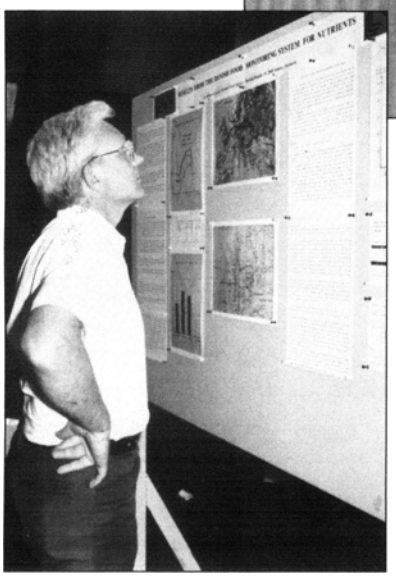
Meeting registration nearly 1,800



Robert Hastert (left in top photo), outgoing president, hands the presidential tomahawk gavel to 1988–89 AOCS President Timothy Mounts. Below left, John K.G. Kramer studies one of the poster presentations on display during the meeting. Below right, participants listen to Konrad Bloch's Supelco AOCS Research Award address.

The 1988 AOCS annual meeting in Phoenix, Arizona, May 8–12, drew 1,445 technical registrants, 125 exhibit personnel and nearly 200 spouses' program participants.

Attendees from 36 countries were on hand for three days of technical sessions held at the Phoenix Civic Center. The exhibit that accompanied the meeting featured 86 booths representing 60 companies.

The meeting began with an opening mixer Sunday evening, May 8, in the exhibit hall. The annual AOCS business meeting was held Monday morning, May 9, following a breakfast. Minutes from the business meeting are published in an accompanying article.

Konrad Bloch of Harvard University received the 1988 Supelco AOCS Research Award at the Monday breakfast. Bloch, a Nobel medalist, noted that he isn't an AOCS member and never has been. "I now might expect to join, but if I did, I would want senior status." Bloch turned 76 on Jan. 21. Always eager to recruit new members, outgoing AOCS President Robert Hastert told Bloch, "I do have a membership application form."

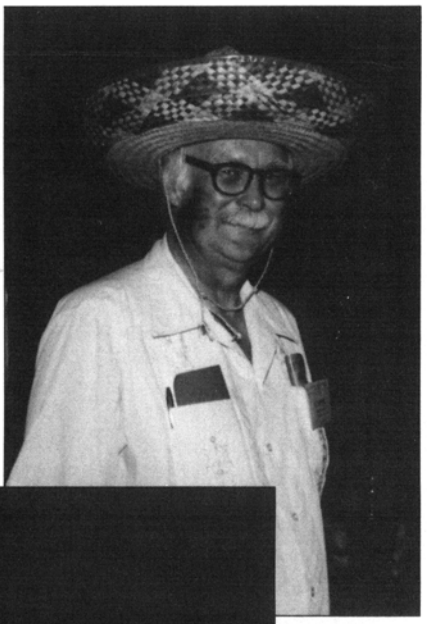
Hastert gave his state-of-the-society address at the breakfast and told attendees, "Serving as president of the American Oil Chemists' Society has been the high point of my professional career."

Keynote speaker Monday was Thomas C. Griffith, executive vice president and chief operating officer of Central Soya Co. Inc. Excerpts of his talk appear in the Viewpoint section.

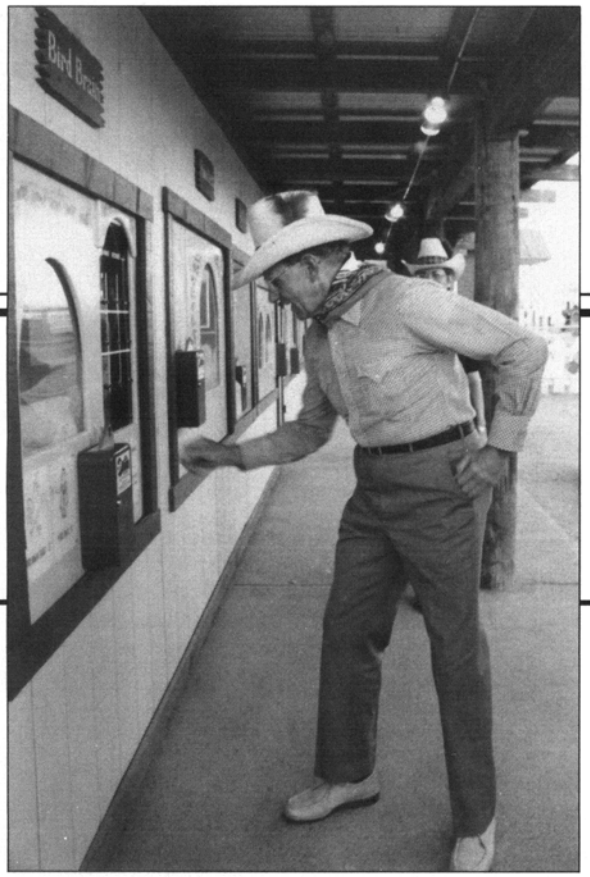
Bloch gave the Supelco AOCS Research Award address following the breakfast, and technical sessions got under way.

Approximately 850 persons took part in the Monday evening social event held at Rawhide. Participants played tic-tac-toe with chickens, peered into a mine shaft and feasted on 16-ounce steaks fresh off the grill.

On Tuesday, the day began early for the 90 persons who took part in the annual Fat People's Fun Run and Walk. In addition to a day packed with technical sessions, other features included a luncheon in honor of Stephen S. Chang in conjunction with a symposium on

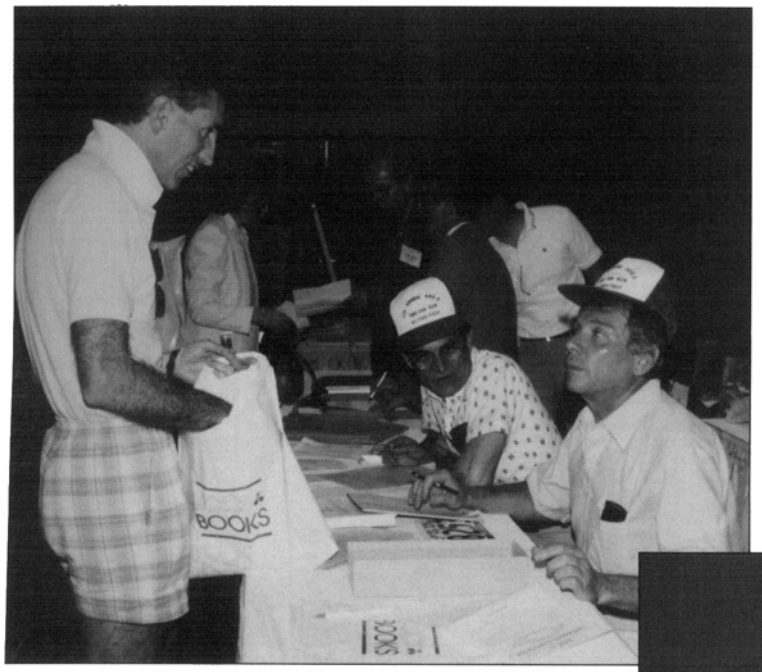


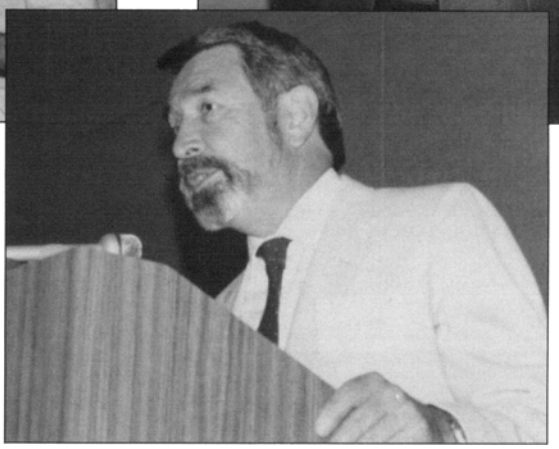
Above (from left to right), Monoj Gupta, Ken Wood, Harland Reames, William Hughes, Frank Passalaqua and Edward King Jr. relax at Rawhide. Top right, Edward Campbell of Archer Daniels Midland shows off his painted face at the Wednesday evening Southwest party. At right, Joan Gavin (seated at right) discusses the Spouses' Program schedule with participants.



Man vs. beast

That's Quickdraw Hank Sandvig (left) about to deposit a quarter in a game machine during the AOCS visit to Rawhide, a reconstruction of an 1880s Arizona town. Depositing the quarter activates a tic-tac-toe game between a chicken and the depositee. Sandvig had played the chicken on a previous visit to Rawhide. The results were the same: the chicken again won two games. Series score: Chicken, 4; Sandvig, 0.





Joe Fioriti and Daniel Schwartz (seated in photo above) sign up participants to the Fat People's Fun Run and Walk. Above right, Jim Ridlehuber, retiring Smalley Committee Chairman, shows the carved eagle he received from AOCS at the meeting; his successor is Don Morton, shown at right.

flavor chemistry on lipid foods (see separate article) and informal discussion sessions on chromatography, flavor, environmental issues, processing and sodium analysis in foods.

AOCS sections scheduled activities at the meeting. The Protein and Co-Products Section featured Don Beitz of Iowa State University as its speaker on Monday morning. The section then held a luncheon and business meeting. The new Plant and Microbial Lipids Section met Tuesday, as did those interested in organizing a Latin American Section (see Inside AOCS). On Tuesday evening, the Northeast, North Central, NorCal, Southwest, Desert Southwest, South Central, Canadian and Surfactants and Detergents sections held cocktail receptions.

At the Monday morning breakfast and business meeting, Robert Hastert, outgoing AOCS president, noted that membership had approved passage of an amendment eliminating gender references in the AOCS by-laws. Only moments later, Program Chairman Arnold Gavin announced details concerning what he called the "fat man's fun run," to which Hastert queried, "Arnold, isn't it the fat person's run?" Gavin said he hadn't wanted to say that. Hastert then quipped, "See, we can change the constitution, but not everything or everybody."

The Surfactants and Detergents Section also held a luncheon and business meeting Tuesday at noon. The section appointed volunteers to its committees for education, publishing and membership development and discussed the need for encouraging more surfactant and detergent-topic technical papers in *JAOCS*.

On Wednesday morning, a financial seminar entitled "Life After Tax Simplification" gave attendees pointers on how to control, rather than react to, their income tax and how to invest wisely. Both technical and spouses' program registrants took part in the seminar. Participants were told that planning is the key word in handling finances. "Our individual houses are no different from our businesses. You have to link income tax and investment planning together," they were told.

Wednesday's luncheon featured the inaugural and awards program. Don Morton, who officially

replaced Jim Ridlehuber as chairman of the Smalley Committee at the annual meeting, called on Ridlehuber to give out the 1987-88 Smalley cooperative check sample program awards. Hastert, noting that Ridlehuber had devoted 12 years as Smalley chairman, presented Ridlehuber with a carved eagle in honor of his service to AOCS.

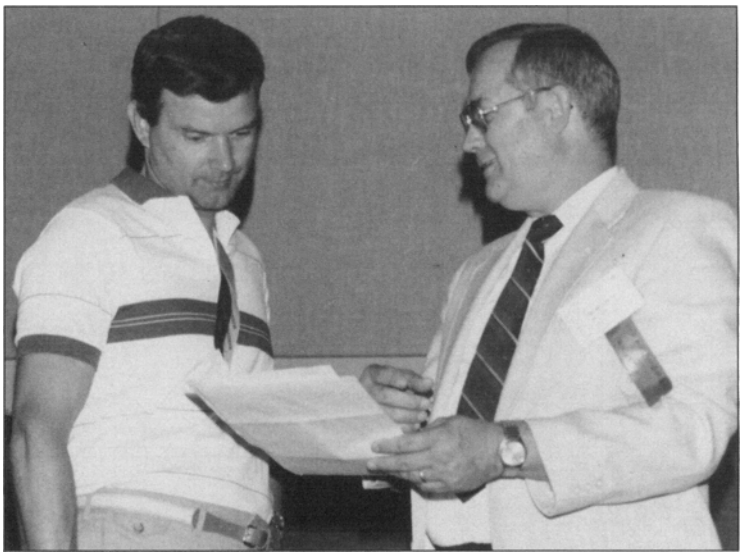
Other awards presented during the luncheon were the A.R. Baldwin Award, Award of Merit, Ralph H. Potts Memorial Fellowship Award, Honored Student awards, Archer Daniels Midland-Protein and Co-products Section awards and The Soap and Detergent Association Award.

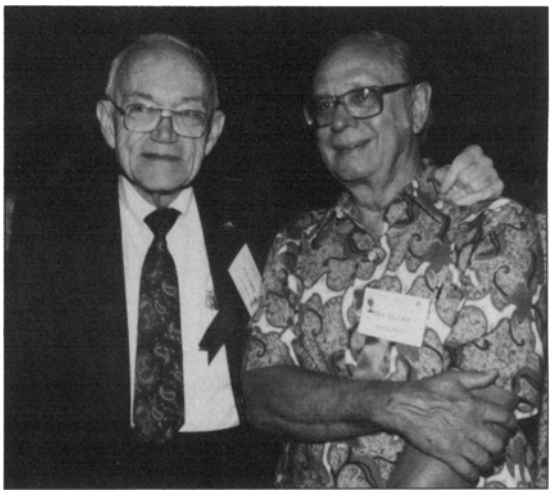
Arnold Gavin announced the AOCS officers for 1988-89, then turned to invite Hastert to the Past Presidents' Club with the words, "I welcome you to a prestigious club of has-beens."

After receiving the official AOCS tomahawk gavel, Timothy L. Mounts, incoming president, gave his inaugural speech.

On Wednesday evening, meeting participants opting for the evening social event were treated to a gala Southwest party held at the Phoenix Civic Center. Participants watched an elaborate sand painting take shape on the floor, took aim at each other in "shootouts" at the O.K. Corral, posed for caricature drawings, had their faces painted, watched dance demonstrations, danced and feasted.

The 1988 annual meeting marked the Governing Board's completion of chairperson appointments to AOCS coordinating committees with the naming of Randall Wood as chairperson of the Publications Coordinating Committee. Wood is a professor in the Department of Biochemistry and Biophysics at Texas A&M University. Thomas Foglia of the U.S. Department of Agriculture's Eastern Regional Research Center was named to replace Wood as chairman of the Monograph Committee. As such, Foglia also is a member of the Publications Coordinating Committee.





Technical Chairman Neil Widlak (left, top photo) confers with incoming AOCS President Timothy Mounts before the inaugural luncheon. Two AOCS past presidents, John Cowan and A.R. Baldwin, swap tales during the Southwest party.

A.R. Baldwin, past president of AOCS and AOCS publications director for many years, was pleased to see Konrad Bloch receive this year's Supelco AOCS Research Award. Bloch, Baldwin explained, had been instrumental in the successful launching of Lipids *back in the mid-1960s. When attempting to start* Lipids *as a new journal, Baldwin had telephoned Bloch to ask if he would endorse the project. Bloch agreed. Baldwin said using Bloch's name helped gain the necessary support for the new journal. Bloch, although not an AOCS member, has served on the Lipids Editorial Advisory Board since* Lipids' *inception in 1966.*

Hastert: State of the Society

The following address was given by outgoing AOCS President Robert Hastert during the annual meeting in Phoenix.

Arnold Gavin (right) welcomes Robert Hastert to the Past Presidents' Club.

All of us know from personal experience that timing is of extreme importance. It certainly applies to my term as president of the American Oil Chemists' Society. The dedication of our new headquarters in Champaign has undoubtedly made this one of the most memorable years in AOCS history.

The dedication was an absolute joy for two reasons. One was the building itself. It is magnificent. Visit it if you have not already done so. The other joy of that week was the flawless way in which it was carried out: from the committee meetings beginning on Wednesday, through the Friday symposium and then the formal dedication on Saturday. Most of the credit for both the planning and implementation goes to our headquarters staff.

This also has been the year during which member-approved changes in our constitution and by-laws resulted in major reorganization of AOCS committee structure and operations, as well as expansion of the elected membership on the Governing Board.

I believe the long-term effect of the new structure and the expansion of Governing Board membership will, in retrospect, also single out this year as very important in our history.

Implementation of our new organization has been a great challenge. Most of it was rewarding and satisfying. However, there have also been some disappointments and frustrations. But that also is as it should be.

This year's Governing Board has disposed of the normal-type operational matters in an efficient and constructive manner, and many of the decisions have not been easy or simple. However, in my opinion, our most important accomplishment has been the willingness to make decisions and resolutely move forward in matters that will affect the direction and well-being of the society for many years beyond our term. These include: hiring a full-time education director; employing a professional consulting firm to review headquarters' practices; putting together a mission statement; and deleting gender references from our constitution and by-laws. Some may say that eliminating gender references was only symbolic. My response is that symbols are important. No one should ever be deterred from making a maxiumum contribution to AOCS based on either real or apparent perceptions of exclusiveness.

The timing of my term also has been fortuitous in the membership's choice of my predecessor and my successor. I believe I have been associated with Arnold Gavin longer than with any other person at this meeting. It was my very good fortune to have the gavel passed on to me by such a long-time friend. It will be my good fortune on Wednesday to pass that gavel on to an equally good friend, Tim Mounts. Tim and I were first elected to the Governing Board in 1982. Since then, we have served together on the Governing Board, in various offices and on numerous committees. It has been a pleasure to be associated with such a dedicated and competent person. The society is in good hands. And those good hands include the rest of the new officers and Governing Board.

My presidency has been satisfying, and I believe successful, for several unique reasons to which I have referred. It also has been satisfying, and I believe successful, for having one thing in common with the 16 which preceeded it. There has been someone in Champaign who has made us all look good. Jim Lyon and the excellent staff he has put together bear an enormous amount of credit for the well-being of AOCS. That is why still another major accomplishment of this year was the passage of an amendment to our by-laws enabling the society to enter into an extended-basis contractual arrangement with Jim.

I wish to thank my employer for the unstinting cooperation it has given me in my AOCS activities for this year and for many years. Also, the old cliché that behind every good man stands a good woman is certainly true in my case, as everyone who knows Ava can affirm. I thank her for her assistance; I thank her for her caring criticism; I thank her for her love.

Serving as president of the American Oil Chemists' Society has been the high point of my professional career. I thank you for giving me this great honor.

Foodnotes from Eastman

It's a cat and dog market

Anyone who lives with pets knows how finicky they can be about food. A beagle seems able to raise a protesting eyebrow when presented with an unappetizing dish. For disdain there is nothing so eloquent as a cat covering up its food with movements normally reserved for other matters. Because house pets number in the hundreds of millions today, such reactions can mean a lot to pet food processors.

Energy vs freshness

Increasing fat content in animal rations enhances calories but can have disastrous effects on palatability if antioxidants are not used to prevent development of rancid off-flavors. Eastman offers several Tenox® antioxidants formulated specifically for rendered animal and poultry fats as well as feed grade vegetable fats. We would be happy to send you information on composition, formulation and analysis.

A matter of moisture

Notwithstanding the protection afforded by multiwall bags, moisture can be a severe problem in dry dog rations. If it rises above 8% in the warehouse and the temperature goes over 75° F, you can expect mold development. Astute pet food processors recognize this danger and avoid it by incorporating Eastman® propionic acid. Unlike calcium propionate and the other more expensive sorbic acid, propionic acid functions at low moisture levels (8-10%) and at pH≥7. Used at 3 lb/ton this mold inhibitor will help:

1) improve palatability markedly
2) economize on drying (to 10% moisture rather than 8%) and what you save on Btu's will just about pay for the propionic acid
3) get an automatic 40 lb/ton more production through that extra 2% moisture – safely!

Smoothing things out

If you are making dry cat food in small shapes, Myverol® 18-00 distilled monoglycerides and Myvaplex® concentrated glyceryl monostearate can each help maintain the structural integrity of all those tiny stars, scallops and triangles that cats love to crunch. These valuable additives reduce breakage and dusting but, even better, they function as lubricants in the extruder letting you use less horsepower and increase throughput.

Lordy, how delicious—eatin' goober peas!

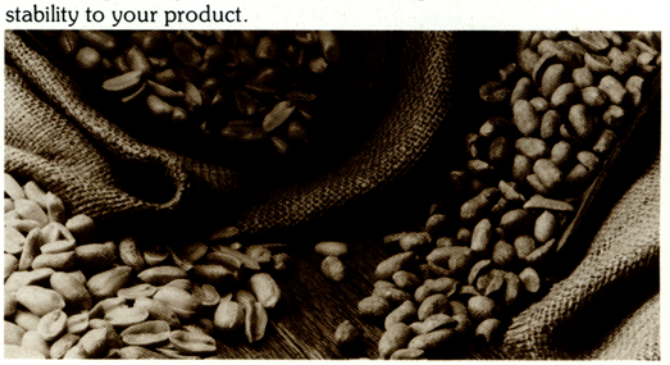
That's from a song popular with soldiers of the Confederacy. And even though Johnny Reb sometimes had no more to eat than a handful of peanuts, they remained one of his favorite foods. Today they rank tops with all Americans, but their high fat content makes them particularly susceptible to oxidation. And as most everyone has experienced at one time, rancid peanuts can be pretty awful!

Eastman has introduced many antioxidants. Each is tested routinely on peanuts. To date Tenox® 20A antioxidant takes top honors. In one test it was dissolved in corn oil and sprayed on peanuts to give 200 ppm antioxidant (on weight of nuts). Portions were then coated with Myvacet® acetylated monoglycerides and oven aged at 100° and 145°F.

	Storage stability*	
	100°F	145°F
Control	118	28
Tenox 20A	524	54
Tenox 20A + Myvacet 7-07	529	60
Tenox 20A + Myvacet 5-07	524	58
Tenox 20A + Myvacet 9-45	539	57

*days until rancid odor was detected

Myvacet monoglycerides exerted small effect because coatings were in liquid or near-liquid state at test temperatures. At RT they function as good oxygen and moisture barriers and the 7-07 grade with its high acetyl content should add significant extra oxidative stability to your product.



For more information on these products write to Suzanne Miller at P.O. Box 431,
Eastman Chemical Products, Inc., a subsidiary of Eastman Kodak Company, Kingsport, TN 37662

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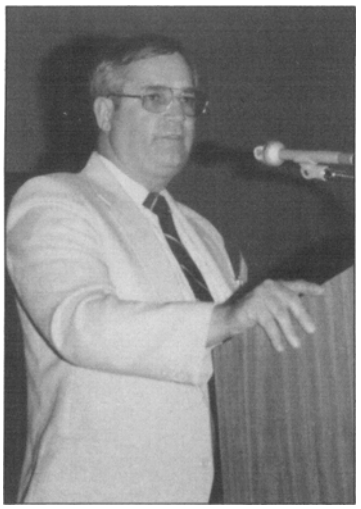
Timothy Mounts' inaugural address



The following address was given by incoming AOCS President Timothy Mounts during the awards/inaugural luncheon at the 1988 annual meeting in Phoenix, Arizona.

It is with a sense of honor that I assume the presidency of the American Oil Chemists' Society. Perhaps one of life's greatest satisfactions is to be selected for a position of leadership by one's peers. I thank you, the members of this society, for this great honor. I want to say a special thank you to my wife, Eileen, whose understanding and support have been steadfast during my professional career.

I look forward to a close working relationship with Roy Carr, whom you have selected as vice president and who next year will become the second Canadian to serve as president of our society; with Bob Burton, reelected treasurer; with Debbie Meiners, newly elected secretary; with the six members-at-large, Pam White, Ted Matson, Dave Tandy, Joe Endres, Ed Campbell and Ed Lusas; and with past-president Bob Hastert, one whom I know is dedicated to a wise stewardship of society activities. This is a team with a record of service to the society.

I want to express my appreciation to the members who have accepted my appointment to chair society committees, to those members who continue in active leadership roles and to those who participate actively in committee and section activities. Our committees and sections are the lifeblood of the society.

At a recent section meeting, I was asked to comment on my involvement in our professional society. I believe that volunteerism is a critical factor in every aspect of our society, along with the willingness to follow-through on those responsibilities which are accepted. For myself, with the encouragement of two long-term AOCS leaders, John Cowan and Herb Dutton, I became involved with AOCS educational programs and North Central Section activities as my first introduction to active participation.

This involvement provided the opportunity to personally meet AOCS members from all over the nation and from around the world, many of whom are present here today. Service as a local section officer was highlighted by my selection as section president and subsequent nomination for election to the AOCS Governing Board. Bob Hastert and I, along with our good friend Norm Witte, joined the Governing Board the same year and were given the opportunity to participate in the planning and directing of society activities and programs. We accepted our assigned tasks and, as with other board members, emphasized the follow-through necessary to achieve the desired results. I encourage all members to a spirit of volunteerism and a dedication to successful section and society activities.

Under the leadership of our past president and the Governing Board, AOCS programs and activities are in a period of expansion designed to enhance services to the members and to more completely address the scientific and technological concerns of our industries in the fields of fats, oils and related products. Executive Director Jim Lyon has assembled an outstanding professional staff who work hand-in-hand with the member volunteers to provide a base for effective volunteer leadership of the society's many activities. Traditionally, this has been exemplified by the interaction of the publications staff, led by Publications Director George Willhite, with the volunteer editors and associate editors. More recently, Technical Director Dave Berner, working with the volunteer leaders and members of our Uniform Methods and technical committees, has facilitated increased effectiveness of their efforts. In the future, we can anticipate a similar positive impact from our new education director, Jean Bremer, with committee members to enhance the professional quality of our short courses and conferences.

But, it is important to note that these professional staff members are to assist, not to replace, the member volunteers. Our experience has been that as the effectiveness of committees increases, member participation increases. Projects are getting done, and members want to be part of an effective committee.

I urge all members to become involved in society activities; your individual participation is needed to assure the success of AOCS. Such involvement is rewarding both personally and professionally, and you can take pride in your contributions to the society.

At this, the beginning of my presidential year, I pledge to work with the elected members and the staff in responding to the needs and interests of the membership. I will strive to maintain a high degree of professionalism in all program areas to assure the continued strength of the society.

Once again, thank you for this honor.

Financial report: AOCS 'solvent'

The following financial report was presented by Robert M. Burton, AOCS 1987-88 treasurer, at the AOCS business meeting Monday morning, May 9, in Phoenix.

Let me begin with the bottom line. The American Oil Chemists' Society is solvent and healthy. Let me also assure you that there is much work to be done to keep AOCS solvent and healthy, much work by all of us.

One of the tasks assigned to this office in 1987 was to institute the new administrative organization approved by the membership for the monitoring and management of AOCS financial affairs. As shown in the organizational flowchart (AOCS Membership Directory, page 6), the treasurer of the society chairs the Financial Coordinating Committee, which also consists of the chairperson of the Budget Committee, chairperson of the Investment Committee, a vice-chairperson appointed by the Governing Board from its members-at-large, and the AOCS Foundation chairperson who serves as an ex-officio committee member.

The Budget Committee is responsible for approving the annual budget and for monitoring the monthly income and expense statements. The Investment Committee is responsible for overseeing our various investments of AOCS reserve funds. A third committee, the Fundraising Committee, has not been appointed. Its activities currently are being done by the AOCS Foundation, an independent and separate corporation from the society. This new administrative organization is in place and functioning well.

While I said the AOCS is solvent and well, I also told you there is still much work to be done. Tables 1-3 illustrate our financial status.

Table 1 presents the 1987 income by departments. The numbers are in thousands of dollars and also are reported in percent of the total income. The income for the publication department is $505,000, i.e., 24% of the total. While our publication department represents a large fraction of total income, it is somewhat reduced percentage-wise from the 28% represented in 1986. It also is clearly evident that our meeting activities, including the AOCS annual meeting, the world conferences and short courses, are the major source of revenue, totaling $861,000 or 41% in 1987, up from 37% in 1986.

Table 2 presents the summary of AOCS departmental expenses for 1987. These values also are shown

TABLE 1

1987 Income

Department	Dollars (in thousands)	Percent of total (1987)	Percent of total (1986)
Publication	505	24	28
Advertising	289	14	16
Meeting	861	41	37
Materials	185	9	8
Programs	132	6	4
General	110	5	7
Total	2,082	99	

TABLE 2

1987 Expenses

Department	Dollars (in thousands)	Percent of total (1987)	Percent of total (1986)
Publication	718	32	34
Advertising	212	10	10
Meeting	614	28	30
Materials	60	3	2
Programs	120	5	2
General	497	22	22
Total	2,221	100	

TABLE 3

Overall Financial Picture

	Income	Expenses (in thousand dollars)	Net
Operating activities	2,082	2,221	-139
Non-operational	355[a]	89	266
Total	2,437	2,310	127
Contingencies			20
Uncommited surplus			107

[a]Includes funds from the AOCS Foundation, does not include pledges outstanding.

in thousands of dollars and percent of total. Publications account for 32% of the total expenses, or $718,000. When compared to the publication income of $505,000, this shows a net loss of $213,000. AOCS publications activities—*JAOCS*, *Lipids* and monographs—are very important services for the membership and science and industry at large. It is clear that the income-expense relationship must be brought more closely into balance. I also should note that some of these expenses represent one-time expenses and expenses directly related to moving the society's office into the new headquarters building.

The meetings department had an income of $861,000, representing 41% of the total, and expenses of $614,000, representing 28% of total expenses. This represents a surplus of $247,000, again illustrating the importance of this activity to the society.

As shown in Table 3, operating income totaled $2,082,000, with a net of minus $139,000. The non-operational income was $335,000, with a net of $266,000 and a total net of these two categories of $127,000. The non-operational income includes funds from the AOCS Foundation that were used for the construction of the new AOCS office building. Not shown is an outstanding $400,000 mortgage. We have a reserve fund of $350,000, which is conservatively invested. Also, $20,000 of the surplus has been placed in our reserve fund, to leave a total surplus of $107,000.

Last year was an extraordinary year with costs associated with acquiring a new office building and with the subsequent move into the new quarters. The Finance Coordinating Committee and the Budget Committee are working closely with the AOCS executive director and AOCS staff to evaluate the operational activities and to find ways to reduce those expenses which are reoccurring expenses. As treasurer, I plan to report to you through the *JAOCS* news section our progress during the course of 1988.

I respectively submit this report to you, and thank you.

Marty Graber of the Dial Corp. won an AOCS Phoenix T-shirt in door-prize drawings at the annual meeting. Graber said he won a New Orleans T-shirt at the 1986 Hawaii meeting, and knows the key to winning: "I drop my business cards in all of the door prize boxes in the exhibit hall." In addition to the Phoenix and New Orleans T-shirts, Graber also has an AOCS Hawaii T-shirt that he received as a Fat People's Fun Run and Walk participant.

Official minutes:
1988 AOCS business meeting

The American Oil Chemists' Society held its 1988 business meeting in Phoenix, Arizona, in conjunction with its annual meeting. The business session was held following the 7:30 a.m. breakfast Monday, May 9, 1988, at the Phoenix Civic Center.

President Robert Hastert called the meeting to order and presided over the meeting.

Arnold Gavin, annual meeting general chairman, officially welcomed participants to Phoenix. He urged them to dress informally during their stay in the "Valley of the Sun."

President Hastert introduced Thomas C. Griffith, executive vice president and chief operating officer of Central Soya, who then gave the keynote address. Griffith filled in for David Swanson, chief executive officer of Central Soya, who was unable to attend. Griffith noted that the exchange of ideas and information at the AOCS meeting represents the scientific cooperation necessary to further develop the agricultural and food complexes around the world (see the Viewpoint section).

Thomas Applewhite made a motion to dispense with the reading of the minutes from the 1987 AOCS business meeting. Karl Zilch and Michael Erickson seconded the motion. A voice vote carried the motion.

President Hastert asked that the members attending reaffirm amendments to the Articles of Incorporation and the By-laws of the American Oil Chemists' Society to eliminate gender-specific language and to change the provision for designating the official news publication of the society. Hastert told attendees that proxy votes cast in the election were 90% in favor of adopting the amendments. The official proxy count on March 22 showed a 372-to-131 tally to eliminate gender references and terminology and a 374-to-117 tally to change the language referring to the offical publication of the society. The voice affirmation during the business meeting was unanimous for adoption of the amendments.

AOCS Treasurer Robert Burton, presenting the treasurer's report, said AOCS is solvent and healthy financially (see the accompanying financial report).

President Hastert paused to recognize the continued attendance and participation of Ishiro Hara, past president of the Japan Oil Chemists' Society, who was attending the meeting.

AOCS Executive Director James Lyon gave his report. Lyon commended the AOCS staff for its performance during two moves in the past two years, the AOCS Foundation (and especially Robert Hastert) for the fund-drive for the new AOCS headquarters, and the AOCS membership for its support. Lyon noted that operating expenses had exceeded income during 1987 but said this will not continue during 1988. Lyon said the new Governing Board structure will encourage more membership involvement and that the Governing Board, concerned with evaluation and planning, was to hold a two-day planning seminar in June to look at the society's plans and purposes. He promised that the AOCS staff would take a good look at itself "to make sure membership gets the best for its money."

Nicholas Pelick, representing Supelco Inc. and AOCS, presented the 1988 Supelco AOCS Research Award to Konrad Bloch of Harvard University.

Retiring President Robert Hastert gave his address (see page 1040).

Technical Chairman Neil Widlak announced changes in the technical program, including cancellations and additions of papers and changes in times for specific talks. In other announcements, Gavin noted the scheduling of four plant tours—trips to a cotton gin, jojoba mill and potato chip factory on Tuesday and a trip to the new Mayo Clinic on Wednesday afternoon—and outlined the schedule for the Monday evening Rawhide event and the Fun Run Tuesday morning.

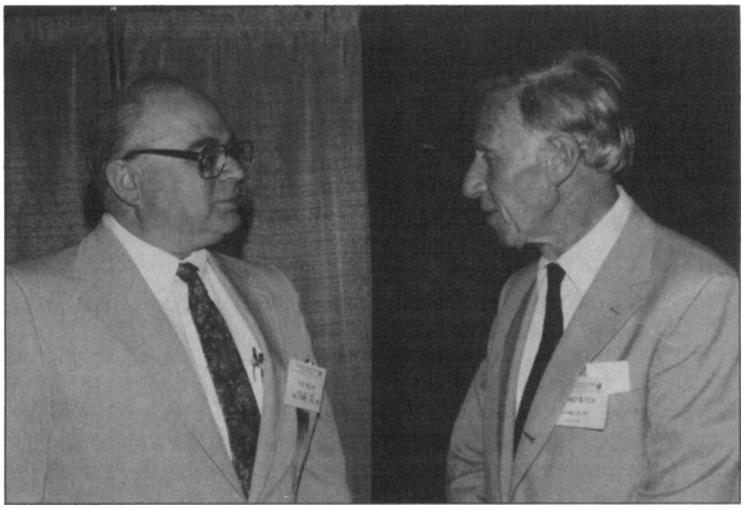
Hastert adjourned the meeting at 9:20 a.m.

Respectfully submitted,
David R. Erickson
1987-88 AOCS Secretary

Bloch receives Supelco AOCS award

Konrad E. Bloch of Harvard University, Cambridge, Massachusetts, received the 1988 Supelco AOCS Research Award at the annual meeting. The award consists of a plaque and a $4,000 honorarium from Supelco Inc., Bellefonte, Pennsylvania.

In his acceptance address at the meeting, Bloch discussed the relationship between structure and function in the cholesterol molecule. Bloch, who received the Nobel Prize in Medicine and Physiology in 1964 for his work in the biosynthesis of cholesterol and metabolism of fatty acids, described cholesterol as a "Janus-faced molecule"—biologically necessary, yet still a molecule of ill repute. Rather than dealing with the medical aspects of cholesterol in his talk, Bloch speculated on why nature designed cholesterol as it did.



Nicholas Pelick (left) of Supelco Inc. congratulates Konrad Bloch on his receipt of the 1988 Supelco AOCS Research Award.

He explained that it is more common in nature for molecules to be improved by the addition of substituents; however, in the case of cholesterol, the molecule is improved because it is the end result of substituent removal. In the process of moving from lanosterol, a cholesterol precursor, to cholesterol, the molecules are modified through demethylation.

Curious to see whether the activities of lanosterol, the intermediates and cholesterol differed greatly due to modification, Bloch said he conducted experiments to determine what effects these molecules had on the physical state of membrane bilayers and on the promotion of microbial growth. In studies using liposomes, conventional model membranes, Bloch found that membrane microviscosity increased sharply with each progressive demethylation from lanosterol to cholesterol.

In growth studies with the microorganism *Mycoplasma capricolum*, Bloch found that bacterial growth was optimal with the sterol cholesterol, slowest with lanosterol, and intermediate with the partially demethylated lanosterol metabolites. The functional superiority of cholesterol compared to the other molecules was clear when looking at changes in the membrane properties and cell growth, Bloch said.

Evolution altered cholesterol precursors in order to produce a molecule with greater fitness, Bloch said. "It is nature's wisdom to choose only reaction steps which improve function, avoiding those which are functionally neutral." Although there are no molecular fossils, Bloch said that by looking at primitive organisms, it is possible to get clues about the order of appearance of biomolecules. He noted that squalene, a lanosterol precursor, is a common lipid constituent in the primitive anaerobic Archaebacteria.

The only sterol in the more advanced Cyanobacterium is lanosterol, and dinoflagellates contain 4α-methylcholesterol derivatives, the last intermediates before cholesterol. Even though these organisms may not belong together in an evolutionary sense, the pattern of sterol development from least advanced to more advanced organisms suggests a process directed toward molecular improvement, Bloch said.

Bloch has been at Harvard University since 1954. In his career, he has worked on topics such as unsaturated fatty acid biosynthesis, regulatory mechanisms in lipid biosynthesis, and the role of lipids in photosynthesis, membrane structure and cellular metabolism. He has received seven honorary degrees and is a member of numerous scientific associations.

Other awards

Award of Merit

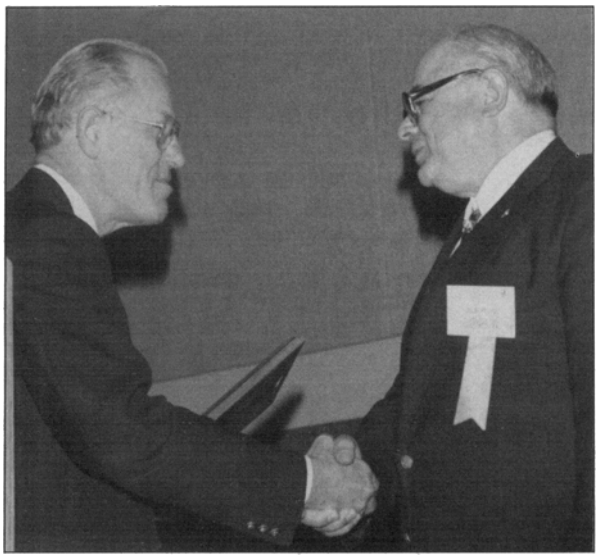
The AOCS Award of Merit, presented annually to persons selected for productive service to AOCS, this year was awarded to four individuals—Arno Cahn, Ted Matson, Martin Schick and Helmut Stupel, all active in the surfactants and detergents field.

Only Cahn and Matson were on hand to receive their plaques at award ceremonies at the annual meeting.

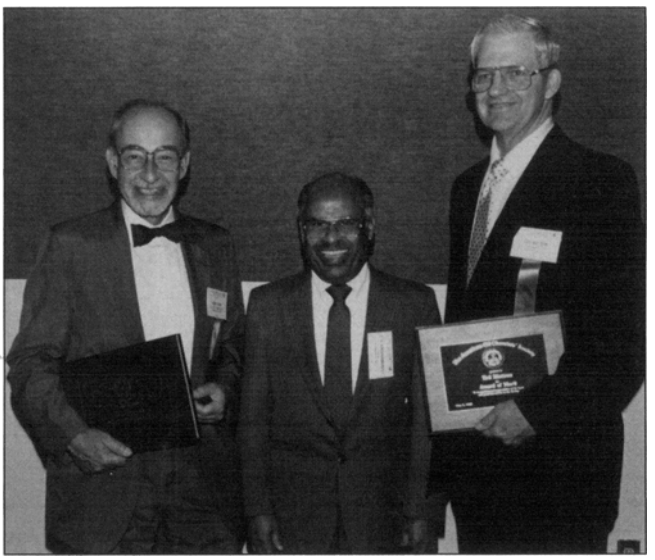
Leadership in technical, administrative or special committees and activities, outstanding service that has advanced the society's prestige, standing or interests, and service not otherwise specifically recognized are considered in this selection.

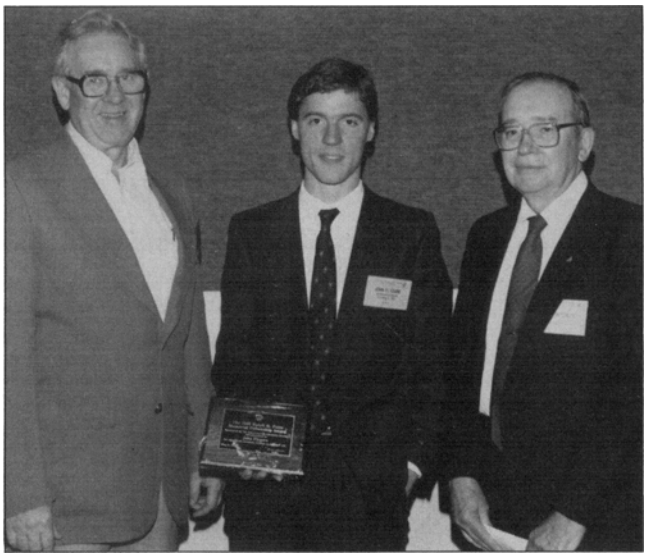
A. Richard Baldwin Award

Nicholas Pelick, who served as president of AOCS in 1984, received the



Robert Hastert (above) presents Nicholas Pelick with the A.R. Baldwin Distinguished Service Award.





Above, Arno Cahn (left) and Ted Matson (right) receive the Award of Merit from R.G. Krishnamurthy (center). Martin Schick and Helmut Stupel, who also were selected to receive the award, were absent. At left, John Flygare (center) of Northwestern University is the recipient of the Ralph H. Potts Memorial Fellowship Award sponsored by Akzo Chemie America. Shown with him are Richard Reck (left) and Lincoln Metcalfe, representatives of Akzo Chemie.

This year's Honored Students, shown at right with Sharon Melton who oversaw the program, are (from left) Steven Pind, Behroze Mistry, Patricia Clark, Melton, Vincent D'Souza and Craig Miller.

A. Richard Baldwin Distinguished Service Award at the annual meeting. Pelick, co-founder and currently president and chief executive officer of Supelco Inc. in Bellefonte, Pennsylvania, joined AOCS in 1962.

The award recognizes long-term distinguished service to AOCS in positions of significant responsibility. It was first presented to A. Richard Baldwin to recognize his leadership as president, as a member of the Governing Board, as the Director of Publications and as editor of *JAOCS* for more than 30 years. Pelick is the first recipient since the award was given to Baldwin.

Honored Students

Five students received special recognition for their academic studies and research by being designated AOCS Honored Students. As such, they received financial support to attend the meeting and each presented a technical paper as part of the technical program.

This year's recipients were Patricia Clark of the Department of Food Science, University of Arkansas, Fayetteville, Arkansas; Vincent D'Souza of the Department of Food Science, University of Guelph, Guelph, Ontario, Canada; Craig Miller of the Department of Dermatology, University of California, Davis, California; Behroze Mistry of the Department of Food Science and Nutrition, Ohio State University, Columbus, Ohio; and Steven Pind of the Department of Biochemistry, University of Toronto, Toronto, Ontario, Canada.

Ralph H. Potts Award

The 1988 Ralph H. Potts Memorial Fellowship was awarded to John Flygare, a student at Northwestern University, Evanston, Illinois. This award is presented annually to a graduate student working in the chemistry of fats and oils and their derivatives.

The type of research that qualifies for the award involves fatty acids and their derivatives, such as long-chain alcohols, amines and other nitrogen compounds. The award consists of a $1,000 honorarium and a plaque. It is sponsored by Akzo Chemie America to recognize the late Ralph H. Potts, a pioneer in industrial research and technology of fatty acids.

The SDA Award

The Soap and Detergent Association (SDA) Award is presented annually to the author of the best technical paper appearing during the preceding year in the Surfactants and Detergents section of *JAOCS*.

This year's recipients were J.A. McDonell and A. Liu of Ecolab Inc.'s R&D of St. Paul, Minnesota. Their paper, which appeared in the May 1987 issue, was entitled "An Improved Method for Evaluating Detergent Builders for Water Hardness Control."

ADM Awards

The Archer Daniels Midland (ADM) Awards, cosponsored with the Protein and Co-Products Section of AOCS, are presented annually to the authors of the best papers relating to proteins and coproducts published during the past year in *JAOCS*.

The 1988 recipients of the engineering and technology award were C.S. Davies, S.S. Nielsen and N.C. Nielsen of Purdue University, West Lafayette, Indiana. Their paper, which appeared in the October 1987 issue, was entitled "Flavor Improvement of Soybean Preparations by Genetic Removal of Lipoxygenase-2."

The 1988 recipient of the award for chemistry and nutrition was Soichi Arai and Hiroko Kimura of the University of Tokyo, Tokyo, Japan. Their paper, "Comparative Nutritional Value for Amino Acids, Oligopeptides and Soybean Protein," appeared in the December 1987 issue.

Symposium honors Stephen Chang

A three-day, six-session symposium on flavor chemistry of lipid foods held at the annual meeting was organized by Thomas H. Smouse of Archer Daniels Midland Co. and David Min of Ohio State University to honor Stephen S. Chang, their professor at Rutgers University. Chang was to retire on June 30, 1988, after teaching food, flavor and lipid chemistry at Rutgers since 1960.

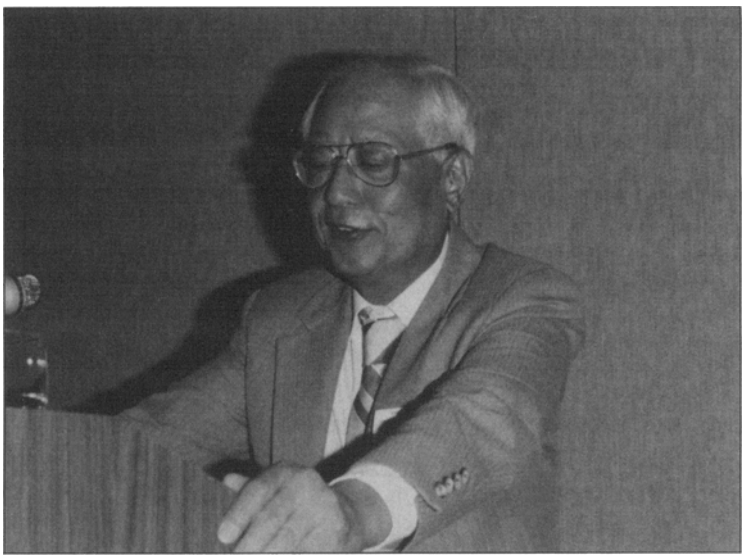
Chang, who will turn 70 years old later this year, has made plans to remain active; he has five-year contracts to provide consulting services for two companies.

The following remarks were made by Chang at a luncheon held in conjunction with the symposium:

"It is the dream of every research scholar to have a symposium in honor of him or her. I am certainly fortunate and full of appreciation to have this one organized for me. The good attendance of my peers, my friends, my former students and associates, indicates not only the success of this symposium, but also is an unusual opportunity for a happy reunion.

"I would like to express my deepest appreciation to those persons and companies who contributed financially to this symposium. We all understand that without their contributions, this symposium would not have been possible.

"I also want to sincerely thank all the speakers who are the most eminent, highly respected and reputed researchers in this field, and who have come all the way from Japan, Eastern Europe, Western Europe and different parts of the U.S. to add wisdom and knowledge to a field in which we all have common interests.



Stephen S. Chang addresses colleagues at a symposium luncheon held in his honor at the AOCS annual meeting.

"I am deeply touched by the eight members of the organizing committee, particularly Tom Smouse and David Min. It was their innovative initiation and their enthusiastic efforts that created this event, the memories of which I will cherish all of my life.

"I believe I have gone through four different stages during my life in the U.S. The first stage, from 1949 to 1960, was the learning process. I learned the chemistry and technology of lipids at Kansas State University and the University of Illinois. I learned the practical technology of edible oil and animal fat processing with hands-on experience in a most unpleasant surrounding: the old, dirty oil processing plants of Swift & Co. in the stockyards of Chicago.

"During this period, I was fortunate enough to have two outstanding teachers. One was Fred Kummerow of the University of Illinois, who spent hours teaching me how to write scientific publications and grant applications. The other was the late Carl Mattil, who had a good knowledge of basic lipid chemistry and knew how to apply it to the practical problems of oil and fat processing.

"I began the second stage of my life in 1960 by joining the Food Science Department of Rutgers University to establish an educational

program for oil and flavor chemists. I quickly recognized that food science is an applied science. The most sophisticated basic research we conduct must have a final, practical goal or target. For example, our basic study on the flavor of soybean oil, on the color of fatty acids and on the thermal oxidative decomposition of frying fat, resulted in the issuance of a patent for a process of manufacturing super-pure oils. This patent is used by a company in Europe to build an ultra-modern oil processing plant to produce oils for pharmaceutical uses.

"In 1975, I foresaw the importance and use of natural ingredients for manufactured foods. These long years of study resulted in a patent for a process to manufacture a natural antioxidant from rosemary. This patent is now being used to produce rosemary extract with controlled antioxidant properties.

"I also foresaw the importance of biotechnology in food science to flavor chemistry and in 1978 initiated a research project with the help of a grant from the Firmenich Co. Our basic studies on the generation of food aromas by enzymatic reactions and by fermentation have resulted in a process for the manufacture of a natural butter flavor from whey, for which a U.S. patent was issued on June 2, 1987.

"If the oil and flavor program at Rutgers has had any success, I must recognize G. Robert DiMarco, who preceded me as chairman of the Food Science Department. He expanded the five-faculty department housed in an ugly museum piece building into an 18-faculty department. He used a state bond issue and raised funds from federal grants and industrial contributions to build the Food Science Building to provide food science faculty with pleasant and effective facilities to establish their programs.

"In 1977, I was elected department chairman by the food science faculty and tried my hand at academic administration. During my nine years of tenure, external peer review panels commented that Rutgers' Food Science Department was a truly top-ranking one.

"Recently, New Jersey approved the establishment of a Center for Advanced Food Technology at Rutgers University. Construction now is under way on an addition to the Food Science Building, expected to be completed next year. Edward J. Bloustein, Rutgers' president, has stated that the state awarded this center to Rutgers due to the good track record of the Food Science Department. I am fortunate that I can retire at a time when the department and the center look forward to joining forces to further enhance their reputations.

"During the first three stages of my life, I received a great deal from my peers, my friends, my students and, above all, America as a nation. I feel it is now time in this, the fourth stage, for Lucy and me to do our best to express a token of appreciation to them. We have started by making a donation to the new AOCS building in Champaign, Illinois. We also have established a Stephen and Lucy Chang Fellowship in Food Science in the People's Republic of China. We have received word that the Chinese Vegetable Oil Industry Association has donated one million Taiwan dollars (equivalent to US $35,000) as an endowment for the Stephen S. Chang Medal for excellence in food science research in Taiwan.

"With my retirement this year, I hope Lucy and I will be able to engage in more and more of these kinds of activities."

Don Beitz of Iowa State University, the Protein and Co-Products Section's featured speaker, told those attending his talk, "I've been teaching for 21 years. I like to be interrupted. So please interrupt me at any time."

Protein not linked to atherosclerosis

There's little evidence to support concern that different types of dietary protein affect atherosclerosis in humans, Don Beitz of Iowa State University said in his keynote address to the Protein and Co-Products Section of AOCS at the 1988 annual meeting.

Speaking on "How about that protein in your lunch today?," Beitz cited the items on the menu for the section's luncheon and noted participants probably would consume more protein than they needed. The menu included a selection of animal and vegetable proteins in a ratio of 2.8 animal protein to 1.0 vegetable protein (on a weight basis), which Beitz said is close to the ratio Americans consume on average in a year.

In his talk, Beitz covered the physiology of cholesterol and discussed dietary protein versus plasma cholesterol in various species, the mechanism of protein's effect in humans and future research projects.

"We all have cholesterol on our minds these days," Beitz said, adding, "Some people go to great lengths to try to control their intake." He explained that people typically absorb 335 mg/day of dietary cholesterol while their bodies synthesize another 800 mg/day, for a total of 1,135 mg. Daily bodily output of cholesterol, he noted, includes 85 mg sluffed off in skin sterols, 50 mg used and excreted in steroid hormones, 400 mg excreted in bile acids in the feces and 600 mg per day excreted in sterols in the feces.

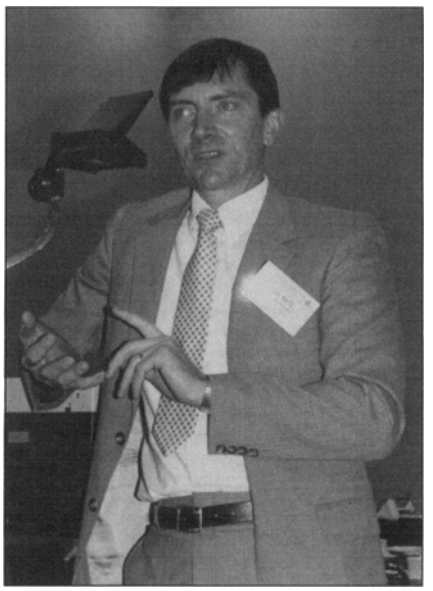
"Cholesterol is a necesary compound in our body. We couldn't be who we are without cholesterol," he said. He noted that "if we do something dietarily to change the synthesis or degradation rate, we change the amount of cholesterol in the blood or the lipoprotein profile in blood."

Beitz said data on the prevalence and death rate from coronary heart disease in relation to serum cholesterol levels have raised concern about cholesterol consumption.

"Do you really want to know if your cholesterol is high?" he asked. "After all, we aren't sure that if we modify diet, it will necessarily make a significant difference. The good news is coronary heart disease incidence is going down. However, no one knows why." He noted such possible factors as a decrease in smoking, in cream and butter consumption, and in egg and animal fat consumption, as well as increased fish fats and oils consumption.

Beitz said such factors as more effective control of arterial hypertension, reduction in cigarette smoking, decreased consumption of saturated fat and dietary cholesterol, and more exercise may be possible reasons for the decrease. "I don't want to say diet is the most important factor in atherosclerosis. In fact, it may be the least important factor," he said.

Primary factors contributing to atherosclerosis may be elevated blood cholesterol, elevated blood pressure, elevated sereum triglycerides, smoking, heredity, diabetes



Don Beitz of Iowa State University addresses the Protein and Co-Products Section at the Phoenix meeting.

mellitus and obesity. Secondary factors may be high saturated fat diet, lack of exercise, abnormal electrocardiogram, being male, age, blood type, softness of the drinking water and type A personality.

Proposed dietary factors may be consumption of too much food, sucrose, fat, cholesterol, animal protein, total protein, coffee and tea. Or, he added, they might include too little vitamin C, vitamin E, magnesium, chromium, vanadium or fiber.

He said the mechanism of dietary protein's effect on different animal species may include faster turnover of plasma choelsterol, decrease in the pool size of plasma cholesterol, lesser absorption of cholesterol, and greater rates of bile acid synthesis and excretion.

There are mixed results with people, he said, noting that no major changes in dietary protein are necessary based on current data.

Technical excerpts

The 1988 AOCS annual meeting featured a variety of technical talks, ranging from surfactants and detergents topics to the pharmacological effect of dietary lipids on health. Many of those talks will be published during the coming months as technical papers in *JAOCS* and *Lipids*.

The following include items overheard in technical sessions.

Saturated fats

It does not benefit the soybean industry to criticize tropical oils, according to Jack Davis of Wilsey Foods, who spoke on markets and trends for food service fats and oils. Attacks on palm oil, described as a saturated fat and "bad" for health, could harm soybean oil, Davis said.

"The attacks compare naturally occurring palm oil with unhydrogenated soybean oil on saturated fat data. This comparison is not valid since a large majority of soybean oil used in the food service industry is hydrogenated. When it is compared to palm oil in saturated fat, there is little difference," Davis said.

He noted that hydrogenation produces *trans* isomers, and some medical studies claim a possible link between *trans* isomers and cancer. "The soybean oil industry can ill-afford to have the palm oil industry attack hydrogenated soybean oil on its saturated fat levels and the very damaging implication that it contains *trans* isomers, which may cause cancer," Davis said.

Meanwhile, attacks on tallow and lard, traditionally used in the food service industry, have caused a significant decline in their usage as major companies respond to the "public outcry about cholesterol," Davis said.

However, canola oil has an "excellent health story" on saturated fats, Davis said, anticipating there will be a large increase in U.S. consumption of canola oil in the next few years.

Frying fats

Libra Laboratories Inc. said it has developed a rapid test to determine the discard time for used frying oils. The test uses a colorimetric scale to analyze the degree of degradation in frying oils.

According to Trean Blumenthal, Libra's director of quality assurance and regulatory affairs, the test is not influenced by the types of fryer, frying oil or food being used. The test can be carried out on-site in restaurants and manufacturing sites, and does not require technically trained personnel, Blumenthal said.

Blumenthal explained that marketing specifications for fresh frying oils are largely meaningless once oils are in use. At that point, the oil's performance is measured by factors such as percent of free fatty acid, color development, heat stability, flavor, odor and flash point. As frying occurs, the oil goes through five stages: break-in, fresh, optimum, degrading and runaway. At the break-in stage, the fresh oil has little or no breakdown products. At the runaway stage, the oil may contain toxic materials, fumes may be noxious, and the smoke point will approach the flash point, Blumenthal said.

In the process of moving from the freshest stage to the discard stage, the percent of free fatty acid changes from 0.02% to 8%, oxidized fatty acids go from 0.01% to 2%, and polymers from 0.5% to 25%. The percent of total polars, expressing the sum of the undesirable species that influence oil performance, starts at less than 4% and goes to 35%, Blumenthal said.

The Libra test measures the level of total polar materials to determine the degree of oil degradation, Blumenthal said. As the oil moves from the break-in stage to the runaway stage, the colorimetric test changes from blue to green, with light blue being the indicator for oil of average quality and green blue indicating low quality, she added. Blumenthal said the company found that test results correlate with the IUPAC column method used by some European regulatory agencies to quantify the levels of polar materials in used frying oil.

Castor oil

Agronomy experiments on castor plants have been undertaken in Costa Rica in an attempt to turn castor into a commercial oil-producing crop, according to a talk in castor oil sessions.

Speaker Harold Mueller of Atochem noted that Atochem has conducted research on castor in order to have a steady supply of castor seed, "a very important raw material for the chemical industry."

He noted Costa Rica "has conditions that are lousy for castor beans,

Seen on the Job Placement bulletin board: five position openings at Meharry Medical College, Nashville, Tennessee. The explanation? The college has opened a new Center for Nutrition.

so it was a fantastic place to do breeding studies." Mueller said castor plants are very sensitive to environmental factors, and the time of planting is very important. "Also, yield will drop dramatically if the plants are not kept weed-free for the first one-and-a-half months," Mueller said.

Khee Choon Rhee of Texas A&M University, meanwhile, reported on research to deallergenate castor meal. "The castor bean is grown only for oil. The meal currently has to be thrown away or used only as a fertilizer because of the allergic reactions it causes," he noted, reporting the development of a method to detoxify and deallergenate the meal for feed use.

Environmental control

A round-table discussion Wednesday afternoon, May 11, focused on the extraction and disposal of spent bleaching clays. Michael T. Boyer of AES Enginering Inc. chaired the session.

Other panelists were Louis Roman of Witco's Humko Chemical Division, Giles Farmer of AES Engineering Inc., Elton Carey of Beatrice/Hunt-Wesson, Robert Hastert of Harshaw/Filtrol Partnership and August M. Rossetto Jr. of L.A. Salomon Inc.

Boyer said the fats and oils processing industry uses a significant amount of earth and bleaching clays. Noting that the resulting "sloppy mess" will combust easily, Boyer explained, "Landfills in some places will not take this, and others may follow suit. We are going to have to figure out what to do with this stuff."

"Burning and odor from spent clay are two of the biggest problems in disposal," Carey said.

Rossetto explained that the residue oil on the clay's surface oxidizes, causing its combustibility. He suggested controlling this problem by using ordinary lime. While other panelists noted the spent clay can be used in animal feeds, Rossetto outlined other potential uses, including use in brick formation, cement, asphalt, tar paper and as a soil improver.

Nancy DiMarco, chairperson of the Protein and Co-Products Section for 1988–89, is an avid runner. Asked how she manages to fit running into her busy schedule, DiMarco replied, "I build my life and arrange my schedule around my running."

"Until we develop ways to handle the spent clay, we have to dispose of it properly, or we give ourselves and the industry a bad name," Farmer told other panelists and the session audience.

Contributors

Many firms provided financial support or donations for portions of the AOCS annual meeting in Phoenix.

Donors who helped make the Honored Student awards possible for the Phoenix meeting were the following:

Akzo Chemie America
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Other donors to the meeting included:

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Sports events

Approximately 90 runners and walkers took part in the 4th annual Fat People's Fun Run and Walk at the 1988 annual meeting. This year, Stephen R. Behr of Ross Laboratories, Columbus, Ohio, took first place, with a time of 19 minutes, 10 seconds.

J. Edward Hunter of Procter & Gamble, who won the run the first three years, placed second, coming in two seconds later than Behr. His wife, Marilyn, placed third for the women.

Third place for the men was captured by John Dobol of Lonza Inc., with a time of 19 minutes, 37 seconds.

For the women, Diane Birt of the University of Nebraska Medical Center came in first, with a time of 23 minutes, 26 seconds. Roelck Cuperus of International Bio-Synthetics captured second place with a time of 24 minutes, 13 seconds, and Marilyn Hunter, third, had a time of 25 minutes, 57 seconds.

The Hunters plan to continue their involvement with the fun run; next year, they will help organize the race as part of the local committee for the 1989 AOCS meeting in Cincinnati, Ohio.

The event this year was held Tuesday morning, May 10, on a 3.1-mile hilly course in Papago Park that offered a stunning setting but more difficult terrain than previ-

ous years. A first this year was the provision of a post-race breakfast for participants.

Fun run organizer Joseph Fioriti was pleased with participation and noted that "no one was lost in the desert." Top three placers in the men's and women's categories were awarded prizes following the race.

In addition, golf and tennis tournaments were held Sunday morning.

Winners of the AOCS doubles tennis tournament were Rosina Vando and Laxman Singh. Runners-up were Thomas A. Hamme Jr. and Fredrick Wellons, both of Chemal Co.

Meanwhile, 65 people took part in the golf tournament. In the women's category, Joan Gavin captured first low net, and S. Lies was first low gross. In the men's tournament, Owen Portwood of Sherex Chemical Co. was first low net, and P. Surratt was first low gross. Harold Jewell of Owensboro Grain Co. had the longest drive. In special "closest to the pin" competitions, Richard Purdy won at the fourth hole, Frank Khym won at the twelfth hole, and R. Daniels won at the 16th hole.

Door prizes

Aaron Summers of Holsum Foods was the grand prize winner in door prize drawings in the exhibit hall at the 1988 annual meeting in Phoenix, Arizona. As such, Summers was awarded a 35 mm camera with carrying case. Other door prize winners included the following:

Sports bags—Janet Panford of the Canadian Grain Commission and William Bartels of California Oils Corp.

Men's wallets—William Hughes of Beatrice/Hunt-Wesson, Jesse Matias of Humko, and Debbie Atherton of Nu-Chek-Prep

Women's wallets—Irene Bader of Canada Packers and Peter Doorley of Humko Chemical

Calculators—Guillermo Camoriano of Votator, Jesus Cuestor of Eldorada S.A. and U. Mya Than

Cross pen and pencil sets—S. Koritala of USDA's Northern Regional Research Center, Shigeo Miura of Miura Engineering Co., R. LaBarge of Dow Chemical, Richard Flor of the U.S. Customs Service, and Heidi Tronsberg of N. Hunt Moore and Associates

Briefcases—Warren Truman of Casa Grande Oil Mill and Robert Yates of Reagent Chem and Research

Walkman—James Thomas of Colgate-Palmolive

T-shirt winners were Joseph Fioriti of General Foods Corp., Stan Bader of Canada Packers, Tom Langdon of Miles, Nelson Mak of Quantum Chemical Corp.'s Emery Division, Dave Wilbur of Central Soya Co. Inc., Paul Dimick of Penn State University, Cindy Berry of Harshaw/Filtrol Partnership, Jan

Hughes of Honeymead, Renate Seifert of Prater, George Chenzos of Canada Packers, Bipin Khara of General Foods Corp. Research, Martin Graber of Dial Corp., Dan Anderson of Quincy Soybeans, Lucy Hwang of the National Taiwan University, D. A. Lillard of the University of Georgia, Carl B. Amos of Honeymead Products, and Florent Percy of Copaiol.

Exhibit highlights

The exhibit held in conjunction with the 1988 AOCS annual meeting featured 86 booths representing 60 companies. The following are highlights from the exhibit.

Exhibit booths, totaling 86 and representing 60 companies, feature products ranging from analytical instruments to complete processing units. Shown above is the Varian Instrument Corp. booth.

American Colloid Co. promoted its new Clarion 470 bleaching earth designed for efficiency in color removal of edible oils.

Anderson International Corp. featured several improvements for its vegetable oil extruder-expander. The company recently has applied its expander-extruder-cooker for the detoxification of castor bean meal according to procedures developed at Texas A&M University in a research project sponsored by the UNIDO office of the United Nations.

Anderson said it has appointed R&D Equipment Sales of Ft. Worth, Texas, in association with S.I.A., as exclusive representatives for all Anderson International and W.C. Cantrell products in Colombia and Ecuador. In addition, the company has supplied India's first Anderson vegetable oil extruding-expanding equipment. Jim Griffith, formerly with Union Carbide Corp., now heads the company's sales and marketing operations.

Armstrong-Hunt Inc., a first-time exhibitor, introduced removable steam heating coils used on DTDC. Also, the company said cleanout spaces have been placed between coils to facilitate washdown without coil removal.

Brinkmann Instruments Inc. featured its automatic Metrohm Model 679 Rancimat.

Bruker Spectrospin (Canada) Ltd. promoted its new Minispec PC 100 series, including automated NMR analyzer for quality/process control and research use, and applications in the food industry. Its newest application is in determining fat and oil percentages in milk products and chocolate powders.

The company, with headquarters just outside Toronto, Canada, now is responsible for the U.S. market.

The Cambrian Engineering Group Ltd. featured its 500 kg/hr (12 tons/day) complete deodorizing system, which is preassembled and skid-mounted. The company announced its Campro thin film technology and processing now are used to strip pesticide residues from fish oils simultaneously with deodorization of the oil.

Canola Council of Canada said it will be holding its 1989 annual convention in Chicago at the Drake International Hotel during March 20–22, 1989.

Centrico Inc. promoted its new degumming, refining, washing, winterization and fractionation centrifuge. Also, process flow-sheets were available showing new approaches to fractionation and winterizing.

Crown Iron Works Co. has acquired Wurster & Sanger Inc. of Chicago, Illinois. As a result, key personnel will be transferred to Crown's Minneapolis office. Crown said it now can provide complete oil mill service and equipment, from preparation through solvent extraction and refining.

Crown Iron Works and its Wurster & Sanger Division currently have 26 projects in various stages of engineering, fabrication and installation. Projects are in the U.S., West Germany, India, Guatemala, Honduras, China and Mexico.

De Smet USA Corp. featured its new solvent extractor with simplified design and corrosion-resistant steel, and its Multiflash preneutralizer tested for palm oil and liquid oils.

Eastman Chemical Products promoted its Tenox GT-2 foodgrade antioxidant, a concentrated source of tocopherols derived from vegetable oilseeds. The company noted GT-2 is approved for use as a chemical preservative in foods for human consumption under existing regulations published by the U.S. Food and Drug Administration and the U.S. Department of Agriculture.

Eirich Machines Inc. has developed vacuum-intensive mixing equipment and laundry detergent products featuring simplified processes for complex formulas. Also, the company said it has sold new plants in West Germany, France and Japan.

Equipment Engineering provides such new services as the repair and balancing of nozzle bowl centrifuges as large as 44″ in diameter and reapplication scroll repair and hard surfacing of decanter centrifuges up to 48″ in diameter.

Also, the company has initiated preliminary plans to build a new 100,000-square-foot facility in Indianapolis, Indiana.

Florida Industrial Filters Inc. featured a new type of filter screen for filter leaves used in the filtration of bleached and/or hydrogenated edible vegetable and animal fats and oils. Also, the company said its special filter systems can be applied for the filtration of catalyst where the catalyst can be reused in a closed system.

The company now produces replacement filter leaves and repairs and rescreens filter leaves in its new facility in Dunedin, Florida.

Foss Food Technology Corp. said its Kjel-Foss protein analyzer can be used in conjunction with the standard method for protein analysis of soybean meal recently approved by AOCS. Also, the company said it will introduce a bacteria-counting instrument, ATP. Its bacteria plate counter now is in production.

French Oil Mill Machinery Co. said it continues to expand the application of its Enhanser (extruder) press, now being used to pelletize canola and copra for solvent extraction.

French has added two sales and service employees, Al Monroe and Earl Easley, to cover the U.S. as well as the Mexican markets. The company has been involved in seven new solvent extraction plant projects—in Mexico, the U.S., Turkey, Pakistan and the Philippines—since 1987.

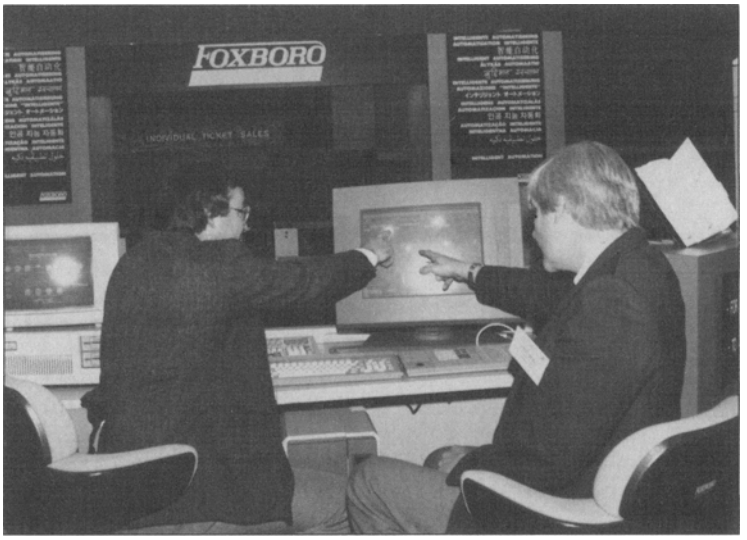
Harshaw/Filtrol Partnership featured two new Filtrol adsorbents and three Harshaw catalysts. Purchased by Engelhard Corp. of Edison, N.J., the company is no longer Harshaw/Filtrol Partnership but is now Englehard Corp.

Herzog-Hart Corp. has been awarded a patent on a new bioreactor concept. The company said the invention, called the Hall Fermenter, will have application in bioconversions formerly limited by high oxygen demand. The company said the invention extends the oxygen

transfer rate beyond current stirred tank technology.

G. Mazzoni S.p.A. exhibited scale models of its SCNC-BL-N neutral fats saponification plant and CSL spent lye evaporation plant.

Mazzoni and Andreotti recently became partners in the edible oil processing field, combining Andreotti's design capabilities and Mazzoni's engineering and manufacturing knowledge. Also, Luis Spitz has been named director of operations of G. Mazzoni U.S.A. Inc. and technical-commercial consultant to G. Mazzoni S.p.A. Italy. He may be reached at 5225 Old Orchard Rd., Skokie, IL 60077, telephone 312-965-5151, Fax 312-965-9030.



Foxboro representatives check out data at their exhibit booth.

International Bio-Synthetics Inc., a new company formed as a joint venture between Gist-brocades and the Royal Dutch/Shell Group, said it is concentrating on the application of biotechnology to the fields of fine and specialty chemicals. The company noted the increased and increasing use of enzymes in U.S. detergents.

Larodan Fine Chemicals AB featured its CPL (chromatographically purified lipids) line of ultrapure lipids that currently includes nine different oils (soybean, corn, sunflowerseed, rapeseed, peanut, cottonseed, coconut, palm and olive). The company said it became a fully owned subsidiary of Karlshamns AB, Sweden, at the end of 1987.

Leybold Vacuum Products Inc. promoted standard and customized vacuum pumping systems using rotary lobe blowers, rotary vane and piston pumps, turbo-molecular and cryopumps and other equipment needed for turnkey systems. The company announced the application of rotary lobe blowers with condensers and liquid ring pumps to replace steam ejectors on deodorizers.

Libra Laboratories Inc. featured test kits for food degradation/decomposition and semi-quantitative analytical values/measurements, and the revised second edition of its monograph, *Optimum Frying: Theory and Practice*, by Michael Blumenthal. The company also noted optimization studies and implementation of frying processes for the snack and fast food suppliers and users, as well as determination of the shelf-life of packaged foods by using novel chromatographic, sensory and computer techniques.

Seymour G. Gilbert has joined the company as a senior investigator in basic research. Richard F. Stier, manager of manufacturing quality services, has opened an office for Libra Labs in the San Francisco Bay area. William B. Jacobs has been appointed manager of technical services at Libra's headquarters in New Jersey.

Linde Division, Union Carbide Corp., promoted its nitrogen stripping systems designed to remove contaminants from oils and oleochemicals. It also featured its nitrogen membrane system developed for supplying on-site nitrogen needs for lower purity applications.

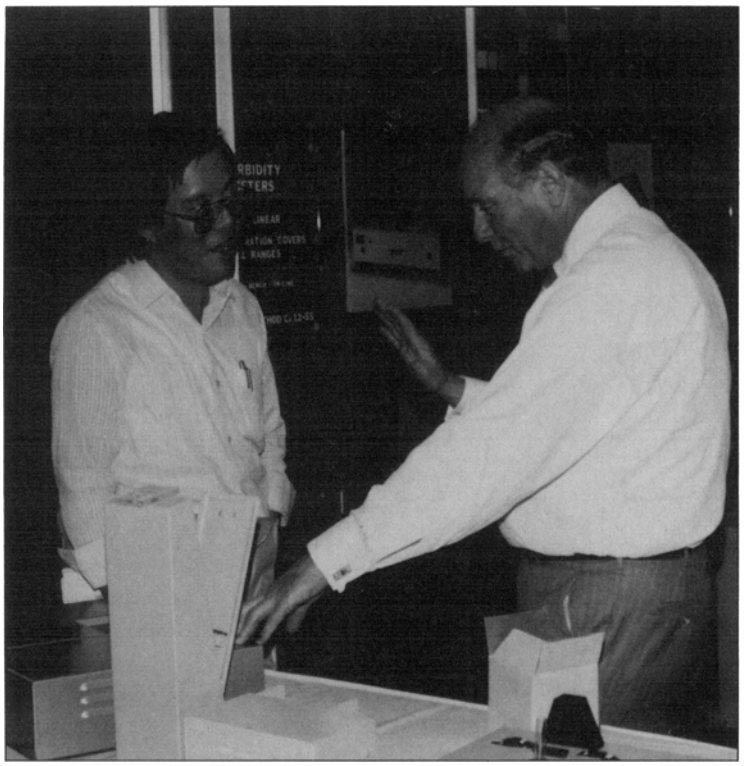
Lucas Meyer Inc. promoted its line of special lecithins for special uses, including a new hydroxylated-deoiled/powder and synthetic lecithins and mixtures.

Manville Corp.'s Filtration & Mineral Division featured its Hyflo-RV non-cracking diatomite filter-aid for use on rotary vacuum precoat filters. The company said construction has just been completed on a new research and development laboratory next to its diatomite mine and processing plant in Lompoc, California.

Medallion Laboratories is celebrating its 15th year of providing laboratory services to the food industry from General Mills' R&D Laboratories in Minneapolis, Minnesota.

Mettler Instrument Corp. promoted its Mettler-Kem digital automated density/specific gravity meter and Mettler titration software. Mettler Instrument USA currently is the exclusive distributor of the Mettler Kem density meter in the U.S. The company said all new meter titration and density products now include a two-year service protection plan, with instruments guaranteed to be repaired within 48 hours or a replacement is provided.

Miles Inc. has added malic acid and fumaric acid to its biotechnology products division product line. Miles, a Bayer USA Inc. company, currently is expanding all citric acid plants worldwide to add 50 million pounds of annual capacity. Miles has two citric acid plants in the U.S. (in Dayton, Ohio, and Elkhart, Indiana), as well as plants in Mexico, Colombia and Brazil. The company said it plans to construct a citric acid manufacturing facility



Ed Extract (right) of Tintometer explains company equipment to an exhibit visitor.

somewhere in the western hemisphere in the near future.

N. Hunt Moore & Associates Inc. said the Schroeder Kombinator now is used in continuous dough processing and fat/solid mixtures. Other applications include continuous processing of salad dressings and sauces. The company this year entered into a cooperation agreement with Lurgi in the areas of vegetable oil and fatty acid processing.

Tom Wichlinski, formerly with Kraft's Humko Division in Memphis, has joined N. Hunt Moore & Associates as director of engineering.

Nash/Kinema Inc. promoted new lines of vacuum pumps, a condenser scrubber to clean up cooling towers on deodorizer systems, and vacuum condensate pumps. The company said a new application includes hybrid vacuum pump/steam jet combinations for low energy and high vacuum.

Nash Engineering Inc. recently acquired Kinema Inc. Ron Machens has been named general manager for the Nash-Kinema subsidiary in Elizabeth, Pennsylvania.

Novo Laboratories Inc. featured Lipolase, a genetically engineered lipase enzyme that it said has shown efficacy in detergent formulations for removing many oil-based stains.

Nu-Chek-Prep Inc. has added Christina Nutter as sales representative.

Oil-Dri Corp. of America promoted its Pure-flo bleaching clay, a neutral clay that it claimed helps remove color, chlorophyll, soaps and trace metals.

POS Pilot Plant Corp. is undertaking a $2-million expansion. The project includes a new processing area, three new laboratories, a new warehouse, docking area and quarantine area. The corporation has acquired a Johnson-Loft thin film continuous deodorizer with a capacity range of 150-350 kg/hr.

Prater Industries Inc. exhibited its newly designed hammermill, which Prater said "is radically different than anything on the market." The unit was designed for energy efficiency. The company said it currently is expanding into pharmaceutical applications. Prater also has a new laboratory where it can perform actual production runs. Prater Industries recently purchased Sterling Controls.

The Praxis Corp. featured its Model SFC 900AR, a solid fat content analyzer using nuclear magnetic resonance (NMR). Software incorporates the AOCS Recommended Practice CD 16-81 as well as customer-designed sequences.

PSI Process Systems Inc. now offers turnkey construction for plant expansions and renovations. PSI said it expanded its process plant design services with the addition of turnkey construction capabilities for processors requiring a design/build approach to facility expansion and modernization. Recent PSI construction projects in the U.S. produce artificial sweeteners and edible oil products.

Reinartz Machinery featured a screw press for oil recovery and offered testing information on

Daniel Schwartz of the U.S. Department of Agriculture's Eastern Regional Research Center got the idea for his poster presentation (Poster 14—"Composition of Human Adipose Tissue Lipids") when he paid a visit to the hospital to get stitches in his lip. The surgeon readily offered to give Schwartz samples of human adipose tissue for research purposes. Schwartz took up the offer. The tissue in question came from the lower abdominal wall of an obese 40-year-old female. "Indications are she consumed a lot of unsaturated vegetable oils," Schwartz said.

jojoba and oil recovery from reject potato chips in the snack food business. Company representatives said Reinartz recently installed an entire cottonseed installation plant outside the U.S.

Simon-Rosedowns promoted several new products. These included the Sterling screw press specifically designed for fibrous seeds, Goldstar replacement parts, the Multiflow stockchange deodorizer, and computer control for screw presses. Graham Goforth has been named general sales manager.

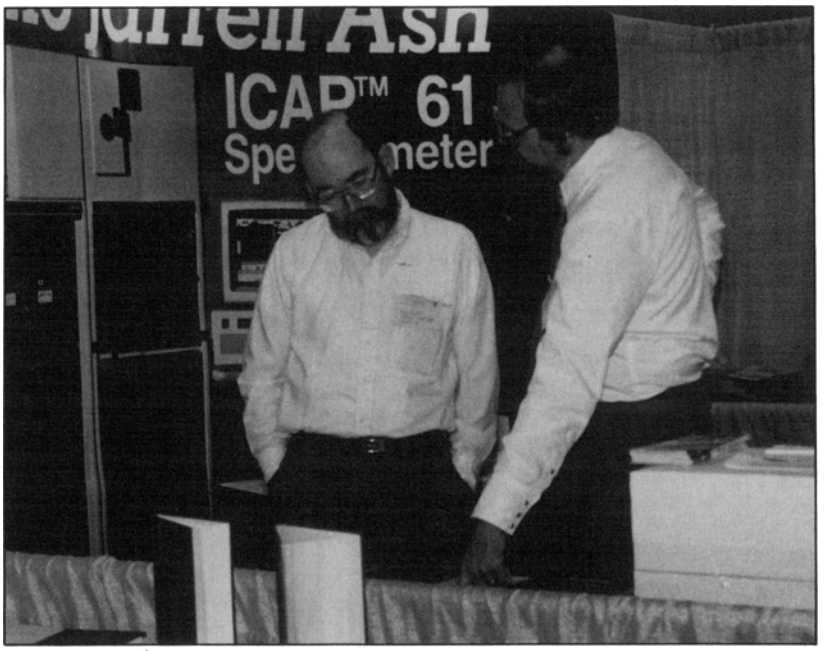
Süd-Chemie Group featured a new higher activity bleaching clay.

Tekmar Co. promoted the LSC-2000 series of instruments, the company's newest generation of purge and trap and dynamic headspace concentrators. Tekmar noted that the increased inertness of the LSC-2000 series and a broader range of temperature control for values and lines increase the number of compounds that can be analyzed.

Thermo Jarrell Ash Corp. promoted its line of atomic spectroscopy products. Spokesmen said the company's ICAP 61 inductively coupled argon plasma emission spectrometer is the latest addition aimed at the quality assurance needs of oil chemists. The company recently moved into its new Franklin, Massachusetts, manufacturing, research and headquarters facility, reaffirming the company's position as the only AA and ICAP manufacturer whose products are all made in the U.S.

The Tintometer Co. featured optical sensors for color and brightness control on-line in plants for process-related control, a turbidity meter with one-point standardization, and a portable reflectance-measuring spectrophotometer.

Tramco Inc. noted that design improvements of standard Model N conveyors include replaceable wear surfaces and vapor-tight construction.



Above, a view of the Thermo Jarrell Ash Corp.'s booth.

UOP Inc. introduced Pristene natural stabilizers, based on natural mixed tocopherols, in response to a growing interest for all-natural and shelf-stable foods. The company also noted its Sustane CA is a new liquid chelator containing citric acid in a propylene glycol carrier.

Also, an agreement-in-principle for the formation of a joint venture including UOP and the CAPS (Catalyst, Adsorbent and Process Systems) unit of Union Carbide Corp. (UCC) has been announced by Allied-Signal, UOP's parent, and UCC. The resulting firm will be known as UOP and will be headquartered in Des Plaines, Illinois.

UOP has appointed Amalia Calvo marketing representative and Claudia Thomas sales coordinator, with Calvo to work with foreign clients and Thomas to handle domestic customers. Bobbi Coulter will continue as national accounts manager.

Varian Instrument Corp. promoted its high temperature GC-Model 3410, a microprocessor-controlled high temperature GC for triglycerides and free fatty acids, which features a sceptum-equipped temperature programmable capillary injector for on-column or splitless separation.

Votator Division of Cherry-Burrell featured a 4 × 120 scraped surface heat exchanger for continuous margarine remelt.

Waters Chromatograph Division of Millipore promoted its Powerline HPLC systems offering single-keyboard control over the system components without a separate PC. The company noted it has HPLC methods for analysis of lecithins, fatty acids, triglycerides and cholesterol, as well as a preparative purification method for omega-3 fatty acids.