The American Oil Chemists' Society

Notes and Correspondence

Standardization of Lovibond Glasses

Report for November, 1927

1. Determination of the spectral transmission of the following red glasses from B. S. 9940 has been completed and the data adopted (Gibson and Walker): 0.11, 0.17, 0.18, 0.19, 0.26.

2. Report on "A Study of 129 Lovibond Red Glasses with Respect to the Reliability of their Nominal Grades," being prepared by Judd and Walker for publication in "Oil and Fat Industries" (Official Organ of the A.O.C.S.) has been edited and revised and is nearly ready for publication.

3. Report by Priest on "Tests of Color Sense and Power of Color Discrimination of Members of the A.O.C.S.: Data on Sensibility to Change in Lovibond Red at 35 Yellow 7.6 Red" has been edited and revised and is nearly ready for publication.

4. Miss Walker has carried through extensive tests of Priest's proposed new method of using the Arons chromoscope for routine grading of the red glasses with 35 yellow. Considerable time has been given to eliminating conditions conducive to error and to improving the technic of this method. The first results were not satisfactory, but the sources of the trouble were rather easily detected. At the close of the month Miss Walker's most careful work indicates that accurate and reliable results can be obtained by this method; and it seems highly probable that this method will be quite valuable in grading the glasses. Further tests of this method are being made. The data so obtained also serve as a most valuable check on the values previously assigned to the standard glasses by Priest and Gibson.

5. Gibson (with Riley's assistance) has undertaken the calibration of the red glasses in B. S. 9940 by computation from spectral transmission data obtained by Frehafer in 1920. This calibration is identical in form to the first step (N') in the calibration made by Priest and Gibson on the basis of data by Gibson and Harris; but is based on independent experimental data on spectral transmission. Preliminary results of this computation were about ready at the end of the month; but since they must be reviewed and checked before being accepted, comment upon them is reserved until next month.

6. Gibson (with Riley's assistance) has undertaken on the basis of spectral transmission, a calibration of red glasses, B. S. 9940 in combination with 35 yellow B. S. 10289B. This calibration is identical in form with the first step (N') in the previous calibration by Priest and Gibson. It involves, however, the transmission of a different yellow glass. Its principal interest and importance is that it affords an independent check upon the *accuracy* of *the computation* and graphic reduction leading to the first adjustment (N') in the calibration by Priest and Gibson (April, 1927).

7. Priest has made some preliminary experiments on determining directly, with the Martens photometer and suitable filters, a ratio

of transmissions, which might serve as an interpolation parameter instead of the r/g ratio (computed from spectral transmission) used by Priest and Gibson in calibrating the red glasses. These experiments have not yet led to definite conclusions. It seems likely, however, that this idea can be developed.

IRWIN G. PRIEST
Chief, Colorimetry Section.

Memorandum of Conference, December 10, 1927

1. Mr. H. P. Trevithick and Mr. A. W. Putland representing the A.O.C.S. visited the Bureau Saturday morning, December 10th and conferred with those who have been working on the standardization at the Bureau: Priest, Gibson, Judd, Walker.

2. Copies of the report on the work for November were given to Messrs. Trevithick and Putland and several of the items in the report were explained orally.

3. The new method proposed by Priest for grading red glasses by means of the Arons chromoscope was demonstrated.

4. The question of testing the color discrimination of members of the A.O.C.S. was discussed at some length. Mr. Priest agreed to test those who might come to the Bureau for that purpose. It was also tentatively decided to make such tests at the next convention of the Society; but no definite plans for such tests were decided upon.

5. Mr. Trevithick returned the MS of paper by Judd and Walker (A Study of 129 Lovibond Red Glasses with Respect to the Reliability of Their Nominal Grades) approved for publication.

6. It was decided to dispose of the tests of the 35-yellow glasses now at the Bureau before starting routine grading of red glasses to be submitted.

7. It was decided to begin routine grading of red glasses as soon as the tests on these 35-yellow glasses are disposed of (probably about January 15th).

8. It was decided that work on the red scale should be undertaken first for Lovibond numerals 5 to 8 to be followed by lower numerals.

9. It was decided that a satisfactory degree of accuracy in calibration of the red glasses between 5 and 8 would be reached if each numeral determined experimentally could be certified to be within 0.1 unit of the true value.

10. It was decided that the calibration for each red glass should consist of:

(1) Determination of the correct numeral based on the standards established by Priest and Gibson, May, 1927.

(2) Determination of the departure from normal sunlight transmission of the test glass combined with 35-yellow specifically,

$$\frac{T_a - T_n}{T_n}$$

where:

T_a is actual sunlight transmission of a combination consisting of the glass being tested and a 35-yellow glass, and:

T_n is the sunlight transmission proper to a combination consisting of the same 35-yellow and a normal red glass having the numeral assigned to the glass being tested.

11. A set of rules concerning labelling, shipping and reporting upon red glasses to be submitted was adopted. Copy of these rules is attached hereto.

12. A form for reporting upon the calibration of red glasses was approved. Copy of this form has been furnished Mr. Putland.

Bureau of Standards and American Oil Chemists' Society Investigation of Uniformity of Lovibond Glasses in Use in the United States

Rules for Labeling, Submitting, Shipping and Reporting upon Red Glasses to be Submitted by the A. O. C. S.

(Adopted December 10, 1927)

1. Glasses will be submitted in lots of 25 glasses, each lot to consist of glasses all of the same Lovibond numeral.

2. No combinations are to be submitted.

3. Each glass shall be marked by an identification number, preceded by the mark: AOCS, in as nearly as possible uniform style on all of the glasses. This legend shall be engraved on the glass on the same side as the Lovibond engraved marks but at the opposite end. The series of numbers will begin with 200 so that the first glass will be marked as follows:

AOCS
200

4. The responsibility for marking the glasses and keeping the record of their ownership will be assumed by Mr. A. W. Putland who will send the glasses to the Bureau after they are marked.

5. Glasses will be shipped by express prepaid to the Bureau, addressed

Bureau of Standards
(Attn. Miss Geraldine K. Walker)
Div. IV, Sec. 3,
Room 407 South Building,
Washington, D. C.

6. As an employee of the AOCS, Miss Walker will be responsible for receipt of the glasses, their calibration, and their return after testing.

7. Calibrated glasses will be packed by Miss Walker and returned by express collect via B. S. Shipping Department to Mr. A. W. Putland, Portsmouth Cotton Oil Refining Corp., Portsmouth, Va.

8. Report on calibration as per standard form shall be prepared by Miss Walker and transmitted to Mr. Putland by the Chief of the Colorimetry Section through the Director of the Bureau.

9. A photostat copy of each report shall be retained at the Bureau.

Tank Car Sampling

To All Members:

The Rules of the Interstate Cottonseed Crushers' Association prescribes that in sampling tank cars, a trier be used which will take a two-inch sample the full depth of the oil in the car, and that this sample must be of uniform diameter throughout its depth.

There are a number of samplers on the market, but it is questionable whether any of them fulfil the requirements of the rules. For this reason, at the suggestion of Mr. V. Serbell, the President has appointed a special committee, under the Chairmanship of Mr. W. G. McLeod, whose address is c/o Armour and Co., Chicago, Illinois, to investigate the samplers at present in use and, if any is found which meets the specifications of the Rules, to suggest to the meeting in May that this sampler be designated as Official.

Further, if no such sampler be found, the committee will devise one which will be in accord with the Rules. This committee is now investigating all the samplers in use and seeks the co-operation of all members of the Society in this work.

Very truly yours,

H. P. TREVITHICK, *President.*

OIL & FAT INDUSTRIES
Sir:

In the November, 1927, issue of OIL & FAT INDUSTRIES, there is an article by Miss Rosalind U. Norris on The Standardization of Oil for Mayonnaise, containing "Standards and Specifications for a Refined, Deodorized Mayonnaise Oil," Article 5 of which "Standards and Specifications" is practically a winter test which specifies a temperature of 32°F. for cottonseed oil, 22°-27°F. for corn oil, and 21°-25°F. for sesame oil.

I would greatly appreciate information through the columns of OIL & FAT INDUSTRIES or otherwise, as to the effect a winter test has on the making of mayonnaise, and incidentally why the temperatures specified for corn oil and sesame oil are so much lower than that given for cottonseed oil.

This is the only point in the specifications not clear, and I heartily agree with all the other articles.

Very truly yours,

G. A. MOORE.

The Editor
OIL & FAT INDUSTRIES
Sir:

The reason that corn and sesame oils may be substituted for cottonseed oil in the production of mayonnaise during the winter months, is that the naturally lower "freezing" points of these oils lowers the freezing point of the finished product.

Our experience in the past has proved to us the necessity of specifying these "freezing points," as some refined oils have occasionally shown the presence of a flocculent precipitate at these temperatures.

Very truly yours,

ROSALIND U. NORRIS.

Book Reviews

STANDARDS YEARBOOK 1927 FIRST ISSUE. Prepared by the National Bureau of Standards of The Department of Commerce. Pp. 398 6 by 9 inches, 39 illustrations. Washington, Government Printing Office.

The Standard Yearbook represents an effort to present an adequate picture of the diversification and ramification of the standardization movement which has spread throughout the world with astonishing vitality during the 25 years that has elapsed since the establishment of the National Bureau of Standards. It contains outlines of the activities and accomplishments of not only this bureau and other agencies of the Federal Government and the States and municipalities, but also of the American societies and associations of which standardization is a major or very important activity. Descriptions and illustrations are presented of all the fundamental national standards of the United States. Moreover, outlines are given of the various foreign national and the several international standardizing agencies.

In a general review of the standardization movement in America attention is directed to the remarkable growth in the activities of the trade associations, the development of "mass-production," method of factory production, and to the vital