

Report of the Committee on Uniform Methods and Cooperative Work

Spring Convention, 1944

BEFORE taking up the reports of the various committees in order, we want to express our appreciation to all those who took part in the work of the Society during the past year. We realize the difficulties under which most laboratories operated and for this reason we particularly commend those committees which have succeeded in making a report to the Society for consideration at this meeting.

Committee on Review of Scientific Literature of Fats, Oils and Soaps:

While we have no special recommendations covering the Report of the Committee on Review of Scientific Literature of Fats, Oils and Soaps, we wish to say that they have again presented a very comprehensive survey of the fat and oil situation. We are sure that those who are interested in the fat and oil field will get a great deal by studying this report as it has been presented to the Society.

Bleach Test Committee:

As this committee's report is a progress report and requires no action on changes in methods our committee recommends that it be continued. It seems that they have made a good start in their study on bleaching of both soybean and cottonseed oils and this coming year should enable them to present some definite recommendations to the society.

Cellulose Yield Committee:

Committee makes the following recommendations:

- "(1) That samples be sent out to laboratories for yield check at least once every two months.
- "(2) That the car sampling procedure be adopted as a standard procedure for sampling linters and hull fiber."

Our committee approves the recommendations as stated, which include the adoption of the car sampling procedure for sampling linters and hull fiber as a tentative method of the Society.

Color Committee:

Committee makes the following recommendation:

"The committee recommends that work be continued to enable the construction of a photoelectric colorimeter and to allow its testing as a suitable device for evaluating the color of oils."

Our committee approves the recommendation and also suggests that a further study be made of the ratio of yellow and red glasses which should be used in the reading of oils. While this has been done on previous occasions, we think that a review of the previous work and further study of the subject is advisable.

Committee for the Study of the Analysis of Cottonseed for Lint:

Committee makes the following recommendation:

"The standardized method used in this year's cooperative work is described in detail in the

attached. The committee recommends its adoption as the official method of the A.O.C.S. for the determination of per cent lint on cottonseed."

Our committee approves the recommendation that the method as outlined be adopted as an official method of the Society.

Soybean Analysis Committee:

Committee makes the following recommendation:

"An amplification of the present very brief official A.O.C.S. method is suggested for the benefit of laboratories using these methods for the first time. Such an amplification, based on the collaborative series, is attached. No changes are made, but the present method is given in greater detail. In view of the present successful use of these methods, any changes should be made with caution. Other types of extraction equipment and other extraction procedures may give the same results, but these should be carefully checked against the present official A.O.C.S. method before being used."

"Further work on 'true' moisture content and further study of factors influencing moisture and oil determinations are being carried out."

Our committee approves the recommendation and its adoption as an official method of the Society. The method as presented is merely an amplification of the method which has been official for some time and will be very helpful towards making soybean analyses.

Oil Characteristics Committee:

Several years ago the Oil Characteristics Committee made certain recommendations to the Society on standards of various types of oils. At that time there was a question of whether the term "standards" should be used. This was referred to the Governing Committee and agreed upon. Our committee, therefore, recommends that the standards submitted for Whale Oil, Teaseed Oil, Oiticica Oil and Cocoa Butter, as submitted by this committee, be adopted as standard by the Society.

Olive Oil Committee:

This is only a progress report but it seems that this committee plans to undertake an investigation of a proposed method for the determination of olive oil instead of the detection of impurities. Our committee is heartily in favor of such a procedure.

Refining Committee:

Committee makes the following recommendations:

"On the basis of comparative refining tests made in the 1942-43 season involving 25 samples of hydraulic oil from widely-separated sources, it is concluded that the method now designated for expeller oil gives better refining results when applied to hydraulic oil in the majority of cases than does the method now designated for hydraulic oils. It is recommended, therefore, that the present method for hydraulic oil be deleted

and that the present method for expeller oil be designated as a tentative method for hydraulic oil."

Our committee, therefore, recommends that the method now designated for hydraulic oils be deleted from the methods and that the method now designated for expeller oil be designated as a tentative method for hydraulic oil.

A sub-committee has been working on the refining of degummed, extracted soybean oil which seems to give difficulty with the methods employed for non-degummed oil. While some very interesting work has been done in this study, nothing of a definite nature has been developed. However, considerable interest has been shown in the subject and we are sure that within the very near future a method for degummed, extracted soybean oil will be worked out.

Mr. Ganucheau of our committee called attention to the fact that when analyzing cottonseed it is possible to get greatly varying results if the sample is permitted to stand overnight or for any considerable period during the progress of analysis. We, therefore, recommend that a note be put with this method urging all analysts to carry on this analysis without any undue delay.

We had no reports from the Sampling Committee, Soap in Refined Oil Committee, Committee on the Analysis of Peanuts and Peanut Products, and Sulphonated Oils Committee. We hope that it will be possible for these committees to have reports for consideration in the near future.

A number of our methods have been tentative for one year or more and we are, therefore, recommending that the following tentative methods be made official:

Method	Page	Adopted as tentative
Peanuts, Sampling.....	II	1941
Raw Soapstocks, Sampling.....	III	1940
Acidulated Stocks, Sampling.....	IV	1940
Peanuts, Analysis.....	10c	1940
Methods of Sampling.....	24a	1941
Titer Test.....	29	1940
Evolution—Volumetric Method for Carbonates.....	A-9	1940
Combined Na ₂ O and K ₂ O.....	A-15	1937
Methods of Glycerin Analysis.....	D-1 to D-7	1938
Fitelson Test—Teaseed Oil.....	E-3	1939

There are several other methods which have been tentative sufficiently long to be considered for an official status, but since work is being done on them and they are in a state of flux we recommend that they be held in a tentative state for the time being.

All of the above recommendations of the Committee on Uniform Methods and Cooperative Work were put to a vote of the Society and adopted.

For several years we have been trying to revise all of our methods in order to have them more uniform and in somewhat larger form. This is a very difficult undertaking and little progress has been made on it up to the present time. However, we are pleased to say that Mr. V. C. Mehlenbacher has agreed to undertake this work for our committee and we are sure that we will see considerable progress in this direction in the near future.

J. T. R. ANDREWS	T. C. LAW
J. J. GANUCHEAU	H. P. TREVITHICK
C. P. LONG	J. J. VOLLERTSEN,
E. B. FREYER	Chairman.

Abstracts

Oils and Fats

Edited by

M. M. PISKUR and SARAH HICKS

PROCESSING OF DRYING OILS. RECENT DEVELOPMENTS. J. H. Greaves. *Oil Colour Trades J.* 105, 579-82 (1944).

MOLECULAR DISTILLATION. A NEW PATH TO SEPARATION OF CHEMICALS. Theodore R. Olive. *Chem. & Met. Eng.* 51, No. 8, 100 (1944).

MODERN ALCHEMY BY ARMOUR & COMPANY. David S. Oakes. *Central Manufg. District Mag.* 28, No. 5, 9-16 (1944). A description of new fatty acid derivs. for postwar consumption. (*Chem. Abs.*)

THE BACTERIAL OXIDATION OF CORN OIL. J. O. Mundt and F. W. Fabian. *J. Bact.* 48, 1-11 (1944).

HEXABROMIDE METHOD FOR DETECTION OF SMALL QUANTITIES OF LINOLENIC ACID IN ANIMAL FATS. Detection of horse meat in admixtures with pork or beef. G. K. Crowell. *J. Assoc. Off. Agr. Chem.* 27, 448-51 (1944). The m. p. of the hexabromide formed from the fatty acids present in horse fat is in accordance with the literature for linolenic acid hexabromide. Table I shows that an increased hexabromide value above that found for pork or beef, together with an identification (m. p.) of the prepd. hexabromide deriv. would constitute sufficient evidence that horse fat/meat was present. The method presented obviously

does not lend itself to a quant. estn. of the proportion of horse meat in mixts. with pork or beef, since meat from horses being slaughtered at the present time contains less fat than is usually present in either pork or beef. Products such as hamburger and sausage require considerable fat to be palatable, and it would be generally assumed that this addnl. fat would be obtained from either the pork or beef and not from the adulterant, horse meat.

ESTIMATION OF TUNG OIL AS AN ADULTERANT. T. J. Suen and M. C. Wang. *Ind. Eng. Chem., Anal. Ed.* 16, 511-13 (1944). Tung oil is sometimes adulterated with soybean, sesame, peanut, rapeseed, stillingia and other oils, which are much cheaper than tung oil during normal times. Since the present Sino-Japanese War, the situation has been reversed. A method of identification of adulteration with tung oil, depending on amt. of resins formed under controlled treatment with HNO₃, was developed.

UNION OF GASEOUS O WITH ME OLEATE AT 20° AND 120°. D. Atherton and T. P. Hilditch. *J. Chem. Soc.* 1944, 105-8 (1944). Me oleate (1) was stirred with O in bright daylight at room temp. (about 20°) for a total period of 34.5 days (i.e., 24-hr. periods). At the