## **REPORT SMALLEY FOUNDATION** COMMITTEE 1938 - 1939

**E** ARE presenting herewith the 21st report of the Smalley Foundation Committee of the American Oil Chemists' Society. During these past twenty-one years considerable progress has been made in the accuracy of the determination of Oil and Nitrogen on cottonseed meal.

As usual, thirty samples of cottonseed meal were distributed to the collaborators. There has been a general improvement in results this year, with the exception of the oil determinations.

There are attached to this report four tables indicating the standing in percentage of the members taking part. Table No. I gives the standing of 56 collaborators who reported Oil determinations on all samples. Table No. II gives the standing of 64 collaborators who reported Nitrogen results on all samples. Table No. III gives the standing of 56 collaborators who reported Oil and Nitrogen on all samples. In these tables we have taken into consideration the results of those reports which were received within the time specified in our original announcement of the Smalley Foundation work. In Table No. IV we have given the standing of those collaborators who reported on all samples, but some of whose reports were received too late to be included under the rules.

The winning collaborators are as follows:-

The "American Oil Chemists' Society Cup" for the highest efficiency in the determination of both Oil and Nitrogen on all samples is awarded to Analyst No. 50, Dr. W. F. Hand, Mississippi State College, State College, Miss., with an average of 99.964 per cent. The average efficiency is higher than that of last year, which was The certifi-99.959 per cent. cate for second place goes to analysts No. 23 and 69, Mr. E. H. Tenent, Woodson-Tenent Laboratories, Memphis, Tenn., and Mr. A. G. Thompson, Jr., Southern Cotton

Oil Company, Columbia, S. C., who had an efficiency of 99.942 per cent, as compared with 99.952 per cent for last year.

It might be well to call attention at this point to the fact that Dr. W. F. Hand, Mississippi State College, State College, Miss., has now obtained permanent possession of his second cup. This means that since the beginning of the Smalley Foundation cooperative work in 1918 his laboratory has been first six times. We believe that this is an exceptional achievement and speaks well for the analytical accuracy of Dr. Hand's Laboratory.

The certificate for the highest efficiency in the determination of Oil only is awarded to Analyst No. 17, Mr. W. D. Hutchins, Southern Cotton Oil Company, Savannah, Ga., with an average of 99.947 per cent, as compared with 99.971 per cent for last year. The certificate for second place goes to Analyst No. 50, Dr. W. F. Hand, Mississippi State College, with an efficiency of 99.943 as compared with 99.947 per cent for last year.

The certificate for the highest efficiency in the determination of Nitrogen is awarded to Analyst No. 26, Mr. R. H. Fash, Fort Worth Laboratories, Fort Worth, Texas, with an average of 99.996 per cent, as compared with 99.990 for last year. The certificate for second place goes to Analysts No. 9 and 60, Mr. N. C. Hamner, Southwestern Laboratories, Dallas, Texas, and Mr. A. G. Bedell, Pine Bluff C. O. Co., Pine Bluff, Ark., with an average of 99.990 per cent, as compared with 99.981 per cent for last year.

We thought it might be well to include in this report a list of the previous winners of the highest award for both Oil and Nitrogen. They are as follows: 1918-1919 G. C. Hulbert Southern C.O.Co., Augusta, Ga.
1919-1920 G. C. Hulbert Southern C.O.Co., Augusta, Ga.
1920-1921 C. H. Cox Barrow-Agee Lab's, Memphis, Tenn.
1921-1922 Battle Lab's Montgomery, Ala.

- 1923-1924 L. B. Forbes Memphis, Tenn.
  1924-1925 E. H. Tenent International Sugar Feed Co. No. 2, Mem-phis, Tenn.
  1925-1926 Battle Lab's

- 1925-1926 Battle Lab s Montgomery, Ala.
  1926-1927 W. F. Hand Miss. State College, State College, Miss.
  1927-1928 E. H. Tenent International Sugar Feed Co., Memphis, Transport 1927-1928 E. H. Tenent International Sugar Feed Co., Memphis, Tenn.
  1928-1929 Geo. W. Gooch Lab's Los Angeles, Calif.
  1929-1930 Southwestern Lab's Dallas, Texas
  1930-1931 W. F. Hand Miss. State College, State College, Miss.
  1931-1932 J. N. Pless Royal Stafolife Mills, Memphis, Tenn.
  1932-1933 J. B. McIsaac International Veg. Oil Co., Savannah, Ga.
  1933-1934 W. F. Hand Miss. State College, State College, Miss.
  1934-1935 W. F. Hand Miss. State College, State College, Miss.
  1935-1936 W. F. Hand Miss. State College, State College, Miss.
  1935-1936 W. C. Hamner Southwestern Lab's., Dallas, Texas
  1936-1937 N. C. Hamner Southwestern Lab's., Dallas, Texas
  1937-1938 W. F. Hand Miss. State College, State College, Miss.
  1938-1939 W. F. Hand Miss. State College, State College, Miss.
  1938-1939 W. F. Hand Miss. State College, State College, Miss.
  1938-1939 W. F. Hand Miss. State College, State College, Miss.
  1938-1939 W. F. Hand Miss. State College, State College, Miss.

We wish again to commend the careful and painstaking work of T. C. Law in the preparation and distribution of samples. As we have stated previously, few of us realize the amount of work required to handle this phase of our collaborative endeavors and members as a whole should be grateful to him for assuming this burden.

	TABLE NO. I Determination of Oil			
Analyst No.	Points off	Per Cent Efficiency		
17	11	99,947		
50	12	99.943		
66	13	99.938		
7-69	14	99.933		
23	16	99.924		
77-86	21	99,900		
24	22	99.895		
65	23	99.890		
83	28	99.867		
31	30	99.857		
2-21	33	99,842		
70	34	99.838		
28	36	99.828		
57	38	99.818		
10	39	99.814		
32	41	99.804		
18-88	42	99.799		
59	44	99,789		
67	45	99,785		
68	48	99.771		
15	49	99.766		
6	52	99.752		
20	56	99.732		
13-27-63	57	99.728		
62	58	99.723		
9	59	99.717		
11	62	99.703		
1	66	99.684		
55	67	99.680		
16	68	99.674		
39	70	99.666		
76	71	99.660		
26	72	99.656		
78	76	99.637		
4	79	99.623		
12	81	99.613		
33	86	99.588		
84	93	99.555		
75	94	99.551		
72	108	99.484		

	oil &	soap —						uly, 1	1939
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to $j_{01}$ <td>, j</td> <td>220</td> <td>08 275</td> <td>Analyst No.</td> <td></td> <td>DO 064</td> <td>74</td> <td>99.</td> <td>371</td>	, j	220	08 275	Analyst No.		DO 064	74	99.	371
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80       23       99.886       26       99.823       64       99.654         1       26       99.872       57       99.823       90       99.654         27-55       27       99.867       76       99.823       90       99.658         39       30       99.853       27       99.823       90       99.658         73       31       99.848       12       99.787       Personnel of Committee :         72       33       99.838       1       99.778       L. B. Caldwell         42-57       35       99.823       21       99.772       T. C. Law         33-84       38       99.813       13       99.766       W. C. Moor         20       43       99.789       20       99.766       W. C. Moor         20       43       99.789       20       99.766       J. N. Pless         89       49       99.760       63       99.736       E. H. Tenent         75       50       99.734       16       99.749       M. E. Whitten         21       61       99.701       33       99.701       J. Vollertsen, Chairma         32       70       99.656	78	22	99.892	11		99.830	19		99.718
1       26       99.8/2       37       99.823       90       99.655         30       99.833       27       99.798       8       99.648         73       31       99.848       12       99.787       Personnel of Committee:         72       33       99.838       1       99.778       L. B. Caldwell         42-57       35       99.823       21       99.774       T. C. Law         33-84       38       99.813       13       99.766       W. C. Moor         20       43       99.789       20       99.761       J. N. Pless         43       99.789       20       99.760       E. H. Tenent         75       50       99.754       16       99.728       M. E. Whitten         41       56       99.724       60       99.728       M. E. Whitten         52       70       99.656       84       99.684       J. Vollertsen, Chairma	80	23	99.886	26		99.826	64		99.684
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72       33       99.838       1       99.778       L. B. Caldwell         42-57       35       99.828       55       99.774       L. B. Caldwell         16       36       99.828       21       99.772       T. C. Law         33-84       38       99.813       13       99.766       W. C. Moor         20       43       99.789       20       99.761       J. N. Pless         63       44       99.783       39       99.766       E. H. Tenent         63       44       99.784       16       99.756       E. H. Tenent         75       50       99.754       16       99.728       M. E. Whitten         21       61       99.701       33       99.684       J. Vollertsen, Chairma         52       70       99.656       84       99.684       J. J. Vollertsen, Chairma	72	31	99.875	12		99 787	Personnel of	Committe	ee:
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13       40       99.804       78       99.765       W. C. Moor         20       43       99.789       20       99.761       J. N. Pless         63       44       99.783       39       99.760       J. N. Pless         89       49       99.760       63       99.756       E. H. Tenent         75       50       99.754       16       99.728       M. E. Whitten         21       61       99.701       33       99.701       J. J. Vollertsen, Chairma         52       70       99.656       84       99.684       J. J. Vollertsen, Chairma	33-84	38	99.813	13		99.766		35	
20       43       99.789       20       99.761       J. N. Pless         63       44       99.783       39       99.760       J. N. Pless         89       49       99.760       63       99.756       E. H. Tenent         75       50       99.754       16       99.749       M. E. Whitten         4       56       99.701       33       99.701       J. J. Vollertsen, Chairma         21       61       99.656       84       99.684       J. J. Vollertsen, Chairma	13	40	99.804	78		99.765	W. C.	Moor	
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## **Report of the Color Committee for 1938-39**

YOUR Committee was requested to rearrange and rewrite the method or rules for determining the colors of oils and fats. This has been done, and the revised and rearranged method is attached. You will note that all reference to Color Reading is now under one head.

The method is in general the same, but it is a little more specific and has included all the specifications of the Color Reading Booth. It will be noticed that the optional use of the prismatic eyepiece has been omitted from the rules. This question was studied by the Committee for several years. It was the opinion then and is still the opinion, supported by the Bureau of Standards, that the prismatic eyepiece introduces more errors, due to the fact that no two prisms are identical and therefore do not reflect the same amount of light, nor the rays of light in the same direction.

Color Reading tubes are now

available and far superior to those the industry has here-to-fore been able to obtain. Too much emphasis can not be placed upon the colorless tube.

We recommend that the incoming Color Committee consider the advisibility of the followng:

1. Adopting one and only one instrument as a standard for all Color Reading.

2. Having the Color Reading tubes checked as to the presence of coloring in the glass and for adherence to the specifications.

3. Painting the interior of the tintometer white, instead of the present dull black.

4. Specifying standard of illumination on the Magnesia Block. This has been studied by one member of your Committee, and it is his opinion that the illumination on the Magnesia Block should be between 15 and 22 ft. candles. This member of the Committee suggests that other work be done on this question in order that his work might be checked, and supported by the results obtained by other members of the Committee.

The necessity of improving the methods of determining the color of cottonseed meal, and the advisibility of changing the standards were also called to the attention of this Committee. It is recommended that the Society appoint a Special Committee to undertake this investigation, or that they designate this Color Committee to undertake the work. There is a question as to whether or not work of this nature be undertaken by a general color committee.

> Respectfully submitted, H. P. Trevithick Harry Stevenson James J. Lappen N. T. Joyner L. M. Gill R. S. Estey G. Worthen Agee W. D. Hutchins, Chairman