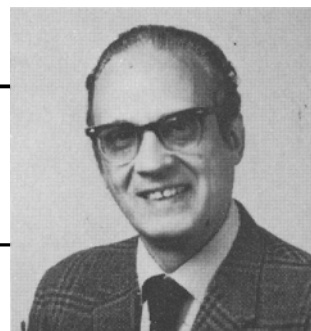


Profile

DAVID FIRESTONE



Thirty years ago, a new FDA staff member in New York became so fascinated with a senior colleague's detective-type work in uncovering olive oil adulteration, that the younger member began to specialize in fats and oils type work.

Thirty years later that young researcher, David Firestone, is still with the FDA solving analytical problems in fats and oils. This month he takes office as AOCS' new president.

Olive oil adulteration, a problem thirty years ago, remains a problem today in the metropolitan New York area, Firestone says. Thirty years ago the standard test for olive oil identification involved analyzing for squalene content. The adulterators tried to foil this test by buying squalene from an upstate New York chemical firm to add to the adulterated olive oil. FDA officials convinced the chemical firm to add a marker to its squalene that would produce an off-color. Now both the analytical chemists and the crooks are more sophisticated and it is still a battle of wits.

Firestone is a native of the Bronx, one of New York City's five boroughs. After being graduated from DeWitt Clinton High School in 1941 and 1½ years at City College of New York, he enlisted in the U.S. Army's Signal Corps. After training in radio and automatic telephone maintenance, he was assigned to the 4025th Signal Service Group with General Douglas MacArthur's headquarters in the South Pacific. Firestone was in Tokyo, but not at the harbor, on Sept. 2, 1945, when Japan formally signed the surrender document aboard the USS Missouri.

In 1946, after his military service ended, Firestone married Berdie Flegenheimer, a native New Yorker whom he met in 1944 when he was stationed at Ft. Monmouth, NJ. Firestone also re-enrolled at City College, choosing chemistry as a major over electrical engineering or pharmacy. His original interest in medicinal and environmental chemistry had been kindled by Paul de Kruif's books describing medical scientists at work. He was graduated from City College in June 1948 with a bachelor of science in chemistry and went to work for the FDA. The lab director, Dr. Jacob Fitelson, was the man whose analytical detective work attracted Firestone to fats and oils.

Six years later, Firestone applied for a vacancy in FDA's Washington headquarters for a researcher to investigate heated fats. For several years he worked on the composition and analysis of heated and oxidized food fat. Firestone also became a member of AOCS in early 1955, shortly after his transfer to Washington. He had received his masters degree in 1951 from Brooklyn Polytechnic Institute through evening and part-time studies.

In 1955 Firestone attended the AOCS Short Course on Analytical Techniques at the University of Illinois. His roommate was Bill Link, another future president of the AOCS. The short course was his first encounter of a close kind with AOCS, one which he still recalls with pleasure, Firestone says.

In 1957, so-called "chick endema factor," which caused the death of millions of chickens in the East and Midwest,

was traced to certain animal by-products found in fats. Initial isolation and characterization work lead to a long-term effort, primarily concerned with development of analytical methods to detect parts per billion levels or less of these toxic chemicals, now known to be chlorinated dibenzo-*p*-dioxins. Firestone's work was expanded to include toxicity and analytical methodology of dioxins along with his work on heated fats and composition of oils and fats.

While in Washington, Firestone continued his part-time and evening studies toward a doctorate, which he received in 1968 from George Washington University. His thesis was on the photochemical rearrangement of alkyl 3,5-dialkyl-phenyl ethers.

It was during the early 1960s that he became active in AOCS technical committees, serving on the gas chromatography and spectroscopy subcommittees of the instrumental techniques committee. In the mid 1960s he became active in program and planning committees, serving as a lecturer at short courses in 1966 and 1967 and helping to organize the AOCS-AACC joint meeting in 1968.

He became a member of the Governing Board as a member-at-large in 1974, then served as treasurer 1975-77, as vice president in 1977-78, and will serve as president through the May 1979 Annual Meeting.

At present, his work at FDA is involved almost full time in research on environmental transmission and analysis of dioxins which occur as trace components of various chlorophenols. When he isn't at work, Firestone enjoys golf (outdoors) and stamp and cover collecting (indoors), as well as music, opera, theater, and square dancing. He has been active in local community and service organizations.

He also is a member of an EPA study group investigating the environmental effects of pentachlorophenol and its contaminants. Firestone continues as a titular member of the IUPAC Oil and Fat Commission as well as a member of the advisory board of *Analytical Chemistry*. In keeping with his long-time interest in developing uniform widely accepted international methods for fat and oil analysis, he is completing an international multilaboratory study of IUPAC methodology for determination of fatty acid composition by gas chromatography.

Mrs. Firestone is a program assistant with the National Institute of Mental Health. One son, Richard, is a graduate student in economics at UCLA. Their second son, Michael, is a graduate student at Georgetown University, doing research in physical biochemistry. A daughter, Janice, is a junior in high school.

Firestone and the FDA also are now involved in methods of detecting several parts per trillion of dioxins. Why?

"Some toxicologists now believe that some of these substances could be harmful in animal tests at 50 parts per trillion," Firestone said. "If that's so, and the usual safety factor of 100 is used to establish tolerance limits, you're talking about a tolerance of about 0.5 parts per trillion, which means we need to be able to detect a substance at one part per trillion or less."

The detection work that seemed so interesting thirty years ago remains just as big a challenge three decades later.