

## **Mendel Mazelis, Food Science and Technology: Davis**

1922-1997

Professor of Food Science, Emeritus

Professor Mendel Mazelis was born in 1922 in Chicago, Illinois. Soon thereafter his parents moved to Los Angeles where he received his pre-college education. In 1943 he was awarded a B.S. degree in forestry from the University of California Berkeley. After graduation, he joined the US Navy as a midshipman and was discharged in 1946 as a Lieutenant (j.g.) in the United States Naval Reserve. During World War II he served as an officer on a landing craft in the South Pacific and was involved in the battles of Leyte, Saipan and Okinawa. He returned to academic work after the war as a graduate student in plant physiology. In 1953 he joined the UC Berkeley laboratory of Professor Paul K. Stumpf as a research assistant and was assigned the difficult problem of studying the incorporation of radioactive inorganic phosphate into phospholipids by a particulate system prepared from germinating peanut cotyledons. Although he was unable to identify the radioactively labeled phospholipids, he carefully characterized the system in terms of the cofactor requirements, etc. He received his Ph.D. in 1954 in the field of plant physiology and published his research in the journal *Plant Physiology* with the title of "Incorporation of P32 into Peanut Mitochondrial Phospholipids" vol. 30, 237-243 (1955). He spent an additional postdoctoral year in Berkeley extending his earlier observations and demonstrating the presence of an active adenylate kinase in spinach chloroplast preparations. As his research mentor, Professor Stumpf was struck by Mazelis's quick mind, his knack to develop procedures pertinent to his work, his great sense of humor and fairness, and his ability to ask penetrating questions at seminars.

In 1955, he accepted a postdoctoral position in the laboratory of Professor Birgit Vennesland at the University of Chicago, Illinois. In 1957 he joined the Western Regional Research Laboratory USDA as an associate chemist. In 1961 he accepted the position of assistant biochemist in the Department of Food Science and Technology at the University of California at Davis. Additionally, in 1962 he was appointed Lecturer in the Department and in the following year was given the academic title of Assistant Professor. By 1973 he was promoted to Professor of Food Science and Biochemist in the UCD Experiment Station. He retired in 1991 as Professor Emeritus of Food Science.

Throughout these years of academic service, his research focused on the enzymology of amino acid metabolism in higher plants, especially those responsible for characteristic odors and flavors in onions, garlic, turnip, cabbage and broccoli. In addition he was interested in the essential amino acids required nutritionally by humans and those required by higher plants for their survival under stress conditions. He is most noted for his work on the cysteine sulfoxide lyases that are found in a wide variety of higher plants (onions, garlic, leek, turnip, cabbage, and broccoli) which are very different taxonomically. Initially, the lyases were very difficult to purify because of their instability but with patience, perseverance, and high quality graduate students, he was successful in isolating these enzymes from most of the plants mentioned above and in characterizing them both as proteins and as enzymes. Since similar cysteine sulfoxide lyases were found in quite different taxonomically diverse plants and there was little cross-reactivity among them by rabbit antibodies against the onion and garlic enzymes, he suggested that the enzymes were probably the result of concurrent evolutionary development rather than arising from a primitive precursor. His careful research led to his recognition as a leading scientist in this field.

Mazelis used the Socratic method in his teaching of graduate students primarily, playing the "devil's advocate," thereby forcing the students to defend their answers or points of view. In this way he

inspired them to gain self-confidence in their answers based on their understanding of the subject matter. He was a highly successful advisor of undergraduate students, especially those in the food biochemistry major and in the biochemistry major. In all of his research he was well supported by major grants from the National Science Foundation. He was a life-long member of a variety of scientific organizations, such as the American Society of Biochemistry and Molecular Biology and the American Society of Plant Physiologists. In particular he served for many years as an active member of the Editorial Board of the journal *Plant Physiology* and was a reviewer for many other scientific journals relevant to his field of interest. In addition to his research and teaching activities in the department, he collaborated on research with Sir Leslie Fowden first at University College, London and then later at the Royal Experiment Station at Rothamsted, England.

With his arrival on the Davis scene in 1961 he rapidly became not only a campus Institution but also a Davis Institution. Because of his wit, sense of fairness, and broad interests in city, regional and national affairs, he was able to express his many points of views with a great articulate language without offending even those who disagreed with his ideas. Indeed, at the annual meetings of the American Society of Plant Physiologists he rapidly became widely accepted by senior and junior scientists as well as undergraduate and graduate students as a wit of the highest order. He had a great love of football and each fall he wrestled with the tragic drama emanating from Memorial Stadium in Berkeley. Because of his phenomenal knowledge of this sport, his Sunday morning agonies must have tested his most loyal wife, Noreen. His love of football also was evident in his rarely missing a game of the UC Davis Aggies, during the decades he lived in Davis. In later years, when his son, Jacob, became involved in aquatic sports in high school, he was a much appreciated volunteer and supporter of these activities, which continued well after his son had gone to college.

Last but not least, Professor Mazelis was well-read in many topics outside of science: religion, philosophy, literature, and, yes, politics to mention a few. It was always a joy to converse with him on these and other topics; the ensuing exchange of ideas was of great benefit to everyone involved.

With his death on June 30, 1997, not only his immediate family but also many of his academic and scientific colleagues all over the world will truly miss the unique personality of Mendel Mazelis.

Dieter Gruenwedel Paul K. Stumpf John Whitaker