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appears in this issue, is also connected with this new west coast firm of chemists.

NOTE ON ALCOHOL FOR ANALYTICAL PURPOSES.

Dr. Wesson in a recent letter refers to Mr. Paquin's suggestion, in the August COTTON OIL PRESS, that denatured alcohol be made official for use in the determination of total fatty acids in soapstock. In this connection he calls attention to "Formula 30, Special Denatured Alcohol for Laboratory Purposes," which is 90 per cent. ethyl alcohol and 10 per cent. high rectified methyl alcohol (methanol). To quote Dr. Wesson: "So far as odor is concerned, it is impossible to tell the material from ethyl alcohol. Besides, it does not turn yellow with alkalis, showing it is remarkably free from aldehydes. This is made by the United States Industrial Alcohol Co., from which full information about it can be obtained."

MONTHLY LETTER ON CHECK MEAL WORK.

Since my September letter we have had the following additional entries for the check meal work:

H. G. Lewis, Buckeye Cotton Oil Co., Memphis, Tenn.
C. E. Shepard, Connecticut Agricultural Experiment Station, New Haven, Conn.

J. N. Harvey, Jr., Tallulah Cotton Oil Co., Tallulah, La.

H. J. Bensinger, California Cotton Oil Co., Los Angeles, Cal.

This gives us a grand total of 96, and I am hoping for four or more additional, so that we may reach or pass the 100 mark.

There has been a good deal of complaint on the webby, buggy condition of several of the meals. The meals used were meals donated for the purpose through the kindness of the Empire Cotton Oil Co., the Tennessee Fiber Co., the Interstate Cotton Seed Crushers' Association, Savannah Sampling Bureau and the Southern Cotton Oil Co. I have not yet learned how to treat meals or what to add to them to prevent the webs and weevils, although we have tried all known preventatives. We hope, however, before another season to learn this important fact. From the results of analysis, I do not think that it will be necessary to discard the samples already analyzed, and I feel sure that as the cooler months arrive we will not have further similar trouble.

The certificates for the best oil and ammonia work in group 1, samples 1-4, were awarded to C. A. Butt, International Agricultural Corp., and Barrow-Agee Laboratories, Greenville, Miss., who were tied, with 27 points difference from the accepted averages, which is equivalent to a percentage of accuracy of 99.32 per cent. Mr. Butt's differences consisted of 19 points for oil and 8 for ammonia, while Barrow-Agee Laboratories consisted of 10 points for oil and 17 for ammonia. Certificates were sent to both, and we have already received a letter from Mr. Butt acknowledging the same and telling us how much he appreciated it.

It is usually that the ammonia work is much better than the oil, and it has been only in the last few years that there has been any exception to the rule. It is, therefore, quite gratifying that of the 49 analysts who have reported both oil and ammonia on all samples 11 show better oil work than ammonia.

I call your attention to additional values of previous meals which have to be shown on each report. These are caused by contestants either not mailing soon enough or delay in the mail. There are a number of

reasons why it is best for these to be in on time, amongst which may be mentioned the advantage of having the values to aid in computing the accepted average, the desirability of each contestant knowing at the same time he receives his own value all the others, and, lastly, which directly affects myself, the additional cost to the society. My agreement with the printer is so much for each contestant and half as much for those additional values. It is increasing my cost about 15 per cent. I, therefore, urge you who have been late to be more prompt.

We are also having a number of reports which do not show the number of meal sample, and we have to guess. Please see that the report card shows analyst number, meal number and correct analytical data.

PERSONAL ITEMS AND NEWS NOTES.

A. L. Andre, who has for many years been the refiner for the Trinity Cotton Oil Co., Dallas, has suffered recently from a very severe attack of bronchitis and has been ordered to Kerrville for a complete rest. H. E. Brownfield of Sherman, Texas, will handle some of Mr. Andre's work, at least for the present.

John Malowan of the Houston Cotton Oil Mills at Houston will soon be back in his place ready for the season's work, after an extended trip in Europe, visiting Austria and other points.

G. R. Dunning, formerly with the Magnolia Provisions Co. at Houston, is now with the Fort Worth Laboratories, Fort Worth, Texas.

R. H. Fash of the Fort Worth Laboratories is spending a week in Chicago with his parents and attending to a number of business matters at the same time.

M. J. McGowan of the Refiners, Engineering & Supply Co. and the Medina Fuller's Earth Co., Chicago, is no longer connected with the latter, their offices having been moved to San Antonio, where F. J. Dykstra is in entire charge. We have not been advised as yet what Mr. McGowan's plans for the future are.

The Barrow-Agee Laboratories of Memphis, Tenn., announce that they have recently opened up branch laboratories at Greenville, Miss., and at Jackson, Miss.

Harold J. Bensinger, formerly assistant chemist with the Los Angeles Soap Co., is now in charge of the new laboratory of the California Cotton Oil Co., located in Los Angeles, Cal.

NOTE ON THE TITER OF AUTHENTIC SAMPLES OF COTTONSEED OIL.

By George S. Jamieson and Walter F. Baughman.

(Contribution from Oil, Fat and Wax Laboratory, Bureau of Chemistry, Department of Agriculture, Washington, D. C.)

We have received several requests to supplement our work on "The Influence of Geographic Source of Seed on Cottonseed Oil," (Cotton Oil Press, IV, 3, 85, 1920) by making titer determinations on the samples of cottonseed oil.

The results of the titer determinations are reported in the accompanying table. They are arranged in the same order as the results reported in our other paper so as to facilitate comparison. A comparison of the two tables shows that there is a relation between the titer and the percentage of saturated acids. Samples giving a low titer have a low content of saturated

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acids, while a high titer is associated with a high content of saturated acids.

Titer of Authentic Samples of American Cottonseed Oil, 1919-1920.

NORTH CAROLINA.			
SAMPLE.	SOURCE OF SEED.	LOCATION OF MILL.	TITER.
1	Eastern.....	Newbern	33.8
2	Eastern.....	Wilson	33.8
3	Eastern.....	Goldsboro	34.2
4	Central.....	Selma	34.3
5	Southern.....	Charlotte	34.2
6	Southern.....	Fayetteville	34.2
7	Southern.....	Shelby	34.2
8	Southern.....	Davidson	34.2
SOUTH CAROLINA.			
9	North Eastern....	Bennettsville	34.7
10	North Eastern....	Hartsville	35.0
12	North Western....	Spartansburg	34.5
11	Northern.....	Winnboro	34.2
13	North Western....	Abbeville	34.4
14	North Western....	Union	34.8
GEORGIA.			
15	Eastern.....	Warrenton	34.7
16	North Eastern....	Lavonia	34.0
17	North Eastern....	Washington	34.2
18	North Eastern....	Athens	34.0
19	Northern.....	Augusta	34.9
20	Northern.....	Atlanta	34.4
21	North Western....	Acworth	34.0
22	South Western....	Columbus	34.9
FLORIDA.			
23		Jacksonville	34.5
ALABAMA.			
24	Eastern.....	Talladega	34.9
25	Eastern.....	Albany	33.4
26	Eastern.....	Tuskegee	35.0
27	Eastern.....	Tuskegee	35.1
28	Eastern.....	Montgomery	34.9
29	Eastern.....	Montgomery	34.2
30	Northern.....	Cullman Co.....	33.4
31	North Western....	Sheffield	33.5
32	Western.....	Uniontown	34.8
33	Western.....	Uniontown	34.9
34	South Eastern....	Eufaula	35.0
MISSISSIPPI.			
35		Hazlehurst	35.0
ARKANSAS.			
36		Osceola	33.7
TENNESSEE.			
37	South Western....	Memphis	32.2
TEXAS.			
38	Southern.....	Taft	35.6
39	Southern.....	Comal Co.....	34.1
40	Southern.....	Comal Co.....	34.2
41	South Eastern....	Navasota	35.3

DETERMINING THE COLOR OF SOYA BEAN OIL.

By R. W. Ellison, Newhall, Bogarclus & Kniseley Laboratories.

A study of the recent co-operative color readings (Tables I and II)* of the report of the Soya Bean Oil Committee of the American Oil Chemist's Society is

surely convincing of the need for intensive work on the standardization of methods, apparatus, and conditions for determining the color of soya bean oil. The E. K. colorimeter, recently described by David Wesson† is a very creditable attempt along these lines, in that it takes cognizance of the fact that many oils contain something which renders them too opaque to be directly compared with the clear glasses of the color scale in a 5¼-inch column.

To overcome this difficulty there is interposed between the color glasses and the source of light, an adjustable, neutral gray wedge, designed to cut down the intensity of the light passing through the glasses to match that passing through the oil. Another notable feature of the instrument is the use of a uniform source of light.

To our mind, some definite action should be taken to specify the conditions under which the colors of oils are to be determined. Take for example the matter of light. This is not so important in the case of the addition of neutral tint, but where this is not done, discrepancies are liable to be encountered between readings taken by bright light on the one hand, and diffused light on the other. As an instance of this, a reading on soya bean oil, taken in the morning at an eastern laboratory, gave a good match at 35 yellow 8.0 red. This same oil, read in the afternoon, when the light was much more subdued, gave a color of about 70 yellow 9 red it being almost impossible to get a close comparison. We would recommend the use of the 100-Watt "Daylight Mazda" lamp as a uniform source of light most nearly approaching daylight.

However, many samples of soya bean oil are encountered which are absolutely impossible to "match" against the clear glasses of the Lovibond color scale. A glance at columns 1 and 2 of the tabulation of the above mentioned co-operative color reading report should confirm this without question of a doubt. Out of 64 possible readings against the clear glasses, 20 or 31.4 per cent. reported no match or unsatisfactory match.

This is an argument in itself for the introduction of neutral tint, by one method or another, for the purpose of getting better and more uniform results.

Especially is this necessary in determining the color of many samples of raw soya bean oil, some of which absolutely defy a close comparison with just the yellow and red glasses, for the reason that the intensity of light passing through the glasses is so much greater than that passing through the oil. This most assuredly calls for some method of adjustment to correct this inequality which so manifestly works to the disadvantage of the oil.

In the absence of a standard instrument for accomplishing this purpose, we wish to outline a very simple method for use with any instrument of the type of the Greiner-Wesson-Peep tintometer, which gives very satisfactory results. Our method is to interpose between the color glass side of the instrument and the source of light, one or more strips of white paper, varying the number of these to make the intensity of light reaching the eye through the glasses equal the intensity of light passing through the column of oil. By this means we can get perfect matches with most samples of raw soya bean oil usually encountered. With refined oils this precaution is often not required. It will be apparent that the interposition of these strips of paper serves the same purpose as the neutral gray wedge in the E.-K. colorimeter already referred to. Readings of samples sent out by the Soya Bean Oil

*COTTON OIL PRESS—Vol. 4, No. 3 (July, 1920) P. 90.

†COTTON OIL PRESS—Vol. 4, No. 3 (July, 1920) P. 64.