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Report from London

(The following report on the Second International Congress on Essential Fatty Acids and Prostaglandins and Leukotrienes was written by Michael Crawford, head of the biochemistry and nutrition section in the Nuffield Laboratory of Comparative Medicine at the Zoological Society of London. The report describes how researchers who five years ago were relatively unknown to each other have discovered their work is becoming more and more interrelated.)

The second International Congress on Essential Fatty Acids, Prostaglandins and Leukotrienes was held March 24-27, 1985, at the Zoological Society of London. The first congress was held in 1980 as a Golden Jubilee celebration of two apparently unrelated discoveries: the essential fatty acids by George Burr in Minneapolis and prostaglandin activity by the Swedish scientist Von Euler in 1930. At the time of the 1980 congress the essential fatty acid and prostaglandin workers hardly knew each other; the former came mainly from biochemical and nutritional laboratories, while the latter were predominantly of pharmacological and clinical persuasion. Because of growing evidence for the significance of the product-precursor interaction, the objective was to bring those workers together.

The first congress was intended as a one-time affair, but the event was so successful that another meeting was suggested. When the 1982 Nobel Prize for medicine/physiology was shared between Bergstrom, Samuelsson and Vane for their work on the oxidation products of arachidonic acid, a second congress became inevitable.

Despite announcements of a limited attendance and closing of registration some three weeks before the conference, the expected attendance of 300 to 320 grew to approximately 400 at the opening ceremony. The proceedings were initiated by the past president, Dr. Ralph T. Holman, introducing Prof. G. Schettler who set the scene by discussing the implications of the lipids to the real world of human medicine. Sir John Vane then gave an elegant introduction to the science at hand, describing his early recognition of the central role of cyclooxygenase and the discovery of its inhibition by aspirin. This led up to the contemporary question of how can the single substrate, arachidonic acid, be the precursor of oxidation products with such diametrically opposing functions as found in prostacyclin and thromboxane? The evidence, which Sir John presented, pointed to a balance being struck between the contenders, to offer a yin-yang control over blood flow and platelet function.

At the first congress, Prof. Bengt Samuelsson had introduced a nomenclature for the leukotrienes, a group of noncyclic oxidation products of arachidonic acid, hard on the heels of the first publication demonstrating that the active component of slow-reacting substance of anaphalaxis was a product of the action of lipoxygenase on arachidonic acid, and that it was 1,000 times more active than histamine. The fact that Samuelsson could, five years later, describe a set of physiological functions for the leukotrienes and introduce the audience to a family of newly discovered arachidonic acid metabolites, the lipoxins, gives some indication of the rate at which this subject is progressing.

The first full day of the Congress proceedings opened with lectures and posters on biochemistry, physiology and nutrition; the Congress then pulled the different disciplines together by working through developmental considerations to applied aspects of cardiovascular disease, cancer and the response to cell injury.

To one reading between the lines, it became increasingly clear that the popular concept of "good" and "bad" prostaglandins or leukotrienes is no longer tenable. The endogenous synthesis of eicosanoids is homeostatic, favoring the blood flow, smooth muscle function and retention of white cells and a fetus in their proper domains. By contrast, on stimulation, a different set of products emerges which ensures that white cells migrate and platelets adhere to exposed collagen. If a blood vessel has been injured in the presence of bacterial infection or during parturition, the so-called "bad" eicosanoids have optional biological effects. The fact that white cells can secrete some LTB4 at cell junctions to open them up is an entirely desirable and welcome course of action. That one in four men has a thrombosis in his heart or brain during his working life is not the fault of thromboxane, but rather more of food policies that predispose to vascular disease.

The basic science from the plenary and poster sessions highlighted independent properties of different fatty acids. The contrasting impacts of saturated and polyunsaturated fatty acids are now so well established that they hardly deserved mention. However, for the first time, there seemed to be agreement that lineoleic does not equate with its metabolic product, arachidonic, nor alpha-linolenic with eicosapentaenoic, let alone docosahexaenoic acids. This is a matter of practical importance for those concerned with infant nutrition, especially premature infants, where the target is the production of arachidonic and docosahexaenoic acids.

The key role of the desaturase system in the conversion of linoleic to arachidonic acid has been understood for some time, but the in vitro data never explained the much slower rates of conversion found in practice in the whole animal. It is now becoming clear that the compartmentalization of the fatty acids into different lipid fractions plays an important role in determining whether they are available for further metabolism. The possibility that there are two compartments or pools providing for regulatory or stimulated synthesis of eicosanoids makes the control of the opposing function of the different eicosanoids more easily understood.

Competition between the different families of fatty acids provided a background for understanding many of the effects now being demonstrated by individual fatty acids. Whereas a few years ago the n-3 family of essential fatty acids was somewhat ignored, this Congress offered a number of examples of alpha-linolenic and eicosapentaenoic acids competing with the n-6 series for desaturation, incorporation into cell membranes and the cyclooxygenase/lipoxygenase pathways. A prime function of the n-3 fatty acids could well be regulation of the metabolism of the n-6 family to achieve optimum conditions for cell structures and physiology. The optimum balance is unknown, but with compositional data for structural lipids in 32 different mammalian species and from over 2,000 human milk samples giving an n-6/n-3 ratio between 3:1 and 5:1, we may have some guidance.

The evidence for synthesis of eicosanoids from eico-

sapentaenoic acid is still dependent on feeding eicosapentaenoic acid-rich foods. One can argue either that under "normal" circumstances we do not synthesize the less thrombotic TXA3, or that we have become so deficient in the appropriate food source (fish) that we should not be surprised at the lack of TXA3 in contemporary circumstances. An evening at the Museum of London, with delegates enjoying simple fish dishes from different periods of London's history, starting with the Romans, must have impressed on the delegates just how poverty stricken is our contemporary use of fish, which seems confined to fried fish and chips or grilled sole swimming in butter.

Based on the competitive biochemistry and the targets of endothelial structures or its prostanoids, it is no longer difficult to understand how saturated fats correlate so tightly with cardiovascular disease. Nor is it surprising to see evidence of a reduction in heart disease when saturated fats are reduced and dietary polyunsaturated fats are allowed to become significant. However, it is interesting to see in conjunction with such intervention studies in Finland reductions in blood pressure, especially when one remembers that one of the reasons Von Euler was isolating prostaglandin-like materials in the 1930s was precisely because of their pressor effects.

What is even more interesting is the striking correlation to which Carroll drew attention at the first Congress—between fat intake and breast cancer. At first sight, a common denominator between cancer and heart disease based on fats seems improbable. But from what is now known about prostaglandin synthesis by tumor cells, it is quite plausible that the principles of aggregation and adhesion vs. disaggregation apply to tumor cells in a similar way to their operation within the platelets. Furthermore, the tie-up between the white cells and the immune response with leukotrienes and prostaglandins, to say nothing of the modulation of the response by eicosapentaenoic acid and assumedly other fatty acids when they are examined, provides the beginning of a rational framework from which science can at least start to operate.

Consistent with the emphasis on new material, the Congress program was not sent to the printer until March 11, and the final session consisted of late materials chosen on March 26. The papers given in this last session described the identification of a new group of eicosanoids called hepoxalins which are involved in the mechanism of insulin release; suggestive evidence that aspirin may block the 6-desaturase as well as the cyclooxygenase; an experimental dyskinesia which responds to dihomogammalinolenic acid; a fish oil effect which was not reproduced by the fish oil fatty acids; a claim that cholesterol also modulates the desaturase, and finally a PG analogue which reverses or prevents the first adhesion of white cells seen in experimental atherosclerosis.

The conference ended with a banquet in honor of Dr. Hugh Sinclair's 75th birthday, at which Congress president Sir John Vane presided. Hugh gave an immensely amusing, but at the same time instructive, speech. Having been asked to describe something of the history of the EFAs, he started with the first evidence of EFA deficiency, in 5000 B.C. when the Babylonians were described as experiencing a "hardening of their hearts"!

Before Hugh rose to speak, he was described as a man with great insight, who in 1944 had compared the incidence of corneal arcus in Canadian Indians and Eskimos with that in British and New Zealand pilots being trained at the same latitude. The former had a diet rich in EFC and no cholesterol deposits, while the latter had the opposite. Hugh probably was instrumental in persuading Ancel Keys to consider more than total fat alone as linking with heart disease, that is, to consider the link with saturated fat. It was attention to the qualitative composition of dietary fats which made the Keys studies significant. In a paper he wrote in 1966, Sinclair's thinking had advanced to the point of linking atherosclerosis and low density lipoprotein, and he already was talking about docosahexaenoic acid, the cell structural role of EFAs and their physiological function through the prostaglandins—roughly where many of us are today. When Hugh had finished speaking, audience members were left in no doubt that they had listened to a great teacher and scholar. He returned to his seat during a standing ovation and received a present from the Canadian Eskimos, delivered by Ken Carroll.

Finally, a further note of historical interest is worth mentioning. Von Euler, in his attempt to isolate the pressor substance, which ultimately he named prostaglandin, went to work with Sir Henry Dale in 1930 at the Burroughs Wellcome laboratory. Later he returned to Sweden where he persuaded Bergstrom to continue the work. It is not entirely coincidental that the two Nobel laureates who spoke at the 1980 opening ceremony came from those two same laboratories. In the presence of much enthusiasm expressed by current administrators for scientists to change regularly their allegiances, we could perhaps learn from this history which illustrates the value in the opposite approach.

Soybean growers meet

United States soybean growers met late this past summer in San Antonio, Texas, at about the same time the U.S. Department of Agriculture said the 1985 crop would be more than 1.95 billion bushels. Some growers and commodity firm analysts said the total crop might be even higher, as the USDA estimate reflected conditions on Aug. 1, 1985, but growing conditions had been favorable from Aug. 1 through the mid-August meeting.

With prices bumping down toward $5 a bushel and a large harvest anticipated, growers were not too optimistic about their financial situation. Many felt the best chance for higher soybean prices was through a decrease in the value of the U.S. dollar relative to currencies of foreign buyers of U.S. beans.

Market analyst Richard Feltes was one of those who said the harvest might top 2 billion bushels. Feltes also estimated soybean stocks this harvest season will be about 27% of annual usage, a record high ratio.

Market analyst James Fritz had a bit more optimistic message for the growers, saying they might see prices rising to $6.50 to $7 by November. Fritz noted the Soviet Union had stayed out of U.S. soybean markets so far in the year, possibly to express displeasure because some specialized trade programs would permit other nations to buy U.S. agricultural goods at lower prices than could the Soviets. Fritz said the Soviet Union would still need the soybeans and products, but that Latin American ex-

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porters had virtually depleted their supply.

Another possible harbinger of increased demand is the U.S. poultry industry running at record levels—with soybean meal a major feedstuff. Fritz also said if there are any problems in getting a crop planted in Argentina and Brazil at the end of 1986, that might send prices up. Problems could range from weather to difficulties in financing production costs.

Brazilian and Argentine soybeans are frequently mentioned at ASA meetings. University of Georgia agronomist John Woodruff presented data on comparative soybean production costs based on information from a recent trip to South America. Woodruff estimated the cost of growing a bushel of soybeans in Argentina is about $4.07; in southern Brazil, $6.39; in west central Brazil, $4.10; in the southern United States, $7.29 and in the midwestern United States, $5.97. The estimates were based on those of February 1985, when the Chicago Board of Trade soybean price was $6.22 a bushel. U.S. farmers had higher costs for land and labor, while the South American growers spent significantly more for fuel.

Market analyst Richard Loewy said an announcement by one new Latin American president that his nation would not meet international loan repayments as presently scheduled, but would apply 10% of foreign currency earnings each year to repay loans, has not gone unnoticed throughout Latin America.

Loewy also said he expects Brazilian farmers to plant less acreage this coming season because government funds to help finance planting are skewed to favor other crops. Acreage could drop 10%, Loewy estimated.

U.S. farmers also voiced opposition to a $200 million World Bank loan to help improve Brazil's railway system, which will reduce the cost of moving Brazilian soybeans to export points. One marketing advantage U.S. farmers have enjoyed is a better infrastructure for storing and then moving beans to market. Generally speaking, the soybean association's voting delegates tend to oppose any aid that might encourage foreign oilseed growers.

Since the U.S. Congress had not yet approved any farm policy legislation for 1985 when the growers met, there also was considerable discussion as to what soybean farmers wanted to see in that legislation. Some favored a higher government loan rate on soybeans, perhaps as high as $5.50. For 1985, the loan price nationally averaged $5.02. Others argued this would simply encourage more foreign soybean acreage as the U.S. loan price tends to be a floor price for international markets. The Reagan Administration has said it wants to spend about $34 billion on farm programs, but the proposals considered by Congress before its summer recess would have totaled $45 billion to $60 billion, according to ASA staff members.

One proposal designed to improve farm income would replace present feed grain programs with a $50 per acre payment to farmers, regardless of the crops they grow or quality of land. Such a payment would not favor one crop over another, ASA staff members said, and would reduce the present bureaucracy of acreage controls on some crops, support loans on others, etc. While wheat, cotton, peanuts and corn have specific programs providing financial support, soybeans do not. The acreage payment plan was estimated to cost about $12 billion, the cost of present feed grain programs. It would have cut soybean farmers a share of the pie which they now do not have. Under the proposal discussed, the payment would have been reduced 5% in each successive year, phasing out feed grain farm programs in about 20 years.

The soybean growers, however, seemed to favor continuing the association's traditional position of keeping government out of the soybean market, but hoping some way could be found to provide cash help soon to growers caught in a severe agricultural recession. Soybean growers in the past have preferred to weather the financial lowpoints in order to fully benefit from the financial good times. But most of them said they wouldn't be making much, if any, profit from soybeans this year.

At the annual research luncheon, growers heard reports on use of soy oil as a dust suppressant at grain elevators. Using 0.02% soy oil by weight effectively eliminated dust problems, growers were told. Grain dust at elevators has been a contributing factor to explosions. Elevators now use blowers and dust trap bags to try to reduce dust levels. Elevator employees have had to wear face masks to avoid inhaling dust. Use of soy oil in the small quantities required does not affect the final products made from the stored soybeans, growers were told. Some elevators presently use mineral oils to control dust. Other vegetable oils have about the same effect as soy oil, researchers said, but are more expensive.

Austria okays 'OP'

Relatively major expansions of Austrian acreage for rapeseed, sunflower and legumes may occur in 1986 as that nation's "Oilseed Project" may get under way with financial support from the federal budget.

Rapeseed acreage may rise to 40,000 hectares by 1989 from the present 4,000; sunflower may rise to 3,400 from 50. The increase may also lead to construction of the first oilseed crushing plant in Austria; at present all oilseed material is exported for processing, usually to Hungary.

Previous implementation of the plan had been blocked by labor organizations, who opposed financing the scheme from the regular budget, instead proposing a "fat tax," according to a USDA report from Vienna. Farm organizations, on the other hand, withheld support for a proposed jobs-creating trans-Austrian gas pipeline unless the labor groups dropped opposition to the "oilseed project."

India tries 'countertrade'

The new chairman of India's State Trading Corporation, which imports vegetable oils, has proposed that suppliers of vegetable oil be asked to buy at least 50% of the value of the oil supplied in some form of Indian goods. According to a USDA report from New Delhi, the proposal is not mandatory to completing sales and is being used on a trial basis.

The STC chairman successfully introduced a similar plan for the Minerals and Metals Trading Corporation of India and had limited success in trading for fertilizers against exports of soybean meal, the report said.

Loan reported

The Spanish government made available a loan of 4.5 billion pesetas (US $27 million) to a Spanish combine

trying to take over Spain's leading edible oil company, Carbonell.

According to a USDA report from Madrid, the Spanish firm has been the subject of takeover efforts by Lesieur, Unilever and other non-Spanish concerns. Lesieur has a majority interest in Spain's second largest edible oil company, Koipe, according to the report.

The new Spanish combine is called Aceites Espanoles S.A., with 75% capital from Elosua S.A. and 25% from Industrias Pont, both Spanish dominated edible oil firms, the report said.

Space spheres on sale

Billions of tiny polystyrene spheres made aboard a National Aeronautics and Space Administration (NASA) space shuttle flight are being offered as standard reference material by the National Bureau of Standards (NBS).

The spheres, each 10 micrometers in diameter, are being purchased by producers of finely ground powder products such as paint pigments, inks, toners, chemicals and cosmetics as well as by technologists who monitor environmental particulate pollution from industrial and chemical plants. The spheres also are being used by medical researchers who calibrate instruments to count blood cells and measure their shape, and to perform a variety of diagnostic measurements. In addition, the product is available to manufacturers as a reference in producing and distributing secondary measurement standards.

Richard W. Scott

ASTM honors Scott

AOCS member Richard W. Scott, staff scientist for Sherwin-Williams Co., Chicago, Illinois, was named a 1985 recipient of the American Society for Testing and Materials' (ASTM) Award of Merit.

Scott received the award at ceremonies hosted by ASTM Committee D-1 on Paint and Related Coatings and Materials in July in San Diego. He was cited for outstanding leadership as chairman of the Analytical Subcommittee of Committee D-1, directing the work of 24 active task groups, and promoting the use of ASTM standards by the U.S. Environmental Protection Agency.

An active member of Committee D-1 since 1972, Scott currently is chairman of Subcommittee D01.21 on Chemical Analysis of Paint and Paint Materials. He is a member of eight subcommittees of D-1 and of five other ASTM committees.

Fats consumption growing

U.S. per capita fats and oils consumption is projected by USDA to increase about 4% during 1985, based on census figures for domestic disappearance for January through May. Per capita disappearance of baking and frying fats and salad and cooking oils is expected to increase in 1985, while margarine use is seen remaining constant. Total per capita fats and oils consumption, excluding butter, is forecast at 59.1 pounds in 1985.

Peanut foundation formed

The National Peanut Council has established a peanut foundation to further research in the peanut industry, provide educational information to the industry and the general public, conduct studies on consumer trends and uses of peanut products to increase consumption, and establish a scholarship fund. Meanwhile, the council has moved its offices from Washington, D.C., to Alexandria, Virginia. The council's new address is 101 S. Peyton St., Suite 301, Alexandria, VA 22314. The new telephone number is 703-838-9500.

FEDIOL to pursue complaint

FEDIOL, the European seed crushers and oil processors' federation, has taken its complaint of alleged unfair export practices by Argentina and Brazil to the Court of Justice, The Hague, The Netherlands. Earlier, FEDIOL had asked the European Economic Community (EEC) Commission to take action against Argentina and Brazil over policies which give their soybean meal and oil exports a trading advantage. The Commission, however, disagreed with FEDIOL and refused to impose an anti-subsidy duty on soymeal imported from Brazil and Argentina.

According to the West German fats and oils weekly *Oil World,* the Court of Justice will need to consider the question of what constitutes a subsidy. FEDIOL says Argentina and Brazil apply a system of differential export duties which apply significantly higher rates for raw materials than for their derived products, oil and meal. Consequently, they can export soybean oil and meal at a lower price than soybeans. The EEC Commission said such a system does not constitute subsidies according to the GATT. FEDIOL, however, disagrees.

Wheat gluten group meets

The International Wheat Gluten Association (IWGA) met in Australia this summer for its annual meeting. 1985-86 officers elected were the following: president, James W. Kirkpatrick, Manildra Milling Corp., Shawnee Mission, Kansas; first vice president, Hugo Deiters, Crespel & Deiters GmbH, Ibbenbueren, West Germany; second vice president, Terry McDonnell, Ogilvie Mills Ltd., Montreal, Canada; treasurer, Allan M. O'Brien, Fielder Gillespie Davis Ltd., Sydney, Australia; secretary, Ladd Seaberg, Midwest Solvents Co. Inc., Atkinson, Kansas, and technical committee chairman, Norman Wookey, Tenstar Products Ltd., Ashford, Kent, England.

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IWGA noted that on March 6, 1985, the U.S. Food and Drug Administration finalized an amended Generally Recognized as Safe (GRAS) affirmation for wheat gluten which included various changes and additions. These expanded approvals will permit new uses and applications for wheat gluten in such areas as processed meats and cheese analogues.

NFPA sets up food center

Tech S Corporation, a for-profit subsidiary of the National Food Processors Association (NFPA), has purchased the former McKesson Corporation food research laboratories in Dublin, California. Renamed the Food Processors Technical Center, the facility will combine existing operations there with resources from NFPA's Berkeley, California, food research facility. The Berkeley facility will be closed.

According to Ellen Green, NFPA's manager of media relations, operations from the Berkeley laboratory will be moved gradually to Dublin over the next year. The Food Processors Technical Center will perform research in food product development, process and packaging development, food safety and sanitation, environmental protection, and specific processing such as dehydration and sensory evaluation, and will include expertise in microbiology, chemistry and hyperfiltration. While some of the research will be done on a non-profit basis for the industry, the bulk will be contract work, Green said.

Frank J. Flider

Flider directs jojoba group

AOCS member Frank J. Flider has been named the first executive director of the Jojoba Marketing Cooperative (JMC). As such, he is responsible for the day-to-day operations of JMC, which arranges the processing and marketing of jojoba seed grown by its members. Currently, approximately 10,000 acres of jojoba have been cultivated by JMC members.

Prior to joining JMC, Flider was general manager of the Soy Specialties Division of Riceland Foods. Previously, he had been a research chemist with A. E. Staley Manufacturing Co. and Central Soya Co. He has authored several articles on lecithin.

Flider will be based at the Jojoba Marketing Cooperative office, 3320 E. Shea Blvd., Suite 290, Phoenix, AZ.

Library seeks back issues

The library at the University of Ilorin in Nigeria is seeking donated back issues of *JAOCS* for its collection. The university will pay shipping charges. The library is hoping a retired AOCS member with an extensive collection of complete past volumes might be willing to donate those volumes. Persons interested should write to B. A. Oni-Orisan, University Librarian, University of Ilorin Library, P.M.B. 1518, Ilorin, Nigeria. Please indicate in your letter the materials you have available to donate.

Indonesia, Japan drop fees

The government of Indonesia has abolished its 5% export duty on coconut oil, effective July 1985, to encourage exports of the oil. According to the Minister of Finance, imposition of the export duty normally is linked to domestic needs, with exports curtailed when coconut oil is in limited supply. Indonesia exported 126,000 metric tons (MT) of coconut oil this year through June. Meanwhile, Japan has announced it will abolish its 3% tariff on imported palm oil, effective early in 1986. In 1984, Japan imported 156,574 MT of palm oil.

Mexico to drop subsidy

The Mexican government announced in August it would abolish or drastically reduce subsidies for basic products including soybeans, wheat, corn and rice. According to the Ministry of Commerce, the soybean subsidy would be completely eliminated, causing the price for soybean oil to rise about 30%. In addition, Mexico dropped its 5% duty on tallow, but retained the requirement of an import license.

News briefs

AOCS member **Janos Mikle** has joined the scientific staff at the POS Pilot Plant, Saskatoon, Saskatchewan, Canada. Mikle has specialized in fats and oils research and development for the past ten years with Anderson Clayton Foods, Alfa-Laval and Sullivan Engineering. His experience includes equipment design, modification and installation. Fluent in several languages, he has helped start up oil processing plants in a number of countries.

Robert A. Plundo has been named director of catalyst research for **Harshaw/Filtrol Partnership.** He will be responsible for directing research and development on Harshaw catalysts for the petroleum, chemical, and fats and oils industries. Meanwhile, Edward T. Nesselroade has been named vice president and general manager for Harshaw catalysts, Filtrol clay products and alumina products manufactured by Kaiser Chemicals.

Fabrica de Jabon, "la Corona," S.A. de C.V., Ciudad Obregon, Sonora, Mexico, has contracted with the French Oil Mill Machinery Co. for a 500 metric tons per day solvent extraction plant for processing soybeans, sunflowerseed and safflower. This plant, the third for Fabrica de Jabon la Corona, will replace the company's smaller first plant. The new facility is scheduled for completion in late 1985.

Manfred E. Hopp has been appointed president and chief executive officer of Fritzsche Dodge & Olcott Inc., international manufacturer of fragrances, flavors, aroma chemicals and essential oils. He succeeds **Hans J.H.**

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Reinack, who will head BASF Portuguesa LDA in Lisbon, Portugal.

Sandoz, Swiss-based manufacturer of pharmaceuticals, dyestuffs, and agricultural and nutritional products, has regrouped its U.S. businesses. Sandoz Corp., the parent company for the firm's U.S. operations, now includes pharmaceuticals, agribusiness and chemicals divisions, as well as the Sandoz Nutrition Company. Heading Sandoz Corp. is Max Link, vice chairman and chief executive officer.

The French Oil Mill Machinery Co. has expanded its customer service department with Jim King as manager of customer service and Mike Romer as customer service representative. The new department will have computerized order entry and processing with a complete bill of materials on all active machines to permit faster part identification and replacement.

Anaeleto Gonzalez Flores Guerrero of Mexico City recently observed 30 years as a chemical engineer for Desarrollo Industrial engineering firm, specializing in fats and oils facilities.

Continental Grain Co. is expanding capacity at its Cameron, South Carolina, soybean crushing facility to 1,500 tons a day, from 1,000 tons daily. Continental Grain is replacing its current extractor with a continuous loop, shallow bed extractor unit manufactured by Crown Iron Works. Crown Iron said it was the 100th such unit sold worldwide by the company.

AOCS members *Lars Wiedermann* (top, left) and *Takashi Kaneda* (bottom, center) delivered invited lectures at the ISF-OTAI World Congress held earlier this year in New Delhi. Wiedermann presented the Shiram Memorial Lecture and received an award afterward. Kaneda gave the Kaufmann Memorial Lecture, traditionally presented at the International Society for Fat Research meetings. The Oil Technologists Association of India organized the conference.

Obituaries

WALTER O. LUNDBERG

Walter O. Lundberg, 74, an AOCS honorary member and past president, died Aug. 9, 1985, in Minneapolis, Minnesota. He was a research scientist, professor emeritus of biochemistry and former director of the University of Minnesota's Hormel Institute.

Walter O. Lundberg

Everett H. Pryde

Lundberg, the son of Swedish immigrants, was born in Minneapolis on Dec. 15, 1910. He was educated at the University of Minnesota and received his doctorate in 1934 at Johns Hopkins University. He served as chemistry instructor at Johns Hopkins University in 1934–1935 and as a research chemist for U.S. Steel Corp. in 1935. He joined the University of Minnesota faculty in 1941, becoming a full professor of physiological chemistry in 1947 and professor of biochemistry in 1949. He was resident director of the Hormel Institute from 1944 to 1949, and executive director from 1949 until he officially retired at age 65 in 1975.

Most of his professional life was dedicated to developing the Hormel Institute. His research interests in the chemistry, biochemistry, nutrition, metabolism and processing of fats, oils and other lipids gave Hormel Institute its direction and helped make it a strong division of the University of Minnesota.

Lundberg joined the AOCS in 1944, and became its president in 1963. He served as editor of *Lipids* from 1967 to 1974. In 1967, he received the Alton E. Bailey Award. Over the years, he received a number of awards in Germany, France, Spain and Argentina for his contributions to the field of oil and fat chemistry. He was made an honorary member of the AOCS in 1975, the same year he received the society's Award in Lipid Chemistry. Other activities in the society included serving as member-at-large, secretary, vice president, and member of the Foundation Board of Directors, the *Lipids* Editorial Advisory Board and the education committee. He was honorary chairman of the joint ISF-AOCS World Conference in 1971 and ISF president.

After retiring, he served as a consultant for the American Soybean Association during 1977–1978, helping ASA set up a project comparing partially hydrogenated soy oil and corn oil in lowering serum cholesterol in humans. In 1978, he received an Alexander von Humboldt Foundation U.S. Senior Scientist's Award and spent a year abroad, chiefly in West Germany.

He is survived by his wife, Olga, and four children. Lundberg donated his body to the University of Minnesota.

EVERETT H. PRYDE

Everett H. Pryde, 67, research leader for exploratory organic reactions research in the oilseed crops laboratory at USDA's Northern Regional Research Center, Peoria, Illinois, died Aug. 16, 1985, in Peoria after a battle with a brain tumor. Dr. Pryde was respected as an expert on nonfood uses of vegetable oils, principally soybean and linseed oils.

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Born in Chicago in 1918, Dr. Pryde grew up in Elgin, Illinois. He earned his B.A. in chemistry in 1939 from the University of Massachusetts at Amherst, his master's in chemistry in 1941 from the University of Michigan at Ann Arbor and his Ph.D. in organic chemistry in 1948 from the University of Wisconsin at Madison. He came to the Northern Regional Research Center (NRRC) in 1957 as a supervisory chemist. Previously he had worked for E.I. du Pont de Nemours and Co. Inc., the Koppers Co. and the Casein Company of America. In 1961 he was promoted to investigation head, research leader, at NRRC. In 1978 and 1979, he served as the oilseed crop research coordinator. His research at NRRC centered on nonfood uses of vegetable oils. A primary interest during the last five years of his life was research on vegetable oils as possible fuels. Within the Agricultural Research Service, he served as a consultant for industrial and fuel uses of oilseed products.

Dr. Pryde joined the AOCS in 1958. He served as editor for three AOCS monographs: "Fatty Acids," "Handbook of Soy Oil Processing and Utilization," and "New Sources of Fats and Oils," and wrote review articles for industrial, governmental, academic and lay audiences on nonfood uses of fats and oils. In addition to monograph work, he organized sessions for AOCS national meetings, including a symposium on vegetable oils as pesticide carriers at the Chicago 1983 meeting and a session on "New Chemistry of Fatty Acids" for the 1983 World Conference on Oleochemicals.

Although he was also a member of the American Chemical Society, the American Society of Agricultural Engineers, the American Soybean Association and the Institute of Food Technologists, Dr. Pryde considered AOCS his principal professional organization. He also belonged to the honorary organizations Phi Beta Kappa, Phi Lambda Upsilon and Sigma Xi. He received the American Soybean Association utilization research award in 1983 and several USDA meritorious service awards in recognition of his research excellence.

A cellist as well, he played in the Peoria Symphony.

He is survived by his wife, Phyllis, and two daughters, Laurie and Pamela. Donations in Dr. Pryde's memory may be made to the Endowment Fund, Peoria Symphony, Peoria, or the Methodist Hospital "We Can" Weekend for Cancer Patients, Peoria.

WILLIAM J. GRAVES

AOCS has been informed of the July 6, 1985, death of William J. Graves, a member of the society since 1961. Mr. Graves was manager of technical sales for Eagle Picher Industries Inc. in Cincinnati, Ohio. He was a 1961 graduate of the University of Cincinnati.

ISABEL E. HORGAN

AOCS has been informed of the June 12, 1985, death of Isabel E. Horgan, senior research officer at the University of Cape Town in South Africa and a member of the AOCS since 1982. She received her doctorate in biochemistry and pharmacy from the University of LaPlata, Argentina, in 1966.

ARTCHER E. GRIFFIN

Artcher E. Griffin, known as "Mr. Tall Oil," died July 16, 1985, in Wilmington, Delaware. Griffin was a pioneer

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in processing tall oil for use in protective coatings, soaps, varnishes, lacquer, paint and detergent.

Although not a member of the AOCS, he presented papers on tall oil at society meetings. A native of Mechanicville, New York, he worked for Hercules Powder Co. from 1955 until he retired in 1965. Before Hercules, he had worked at Camp Manufacturing Co., Jessup and Moore Paper Co., DuPont Co. and American Cyanamid. He received the "Veteran of the Year" award from the Fatty Acid Producers Council in recognition of 20 years of contributions to the tall oil industry.

Griffin was a 1923 graduate of Brown University. He was a member of the Chemists' Club of New York and an honorary member of the Society of Chemical Industry in London. He is survived by his wife, the former Dare Chaytor, two daughters and a son, and four grandchildren.

Viewpoint

No shortage of soybeans

(The following article was prepared by David M. Bartholomew, oilseed specialist for Merrill Lynch Futures Inc. at the Chicago Board of Trade, in early August shortly after the USDA August crop estimate was prepared. Bartholomew is a frequent contributor to JAOCS' *Viewpoint.)*

Weather in June was significantly drier than normal in much of the United States' producing areas, and only partially improved in July. But the planting was early and mostly well established by that time. Then generous rains returned in late July and continued to mid-August; consequently, the crop has definitely become well-developed. A near-record yield of 31.5 bushels per acre was forecast by USDA as of the first of August. Traders are convinced it has improved since and might exceed the previous record of 32.1 bushels per acre established in 1979.

Production will not reach the 1979 record of 2,261 million bushels because less acreage has been planted. Still, it is considered likely that production could equal or exceed 2,000 million bushels instead of the 1,958 million bushels shown in the August estimate. And even that is too much when compared to potential demand.

It is generally recognized that demand has been slow for U.S. exports, due to a sluggish world economy, the strength of the U.S. dollar and stiff competition from other origins. Just how slow can be shown by a simple illustration. Earlier in August, the daily report of ocean vessels loading at southern Mississippi River ports, including New Orleans, dwindled to just one ship! And this report includes all dry bulk agricultural commodities. Of course this is normally a low volume time of year, but this must be a record low considering there were no complications from labor disputes, congestion, lock repairs, or high or low river levels.

Part of the problem has been that farmers have not moved all the old crop inventory into commercial channels due to discouraging price levels. About half of the expected carryover remains in the government loan program in early August.

Some farmers did not use the support loan program, holding soybeans for sale in July and August speculatively in hope of a better price. Those beans likely will be or have been sold anyway, which also can account for recent price weakness. No loan entries are permitted for old crop after May 31. New crop cannot be entered into the loan until harvested, and of course it must be placed into storage, as the soybeans are collateral for the loan. When a farmer has no access to storage, or access to only enough space for a portion of his production, there is no support for the unstored amount.

As futures prices have declined toward loan level (national average $5.02 a bushel), there has been an offsetting strengthening of cash basis, especially for new crop. If one considered only the implications of large carryover plus excellent crop outlook, it normally would be logical to conclude that basis would be discounted more than usual, which could mean 80 cents to a dollar under old crop and in some places even that much under November futures. Instead there is only about 15 cents to 25 cents discount under old crop, and some locations are actually paying a small premium to November futures.

Clearly this is a response to the loan program function. Industry does not want too many soybeans to go directly into the government program at the beginning of harvest. Crushers and exporters in many localities will have very little old crop supply remaining and therefore are anxious to secure new crop as quickly as it is harvested. Also as climate during this growing season has been more favorable than last year, the quality of new crop should be better. Of course, after harvest has made considerable progress the basis can drop, and perhaps sharply, depending on whether futures are near loan level or appreciably above.

The answer to that question probably will depend largely upon what congressmen are doing at the time on new farm legislation. Until now they have seemed fascinated with the concept of allowing farmers to repay crop loans at the existing market price when they come due, if that price is below the level at which the loan was made. This is termed a "market loan." It is appropriate not to call it a support loan because this concept demolishes all aspects of a price-supporting function.

The new legislation would not take effect until the 1986 crop, but if the "market loan" concept is adopted, it definitely can influence 1985 crop price performance as well. In fact, that has been a large factor in price weakness experienced in past weeks. That new concept probably will not survive because of the potentially huge cost to taxpayers, but until that is certain, the market must remain on the defensive.