

Report of Seed Analysis Committee

THE work of the Seed Analysis Committee for this year (1931-32) in so far as the determinations of moisture, oil and ammonia are concerned has consisted solely in watching, with great satisfaction, the results turned in on the cooperative samples sent out by Mr. T. C. Law, chairman of the Chemists' Committee of the National Cottonseed Products' Association.

This work has shown that on these determinations work can be done, and is being done, by a majority of the laboratories that is comparable with the oil and ammonia work done on the check meal samples only a few years ago, and very much superior to the work turned in during the first few years this meal was sent out. The fact that the samples of meal are so much more easily made uniform, require no additional preparation, and that the oil and ammonia are reported as determined rather than calculated to some other basis, makes the good seed results stand out as a real accomplishment. That is the bright side of the picture. The dark side is the unsatisfactory results shown in the free fatty acid column.

This committee is not at all proud or even satisfied with this free fatty acid determination—nor is there going to be anything in this report but negative results. I might show you beautiful figures I have obtained on a large sample of seed, a dozen portions of the same meals ground fine or coarse, extracted cold, extracted hot or refluxed and filtered, all showing the same free fatty acid, but if I went no farther than this I would not be telling the whole story. For every time I start with a dozen individual samples of the same seed and

separately carry them all the way through there are some results that are completely out of line despite the fact that the large original sample was mixed as well as possible.

I have myself done a rather large amount of work in an effort to ascertain the reason or reasons for these variations and feel no nearer a solution than before the work was done. Some of this work has been along the line of trying to detect the presence of low molecular weight acids of the fatty acid series. An effort was made to learn if protein decomposition products present in the petrolic ether-oil solution could be the cause of the wide variations, but this work was fruitless.

Having learned some time ago that Dr. G. S. Jamieson was doing some research work on the problem and feeling that he was ideally situated to solve it, I sent him some of the data I had collected. I understand that he is to make a report at this meeting and perhaps some recommendations and for that reason I am not attempting to bring in any recommendations in this report.

Concluding, I want to say, however, in the light of some other results I have seen that it is comparatively easy to get concordant results on separate portions of a large prepared sample of meals or on duplicate portions of a large amount of extracted oil. The difficulty lies in starting with two portions of the same seed sample and running them through from beginning to end. This is true whether the work is done in one laboratory or in two or more.

(Signed) C. H. Cox, *Chairman*,
Seed Analysis Committee 1931-1932.

Color Committee Report

YOUR Color committee would like to report progress in the development of a tintometer, embodying the suggestions of your committee, by the Precision Scientific Company, and only the inability to secure complete sets of glasses in time to have them standardized prevented the manufacturers from submitting their instrument for your committee's investigation.

(Reported to New Orleans Meeting)

We believe this tintometer will be in the hands of the next Color committee and we hope they will give it a thorough trial and consider every angle in their investigation.

Eye-pieces equipped with standardized daylight filter glass were supplied the committee in order that a comparison might be made using the eye-piece containing the standard daylight

filter and clear 100-watt Mazda lamp, and our present official method requiring the 100-watt daylight Mazda lamp. Six samples of different colors of oil were submitted to the committee for color determinations by both methods. The committee was unanimous in their opinion that the eye-piece containing the daylight filter was unsatisfactory. Some preferred not to submit their readings by that method. For this reason the tabulation below shows only the determinations made by the official method.

	G. W. Agee	E. B. Freyer	G. G. Grant	T. C. Law	C. W. Rice	W. D. Hutchins
Sample No. 1.....	35-33.5	35-40.8	35-37.0	35-38.0	35-36.9	35-37.0
Sample No. 2.....	20-2.0	20-2.0	20-2.1	20-2.2	20-2.1	22-2.2
Sample No. 3.....	35-13.1	35-12.7	35-15.0	35-12.4	35-12.4	35-12.6
Sample No. 4.....	20-0.4	8-0.9	8-0.8	5-0.5	10-1.0	8-1.0
Sample No. 5.....	20-2.8	25-3.1	25-2.5	20-2.8	20-2.8	27-2.7
Sample No. 6.....	20-2.0	9-1.0	10-1.1	12-1.2	10-1.2	12-1.2

The committee does not recommend that this investigation stop but that the incoming committee investigate the advisability of placing a daylight filter between the source of light and magnesia block. It may be that a standardized daylight filter in all tintometers at this position when used with the clear 100-watt Mazda lamp would give more uniform light than the present daylight Mazda lamp. We would suggest that the incoming committee consider this question.

The ratio of yellow to red was considered and the need of a rule to specify the yellow to be used with a given red is realized, but it was not thought advisable to bring in a recommendation along this line until a further study was made.

The question of writing proper detailed specifications for the official tintometer was considered, but we were advised that it was imprac-

tical to write satisfactory specifications without referring to drawings. It was decided that the present drawings are simpler and more satisfactory than detailed specifications without the drawings.

Your committee has only two recommendations to make to the Society. The only important change suggested in the rules governing the determination of color is that the descriptions of the tintometer be changed so as to require that the inside of the eye-piece be painted

or finished in dull black. It was found that this aided materially in matching colors and relieved, to a great extent, the effect of color reading upon the eye.

RECOMMENDATIONS:

(1) That the last sentence of the rule under "Color," paragraph headed "Tintometer," be changed to read: "an eye-piece with dull black interior finish to fit over the oil and color glasses so that the light passing through both may be observed simultaneously."

(2) That the following sentence of the rule under "Color," paragraph "Determination" be omitted: "When only two color glasses are used a colorless glass must also be used so that three glasses will be used in all cases."

W. D. HUTCHINS, *Chairman,*
Color Committee, American Oil Chemists' Society.

U. S. Essential Oil Exports -- First Quarter 1932

Exports of essential oils from the United States were greater in volume during the first quarter of 1932, aggregating 577,650 pounds, as compared with 510,600 pounds during the corresponding period of 1931. Total value dropped to \$371,000 in the current quarter from \$386,000 last year. Peppermint oil exports advanced from 50,700 pounds (\$106,300) in the January-March, 1931, period to 72,300 pounds (\$120,400) in the January-March, 1932, period;

orange oil from 1,900 pounds (\$6,400) to 7,100 pounds (\$7,900); and all other essential oils, except pine oil, from 335,300 pounds (\$204,900) to 340,700 pounds (\$148,600).

Peanut Industry.—The report of the staff of the Federal Trade Commission on its inquiry into the peanut industry has been completed and will be submitted to the commission for its consideration.