

Gibson: Note + letter 1/29/33
Walker: 1/29/33
INTER-SOCIETY COLOR COUNCIL

NEWS LETTER NO. 2

Notice from the Secretary

The first News Letter issued by the Inter-Society Color Council resulted in considerable correspondence through this office, between associates and delegates, regarding various items on which they wished more detailed information. Some of the discussions which have resulted will perhaps provide information for future News Letters. Meanwhile, your secretary is desirous of obtaining more news items on color, for inclusion in the next News Letter to be issued in the near future.

A suggestion has been made, on which your comments would be appreciated. It has been proposed that the Inter-Society Color Council secure, through its delegates and associates, information that would lead to the publication of a small pamphlet on "*Who's Who in Color*". Does this suggestion appeal to you as having merit, and would you be agreeable to cooperating in its preparation?

Now that you have seen the second News Letter, do you consider these communications to be of sufficient interest to warrant the Council's continuing to furnish them? I would like to have your opinion.

M. R. P.

W. E. Baier, Research Department, California Fruit Growers Exchange -

The California citrus industry has used as legal criteria of maturity of oranges and of grapefruit a specification of color of the outside surface of these fruits at the time of picking. In the past the designation used has been so called percentage of color. Anticipating that such a loose description of color might sometime be a point of contention in legal proceedings, steps have been taken to arrive at a more exact color definition to be incorporated into the State Law.

The State Department of Agriculture with the aid of the U. S. Department of Agriculture Laboratory of Fruit & Vegetable Chemistry, which latter has in use a Keuffel & Esser instrument after the Munsell system, has arrived at the definitions of the old established "per cent colors" which we quote from the Standardization Act as follows:-

"Color Definition.

"Twenty-five per cent of characteristic color' in the case of oranges is defined as that color designated by the Munsell color notation as hue (four) *one and fourteen hundredths* green-yellow, value (four) *five and twenty-three hundredths*, chroma (three, (4GY4/3),) *four and three-tenths* (1.14GY5.23/4.3) and 'seventy per cent colored' as hue three yellow, value six, chroma five, (3Y6/5). Oranges shall be considered as having exceeded twenty-five or seventy per cent color if the average hue of the surface of each fruit is numerically less than (four) 1.14 green-yellow or three yellow respectively, regardless of the other components of the color.

"'Twenty-five per cent characteristic color' in the cases of grapefruit is defined as that color designated by the Munsell color notation as hue (ten yellow) *three and three hundredths green-yellow*, value (five) *five and sixty one hundredths*, chroma (three, (10Y5-3,) four and nine-tenths, (3.03GY5.61/4.9), and "seventy per cent colored" as hue seven yellow, value seven, chroma six (7Y7/6). Grapefruit shall be considered as having exceeded twenty-five or seventy per cent color if the average hue of the surface of each fruit is numerically less than (ten) 3.03 green-yellow and seven yellow respectively, regardless of the other components of the color."

Reprints are available on two papers entitled "*Measurement of Ratio & Color of Citrus Fruits*" and "*Maturity Studies of California & Arizona Marsh Grapefruit*".

Forrest L. Dimmick, Psychology Laboratory, Hobart College -

Work is being conducted on a colorimeter with which the four psychological components of any color can be determined and its equation expressed in such a form that an approximation of the color will be obvious from the mere statement of the formula. The apparatus works very satisfactorily and activities in this connection are at the stage of settling upon standards and determining their physical measurements.

Dorothy Nickerson, U. S. Department of Agriculture -

COLOR MEASUREMENT IN AGRICULTURE. As they come to the market, raw cottons vary in factors of quality which are not altogether stable. This lack of stability is a serious problem in standardization and, therefore, in connection with the work of cotton grade standardization of the U. S. Department of Agriculture, a study of stability of some of the measureable factors of cotton quality was recently initiated. The scope of the study is limited to a consideration of color and to such other factors as might explain, or be associated directly or indirectly with, color stability in cotton. Color seemed to be a good starting point since it is easily measured and the cotton samples need not be destroyed in the process of measurement, thus providing a series of samples for measurement of other factors which it might be desirable to study in relation to color stability.

No accurate information seemed to be available, for it is said, on the one hand, that creamy cottons bleach out; on the other hand, that they become yellow. Logically this cannot be true of the same cottons handled in the same way.

A preliminary report of this work has been recently published by the Bureau of Agricultural Economics of the Department of Agriculture. The method used for measuring the color employs the Keuffel and Esser Disc Colorimeter with discs of Munsell notation. The results are expressed in terms representing hue, brilliance, and chroma.

The report indicates that upland cottons at time of opening were fairly constant in brilliance, but varied greatly in chroma; the creamier cottons held their brilliance better than did the cottons of lower chroma; and in most cases, there seemed to be a high correlation between amount of rainfall and reduction of brilliance.

The report is available on request.

Faber Birren -

A list of some fifty five articles by Mr. Birren on the subject of color which have been published in numerous magazines and trade journals during the past few years, is available on request.

William D. Appel, Textile Section, U. S. Bureau of Standards -

Summary of Progress to September 1933 in the Work of the Cordage Institute and the Bureau of Standards on the Color of Manila Rope Fiber.

United States Government Master Specification No. 61b for Rope, Manila, promulgated on May 14, 1929 required the manufacturer to use not more than certain specified proportions of the lower Philippine Government grades of abaca in ropes for purchase under this specification. It provided for inspection at the place of manufacture of the bales of fiber being used in the rope and for identification of the fiber in the finished rope by visual inspection of samples by experts of the United States Hemp Brokers Association.

At a meeting of the Cordage Committee of the Federal Specifications Board on November 12, 1931, at which the revision of the specification was discussed, substitution was proposed of color standards for the darkest permissible ropes in each of the three size groups covered by the specification. The standards in question to be based on the color of the fibers from the ropes after extraction of the oil.

The Committee was favorable to the proposal because aside from strength, the grading of abaca fiber is chiefly with respect to color and the quantitative measure of color appeared to offer a more precise specification of the grade.

Reasons for including a requirement for grade (or color) of abaca in the Federal Specification received attention. Although there appeared to be little evidence that the lower grades necessarily give an inferior rope, there is evidence that dark colored fibers deteriorate more rapidly than light colored (well cleaned) fibers. Further, it was pointed out that a light color has long been recognized in the trade as a characteristic of first grade rope. It was the consensus of opinion that since the government desires to purchase a regular commercial grade of rope, the grade or color

requirements should be continued in the specification. Plans were then made for developing the necessary test methods and providing data on which a tentative color standard could be based. The Cordage Institute agreed to provide a research associate to carry out this work under the supervision of the Bureau of Standards and to supply ropes for experimental purposes.

Miss Genevieve Becker was appointed research associate and started work on January 28, 1932.

The experimental work provided for (1) the development of a satisfactory method of sampling and preparing the rope sample for measurement of color, (2) the selection of a satisfactory method of color measurement, and (3) the measurement of typical ropes to provide a basis for the selection of suitable limits for use in the Federal Specification.

Meetings of members of the Cordage Institute and others interested in specifications for Manila rope were held at the Bureau of Standards on May 18, 1932, and July 20, 1932, to consider reports of progress from the research associate. At these meetings, methods for the preparation of samples were described, a relatively simple colorimetric and photometric method were compared and the instruments demonstrated, and data on fibers from some 75 ropes representative of several grades from twelve private manufacturers, and the Boston Navy Yard, were presented. Measurements to show the effect of the oil in the rope on the color of the fiber were reported.

The net result of these conferences was a general agreement that the per cent reflectance of oil-extracted fibers at wave length 500 millimicrons gives a satisfactory measure of the grade of the fiber with respect to color for use in the Federal Specification.

According to the method of test finally adopted, the fibers in a cross-section of the rope are cut into lengths of 1.5 to 2.5 millimeters, mixed, extracted with petroleum ether and spread out to give a smooth surface. The ratio of the reflectance of this surface to that of the usual white magnesium oxide surface, under prescribed conditions, is measured at wave length 500 millimicrons. This ratio multiplied by 100 is the reflectance of the fiber in per cent relative to that of magnesium oxide. This value has been designated the "Becker value" for Manila rope. Working drawings of photometric equipment suitable for the procedure described and directions for its use are available on request to the Textile Section, Bureau of Standards, or the Cordage Institute.

Minimum Becker values for the three groups of ropes covered by the Federal Specification were tentatively selected at the meeting of July 20, 1932. Subsequent to that date the manufacturers were given an opportunity to familiarize themselves with the method of test either by installing the equipment in their own laboratory or by having a limited amount of testing of their ropes done by the research associate. In addition, further studies were made by the research associate particularly as to the variations in Becker values to be expected in samples taken at different places in a given length of rope. The manufacturers supplied rope for this work.

Further consideration was given to the selection of minimum Becker values for the Federal Specification rope. On the basis of the accumulated data, minimum Becker values of 46 for rope 1/2 to 2 inches in circumference and 43 for rope 2 1/2 inches in circumference and above were favored by the manufacturers. Two groups of sizes were found to be preferable to the three in the specification.

The Cordage Committee of the Federal Specifications Board adopted the recommendation of the manufacturers at a meeting on January 27, 1933 and incorporated them in the Federal Specification. The revised specification, Federal Specification T-R-601, (which supersedes Federal Specification 61b) was promulgated by the Federal Specifications Board on March 7, 1933 and is now applicable to the purchase of rope by all government departments.

In addition to the research work mentioned above, numerous supplementary studies were carried out to establish the reliability of the method of test. In addition, spectral reflectance measurements were made for a set of the Philippine Island Government Standards for abaca and for Davao, Sumatra and sisal fibers. The results of most of this work have been incorporated in two papers, which will be published in the near future. They are entitled "*The Evaluation of Manila Rope Fiber for Color*" and "*Spectral Reflectance of the Philippine Island Government Standards for Abaca Fiber*".

M. G. Mellon, Department of Chemistry, Purdue University -

THE ANALYTICAL USES OF COLOR by M. G. Mellon, G. W. Ferner and J. P. Mehlig - Journal of Chemical Education 10, 691 (1933). There is presented in this paper an outline of the various uses which the analytical chemist makes of color in various types of quantitative and qualitative methods. In general, these uses may be sub-divided into the following classes: first, means of following the course of general operations; second, means of detecting the presence of constituents in samples; and third, means of estimating the amount of constituents present. Examples are given of such uses for the various sub-divisions included.

COMMITTEE APPOINTMENTS

The following committee appointments have been made:

Committee on Measurement and Specification -

Forrest L. Dimmick,
Hobart College,
Geneva, N. Y.

Helen U. Kiely,
American Writing Paper Co.,
Holyoke, Mass.

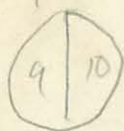
Committee on Color Problems -

Forrest L. Dimmick,
Hobart College,
Geneva, N. Y.

All notices, abstracts, and requests for further information regarding any of the items appearing in this letter, should be addressed to M. Rea Paul, 105 York Street, Brooklyn, New York.

November 24, 1933

10 ml.



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A 10.



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Proposed Revision

A. Membership

- ~~Sponsoring~~
Same as before
(National association)
 - Individual
any one or
society or corp.
 - Sustaining (\$100)
any society or
corporation
- ~~Eligibility~~

B. Rules of Procedure

C. Duties & Privileges

- Sponsoring members
may appoint ≤ 5 delegates
all of whom may vote.
But one of them must
report back to the
sponsoring organization
(prior action)
- Individual members.
Must select ≤ 5 of their
number as voting
delegates (s. 1000)
- Sustaining
members have no
privileges but must
pay \$100 per year.

FOR YOUR SPEECH, BLOCKING, NEW YORK
of the same abstracting in this letter, would be equivalent to "New York"
VII section, paragraph, was taken from the original information regarding the

General N. 2.
Horse College
Horse College

Committee on

Committee on