TABLE IV.—COLOR INCREASE WITH ADDED MINERAL OIL X

| Refined Cottonseed Oil | .01% Numerical Increase Y.O. | .01% Numerical Increase Bl. | .01% Increase retained in bleached oil (%) | .02% Numerical Increase Y.O. | .02% Numerical Increase Bl. | .02% Increase retained in bleached oil (%) | .03% Numerical Increase Y.O. | .03% Numerical Increase Bl. | .03% Increase retained in bleached oil (%) |
|---|---|---|---|---|---|---|---|---|---|
| A | 1.9 | 0.5 | 26 | 4.2 | 1.6 | 38 | 6.6 | 2.1 | 32 |
| B | 2.0 | 0.4 | 20 | 4.1 | 1.3 | 32 | 5.4 | 2.2 | 41 |
| C | 2.0 | 0.4 | 20 | 4.1 | 1.2 | 29 | 7.6 | 2.0 | 28 |

TABLE V.—COLOR INCREASE WITH ADDED MINERAL OIL Y

| Refined Cottonseed Oil | .01% Numerical Increase Y.O. | .01% Numerical Increase Bl. | .01% Increase retained in bleached oil (%) | .02% Numerical Increase Y.O. | .02% Numerical Increase Bl. | .02% Increase retained in bleached oil (%) | .03% Numerical Increase Y.O. | .03% Numerical Increase Bl. | .03% Increase retained in bleached oil (%) |
|---|---|---|---|---|---|---|---|---|---|
| A | 2.1 | 0.7 | 33 | 5.0 | 1.6 | 32 | 8.2 | 2.1 | 26 |
| B | 2.3 | 0.6 | 26 | 5.0 | 1.4 | 28 | 8.5 | 2.2 | 26 |
| C | 2.4 | 0.5 | 21 | 5.5 | 1.5 | 27 | 10.7 | 2.3 | 22 |

TABLE VI.—COLOR INCREASE WITH ADDED MINERAL OIL Z

| Refined Cottonseed Oil | .01% Numerical Increase Y.O. | .01% Numerical Increase Bl. | .01% Increase retained in bleached oil (%) | .02% Numerical Increase Y.O. | .02% Numerical Increase Bl. | .02% Increase retained in bleached oil (%) | .03% Numerical Increase Y.O. | .03% Numerical Increase Bl. | .03% Increase retained in bleached oil (%) |
|---|---|---|---|---|---|---|---|---|---|
| A | 1 3 | 0.3 | 23 | 2.7 | 0.8 | 30 | 4.2 | 1.3 | 31 |
| B | 1.3 | 0.3 | 23 | 2.7 | 0.7 | 26 | 4.0 | 1.2 | 30 |
| C | 1.1 | 0.3 | 27 | 2.8 | 0.8 | 29 | 4.4 | 1.1 | 25 |

TABLE VII.

| Fuel Oil | A. P. I.° @ 60° F. | 100 Penetration Asphalt (%) |
|---|---|---|
| X | 21.2 | 45.3 |
| Y | 24.7 | 42.9 |
| Z | 29.3 | 24.1 |

were read using a 35 yellow glass and bleached oils using a 20 yellow glass. The colors given in the tables are the red glass colors. In Tables IV, V, and VI, the increase in color of the yellow and bleached oils is shown, together with the percentage of the yellow oil increase in color retained on bleaching. In Table VII, the gravities and per cent of 100 penetration asphalt in the fuel oils are shown. The original yellow and bleached oils did not have a fluorescent appearance when nine inch columns of the oils were viewed by reflected light. All of the yellow and bleached oils containing fuel oil did have a fluorescent appearance when examined in the same manner.

## CONCLUSIONS

Refined cottonseed oil contaminated with fuel oil has its color and the color of its bleach increased, the amount of increase in color being dependent upon the amount and type of fuel oil. Both the yellow and bleached oils when contaminated with fuel oil have fluorescent appearance. By comparing the color and fluorescent appearance of the yellow and bleached shipping sample of cottonseed with that of the destination sample, the presence of mineral oil contamination can be detected.

# REPORT OF THE UNIFORM METHODS AND PLANNING COMMITTEE AMERICAN OIL CHEMISTS' SOCIETY - 1936-1937

THE Uniform Methods and Planning Committee had a meeting in Dallas on May 11, 1937, to go over the reports of the committees submitted to them and discuss the work which has been accomplished. They have the following comments and recommendations to make regarding the work of the committees during the past year.

**SEED ANALYSIS COMMITTEE:**

This committee makes the following recommendations:

"1. That the description of the fuming procedure be changed as follows:
'Place the dried seed in the pot, cover with a watch glass and place in the fuming oven previously ventilated for at least five to ten minutes, and fume for one hour. The oven temperature should gradually rise to, but not exceed, 115° C.'

"2. That the following mixing method be added as an alternate: 'Place the sample in an ordinary small straight-sided iron mortar of about 4 inch inside depth. Using the pestle in an inverted position to avoid a crushing action, mix the sample lightly but thoroughly using a stirring or rotary movement. Brush out the mortar after each sample.'"

These recommendations came up for considerable discussion in the Uniform Methods and Planning Committee meeting and there was some question as to whether the second recommendation should be approved as given. In other words, if both recommendations are approved it will leave to the discretion of the laboratory which of the two methods is employed and some of the Committee felt that it would be better to have only one method approved or available. The Uniform Methods Committee then decided to concur in the recommendations of the Seed Analysis Committee with the suggestion that during the coming year the two methods be tried out by the new committee and a final decision as to which was preferable be obtained.

The Uniform Methods and Planning Committee concur in the recommendations of the Seed Analysis Committee and move that they be adopted as tentative.

There was some discussion on the motion, owing to the fact that

the Chemists' Committee did not include the recommendations in their methods. However, the motion was put to a vote and passed.

**REFINING COMMITTEE:**

This Committee made the following recommendations:

"1. That the method for refining Expeller and Hydraulic soya bean oil, as outlined above be suggested as a tentative method to replace the one now given on page 16d entitled 'Soya Bean-Tentative method for refining Crude Soy Bean Oil.'

"2. That the work on Extracted soya bean oil be continued next year."

The Uniform Methods and Planning Committee concur in these recommendations and move that the method be adopted as tentative for the ensuing year. The motion was carried.

**FAT ANALYSIS COMMITTEE:**

The Fat Analysis Committee merely reported progress. In discussing the work of this committee the Uniform Methods and Planning Committee came to the conclusion that a test which is known as the Congeal Test has been used considerably in certain types of control work. It is, therefore, suggested that the incoming President either ask this Committee, or preferably appoint a special committee, to work out a standard method for the Congeal Test, which can be reported to the Society next year.

**MOISTURE COMMITTEE:**

The following recommendations were made by this committee:

> "This committee feels that the forced circulation oven which it has studied can be recommended as an alternate standard oven. Since the forced circulation oven has already been tentatively adopted for cottonseed, this recommendation would mean that the oven could also be used as an alternate standard oven for cottonseed meal. While the work indicates that the drying interval in the forced circulation oven could also be reduced, the committee feels that this should be checked into further before definite recommendations are made in this regard."

The Uniform Methods and Planning Committee concur in this recommendation and move that the oven be adopted as a tentative oven for determining moisture and that the incoming committee proceed to investigate the subject further as suggested. The motion was carried.

**SULPHONATED OILS COMMITTEE:**

The Sulphonated Oils Committee usually reports at the Fall Meeting and the report which we have under consideration was made to the Society last fall, but was received too late for action by the Uniform Methods and Planning Committee. Since that time it has been published in OIL AND SOAP and all of those interested have had an opportunity of reading and studying it. The method is the same as that adopted by the American Association of Textile Chemists and Colorists and has had quite a good deal of use. The Uniform Methods and Planning Committee concur in the recommendations of the Sulphonated Oil Committee and move the adoption of the method as a tentative method of the Society. The motion was carried.

**OIL CHARACTERISTICS COMMITTEE:**

This committee has done some very interesting work. There are no recommendations, however, which need action at this time.

**COLOR COMMITTEE:**

The report of the Color Committee was likewise received last fall, but too late for consideration by the Uniform Methods and Planning Committee. Their recommendations are as follows:

> "The Committee recommends the approval of the Stevenson Colorimeter for official use. In order to provide for such approval in the methods, it is recommended that the paragraph titled 'Tintometer,' on page 16d of the methods of analysis, be changed to read as follows:
>
> 'Colorimeter — An enclosed light-proof box containing an approved light bulb and magnesia block, and equipped with a device for holding the color tube and color glasses in such a manner that light passing up through the oil and also light passing through the color glasses can be observed simultaneously through an eye-piece. The details of the various parts and their arrangement must conform to the approved design for the manual type or for the magazine type, which can be obtained from the secretary of the American Oil Chemists' Society.' "

You will note that they suggest that the above be substituted for the paragraph entitled "Tintometer." This paragraph contains a very careful description of the specifications of our tintometer, giving its dimensions and other factors which are necessary in obtaining the proper type of instrument. For that reason the Uniform Methods and Planning Committee did not feel that this part of the paragraph should be deleted, but they are in favor of using or permitting this magazine type of colorimeter to be used. We, therefore, recommend that the following be inserted in our method on color reading.

> "The use of the Stevenson type colorimeter, which conforms to the above specifications, but contains a magazine for holding the color glasses, is approved."

Upon motion this recommendation was adopted.

**COLOR GLASS COMMITTEE:**

There were no recommendations received from this committee, but during the few years of their existence they have been doing a very valuable piece of work.

It should be mentioned at this point that Dr. Gibson, who gave a very interesting paper, was here through the courtesy of the Darco Corporation.

**COMMITTEE ON SOY BEAN ANALYSIS:**

The report of this Committee has been given at this meeting of the Society. The method suggested has been carefully gone over by the Uniform Methods and Planning Committee and they concur in the recommendations and move the adoption of this method as a tentative method for the Society. The motion was carried.

**COMMITTEE ON SOAP IN REFINED OIL:**

This committee makes the following recommendations:

> "Your committee agrees that the analysis is a lengthy one; also believes that concordant results can be obtained only by the most careful analysts, and, therefore, suggests that the procedure outlined above be adopted as a tentative method only for the time being."

There was considerable discussion of this report in the session of the Uniform Methods and Planning Committee. We feel that they have done a very valuable piece of work, but do not feel that the method as given at the present time should be adopted now. It is the recommendation of the Uniform Methods and Planning Committee, therefore, that further study be

made during the coming year and that the committee be requested to study the methods which were outlined and described to us several years ago by Mr. Durst.

**CRUDE MILL OPERATIONS COMMITTEE:**

This committee made the following recommendations:

"1. That the lint determination method be continued, using the proposed shaker as developed by Mr. Smith, or its equivalent.

"2. That a study be made for improving cellulose determination."

These recommendations are made for the guidance of the incoming committee and require no action by the Society.

**OLIVE OIL COMMITTEE:**

This Committee likewise has no definite recommendations, but suggestions for further work, which will be referred to the incoming committee.

**SAMPLING COMMITTEE:**

The Chairman of this Committee was appointed so late in the year that they did not have a chance to get under way. This was certainly not the fault of our President, as he tried very hard to obtain a suitable chairman for this very important Committee.

**SOAP STOCK COMMITTEE:**

The chairman of this Committee likewise was appointed a very short time ago and it took some time to organize the Committee, so that they have nothing definite to report at this time.

**THE COMMITTEE ON THE STABILITY OF EDIBLE FATS AND OILS:**

This Committee merely reports progress and stated they were going to have something definite for us probably by the time of the Fall Meeting.

**SMALLEY FOUNDATION COMMITTEE:**

The few minor changes in the operation of the Smalley Foundation which were put into effect during the past year facilitated the handling of the reports. There were very few complaints on samples and on the whole the work progressed satisfactorily. No definite recommendations were given.

In addition to the reports enumerated we have had reports from the Committee on Reviewing Scientific Literature on Fats and Oils and from the Journal Committee, but these contain no recommendations and therefore, no action by the Society is required.

We want to again take this opportunity of expressing our appreciation to the chairmen and members of the various committees of the Society who have participated in the work of the year. In most cases they have made the work of the Uniform Methods and Planning Committee lighter by getting in their reports, so that consideration could be given to them prior to the gathering at the annual session.

EGBERT FREYER
P. E. RONZONE
M. L. SHEELY
H. P. TREVITHICK
J. J. VOLLERTSEN,
Chairman

# REPORT OF COMMITTEE ON REVIEW OF SCIENTIFIC LITERATURE ON FATS AND OILS

The report on the third Annual Review of Scientific Literature on Fats and Oils has already appeared in two sections in the March and April numbers of OIL AND SOAP. We believe this report speaks for itself and is entirely too lengthy to be read at one of the regular meetings of the Oil Chemists' Society.

The Committee wishes to acknowledge the work of Mr. M. M. Piskur, Chemical Librarian for Swift & Company. The value of this report, we believe, lies primarily in the thoroughness in which it covers the literature. It is this feature that the Committee particularly wants to credit to Mr. Piskur.

G. R GREENBANK
G. S. JAMIESON
H. A. MATTILL
R. C. NEWTON, Chairman.

# ABSTRACTS

## Oils and Fats

*Edited by*
**M. M. PISKUR and RUTH LINDAHL**

**New Zealand Fish Oils.** F. B. Shorland. *Nature,* **140,** 223-4. A review.

**The Present Status of Refining and Synthesis of Fats and of Fat Acid Distillation.** E. Wecker. *Fette u. Seifen* **44,** 222-227 (1937). A review.

**Report on Oils, Fats and Waxes.** G. S. Jamieson. *J. Off. Agr. Chemists* **20,** 418-21 (1937). A collaborative study was made on the colorimetric methods devised by J. Fitelson for detection and approx. detn. of tea seed oil in admixture of olive oil and a qual. method by Siebenberg and Hubbard. The results show that the Fitelson test is accurate and they confirm the experiences of other workers that the estimation of the quantity present is more accurate with smaller than with larger amts. The test gives concordant, reproducible results in the hands of various analysts, including those inexperienced with the method. It was recommended that the method be made official. Other recommendations were: That both the Malfatti and the Stout and Schuette methods for preparation of aldehyde-free alcoholic KOH be substituted for the present procedure; that a collaborative study be made of methods for the determination of free fatty acids in both crude and refined fats and oils; that the refractometric method proposed for the detn. of the oil content of flaxseed be made official and that a collaborative study be made of the application of the refractometric method to the analysis of one or more of the other commercially important oil