1972 AOCS Committee Reports

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[1]No report.

ADMINISTRATIVE COMMITTEES

Awards Administrative Committee
T.H. Smouse

The subcommittees established under this committee are the Award in Lipid Chemistry, Bond Award, Honored Student Award and AOCS Award of Merit Subcommittees. The Awards Administrative Committee acts only as an administrative agent for the Governing Board for all the awards and honors not governed by the Society's Constitution and By-Laws.

Award in Lipid Chemistry Subcommittee
T.J. Weiss

The committee canvasses selected scientists for nominations for the annual Award in Lipid Chemistry. Ads were also placed in various journals soliciting nominations, which were then submitted to the Awards Committee for selection of the awardee.

Fourteen nominations were received in 1972, as compared to eleven in 1971. Solicitation for the 1973 award has been completed. Nominations were to be submitted to the chairman by April 15. There seems to be continuing interest in the award.

Bond Award Subcommittee
R.G. Krishnamurthy

The Bond Award Committee held its meeting during the 46th Annual Fall Meeting in Ottawa. The evaluation methods presently used for selection of nominees and awardees were discussed at length. There was general agreement that present procedures are inadequate for several reasons, the most important being their inability to give a reading of the impression of the audience and to properly evaluate both original research papers and review papers. As a first step to correct these deficiencies the committee has recommended introduction, on an experimental basis, of a method of evaluation of the presentation of papers by the audience.

Merit Award Subcommittee
R.J. Sims

Members of the committee were L. Crauer, W.E Link, N.E. Bednarcyk, J.A. Fioriti, R.T. O'Connor and R.J. Sims (chairman). Four nominations were received for the award. The majority of the members agreed that two awards be given at the 64th Annual Spring Meeting in New Orleans. Those chosen by vote to receive the award were Arthur Rose and Edward R. Hahn.

Scopes Committee
J.G. Endres

The Scopes Committee has reviewed all current committee scopes with the respective chairmen. Most chairmen responded that the scopes, as written, fully reflected the responsibilities and the goals of their committees. A major change in the scopes for the National Programs Planning Committee was recommended to the Governing Board in New Orleans. Minor changes to three other committee scopes were also recommended.

Communications Committee
R.T. Holman

The Communications Committee held a meeting at Ottawa, during which means were sought to improve the general lack of communication between local sections and the AOCS. The discussion revealed that only half of the attendants of local section meetings are AOCS-related, because meetings are held jointly with other societies and because visitors with interests peripheral to AOCS interests often are present. Emphasis might realistically be placed on seeking out the younger members of local sections who have AOCS orientation. The recent policy of rebating membership fees to local sections for recruiting new members for AOCS was well received. The northeast section has a policy of selecting students in their area to

attend meetings free.

Suggestion was made that a form indicating what constitutes news and announcing coming events be sent to isolated members of the Society. The committee sees as its function the fostering of communication between local sections and the AOCS, generating new sections, acting as a receptor for members' communications to the Society and generating news about the Society and its members.

The Governing Board meeting in Ottawa established an executive chairman of this committee to provide continuity in its leadership.

Education Committee
Nicholas Pelick

NO REPORT.

Examination Board
E.R. Hahn

The Examination Board met during the Los Angeles, Ottawa, and New Orleans meetings. All members of the committee were present at the meeting in Los Angeles and, in addition, Bill Coleman and John Williams attended—Coleman representing the Smalley Committee and Williams, the USDA.

A total of 77 chemists in 56 laboratories were certified as Official Referee Chemists for the year 1972-73. Four new laboratories were added and one previously certified laboratory was deleted. Three chemists retired, one of whom was from Canada. This year we certified three chemists outside of the U.S. in three different laboratories, two in Japan and one in Canada. In the past we have certified two chemists from the same laboratory in Canada.

Applications for certification were mailed from the Champaign office and these were discussed, along with the Smalley reports, at the New Orleans meeting. We have had at least a dozen inquiries about our certification program from laboratories throughout the U.S. Most were not members of the AOCS and were disturbed about our requirement of 1 year of AOCS membership. I believe several of these have joined the AOCS and the Smalley Program with the idea of obtaining certification.

The chairman of the Examination Board maintains active communication with the trade associations, and the chairman of the Smalley Committee and John Williams, who is in charge of USDA certification, and all the members of the board are kept informed.

Finance Committee
J.G. Endres

The financial plans and decisions made by the Governing Board in 1970-71 have proved to be sound. The downward trend in retained earnings has been dramatically reversed. 1972 was considerably better than projected. We see this as a positive result of our current financial planning program and the superior effort by our executive director in controlling costs.

The audited figures for 1972 as of December 31, 1972 are:

Operating Income	$410,031.14
Operating Expense	382,211.19
Net Operating Earnings	27,819.95
Other Income and Expense (net)	4,045.15
Net Earnings before Extraordinary Items	31,865.10
Prior Year's Expenses	11,123.06
Net Earnings Transferred to Retained Earnings	20,742.04
Balance in Retained Earnings December 31, 1971	76,312.69
Net Earnings for 1972	20,742.04
Balance in Retained Earnings December 31, 1972	$ 97,054.73

Copies of the 1972 financial statement of the AOCS audited by Peer, Hunt, and Curzon are available for review.

Prudent financial practice is to have 1 year's operating expenses as retained earnings. We feel that 1973 will add to that goal. It has been a pleasure to serve as your treasurer in 1972, and to return as treasurer for 1973.

Honored Student Award Program Committee
R.T. Holman

During 1972 some changes were made in the procedures of selection of the honored students, as a result of committee discussions at the AOCS meetings in Los Angeles and Ottawa.

One major purpose in making Honored Student Awards is to acquaint students with the Society and its members. To assure that the students take part in the technical program rather than be mere observers, we have advanced the deadline for nominations. This past year notices for nominations for Honored Student Award appeared in the September issues of *JAOCS* and *Lipids*. The deadline for receipt of nominations was December 1. Selections were made by December 18, and all students to attend the spring meeting were invited to submit abstracts for its program. In response, all five students submitted abstracts and presented papers in New Orleans.

A new nomination form has been introduced this year, which aids in emphasizing AOCS affiliation, the objectives of the honored student program and publicity of the awards. In cooperation with the program chairmen, Neil Tattrie and Robert Ory, we have given special notice to honored student presentations in the program, and they are announced as such. By these means the involvement of our honored student awardees in our program is made more visible.

Eight awards were made for 1973: Gary J. Blomquist, Montana State University, New Orleans meeting; Michael M. Blumenthal, Rutgers University, Chicago meeting; Dennis T. Gordon, University of Connecticut, New Orleans meeting; Gustav Graff, University of Illinois, New Orleans meeting; Roberta S. Hare, University of California, Los Angeles, New Orleans meeting; Vasant Malshet, University of California, Davis, New Orleans meeting; Richard A. Whorton, Vanderbilt, Chicago meeting; and Angela K. Young, University of Guelph, Chicago meeting.

News releases have been prepared for each student and sent to newspapers in their hometowns and to their universities. This practice has been followed for New Orleans and Ottawa awardees.

International Relations Committee
Eugene Marshack

1972 was a very fruitful year for the International Relations Committee. The "Four Corners" section of *JAOCS* continues to grow and several pages were needed each time to cover information received from our overseas corresponding secretaries. We now have coverage from 36 countries.

In 1972, we made an important arrangement between AOCS and the European Club for Lipid Research, made up of the most important research centers in France, Germany, Italy, Belgium, Spain and Holland. The activities of each of those centers will be described once a year in four major European publications: *Fette, Seifen, Anstrichmittel, Grasas y Aceites, Revue Francaise des Corps Gras* and *Revista Italiana delle Sostanze Grasse*, simultaneously in the four respective languages of these publications as well as in *JAOCS*. This information is published separately from

"Four Corners." Articles featuring centers in Belgium, France, Germany and Spain have already appeared. On the basis of reciprocity, *JAOCS* has the right to publish, free of charge, six times a year, a one to two page article in the four European journals concerning the AOCS activities. The first article is being prepared now. This will be a good means of acquainting our overseas friends with the organization, aims, etc., of AOCS.

In addition, some of our corresponding secretaries have written long articles about the state of special crops in their countries, e.g., Brazil and Australia. Those articles have been already published in *JAOCS*.

The chairman of the committee cooperates closely with Bob Reiners concerning the exchange of abstracts from various foreign publications, because this question regularly comes up in the personal discussions of the chairman on his overseas trips.

Because of the unfortunate illness of Walter Lundberg, who was unable to attend the ISF meeting in Göteborg, June 1972, the writer had the privilege of representing the U.S. at the special ISF Committee meeting in Sweden. This congress gave us a great opportunity to meet some outstanding scientists, including those from the USSR, and thus establish a closer relationship between them and AOCS.

We intend to continue the same efforts this year and plan on cooperating to organize a symposium on foreign operations and processes at the Mexico City meeting.

Meetings Planning Committee
R.T. Holman

At the Ottawa meeting of the AOCS the Meetings Planning Committee met, with 17 persons present. Reports were heard from the general chairman of scheduled future meetings. The location of the meeting for fall 1975 was discussed at length, and those present leaned toward substituting Cleveland for Cincinnati. However subsequent developments have resulted in the selection of a general chairman for the meeting, which is to be in Cincinnati.

During the interim since our last meeting, a proposed revision of the meetings manual has been prepared, which, if approved, will alter and clarify duties and procedures in relation to planning national meetings. In addition, the executive secretary has made a proposal to standardize meeting site selection. This was studied at the meeting of the Meetings Planning Committee in New Orleans and, if adopted, will take effect in the planning of meetings for 1978.

Membership Committee
F.A. Norris

At the 46th Annual Fall Meeting, the committee reviewed and recommended to the Governing Board the President's Club and President's Club Honor Roll program created by James Lyon, AOCS executive director.

This was approved by the Governing Board and is now in effect. Briefly summarized, the President's Club is open to any member who recruits one new member in any 1 year. The recruiter also receives a special ribbon at the next convention and will be invited to a special cocktail party at the fall meeting. Recruiters securing three or more new members in 1 year receive recognition on the President's Honor Roll.

Following up on Governing Board action, letters were written to the presidents of the AOCS geographical sections, explaining the 25% refund of 1st year's dues for new members recruited by the sections and asking them to campaign actively. In accordance with a suggestion by Steve Chang, a recommendation was made that a new area chairman be assigned for "Utilization of Fats and Oils in Food Processing" on the National Program Planning Committee. The objective is to obtain more "users" in our membership. The recommendation was accepted.

James Lyon was asked to insert pertinent titles of scheduled convention papers in *Lipids* and, if possible, in the *Journal of Lipid Research*. This is an attempt to keep more people informed of the technical content of our national meetings and thus increase possible interest in joining the Society.

An executive chairman, Glen Jacobson, was appointed to the committee in order to provide better continuity as succeeding vice-presidents take over 1 year terms as committee chairmen.

Nominating and Election Committee
R.R. Allen

NO REPORT.

Program and Planning Committee
N.O.V. Sonntag

The year 1972 marked a revitalization of our committee in which, for the first time, we extended committee membership to include national AOCS meeting technical program chairmen and extended meeting attendance invitations to general program chairmen. The results proved worthwhile.

Significantly, in conjunction with the Scopes Committee, we began in '72 and finished in '73 a revision of National Program and Planning Committee objectives and set them forth in a new and proper order of priority. Even more important, the selection and appointment of key area chairmen on National Program and Planning Committee, a continuing problem, was extended for 2 year periods. These are the people who provide AOCS with the long range program planning necessary for achievement of objectives, while, at the same time, servicing and coordinating the always difficult jobs of general and technical program chairmen at the national meetings.

One of the key functions of this committee is a quality evaluation of each national meeting, in which we informally evaluate the meeting program strengths and weaknesses with a follow-up of steps required to improve program quality. Despite the fact that we occasionally find weaknesses attributable to National Program and Planning Committee lack of participation in the committee, and occasionally to deficiencies on the part of section personnel involved in the AOCS national meeting programs, we have been able to operate harmoniously and progressively for the overall good of AOCS in each instance. One recommendation that arose out of such a national meeting quality review was that concerning session chairmen at national AOCS meetings.

Finally, we reiterate that AOCS is no better than the excellence and timeliness of its technical programs. Area chairmen and other committee personnel should play a vital role in finding, promoting, scheduling and establishing minimum technical quality for program papers. The effectiveness of the committee continues to rest upon the devotion, willingness and sustained activity of competent area chairmen.

Public Relations Committee
F.B. White

In 1972, the Public Relations Committee initiated an effort to obtain publicity in hometown newspapers for speakers making presentations at AOCS meetings. Results of the committee's efforts for this type of publicity at the Ottawa meeting were not spectacular, but were not discouraging.

Thirty-six speakers cooperated in our publicity effort by preparing press releases for their own talks. Twenty-four replied to our inquiry form, which asked if they had received publicity as a result of the Society's release.

Seventeen responded "no" and seven said that they had seen acceptable reports of their talks in local publications.

The Public Relations Committee reviewed the publicity releases of the 24 speakers who responded. These were analyzed and rated from the viewpoint of a person trying to decide if the release is likely to attract sufficient attention from a news editor to merit publication in his or her journal. Rating was on the basis of (a) the subject matter of the presentation, i.e., its suitability for a general readership. (b) the style of the release, i.e., a nontechnically worded release received a higher rating than one understandable primarily to a scientist; and (c) the title of the release.

If one were to draw a snap conclusion, it might be that a lively title of the release had more to do with getting publicity than either the content of the release or the way the information was presented in the release. Therefore the committee is hopeful that increased publicity can be obtained, either by issuing more complete instructions to the speakers who prepare their own releases or by having a local public relations committee modify releases and titles into less technical language.

Smalley Committee
W.T. Coleman

The Smalley Committee is composed of volunteer, interested members of the Society who provide cooperative analytical programs for Society members. There are nine subcommittees, which supply 14 series of samples of different industry-related commodities for testing by procedures developed by the technical committees of the Society. Typically, the commodities are highly perishable, so the consensus means from the several laboratories collaborating provide analytical standards that would not be available otherwise. This improves the reliability of the analytical results used as a basis for settlements in commodity trading, world-wide.

The results of the collaborating analysts are evaluated by empirical means, usually with minor variations from conventional statistical methods, so that proficiencies may be recognized and publicized. Certificates are issued annually to the exceptionally proficient analysts in all categories. Silver cups are awarded for the highest standing in the Oilseed Meal Series and in the Cottonseed Series.

Satisfactory participation in each pertinent series is required of each referee chemist, continually as well as initially, as interpreted by the Examination Board of the Society. It is becoming apparent that more of the larger processors in the industry are incorporating appropriate series of check samples into their quality assurance programs.

The subcommittees, chairmen and commodities when different from committee designation are: Cellulose Yield, K.A. Kuiken, cottonseed linters; Copra, Ichiro Matsubara; Drying Oils, L.V. Anderson; Edible Fats, J.R. Wynne; Gas Chromatography, James Laubscher; N.I.O.P. Fats and Oils, E.J. Jacosben; Oilseeds and Oilseed Meal, W.T. Coleman, cottonseed, peanuts, soybeans, safflower and oilseed meal; Tallow and Grease, T.K. Mag; and Vegetable Oils, W.H. Koester, cottonseed oil, soybean oil.

Cellulose Yield Subcommittee
K.A. Kuiken

The Cellulose Yield Subcommittee operates within the Smalley group. The primary functions of the committee are to monitor laboratory experience with AOCS Official Method Bb 3-47, "Cellulose Yield," to provide assistance to laboratories with method problems and to advise on qualification for laboratory certification. The committee members represent all of the licensed commercial laboratories and industrial laboratories that perform this test to establish the market value of cotton linters to cellulose producers. The operating format involves exchange of reference samples and data at regular intervals during the active linters trading period. The committee meets annually at the spring meeting of the Society. During the past year, eleven laboratories participated in this highly specialized program; two are currently in need of help from the others.

The trend to mechanical harvesting of cotton has contributed to a problem recognized as dirt in linters. In effect, foreign plant material appears in the lint, survives the yield test, and thus reduces the value of the product in the cellulose conversion–market sequence. Hence the committee has interest in methods that might be used to obtain objective data on dirt in linters. A new approach to this analytical problem will be demonstrated to the committee members at the annual meeting.

Tallow and Grease Subcommittee
T.K. Mag

With the beginning of the 1971-72 Tallow and Grease Check Series the rating of analysis results was changed from the "Points Off" system to the "Typical Normalized Deviation" system. (This rating method was described in detail by C.H. Perrin and E.M. Glocker in *JAOCS* 45:596A [1968].) Also since that time, the reports to collaborators have been prepared by computer. It may be recalled that a similar conversion was made several years ago by the Subcommittee on Edible Fats.

The 1972-73 Check Series was conducted as outlined above. The final report included a series of frequency distribution charts as well as the usual summary of results and ranking table. These charts are computer-generated. It is interesting to note that the use of the

computer makes it easy to supply extra information. Thus for the last two series each collaborator's performance was rated on each sample in addition to giving his rating at the completion of the series. No changes to the present system are planned for the coming year.

The number of participants was 75, the same as last year.

Society Improvement Committee
R.R. Allen

The Society Improvement Committee is charged with long range planning to meet the Society's goals.

At the last meeting the discussion centered around how to make the Society more useful to the members and industry, and how to help the local sections.

The committee decided it would be very helpful if the trading rules of all other organizations concerned with buying and selling were available to the members in one location, or at least the addresses of the pertinent organization. The Society headquarters in Champaign is the logical place, so this was designated the clearing house for trading rules.

It was decided closer ties between local sections and the national organization would be desirable. The appointment of a semipermanent executive chairman of the Communications Committee was recommended, to give continuity of the work of this committee with the local sections. The Governing Board passed this and an executive chairman has been appointed.

In the future, emphasis of this committee will be on service to the members as well as how the Society can help industry, academics and government.

Technical Safety and Engineering Committee
C.L. Kingsbaker

NO REPORT.

Uniform Methods Committee
D.L. Henry

Each year the Uniform Methods Committee requests a report from the technical committee chairmen. Some of these reports reach *JAOCS* and are published. In addition to this contact, this year a member of the Uniform Methods Committee was assigned to each technical committee, to stimulate interest and communication. This is being accomplished.

This year when recommendations for chairmen of the technical committees are sent they will show the uniform methods representative. We will ask that this information be published in the directory of membership along with the members.

The committee members are active on their assignments and should be commended for their work. As knowledge and instruments become more sophisticated the work of the committees becomes more costly and tedious. We are greatly indebted to them for their work.

Ways and Means Committee
R.J. Hlavacek

NO REPORT.

PUBLICATIONS COMMITTEES

Publications Committee
A.R. Baldwin

NO REPORT.

Journal Abstracts Committee
R.A. Reiners

Significant changes in the membership of the Abstracts Committee have occurred during the past year. R.W. Walker is taking a sabbatical both from his duties at the University of Massachusetts and as a member of this committee. J.G. Endres and J. Iavicoli have resigned due to the pressure of other business. J.C. Harris has come out of retirement to work on the committee and Biserka Matijasevic has consented to supply abstracts from the French journals.

The mainstay of the committee is F.A. Kummerow, who supplies the bulk of the abstracts for the Biochemistry and Nutrition Section. E.G. Perkins, N.E. Bednarcyk and J.E. Covey continue to make major contributions. Y. Hirano and S. Kawamura supply all of the abstracts from Japanese journals.

The committee currently abstracts 99 journals. Thirteen of these journals are published in Iron Curtain countries and we receive the abstracts by special arrangement through the *Revue Francaise des Corps Gras.* Abstracts are also received from 11 journals published in the Japanese language.

Advertising Committee
K.T. Zilch

New members have been added to the committee in an effort to broaden its background. Additional members are needed from the academic area.

This past year the committee has increased its activities relative to exhibits at national meetings. Exhibits chairmen from both past and future meetings are being asked to participate in this committee's activities so that future exhibits can be of maximum benefit to both the exhibitor and those persons attending the national meetings. Members of this committee are establishing personal contacts with the exhibitors at the time of the national meeting, as well as presenting formal questionaires.

Sully Gaskins, AOCS advertising manager, made another trip to Europe this past year to solicit ads for *JAOCS.* He felt the trip was very successful and already new ads are appearing in the *JAOCS* as a result of this trip.

Announcements were sent to 1500 prospective users of a postcard advertising service. This is our first attempt to improve advertising revenues by means of a direct reply postcard advertising mailing service.

The committee is interested in compiling useful information concerning the type of advertising Society members would like to see in *JAOCS.* This information will assist the advertising manager in soliciting ads from companies.

Advertising revenues this past year for both *Lipids* and *JAOCS* were on par with revenues from the previous year. However both years were lower than revenues for fiscal 1970.

Lipids Editorial Advisory Board
W.O. Lundberg

Our goal of 26 associate editors has been reached with the addition of Roslyn Alfin-Slater, University of California, Los Angeles; Robert A. Harris, Indiana University School of Medicine, Indianapolis; Donald F. Kuemmel, Procter & Gamble Co., Cincinnati, Ohio; Harold S. Olcott, University of California, Davis; and Virgie Shore, University of California, Livermore.

The acceptance by Nome Baker, Veterans Administration Hospital, West Los Angeles, Calif., of the short communications editorship has been a tremendous help to the editor, W.O. Lundberg.

Issuance of the journal during a specified month, e.g., January issue received 1/31/73, speaks well for the production end of the publication.

At present we are working on updating manuscript procedures to shorten "time lag," if at all possible, and to lessen work for associate editors.

The revised "Guide to Authors" for both *Lipids* and *JAOCS* appeared in January issues of each journal.

All operations have been running very smoothly with only minor problems yet to be solved.

TECHNICAL COMMITTEES

Biochemical Methods Committee
George Rouser

The Biochemical Methods Committee, on a collaborative study from eight different laboratories throughout the U.S., worked out a quantitative lipid phosphorus procedure using two dimensional thin layer chromatography and spectrometry. The work was based on a known synthetic phospholipid mixture, which simulated the phospholipid composition of blood. The reports obtained from all the laboratories agreed within 10%, and the procedures used varied somewhat from each laboratory. The purpose of the study was to determine the accuracy of a lipid phosphorus assay when phosphorus recovery is done by aspirating the spot off a two dimensional TLC plate, digestion and colorimetrically determining the color change by spectrophotometry.

Each determination required systematic treatment and reproducibility of separations of at least four TLC plates.

The study is presently in the writing stage for publication in *JAOCS*.

Blood Methods Determination Subcommittee
R.F. Witter

NO REPORT.

Commercial Fats and Oils Analysis Committee
Jack W. McEwan

The Commercial Fats and Oils Analysis Committee met in conjunction with the spring and fall meetings of AOCS in 1972. There were eleven present in April at Los Angeles and nine in September at Ottawa.

During 1972 various suggestions were received and handled by the committee-at-large. Included were a "rapid" method for FFA, possible revision for saponification value, question on refining loss for sunflower seed oil, source of alumina used in neutral oil loss supplies of bleaching earth.

A newly formed subcommittee, under the direction of Tom Alleman, has been actively studying a method for determination of polymeric material in fats. Several collaborative samples have been reported with apparently favorable results. Several more samples will be studied. The goal is a rapid method that can be used to judge the suitability of material received.

Methods from section C of our book have been reviewed and recommendations made in many cases for status change from tentative to official. This will be reviewed by the Uniform Methods Committee.

Bleaching Methods Subcommittee
E.R. Hahn

The Bleaching Methods Subcommittee has not been very active for the last 2 years as our supply of the three different bleaching earths has been adequate. Since the last meeting of the AOCS in Ottawa our supply of natural earth and activated earth has become low, so we have initiated procedures for obtaining a new lot of both earths. As soon as these lots are manufactured, we will start our testing program. The subcommittee also met in New Orleans.

Feed Grade Fats Subcommittee
F.W. Quackenbush

NO REPORT.

Neutral Oil Loss Subcommittee

INACTIVE.

Oil Retention and Moisture and Volatile Matter in Filter Cake Subcommittee
A.D. Rich

NO REPORT.

Polyethylene in Fats Subcommittee
T.C. Alleman

This subcommittee, made up of 11 members, was organized in the spring of 1972 to develop an analytical method for polyethylene in fats. Polyethylene is a contaminant in some sources of rendered animal fat and has presented a growing problem over the past 5 years. When fat is hydrolyzed to produce fatty acids, the polyethylene deposits in the fat splitting towers making frequent shutdowns and cleanout necessary. The analytical method is needed to determine which particular lots of fat are suitable for splitting.

The subcommittee has been testing a gravimetric method that requires only routinely available laboratory equipment. Results on two collaborative samples in 1972 indicated that the method has sufficient promise to merit further testing. This testing will be continued in 1973.

Environmental Control Committee
Clifford Haysley

NO REPORT.

Fat and Oil Byproduct Analysis Committee
K.M. Brobst

NO REPORT.

Glycerine Analysis Subcommittee
R.M. Kelley

During the past few years, the AOCS Glycerine Subcommittee has been working in close cooperation with the Glycerine Producers' Association. We have maintained close contact with the International Standards Organization (ISO) and, in fact, have had representation at several ISO meetings in Europe. The results of these contacts are summarized in the following paragraphs.

During the past several years the ISO has, through its many committees, been reviewing and publishing a large number of methods for a wide variety of materials. ISO is a world-wide organization composed of ca. 56 national standards bodies who are attempting a world-wide standardization of methods. ANSI is the U.S. clearing house for all ISO matters.

About 5 years ago, an ISO subcommittee was formed to discuss adoption of standard procedures for glycerine analysis. No difficulty has been encountered in agreement on most methods; however there is some difficulty in the adoption of an assay method. Certain ISO delegates have questioned the AOCS method as being too empirical and therefore subject to errors. This objection is based mainly on the fact that the sample and blank are titrated to different pH values. They also contend that losses of formic acid during analysis and introduction of CO_2 in dilution water are further sources of error.

During the past 3 years, discussions of the differences have continued with the English and U.S. representatives defending the current method. Because discussions reached an impasse, it was agreed that an international testing program would be initiated to check the official procedure and a modified procedure proposed by the continental delegates.

The modification does not basically change the chemistry of the method but simply calls for addition of equal amounts formic acid, as sodium formate, to both sample and blank. This permits titration of both to the same pH value. This modification is more attractive from the theoretical point of view to many of the continental delegates who contend that the empirical approach of the current AOCS method is unacceptable.

The testing program consisted of analyzing four samples, two high assay and two crudes, by both procedures. A total of 22 laboratories both in this country and abroad participated in this program. Each laboratory used two analysts on each sample and each analyst ran the samples in triplicate. This yielded a total of 132 individual results by each method per sample or a grand total of 1072 results for the whole program. This large amount of data offered an opportunity for a thorough statistical analysis of the results and a comparison of the two methods. The results of this work are shown in the following table.

	Glycerine, %	
Sample	Official method	ISO method
High assay		
A	92.35	92.23
B	90.89	90.90
Crudes		
C	81.46	81.50
D	71.33	71.35

It is obvious from inspection of the results that both procedures check well. Statistical analysis by ISO showed that there were no significant differences between the methods, although a large number of analytical values were rejected.

At a meeting held in Brussels in March 1971, discussions of the results led to a motion being made for ISO to adapt the modified method. With objections from the U.S. and U.K., the motion was carried. The modified procedure has not been accepted by ISO as yet. The fact that both the U.K. and the U.S. were in agreement on rejection of the modification may well influence the final ISO decision.

The situation is currently status quo. The British Standards Institute in their subsequent statistical analysis conclude that the modified method is less reliable than the official version. In this analysis, it was pointed out that the modified method give a significantly greater number of unreliable and rejectable results than the official method. They therefore recommend that the official method be retained.

The U.S. position remains unchanged. We have informed ISO that the U.S. will retain the AOCS method as official, since the proposed modifications offer no improvement in results and we have no basis for changing an official method.

We can hope that the final ISO decision will reject the modification based on opposition by the U.K. and U.S. This would result in acceptance of the current official AOCS method as the world-wide standard. Use of one method in the U.K., Canada, Japan and the U.S. and another in continental Europe might lead to some trading disputes.

Lecithin Analysis Subcommittee

INACTIVE.

Vegetable Oil Distillate Analysis Subcommittee

James Nelson

By a collaborative study, the following methods were found applicable to the analysis of vegetable oil deodorizer sludge: moisture by AOCS Method Ca2e-55 and acid value by AOCS Method Te1a-64. Also, a collaborative study showed applicability of a literature method (*JAOCS* 47:259 [1970]) to analysis for tocopherols and sterols in vegetable oil deodorizer sludge. This method has been written and submitted for approval to the Vegetable Oil Distillate Analysis Subcommittee.

Industrial Oils and Derivatives Analysis Committee

R.O. Walker

Reports from the following active subcommittees have already been submitted by their respective chairmen to Jim Lyon: Dibasic Acid Subcommittee, E.N. Gerhardt; Fatty Nitrogen Products Subcommittee, H.W. Jackson; Hydrogenated Oils Subcommittee, A.E. Waltking; and Commercial Fatty Acids Subcommittee, R.H. Dreyer.

The Drying Oils Subcommittee, under E. Handschumaker, was inactivated in 1972 because of lack of interest in trying to establish haze standards. Handschumaker's laboratory had developed a set of haze standards based on the suspension of Pyrex glass in water, but not enough laboratories were interested in setting up a study to find out if the recommended procedure would work.

The Epoxidized Oils Subcommittee under W.F. Goldsmith has also been inactivated because of lack of interest in this type of product. Several years ago, we ran a round-robin comparing the "Jay Method" for determining the per cent oxirane oxygen to the current AOCS method. The results showed that the Jay Method and the AOCS method gave the same type of precision, but the subcommittee was divided on whether the Jay Method should be published. We tried to activate the subcommittee for the fall meeting in Ottawa to set up another comparison round-robin between the two methods, but could not get enough interested people. Companies now producing the bulk of epoxidized oils are currently using the Jay Method, and I feel it should be written up as an official alternate method for the determination of oxirane oxygen and will submit to the Uniform Methods Committee the method and data we acquired during first round-robin. Before submitting the actual method, I will have it checked by several companies currently using the Jay Method.

Commercial Fatty Acids Subcommittee

R.H. Dreyer

The Commercial Fatty Acids Subcommittee met at the fall meeting in Ottawa. It was decided to work on completion of precision data for several methods, namely Per Cent Unsaponifiable and Per Cent Ash.

The Color after Heating Test is being studied and variations such as substitutions of air for nitrogen are being considered.

The Karl Fisher Moisture Test is being reviewed with the idea that a single solution would be substituted for the two solutions now specified.

Dibasic Acids Subcommittee

E.N. Gerhardt

The Dibasic Acid Subcommittee is currently developing a method for determining dibasic acid composition of dibasic acid products by gas liquid chromatography. The study is concerned primarily with analysis of commercial grade products derived from fat and oil sources and includes sebasic and azelaic acids and

dimethyl glutarate. The acids, analyzed as dimethyl esters, are separated and quantitatively determined by GLC. The procedure and equipment used in the current collaborative test program is very similar to that adopted for determining "Fatty Acid Composition by Gas Chromatograph" (AOCS Tentative Method Ce1-62). This approach offers maximum compatibility with procedures and equipment already well established within the Society membership. Samples being used in the investigation include reference mixtures of dimethyl esters of the type and relative amount typical of the commercial products.

When the GLC operating conditions and procedures are established, the committee will investigate optimum conditions for the quantitative preparation and isolation of methyl esters from dibasic acids. Future programs include determination of composition and iodine value of polymerized (polybasic) acids.

Epoxidized Oils Subcommittee

INACTIVE.

Fatty Nitrogen Subcommittee
H.W. Jackson

The immediate past accomplishment of the committee was the development of a chromatographic procedure for the separation and measurement of the fatty amines. This procedure has been submitted for approval to the Methods Committee.

The current efforts of this subcommittee are being directed towards the development of a qualitative and quantitative procedure for the fatty amides, i.e., a procedure to give the specific fatty amides present as well as their total on a weight per cent basis. A gas chromatographic procedure has shown promising results and will shortly undergo a full collaborative study.

Hydrogenated Oils Subcommittee
A.E. Waltking

One and one-half years ago, the subcommittee decided that there was a need for determining the activity, selectivity and active life of hydrogenation catalysts for inclusion in the AOCS Book of Methods. This is an area wherein each manufacturer and user has developed his own techniques out of necessity and no uniformly accepted procedure exists for evaluating the requirements or capabilities of a particular system or catalyst.

During the last year, the following was accomplished: (a) Agreement was reached that the determination of selectivity should be made by the procedures reported by L.F. Albright (*JAOCS* 42:250 [1965]) and R.R. Allen ("The Testing of Commercial Hydrogenation Catalysts," Presented at the AOCS Meeting, Ottawa, September 1972). (b) By means of a survey of the catalyst manufacturers and users, a comprehensive tabulation and comparison of details of the many procedures currently in use was obtained. (c) A compromise method utilizing a single set of operating conditions for catalyst evaluation was devised and tested in the chairman's laboratory and is currently being evaluated in a precollaborative study among six laboratories.

If the precollaborative study is successful, an expanded collaborative study will be run utilizing the method written in the form utilized by the AOCS Book of Methods prior to submission of any recommendation for new methodology to the parent committee.

Instrumental Techniques Committee
R.T. O'Connor

TO BE PUBLISHED AT LATER DATE.

Atomic Absorption Spectroscopy Subcommittee
C.D. Evans

This subcommittee has developed and evaluated a direct method for the determination of trace metals in vegetable oils and animal fats by atomic absorption spectroscopy. A detailed procedure has been written in the format of the AOCS Book of Methods and is now ready to be submitted to the entire Instrumental Techniques Committee for approval.

The subcommittee is now considering extension of the method to the determination of lower levels of trace metals commonly found in refined vegetable oils through the use of preconcentration techniques, and a tentative procedure and samples for collaborative study were sent out in February 1973. Alternate approaches to providing greatly increased sensitivities will be the investigation of nonflame methods through the use of graphite furnace and carbon rod or carbon tube atomizer techniques.

Gas Chromatography Subcommittee
S.F. Herb

1972-73 had 56 participants in the GC series, the most ever. The vast majority of participants concluded the six samples (five triglyceride oils and one methyl ester) with excellent results. Most have shown fine capabilities for identifying peaks and quantitating for fatty acid distribution. The most difficult sample was a refined feed grade tallow, which contained a broad spectrum of fatty acids. The other oils were vegetable oils, and one was mixed cottonseed and soybean oil.

NMR Subcommittee
M. Bennion

NO REPORT.

Spectroscopy Subcommittee
R.R. Allen

NO REPORT.

Protein Nutrition Committee
T.J. Potts

NO REPORT.

Amino Acids Subcommittee
Wilda Martinez

NO REPORT.

Available Lysine Subcommittee
Carl M. Cater

NO REPORT.

Functional Properties Subcommittee
R.L. Gregory

NO REPORT.

Trypsin Inhibitor Subcommittee
J.J. Rackis

NO REPORT.

Seed and Meal Analysis Committee
M.E. Whitten

Meetings of the Seed and Meal Analysis Committee were held at Los Angeles and Ottawa in 1972.

During the past year several methods under our jurisdiction were updated. This included a change of specifications for moisture dishes in a number of methods and a method for preparing soybeans for oil analysis. Updating of methods will be continued.

The method for determining aflatoxins in peanuts was replaced and our new method (BF Method) is now identical with the official method of the Association of Official Analytical Chemists. A method for aflatoxins in copra and coconut was also forwarded to the Uniform Methods Committee.

Considerable work has been done by the Aflatoxin, Sampling and the Sunflower Seed and Meal Analysis Subcommittees during the past year. The Aflatoxin Subcommittee has continued very active in investigating a number of mycotoxins and is working closely with the Association of Official Analytical Chemists and the American Association of Cereal Chemists.

The Sunflower Subcommittee has completed a collaborative study on methods of oil assay, and data are being analyzed at this time.

The Sampling Committee, working closely with other societies and with the USDA, is interested in a method for sampling cottonseed for aflatoxins. Work on this project is completed, and data for this study are now being statistically analyzed. A report will be prepared for presentation at a meeting of the Society in the near future.

The Gossypol Subcommittee met in Los Angeles and discussed updating and possible collaborative work on faster and more accurate methods for all three of our gossypol methods.

Aflatoxins Subcommittee
L.A. Goldblatt

INCLUDED IN FULL COMMITTEE REPORT.

Fiber Determinations Subcommittee
W.H. Doty

NO REPORT.

Gossypol Subcommittee
W.A. Pons, Jr.

INCLUDED IN FULL COMMITTEE REPORT.

Oil Extractions Studies Subcommittee
J.M. Ridlehuber

NO REPORT.

Safflower Seed Analysis Subcommittee
E.J. Jacobsen

NO REPORT.

Sampling Subcommittee
M.E. Whitten

INCLUDED IN FULL COMMITTEE REPORT.

Sunflower Seed and Meal Analysis Subcommittee
J.A. Robertson

The Sunflower Seed and Meal Analysis Subcommittee is attempting to develop a uniform method for determining the total oil content of sunflower seed. Two methods are being collaboratively tested by 10 laboratories. The seed of three sunflower varieties of low, medium and high oil content are being analyzed on different days by the laboratories. The methods are patterned after AOCS Method Ab 3-49 for oil in peanuts and the NIOP method for oil in safflower seed. In the primary method under test, the sunflower seed are ground with diatomaceous earth. It is believed this will reduce substantially the oil loss during grinding and will result in a more uniform grind and representative sample. In the second method, the sunflower seed are ground with a high speed grinder without diatomaceous earth.

In addition, the sunflower seed samples are being analyzed by six laboratories for their oil content with the wide line NMR analyzer. This will provide a precise instrumental check of our two extraction methods. The wide line NMR is not being collaboratively tested against the two extraction methods because only two of the ten participating laboratories have the NMR.

The results of the collaborative study will soon be available and will be the basis for a tentative AOCS method for determining the oil content of sunflower seed.

Soap and Synthetic Detergent Analysis Committee
E.A. Setzkorn

Task Group 27: Analysis of Fatty Alcohols—The Fatty Alcohol Task Group is inactive at the present time due to lack of a chairman. An expression of committee interest in the work of this task group will be secured at the next meeting. Future status of this group will depend on the wishes of the committee.

Task Group 29: Analysis of Anionic Detergents by Mixed Indicator Titration, Chairman J.H. Mallory—The work of this task group has recently been completed, and the method has been published in Part 22 of ASTM (ASTM D3049). The method specifies the use of sodium lauryl sulfate manufactured by Bristol Drug House as a primary anionic standard. BDH specifies a minimum purity of 99%; however several analysts have reported lower values. Additional work has been done and more will be done this year in an effort to determine the integrity of the NaLS primary standard. Cooperative test work on this method was organized to meet AOCS statistical requirements for official AOCS methods. The test results should be submitted for possible approval by AOCS.

Task Group 16: Qualitative Identification of Surfactants, Chairman E.A. Setzkorn—This group has had the misfortune to lose a number of good chairmen in the midst of its programs. As a consequence, a considerable quantity of partially completed work has accumulated. An effort

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will be made to reorganize the data, determine the merit of the finished work and decide (a) if additional work is required and (b) whether the method has sufficient usefulness to justify any further expenditure of effort.

Task Group 32: Analysis of Phosphates in Synthetic Detergents, Chairman J.A. Abbott (now resigned)—A colorimetric method for low level phosphate has been tested and accepted by the subcommittee. The method was included as a part of ASTM D 820, which already contains a macromethod for phosphate in detergents for P_2O_5 contents greater than 2%. Even though D 820 appears to be a logical location for the colorimetric phosphorous method, i.e., to extend phosphate analysis down to the ppm level, some feeling exists that the colorimetric method should stand alone as a separate method. Discussion on committee wishes in this matter will be held at the next annual meeting.

Task Group 33: Analysis of Sodium Citrate in Detergents, Chairman Andrew J. Schmitz, Jr.—The Task Group for Analysis of Sodium Citrate in Detergents is presently being organized. Efforts are currently underway to secure several laboratories to serve on the task group for the testing program.

Task Group 34: Analysis of Alpha Olefin Sulfonates, Chairman Richard Gorsich—The Task Group for Analysis of Alpha Olefin Sulfonates also is presently in organizational status. Task group staffing is presently underway.

Considerable subcommittee effort is also being devoted to reviewing and submitting comments and suggestions to the International Organization for Standardization in the area of Soap and Detergent Analytical Methods.

Finally, we plan a review of all Soap and Detergent Analytical Methods in Part 22, Book of ASTM Standards with a view toward updating, revision or deletion as dictated by the results of this study.

Classification Subcommittee
H.C. Speel

NO REPORT.

Separation of Active Ingredients Subcommittee
R.M. Kelley

NO REPORT.

Qualitative Identification Subcommittee
E.A. Setzkorn

NO REPORT.

Nonionic Surfactants Subcommittee
E.A. Setzkorn

NO REPORT.

Fatty Alcohols Subcommittee
E.A. Setzkorn

NO REPORT.

Anionic Detergency by Mixed Indicator Titration Subcommittee
J.H. Mallory

NO REPORT.

Analysis of NTA Subcommittee
N. Marsh

NO REPORT.

Analysis of Detergent Enzymes Subcommittee
M. Mauser

NO REPORT.

Analysis of P_2O_5 Subcommittee
J. Abbott

NO REPORT.

Standards Committee
G.E. Goheen

The scope of the Standards Committee is listed on page 24 of the Society's Directory for 1972-73.

The work of the Standards Committee comprises primarily the following activities: Flavor Nomenclature and Standards Committee, Chairman Thomas H. Smouse; Nomenclature Committee, Chairman Harold P. Dupuy; Statistical Committee, Chairman James R. Trowbridge; and Specifications Committee, Chairman J.M. Ridlehuber. A summary of the activities of each of these groups follows.

Flavor Nomenclature and Standards Committee: The Flavor Committee originated in 1967, with its scope being to standardize the nomenclature for flavors in edible fats and oils and to define these flavors in terms of the minimum number of known chemical compounds. Since the flavor of an edible food is most important in determining its commercial value, industry utilizes panels of expert tasters to grade or rate both the ingredients as well as the finished products. However it is important that the various panels are capable to detect and discriminate slight differences between samples. They must also rate and describe the various off-flavors detected on a uniform and consonant scale so there is agreement among the various industries producing similar products. To determine this agreement, collaborative studies have been carried out that were conducted with as many as 14 expert panels consisting of ca. 100 tasters. These panels consisted of industrial, academic and governmental groups that are conducting research in edible fats and oils for manufatrure of fats and oils for consumer consumption. The statistical agreements between these panels in quality rating various oils are being discussed. To effectively measure the contributions of a particular chemical to flavor, carriers with little or no flavor must be utilized. A collaborative study was conducted in selecting this carrier and data obtained showing the blandness of certain oils. The committee has also attempted to produce oils with typical oil off-flavors by adding synthetic chemicals to bland carriers or by treating soybean oil by various processes. Data has been obtained that has been statistically analyzed to evaluate the agreement between the participating panels.

Nomenclature Committee: The chapter on the "Nomenclature of Acylglycerols (Glycerides)," which was drafted by Robert Jenson, has been reviewed by nine scientists and revised based on their comments. The final revision will be submitted for consideration for publication in *JAOCS*. The chapter on the "Nomenclature of Alcohols and Simple Esters," which was drafted by Henry Rakoff, has been reviewed by nine scientists and is being revised according to their comments. The final revision will also be submitted for consideration for publication in *JAOCS*. The chapter on the "Nomenclature of Organic Nitrogen Compounds," which was drafted by George Meisters, has also been reviewed by nine scientists and revised based on their comments. However it will have to be reviewed again to eliminate some of the examples in the process of con-

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