San Francisco working on diseases of forest trees. In 1940, he accepted a position with the Connecticut Agricultural Experiment Station where he worked on chemotherapy of vascular plants and studied the toxin production of the fungus causing Dutch elm disease. In 1941 George Zentmyer was married to Dorothy Anne Dudley, who worked side by side with him for his entire career. They have three daughters. In 1944, Dr. Zentmyer joined the Plant Pathology Department of the Citrus Experiment Station in Riverside, California, which later became the University of California, Riverside.

Here he began his work on the diseases of avocado and other subtropical crops. He was instrumental in discovering and proving that the cause of Avocado Root Rot was *Phytophthora cinnamomi*. During his career Dr. Zentmyer specialized in the root rotting fungi especially *Phytophthora* and became one of the leading authorities on this very destructive genus, which attacks thousands of crop species throughout the world,

particularly in the tropics. Dr. Zentmyer showed that *Phytophthora cinnamomi* alone attacked more than 1000 host species in his landmark monograph of *P. cinnamomi* (Zentmyer, 1980). During his career Dr. Zentmyer studied aspects of avocado root rot which include: control by fumigants, irrigation effects, oxygen relations, effects of organic amendments, host plant nutrition, mechanisms of host resistance, control by soil fungicides, and spread of the fungus. Dr. Zentmyer was keenly interested in the taxonomy of the avocado and initiated studies in the 1960's with E. Schieber of Guatemala, which lasted three decades. During that period Schieber and Zentmyer collected avocado germplasm from tropics all over the world and named several new species. This material serves as breeding stock for rootstocks of the future. In 1975, Dr. Zentmyer discovered the Duke 7 rootstock, which was the first commercial rootstock resistant to *Phytophthora cinnamomi*. It has been credited with saving the avocado industry in many countries and is still being used today to reduce the damage caused by avocado root rot

Dr. Zentmyer is also known for his remarkable work on the fungus genus *Phytophthora*. He collected isolates which number more than 3000 of 47 species. His classic work on aspects of the *Phytophthora* life cycle includes: spore formation, mating types, variability, effects of light, nutrition, temperature and the induction of mating structures. Dr. Zentmyer was the first to show chemotaxy of infective zoospores of *Phytophthora* toward root exudates.

In addition to avocados and *Phytophthora*, Dr. Zentmyer made contributions to the science of other subtropical crops including cacao, coffee and macadamia. Other subtropical diseases to which he made major contributions include: Verticillium Wilt, *Botryodipodia*, *Fusicoccum* and Armillaria root rot. He was instrumental in determining the cause of the epidemic jarrah dieback in Australia, which affected huge areas of forest.

Dr. Zentmyer published more than 200 articles in refereed journals. He trained more than 15 Ph. D. students, many of which went on to research in the tropics. A few of his other accolades include the Award of Honor from the California Avocado Society in 1954, a Guggenheim Fellowship in 1965, all University of California Lecturer in 1964, President of the American Phytopathology Society in 1966, Fellow of Phytopathology Soc. in 1968, Special Award of Merit, Caribbean Div. APS in 1972, President of the Pacific Division of the American Association for the Advancement of Science in 1975, Fellow of the American Association for the Advancement of Science in 1977. In 1979 he was elected to the prestigious U. S. National Academy of Sciences, and he received the Lifetime Achievement Award from the American Phytopathology Society in 1991. He held virtually all offices in the American Phytopathology Society including Chairman of the Tropical Plant Pathology Committee. He served as a consultant for the Trust Territory of the Pacific Islands, Commonwealth of Australia, AID-Ghana, Nigeria, Government of South Africa, Government of Israel, Government of Western Australia, Ministry of Agriculture, Spain, and the Government of Costa Rica.

Despite Dr. Zentmyer's tremendous achievements, he was a humble friend of farmer, student, and scientist alike. Many will remember his willingness to discuss his favorite subjects – plant pathology, avocados and the American Phytopathology Society with all who cared to share in the rich legacy Dr. Zentmyer left, during six decades of work, for

all plant pathologists and students of subtropical agriculture.

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