Francis Luddy and Samuel Herb Honored by Northeast Section of AOCS

Francis E. Luddy

Samuel F. Herb

Francis E. Luddy and Samuel F. Herb, research chemists at USDA's Eastern Regional Research Center, located in the Philadelphia suburb of Wyndmoor, Pa., have been jointly honored with the Achievement Award of the Northeast Section of AOCS. The ceremony took place September 9, 1975, at a meeting of the Northeast Section held at The Chemists' Club, New York, NY.

Mr. Luddy, current Vice President of the Northeast Section, AOCS, has been employed at the Center since 1942. The joint award recognizes his outstanding technological contributions in the field of lipid chemistry. He is author or coauthor of 38 publications, and perhaps is known best for the development of a procedure for fractionating tallow to give solid, semisolid, and liquid fractions having many potential uses in the edible oil and fat industry. He is also known widely for his research on the conversion of triglycerides to methyl esters and development of a rapid and precise semimicro method for the hydrolysis of glycerides with pancreatic lipase. Mr. Luddy is a native Pennsylvanian and received his higher education at St. Francis College, Loretta, Pa. He is a former secretary of the Northeast Section, AOCS, a member of the American Chemical Society, the Philadelphia Organic Chemists' Club, and the American Association of Candy Technologists.

Mr. Herb joined the staff of the Eastern Regional Research Center in 1942. The joint Achievement Award recognizes his technological contributions in the area of gas liquid chromatographic analysis of fatty acid esters. In addition, he has led cooperative studies under the auspices of AOCS Instrumental Techniques and Smalley Committees that have resulted in reports and recommendations that raised the level of reliability of gas liquid chromatographic analysis of fatty acid methyl esters. He is author or coauthor of 49 publications. Mr. Herb is a native Pennsylvanian, and received his higher education at the University of Pennsylvania and Temple University. He is an Associate Editor of JAOCS, a member of the American Chemical Society, American Society of Testing and Materials, The Delaware Valley Chromatography Forum, and the Philadelphia Organic Chemists' Club.

Their award address will include a discussion of confectionery fats from hydrogenated beef oil and use of attenuated total reflectance, an infrared spectrophotometric technique, for determination of *trans* unsaturation in fats. An abstract of the award address is presented below.

Abstract

Beef oil, the major product from the solvent fractionation of edible beef tallow, was hydrogenated to yield a family of new confectionery "hard butters." Hydrogenation conditions were mild and required temperatures under 120 C at atmospheric pressure. Hard butters had sharp DSC melting profiles similar to cocoa butter. Products also were prepared with melting characteristics higher or lower than cocoa butter.

The *trans* content of these hard butters was determined by standard AOCS methods for isolated *trans* bonds. The *trans* content of these and similar fatty materials was studied by thin layer chromatography and gas liquid chromatography, as well as attenuated total reflectance (ATR) spectrophotometry. The practical range of ATR spectrometry for *trans* analysis was extended by the use of hexane as a diluent. ATR calibration curves were established for both oil and solvent systems. ■