Past President W.D. Hutchins Dies

W.D. Hutchins, the 25th president (1934) of the American Oil Chemists' Society, died in Savannah, Georgia, on March 31, 1976, after a long illness. Born in Liberty, South Carolina, on July 15, 1896, Wayland Dewey Hutchins attended preparatory schools in Liberty and Clemson A&M College in Clemson, South Carolina. Upon graduating in 1917, he was employed by the Southern Cotton Oil Company, where he worked with Dr. Frank N. Smalley, the Society's fourth president. After twenty years as district chemist in charge of the Savannah laboratory, he was transferred in 1939 to the manufacturing division as its superintendent. In 1962 he retired from that division, having attained the position of plant manager.

The American Oil Chemists' Society regrets the loss of still another of its past presidents. His contributions were many and varied. He was president, vice president, Governing Board member, and, in addition, a member of such committees as Nominations (1938), Editorial Advisory Board (1940), F.A.C. (1939-43), Oil Characteristics (1937), Uniform Methods (1940-41), and others, testifying to the breadth of his involvement. He made many friends and rejoiced in the growth of the Society, both in members and in scope.

W.D. Hutchins was more than a chemist and a member of the American Oil Chemists' Society—he was a family man and a community worker. He was a member of F & AM Lodge 231, a trustee of Chandler General Hospital in Savannah, past president of the Clemson Alumni Association, and a member of the Methodist church.

The Society extends to W.D. Hutchins's daughters, his sister, his grandchildren, and his nieces and nephews its sincere sympathy in their loss, and at the same time takes this opportunity to recognize the scientific and personal loss of one of its own.

R.C. Stillman
AOCS President, 1964

THE LATEST IN Lipids

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Robert Good Retires from Dravo

Robert D. Good, manager, extraction, food, and biochemicals, Chemical Plants Division, has retired after 29 years of service with Dravo Corporation. Good will continue to serve Dravo as a consultant.

An AOCS member since 1966, he was responsible for engineering and development work on projects relating to extraction, protein processing, cane sugar, wood bark, and the food processing and biochemical industries.

Good, a chemical engineering graduate of Carnegie-Mellon University, joined Blaw-Knox in 1947 as a process engineer in its Chemical Plants Division, which was acquired by Dravo in 1973. From 1950-1965 he served as project engineer. Since 1965 he had been associated with the extraction, food, and biochemicals department.

The author of numerous technical papers and publications, Good holds a number of patents in food processing technology, including meal desolventizing and deodorizing and dual stage steam stripping of vegetable oils. He was part of the team that developed the Rotocel® continuous extractor for efficient low cost processing of oilseeds and other granular solids such as wood, polymers, ores, and minerals.

William Coombes Assumes Post

Assuming the vacated position is William A. Coombes, formerly assistant technical manager of the Chemical Plants Division. A chemical engineering graduate of the University of Missouri, Coombes joined Dravo in 1965 and has been an AOCS member since 1973. ▪

Enviro-Test Opens Chicago Area Laboratory

Enviro-Test, Inc., has opened modern laboratory facilities in Westmont, IL, and will specialize in water analyses. The founder and laboratory director, Dr. Robert J. Jakubiec, has more than 12 years' experience in analytical chemistry, including atomic absorption spectroscopy, all phases of chromatography, and general analytical methodologies. Dr. Jakubiec has been an AOCS member since 1971. ▪

Luck Appointed Senior VP at General Mills

General Mills has named Dr. John V. Luck to the position of senior vice president-technical director. The move was part of the organizational plans voted by the company's board of directors to provide for the orderly transition of management required by the mandatory retirement of James P. McFarland, currently chairman and chief executive officer, on February 1, 1977.

Dr. Luck has previously been employed with the Pabst Brewing Co., General Foods Corporation, Armour & Co., and as director of research at Durkee Famous Foods.

A member of AOCS since 1960, Luck received a Ph.D. from Purdue University in 1954. He lives in Minneapolis. ▪

Gilmont To Head AIC Board of Directors

The American Institute of Chemists (AIC), in its recent annual meeting at Saddle Brook, NJ, announced the election of Dr. Ernest R. Gilmont as chairman of its board of directors. Dr. Gilmont, immediate past president of the AIC, is currently technical director of A. Gross & Company, a Kewanee Industry, Newark, NJ.

The youngest man ever elected (1971) to the office of president of the American Institute of Chemists, Dr. Gilmont had been active for years in efforts to improve the professional environment for chemists. He moved AIC headquarters from New York City to Washington, DC, recruited a staff of professional association executives, and increased the Institute's legislative activity, contributing to passage of the Pension Reform Act of 1974. While president of the AIC, Dr. Gilmont was elected chairman of the Committee of Scientific Society Presidents (CSSP), an organization comprised of the presidents of the principal U.S. scientific societies. He was reelected chairman of CSSP in 1976, thus continuing as a unique liaison man for his own group, the American Institute of Chemists.

Gilmont, who received his Ph.D. from the Massachusetts Institute of Technology in 1956, joined AOCS in 1968. ■

Dan Henry Retires from Law & Company

On June 30, Dan Lee Henry retired from the partnership of Law & Company, a group of consulting and analytical chemists located in Atlanta, GA. He had been with the firm since 1946, the same year he joined AOCS.

An active participant in Society activities for the past 31 years, Henry has served as member or chairman of the Nominating and Election Committee, Smalley Committee, Uniform Methods Committee, *Journal* Committee, Bleaching Methods and Feed Grade Fats subcommittees of the Commercial Fats and Oils Analysis Committee, Aflatoxins and Fiber Determinations subcommittees of the Seed and Meal Analysis Committee, Soap and Synthetic Detergent Analysis Committee, Determination of Fish and Marine Oils in Vegetable Oils Committee, and Intersociety Relations Committee. He was national meeting program chairman in 1950 and general chairman in 1962.

Henry received a B.S. degree in chemical engineering from the Georgia School of Technology in 1934, and spent seven years with Swift & Company's refinery in Los Angeles before entering the Armed Forces in 1941.

His partners, Jack Lynch and Bill McBee, also members of AOCS, will continue to run the business. ■

abstracts

EDITOR: S. KORITALA

ABSTRACTORS: N.E. Bednarcyk, J.C. Harris, M.G. Kokatnur, F.A. Kummerow, T. Mares, B. Matijasevic, J.C. Means, D.B.S. Min, E.G. Perkins, and R.A. Reiners

• Fats and Oils

DIRECTED TRANSESTERIFICATION OF FATS. I. MATHEMATIC MODEL FOR CALCULATING IN TERMS OF GLYCERIDES THE COMPOSITION OF A DIRECTED TRANSESTERIFIED FAT. F.J. Nieto and A. Madarro. (Instituto de Productos Lácteos. Patronato ((Juan de la Cierva)). (C.S.I.C.). Arganda del Rey (Madrid). *Grasas Aceites (Seville)* 26, 361–6 (1975). Equations are established relating the final composition of glycerides of a directed transesterified fat to the percentage of satured fatty acids of the liquid phase at equilibrium and to the molar fraction of trisatured triglycerides in the solid phase, or selectivity factor. The proposed resolution for this equations system permits to arrive at simple expressions for calculating the pointed characteristics and the percentage of present solid phase at equilibrium, from experimental data such as the composition in the four standard glycerides.

PRODUCTION OF MARGARINE OIL FROM COTTONSEED OIL AND CORN OIL. Abdel-Hamid Youssef Abel-Rahman. (Food Technology Department, College of Agriculture Alexandria University, Alexandria, Egypt). *Grasas Aceites (Seville)* 26, 367–8 (1975). Margarine oil was produced from corn oil and cottonseed oil by using 5, 6, 7, 8 and 9% glycerine monostearate. Increasing the emulsifier concentration showed no effect on the refractive index, saponification value and the peroxide value, but the iodine value decreased and melting point increased. The peroxide value increased by increasing the storage temperature during 50 days.

THE STEADY-STATE KINETICS OF THE OXYGENATION OF LINOLEIC ACID CATALYSED BY SOYBEAN LIPOXYGENASE. M.R. Egmond, M. Brunori and P.M. Fasella (Istituto di Chimica Biologica, Universitá degli Studi di Roma e Centro di Biologia Molecolare, Consiglio Nazionale della Richerche, Roma). *Eur. J. Biochem.* **61**, 93–100 (1976). The steady-state kinetics of the oxygenation of linoleic acid catalysed by soybean lipoxygenase-1 were studied. The results showed that lipoxygenase-1 is strongly inhibited by its substrate, linoleic acid. In the presence of the product of the reaction, 13-L_s-hydroperoxylinoleic acid, the substrate inhibition only affects the apparent affinity for O_2 and is of a hyperbolic type. A kinetic scheme of the oxygenation reaction is presented, which postulates two substrate-binding sites on the enzyme, one for linoleic acid and one for O_2, and a regulatory binding site, which can either bind the product or the fatty acid substrate. Since previous studies indicated that the product of the reaction influences the oxidation state of the iron present in protein, the steady-state kinetics of the native enzyme and of the enzyme pre-incubated with the product were compared. Preincubation of the enzyme with the product did not lead to altered steady-state kinetics of the reaction compared to those of the native enzyme.

ION-BINDING TO PHOSPHOLIPIDS: INTERACTION OF CALCIUM WITH PHOSPHATIDYLSERINE. H. Hauser, A. Darke and M.C. Phillips (Biosciences Division, Unilever Research Laboratory Colworth Welwyn, The Frythe, Welwyn, Herts). *Eur. J. Biochem.* **62**, 335–44 (1976). The binding of Ca^{2+} to monolayers and bilayers of phosphatidylserine has been investigated as a function of pH, ionic strength (NaCl concentration) and Ca^{2+} concentration using surface and colloid chemical techniques. The molar ratio of lipid to bound calcium decreases to 2 as the Ca^{2+} concentration is increased to about 0.1 mM. At $[Ca^{2+}] > 0.1$ mM a 1:1 complex is formed. The apparent binding constant K_a ranges from about $\approx 10^6 - 10^4$ l/mol depending on the Ca^{2+} concentration. After allowing for electrostatic effects and neighbour group interactions, the intrinsic binding constant K_i of the phosphorylserine polar group at pH 7 ($I = 0.01$ M), where it carries a net negative charge of one, is $\approx 10^4$ l/mol; consistent values for K_i were obtained using several independent approaches. K_a for Ca^{2+} binding decreases with increasing NaCl concentration because the monovalent cations compete with Ca^{2+} for the same binding site. Na^+ and K^+ are equally effective in displacing $^{45}Ca^{2+}$ adsorbed to monolayers of phosphatidylserine, both with respect to the kinetics and the equilibrium of the displacement. K_a for the reaction between phosphatidylserine and monovalent cations is about 10^3-fold smaller than that of Ca^{2+}. An investigation of the binding of Mn^{2+} to phosphatidylserine by both surface chemical and nuclear magnetic resonance methods shows that this cation has a similar binding constant to that of Ca^{2+}. The Ca^{2+}-binding capabilities of monolayers containing only carboxyl groups (*i.e.* arachidic acid) and phosphodiester groups (*i.e.* dicetyl phosphate) have also been determined; the apparent pK for the $-COOH$ group in monolayers is > 9 and that for the phosphodiester group is < 4. Since these groups do not retain the same pK values when they are in close proximity in the phosphorylserine group, the relative contributions of the two groups to the binding of Ca^{2+} to phosphatidylserine is not obvious.

INTERACTIONS OF PROTEINS AND CHOLESTEROL WITH LIPIDS IN BILAYER MEMBRANES. W. Kleemann and H.M. McConnell (Stauffer Lab. for Phys. Chem., Stanford, Calif. 94305)

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