REPORT OF COLOR GLASS DEVELOPMENT COMMITTEE

SINCE the work of readjusting the Lovibond Color Glasses is now a matter of routine handling by the Electrical Testing Laboratories, this Committee has not been very active during the past year. This year's report is therefore brief.

The various matters which came before the Committee are:

(1) *Letter from Mr. Irwin.*

A letter was received from Mr. W. H. Irwin of Swift & Company in which he noted they had "had considerable difficulty in obtaining delivery on standardized color glasses during the past year, due apparently to an inadequate American stock and inability of supply houses to replenish these stocks from the Lovibond people mainly."

He suggested it would be desirable to have a manufacturer of the glasses in the U. S. and wondered if it would be possible to interest the Electrical Testing Laboratories in producing them.

Their reaction was negative, Dr. Estey advising it was against the policy and contrary to the purpose of their organization to engage in manufacturing activities of any kind.

He suggested alternatively that the problem be brought to the attention of the Spencer Lens Company of Buffalo, New York. In a letter dated March 25, 1937, their Dr. A. H. Bennett indicated his company would be in a position to consider seriously the production of the glasses as soon as a temporary shortage of man-power could be corrected, i.e., in four to six weeks.

(2) *Glasses Recalibrated.*

The Electrical Testing Laboratories report 350 glasses adjusted to the N″ scale to date.

A copy of Dr. Estey's letter noting a growing interest in colorimeters in which small pieces of Lovibond Glasses are permanently mounted in the device is included in this report.

(3) *Glasses to Be Produced by The Tintometer, Ltd.*

When Mr. G. S. Fawcett of the Tintometer, Ltd., Salisbury, England, visited us last spring he promised he would produce a set of glasses conforming to A. O. C. S. requirements and send it to the Bureau of Standards for check.

The glasses have not been received and there has been no word from Mr. Fawcett since September 10, last year, when he advised Dr. Gibson they would be sent shortly.

(4) *The Correct Match Between Color Glasses and Oil.*

Recalibration of Lovibond glasses to N″ values has made oil color grading much more satisfactory, but the problem of securing the correct match between glasses and oil still remains. There has been no satisfactory basis on which to settle differences of opinion in this regard.

With the thought that the data collected and work done by the Bureau of Standards on the spectral energy distribution curves of many oils and of the combination of glasses used to read them might offer possibilities in this direction, the matter was brought to the attention of Dr. K. S. Gibson, Chief of the Colorimetry Section, who is a member of this Committee.

Dr. Gibson thought favorably of the idea that the spectral energy curves of an oil might be used to calculate its true N″ Lovibond reading and has kindly agreed to present a paper on the subject at Dallas. The title of his paper will be, "The Spectrophotometric Grading of Vegetable Oils on the N″ Lovibond Scale."

Respectfully submitted,
Mr. J. W. Flynn
Dr. K. S. Gibson
Mr. W. A. Welch
Mr. A. W. Meetze
Dr. Roger S. Estey
Mr. P. E. Ronzone
L. M. Gill, Chairman

COMMITTEE CORRESPONDENCE
COLOR GLASS DEVELOPMENT COMMITTEE OF A. O. C. S.

Address Writer at
Electrical Testing Laboratories,
80th St. and East End Ave.,
New York.

Mr. L. M. Gill, Chairman,
Darco Corporation,
60 E. 42nd St.,
New York, N. Y.

Dear Mr. Gill:

This will respond to your letter of March 11th.

We have to date regraded or adjusted about 350 Lovibond glasses. Our experience continues to indicate that these glasses, as received, have grades on the National Bureau of Standards N″ scale approximately 0.1 to 0.3 units higher than the values engraved on the glasses.

There is a growing interest in colorimeters in which small pieces of Lovibond glasses are permanently mounted in the device. In calibrating such devices it should be noted that the color of a glass may not be uniform from end to end and an N″ assignment for one end of a glass may not be absolutely correct for the other. The practice at E. T. L. is to make measurements at the center of complete glasses and at the point of use in the case of fragments.

Very truly yours,
(Signed) Roger S. Estey.

REPORT OF COMMITTEE ON SOAP IN REFINED OIL

THE committee's first report on analyses of soap in refined oil appeared in Oil and Soap 13 (July, 1936). A correction of same report appeared in Oil and Soap 13 (August, 1936). Two methods of analyses were discussed and the second method was admitted to be more correct in principle than the first. Briefly, this method consisted of removing the soap from oil by several alcohol treatments, evaporating the alcohol, ashing the residue, and titrating the ash with a standard acid solution.

From a study of the results obtained last year, the procedure was modified to read as follows:

Weigh 100 grams of oil in a 200 ml. extraction cylinder. Extract *five times* with 50 ml. hot alcohol (formula 30), allow to settle and syphon off the alcohol into a 500 ml. beaker. If an emulsion is encountered, place the cylinder in hot water to facilitate the separation of alcohol and oil.

Evaporate the alcohol from the

five extractions to a volume of about 20-30 ml. and transfer to a platinum crucible, carefully washing the beaker with alcohol and transferring the washings into the crucible. Slowly burn off the alcohol and then ignite the crucible until no carbon remains.

Cool the crucible and place into a 250 ml. beaker. Wash the crucible with about 50 ml. hot, distilled, *neutral* water and titrate with N/50 HCl, using methyl orange as an indicator.

1 cc N/50 HCl = .00607% sodium oleate

Three samples were prepared as described in last year's report, that is, by incorporating definite amounts of sodium oleate in soap-free oil, and mailed to the various members of the committee. A blank consisting of the soap-free oil was also mailed, making a total of four samples. Following are results:

	Sample 1	Sample 2	Sample 3	Sample 4
Per cent Sodium Oleate Incorp.	0.0000	0.0050	0.0100	0.0500
Laboratory No. 1	0.0000	0.0066	0.0095	0.0440
Laboratory No. 2	0.0030	0.0079	0.0121	0.0452
Laboratory No. 3	0.0000	0.0024	0.0085	0.0401
Laboratory No. 4	0.0027	0.0057	0.0064	0.0470
Average	0.0014	0.0056	0.0091	0.0441

An examination of above results indicates that the average of all analyses checks closely the amount of sodium oleate that was actually incorporated. However, some discrepancies exist in the individual analyses of samples one and two. In view of the very small amounts of soap present in the samples and the nature of the analysis itself, the variations are not considered serious.

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.

L. A. Spielman, Chairman
N. T. Joyner
J. J. Lappen
R. C. Stillman

REPORT OF THE FAT ANALYSIS COMMITTEE

THE last report of the Fat Analysis Committee recommended methods for Wiley melting point, thiocyanogen value, a modified Twitchell method for separation of liquid solid fatty acids, and a modified AOAC method for detection of foreign fats containing tristearin in unhydrogenated pork fat. These methods were formally adopted and published.

It was decided to continue the work on liquid solid acid separations in the light of work done and reported abroad by Cocks Christian & Harding, who claim that the Twitchell lead-salt alcohol method yields low results for iso-oleic acid. Samples have been distributed for analysis by the Cocks Christian and Harding method, the present method as adopted last year, and the Baughman-Jamieson method.

It was further decided to investigate a number of specific tests for oils, as follows:

Bellier Test for Peanut Oil.

AOAC Test for Unhydrogenated Fish Oil.

Ghose-Pal Test for Hydrogenated Fish Oil.

Besson Test for Kapok Oil.

Baudoin Test for Sesame Oil.

Samples covering the above tests have been distributed to the committee for cooperative tests, but the data are not ready at this time.

The committee has under consideration further work on the method for detection of foreign fats containing tristearine in unhydrogenated pork fats. The question of whether the use of pre-melted glyceride in determining the melting point of the separated glycerides is of any influence may require some additional cooperative work.

One of the committee members has called attention to the fact that some of the beakers and test tubes specified for use in the method for Wiley melting point are not standard. The committee is considering the possibility of changing these specifications so that standard equipment can be used.

W. H. Irwin, Chairman.
R. W. Bailey
C. P. Long
M. L. Sheeley
H. P. Trevithick
T. C. Law
H. J. Morrison
L. M. Tolman
J. J. Vollertsen

REPORT OF THE REVISION OF METHODS COMMITTEE 1937

DUE to the addition of several new methods and a new section on sulfonated oils, it was found necessary this year to add a number of new pages to the Lefax binder. These additions, together with a number of necessary changes in the methods generally, resulted in the expenditure of $215 to bring our methods up to date.

This expenditure made it advisable to consider revision of the prices for sets of methods, with the result that the following schedule is now in force: complete sets with binder $3, complete sets without binder $2, revisions $0.50.

The following are the new methods added: Modified Twitchell method for separation of liquid and solid acids, thiocyanogen value, Wiley Melting point, and a modified AOAC method for detection of foreign fats containing tristearin in unhydrogenated pork fats.

The new section on sulfonated oils comprises methods for the following determinations: Moisture and three methods for organically combined sulfuric anhydride.