Opening plenary breakfast attracted full house to Sheraton Centre's Grand Ballroom

Recipients of 1982 Honored Student awards pose with AOCS President E.G. Perkins (front row, left) and Honored Student Committee Chairman Randall Wood (front row, right). Students are (front row, from left) Y.S. Sun, University of Maryland; F.J. Bunick, University of Massachusetts; D.E. Agwu, University of Guelph; and (back row, from left) R.A. Frank, University of Tennessee; R.O. Ryan, University of Nevada-Reno; and R.A. Zoeller, Texas A&M University.

1,650 in TORONTO

A record attendance of 1,650 persons participated in the 73rd AOCS Annual Meeting during May in Toronto despite a general economic softness in the fats and oils industry.

Among the highlights for the meeting:

- Nearly full houses for two Monday morning concurrent "theme" sessions, one for industrially oriented registrants, the other designed for biochemists.
- A well-received opening reception in Toronto's Casa Loma, a castle-style mansion built as a private home, now maintained by the Kiwanis as a museum and historic site, followed Wednesday evening by a banquet for 1,000+.
- Ideal weather for 200 spouses' program participants to tour Toronto and visit Niagara Falls.
- The largest national meeting exposition as 45 firms filled 54 exhibit booths with approximately 150 representatives.
- Installation of a new Governing Board, headed by President Karl T. Zilch, and presentation of AOCS' awards to a dozen recipients, headed by R.M.C. Dawson, 1982 recipient of the Supelco-AOCS Research Award.

In the initial meeting evaluation questionnaires received in Champaign, registrants said they liked:

Exhibitors' booths

M.C. Allen, left, and D.E. Linder, right, received Soap and Detergent Association Awards from SDA President T.E. Brenner, center.

Registrants praise technical program, city, sociability

•the quality of the technical program;

•Toronto's cleanliness and the friendliness of the people;

•the opportunities for personal contacts with colleagues from around the world.

Registrants didn't like:

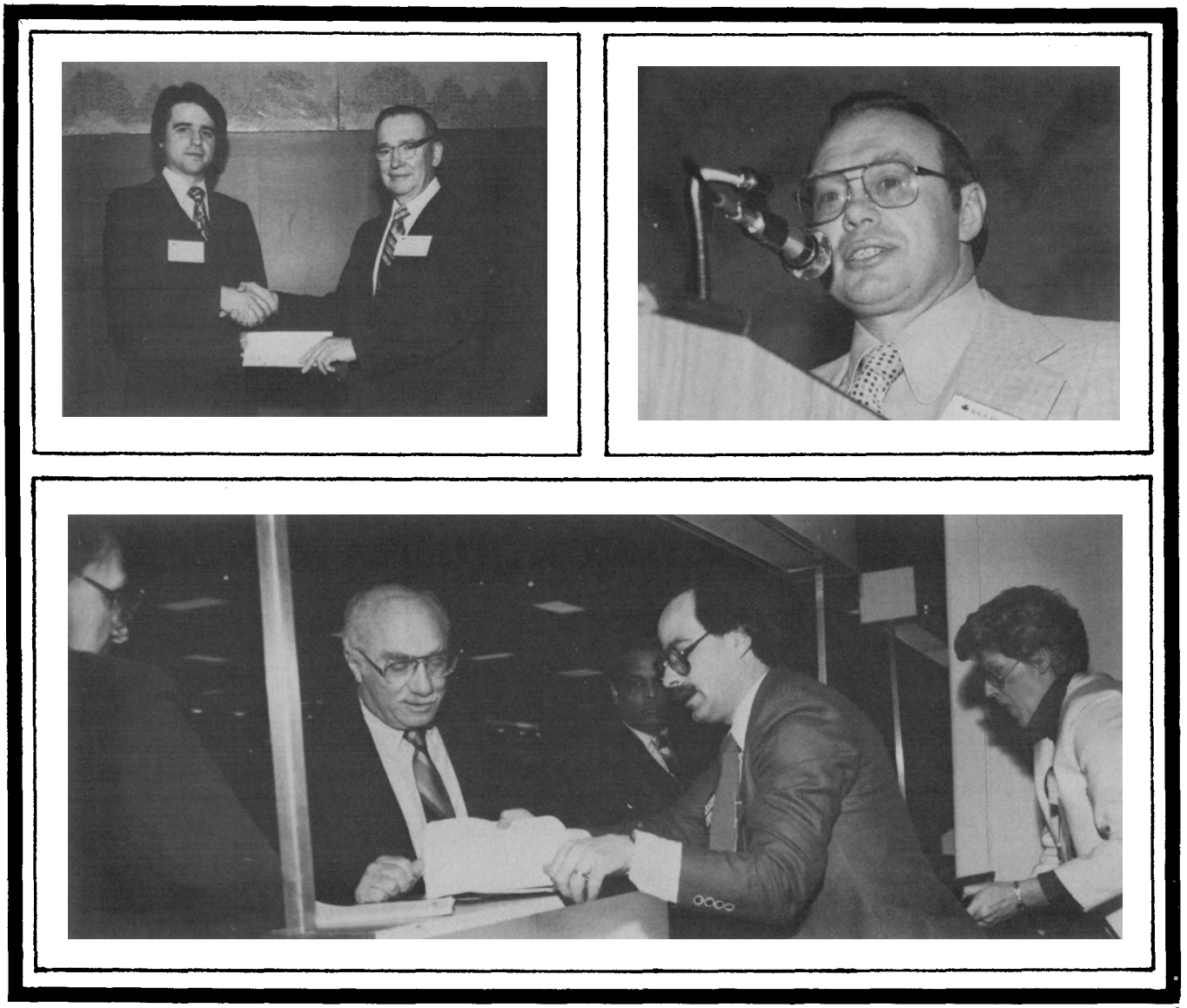
•the necessity to occasionally choose between concurrent presentations when both appeared to be good papers;

•slides that were hard to read or too cluttered;

•the size of type used for names on registration badges.

The four topics in the industrially oriented theme session Monday were energy, biotechnology, processing innovation, and new sources of edible oils.

Billy Brooks of Anderson Clayton & Co. reviewed the international and national long-term supply and demand factors in energy, then challenged registrants to make use of information to be presented at the meeting to improve energy use. Among the points Brooks said should not be overlooked: boiler efficiency in converting energy to steam, steam distribution system, refrigeration equipment, heat transfer equipment, cooling towers, electrical motors, plant lighting and others. Brooks noted Anderson Clayton's investment in a new hydrogen generat-



Clockwise from top left: first Ralph H. Potts Memorial Fellowship was presented to Nikolas Sotirhos, left, by Lincoln D. Metcalfe, right, of Armak; General Chairman Brian Walker; former AOCS President Ray Reiser receives meeting portfolio from registration chairman Charles Cyopik; Irene MacKay, assistant chairman, is at right.

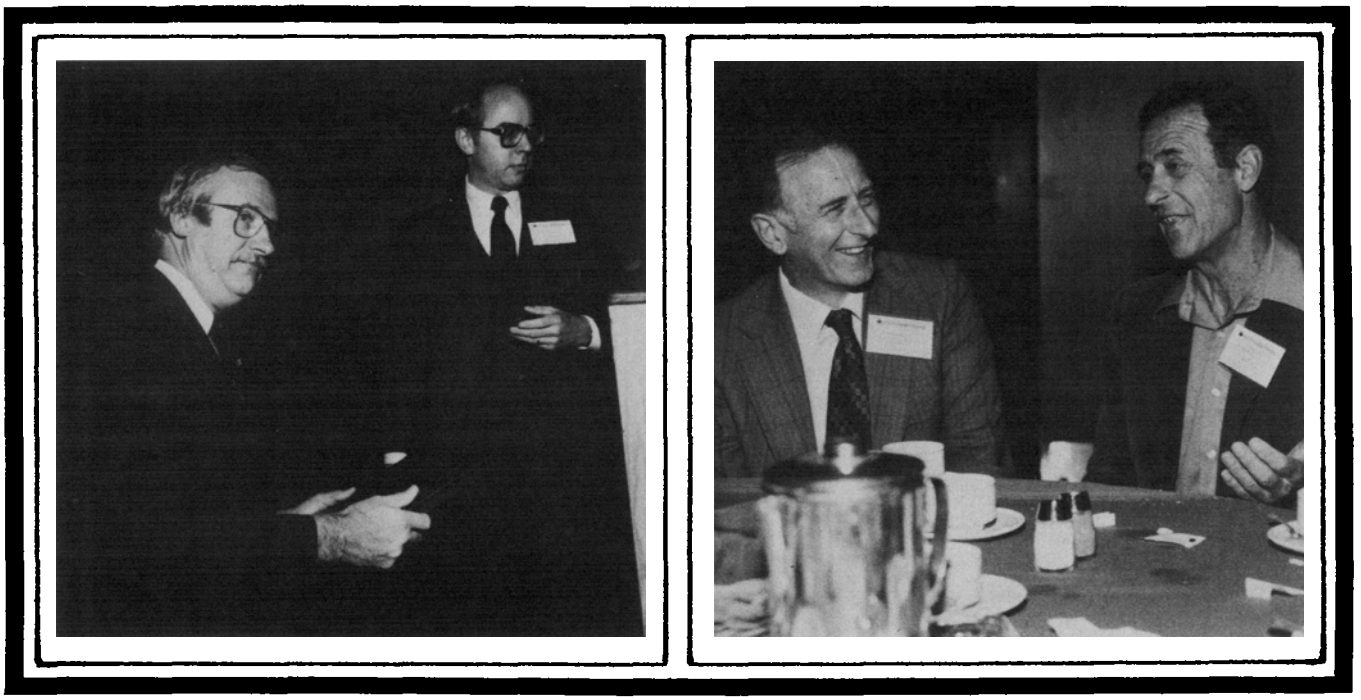
ing plant reduced to 540 BTU, from 1200 BTU, the amount of energy required to generate a cubic foot of hydrogen.

A.T. James of Unilever Ltd. discussed the current state of the art in biotechnology, as well as future possibilities, but emphasized that biotechnology is not magic and the "economics may very well be determined by the upstream and downstream processing costs" of the materials involved. Biotechnology appears uneconomic for large-scale crops in advanced western nations and will be useful primarily to produce medium- and high-value materials or to tailor crops in developing countries to local growing conditions, James said. He discussed Unilever's success in tissue culture production of oil palm plants (cloning from tissue samples of a tree selected for desirable characteristics). Recombinant DNA research eventually may lead to producing plants with specific amino acid or fatty acid profiles for particular uses, he said.

A.R. Baldwin and R.R. Regutti of Cargill prepared a paper on production and processing innovation including a description of the automated, computerized A.E. Staley oil refinery in Des Moines, Iowa. They then reviewed reports of innovative processing methods used to improve quantity and quality of product, alternatives to hexane extraction, possible applications of biotechnology, and some specific opportunities with specific oils.

In the closing paper on edible oils of the future, Lars Wiedermann of the American Soybean Association examined potential crop expansion and processing capacities to conclude that the major edible oils of the future will be soybean oil, rapeseed oil, sunflower seed oil, palm oil, animal fats, and indigenous oils preferred in local areas because of traditional consumption patterns. Wiedermann agreed with James that biotechnology's main contribution may be in producing "small-volume, high technical content lipids for very special applications, for example, the production of an emulsion stable, metabolizable lipid for parenteral nutrition."

In the introductory session on biochemistry, papers were



Left: Lars Wiedermann, left, accepts Award of Merit from T.H. Smouse. Right: Rex Dawson (left), 1982 Supelco AOCS Research Award recipient, converses with 1980 Award in Lipid Chemistry recipient James Mead.

presented on analytical methodology, unsaturated fatty acid isomers, and the biological role of fats and oils. A paper on membrane systems activity was cancelled when the speaker became ill a few days before the presentation and could not attend.

Arnis Kuksis of the University of Toronto outlined advances in chromatographic analysis in lipid methodology. "The demonstrated possibilities and the clearly defined potential provide previously lacking means for tracing the metabolic pathways of glycerolipids, including the identification and quantitation of the true precursor and product pools participating in specific biosynthetic steps, and for intermolecular interconversion and equilibration of the glycerolipids among different subcellular sites, for the relation of the extracellular secretion product to their original cellular sources, as well as for other purposes," he said. He called for advances in sampling, selective stable isotope labeling, and in the design of experiments to match the advances in chromatographic analysis.

E.A. Emken of the USDA's Northern Regional Research Center reviewed work on in vivo studies of isomeric unsaturated fatty acids, including factors that may affect preferential metabolism.

Jon Kabara of Michigan State University presented an overview of the biological role of fats and oils from membranes to enzyme systems.

In the hallways, conversation generally concerned the economic well-being of the fats and oils industry. At the time of the meeting, U.S. soybean crushers were operating at about 60% to 65% capacity, sunflower processing plants were virtually shut down, and some companies had announced freezes on travel, hiring or on salaries. The AOCS Placement Center at the meeting received approximately four dozen registrants looking for new jobs; there were about two dozen openings listed by employers.

There were several topics that attracted increased attention: energy conservation, automation/computerization, and anything that would help reduce costs. Two topics that were being discussed more as possibilities than as interesting research were use of vegetable oils as diesel fuels and alternatives to hexane extraction. In his presentation on processing innovation, A.R. Baldwin noted that use of methyl esters as a diesel fuel substitute might be economically feasible if diesel fuel costs rise 10% and vegetable oil prices drop 20%. Supercritical fluids and isopropyl alcohol are attracting attention not only because of costs and availability of hexane, but because of the characteristics of the oil and meal after extraction. The high capital costs for supercritical fluid technology is the most often cited limiting factor for that proposal.

In a session on lipophilic xenobiotics, R. Frank of the Ontario Ministry of Agriculture and Food reported residues of pesticides and herbicides in crops have fallen dramatically since the early 1970s as organochloranes have been replaced with phosphorus based compounds. In that same session, B.L. Smith of Health and Welfare in Canada reviewed worldwide efforts to coordinate legislation on contaminants noting that risk management will become more prominent with risk analysts assigned the task of reducing uncertainty. Sophisticated analytical techniques that can measure parts per billion and parts per trillion have made a "zero exposure level" concept impractical, he said.

On the subject of pesticides, J.D. Nalawaja of North Dakota State University reported on increasing interest in use of vegetable oils as a base for herbicides and pesticides. Trial plots have shown improved weed control and higher

yields, he said, and for some crops the vegetable oil-base formulation is more selective toward the weeds than petroleum-base formulations. A smaller volume of oil is needed than water for such formulations, reducing weight for aerial spraying, but as the oil clings to plants better, pest control remains equivalent or better. Potential use is nine million gallons a year, Malawaja estimated. The work at North Dakota State was done primarily with linseed oil, but use of soybean oil was the subject of a meeting earlier this year at the American Soybean Association headquarters in St. Louis. Cottonseed oil also has been tested.

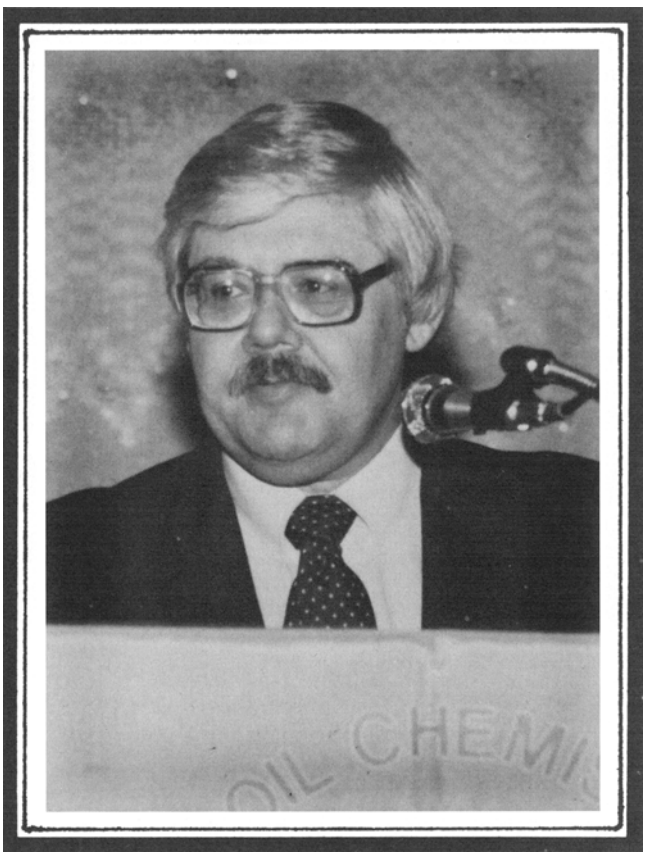
Looking at international trade, the USDA's Ed Allen estimated palm oil will supplant soybean oil as the most plentiful oil in international trade by 1990, with an oversupply of palm oil exerting downward pressure on all vegetable oil prices. Specifically, Allen said palm oil formed about 29% of international oil trade in 1980 and will rise to 37% by 1990, while soybean's international market share will be falling from 34% in 1980 to 27% in 1990. The American Soybean Association's Lars Weidermann, in his theme presentation, did not predict such a rapid rise in palm oil trade, citing a lack of infrastructure. Allen expects Brazil's soybean yield to drop as more marginal land is brought into production and government policies encourage more corn production. Allen said that while oil supplies were relatively in balance with demand during 1969-71, by 1990 there will be about 4.5% surplus.

Allen's paper was part of a symposium on natural fats and oils as petrochemical substitutes. In that symposium, E.C. Leonard of Humko Chemicals said he does not think there will be any further announcements of new fatty alcohol production plants during the 1980s. Existing and announced plants have capacity adequate to meet demand through the year 1990, Leonard said. He estimated existing and announced fatty alcohol capacity by company as follows: Conoco, 135 million pounds; Ethyl, 210 million pounds; Procter & Gamble, 120 (to 200) million pounds; Shell, 550 million pounds; Sherex, 20 million pounds; and Union Carbide/Henkel, 110 million pounds. Of the present 573 million pound annual market for fatty alcohols, Leonard said 437 million pounds go into detergents. *Chemical Week* for April 28, 1982, had a feature on natural fats and oils vs. petrochemicals as sources for fatty alcohols.

General Chairman Brian Walker was delighted by the large turnout. There was ample speculation as to why so may persons participated, with many participants saying the quality of the technical program was a prime factor in the decision to attend. Program Chairman was James B. Rattray, who, like Walker, is a faculty member at the University of Guelph.

The meeting's registrants came primarily from Canada and the United States, with a total of approximately two dozen nations represented, including six continents. One sign of economic conditions, however, was that fewer than 73 registrants were from outside North America, a relatively low total considering the total attendance.

Lack of sufficient registrants caused cancellation of the short course on methods of nutritional assessment of fats that had been scheduled to be held at the University of Guelph immediately before the AOCS meeting in Toronto. The papers that were to have been presented will be published as an AOCS monograph. Details as to content, cost and publishing date will be announced later when arrangements have been completed.



AOCS Past President's Address

Challenge to excellence

The following is the text of 1981 AOCS President Edward G. Perkin's address to the business meeting of the 73rd Annual Meeting of the AOCS held May 3, 1982, in the Sheraton Centre in Toronto, Canada.

Colleagues, guests, friends, I want first to express my gratitude for the honor of being your president for the past year; it's been quite an education. The American Oil Chemists' Society is both nationally and internationally recognized for its excellence as a technical society in all of the professional areas constituting the general fields of fats, oils, lipids and all of their derivatives. We are a diverse group, which this year has added a protein specialty section, an indication of the importance of oilseed proteins to our society and its members. In spite of increased demands upon our professional people our membership has again grown, to a high of 4008 members.

We are meeting the challenges to excellence: our technical meetings are continuously increasing in attendance and in the number of papers presented. The world conferences which have been presented have been successful and are recognized as such. The forthcoming world conference in the Hague in October, dealing with edible oil processing, promises to be exceptional; the recently held conference on dietary fats and health was an outstanding first venture into the area of nutritional biochemistry. The short course program and monograph publishing program are proceeding well. The *Journal* is showing continued growth in the numbers of technical papers published as well as in the amount of non-technical editorial type material, and advertising published. Continued growth and increasing quality is assured under the expert guidance of Dr. A.R. Baldwin. Our sister publication, *Lipids*, is also continuing to flourish under the able direction of Dr. Ralph Holman. I would challenge you to submit more manuscripts from papers you present at our national meetings or directly from your own research. High quality published papers are the core of our journals, which contribute greatly to the recognition of the society in the world of science. It is a continuing challenge to maintain our high levels of excellence in our meeting and publication programs. We are constantly searching for ways to streamline these programs in light of ever mounting publication and meeting costs.

A vital and important component of our society efforts deals with the Smalley check sample program, referee chemists program and the official and tentative methods program. Another challenge to excellence exists in maintaining and improving whenever possible the Smalley and referee chemists program. These programs are operating well; however, ways to improve them and a review of the relationship of these programs to the book of official and tentative methods are underway. The society has recently added to its staff Scotty Miller as its first director of methods development. His primary responsibility is to interact with committee chairmen and members to update and improve the methods book so that it will remain the foremost in the field. The AOCS Foundation is taking a more active and aggressive role in assisting and promoting this program.

Last year, I made a plea for more of you to become involved in our technical and administrative committee work. We are in constant need of volunteers at all levels. I urge you to contact the committee of your interest, to attend a meeting this week, and to talk to the chairman about your interests. You will find the work both personally and professionally rewarding. Remember you are needed and wanted in AOCS committee work.

I will not address the financial state of our society; you have already heard from the treasurer that it is financially healthy. Other comments made by the executive director also show that the state of the society is indeed healthy. It is a real challenge today with increasing inflation to maintain and even expand services to members without increasing membership dues. This challenge is being ably met by Jim Lyon and the AOCS staff with much dedicated volunteer help. I am fortunate to work with such a group.

We would be remiss if acknowledgment of the work of other dedicated members who have gone before us is not recognized. Their efforts have been much of the basis of the society's current status. Since last May, some eighteen of our members have died. Let us reflect on their memory and contributions to our society with a few moments of silence.

In the environment of today and probably for the foreseeable future we will be challenged on all sides to maintain high standards of excellence. All of us working together with volunteers, program developers, AOCS staff members and elected society officers can continue to maintain the AOCS as the outstanding society that it is. The elected officers and governing board of the society are open to ideas and suggestions to assist in this task. Make your ideas known to them.

I look forward to working actively with our next president, Karl Zilch, the new governing board, and the AOCS staff and committees. There are exciting times ahead for the American Oil Chemists' Society and I look forward to being a part of them. Join me!

AOCS needs your involvement

The following is the text of 1982 AOCS President Karl T. Zilch's address to the Inaugural Breakfast on Wednesday, May 5, 1982, during the 73rd Annual Meeting of the AOCS.

I have been privileged to be a member of the American Oil Chemists' Society for the past 27 years and during this time to have been involved in many of its activities. It has now become an even greater privilege for me to represent you as the Society's president. I thank you for giving me this

opportunity to serve.

Each president who preceded me has, in his own way, contributed to the growth and recognition of our Society. A year from today I sincerely hope that we see a continuation of this growth and the attainment of our objectives.

As you may know, our Society was founded in 1909 and we are now in our 73rd year of existence. In 1984, at the time of our National Meeting in Dallas, Texas, we will be celebrating our diamond jubilee. For these past 73 years we have not only maintained a financially healthy organization but one that is also rich in personnel. We have been fortunate in having very capable and talented leadership at our headquarters now in Champaign, Illinois. We are proud that throughout these years our Society has been recognized both domestically and internationally as the leading technical society for all professional people involved in the field of fats, oils, lipids and associated technologies. The scope of our Society internationally is certainly manifested in the meeting taking place this week here in Toronto.

The strength, the size and the influence of the American Oil Chemists' Society today are the result of the selfless contributions of the many members who have served on the administrative committees, the technical committees, the planning committees, the publication committees and Governing Board. So that we can continue on the pathways of growth and influence, these groups within the Society must continually strive to understand the overall needs of its members and implement ideas so that our Societys' goals and objectives are attained. To better understand these needs, it is important that composition of our committees consists of representatives of the many different disciplines. Therefore, I personally encourage all of you to be a part of this growth by becoming involved and expressing your thoughts and ideas. Service to the Society will help you succeed both personally and professionally. I promise that when you become involved in Society affairs, the reward to you and the organization you represent are far greater than the effort and energy expended in any committee which has captured your interest.

On the other hand, it is also important that we, as officers of the Society and its Governing Board, formulate ideas and plans on how to make it easier for you to become so involved.

As most of you are aware, the Society is composed of a heterogeneous group of professional people representing government, academia, industry and research institutions. In addition, these people are involved in research, education, management, manufacturing, engineering, marketing and other disciplines. Also we find within our membership, men and women specializing in areas unheard of 10-20 years ago. With all this diversification of interest, the activities of the Society have become more complicated. To insure that the Society continues to move forward, we must make certain that we do not operate at cross purposes, that we are satisfying the present and future needs of our members and that we are efficiently performing our tasks. To accomplish this, it is essential that we diligently develop long range plans within every segment of the Society.

With its strong and diverse membership, the American Oil Chemists' Society is uniquely qualified to provide leadership and professional development programs important to all members. In this sense, we should continue to do and expand upon all the good things we have done in the past. These include:

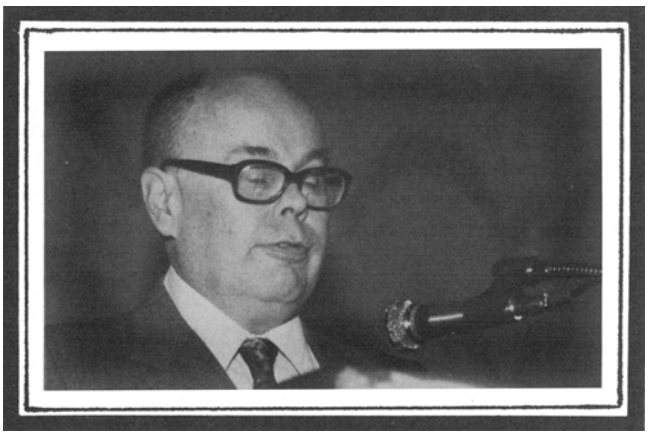
A. planning and holding oustanding National Meetings
B. planning and holding short courses on a broad spectrum of subjects and topics
C. planning and holding World Conferences of critical interest
D. publishing two journals covering all phases of research in fats, oils, lipids and associated technologies
E. publishing monographs and conference proceedings
F. continuing to improve upon the *AOCS Book of Methods*.

Certainly these constitute the backbone of our Society.

Without a doubt, the next two decades will bring impressive changes that will create challenge and opportunity for all of you as professional scientists. Therefore, it is important that the Society directs its actions to be in accord with these changes and in so doing assist you in taking positive action and improving upon your career.

The officers, the Governing Board, our Headquarters Staff and the various chairmen of our administrative and technical committees are very enthusiastic about the future of this Society and we certainly look forward to serving you in whatever way possible.

Thank you.



Fats— Misunderstood Food

Robert Ackman, professor at the Technical University of Nova Scotia in Halifax, is chairman of the Canadian Committee on Fats and Oils. Dr. Ackman spoke to the opening plenary breakfast during the AOCS meeting in Toronto, providing information about the city and Canada's fats and oils industry in an entertaining presentation.

Firstly, it is my pleasure to welcome you to this AOCS meeting on behalf of the "Canadian Committee on Fats and Oils." This organization is an associate committee of our National Research Council of Canada. NRC was created to promote industry in Canada and has about 40 associate committees, ranging in field from bird strikes on aircraft to tribology. Membership is made up from industry, universities and government personnel. We meet once a year in different parts of Canada and primarily act as a forum for in-

formation exchange. In a way the Canadian Committee of Fats and Oils parallels some functions of the AOCS, but has quasi-governmental status. In addition to Health and Welfare Canada, and Agriculture Canada, the Department of Industry Trade and Commerce publishes each year this very useful statistical survey, including everything you always wanted to know about fats and were afraid to ask!

Secondly, as one of the first speakers to get a whack at this audience I can say "Welcome to Toronto the Good" and let you find out for yourself if it is still true that "eternity is defined as a Sunday in Toronto." Actually, Toronto was formerly known to the rest of Southern Ontario as "Hog town" (possibly because the provincial pork barrels were in Toronto). Actually, it also had slaughter-houses, rendering plants and meat packing plants, many of whom are represented here today. One of the great unifying forces in Canada used to be that everybody hated Toronto. Now everybody hates Alberta instead, because they have oil. They also have canola. Fortunately this marvelous source of edible oil for man and protein for animals is spreading rapidly across Canada. We now have cash crop diversification and oilseed capability in most provinces, providing a better balance between dairy and margarine/shortening interests. Toronto, Montreal and Hamilton used to be oilseed crushing and oil refining and processing centers, but our Western colleagues have now equivalent capacity.

Those of you who relish facts and figures will get them from others at this conference. If you want to project your shoft-term worries into the long-term future, consider reports that there is a mini-ice age already starting, if our last winter is a sample. In Canada our staple crop was and is wheat, and a very minor temperature drop could be a disaster for wheat. Hopefully, Canola offers both an alternative crop and genetic flexibility against this kind of climatic disaster occurring in Canada.

The major worry we at this conference have in common with the U.S.A. is the image of fats. In fact, I suggested that a subtitle for this talk should be "Fats, the Misunderstood Food."

If you think of man's recorded history, fat must have had a good image. In the Venus de Milo the head is a little smaller than life, but the generous distribution of fat in the rest of the lady is still upheld as an ideal. Just look at the glorious nudes of Reubens and other old masters! Fat was properly appreciated by writers too – "Let me have men about me that are fat; sleek headed men, and such as sleep o'nights" – (W. Shakespeare, *Julius Caesar).*

In a culture the importance of a subject can be indicated by tracing the name back to its roots. The French saindoux for lard combines Latin with French and the English word "lard" is probably Greek in origin.

We cannot even trace manteca (Spanish for lard) to its roots, so we know that lard was very important a thousand or more years ago in all three cultures.

Why, if fat is so important culturally, is fat under almost universal attack in our everyday world? We are all trying to prolong life and enjoy activity. That is perfectly understandable. As a small boy, the first word I learned to spell was Heinz, because a "bottle of the best" stood on our table at every meal. It was a severe blow to me to learn quite recently that sugar is the principal ingredient in catsup. In Chicago we learned that 11% of calories in the U.S.A. diet come from alcohol. We also know that fat intake has plateaued in the affluent countries. Under these circumstances why not advertise that fats have many positive nutritional advantages as well as providing flavor and palatability to other foods? Deep frying is one of the best ways of cooking many delicate foods such as fish. Yet the scientific terms cholesterol, *trans* acids, and saturated acids are household words and usually are used in an adverse context. It is time that the fats and oils industry dropped its defensive posture and went over to the offensive.

The President of the American Heart Association deplored possible regimentation of diet in his 1980 address "Sure Cures, Quick Fixes and Easy Answers" (T.N. James, *Circulation* 13, 1199A-1202A, 1981). His speech points out that the "Diet-Lipid Hypothesis" and "Cholesterol Controversy" have become *almost* accepted as facts. Your response to the approaching regimentation had better be based on spending a part of your advertising budget on convincing *the public* that fats are beneficial.

Governing Board meets twice

AOCS' Governing Board met two times in Toronto, both sessions being concerned primarily with assessing continuing programs, rather than approval of any major new activities.

In a recognition of inflation, the Governing Board directed that prices be increased for back issues of *JAOCS* and *Lipids* and for copies of the annual additions and revisions to AOCS offical methods. In the case of back issues of *JAOCS* and *Lipids*, the change means members will have to pay $10 for each copy, non-members will pay $14. Persons and firms with standing orders for the methods update package will pay $18 for each package received starting in 1983; non-standing orders will cost $20 each.

In matters relating to membership, the Governing Board was told that Earl B. Working and Robert J. Pokorny have qualified for emeritus membership status. The Governing Board also voted to recommend to local sections that they accord full privileges to local residents holding emeritus status in the national AOCS.

The Governing Board also considered activities in the AOCS Headquarters. The board discussed at some length the project of improving AOCS' *Book of Methods*, a primary task for AOCS' new director of methods development, Scotty Miller. Miller will work with the Uniform Methods Committee in developing the program, while the AOCS Foundation will be responsible for funding the project. The effort is to be reviewed in detail in 1984 by the Governing Board.

The Governing Board approved creation of the post of "meetings coordinator" in the AOCS office. Joan Dixon, who has been exhibit manager, has since been named to the post. The new post will relieve other staff members of meeting responsibilities and provide a central point for communication on meeting arrangements for staff and local committees.

Several AOCS members received special votes of thanks from the Governing Board. Jim Ridlehuber, chairman of the Smalley Check Sample Program, was one of those

honored after reporting on the cost savings achieved in moving computer operations to Lubbock, Texas, this past year where Ridlehuber is with the Plains Co-operative Oil Mill. The Governing Board also voted special thanks to the members of the local committee for the Toronto meeting, a group headed by general chairman Brian Walker. Also cited were retiring Governing Board member Thomas Applewhite and outgoing AOCS President E.G. Perkins.

The Governing Board did direct the AOCS staff to investigate the possibility of beginning AOCS national meetings on a Wednesday, rather than Sunday, which would permit short courses to be scheduled in the same week, immediately before the national meeting. This would permit a person to attend both a short course and a national meeting without being out of his or her office more than one week.

The Governing Board was told a review of the Official Referee Program is planned during the next two years. A meeting with representatives of trade associations that use AOCS Official Referees was scheduled for June and during 1983 a meeting will be arranged with representatives of commercial laboratories that try to qualify as referee chemists.

Incoming President Karl T. Zilch appointed an ad hoc committee of Robert Hastert, Norm Witte and Tim Mounts to explore ways to increase participation in AOCS committee activities by younger members of AOCS, specifically by exploring ways to assure rotating committee chairmanships through orderly succession.

Various committee reports were received and accepted, with no major actions involved.

New section launched

The AOCS' Protein and Coproducts Section was formally launched during the Toronto meeting with a luncheon and three technical sessions.

A Thursday luncheon attracted approximately three dozen persons, with industry and academic areas represented about equally and a smaller number of government protein researchers.

A.R. Baldwin, an ex officio member of the AOCS Governing Board, welcomed the luncheon group as a new arm of the AOCS and urged that the section begin functioning vigorously to organize technical sessions for AOCS meetings and to encourage authors to publish their research. AOCS Executive Director James Lyon explained administrative services AOCS headquarters offers to local sections, including mailing notices of meetings, collecting dues, keeping membership records and others.

The three technical sections included two dozen papers on such topics as bioengineering, processing and nutrition. Members are hoping to have more technical papers presented at the 74th annual meeting during 1983 in Chicago.

66 sign-ups in Toronto

Sixty-six persons joined AOCS after attending the meeting in Toronto. Persons who paid non-member registration fees for the full week were invited to join AOCS for 1982 at no additional cost, provided they filled out membership applications during the meeting.

Smalley, Doughtie prize winners

Smalley Program Chairman Jim Ridlehuber (left) presents the Smalley Award to Horace Keith of Anderson Clayton & Co. and the Doughtie Award to Melba Rodgers of Plains Co-op Oil Mill. Both winners work in Lubbock, Texas.

Keith, Rodgers top Smalley analysts

Top awards in the AOCS Smalley Check Sample Program for 1982 were Horace Keith, who won his third consecutive Smalley Award, and Melba Rodgers, who won the Doughtie Award.

It was the fifth time Keith has won the Smalley Award, presented for top analysis of oilseed meal for combined nitrogen, oil and moisture. He is with Anderson Clayton & Co. in Lubbock, Texas.

Rodgers' Doughtie Award was for top analysis of foreign matter, moisture, free fatty acids, oil and ammonia in cottonseed. Ms. Rodgers works for Plains Co-op Oil Mill, also located in Lubbock.

Each year more than 7,000 samples of oilseed and fats and oils materials are distributed to subscribing chemists who analyze the samples using specified methods. Participants' results are then compared to determine who has done the best job of analysis. The first place winners and honorable mention analysts in each Smalley series are listed elsewhere in this issue of *JAOCS*.

There were three participants who placed first in two separate series. John W. Thomas of SGS Control Services in Kenner, Louisiana, received first place certificates in analysis of safflower and rapeseed, and of sunflower seed. Leon S. Hunter of Pope Testing Labs in Dallas, Texas, was first in analysis of peanuts and of cellulose yield. Paul Thionville of Thionville Labs in New Orleans was first in analysis of crude fiber in oilseed meal and in analysis of tallow and grease. Thionville was one of two participants who received five honorable mention certificates; the other was Mike Valletta of SGS Control Services in Carteret, New Jersey.

SMALLEY CHECK SAMPLE AWARDS

Nearly 400 chemists annually participate in the AOCS Smalley Check Sample Program to check their proficiency in analytical techniques used in the fats and oils industry worldwide. AOCS check samples of the materials listed

below are distributed to subscribing chemists who then send back to AOCS the results of their analyses. The results are tabulated by computer and the rankings determined. Chemists receiving First Place and Honorable Mention certificates are recognized for outstanding analytical proficiency. Persons seeking certification as AOCS Official Referee Chemists must prove their analytical proficiency by participation in the Smalley Check Sample Program.

Oilseed Meal

Combined moisture, oil and nitrogen

First Place (Smalley Award):
Horace Keith, Anderson Clayton & Co., Lubbock, TX

Honorable Mention:
Melba Rodgers, Plains Co-op Oil Mill, Lubbock, TX
Ronnie M. Fox, Fox Testing Labs, Lubbock, TX
Donald Strathdee, Industrial Labs., Fort Worth, TX
Emma Clarice O'Dell, Anderson Clayton & Co., Abilene, TX
Arthur Carnick, A&L Plains Agricultural Labs., Lubbock, TX

Moisture

First Place:
Ronnie M. Fox, Fox Testing Labs, Lubbock, TX

Honorable Mention:
Horace Keith, Anderson Clayton & Co., Lubbock, TX
Lynn Hawkins, Barrow-Agee Labs., Memphis, TN
John Ledin and Ardin Backous, Woodson-Tenent Labs, Des Moines, IA
D.C. Melear Jr., Southwestern Labs., Fort Worth, TX
Arthur Carnick, A&L Plains Agricultural Labs, Lubbock, TX

Oil

First Place:
M. Cearou, Dequesne Purina, Montfort-sur-Risle, France

Honorable Mention:
James P. Minyard Jr., Mississippi State Chemistry Lab., Mississippi State, MS
Horace Keith, Anderson Clayton & Co., Lubbock, TX
Melba Rodgers, Plains Co-op Oil Mills, Lubbock, TX
Paul Thionville, Thionville Labs., New Orleans, LA
Emma Clarice O'Dell, Anderson Clayton & Co., Abilene, TX

Nitrogen

First Place:
Jack Lynch, Law & Co., Atlanta, GA

Honorable Mention:
Arlin Van Kley, Big 4 Division of Land O'Lakes, Sheldon, IA
Carl Moss, A.E. Staley Mfg. Co., Champaign, IL
Donald Strathdee, Industrial Labs, Fort Worth, TX
John W. Thomas, SGS Control Services, Kenner, LA
Dale Holcomb, Farmland Soy Processing Co., St. Joseph, MO

Crude fiber

First Place:
Paul Thionville, Thionville Labs., New Orleans, LA

Honorable Mention:
G.A. Seward, A.E. Staley Mfg. Co., Frankfort, IN
John Wieters, Morris Testing Labs., Macon, GA
Arlin Van Kley, Big 4 Division of Land O'Lakes, Sheldon, IA
James Morgan, Gold Kist, Decatur, AL
James P. Minyard, Mississippi State Chemistry Lab., Mississippi State, LA

Cottonseed

Foreign matter, moisture, free fatty acids, oil and ammonia

First Place:
Melba Rodgers, Plains Co-op Oil Mill, Lubbock, TX

Honorable Mention:
J.E. Williams, Southern Cotton Oil Co., Division of ADM, Clarksdale, MS
Emma Clarice O'Dell, Anderson Clayton & Co., Abilene, TX

Soybeans

Combined moisture, oil and ammonia

First Place:
J.E. Williams, Southern Cotton Oil Co., Division of ADM, Clarksdale, MS

Honorable Mention:
John Ledin and Ardin Backous, Woodson-Tenent Labs., Des Moines, IA
Paul Thionville, Thionville Labs., New Orleans, LA
Emma Clarice O'Dell, Anderson Clayton & Co., Abilene, TX
Arlin Van Kley, Big 4 Division of Land O'Lakes, Sheldon, IA

Peanuts

Moisture, free fatty acids, oil and ammonia

First Place:
Leon S. Hunter, Pope Testing Labs, Dallas, TX

Honorable Mention:
Ronnie M. Fox, Fox Testing Labs, Lubbock, TX

Safflower and Rapeseed

Moisture, oil and nitrogen

First Place:
John W. Thomas, SGS Control Services, Kenner, LA

Honorable Mention:
Shams Mustafa, Caleb Brett USA Inc., Jefferson, LA

Sunflower Seed

Foreign matter, moisture and oil

First Place:
John W. Thomas, SGS Control Services, Kenner, LA

Honorable Mention:

Mike Valletta, SGS Control Services, Carteret, NJ
Ronnie M. Fox, Fox Testing Labs, Lubbock, TX

Cottonseed Oil

Free fatty acids, refining loss and refined color

First Place:
Emma Clarice O'Dell, Anderson Clayton & Co., Abilene, TX

Honorable Mention:
J.E. Williams, Southern Cotton Oil Co., Division of ADM, Clarksdale, MS
Ronnie M. Fox, Fox Testing Labs, Lubbock, TX
Albert Reynaud and Norman Landeche, Charles V. Bacon Inc., Marrero, LA

Soybean Oil

Free fatty acids, neutral oil and bleached color

First Place:
Herbert Haynie, Bunge Edible Oil Corp., Fort Worth, TX

Honorable Mention:
John W. Thomas, SGS Control Services, Kenner, LA
K.F. Wood, Hunt-Wesson Foods, Memphis, TN
Mike Valletta, SGS Control Services, Carteret, NJ
Tom Nelson, Best Foods Division of CPC International, Chicago, IL
T.M. Narayanan Nair, Charles V. Bacon Inc., Jersey City, NJ

Vegetable Oil for Color Only

First Place:
P.L. Phillips, Barrow-Agee Labs., Jackson, MS

Honorable Mention:
Niang Win, Hunt-Wesson Foods, Fullerton, CA
Paul Thionville, Thionville Labs, New Orleans, LA
John W. Thomas, SGS Control Services, Kenner, LA

NIOP Fats and Oils

Specific gravity, free fatty acids, iodine value, saponification value and Lovibond color

First Place:
Albert Reynaud and Norman Landeche, Charles V. Bacon Inc., Marrero, LA

Honorable Mention:
John W. Thomas, SGS Control Services, Kenner, LA
Paul Thionville, Thionville Labs, New Orleans, LA
Mike Valletta, SGS Control Services, Carteret, NJ

Tallow and Grease

Titer, free fatty acids, moisture, unsaponifiable matter and insoluble impurities

First Place:
Paul Thionville, Thionville Labs, New Orleans, LA

Honorable Mention:
W.B. Sizer, General Testing Lab. Division of SGS, Vancouver, British Columbia
T.M. Narayanan Nair, Charles V. Bacon Inc., Jersey City, NJ
Albert Reynaud and Norman Landeche, Charles V. Bacon Inc., Marrero, LA
John Ledin and Ardin Backous, Woodson-Tenent Labs., Des Moines, IA
Mike Valletta, SGS Control Services, Carteret, NJ

Edible Fats

Free fatty acids, free glycerine, α-monoglycerides, Wiley melting point, capillary melting point, congeal point, Lovibond red color, peroxide value and iodine value

First Place:
K.R. Palm, Bunge Edible Oil Crop., Chattanooga, TN

Honorable Mention:
George Payne, Kraft Inc., Memphis, TN
Gene Sparks, Safeway Stores, Denison, TX
Herbert L. Haynie, Bunge Edible Oil Corp., Fort Worth, TX
Lonnie Ridinger, Safeway Stores, Denison, TX
Oils Group, Chemical Laboratory, Canada Packers, St. Boniface, Manitoba

Drying Oils

Acid value, iodine value, color and specific gravity

First Place:
T.M. Narayanan Nair, Charles V. Bacon Inc., Jersey City, NJ

Honorable Mention:
Paul C. Thionville, Thionville Labs, New Orleans, LA

Gas Chromatography

Preparation of methyl esters on fats and oils and GC determination of fatty acids

First Place:
Gord Ullyot, C.S.P. Foods, Nipawin, Saskatchewan

Honorable Mention:
Chung I. Kim, CPC International, Bayonne, NJ
Herbert L. Haynie, Bunge Edible Oil Corp., Fort Worth, TX
Doward T. Benefield, Humko Products, Memphis, TN
K.F. Wood, Hunt-Wesson Foods, Memphis, TN
John R. Green, Humko Products, Champaign, IL

Cellulose Yield

Moisture and cellulose

First Place:
Leon S. Hunter, Pope Testing Labs., Dallas, TX

Honorable Mention:
D.J. Dowling, Buckeye Cellulose Corp., Memphis, TN

Milk Aflatoxin

First Place:
Kenneth Stoub, Agri-Science Labs, Cerritos, CA

Honorable Mention:
California Department of Food and Agriculture, State Lab, Sacramento, CA

Peanut Aflatoxin

AOCS World Conference on

Oilseed and Edible Oil Processing

Registration fee rises Sept. 1

Potential registrants for the World Conference on Oilseed and Edible Oil Processing have until Sept. 1, 1982, to register before a late penalty of 10% is added to the registration fee. Sept. 1 also is the deadline for registrants to be sure of housing at the lower rates offered by the conference hotels.

Until Sept. 1, registration for the technical program is 750 Dutch guilders; after Sept. 1, the fee is 825 guilders. Hotel prices and locations are listed in a separate article. The registration form in this issue of *JAOCS* may be used to register for the technical program and the spouses' program, to order tickets for an optional social event on Thursday, Oct. 7, and to make hotel reservations.

The technical program is designed to provide a thorough study of how to process oilseeds and edible oils into finished products, covering state-of-the-art technology with emphasis on anticipated developments through the end of the century. There will be a comprehensive review of unit processes with specific attention to energy conservation, economic use of byproducts and the potential for automation.

Registrants also will be able to visit the accompanying exposition, which will include firms providing equipment and supplies to the international fats and oils industry.

Organizers have now confirmed all but one speaker for the first technical session on Monday, Oct. 4, 1982, on oilseed processing. Session chairmen are: Dean Bredeson, French Oil Mill Machinery Co.; John Heilman, Continental Grain Co.; and Roger Leysen, American Soybean Association.

Topics and speakers will be:

Oilseed Handling and Preparation, N. Hunt Moore, N. Hunt Moore and Associates, USA.

Processing of Oilseeds Using Fluidized Bed Technology, Gerd Florin and H.R. Bartesch, Escher Wyse GmbH, West Germany.

Head End and Tail End Dehulling, Willi Fetzer, Buhler Bros. Ltd., Switzerland.

Extraction of Oil from Palm Fruit, K.G. Berger, Palm Oil Research Institute of Malaysia.

Mechanical Oil Extraction, Dean Bredeson, French Oil Mill Machinery Co., USA.

Solvent Extraction, speaker to be confirmed.

Meal Desolventizing, Kenneth Becker, Davy McKee Corporation, USA.

Solvent Residuals in Meal, J.P. Wolff, Institut des Corps Gras, France.

Solvent Recovery, Noel W. Myers, Myers Engineers, USA.

Liquified Gases and Supercritical Fluids in Oilseed Extraction, H.K. Mangold, Federal Center for Lipid Research, West Germany.

New Solvents, E.W. Lusas, Texas A&M University, USA.

Solvent Plant Safety, Henry Sandvig, Cargill Inc., USA.

Recent Safety Experiences, C. Louis Kingsbaker, consultant, USA.

A Look Into the Future, John Heilman, Continental Grain Co., USA.

Topics and speakers for the other technical sessions were published in the May 1982 *JAOCS*. Three additional speakers have been confirmed for those sessions, however. During the Tuesday, Oct. 5, session on oil processing, a paper on Hydrogenation Practice will be presented by Herman Beckmann of Harshaw Chemie B.V., The Netherlands. On Friday, Oct. 8, Klaus Weber of Extraktionstechnik GmbH of West Germany will speak on "Energy Aspects of Predesolventizing of Meal" during the session on energy. That same day, H.J. Voss and C.B. von Kloesterlein of Unilever will present a paper on "Use of Microelectronics for Automation" during the session on automation.

Two or three more plenary speakers have yet to be confirmed as of late May. Persons who have submitted volunteer abstracts should hear shortly from program chairman Norm Witte as to if and when their papers have been scheduled. Volunteer papers tentatively are scheduled for Tuesday, Thursday and Friday afternoons, immediately preceding or following the lunch break.

HOTEL ACCOMMODATIONS

Rooms have been reserved at a number of hotels in the Hague which are no more than a short bus ride away from the Congress Centre. Reservations may be made at the special group rates by use of the conference registration form. A list of hotels by general location and tariffs follows:

NEAR THE CONGRESS CENTRE:

Hotel Bel Air, Johan de Wittlaan 30, 2517 JR The Hague
Tel. 070-57 20 11, telex 31444
Single: Hfl 110
Double: Hfl 150

Promenade Hotel, Van Stolkweg 1, 2585 JL The Hague
Tel. 070-57 41 21, telex 31162

Single: Hfl 160
Double: Hfl 175
Breakfast: Hfl 15

SCHEVENINGEN (ON THE COAST):

Kurhaus Hotel, Gevers Deynootplein 30, 2586 CK The Hague
Tel. 070-52 00 52, telex 33295
Single: Hfl 115
Double: Hfl 170

Europa Hotel, Zwolsestraat 2, 2587 VJ The Hague
Tel. 070-51 26 51, telex 33138
Single: Hfl 85
Double: Hfl 140

CENTER OF THE CITY:

Hotel Babylon (next to railroad station), Koningin Julianaplein 35, 2595 AA The Hague
Tel. 070-81 49 01, telex 34001
Single: Hfl 150
Double: Hfl 175

Hotel des Indes, Lange Voorhout 54-56, 2514 EG The Hague
Tel. 070-46 95 53, telex 31196
Single: Hfl 121
Double: Hfl 182

Most hotels have suites available. Tariffs include breakfast (except at Promenade Hotel), service and tax. A deposit of Hfl 200 is required with your reservation. The committee will confirm hotel reservations and will provide a voucher in the amount of the deposit. Transportation will be provided between the hotels and the Congress Centre and to social events when necessary.

NCPA hears FAS' oilseed chief

While the coming market year should be better than the current year for cotton and other oilseed crops, no major price increases for vegetable oils can be foreseen through the mid-1980s, the head of the USDA's Foreign Agricultural Service told the National Cottonseed Products Association's 86th annual convention in Phoenix.

"Vegetable oil prices have been depressed for the past two years," FAS' Phillip Mackie said. "The outlook for next year is more favorable, despite large stocks, but we see no strong turn around through the 1980s, the farthest we've looked."

Primary factors in holding down vegetable oil prices are rising production of palm oil, soybean and sunflower, Mackie said. A strong U.S. dollar cuts purchasing power of foreign buyers, he also noted.

The U.S. cottonseed industry had one of its largest crops in recent years during 1981, and while there will be less cottonseed produced this year because of reduced plantings, the surplus of vegetable oils will tend to keep prices from rising dramatically.

While cottonseed is the second largest oilseed crop grown in the United States and in the world, it has relatively little recognition because it is not a major factor in international oilseed trade, Mackie said. Cottonseed is grown to a large extent in vegetable oil deficit nations (the USSR, China and India) and thus does not move into international trade, he explained. The United States is the major supplier to the world market, with about half the cottonseed oil produced in the U.S. being exported, primarily to Egypt and Venezuela. Mackie urged the NCPA to seek diverse markets overseas to avoid having too many eggs in one basket. New NCPA President Brooks Pierce noted the organization plans a trade mission to Western Europe, Venezuela, Egypt and the Dominican Republic and he will try to schedule another team visit to Japan and the Far East.

The NCPA's Research and Education unit reported on several projects it has been supporting. Among them is an effort to monitor growing conditions in cottonseed fields to try to determine the conditions that foster formation of aflatoxin in cottonseed. NCPA also is interested in development of alternate solvents for cottonseed extraction and use of cottonseed oil as a base for herbicide and pesticide chemicals. The use of cottonseed meal as animal feed is being promoted through displays at livestock association meetings and through technical articles in trade journals.

The NCPA Rules Committee recommended several clarifying changes to the association's rules on contracts, but declined to approve changes proposed in evaluation of cottonseed oil. The committee recommended further research before changes are made. The NCPA chemists' committee was asked to try to develop objective means to measure "visible foreign matter" and "clarity" of cottonseed oil.

Federal regulations, particularly those pertaining to cotton dust and aflatoxin, concern NCPA members. While federal cotton dust exposure limits for cotton oil mills were put into abeyance by court rulings, new proposals are expected later this year. With regard to aflatoxin, NCPA would like to see higher limits before action is taken and some way to permit blending of meal containing aflatoxin with clean meal to permit its use as animal feed.

In his review of the past year, outgoing NCPA President Jack McDonald said the opening of the pilot oil mill facilities at Texas A&M University's Food Protein Research and Development Center and their use during short courses for cottonseed oil mill personnel was one of the major events. "This permits us to improve our operating by improving our people," McDonald said. "We owe a vote of thanks to Dr. Ed Lusas and his staff."

McDonald noted the NCPA is cooperating with the Japan Cottonseed Processors Association to promote cottonseed oil by name in that country.

Chicago preparations under way

Organizers of the 74th Annual Meeting of the AOCS, to be held May 8-12, 1983, in Chicago's Marriott Hotel are preparing what they believe will be one of the best AOCS meetings ever held in Chicago.

That's quite a feat in that it will be the 31st time AOCS has held a national meeting in Chicago. It's a first in this Marriott Hotel however because the hotel was still under construction last time AOCS met in Chicago during the fall of 1976.

Among the special technical symposia will be the Ralph H. Potts Memorial Symposium on "Industrial Fatty Acids and Derivatives." Organizers hope for 12 to 18 papers for the full day program to include such topics as synthesis, processing, utilization, analysis and environmental concerns. Persons seeking to present papers must submit an abstract by Nov. 1, 1982 (see Call for Papers in this issue of *JAOCS* for details), but also are being asked to notify the symposium chairman, Lincoln D. Metcalfe, of their intention to participate. Metcalfe is assistant director of research for Armak Company and a former colleague of the late Ralph Potts who was a pioneer researcher in industrial fatty acid technology.

The meeting's technical papers will feature papers on all aspects of fats and oils and related topics. A list of specific symposia and technical sessions was published in the June *JAOCS*.

To facilitate informal conversation, the organizing committee will have a variety of special events, including scheduled tours of the Chicago Board of Trade, to Interstate Foods, a major supplier to industry of fats and oils products, and to the Sara Lee bakery, where fats and oils are used to produce consumer products.

The organizing committee also hopes to have the largest exhibit ever held at an AOCS annual meeting. The exhibit provides registrants with a chance to obtain the latest information available from the firms that provide equipment and supplies to the fats and oils industries.

The AOCS Education Committee is organizing short courses to be held immediately before the national meeting. Details will be published later in *JAOCS*. A golf tournament is tentatively planned for Saturday, May 7, 1982, immediately before the national meeting.

Papers sought for New Zealand conference

The International Conference on Oils, Fats and Waxes to be held Feb. 13-17, 1983, in Auckland, New Zealand, has issued a call for abstracts for papers dealing with industrial technology of oils, fats and waxes, analytical chemistry of lipids, nutritional and physiological role of lipids, and biochemistry of lipids.

Brochures containing abstract forms as well as complete program details are available from S.G. Brooker, International Conference on Oils, Fats and Waxes, Chemistry Department, University of Auckland, Private Bag, Auckland, New Zealand. North American residents may obtain brochures from the AOCS, 508 S. Sixth St., Champaign, IL 61820 USA. Please specify you seek information for the international conference in Auckland.

Invited speakers will be R.G. Ackman of Canada on Marine Lipids and Gas Chromalog; L.H. Princen of the United States on Natural Oils as Chemical Feedstock; J.D. Craske of Australia on Developments in Lipid Analysis; D.M. Hegsted of the United States on the Nutritional Role of Lipids; and R.E. Timmes of Malaysia on Specialty Fats from Palm and Palm Kernel Oils.

Contributed papers will be allotted 15 minutes for presentation plus 5 minutes for questions and answers. Poster session papers also will be scheduled. Abstracts for con-

tributed papers must be received by Oct. 31, 1982, in Auckland. Registration fee is $120 New Zealand currency (approximately US $93).

Vegoil-fuel forms available

A program booklet is now available for the International Conference on Plant and Vegetable Oils as Fuels, slated for Aug. 2-4 at the Holiday Inn, Fargo, North Dakota. The conference is being sponsored by the American Society of Agricultural Engineers.

Activities during the three-day event will include sessions on oilseed production, fuel preparation specifications for plant and vegetable oils and for modified plant and vegetable oils, the economics of plant and vegetable oils for fuel, engine tests with modified plant and vegetable oils, fuel additives-thermal polymerization, oilseed presses and extraction, short-term engine performance, and long-term durability tests. Among the featured speakers will be E.H. Pryde and B. Freedman of the USDA Northern Regional Research Lab in Peoria, Illinois; J.A. Blake of the POS Pilot Plant Corporation, University of Saskatchewan, Saskatoon, Saskatchewan; and G.L. Posschelle, De Smet, U.S.A. Corp., Atlanta, Georgia.

Copies of the program can be obtained from the American Society of Agricultural Engineers, 2950 Niles Rd., St. Joseph, MI 49085, or from the AOCS headquarters.

Pittsburgh Conference deadline is Aug. 15

The deadline for submitting abstracts for the 1983 Pittsburgh Conference is Aug. 15, 1982. Five copies of 300-word abstracts should be mailed to Mrs. Linda Briggs, program secretary, 437 Donald Road, Pittsburgh, PA 15235 USA.

The 34th Pittsburgh Conference will be held May 7-12, 1983, in Atlantic City. Potential exhibitors should contact Paul E. Bauer, exposition chairman, at the same address. The 1982 conference attracted 19,984 persons compared to 17,270 for the 1981 meeting.

Toxicology conference in October

An Interdisciplinary Conference on Food Toxicology has been scheduled for Oct. 13-15, 1982, in Zurich, Switzerland, under sponsorship of the European Society of Toxicology and the Federation of European Chemical Societies' Working Group on Food Chemistry.

The meetings will be held at the University of Zurich. Registration forms will be available from the conference secretariat, J. Luthy, Institut fur Toxicologie der ETH und Universitat Zurich, Schorenstrasse 16, CH 8603 Schwerzenbach, Switzerland.